

Administrator and User Guide

Direct Planning

Planning software for industry, project management or service

Version 4.0

http://www.directplanning.com

www.volume-software.com

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1. Overview

Direct Planning is a scheduling software designed for the industry, project management and service. Choosing the right edition for your sector provides an efficient management of various resources such as machines (in Industry mode), rooms (in Service mode) or employees (in Project mode).

Direct Planning's interface includes a Gantt visualisation which allows to view quickly and clearly the scheduled jobs.

In addition to supporting data imports and exports from/to your information system (ERP, CAPE), Direct Planning can also work independently, notably for calculating setting times and work rates.

This documentation will allow you to familiarise yourself with Direct Planning, starting with its installation and the discovery of our demonstration schedules. We will then discover Direct Planning's key principles and see how to create schedules and plan jobs with Direct Planning. Last, we will explain how to interface your ERP with Direct Planning and address Direct Planning's main administrative tasks.

This documentation is aimed primarily at new users of Direct Planning. If you already know Direct Planning and wish to discover the new features included in our last update, we invite you to read the following page: http://www.directplanning.com/en/news/news-product.

To help you navigate through this documentation, the sections specifically dedicated to the administration and useful tips are highlighted in the following boxes:

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ADMINISTRATION

The sections reserved to the Direct Planning administrator are displayed in this box.

OUR ADVICE

Our useful tips are displayed in this box.

2. Installing and exploring Direct Planning

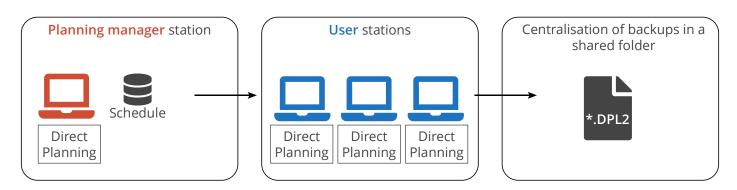
2.1. Installing Direct Planning

To view the technical requirements for installing Direct Planning, please see the FAQ available on Direct Planning website at http://www.directplanning.com/en/faq/.

2.1.1. Setup architectures

There are **3** architectures available for installing Direct Planning, which you will choose depending on your infrastructure and/or your needs.





Direct Planning is installed on the planning manager station.

The planning **database** is hosted on this station.

The planning manager has a **fast station** (Core i5 class CPU and at least 4-8 GB RAM) preferably equipped with two screens.

Direct Planning is installed on each user station.

Users access the schedule hosted on the planner station.

Caution: The planning manager station must be running to ensure the availability of the schedule to other users.

Each backup of the schedule creates a **time-stamped backup copy** hosted in a shared folder on a server of the company.

If the planning manager station crashes, the last backup copy restores the planning without information loss.

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BENEFITS:

No server required

OUR ADVICE

Keep this configuration for environments which have a very limited number of users (2 or 3 maximum).

Installing and exploring Direct Planning : Installing Direct Planning

Dedicated server architecture

Direct Planning is installed on each user station (in "lightweight" mode).

Users access the schedule hosted on the dedicated server.

The planning manager has a **fast station** (Core i5 class CPU and at least 4-8 GB RAM) preferably equipped with two screens. Each backup of the schedule creates a **time-stamped backup copy** hosted in a shared folder on a server of the company.

If the database server crashes, the last backup copy restores the schedule without information loss.

BENEFITS:

on this server.

times).

er.

- Scalable architecture
- Schedule available even if the planning manager station is **powered off**.

Server* dedicated to the planning database Planning Direct Planning * physical or virtual

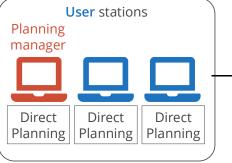
Direct Planning is installed on a

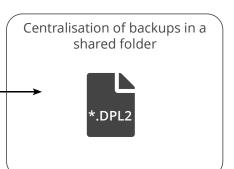
physical or virtual dedicated serv-

The planning database is hosted

It is best that this server and users

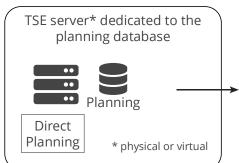
share the same site (shorter access





Direct Planning 4.0

Dedicated TSE server architecture



Direct Planning **is not** installed on user stations: Users access the schedule using a "remote desktop" connection or via a "published application".

Each backup of the schedule creates a **time-stamped backup copy** hosted in a shared folder on a server of the company.

If the database server crashes, the last backup copy restores the schedule without information loss.

server. The planning **database** is hosted

Direct Planning is installed on a

physical or virtual dedicated TSE

It is best that this server and users share the same site (shorter access times).

Scalable architecture

powered off.Fasier monitor

BENEFITS:

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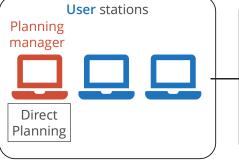
on this server.

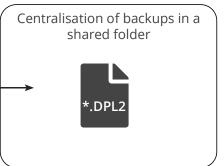
 Easier monitoring of updates (only 1 centralised installation of Direct Planning to update + the planning manager station, where appropriate).

Schedule available even if the planning manager station is

OUR ADVICE

You can still install Direct Planning locally on the planning manager station (powerful station and shorter response times).





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2.1.2. Schedule types

According to the needs related to your activity, Direct Planning comes in 3 editions: Service, Project and Industry.

Service mode

You have simple requirements: for example, you will implement a schedule for booking rooms, vehicles, appointments or vacations.

Choose the Service mode, suitable for service activities.

Numerous elements, data and colours can be customised to adapt Direct Planning to your business.

Project mode

You need to manage successions of jobs as well as planned and actual durations?

The Project mode is suitable for schedules requiring links between various jobs: for example for building projects, deploying IT resources or monitoring marketing milestones.

Industry mode

You need to manage quantities, setting times and work rates?

Direct Planning is also particularly suited for the industrial sector: it supports linear or complex routes subject to time constraints (earliest start and latest end).

Its integrated manual planning assistance respects automatically these constraints.

The Industry mode is particularly well suited for SMIs looking to plan and track their production with the best levels of accuracy.

2.1.3. Comparative table of offers by features

Type of schedule authorised according to offer	Service	Project	Industry
Creation of a Service schedule	O	0	Ø
Creation of a Project schedule	•	Ø	Ø
Creation of an Industry schedule	\mathbf{S}	8	Ø

Features	Service	Project	Industry
Login/password-protected access	O	O	Ø
Customisable data depending on your business	0	0	0
Customised screens by user	0	0	0
Customisable visual indicators	Ø	0	0
Lockable job	0	0	0
Multiple planning alerts	Ø	0	0
Calendar by resource/machine	Ø	0	0
Customisable data lists	Ø	0	0
Export to Excel/OpenOffice	Ø	0	0
Import/Export of data with an ERP	0	0	0
Links between jobs/operational routes	8	O	Ø
Time constraints (earliest start, latest end)	8	0	0
Planning assistance with respect of constraints	8	0	0
Tracking of planned/actual times	8	0	0
Job progress status	8	0	0
Workload histogram	8	0	0
Production operations based on machines	8	8	0
Production technical data	8	8	0
Setting times and work rates defined by machine/operation	8	•	0
Automatic calculation of the jobs operational durations	8	8	0
Production declaration by the machine operator	8	8	0
Production declaration through dialogue with the ERP	8	8	0

2.2. Discovering our demonstration schedules

To access our demonstration schedules, open Direct Planning and follow these steps:

 Click on File > Open a demonstration schedule. 	 Open a schedule Open a demonstration schedule Open a Direct Planning 3 (.dpl2, .mdpl2) file Import a Direct Planning 1.2 schedule (.dpl)
 Select An Industry-type demonstration schedule and click on Next. 	 An Industry-type demonstration schedule A Project-type demonstration schedule

- A Service-type demonstration schedule
- 3. Choose option **1 Generic for industry** and click on **Open this schedule**. Enter your login and password and click on **OK**.

1 - Generic planning for industry (3.3) 2 - Ultra Pack cardboard (3.3)

2.84 Edit 0 0 0 0 0 95% Locato (Ctrl+L Browse 1-1 ٠ ŧ ists Current route (CTRL + G) arch and (Ctrl+F) 2 DirectPlanning 06 07 08 09 ⊡Milling Usinex 1 (550 mm max) Usinex 2 (700 mm max) 3 en alerte 170015 INOV CAR A 5 d early -> 14/02/17 155 (Milling tool) Usinex 2 (700 mm max) [*] S d Processing 6 170030 SOLITEC A 170041 B 1 d early -> 14/02/17 3 d early duiva 1 4 Equiva 2 170028 TEM 5 d early -> 1 al proc.) 14/02/17 ial proc.) [*] 17 7 Pr Finish Finishing achine 1 5

The following window opens:

The Direct Planning window consists of 6 main areas:

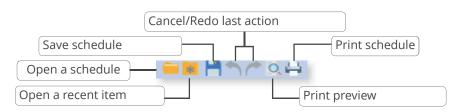
1	Menu bar/Toolbar: gives access to all Direct Planning functions, grouped by thematic tabs.
2	Time scale: used to find your way in the schedule and place your jobs where you want.
3	Projection: defines what is displayed in the schedule lines. In the context of a shop floor, the projection usually displays the machines grouped by sections.
4	The schedule itself. It is the workspace where your jobs are organised.
5	Status bar: shows the name of the schedule, its location, the current user, the access type and the view currently displayed.
6	The floating alert window gives an holistic view of job alerts.

The following sections discuss in details each of these areas.

2.2.1. The menu bar and toolbar

	📓 💾 🔨 /* Q. 峙 DirectPlanning 4 - (REF - 1 - Generic planning for industry (3.3) - Demonstration schedule)															
File	e Edit Dis	play Plannir	ng assistance Dat	a Calendars	Needs and resources	Configuration	n?									
Red.			1	Same Product	-	-	0	2	3	4	5	95 %	+	÷	-	-
Search and lists (Ctrl+F)	Current route (CTRL + G)	Locator (Ctrl+L)	Schedule via a list (Ctrl+P)	Filter	H 4 P H						- 1	Overall zoom	Beginning	Go to	End	Browse
	Search		Actions	Identificati	on of jobs according to a cri	iterion			Time sc	ales (F3 o	r F4)			Brow	sing	

At the very top, the typical icons used in all applications:



In the middle, the menu itself:

File	Home Edit Display Planning ass	sistance Data Calendars Needs and resources Configuration ?
H	Save Save as	The File menu opens a drop-down menu containing the most used commands.
-	Open	
*	Recent	
2	New	
	Create a shortcut to this schedule	
	Close	
D	Print configuration	
Q	Print preview	
	Print	
6	Properties of schedule	
	User options	
	Documentation (F1)	
8	Administration	
0	About Direct Planning	
U	Quit	▼ The other menus open their own toolbar, like the Data menu below:
L		
	File Home Edit	Display Planning assistance Data Calendars Needs and resources Configuration ?

File	Home	Edit	Display	Planning assistar	ice Data	Calendars	Needs and resourc	es Configuration	?
1 > == 2 > == 3 > ==		4	<u></u>	0		Arrow Real	A.A.	4	
Sections	Mac	hines	Working units	Operations	Operations and machines	Reference data	e Entities	Purge	
			Main data				Entities	Tools	

2.2.2. The time scale

The time scale is used to find your way in the schedule and place your jobs where you want.

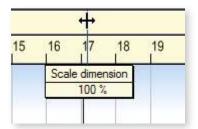
Sample time scale (your schedule time scale may look different than the one below, which has an average zoom level). Changing the zoom level changes the colour of the time scale:

DirectPlanning	A Thursday 09 7 18 19 20 05 06 07 W6 - Thu 09/02/2017 07:46 2 > Time scale
⊡Milling	
Usinex 1 (550 mm max)	ERO-R/358 - Renewal 170032 A 170035 BARNAY INDUST 17 7 5 d early 5 d early -> 14/02/17 5 c 092 (Milli 092 (Milling tool) 12 mm ACI-015 ACI-012 361 x 717 mm AL

A	When hovering over the time scale, the pointer looks like this: 🕂
B	At the same time, a tooltip displays the week, date and time matching the cursor position in the schedule.
C	Moreover, a vertical line across the schedule follows the cursor movements to help you posi- tion jobs accurately.

To benefit from the best balance between amount and readability of information displayed, the time scale can be stretched or contracted.

To do this, left-click and read the tool tip:



It shows the size of the scale, 100 %. This is the size of the scale currently displayed.

Move the cursor to the right (or press the + key of the keypad) to stretch the scale (values greater than 100 %).

Move the cursor to the left (or press the - key of the keypad) to contract the scale (values lower than 100 %).

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The objective is to find the **best balance between amount and readability of information displayed**:

The more you stretch, the less information displayed but more readable. The more you contract, the more information displayed but less readable.

OUR ADVICE

You can hide certain parts of the time scale, such as the weekends. See section 4.3.11., *Creating display modes*, for more information.

Note

Resizing the time scale is a temporary action: the adjustment is not saved.

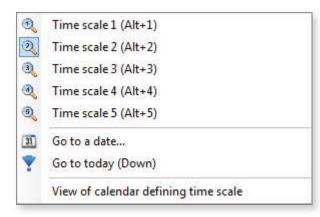
Time scale values are defined by the administrators in the display modes. When selecting other display modes, you can have other time scales.

The scaling is purely visual, without any impact on the arrangement of jobs in the schedule.

On the schedule main screen, press F3 and F4 to toggle between the time scales configured by the administrator:



It is also possible to right-click on the time scale to choose between these preconfigured scales:



 This context menu also offers the ability to navigate to the date of your choice or return to the current date.

Direct Planning 4.0	Installing and exploring Direct Planni

Planning zoom

You can zoom in and out of the schedule by holding the Ctrl key while using the mouse wheel. This can also be performed by changing the overall zooming level, to the right of the **Home** toolbar:



Used alone, the mouse wheel makes a vertical scroll in the schedule. It has no effect of the schedule fits the height of the window.

While **holding the Alt key**, the mouse wheel makes a horizontal scroll in the schedule.

While **holding the Ctrl key**, the mouse wheel zooms in and out of the schedule (variation of the "Overall zoom").

Note

The zoom percentage can be forced in the configuration of display modes.

2.2.3. The projection

Display modes (defined by the administrator) allow the creation of projections for each and every user.

The projection of a schedule is displayed vertically, on the left side of the Direct Planning window.

- The planning manager will choose a display mode offering a projection with machines grouped by sections, well-suited for machine scheduling.
- The sales rep will prefer a display mode offering a projection with orders grouped by customers: this projection allows him to view the all orders placed by a customer if the latter enquired about the status of his orders.
- Other users will see the schedule differently with display modes implementing different projections.

To select a projection, go to the **Display** menu and open the list of display modes:

The projection by sections and machines is usually the	ile Uome Ldit Display	DirectPlan Planning assistance Uata Calendars Needs and resources Configuration
most suitable for the planning manager ►	Display Planning Color by Licket main colour (by see	tion) - Compact time scale □ Only display direct links. ☑ Display jobs <to schedule=""> Splay mode Options</to>
	Direct Planning	W06 nursday 0302/2017 - W05
The "Milling" section \longrightarrow	⊆ Milling	
The machines in	Usinex 1 (550 mm max)	0031 TEMCO AERC-F/353 - Renewal 170032 A 170035 BARNAY NOUST 170035 BR 17 early -> 13/02/17 5 d early -> 13/02/17 5 d early -> 14/02/17 5 d early -> 14/02/17 2 (Milling tool) 092 (Milling tool) 125 (Milling 12 1-012 352 x 675 mm ACI-015 ACI-012 361 x 717 mm ALU-022 3
the "Milling" section	Usinex 2 (700 mm max)	C08 - Renewal 170 170034 TEMCG AERO- 9 c 5 c centy > 14/0/4/ 7 d carty 7 d carty 7 d carty 2 12/02/1 7 d car 085 155 (Willing tool) 155 (Willing tool) 155 (Will 156 M/ Cheel deadline! Cus 155 (ACI ALU 037 491 x 556 mil ACI-121 ACI-121 ALU 37 557 x 326 ALU-1
The jobs "to schedule" for "Milling machine 2".	Usinex 2 (700 mm max) [*]	
	This is also where	new jobs are imported
		from an ERP.

Right-clicking on a section opens the following context menu:

- A Search on this section...
- Configurable lists valid for this section...

Workload histogram of this section...

◄ These functions are explained in section 5, Scheduling with Direct Planning, of this documentation.

Right-clicking on a machine opens the following context menu:

=;	Schedule this machine from a list	
	Calendar of this machine	
#	Search on this machine	
6	Configurable lists valid for this machine	۲
H	Workload histogram of this machine	
	Modify machine sheet	
	Fix route inconsistencies	

These functions are explained in section 5, Scheduling with Direct Planning, of this documentation.

2.2.4. The schedule

The planning space fills the major part of the screen.

It is the workspace where your jobs are organised.

Each rectangle represents an activity planned on a machine at a given time.

In Direct Planning, we use the generic term "Job".

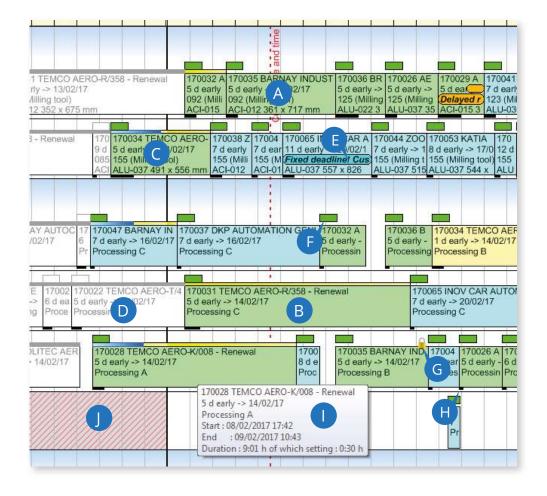
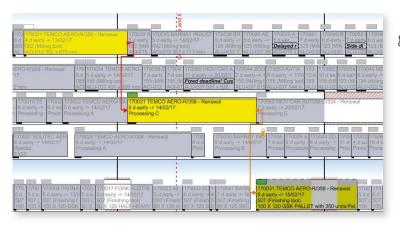


	Illustration	Designation
A	170035 BARNAY INDUST 5 d early -> 14/02/17 092 (Milling tool) ACI-012 361 x 717 mm	Job not started
В	170032 A 5 d early 092 (Milli ACI-015	Job started (without progress status): yellow bar above the job.
С	170034 TEMCO AERO- 5 d early -> 14/02/17 155 (Milling tool) ALU-037 491 x 556 mm	Job started (with progress status): the blue bar shows the progress of the job, when produced quantities are declared in Direct Planning.

	Illustration	Designation
D	170022 TEMCO AERO-T/4 5 d early -> 14/02/17 Processing A	Job completed: content, progress status and flags greyed out.
E	ar 11 d early -> 20/02/1 7 M Fixed deadline! Cus 1: 01 ALU-037 557 x 826 A	Alert message on a job.
F		Flag on a job.
G	RNAY IND 14/02/17	The padlock indicates that the job is locked.
H	Ig Processin	Setting duration is identified by a black proportional bar under the job.
	170028 TEMCO AERO-K/008 - Renewal 5 d early -> 14/02/17 Processing A Start : 08/02/2017 17:42 End : 09/02/2017 10:43 Duration : 9:01 h of which setting : 0:30 h	Tooltip: pops up when hovering over a job.
		Idle area.

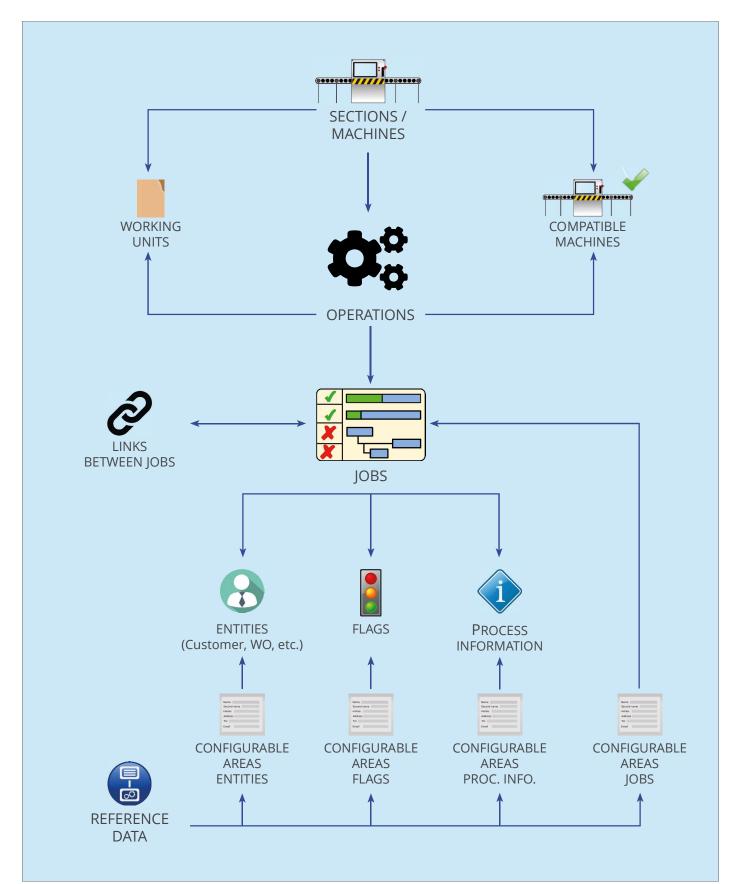
When there are routes, the schedule also shows the links between jobs for the selected jobs (more information about links and routes in **section 5.4**, *Creating routes*):



 Route highlighted (the other jobs are greyed out).

3. Understanding Direct Planning's core notions

3.1. Overall diagram



3.2. Key terms

The following table defines the key terms used in the diagram above.

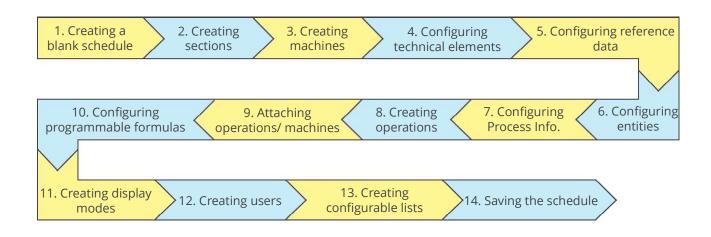
See our *glossary in Annex B* to get a reference list of terms used in Direct Planning

Term	Definition
Compatible machines	Based on your business rules and data, Direct Planning can tell whether or not a job can be moved to another machine. Moving a job to an incompatible machine displays a warning.
Configurable areas	Certain standard data in Direct Planning (machines, jobs, mul- ti-status flags, entities and Process Information) can be comple- mented by configurable areas which are customisable according to your needs.
Entities	Entities are data lists which evolve with your activity (Sales representatives, Customers, Orders,).
	Entities must first be configured according to your needs, allowing to benefit from a list for each data.
Flags	Flags are coloured and sometimes hatched bullets located above and/or on the right of jobs. They serve the same purpose as paper clips and other stickers put on traditional wall schedules.
Jobs	A job represents an occupation or activity at a given time, for a given resource.
Links	The succession of jobs within a route is materialised by links (coloured arrows).
Machines	Machines are the foundation of the Industry planning. Please note that in Project and Service modes, machines are replaced by resources (e.g. rooms, employees, etc.).
Operations	Your machines perform operations (e.g. this machine makes die-cutting, that machine makes bonding, etc.).
Process information	Process Information is technical data whose display is limited to certain machines.
Reference data	Reference designates data lists represented by a code, a desig- nation and a colour. (e.g. lists of sales representatives, product families, cutting dies, colours, etc.).
Sections	Sections are groups of machines.
Working units	Working units express the unit of measure for your machines.
	Examples: panels, sheets, kilograms, copies, linear feet.

4. Creating a schedule

4.1. Key steps

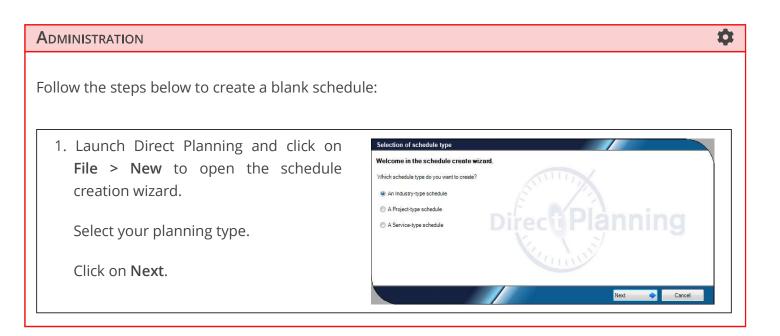
Our creation guide is based on the Industry schedule, as it is the most comprehensive mode. Click on each step to access the corresponding section.

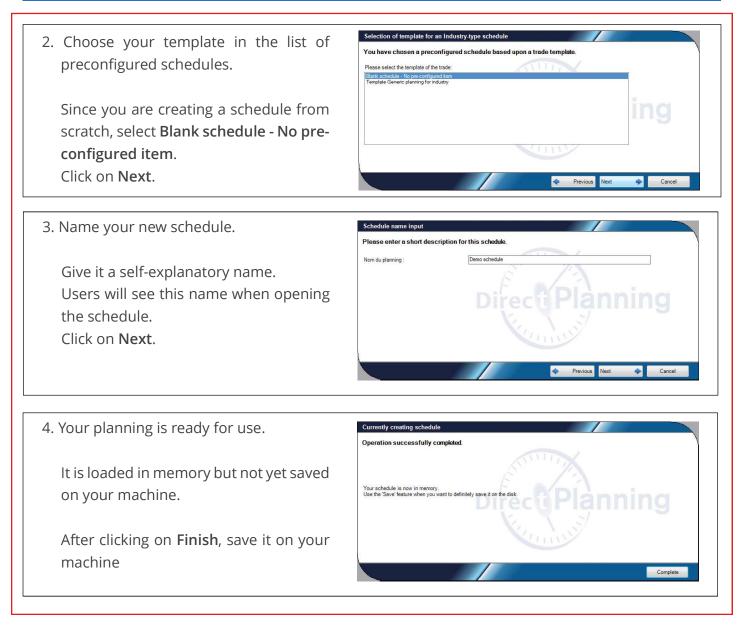


4.1.1. Creating a blank schedule

To create a new schedule, you must connect to the machine which will host it. Any newly created schedule will be saved in a local database on the machine running Direct Planning.

Then, other stations can remotely access or modify this schedule.





When you click on Finish, the new schedule opens:

File Home Edit Displa	ıy Plannin	g assistance	e Dati	a Ca	lendars	Need	ls and r	resourc	es	Configu	ration	?		Di	rectPlan	ining 4	- [Sch	edule r	name]										
earch and lists (Ctrl+F) (Ctrl+F)	Locator (Ctrl+L)	3 Schedul list (Cti	e via a rl+P)	Ŷ	Filter					(Ctrl+	ght	0	2			•					Begin	ning		-			► End	- T	r .
Search	11	Actio	INS		dentifica	ation of jo	bs acco	ording	to a crite	erion						ales (Fa	i or ⊦4						-		Brows	ang		 _	
earch and lists Current route Locator Schedule via a Schedule via																													

We are now going to configure this schedule.

4.1.2. Creating sections

Before creating machines, we are first going to create sections to group them. Click on Data > Sections:

3 H Sect		ns						
Elist			ixport Excel 🗸 📸 New 📑 🐩 Modify 📸	X machines	Click on New t window:	to open the	e section crea	ation
	#	Section code	Section designation		Creation: Section			×
					Section code	S1		
					Section designation	Milling		
					Color		1	
						Save and Next	Save and Close Ca	ancel

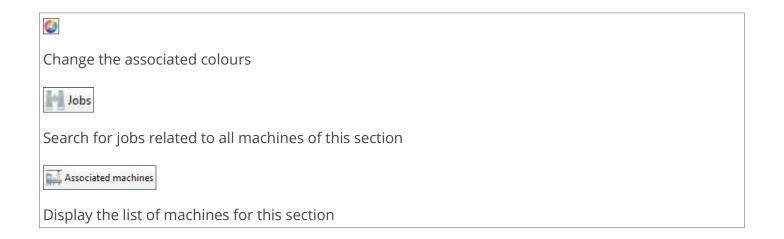
Enter a code and a designation for your new section, and give it a colour:

🦉 Default colour	
Selection in the picker pallet	

Click on **Save and Next** to create other sections or **Save and Close** to return to the list of sections. In our example, we created 3 sections: Printing, Die-cutting and Gluing:

) 🔯 💾 🔟 🛛	xport Excel 👻 📑 New 📑 🐳 Modify 📑 📊 Jobs 🏬 Asso	ciated ma	chir
#	Section code	Section designation		
	1 \$1	Milling		
	2 \$2	Processing		
	3 \$3	Finishing		

 In addition to being able to print, export and add/modify/delete sections, you can:



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4.1.3. Creating machines

OUR ADVICE

When you create machines, start by defining configurable areas. Use these to customise the information related to your machines.

ADMINISTRATION

To enter configurable areas for your machines, click on **Configuration > General configuration**:



The **Machines** menu offers the possibility to set a maximum of 10 configurable areas, which will be available when creating machines:

General	Properties of machine			
Machines	Configurable area 1	Max. cross direction dimensions	T Integer	
lobs	Configurable area 2			
lobs: configurable areas	Configurable area 3			
Flags	Configurable area 4			
Alerts	Configurable area 5			
Planning assistance	Configurable area 6			
Secondary resources	Configurable area 7			
Automatic import	Configurable area 8			
Automatic export	Configurable area 9			
Backup copies	Configurable area 10	Special processings available	Checkbox	
Advanced options	Automatically assign a co Properties of section Automatically assign a co Properies of working unit	vier upon machine creation]		

In the example above, we set the first configurable area by giving it a designation (**Max cross dimensions** and selecting a type (**Integer**) in the drop-down menu. Consequently, when adding a machine (**Data** > **Machines** tab), we will be able to enter the **Max cross dimensions** as additional data:

Additional data	
Max cross dimensions	550

From this screen, you can also enable the automatic attribution of colours when creating machines/ sections/working units/operations.

To continue and create your machines, click on **Data** > **Machines**:



Note that the **Max cross dimensions** previously configured as **Configurable area 1** is displayed as a column in the list of machines. When you have created your machines, you will then be able to sort them by ascending (or descending) Max cross dimensions accepted.

You can choose the columns to display in this window by right-clicking on the header of any column.

Click on **New** to create a new machine.

Machine Notes	Informatio	ons process		Needs		
Machine code		U1				
Machine designation		Usinex 1 (550 mm n	nax	1		
Section	Z	S1		Milling		
Color			E	1 -2		
echnical data						_
Working Unit of quantity to produce	2	UNI		Units	=	
Default operation	2	USI1		Standard milling	-0	
Enable automatic calculation of	durations fo	or this machine.				
Working Unit of operative quantity	2	UNI		Units	1	
Norking Unit to enter the work rate	2	UNI		Units		
Average duration of setting		1:00	h			
Average work rate		800		Inits / h		
Default variable waste		0 %				
Activate technical constraints:	2	Milling constraints				×
dditional data			_			
Max. cross direction dimensions		550				
		Special proces	ssir	ngs available		
				Save and Close	Cance	1

The machine creation/modification window consists of 3 parts:

- Enter the machine identification information (code and designation) in the upper part and pair the machine with a section and a colour.
- Under the Technical data area, enter the working unit of quantity to produce (e.g. sheets, boxes or cases), as well as the default operation (where appropriate). When Direct Planning calculates durations, it is also required to enter the working unit of operative quantity (quantity processed by the machine) as well as the working unit in which the work rate, the average setting time, the average work rate and the average variable waste will be expressed.
- Data contained in the Additional data area depend on the configurable areas set.

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OUR ADVICE

We strongly advise you to chack the box **Enable automatic calculation of durations for this machine** to have Direct Planning calculate durations. Note that this function is entirely compatible with the import of data from an ERP.

This way, we created 8 machines (distributed in 3 sections):

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When you are done creating sections, click on **Close**. Your newly created sections now appear on the left of the Gantt:

	W	06						2						Thu	rsday (09/02/1	7 - WO	6										
DirectPlanning		15	16	17	18	19	20	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	05	06	07	08	95
⊡ Milling													and time															
□Processing													date ar															
Finishing													Current date															

These sections are still empty. We are now going to allocate machines to them.

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		Export Excel 👻			1	<u>.</u>	Them a	Моалу	📑 🔤 Jobs 🧕 Assoc	lated operations	Calenc
# 1	Machine code	Machine designation	Section design	WU des	Default operation design	Default setting	Average work rate	WU des. Of	Max. cross direction dimensio	Special process	ng Techni
1 L	J1	Usinex 1 (550 mm max)	Milling	Units	Standard milling	1:00	800	Units	5	50	Milling o
2 L	J2	Usinex 2 (700 mm max)	Milling	Units	Standard milling	1:00	800	Units	7	00 🗌	Milling c
3 T	[1	Equiva 1	Processing	Units	Standard processing	0:10	550	Units		0	Process
4 T	12	Equiva 2	Processing	Units	Standard processing	0:10	550	Units		0	Process
5 T	[3	Speedex (special proc.)	Processing	Units	Standard processing	0:20	750	Units		0 🗸	Process
6 9	TR	Outsourced processing	Processing	Units	Standard processing	0:00	0	Units		0	
7 F	71	Finishing machine 1	Finishing	Units	Standard finishing	1:00	1200	Units		0	
8 F	2	Finishing machine 2	Finishing	Units	Standard finishing	1:00	1200	Units		0	

Upon validation, they also appear on the left side of the Gantt:

DirectPlanning				1						Wedn	esday 1	19/07/1	7 - W2	9												Thur	sday 20)/07/17	- W2
DirectPlanning	18	19	20	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	05	06	07	08	09	10	11	12	13	14
⊡Milling																													
Usinex 1 (550 mm max)																								0					
Usinex 2 (700 mm max)																													
Processing																													
Equiva 1																													
Equiva 2																													
Speedex (special proc.)																													
Outsourced processing																													
⊟Finishing																													
Finishing machine 1																													
Finishing machine 2																													

OUR ADVICE

When creating machines (or other data such as operations, entities, etc...) sharing common characteristics, save time by creating new machines from existing ones: Right-click on the machine to duplicate in the list of machines and select **Duplicate...**

Considerations on working units

Why indicate the working unit of quantity to produce when entering machines?

- 1. This creates a first level of compatibility. In the schedule, moving a job towards a machine with a different working unit of quantity to produce displays a warning. We will see that operations offer a second level of compatibility.
- 2. This can be leveraged to specify the average setting time and the average work rate, already discussed.

Direct Planning includes a list of standard working units which can be displayed/modified using the **Data** > **Working units** menu:

orking		
orking		
units		
of working units		- 0
0 54	🛎 Export Excel 🔹 🛛 📑 🛸	Modify 📸 📗 Jobs 🥁 Machines 🙍 Opera
		modily =0 = 1003 mm meetines
# Code	Designation	
1 UNI	Units	
2 PIE	Pieces	
3 PAG	Pages	
4 CAR	Cardboards	
5 PAL	Pallets	
6 KG	Kilograms	
7 TON	Tons	
8L	Litres	
9 HL	Hectolitres	
10 CO	Copies	
11 SHE	Sheets	
12 PLY	Plies	
13 LEA	Leaflets	
	Book	
14 BOO		
14 BOO 15 PAC	Packets Covers	
14 BOO	Packets Covers Cases	

 This screen allows the creation/modification/ deletion of working units.

After selecting a working unit, you can also click on **Jobs**, **Machines** and **Opérations** to display the associated elements.

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4.1.4. Configuring technical elements

OUR ADVICE

The configuration of technical items below is provided for reference only. Version 3.1 introduced **reference data** which bring more flexibility. Therefore, we advise you to favour them over technical elements.

Technical elements are characteristics of your machines. In the corrugated cardboard sector, it can be the number of colours, the type of corrugation or the type of bonding. These characteristics are used to determine the setting time and the work rate.

Administration		\$
0	ments is performed by clicking on Co	onfiguration > Technical elements
in the ribbon:		
Technical elements		
Below, we created the Colours to automatically (while remaining ed	echnical element, to which a code ditable manually):	and a designation were assigned
💂 Configuration of technical items - Config	uration of technical item 1	×
Colours	Enable technical item 1 and name it	Colours
Technical item 2 not configured	Properties of technical item	
Technical item 3 not configured	Unique identifier of technical item	colours code
Technical item 4 not configured	Technical item designation	colours designation
Technical item 5 not configured	Automatically assign a color when creating this	technical item.
Technical item 6 not configured		

The configured technical elements are displayed under the **Data** tab:



Click on the Colours technical element to add elements:

	🚔 😹 Export Excel 👻		New 🗐	Modify	×	colours designation Color		4 colours	
# 🔬 colou	is code colours design	ation					Save and Ne		Cancel
						List of technical item			- • ×
						• • • • • • • • • • • • • • • • • • •		New 🔡 🖶 N	Modify 📸 🛃 Jobs
						1 4C 2 6C	4 colours 6 colours		
					Close				

Technical elements will then be selected when creating jobs.

Because some technical elements may not apply to certain machines, you can deselect those that are not relevant when creating individual machines. In the example, the number of colours applies to printing machines but not to die-cutting machines:

Modification:	Machine « U1	0		×
Machine	Notes	Technical elements	Informations process	
Please uncheck t	he technical iten	ns that are of no interest nor sense	for this machine:	

▲ U1 machine with technical element Colours active



▲ STR machine with technical element Colours inactive

4.1.5. Configuring reference data

Reference data designates data lists represented by a code, a designation and a colour. These can list sales reps, product families, cutting-dies, colours, etc.

Reference data is used to set a type for the many fields that Direct Planning enables to customise (in addition to the traditional types: integer, text, date, etc.).

Reference data then impacts multiple levels:

- 1. Inform: Windows can be configured to display this data.
- 2. **Colour**: jobs can be coloured according to specific reference data. For instance, colours can discriminate cutting-dies.
- 3. Affect **programmable formulas** defining setting times and work rates.

Administration		þ
The configuration of reference data is performed by clive Reference data	<pre>cking on Configuration > Reference data:</pre>	
We are going to create Cutting-die reference data:		
■ List of reference data	Creation: Sales representative	
Code Sales r Vording Sales representative	Color Color Save and Next Save and Close Cancel	
	E List of reference data 'Sales representative' - □ >	<
	Code Sales r Wording Sales representative Code Sales r Uting die Code Sales r Code Sales representative	×
		1

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User can access the reference data configured above under the **Data** > **Reference data** tab of the ribbon:



Creation of cutting-dies via the **Data** > **Reference data** > **Cutting-die** menu:

List of reference of	lata	- 🗆 ×
🄰 🔍 🚔 💌 Exp	oort Excel 👻	📑 New 📑 詩 Modify 📑
		2
Code Cutting	Wording Cutting-die	
EP05154	5154 - 25 blanks	
EP05214	5214 - 18 blanks	

ADMINISTRATION

Data type **Cutting-die** is now available in the configurable areas. This allows to enrich job information with the related configurable area (**Configurable area 1**):

General	Configurable areas of job details					
Machines	Configurable area 1	Cutting-die	.	Ref. data:Cutting-die	-	
Jobs	Configurable area 2			Text (by default)	•	
Jobs: configurable areas	Configurable area 3			Text (by default)	-	
Flags	Configurable area 4			Text (by default)	•	
Alerts	Configurable area 5			Text (by default)	-	
Planning assistance	Configurable area 6			Text (by default)	-	
Secondary resources	Configurable area 7	Last ERP calculation		Date and time	•	
Automatic import	Configurable area 8	Last import		Date and time	-	
Automatic export	Configurable area 9		-	Text (by default)		
Backup copies	Configurable area 10		T	Text (by default)	-	

Reference data **Cutting-die** now appears in the job additional information (together with the other configurable areas entered on the previous screen):

Cutting-die	EP05154	5154 - 25 blanks				
Last ERP calculation	lun. 26/11/2018 🗂 14:00 🕒					
Last import	lun. 26/11/2018	14:30				

4.1.6. Configuring entities

Entities are data lists which evolve with your activity (Customers, Orders, Products, Projects, ...). Configuring entities provides lists for each individual data.

Entities can be automatically imported from an ERP (unlike other technical data whose list is supposed to be finite and which don't evolve much over time).

	ATION										\$
The con	figuration	of er	itities	is	performed	via	the	Configuratior	>	Entities	menu
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57 K											
Entities											
chines											
No are a	aing to co	nfigure t	ha fal		ag antitiage (weduct and M	о Га	ch antitu	faatura
we are go	ling to co	ningure t	ne ioi		ig entities. C	.ustor	ner, r	Product and W	J. Ed	ch entity	reature
specific da	ata.										
specific us	ita.										
R Configuration of entities - D								×			
Customer Product	Enable entity 1 and n Properties of entity	ame it Custo	ner			Links					
wo	Unique identifier	Customer code									
Entity 4 not configured	Designation	Customer designation									
Entity 5 not configured	Configurable area 1 Configurable area 2	City Zip code	Text (by								
Entity 6 not configured Entity 7 not configured	Configurable area 2 Configurable area 3		I CAL (D)	ucioux)							
Entity 8 not configured	Configurable area 4	Contact name	Text (by	defauit)							
Entity 9 not configured	Configurable area 5	Contact phone	Phone r								
Entity 10 not configured	Configurable area 6 Configurable area 7	Contact email	email ac	dress							
	Configurable area 8	Sales representative	Ref. dat	a:Sales represer	ntative						
	Configurable area 9										
	Configurable area 10	Network directory	T Data dir	ectory							
	Automatically assign	a color when creating this entity.									
	Automatically assign	a color when creating this entity.									
	Automatically assign	a color when creating this entity.									
	Automatically assign	a color when creating this entity.									
	Designation of technical item is	: used in						×			
Customer	Designation of technical item is	: used in	d			Links		×			
Customer Product	Designation of technical item is	: used in	et			Links-		×			
Customer Product WO	Designation of technical item is	: used in ame it Product Product code Product designation				Links Customer		×			
Customer Product WO Entity 4 not configured	Designation of technical item is Designation of technical item is Properties of entity	: used in arms it Produce arms are it Produce are produced and produced and produced family pr	Ref. dat	a:Product family				×			
Customer Product WO Entity 4 not configured Entity 5 not configured Entity 6 not configured	Designation of technical item in Designation of technical item in Properties of entity Unique identifier Designation Configurable area 1 Configurable area 2	used in mere it Product code Product code Product designation Product designation Customer item ref.	Ref. dat	default)				×			
Customer Product WO Entity 4 not configured Entity 5 not configured Entity 6 not configured	Designation of technical item is Designation of technical item is Properties of entity	s used in American Strategy St	Ref. dat	default) default)				×			
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Configuration of entities - C Customer Product WO Entity 4 not configured Entity 5 not configured Entity 6 not configured Entity 6 not configured Entity 7 not configured Entity 10 not configured Entity 10 not configured Entity 10 not configured Entity 4 not configured Entity 4 not configured Entity 4 not configured Entity 5 not configured Entity 10 not c	Designation of technical item is	a used in ame it Product code Product code Product designation Product designation Product family Custome tem ref Plan-Study no Dimensions Custome tem ref Custome tem ref Custome tem set VWO No		default) default) default) a:Type of produ		Customer Customer Uinka					
Customer Product W0 Entity Anot configured Entity 5 not configured Entity 7 not configured Entity 7 not configured Entity 9 not configured Entity 9 not configured Entity 9 not configured Entity 9 not configured Entity 10	Designation of technical item in Progenies of entity Unique identifier Designation Configurable area 1 Configurable area 2 Configurable area 3 Configurable area 4 Configurable area 5 Configurable area 5 Configurable area 6 Configurable area 7 Configurable area 8 Configurable area 9 Configurable area 9 Configurable area 10 Properties of entity Unique identifier Designation of technical item in Properties of entity Unique identifier Designation Configurable area 3 Configurable area 3 Configurable area 5 Configurable area 7 Configurable area 7 C	a used in ame it Product code Product code Product designation Product designation Product family Custome time ref. Plan-Study Plan-Study Designation a color when creating this entity used in a color when creating this entity work Custome designe Custom		default) default) default) a:Type of produ		Customer Customer Uinka					
Customer Product W0 Entity Anot configured Entity 5 not configured Entity 7 not configured Entity 7 not configured Entity 9 not configured Entity 9 not configured Entity 9 not configured Entity 9 not configured Entity 10	Designation of technical item in Progenies of entity Unique identifier Designation Configurable area 1 Configurable area 2 Configurable area 3 Configurable area 4 Configurable area 5 Configurable area 5 Configurable area 6 Configurable area 7 Configurable area 8 Configurable area 9 Configurable area 9 Configurable area 10 Properties of entity Unique identifier Designation of technical item in Properties of entity Unique identifier Designation Configurable area 3 Configurable area 3 Configurable area 5 Configurable area 7 Configurable area 7 C	a used in ame it Product code Product code Product designation Product designation Product family Custome tem ref Plan-Study no Dimensions Custome tem ref Custome tem ref Custome tem set VWO No		default) default) default) a:Type of produ		Customer Customer Uinka					

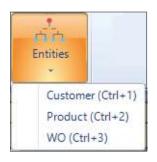
ப

On the right, links display automatically the higher tier entity. For example, in the job details, entering the WO automatically populates the associated product and customer, without any retyping.

OUR ADVICE

Links are hierarchical. You can see that WOs are linked with products, themselves linked with customers. Accordingly, it is better to enter entities by hierarchical order: Customer, Product and finally WO. However, make sure to unselect the link with the customer when dealing with generic products.

Entities are available under the **Data** > **Entities** tab:



- ◄ Click on the entity to inform.
- ▼ The available fields are those previously configured.

		Export Excel 👻				Jobs Product			
Í	Customer co	Customer designation	City	Zip code	Contact name	General Notes	67.»		
						Detail			
						Customer code	AE0037		
						Customer designation	AERO FUTUR	E	
						Color		II 2	
						City	Toulouse		
						Zip code	77200		
						Contact name	BERTHELOT	Dominique	
						Contact phone	+33 (0)2 47 66	47 20	
						Contact email	d berthelot@a	erofuture fr	
						Sales representative	MAY	MARTIN Yannick	50
						Network directory		IENT\AE0037	-

This process is repeated for each **Customer** entity:

0 💾 🗷	Export Excel 🝷					🗟 New 📑 🐳	Modify	Jobs 📰 Product
Customer co	 Customer designation 	City	Zip code	Contact name	Contact phone	Contact email	Sales repre	Network directory
AE0037	AERO FUTURE	Toulouse	77200	BERTHELOT Domin	+33 (0)2 47 66 47 20	d.berthelot@aerofut	MAY	\\SERVER\CLIENT\AE003
BA0452	BARNAY INDUSTRIES	Saint Germain en La	78100	DIOT Serge	+33 (0)1 45 87 99 66	serge.diot@barnayin	CDG	\\SERVER\CLIENT\BA045
BR0149	BROCHAND INDUSTRIES	Brest	29200	SALOMON Marie	+33 (0)2 47 85 98 66	m.salomon@brocha	CDG	\\SERVER\CLIENT\BR014
CR0549	CREATIVE TECH	Chateaubriant	44110	BROCHARD Sébast	+33 (0)2 36 45 78 99	s.brochard@creative	DEL	\\SERVER\CLIENT\CR054
DK0578	DKP AUTOMATION	Nancy	54000	FISCHER Didier	+33 (0)3 98 65 47 55	d.fischer@dkp.fr	CDG	\\SERVER\CLIENT\DK057
F05478	FORK AUSTRIA	Nantes	44000	LEGUELEC Erwan	+33 (0)2 65 87 47 66	e.leguelec@iorkaust	DEL	\\SERVER\CLIENT\F0547
IN1458	INOV CAR	Creteil	94120	PREVOT Raphael	+33 (0)1 36 87 77 89	r.prevot@inovcar.fr	DEL	\\SERVER\CLIENT\IN145
INT	Internal							
KA6987	KATIA AUTOMATIVE	Paris	75012	HAUBERT Tania	+33 (0)1 23 65 47 89	tania.hauberl@katia	DEL	\\SERVER\CLIENT\KA698
ME0039	METAL DESIGN	Adainville	78113	BARREAU Laurent	+33 (0)1 45 23 58 79	l.barreau@netaldesi	CDG	\\SERVER\CLIENT\ME00;
PA5478	PARNAY AUTOCAR	Antony	92160	DUCLOS Hélène	+33 (0)1 68 42 68 66	h. duclos@parnayaut	DEL	\\SERVER\CLIENT\PA547
QU2384	QUALICABLE SA	La Source	45100	BENEDICT Caroline	+33 (0)2 45 68 25 47	caroline.benedict@q	CDG	\\SERVER\CLIENT\QU23
SO3202	SOLITEC	Lyon	69004	MAUPASSAN Eric	+33 (0)4 32 65 87 99	e.maupassan@solit	MAY	\\SERVER\CLIENT\SU320
TE8436	TEMCO	Angouleme	16000	BLIER Fionia	+33 (0)2 65 88 99 87	f.blier@temco.fr	MAY	\\SERVER\CLIENT\TE843

When creating the next entities (Products), these can be linked with Customers:

38

General Notes				
Detail				
Product code		PE0057		
Product designation		AERO-M/027		
Color			i i	
Product family	<u>1</u>	AER	Aeronautic industry	
Customer item ref.		IM1599		
Plan/Study no.		16236		
Dimensions		57 x 41.5 x 95		
inks				
Customer	<u>1</u>	AE0037	AERO FUTURE	E

Finally, entering a WO offers the possibility to select the related product, which automatically populates the **Customer** field:

General Notes				
Detail		(
WO no.		170020		
WO Designation		AERO-H/021		
Color			I II 2	
Qty to produce		500]	
Planning deadline	ven.	14/02/2025	•	
Customer deadline	sam	. 15/02/2025	•	
Type of production		REN	Renewal	
Man. file (PDF)	2	\\SERVER\OF\170	0020.PDF	=
inks				
Customer	2	ZO3701	ZOOM CHROME	
Product		PG0067	GENINDUS-H/226	-

4.1.7. Configuring Process Information

Process Information designates a data structure which extends the customisation features offered in Direct Planning. It refers to technical data which need to appear on specific machines only. The detailed technical information provided is therefore limited to the machines where it is relevant.

Administration				\$
The configuration of Process Information is perform tab:	ed under th	ne Configurat	ion >	Process Information
Process				
We are now going to configure Process Information	related to r	nilling:		
I Configure process information X				
Thanks to the process information, you can specify customizable information only pertaining to some machines.				
Process # Process designation	🔣 Configure a process in	formation		×
	Process number	1		
	Process name	Milling		
	Configurable area 1	Type of milling	T Ref.	data:Type of milling
	Configurable area 2	Milling complexity	T Ref.	data:Level of complexity
	Configurable area 3	Milling tool no.	T Ref.	data:Milling tool no.
	Configurable area 4	Material	T Ref.	. data:Material
	Configurable area 5	Cross direction dim. (mm)	T Inte	ger
	Configurable area 6	Machine ditection dim. (mm)	T Inte	ger
	Configurable area 7	Material weight (Kg)	T Inte	ger
	Configurable area 8		W.	
	Configurable area 9			
	Configurable area 10			
				Save and Close Cancel
In the example above, Process Information build up	on standar	deopfigurable	r	as (integer sheet boy)

In the example above, Process Information build upon standard configurable areas (integer, check box) as well as upon a custom type originating from reference data (Type of milling).

This Process Information can now be applied to milling machines. In the list of machines (**Data** > **Machines** menu), select each affected machine and click on **Modify**. The new **Process Information** tab allows to select the newly created Process Information:

🕌 Modificatio	n: Machine « U1	»		×
Machine	Notes	Technical elements	Informations process	
Please check t	he process inform	ation pertaining to this machine:		
Milling				

▲ Milling Process Information now applies to machine U1.

Each Process Information can include a maximum of 10 individual technical information. If this is not enough, multiple Process Informations can be created for a single machine. The purpose is to provide the planning manager with useful information to inform planning decisions.

4.1.8. Creating operations

The creation of operations must answer the following question:

What are the operations supported by our machines?

The creation of operations is performed via the **Data** > **Operations** menu:

(Operations			
S List of operations	- 🗆 X		
🕽 🕙 🔇 🖳 🚔 📧 Export Excel 👻	New 📑 🖶 Modify 💺 🔛 Jobs 🏂 Compatible machines		
Using this machine		Creation: Operation	X
# Operation code Operation designation	Working Unit of Working Unit designation of quantity to produce	Operation code	USIT
		Operation designation	Standard miling
		Working unit of quantity to produce	🖬 UNI Units 🕞
		Color	F8 🥖
			Save and Close Cancel

Defining operations requires to specify a code, a designation and the working unit of quantity to produce. The colour is also important, for instance to colour jobs sharing the same working unit in the schedule.

In the example above, the Standard milling operation uses the Units working unit.

As discussed in the next section, defining operations will allow the association of operations and machines.

4.1.9. Attaching operations to machines

Why attach an operation to a machine?

There are 2 good reasons to do it:

- 1. After the definition of working units, this creates a second level of compatibility. In the schedule, moving a job towards a machine which is incompatible with the operation displays a warning.
- 2. This can be leveraged to force the average setting time and the average work rate.

Machine Notes	Technical	elements		Informations process	Y	4
Machine code		U1				
Machine designation		Usinex 1 (550 mm r	nax			
Section	Z	S1		Milling	=	
Color			Ε	i 🥒		
echnical data			_			
Norking Unit of quantity to produce	2	UNI		Units		
Default operation	2	USI1		Standard milling		L
Enable automatic calculation of	durations fo	r this machine.				1
Vorking Unit of operative quantity		UNI		Units	1	
Norking Unit to enter the work rate		UNI		Units	-0	
verage duration of setting		1:00	h			
Average work rate		80) (J <mark>nits / h</mark>		
Default variable waste		0 %				
Activate technical constraints:	2	Milling constraints			=	>
dditional data						
Max. cross direction dimensions		550)			
		Special proce	ssir	ngs available		
				Save and Close	Cance	1

In our example, the working unit
 Units was attached during the creation
 of the U1 machine. The working unit
 Units was also attached during the
 creation of the Standard milling
 operation.

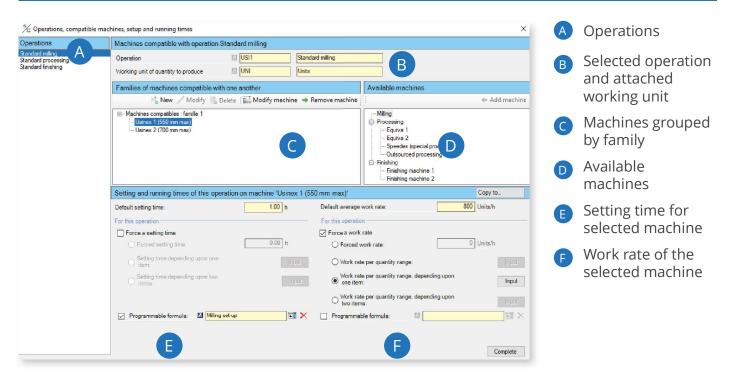
Machine and operation share the same working unit. We can now specify that the **Standard milling** operation is the default operation of the **U1** machine (using the modify button in the machine list).

To be attached to a machine, the operation must share the same working unit.

In the machine list, you can see the associated operations at any time by clicking on the button Associated operations.

The Machines/Operations association can be refined by clicking on **Data** > **Operations and machines** in the ribbon:





This screen offers 2 major functions:

- 1. Creating machine families compatible with each other. These machines share the same working unit as the operation. In the schedule, moving a job to an incompatible machine displays a warning.
- 2. Manually forcing the average setting time and the average work rate, or calculating these values automatically:
 - At the operation/machine pair level
 - At the operation/machine pair level, with one element involved
 - At the operation/machine pair level, with two elements involved

Note

You can also refine the calculation of setting times and work rates by defining programmable formulas. For more information about programmable formulas, see next section, *Configuring programmable formulas*.

Follow these steps to create families of machines compatible with each other:

- Select an operation in Zone A (the **Printing** operation in this example).
 Zone B displays the selected operation as well as the associated working unit.
 Zone D displays the machines compatible with each other (same working unit, same operation).
- 2. Using the mouse, drag machines from Zone D and drop them on a family in Zone C (family 1 is created by default, you can rename it and create other families, see below).

As an alternative, you can select a machine in D and click on **Add machine** You can also do the opposite: Select a machine in C and click on **Remove machine**

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The following actions are also available:

Action	Button
Create a new family of machines	New
Rename a family	Modify
Delete a family	Delete
Modify a machine	(or double-click on it)

Setting duration and work rate by machine/operation pair

Zone E allows to force a setting time for this operation/machine pair.

Zone F allows to force an average work rate for this operation/machine pair.

Setting and running times of this operation on mad	chine 'Finishing ma	achine 1'	Copy to
Default setting time:	1:00 h	Default average work rate: 1200	Units/h
For this operation		For this operation	1
Force a setting time		V Force a work rate	
Forced setting time:	0:45 h	Forced work rate: 1 300	Units/h
Setting time depending upon one item:	Input	Work rate per quantity range:	Input
Setting time depending upon two items:	Input	Work rate per quantity range, depending upon one item;	Input
		Work rate per quantity range, depending upon two items:	Input
Programmable formula: 🚺 Finishing set-up	I X	Programmable formula: I Finishing throughput	() () () () () () () () () () () () () (

C To force a setting time, you must first check the S Force a setting time box.

Different options are now available:

- Forcing a fixed setting time which will take priority over the value defined at the machine level (0:25 in the example above).
- Forcing a setting time affected by one or two technical elements, as in the following example:

Default setting t	0:45 h		
Fechnical data	Process Info. 3 : Finishing -> Finishing complexity	b d	
lease enter be	low the setting times according to the technical data. If you leave a setting time blank, it will be defaulted to the ab	ove one.	
			🗙 Clear al
	Setting rate		🗙 Clear al
Low	Setting rate		🗙 Clear al
Low	Setting rate 0.55		🗙 Clear al

This example uses the **Finishing > Finishing complexity** Process Information, based on the **Finishing complexity** reference data. When dealing with a simple milling operation, the setting time remains unchanged (same as the default setting time: 0:45). However, when dealing with medium and high levels of complexity, setting times respectively increase to 0:55 and 1:10.

🗘 To force a work rate, you must first check the 🗹 Force a work rate box.

45

Different options are now available:

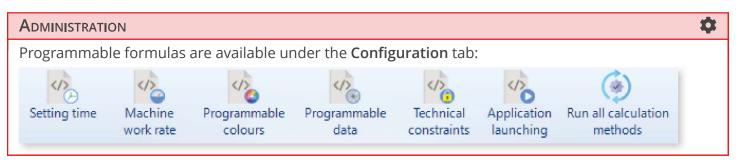
- Forcing a fixed work rate which will take priority over the value defined at the machine record level.
- Forcing a variable work rate depending on the quantity:

🏂 Work rates for operation 'Sta	andard finishing' on machine 'Finishing machine 1'.	×
Quantity ranges	1 500 1 000 2 000	
Work rates (in Units/h)	1 200 1 400 1 500 1550	
		Close

In this example, the Finishing machine 1 processes 1,200 pages/hour for the first 500 pages, then 1,400 pages/hour for the next 500, and so on.

This configuration reflects the increasing machine work rate when processing large series.

4.1.10. Configuring programmable formulas



As these icons indicate, programmable formulas affect 6 areas:

- 1. Formulas modifying setting times according to technical data and precedence criteria. This allows to base setting times on business rules.
- 2. Formulas modifying work rates according to technical data. Here again, you can include your business rules in the definition of your work rates.
- 3. Formulas applying programmable colours to planning tickets in order to transmit specific information.
- 4. Formulas for creating programmable data in order to perform calculations or build character chains. These can for example be used to customize any designation depending on the machine.
- 5. Formulas based on technical constraints, to account for incompatibilities between machines.
- 6. Formulas for launching applications, which can be used to display custom buttons in order to open a website or a file. In the job details screen, these formulas can be used to open the corresponding manufacturing file, as a PDF file.

A single programmable formula can include multiple rules.

Note

Because programmable formulas use the Visual Basic language, you must have in-house staff with minimal programming skills.

Please feel free to contact our support team for assistance in building these formulas.

Setting time

The setting time of a machine depends on the operation it executes, on technical data and on the previous operation in the schedule. Indeed, tool assembly and disassembly times are an important part of the setting time. In order to minimize setting times, the planning manager will often seek to group jobs sharing technical, thereby limiting technical changes on the machine.

In addition to standard mechanisms already implemented in Direct Planning, you can now build your own rules for altering setting times. Although this advanced feature requires minimal programming skills, DP includes assistance tools to help you. For instance, turnkey functions are included to inform whether technical data differs between the current job and the previous.

When moving jobs, setting times are recalculated in real time to account for precedence. The black bar below the job materialises the setting time so the efficiency of the scheduling can be assessed visually. And with the same colour for common technical items (or tools), you can visualise groups of jobs (more information about groups of jobs in section 5.8, *Optimising planning times*.

Administration	\$
Configuration > Setting time menu	
The list of existing programmable formulas op be deleted if it is not in use. Click on New to cr	ens. Please note that a programmable formula can only eate a programmable formula:
Programmable formulas : Calculation of machine work rate. Programmable formulas : Calculation of machine work rate. New State State of the ability to define automatically the machine work rate based on custom content total criteria. New State	▼ In this example, the programmable formula will use the previous job information to calculate the setting time (the ""Milling tool no." set as configurable area 3 of Process Information 1).
	Therefore, if the current job of a machine uses the same milling tool as the previous job, the setting time will be reduced by 30 min.
Programmable formula : Calcul de cadence machine	
Programmable formula : Milling set-up Image: Milling set-up Image: Online help	Enabled formula
<pre>1 ' If milling tool is the same as the one used by previous job, 2 if not TachePrecChangement(Tache.Information_Process(1).Zone_C 3 TempsReglage = TempsReglage - 30 4 end if</pre>	

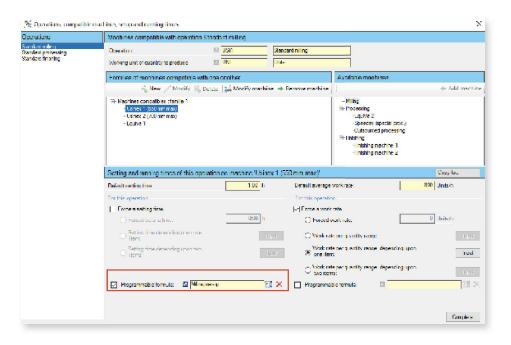
The **Test** button is available to verify the validity of your syntax, confirmed by the message **Code of formula is valid**.

The **Configurations** button gives access to the schedule data without closing the window.

All new programmable formulas are enabled by default. Uncheck the box **results Enabled formula** to disable them.

To create a programmable formula, various objects, variables and functions are available. Furthermore, Direct Planning includes a set of Visual Basic standard keywords. Because this language features hundreds of keywords, only those relevant keywords for standard formulas are provided here.

When your programmable formula is created, go to the **Data** > **Operations and machines** menu to attach it to one or more machines:



 The Milling set-up programmable formula is now attached to the Usinex 1 machine.

Click on **E** to choose among the programmable formulas you created or on **a** to modify the selected formula.

Machine work rates

Programmable formulas offer the ability to describe in details machine work rate values depending on technical data, or to simply alter the work rate values already entered in Direct Planning.

For example, you can introduce work rate modification coefficients based on length ranges of the element to produce. This reflects the decrease in work rate for the smaller elements which are less stable when processed.

You can also introduce multiplying (or dividing) work rate coefficients based on certain technical data.

The underlying principle is the same as for for setting times.

0

ADMINISTRATION

The following programmable formula allows the definition of the machine work rate:

4	Programmable formula : Calcul de cadence machine	-	×
F	irogrammable formula : 18 Finishing throughput		
1	✓ Test X Configurations - ? Online help		
1	' Decrease of throughput for medium and high levels of complexity	🗉 🖯 Objets	
2	Select Case Tache.Information_Process(3).Zone_Configurable_2	🗄 🕞 Variables	
5	Case "2" Hedium	fa Fonctions	
5	Cadence = Cadence * 0.9 Case "3" ' High	T VISUAL Basic	
5	Case 5 mign Cadence = Cadence * 0.8		
7	End Select		
8	in street		

This programmable formula defines a work rate coefficient based on Configurable area 3 (Finishing complexity) for Process Information 3 (Finishing). Please note that a coefficient below 1 decreases the work rate (conversely, a coefficient above 1 translates into an increase).

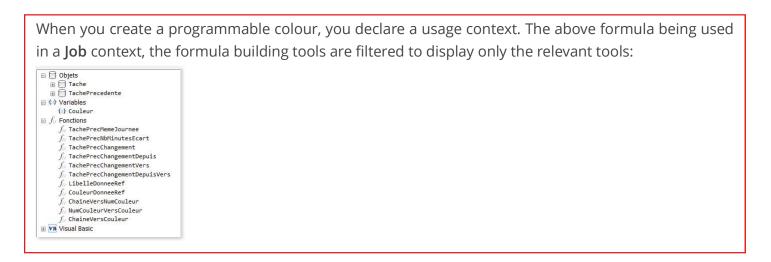
Programmable colours

As standard, Direct Planning offers the ability to colour all or part of the schedule tickets through various mechanisms. You can write your own colouring rules to convey the most visually relevant information to the planning manager.

For instance, for a numeric technical data (length, width, etc.), colouring rules can be created for each range of values.

The underlying principle is the same as for setting times and work rates.

Administration 3	\$
Configuration > Programmable colours menu	
This programmable formula results in a conditional colouring:	
Programmable formula : Couleurs programmables	
Programmable formula : 7 Colour by tool Image: Colour by tool Execution context Job Image: Colour by tool Image: Colour by tool	
<pre>i</pre>	



This formula is used to apply the same ticket colour to all jobs sharing the same tool (3rd line in the next screenshot):

170032 A 170035 BARNAY INDUS	170036 BR	170026 AE	170029 A	170041 B	170048	170055	170046 QUALICABLE SA
5 d early 5 d early -> 14/02/17	5 d early ->	5 d early ->	5 d eal	7 d early	6 d early	7 d early	6 d early -> 16/02/17
							123 (Milling tool)
ACI-015 ACI-012 361 x 717 mm	ALU-022 35	ALU-037 35	ACI-0153	ALU-030	ALU-030	ALU-02	ALU-037 488 x 576 mm

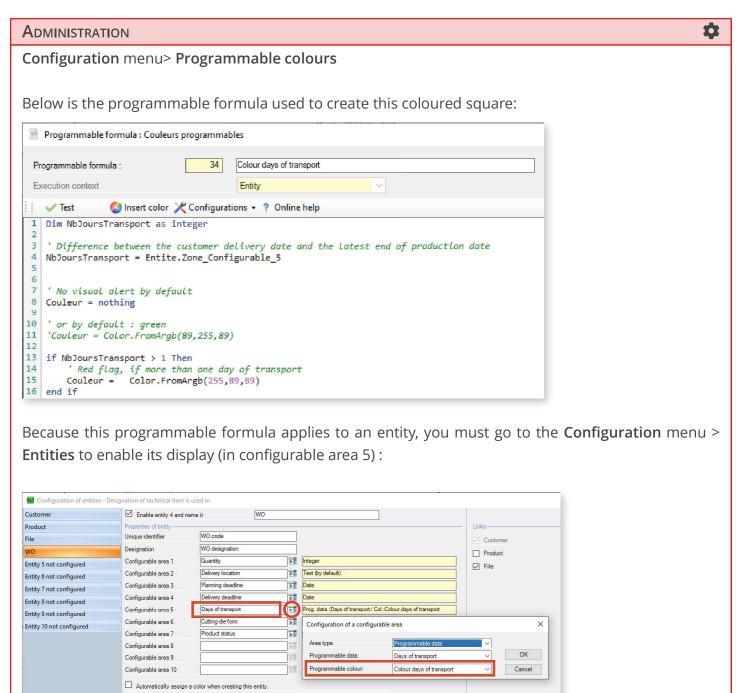
We will see in the dedicated section that conditional colouring can help you *optimise planning times*.

The administrator has access to this colouring in the configuration of display modes. Users can also select it under the **Display > Colour by** tab.

This is a basic example of conditional colouring. For numeric technical elements (such as lengths and widths), these rules can also apply to ranges of values, and job colours can depend on days ahead/behind against deadlines. You can also assign a coloured square to a programmable data.

Information	Flags	Time imposit	tions	Declaration of pr	oduction	Alerts	Notes	
Information on the second s	nis job				Additional information	on this	entity. WO	
O Customer	C54	263	PLATEX LABO	RATOIRES	Quantity		7 000	
O Product	🖪 PS5	4263-0000267	ARMOR-R/00	5 BOX	Delivery location		78770 AUTEUIL LE RC	1
🔾 File	M 160	30170-1-1	4410023748(1	6030170-1-1	Planning deadline	ven.	15/04/2016	
🖲 WO	160	30170-1 <mark>-</mark> 1-1	16030170-1-1-	1	Delivery deadline	mar.	19/04/2016	
Process information	ation: Printing - pa	art 1			Days of transport		4	
O Process information	ation: Printing - pa	art 2			Cutting-die form		EP06914	
					- Product status	151		

In this example, we created the programmable colour linked with the programmable data **Days of transport**, specifying that if this data is above 1, then a red square is displayed.



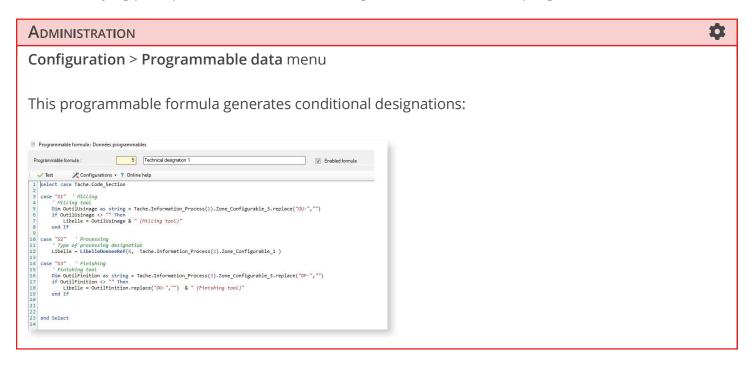
Programmable data

A programmable data is a typed data (text, integer, date, etc) which can be used to perform calculations or build chains of characters.

This way, you will be able to create custom designations in order to the technical data the most relevant based on the machine on which the planning ticket is placed. Combined with Process Information, this will enable a deep customization of the information displayed in the schedule.

You can also assign a programmable data to a configurable zone of an entity or process information. Therefore it will be displayed in the job details, as a non-enterable field. A programmable data is therefore linked with a usage context: jobs, entities or machine record.

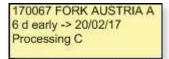
The underlying principle is the same as for setting times, work rates and programmable colours.



This formula customises the display of tools in the schedule according to the **Milling** ("milling tool") or **Finishing** ("finishing tool") section:



If the job is placed in a processing section, the ticket displays the type of processing:



Direct Planning 4.0 Creating a schedule : Configuring programmable formulas 0 **ADMINISTRATION** Below is an example of calculated programmable data: Programmable formulas : Programmable data Programmable formula : 33 Days of transport Entity Execution context \sim Return type Test 🛛 💥 Configurations 👻 ? Online help 1 ' Difference between the customer delivery date and the latest end of production date 2 Valeur = DateAndTime.datediff(DateInterval.day, Entite.Zone_Configurable_4, Entite. Zone_Configurable_6) 3 4 5 ' Will be displayed in configurable area 5 in entity 3 (WO)

As already seen for the programmable colour, go to the **Configuration** menu > **Entities** to enable its display in the job details screen (in configurable area 5) :

Customer	Enable entity 4 and n	ame it WO						
Product	Properties of entity					- Links		
File	Unique identifier	WO code				Custom	er	
wo	Designation	WO designation				Product		
Entity 5 not configured	Configurable area 1	Quantity	E	Integer		☑ File		
Entity 6 not configured	Configurable area 2	Delivery location	E	Text (by default)		[v] the		
Entity 7 not configured	Configurable area 3	Planning deadline	E.O	Date				
Entity 8 not configured	Configurable area 4	Delivery deadline		Date				
Entity 9 not configured	Configurable area 5	Days of transport	()=	Prog. data :Daye of transport/ C	ol.:Colour days of transport			
Entity 10 not configured	Configurable area 6	Cutting-die form		Configuration of a configu	rable area		>	×
anny to the second	Configurable area 7	Product status	(F)					
	Configurable area 8		1	Area type	Programmable data	~		-
	Configurable area 9			Programmable data:	Days of transport	\sim	OK	1
	Configurable area 10			Programmable colour:	Colour days of transport	~	Cancel	
	Automatically assign	a color when creating t	this entity.					

For the WO entity, this formula calculates the difference between configurable area 6 (delivery time) and the configurable area 4 (schedule time).

Délai planning	ven.[15/04/2016] 🗇
Nb jours transport			4
Délai livraison	mar.	19/04/2016	

The calculated value displays in the job details window.

Technical constraints

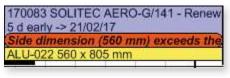
The purpose of **Technical constraints** programmable formulas is to offer custom controls over machine compatibility. These controls are performed when the planning manager moves a job from a machine to another. This ensures the compatibility of technical data between the job moved and the destination machine.

Administration	
Configuration > Technical constraints menu	
This is a Technical constraints programmable formula:	
Programmable formula : Contraintes Techniques	
Programmable formula : Milling constraints	
Vest Configurations - ? Online help	
1 ' Control of the part max. width against the max. opening allowed on the machine	
-	
3 4 ' This control only applies if Process Information <milling> (IP 1) is active on this machine</milling>	
5 if Tache.Machine.Est IP Actif(1) Then	
6 Dim DimSensTravers as integer = Tache.Information_Process(1).Zone_Configurable_5	
7 Dim DimSensTraversMaxi as integer = Tache.Machine.Zone_Configurable_1	
8 9 if DimSensTravers > DimSensTraversMaxi Then	
0 EstCompatible = False	
11 MessageErreur = "Side dimension (" & DimSensTravers & " mm) exceeds the maximum allowed on this machine (" & DimSensTraversMaxi &" mm)"	
12 end if	
13 end if	

This programmable formula indicates the max. opening supported by the machine. The "MessageErreur =" variable allows the definition of a custom message informing the planning manager about the source of the incompatibility encountered while moving the job to an incompatible machine.

Warnings	
CAUTION! Please confirm your action after you have thoroughly read the below warnings:	
You are moving a job towards a machine whose technical constraints are incompatible. Side dimension (560 mm) exceeds the maximum allowed on this machine (550 mm)	
OK and modify job OK	Cancel

If the planning manager ignores this message, an alert still appears on the affected job:



Application launching

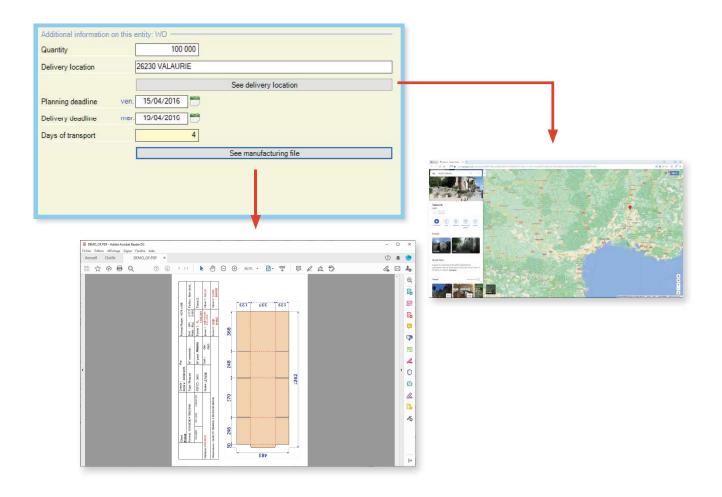
The **Application launching** programmable data offer you the ability to launch an application or a URL using arguments derived from Direct Planning data.

For example, you will therefore have the ability to run an application giving more details about the scheduled job, or open a manufacturing file as a PDF file format.

For this, you will have to create an Application launching formula and link it with a given context: entity, job or machine record. Within these contexts, you will assign a configurable area with this application launching formula. When displaying the data, this configurable area will be materialized as a button which will enable you to launch the configured application.

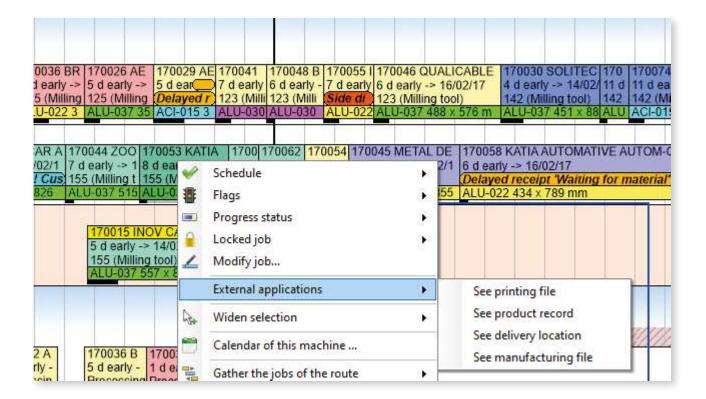
In the example below, we configured the launch of an Internet address directing to Google maps and containing the delivery location as a variable. The **See delivery location** button will open the address in the default web browser of the station.

The **See manufacturing file** button points to a network location where are configured the address and name of the PDF file with the WO number as variable. The file will open in the default reader of the station.



When there are Application launching formulas created, you can run the corresponding actions with a right-click on a job.

All available actions are listed under the External applications sub-menu:



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4.1.11. Creating display modes

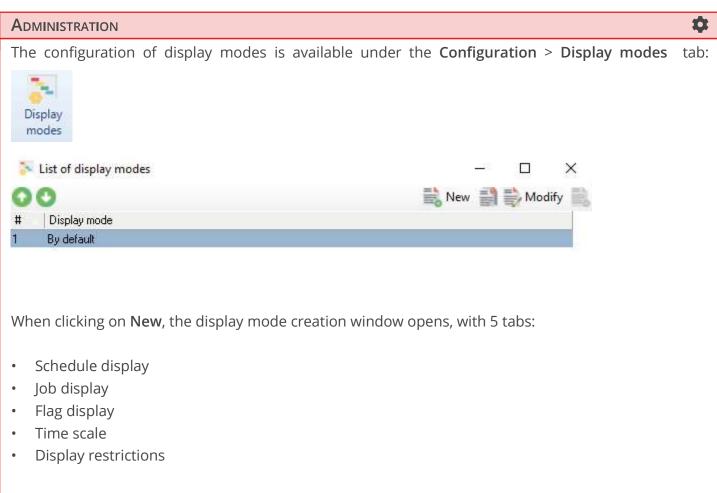
This original function offers the ability to define as many display modes as you want depending on the profile and viewing needs of each user.

The display mode can be changed under the **Display** tab.

It can also be configured by default per user.

OUR ADVICE

While the creation of display modes is optional because Direct Planning opens with the default display mode (which cannot be modified or deleted), it is nonetheless recommended. When your own display modes are defined, you will have to disable the default display mode (see section 4.3.12 *Creating users*).



The following sections discuss in depth each of these tabs. Therefore, they are reserved to the Direct Planning administrator.

Schedule display

chedule display Job display	ay Fla	g display	Time scale	Display	restrictior	าร		
Projection								
Group by :		Sort :			Way :		Display :	
Section	•	Sequen	ce number	•	ASC	Ŧ	Section designation	•
One line per :		Sort :			Way :		Display :	
Machine - Sequence		ce number	*	ASC		Machine designation		
Time scale								
Time scale		Scale 2		*				
Global display zoom		100	%					
Compact time scale								
See secondary scale	5							

This first pane is used to modify the overall display of the schedule, including the projection section:

Projection Group by :		Sort :		Way :	Display :		
Section	*	Sequence number	•	ASC 👻	Section designation 👻		
One line per :		Sort :		Way :	Display :	$ \longrightarrow $	Usinex 1 (550 mm max)
Machine	+	Sequence number	•	ASC 👻	Machine designation 👻		Callex 1 (000 min max)

By default, sorting is made on the sequence number, which is the configuration order of your elements (Section/Machine in this example) and that you can change by clicking on the green arrows in the top-left corner:

🧮 List o	of sec	tions					
00	٢	0 🚔 🛛	Export Excel 👻				
	# .	Section code	Section desig				
	1	S1	Milling				
		S2	Processing				
	3	S3	Finishing				
	Sequence number						

In the schedule display, you can also configure the time scale:

Time scale		
Time scale	Scale 2	*
Global display zoom	100 %	
Compact time scale		
See secondary scales		

These options enable to set the default time scale (1 to 5) of the display, as well as the default global zoom level.

Compacting the time scale saves space on the schedule by not displaying weekends when they are not worked.

Secondary graduations make it easier to consult the schedule thanks to grey vertical maker lines.

Finally, this tab offers the ability to customise the aspect of inactivity areas. Inactivity areas are regular or occasional periods during which the resource or machine does not operate (outside working time, weekend, hardware servicing periods, public holidays, vacancy, sick leave, machine maintenance, ...):

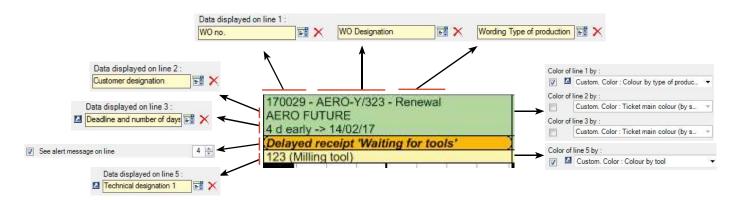
Color of inactivity areas:	hatched	C shading off

Job display

ine of jobs						
Number of lines per job :	5 🔹					
Main color by :	Custom. Color : Ticket n	nain colour (b	ys… ▼ design. 🍥 pla	ain	🔘 shading off	
Text size :	Normal	·•				
Data displayed on line 1 :					Color of line 1 by :	2
WO no. 📑 🗙	WO Designation	📑 🗙	Wording Type of production	X	🔽 🚨 Custom. Color : Colour by type of produc 👻	
Data displayed on line 2 :					Color of line 2 by :	1
Customer designation			1100	$ \times $	Custom. Color : Ticket main colour (by s 🔻	
Data displayed on line 3 :	12.		7		Color of line 3 by :	1
🛛 Deadline and number of days 📑 🗙			1= 0	X	Custom. Color : Ticket main colour (by s 👻	
Data displayed on line 4 :					Color of line 4 by :	1
		I II X	14.0	$ \times $	👿 🚨 Custom. Color : Colour by earliness/late 🔻	
Data displayed on line 5 :					Color of line 5 by :	-
Technical designation 1				X	V Gustom. Color : Colour by tool	
Main line number (Alerts)						
See alert message on line						
See lock						
See the progress status gauge						
Conditional colorization	0					
Only see direct links						
Display setting times.						

This second pane offers the ability to change the aspect of jobs in the schedule.

The configuration above gives jobs the following aspect:



Flag display

chedule display	Job display	Flag display	Time scale	Display restrictions	÷
Horizontal fla	igs			⊘ S	lags ee flag "Waiting for material" ee flag "Waiting for tools" ee flag "Waiting for return from outsourcing"
			Ligne 1 of jo Ligne 2 of jo Ligne 3 of jo	Ь	6 7 8
			Ligne 4 of joi Ligne 5 of joi	Ь	

This tab offers the ability to select the visible flags in your display.

Flags are coloured and sometimes hatched bullets located above and/or on the right of jobs. They enable the planning manager to view instantly the different job status.

They serve the same purpose as paper clips and other stickers put on traditional wall schedules.

To create a flag, go to the **General configuration** of Direct Planning:

General	Horizontal flags	Vertical flags
Machines	1 sinactive flag>	6 Waiting for material
Jobs	2 sinactive flag>	7 Waiting for tools
Jobs: configurable areas	3 <u>sinactive flags</u>	8 Waiting for return from outsourcing
Flags	4 🔄 4 clnactive flag>	9 <u>clnactiveflag></u>
Alerts	5 <u>s</u> <u><lnactive flag=""></lnactive></u>	10 sinactive flao>
Planning assistance		
Secondary resources	12345	
Automatic import		Vertical flags will only be shown if the selected display mode
Automatic export		6 has enough lines per job.
Backup copies		8
Advanced options		9 00
	Click on a flag to configu	e it.
	Flag width :	By default
		OK Cancel

Choose the type of flag to create, horizontal (left) or vertical (right), and click on <Inactive flag>.

Configura	tion of flag 1	×
🗹 Enable fl	ag 1 and name it	
Flag type		
Indicative	/e	
O Multi-sta	atus	
O Multi-sta	atus, awaiting item rec	eipt
Pi	roduce an alert in case Color of this alert :	e item is not received and planned receipt date is over.
Layout of ina	ctive flag.	
O Color of	inactive flag :	 Invisible, inactive flag
Layout of the Color	indicative, active flag	Motif
Advanced op	vitions	
	Scope of flag	Multi-status complements
		OK Cancel

As suggested by the window above, there are 3 types of flags: **indicative**, **multi-status** and **multi-status**, **awaiting item receipt**. Let's look more closely at each of these flags:

Configuration of flag 1	×
Enable flag 1 and name it	customer dispute
Flag type ● Indicative ● Multi-status ● Multi-status, awaiting item receipt ■ Produce an alert in case item is not Color of this alert : Layout of inactive flag.	received and planned receipt date is over.
Color of inactive flag :	Invisible, inactive flag
Layout of the indicative, active flag Color	Malif
Advanced options Scope of flag	Multi-status complements
	OK Cancel

 Indicative flag, the simplest case as an indicative flag is a two-state flag: Active or inactive. You can think of it as a raised or lowered flag, or an On/Off switch.

In the example opposite, the flag is shown when active and hidden when inactive. It is also possible to display inactive flags, in which case you can choose the colour by selecting the **Colour of inactive flag** line.

In case of flag modification, the **Scope of flag** lets you choose whether this modification applies only to the current job or to all jobs sharing the same entity.

Multi-status	flag:	aCreati	ig a sci G-Stai	redule ;	ag	reating o	isni.	ay moo	
					- 0				 -

Configuration of flag 1			×
Enable flag 1 and name it	WO s	status	
Flag type Indicative Multi-status Multi-status, awaiting item receipt Produce an alert in case item is not approximately in the second status item is not approximately in the second status item is not approximately in the second status item item is not approximately interval status item item item item item item item item		nd and planned one	iet dete is over
Color of this alert :		eu and planneu rece	ipt date is over.
Layout of inactive flag. O Color of inactive flag :		Invisible, inac	tive flag
Layout of the multi-status activated flag Activate status and name it: Ready Not ready	Color	Pattern	
Advanced options Scope of flag		Multi-status co	mplements
Configuration of flag 1		ОК	Cancel >
Enable flag 1 and name it	Waiti	ng for tools	
Flag type Indicative Multi-status Multi-status, awaiting item receipt Produce an alert in case item is n Color of this alert :	not receiv	ed and planned rece	ipt date is over.
Layout of inactive flag. O Color of inactive flag :		Invisible, inac	tive flag
Layout of the multi-status activated flag Activate status and name it: Tools to order Tools ordered - waiting for receipt Tools in maintenance Tools available Advanced options	Color	Pattern Receipt of Waiting for Waiting for Received it	receipt V receipt V receipt V
Scope of flag		Multi-status co	mplements

5 states. Designation, colour and motive can be defined for each status.

When creating of modifying jobs, users can enable or disable the flag for each job. As with indicative flags, inactive flags can be shown or hidden.

When the flag is active, you can define a colour and a subject for each of the 5 available states (you do not have to use them all).

 Multi-status, awaiting item receipt flag: While showing similar characteristics as those described previously, this flag adds the notion of item receipt.

Unlike the other flags which are strictly indicative, this flag introduces a strong constraint for the job earliest start date.

The earliest start date constraint applies to the job on which the flag was activated. Because of that, the notion of scope does not exist for this flag.

If the planned date has come and the tool has not been received, an alert message will indicate the delayed receipt.

See section 5.2, *Creating jobs manually*, to see how flags are used at the job level.

Time scale

hedule display	Job display F	lag display	Time scale	Displa	ay restrict	ions			
etting zoom lev	els of time scal	les							
				Restor	e defauli	values			On the screen, you'll see (
Scale 1	Initial zoo	m level:	High zo	oom			zoom	Coeff 22	24 hours
2 Scale 2	Zoom ratio 1:	o with scale	x2	3	9	9	x6	x2	2,0 days
3 Scale 3	Zoom ratio 2:	o with scale	×2	ħ.	1	M	x 6	x2	4,0 days
Scale 4	Zoom ratio 3:	o with scale	x2	Ó	M	M	x6	x3	12,2 days
5 Scale 5	Zoom ratio 4:	o with scale	x2	w.	я	91	x6	x2	24,3 days

This tab offers the ability to define the different zoom levels associated to this display mode.

Start by modifying the zoom level of scale 1.

Higher magnification will display a smaller time span, which is useful when planning short jobs (less than an hour).

Conversely, smaller magnification will display a larger time span.

Scale 2 is the result of a multiplying factor applied to scale 1.

The same applies to each other time scale, which is the result of a multiplying factor applied to the previous scale.

Direct Planning 4.0	Creating a schedule : Creating display mode
Display restrictions	
Schedule display Job display Flag display Time scale Display restrictions	
🔲 Do not display jobs after: 👘 Do not display jobs a	fter:
Before Before O	
O Days before current day	fter current day
Jobs to schedule'	
By default, display jobs 'to schedule' and allow them to be hidden via the 'Display	ay' tab.
O By default, hide jobs 'to schedule' and allow them to be displayed via the 'Displayed'	ay' tab.
O Always hide jobs 'to schedule'.	
Only display jobs on:	
Sections	
 Machines 	

This last pane is used to filter the jobs displayed by the current display mode.

In the upper part, a range (date and time) can be defined through selection in the calendar or in relation to the current date. For example, it is possible to display only the jobs located 90 days before and after the current date.

OUR ADVICE

It is strongly recommended to configure the current display mode to ignore the jobs older than 2 weeks. This will optimise the time required to load the schedule. However, display modes can be created (via duplication) for elapsed periods, for logging purposes.

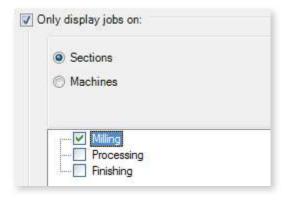
At the centre of this screen, you can choose the default display mode of jobs "to schedule". As a reminder, jobs to schedule are jobs which need to appear on the schedule without being set to a specific date.

Usinex 2 (700 mm max)	wal	9 d	170034 - AERO-H/10 TEMCO 5 d early -> 14/02/17 155 (Milling tool)	6 - 170038 - ZOOM C 7 d early 155 (Milli	17(BR 7 d
Usinex 2 (700 mm max) [*]			INOV	5 - AUTOM-(CAR rly -> 14/02/1 lilling tool)	diat

◄ Jobs to schedule are displayed on a special line in the schedule, under the actual planning line, in a different colour and with the machine name followed by the [*] character

ப

Finally, the lower part of the tab allows the schedule to display only the jobs attached to specific machines/sections. This allows to show some users only the machines/resources relevant to them:



 This schedule will address the needs of operators working only with milling machines. Indeed, their schedule will not be cluttered with data related to other sections.

Refining this filter can be performed by clicking on **Machines**. For instance, if an operator only works on milling machine #1, the planning manager can limit the scope of his display to show only this machine.

4.1.12. Creating users

User management is performed via the List of users menu.

Administration	\$
This menu is available from the ribbon, under the Configuration > Users tab	

👗 List of users	i				-		×
🔍 🚔 💌 Ex	port Excel 👻				New 📑	Modify	
See inactiv	e						
							×
# Login	Name	Fisrt name	Access level	Active	Default displ	ay	

Because no user have yet been created, this list is still empty except for you, the administrator. Click on **New** to create users:

🛓 Creation: User		×
User Options utilisateur Allowed display modes User configurable lists Identification Identifier Engin Fisrt name Email Active user	Set password New password Confirm password	2
Schedule access level O Super-user Access for modification Access for restricted modification Access for consultation	Privileges Configure schedule Manage technical data Manage calendars Manage entities	4
		Save and Close Cancel

The first tab **User** allows to enter basic information about the user. It consists of 4 zones.

- ① User credentials: Identifier (automatic and non-editable), Login (required and non-editable), Surname (required and editable), Forename (optional and editable), Email (optional and editable) and Active user (checked and editable).
- ② User password (required and editable).

- ③ Direct Planning access level:
 - Super-user (admin): Always created automatically for any new schedule, it cannot be deleted. It is strongly recommended to modify the associated default password (admin) when creating the schedule.

He has all privileges (4), and none of them can be waived from him. Only he can grant the same rights to another user.

- Users with Access for modification rights can schedule jobs and modify the schedule.
 Their privileges (④) are those granted by the administrator.
- Users with Access for restricted modification rights have no privileges (④).
 It typically designates a production operator reporting a progress status to the planning manager or an operator updating certain flags after receiving material or tools.

This type of access allows to:

- Update the declaration of production (performed quantity and duration)
- Modify flags (except notes)
- Create user alerts in job details (Declaration of production tab)
- Modify job description and configurable areas

Among other things, it does not allow to modify:

- Anything regarding the placement of jobs in the schedule
- The planned quantity and duration
- Technical elements

Caution: Creating users with access for restricted modification requires to enable the automatic import function in the **Configuration** > **General configuration** > **Automatic import** menu.

④ Privileges granted to users (see above).

- Configure schedule: allows users to access the **Configuration** tab, notably to manage users.
- Use scheduling: the scheduling function is no longer maintained. The corresponding privilege is therefore outdated and will be removed from the next version of Direct Planning.
- Manage technical data: unchecking this box allows users to view (but NOT modify) the resources (project mode), sections/machines, working units.
- Manage calendars: unchecking this box allows users to view (but NOT modify) the characteristics of calendars (standard days, standard weeks, machine operating times). More information about these notions in section 5.5 *Managing calendars*.
- Manage entities: unchecking this box allows users to view (but NOT modify) entities.

👗 Cr	eation: User					
User	Options utilisateur	Allowed display modes	User configurable lists			
	pon schedule openi	ng, automatically move t	to current date and time (rather than moving to the most recently used date).			
Automatic updating of a schedule opened for consultation (if user inactive for some time).						
	Upon schedule au	itomatic update, automat	tically move to current date and time.			

The second tab, **User options** allows the definition of opening and positioning options in the schedule. Users can modify these setting under **File** > **User options** > **For this schedule**.

👗 Cr	eation: User					
User	Options utilisateur	Allowed display modes	User configurable lists			
Selec	t the user's default o	display mode:		Planning	~	
Selec	t the display modes	this user will have acce	ess to:			
	By default Image: State in the system of					

The third tab, **Allowed display modes** allows to select the display modes available to selected users. This option is useful to display only the relevant sections/machines.

👗 Cre	eation: User			
User	Options utilisateur	Allowed display modes	User configurable lists	
Select	the configurable lis	sts this user will have ac	cess to:	
	Milling planning			
🖌	Processing planning	g		
🖌	Finishing planning			
🖌	List of jobs on alert			
· · · · · · · · · · · · · · · · · · ·	List of orders to disp	patch		

Similarly, the **User configurable lists** tab is used to filter the lists of jobs available to users. In the same fashion, the objective is to select the relevant lists to their usage. More information about configurable lists in the next section.

When you are done creating/modifying users, click on Save and close.

Simultaneous usage in modification by multiple users

If your login benefits from the modification authorisation, you open the schedule systematically in modification.

 If nobody has opened the schedule in modification before you, you habe the access in modification. If you do not have any modification to make, or if you have finished them, you can switch to consultation mode :

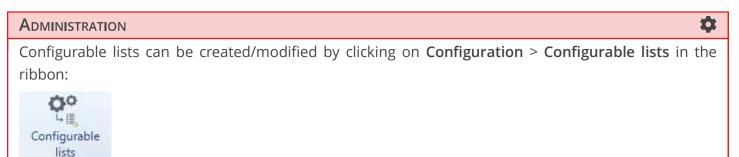
*		0						Dir	ectPlanning 4 - [RE	EF - 1
File	Home	Edit	Display	Planning assistance	Status	Data	Calendars	Needs and resources	Configuration	?
Your acce	ss mode	M	odification			12			-	
Status of s	chedule						😸 Switch	to consultation mode		
🖸 Notifi	cation					×				
			St	tatus				Actions		

- 2. If another user is already making modifications :
 - This user will be notified of your connection attempt
 - You will be connected to the schedule in consultation
 - You will be notified when the access in modification will be freed and available again
 - You will then be able to use the **Status** tab to **Switch to consultation mode**

4.1.13. Creating configurable lists

Configurable lists let you define lists of jobs.

You can configure lists customised for each user, and save these lists for future usage.



Lists can be viewed on screen, printed or exported to Excel (in xlsx native format, even if Excel is not installed on the station).

Configurable lists	— [
00	🗎 New 📑 🖹	Modify 📑
# . Configurable list	Group Export mode Export typ	
List of jobs - List of jobs on alert		- • × • In this example, the list Milling pla
File List		
💾 🔍 🚔 🛹 Display list 🛛 🕱 Export Exc	· •	ning is created to include only the jo
		performed by machines belonging
Affiliation group Aucun	~]0	
Criteria Advanced criteria Options Automatic es	ort Result	the milling section.
Before Days before current day	O Days after current day	
Options-	Only see-	
Include unscheduled jobs	Locked jobs	
Include completed jobs	Jobs with an alert	
Only search on machines :	Jobs with process-related notifications	
⊕-♥ Milling	Delayed jobs	
Processing Finishing	Jobs that may encounter delay	
	Jobs with delayed receipt of an item	
	Jobs with manual alert	
	Jobs with user alert	
	Jobs with position inconsistency errors	
	Jobs with probable position inconsistency notifications	
	Jobs of last import	
	Jobs to control (further to a processing on a resource)	

The criteria tab is available to select the most common job filters (time-related criteria, sections/machines, jobs in alert, etc.).

If you wish to create lists based on more advanced criteria, click on the Advanced criteria tab:

File List		(2)
ٵ 🛛 🔍 峙 🖌 🖌 Display list	🕱 Export Excel 👻	
List name	Milling planning	
Affiliation group	Aucun	~ 0
teria Advanced criteria Option	s Automatic export Result	
Product code	画章 AE0037	
WD no.	E意 PE0028	
		×
		×
		×
	F	×

◄ In this example, the new custom list is based on 3 criteria: The Customer code, the Product code and the Operation designation.

To this end, first select the type (1) and value (2) of each filter.

The Advanced criteria tab allows to create more refined selections from any data used in your schedule. Your selection can include 10 different data from your base.

Use the **Options** to define the sorting order as well as the pagination:

🕷 Export Excel 🔹				
Milling planning				
Aucun			~ @	
Automatic export	Result			
		Print options		
		Page skip for	Machine code	E.
1	 Ascending Descending 		Print sub-total	
		Print grand total		
-				
	O Descending			
	~			
1	Ascending Descending			
	Miling planning Automatic export	Miling planning Automatic export Result Automatic export Result Ascending Bescending	Milling planning Automatic export Result Automatic export Result Print options Page skip for Page skip for Print grand total	Miling planning Automatic export Result

 The left side of the window allows you define 3 hierarchical sorting criteria.

The right side relates only to printing, allowing to define the page break criterion. You can also request a subtotal (by machine here) as well as an overall total, for all data which can be totalled.

Finally, the **Result** tab opens automatically when you click on **Display list**. It displays all jobs matching your search criteria:

		V Display list	-															
	Liste		Miling pi	anning														
	AHE	ation group	Aucun					~ 😌										
iteta	Advanc	ed ottess Options	Automatio	export Result														
			1		1	1			-		-					T	T	
Aac W	Dino.	Designation	Customer	Customer designation	Product co	Job stat	Qty to prod	lob du Milling too	Type of	Designation Mill	Material	Designation Mate		Nachine direction	Material weig	Stated	Finished	Main alert
11 17		AUTOM-0/036		KATIA AUTOMATIVE	F5A0036	06/02/2017 06:00	2 149	3:45 011-195	US11	Medium	ALU-037	Aluminium 37	.644	890	1 303		V 1	
11 12		AUTOM-C/405		FORK AUSTRIA	FM0147	06/02/2017 08:45	721			Low	ALU-022	Aluminium 22	504	817	175		~	
		AUTOM-E/278		PARNAY AUTOCAR	PA0046	06/02/2017 09.51	2 963	4:40 OU-123	USI2	Medium	ALU 022	Aluminium 22	550	615	2 205		~	
J1 17 J1 17		AUTOM-R/158 AUTOM-Z/007		INOV CAR CREATINE TECH	PA0068 PA0136	06/02/2017 14:31 06/02/2017 10:52	3 271			Medum	ALU-022 ALU-037	Aluminium 22 Aluminium 37	420	289	2.205		~	
11 17				FORK AUSTRIA	PM0126	07/02/2017 05:11	2 455	219 00-112	USIT	High	ALU-020	Aluminium 37	545	201	1 488		1	
		AERO-P/625	50 3202	SOUTEC	PE0003	07/02/2017 08:29	1 129	1:37 00-132		Low	ALU-030	Aluminium 30	550	850	535		1	
11 17			BA0452	BARNAY INDUSTRIES	PG0162	07/02/2017 10:08	2 455	3.15 OU-132		Low	ALU-037	Akminum 37	411	7:21	1 393	1	1	
	0000	ACTIO 1/000	Accourt	AERO FUTURE	FE00C0	015-00-001 0 10.01	6 999	9.07 OV 100	Unic	Low	ALU 007	Abara come OF	555	659	253		~	
11 17				DKP AUTOMATION	PG0119	07/02/2017 16:48	313			Low	AC1015	Steel 15	363	827	17/		~	
11 17		AERO-D/245 AUTOM/222		SOLITEC FORK AUSTRIA	PE0016 PM0100	07/02/2017 17:25 07/02/2017 17:43	109	0.18 OU-132 4:43 OU-092		High	ACI-012 ACI-012	Steel 12 Steel 12	467	757	3		1	
11 17		AUT0M-1/498		PARNAY AUTOCAR	PA0116	08/02/2017 06:26	2 1957			Los	AL1-012 ALL1-030	Alaminian 30	907 455	645	200		1	
11 17		4EB0-N/525		SOLITEC	PE0062	08/02/2017 10:10	2 251			High	ALU-030	Akerinan 30	327	805	590		1	
		AETID-H/021	AE 0037	AERO PUTURE	PE0014	08/02/2017 12:57	517	0.50 00-092	US12	Medum	ALU-037	Aluminium 37	507	727	202		1	
11 17	0031	AERO-R/258	TE9436	TEMCO	PE0114	08/02/2017 13:47	6129	R:00 0U-092	LIS13	Medium	ACI-012	Steel 12	352	675	900	1	1	
11 17		AER0-Y/395	AE0037	AERO FUTURE	PE0115	09/02/2017 05:47	823	1:49 OU-092		High	ACI-015	Steel 15	469	735	224			
11 17			BA0452	BARNAY INDUSTRIES	PG0013	09/02/2017 07:36	3 271	4:51 OU-092		High	AC1012	Steel 12	361	217	1 536			
			EP10149	BROCHAND INDUST_	PG0017	09/02/2017 12:27	1 0.27	2.12 OU-125		Low	ALU-022	Aluminium 22	356	772	290			
11 17		AERO-M/027 AERO-Y/323	AE0007 AE0037	AERO FUTURE	PE0057 PE0103	09/02/2017 14:29 09/02/2017 16:59	1 425	219 0U-125 203 0U-123		Medium	ALU-007 AC1-015	Aluminium 37	353	834	250			Detected receipt delay 'Wating for tools'
11 12			AE0037 B40452	BARNAY INDUSTRIES	PG0104	09/02/2017 19:01	1 027	1:42 00-123		Low	ALU-030	Steel 15 Akminism 30	521	837	30			Description of the second of the second
			BP10149	BROCHAND INDUST.	PG0104	09/02/2017 20:43	1 129	1:54 00-123		High	ALU-030	Aluminium 30	909	767	500			
11 17			IN145R	INDV CAR	PADDER	10/02/2017 06:37	925	1:40 00-122		Low	ALU-022	Aluminium 22	550	635	621			Constraints Side dimension (559 mm) exceeds the maximum allowed on this ma.,
			QU2384	QUALICABLE SA	PG0160	10/02/2017 08:17	3 577			Low	ALU-037	Aluminium 37	400	576	1 610			
1 17	0030	AER0 2/005	50 3202	SOUTEC	PE0109	10/02/2017 12:31	2149	3.18 OU-142	USI2	Medium	ALU-037	Aluminium 37	451	889	210			
1 17		AEFID-27005		SOLITEC	PE0109	10/02/2017 15:45	517	0.53 OU-142	US12	Medium	ALU-037	Aluminium 37	451	889	9	0		
1 12		AERD-C/277		SOLITEC	PE0032	10/02/2017 16:49	1 741	2.59 OU-142	USI2	High	ACI-015	Steel 15	401	813	561			
1 17	0024	AERO-C/277 GENINDUS-2/516	S03202 ME0032	SOUTEC METAL DESIGN	PE0032 PG0082	10/02/2017 19:47	517 2 557			High	ACI-015 ALU-027	Steel 15 Auroinium 27	401	813 790	105			
1 12				CREATIVE TECH	PM0126	13/02/2017 08 35	6 128	2.30 00-132	USII	Medium	ALLI-027	Alaminian 37	430	289	1 000			
1 17				METAL DESIGN	PG0082	13/02/2017 16:05	823	1:18 OU-132		Low	ALU 037	Abstration 37	903	790	480			
1 17		AUTOM-2/097		CREATINE TECH	PA0136	13/02/2017 17:23	109	0.25 OU-132	USII	Medum	ALU-037	Aluminium 37	430	709	1			
11 17	129	GENINDUS-2/516	ME0029	METAL DESIGN	PG0002	13/02/2017 17:40	1 1 2 9	1:24 OU-122		Low	ALU-007	Aluminium 37	503	790	660			
				DKP AUTOMATION	PG0174	13/02/2017 19:22	1129	2.07 OU-132		High	ALU-022	Aluminium 22	406	757	374			
11 17		AUTOM-U/094		FORK AUSTRIA	PA0178	14/02/2017 05:29	3 271	4:51 OU-132		High.	ALU 030	Aluminium 30	545	201	1 984			
1 17		AERO-P/625		SOLITEC	PE0003	14/02/2017 10:20	1 027			Low	ALU-030	Aluminium 30	950	850	490			
1 17		AERO-P/625 AUTOM-U/024		SOLITEC FORK AUSTRIA	PE0000 PM0178	14/02/2017 11:47 14/02/2017 18:33	6 120	6:46 OU-132 3:15 OU-132		Low High	ALU-030	Aluminium 30 Aluminium 30	545	201	2 640			
1 12		AERO-0/245	503202	SOUTEC	PE0016	15/02/2017 05:48	1 027	1:58 00-132		High	ACI-012	Steel 12	467	757	30			
1 17				DKP AUTOMATION	PG0119	15/02/2017 07:46	2 1 4 9			Low	AC1012	Steel 15	363	827	1 216			
1 17		AERID-H/021	AE0007	AERO FUTURE	PE0014	15/02/2017 10:31	313			Medum	ALU-007	Aluminium 37	907	727	231			
1. 13	00.00	1000.01000	100007	ACDO DUTUDE	000034	10.000.0017.11.00	226 859	0.40,00,000	LICES.	Adv. d	ALL	About the NY	54 677	83 5 18	91 201	-		

Of course, configurable lists can be customised. For instance, you can:

- Add/Delete columns: right-click on a column header to display the field selector. Check the fields required in the list and uncheck the others. Keep in mind that quick filters in column headers are not saved.

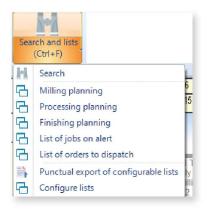
Field selector	
⊕	
Entities	i
🗄 🗹 Customer	
i wo	
Process Information	
🗄 🗌 Milling	
E Processing	
🗄 📃 Finishing	
🖕 🔲 Flags	
🕀 🔲 Waiting for material	
😟 📃 Waiting for tools	1
Waiting for return from outsourcing	
Herts	
E- Machine and operation	
😟 🗹 Section	
😟 📲 Machine	
Quantities, durations and work rates	
	-
i in the second	
OK Cancel	

- Move columns: just drag the column to move by clicking on its header and dropping it on its destination. It will position itself to the right of the destination column.

- **Resize columns:** click on the column separator and move the mouse to the left or right. You can also double-click on the column separator to make the column width automatically fit the content.

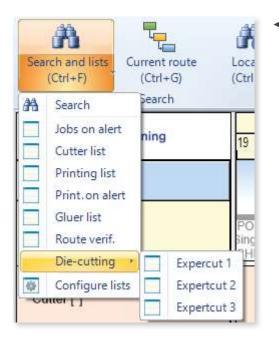
- Resize window: resize the window as you would do for any Windows window.
- Save your list: save the list by clicking on the floppy disk on the top left corner of the screen.

Under the **Home** > **Search and lists (Ctrl+F)** tab, users may leverage the lists that you created (when authorised in the user configuration).



Groups of configurable lists

To enhance the management of large numbers of configurable lists, you now have to ability to create groups and assign a list to a group. In the display of configurable lists, you will see these groups and the configurable lists they contain:



• The die-cutting group and the configurable lists it contains

To assign or create groups of configurable lists, click on the **Configure lists** option, and then create or modify a list:

List of jobs - Milling planning		-	×
ile List			
🖣 🧕 🚔 🛹 Display list 📧 Export Excel 📼			
List name Milling planning			
Affiliation group None			
teria Advanced criteria Options Result			
Do not search before :	Do not search after :		
Before	After		
0 Weeks before current week	0 Weeks after current week		
Options	Only see		
Include unscheduled jobs	Locked jobs		
Include completed jobs	Jobs with an alert		
Only search on machines :	Jobs with process-related notifications		
Willing Processing	Delayed jobs		
Finishing	Jobs that may encounter delay		
	Jobs with delayed receipt of an item		
	Jobs with manual alert		
	Jobs with user alert		
	Jobs with position inconsistency errors		
	Jobs with probable position inconsistency notifications		
	Jobs of last import		
	Jobs to control (further to a processing on a resource)		

The **Affiliation group** dropdown offers the ability to select among the already created lists, which one to link with the list being created/modified.

If you want to add an affiliation group, click on the gear icon

List of jobs - Milling planning				- 🗆 ×	
File List					
🗄 💾 🔍 🚔 🛹 Display list 🔟 Export	Excel 👻				
List name Milling	planning				
Affiliation group None			- O		
Criteria Advanced criteria Options Result					
Do not search before :	😤 Configurable gr	oup lists		— — ×	
Before	00			New Modify	
0 Weeks before current week	t Wording				
Options-					
Include unscheduled jobs					
Include completed jobs		Addition of a nev	v configurable list group		×
Only search on machines :		Group name:		Subcontracting	
				OK	Annuler
		L			
				Close	
	No item found				

Validate to add the group to the list of available groups.

Excel export of configurable lists

Direct Planning enables you to to export automatically the current list in the shared folder of your choice :

File List Image: Second sec	
Affiliation group Aucun 🗸	
Affiliation group Aucun V	
Criteria Advanced criteria Options Automatic export Result	
Enable automatic export	
Run mode Manual V	
Export type Excel workbook file (*.xlsx) ~	
Backup folder 🛛 \\VOLUPC203\DP Connect	
File base name without extension Processing planning	
Enable time stamping Number of days retained 10	
	 _

Automatic export when saving

The Automatic when saving operational mode offers the ability to automatically export the list each time your schedule is saved.

The options shown above allow you to choose the file format, the saving folder (shared), the file name and its time stamp. Without time stamp, each export will overwrite the previous one, whereas activating time stamping, an option allows you to specify the number of days kept.

Manual export

The Manual operational mode allows you to export your list with a single click on the Automatic export, in compliance with your configured options.

List of jobs - List of jobs on aler		-	×
File List			
🗄 💾 🔍 🚔 🛹 Display list 🗷	Export Excel 👻 📑 Automatic export		_
List name	Processing planning		
Affiliation group	Aucun	9	
Criteria Advanced criteria Options	Automatic export Result		
Enable automatic export			
Run mode	Manual	~	
Export type	Excel workbook file (*.xlsx)	-	
Backup folder	VVOLUPC203\DP Connect	= 0	
File base name without extension	Processing planning		
Enable time stamping	Number of days retained 10		

Finally, in the Search and lists menu, the new Punctual export of configurable lists performs an instantaneous export of all the lists for which the automatic export is activated:

	e Home Edit Display
M	Search
6	Milling planning
	Processing planning
	Finishing planning
- C	List of jobs on alert
6	List of orders to dispatch
	Punctual export of configurable lists
6	Configure lists

4.1.14. Saving the schedule

Different scenarios (detailed below) may occur:

- You are saving a schedule for the first time, a wizard guides you
- · You are saving an existing schedule in an export file
- · You are saving an existing schedule while also creating a template

Scenario 1: You are saving a schedule for the first time

If your planning was just created (that is, if it was never saved), the **Save** and **Save as** commands from the **File** menu open the same wizard:

Velcome in the schedule save wiz	ard.
Vhat do you want to do?	ANNI I DA
Save schedule	
Oreate an export file for this schedule ((.DPL2).
Create a template from this schedule (.	MDPL2) Trect Planning
	Francis -

Note

As an alternative to the **Save** command in the **File** menu, you can use the traditional Windows shortcuts: The floppy disk (toolbar) and the Ctrl+S key combination.

To save your planning for the first time, select **Save schedule**.

You will then be prompted to select the computer hosting the schedule database:

Selection of host computer	
Please select the computer that will he	ost the schedule you want to save.
Save schedule :	
On my computer (
On computer:	
	ALL ALL ST

ß

OUR ADVICE

There is no right or wrong choice regarding the location of the schedule database. See our section about architectures to know which solution is the most suited to your environment.

In this example, the schedule database is hosted on the computer in use. Accordingly, **On my computer** is selected. The next window prompts you to create a new local schedule or overwrite an existing local schedule:

Saving schedule on local computer				
Schedule will be saved on this compute	r.)
What do you want to do?				
Oreate a new, local schedule				
Overwrite an existing local schedule (*)				
	Directi			
		1		
*) This option is only available if you have opened bassword.	a DPL2 export file as a super-u	user and you have def	ined the local database a	adminis <mark>t</mark> ration
		Previous	Next 🔶	Cancel

Because the schedule is being created, select **Create a new**, **local schedule** (only option available, we will discuss the other option when addressing the opening of a DPL2 export file). You are then prompted to name your schedule (by default, it is the name assigned when creating the schedule):

chedule name input lease enter a short desci	ription for this schedule
	REF - 1 - Generic planning for industry (3.3)
chedule name	INEP - 1 - Generic planning for industry (3.3)
	Directiplanning
	DirecuPlanning
	New Street Street

Enter the administrator password again:

Admin password input	
Direct Planning features a	right management per user.
Please set a password for the adm	ninistrator of this schedule (user. admin).
Set password	
Confirm password	
	No. N.S
	< Previous Next 🌩 Cancel

Click on **Next** to confirm and save the schedule:

he wizard has collected all the nec	essary data to create a s	chedule on your co	omputer.	
Please click Next to start saving schedule.	Direc			
		mus		

The local computer network name as well as the schedule identifier display.

This way, you can provide this information to users who want to access it remotely:

Your document was saved		
Operation successfully comp	eted.	
To access this schedule from another	computer, you'll have to supply the following:	
Computer :		
Number and name of schedule :	[25] REF - 1 - Generic planning for industry (3.3)	
	DirectiPlanning	3
		Complete

Direct Planning 4.0

Scenario 2: Saving an export file

The export file (.dpl2) creation function offers the ability to save the current schedule in a "portable" file, that you can archive or send to a third party. This file bears the "DPL2" extension.

To create an export file, click on **File** > **Save as** Then select Create an export file for this schedule (.DPL2).



Click on 📃 to specify the path and name of the export file.

By default, the path is the one from the last export and the file is named after the schedule. The 🛃 button is used to display the folder contents:

send to a third pa	oort file (with .DPL2 extension) is a simple way to create a backup of the schedule which arty. When opening an export file, the user will have to identify himself with a login and in an ordinary connection to a schedule.	
Please choose the d	directory to save this export file.	
Path to file:	D:\Documents\Démo Direct Planning\REF - 1 - Generic planning for industry (3.3).dpl2	
	E	2

The indications provided at the previous step are reminded for information.

The export is complete.

ഗ

Scenario 3: Creating a schedule template

Creating a schedule template offers the opportunity to create other schedules based on this template. Schedule templates are similar to the templates available in your word processing software.

Saving a template from an opened schedule also saves certain data, including:

- The whole configuration (the administrator is the only user kept)
- Resources and resource families (Project and Service modes)
- Sections, machines and technical data (Industry mode)
- Calendars (all modes)

Each schedule template is saved in a MDPL2 file. It is a "portable" file which can easily be copied, sent, etc.

Note

Users, entities and jobs are not saved in templates.

OUR ADVICE

If you still wish to keep certain data in your model, there is an alternative: Instead of using a model, save your schedule under a different name. In the new schedule, delete everything that you do not want to keep (users, jobs, ...).

Follow these steps to create a schedule template:

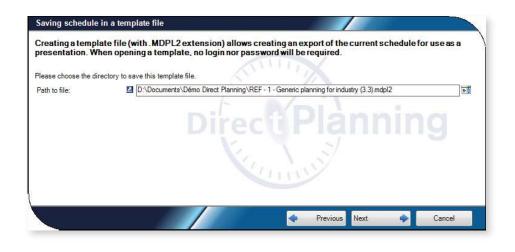
To create an export file, click on **File** > **Save as**

Then select Create a template from this schedule (.MDPL2)

Selection of media type to save	
Welcome in the schedule save wizard.	
What do you want to do?	VIII.
Save schedule	
O Create an export file for this schedule (.DPL2).	
Create a template from this schedule (.MDPL2)	Planning
	Internet
	Next 🌩 Cancel

Click on to specify the path and name of the export file.

By default, the path is the one from the last export and the file is named after the schedule. The 🜆 button is used to display the folder contents:



The indications provided at the previous step are reminded for information.

The template is now saved.

5. Scheduling with Direct Planning

5.1. Scheduling via an interface with an ERP

In order to avoid entering the same information over and over again, Direct Planning can automatically import data originating from your information system (ERP, CAPE, Excel®, ...) if they comply with the expected CSV format.

This way, technical elements, entities (orders, customers, etc.), jobs and links can be created automatically in the schedule.

Administration	¢
This automatic impo	ort function is activated in the General configuration of Direct Planning, under the
Configuration tab:	
General	
X General configuration of schedu	ule - Configuration of imports / exports X
General	Automatic import
Machines	A third-party application (ERP, CAPM, specific program, Excel macro) can produce job description files that can be automatically imported into the schedule. The third-party application must create these CSV files in the below directory.
Jobs	IMPORTANT: you have to enable automatic import if you want the users to connect in 'Restricted rights' mode,
Jobs: configurable areas	
Flags	Inable automatic import
Alerts	Directory for Import:
Planning assistance	
Secondary resources	Check write rights in this directory
Automatic import	Upon importing, set jobs at the earliest hour of the day of the import.
Automatic export	Automatically purge logged imports older than:
Backup copies	
Advanced options	
When you activate the	he automatic import, you choose the folder containing your CSV import files.

More information about the interfacing features included in Direct Planning in section 6, *Interfacing your ERP with Direct Planning*.

5.2. Creating jobs manually

2 different methods can be used to create jobs manually:

- 1. In the Edit menu, click on 👥 Create a job
- 2. Place the cursor on a free area of the schedule, on the same line as the machine which will run the job. Right-click to open the context menu.

Select 💐 Create a job...

Both methods open the job details screen, except that the second pre-populates the Section and Machine fields with those on which you right-clicked.

🧮 Identifier of job	Nr 106 [170036-10]						×
Section	🛛 <mark>S1</mark>	Milling		Job description	GENINDUS-E/095		
Machine	🛛 U1	Usinex 1 (550 mm max)	1	• Operation	ISI1	Standard milling	-
Quantity to produce	1 027 Units	Operative qty exc	l.W	1 027 Units			
with variable waste	2,00 %	Operative qty incl	I.WV	1 048 Units			
Beginning		[Duration	Planned	End		
Schedule	jeu. 09/02/2017 🍽 12:27 🕒		Setting	1:00 h	Schedule	jeu. 09/02/2017 😁 14:39 🕻	
Earliest date			Running Total	□ 1:12 h 2:12 h	Latest date	mar. 14/02/2017	
	Job to schedule	Started		Progress : Not started	Completed	Locked job	8
5 d early > 125 (Milling I ALU-022 35 Customer Product WO Process information	tool) 6 x 772 mm Flags Time imposi BR0149 PG0017 170036	tions Declaral BROCHAND INDUSTRIES GENINDUS-E/095 GENINDUS-E/095	tion of pro	Additional information on this e City Zip code Contact name Contact phone	Gamme Notes antity: Customer - Brest 29200 SALOMON Marie +33 (0)2 47 85 98 66 m.salomon@brochand.fr	3	
		4			COG COLIN Guillaum		
• •	Ne job	No job	•	Equiva 1	Finishing machine 1	Save and Close	Cancel

The job details window can be divided in 3 panes:

- 1. General information on job
- 2. Date and duration information
- 3. Scheduled ticket
- 4. Other information depending on the selected tab

While the first, second and third panes are always displayed, the contents of the fourth depend on the selected tab. These panes are further explained in the following chapters.

5.2.1. Job header information

🧮 Identifier of job Nr	106 [170036-10]								×
Section	Z S1	Milling		Job description		GENINDUS-E/095			
Machine	☑ U1	Usinex 1 (550 mm max)	= \	Operation	2	USI1	Standard milling	=	
Quantity to produce	1 027 Units	Operative qty excl.W		1 027 Units					
with variable waste	2,00 %	Operative qty incl.VW		1 048 Units					

Job identifier: The window header shows the identifier of job No. x. It is a sequence number which is automatically assigned by Direct Planning. It cannot be modified.

Below, the machine performing the job is selected via the 📑 button (this zone is pre-populated if your job is created via the context menu in the schedule). The machine section is automatically entered. Note that clicking on the Mathieu button next to the machine code opens the corresponding machine.

Optionally, a job description can then be entered, providing a quick way to identify jobs when the configuration of display modes is set to show this description.

The selected operation is the one attached by default to your machine (if any). At this stage, Direct Planning can check the compatibility between machines and operations (as defined under **Data** > **Operations and machines**)

Machine	🖸 U2	Usinex 2 (700 mm max)	Incompatible operation	TRA1	Standard processing	

Then, enter the produced and wasted quantities (retrieved by default on the machine record), which automatically populates operative quantities excluding waste and including variable waste.

When a machine is selected, it is possible to display only compatible operations (and vice versa) by clicking on **E**:

Selection list of machines	Selection list of operations	
Machines compatible with operation Standard milling. All machines Hachines compatibles : famille 1	"Operations compatible with machine "Usinex 2 (700 mm max)" "Operations compatible with working unit "Units" All operations	
Usinex 1 (550 mm max) [U1] Usinex 2 (700 mm max) [U2]	Code Designation USI1 Standard milling	

ስ

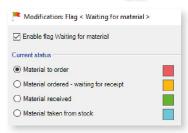
5.2.2. Sundry information, dates and durations

Job to schedule	V Started	Progress : Ongoing (50%)	Completed 📃 Locked job 🔗
	Beginning	Duration Planned	End
	Schedule mer 08/02/2017 😁 18:31 🕒	Setting 1:00 h	Schedule jeu 09/02/2017 106:54
	Performed mer. 08/02/201/ 18:31	Running 🛄 3:23 h	
	Earliest date	Total 4:23 h	Latest date mar. 14/02/2017 10:12

Use the top check boxes to answer different questions about the job:

- Is the job scheduled or to schedule?
- Is the job subject to a flag?

If so, clicking on the icon opens the window for choosing the flag to display:



- Is the job started? If so, you can click in the progress bar to modify its progress:
 Started Progress: Ongoing (50%)
- Is the job completed?
- Is the job locked? (job cannot be moved, modified or deleted by users)

OUR ADVICE

Use locked jobs only when they really make sense (for example if a visit of your shop floor is planned with a customer). Indeed, the propagation of locked jobs may adversely impact your schedule by limiting your ability to move jobs.

The next zones, in the blue box, affect the actual (temporal) scheduling of your job. As reflected by these 3 columns, jobs are divided in 3 phases: start, duration and end.

Beginning	
Schedule mer	08/02/2017 🗂 18:31 🕓
Performed mer	08/02/2017 18:31
Earliest date	0 8

Duration	F	lanne
Setting		1:00
Running		3:23
Total	Г	4:23

Planning: date and time chosen for the start of the job in the schedule.

Earliest: earliest start date and time (not editable in this screen, see *Time constraints* in the next section).

This data reflects the setting and running durations calculated by Direct Planning.

In our example, this data displays on a yellow background (not editable fields) because we checked the **Enable automatic calculation of dura-tions for this machine** on the machine record.

Ŧ

If you did not check this box, you can enter durations in these fields.

Even if you activated the automated calculation of durations by Direct Planning, you can force durations by checking the corresponding box.

Reminder

The automated calculation of durations is retrieved, from the most general to the most precise:

- 1. Simple mode: on the machine record
- 2. Intermediary mode: on the Operations/Machines pair
- 3. Expert mode: on programmable formulas

jeu. 09/02/2017 06:54
mar. 14/02/2017 10:12

Planning: date and time automatically calculated depending on the job start and duration.

Modifying this value is like forcing the running duration of the job

Latest: latest start date and time (not modifiable in this screen, see *Time constraints* paragraph in the next section).

Resizing a job with the mouse

The end time can be modified directly in the schedule, when the job is not selected. To do so, place your mouse cursor on the right edge of the job. The cursor turns into an arrow:

Duration: 222 min.		M	odify end date
	170134 TEMCO AE	2761727-2	21/02/2017 06:33
170134 TEMCO AE	7 d early -> 28/02/1	170124 TEMC	OAF

◄ When you move the cursor, the job end time and duration refresh dynamically in this informative box.

This action is like forcing the job running duration.

5.2.3. Scheduled ticket

The center part of the job details screen displays a "strip" which allows you to display the same information, colours and alerts as those displayed on schedule. The various alerts display at the bottom of the ticket in order not to hide any information:

```
PLATEX LABORATOIRES - 16030216-1-1 : 16000 ARMOR-O/106 BOX to deliver by 04/08/2016 - 3d early - 07/04/16
3 col.: * BLACK, *P00285BLU01A, P00327GRE01A, , , (2 in common)
0971 (Varnish plate)
Print approval with customer at 11
```

This way, when you configure programmable formulas to display custom colours and information on the schedule, you can still benefit from them in the job details screen.

5.2.4. Other information on the job

The arrows located at the bottom of the window allow to navigate through jobs via the same screen:

Navigation through jobs of the route
Navigation through jobs of the machine

The information displayed below rely heavily on the configuration of your schedule. We are going to focus on each of the available tabs.

Information	Flags	Time impositions	Declaration of	production	Alerts	Notes	
Information on the second s	his job			Additional informatio	n on this job —		-
Customer		ZO3701 ZOOM C	HROME	Level of complexity	2	Medium	
Product		PG0067 GENIND	US-H/226	10			
© ₩0		170088 GENIND	US-H/226(170081 📑				
Process information	ation: <i>Milling</i>						

Information

.

 Information on this job: when you check this box, the right side shows the fields corresponding to the configurable areas set by the administrator at the job level (Configuration > General configuration > Jobs: configurable areas).

For the example above:

🔀 General configuration of sched	ule - Configuration of jobs	×
General	Configurable areas of job details	
Machines	Configurable area 1	
Jobs	Configurable area 2	
Jobs: configurable areas	Configurable area 3	

The following lines display the entities generated during the schedule creation. Click on 📑 to select an entity and on 🔝 to modify it (where appropriate).

When an entity is selected, the right pane displays additional information entered by the administrator for this entity (**Configuration** > **Entities**):

Information	Flags	Time im	positions I	Declaration of pr	oduction	Alerts	s	Notes	
Information on th	is job				Additional information	on this	entity: Custo	mer	
Customer	2	ZO3701	ZOOM CHROME		City		Toulouse		
Product		PG0067	GENINDUS-H/22	6	Zip code		31000		
o wo		170088	GENINDUS-H/22	6(17008: 🖃	Contact name		Lantemot Pa	trick	
Process informat	ion: <i>Milling</i>				Contact phone		+33 (0)2 47	56 47 20	
					Contact email		p.lanternot@	zoomchrome.fr	
					Sales representative		COG	COLIN Guillaume	
					Network directory		\\SERVER	CLIENT\ZO3701	120

Finally, the Informations process box allows to display information that are specific to the job being created (Configuration > Process Information). In our example, the process information type of milling, milling complexity or milling tool no. are only relevant for the Printing operation:

Information	Flags	Time impositions	Declaration of p	roduction	Alerts	Note	es	
Information on the	is job			Process Information.	Milling -			
Customer	ZC	3701 ZOOM CHF	ROME	Type of milling		USI1	Milling type 1	
Product	🖬 PG	i0067 GENINDUS	6-H/226	Milling complexity	2	2	Medium	
© WO	Z 17	0088 GENINDUS	5-H/226(17008)	Milling tool no.		OU-155	Milling tool 155	
Process information	tion: <i>Milling</i>		4	Material		ACI-012	Steel 12	
				Cross direction dim.	(mm) [4	47	
				Machine direction di	m. (mm) [8	66	
				Material weight (Kg)	[4 5	00	

Technical elements

The **Technical elements** tab displays only if the administrator created these elements (**Configuration** > **Technical elements**). As a reminder, technical elements are additional characteristics of your machines. In the corrugated cardboard sector, these may be the number of colours, the type of corrugation or the type of bonding:

Information	Y Technical elements	Flags	Time impositions	Declaration of production	Alerts	Notes
Colours	AC	4 Colours				

Reminder	F
The administrator configures the technical elements depending on the users needs	
 Users populate technical elements (Data > Technical elements) 	
 Applicable technical elements can be specified in the machine record 	
 Technical elements may impact setting time and work rate (Data > Operations and machines) 	

Flags

As with technical elements, the **Flags** tab displays only if flags are set.

Information	Technical elements	Flags	Time impositions	Declaration of production	Alerts	Notes
Waiting fo	r material	Material to order	Planne	ed receipt: None		
🔽 🚺 Waiting fo	r tools	Tools available	Receiv	ved on: 09/02/2017 09:34		
Waiting fo	r return from outsourcing	Outsourcing received	Receiv	ved on: 09/02/2017 09:34		

Usable flags are displayed under this tab. To enable/disable a flag, check the corresponding box or click directly on it.

Direct Planning 4.0

Time constraints

This tab lists all time constraints which can affect a job. Constraints can:

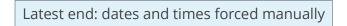
- Be forced manually by you;
- Result from a route (sequence of jobs in a given order);
- Be forced by a flag (receipt of an element required to start a job).

You can only enter the dates that you wish to force.

The other dates are displayed as a reminder (on a yellow background) but cannot be modified.

Information	Technical elements	Flags Time impositions	Declaration of production Al	erts Notes
	Earliest start d	ate of job	Latest end d	ate of job
Manually force	d	ven. 17/02/2017 🗂 08:00 🕒	Manually forced	
Imposition force	ed by upstream jobs		Imposition forced by downstream jobs	mar. <mark>21/02/2017</mark> 🗂 20:51 🕕
Forced by a fla	g			
Earliest start	date of job	ven. 17/02/2017 😁 08:00 🕒	Latest end date of job	mar. 21/02/2017 20:51
Alert	No alert		Alert No alert	
	Earliest start da	ite of route	Latest end da	te of route
Earliest start d	ate of route	ven. 17/02/2017 108:00	Latest end date of route	mer. 22/02/2017 17:00

The screen is divided in 2 parts: **earliest start**, **latest end** (for job/route). Each part indicates the constraints at the job level and at the route level.



Production imperatives may require you to force manually the latest end date.

Use this screen to force a date which will be automatically respected if planning assistance is active. The latest end date must be forced on the last job of the route (positioned by the ERP interface).

	Latest end d	ate of job
Manually fo	rced	dim. 19/02/2017 😁 17:00 🕒
Imposition f	orc <mark>e</mark> d by downstream jobs	mar 21/02/2017 20:51
Latest end	l date of job	dim. 19/02/2017 17:00
Alert	Job is late.	×
	Latest end da	te of route

 Check the corresponding box and enter a date directly or use the date and time entry tools.

If the latest end date that you force is more restrictive than the current date, an alert warns you that the job is now overdue.

Latest end: constraint forced by downstream jobs

If the job belongs to a route, Direct Planning automatically calculates the latest end date (forced by downstream jobs).

This date, calculated by Direct Planning, is reminded here but cannot be modified.

From the latest end date forced manually and by downstream jobs, Direct Planning picks the most restrictive and displays it in the bold field **Latest end date of job**.

Manually fo	proed	dim. 19/02/2017 😁 17:00 🕒
Imposition	forced by downstream jobs	mar. 21/02/2017 1 20:51
Latesten	d date of job	dim. 19/02/2017 17:00
Alert	Job is late.	×
Alert	Job is late. Latest end da	

In the example, the manual constraint (typically to honour a customer order in time or free a machine) is more restrictive than the constraint imposed by the downstream jobs.

Logically, this more restrictive date is chosen as Latest end date of job.

Earliest start: date and time forced manually

Production imperatives may require you to force manually an earliest start date.

Use this screen to force a date which will be automatically respected if planning assistance is active.

	Earliest s	start date of job
Manually for	rced	ven. 17/02/2017 🛅 08:00 🕓
Imposition fo	orced by upstream jobs	
Forced by a	flag	
Earliestst	art <mark>d</mark> ate of job	ven. 17/02/2017 🛑 08:00 🕒
Alert	No alert	
	Earliest st	art date of route

 Check the corresponding box and enter a date directly or use the date and time entry tools.

When you force an earliest start date, the job start date adjusts in order to respect this constraint. Besides, if this constraint applies in the future, saving it automatically moves the job to that date without moving jobs located to its right, thus avoiding gaps in the schedule.

Earliest start	constraint	forced	by upstream	jobs
----------------	------------	--------	-------------	------

If the job belongs to a route, Direct Planning automatically calculates the earliest start date (forced by upstream jobs).

This date, calculated by Direct Planning, is reminded here but cannot be modified.

Earliest start: constraint forced by a flag

The multi-status, awaiting item receipt flags are used to indicate the status of an element to order, ordered or received. As long as the element is not received, its receipt date represents a constraint which is reminded here.

From these 3 constraints (forced manually, by upstream jobs and by flags), Direct Planning picks the most restrictive (i.e. the latest) and displays it in the bold field **Earliest start date of job**.

	Earli	est start date of job
1	Manually forced	ven. 17/02/2017 😁 08:00 🕓
	Imposition forced by upstream jobs	
	Forced by a flag	sam. 18/02/2017 📁 10:00 🕕
	Earliest start date of job	sam. 18/02/2017 🛑 10:00 🕒
	Alert No alert	
	Earlie	st start date of route
	Earliest start date of route	sam. 18/02/2017 😁 10:00 🕒
		est start date of job
V	Earli Manually forced	
7	Earli Manually forced Imposition forced by upstream jobs	est start date of job ven. 17/02/2017 😁 08:00 🕓
<	Earli Manually forced	est start date of job ven. 17/02/2017 08:00 () jeu. 16/02/2017 10:00 ()
7	Earli Manually forced Imposition forced by upstream jobs	est start date of job ven. 17/02/2017 😁 08:00 🕓
	Earli Manually forced Imposition forced by upstream jobs Forced by a flag	est start date of job ven. 17/02/2017 08:00 () jeu. 16/02/2017 10:00 ()
	Earli Manually forced Imposition forced by upstream jobs Forced by a flag Earliest start date of job	est start date of job ven. 17/02/2017 08:00 () jeu. 16/02/2017 10:00 ()
	Earli Manually forced Imposition forced by upstream jobs Forced by a flag Earliest start date of job Alert No alert	est start date of job ven. 17/02/2017 😁 08:00 🕒 jeu. 16/02/2017 😁 10:00

 In this example, the start date of job is forced on February 17.

However, a tool receipt waiting flag indicates that this job cannot start before the next day.

This last constraint being more restrictive, it is chosen by Direct Planning as **Earliest start date** of job.

 Conversely, keeping this tool receipt constraint on May 16 adds a more restrictive forced earliest start date, set the next day.

Notice that the manually forced constraint being more restrictive, it is chosen Direct Planning as **Earliest start date of job**.

The Alert field displays a warning if the job is placed before its earliest start date:

Alert	Job starts too early	×

This alert can only be encountered when planning assistance is not active. Indeed, it ensures the automatic respect of the restrictive constraints posed by the earliest start dates.

Route constraints

In the lower part, the fields dedicated to the earliest start date and latest end date of the route are displayed for information, they cannot be modified.

The earliest start date of the route always refers to the earliest start date of the first job of the route. Inversely, the latest end date of the route always refers to the latest end date of the last job of the route.

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Declaration of production

Production can be monitored at various levels:

Level 1	Monitoring of started and completed jobs only. Via right-click on a job: Progress status > Start/Complete jobs.
Level 2	Level 1 + Indication of the production actual start date. Accordingly, the job will be moved to reflect reality on the ground.
Level 3	Level 2 + Input of produced quantities.
Level 4	Level 3 + Input of production times. Useful when discrepancies may appear between expected and performed values, which is notably the case for very long jobs.

The screen capture above shows the **Declaration of production** tab for a job not started: the right side of the screen (**Result**) only shows the expected values.

Information	Technical elements	Flags	Time imposition	15	Declaration of production	Alerts	Notes
Declaration of perfo	rmed times			Result			
Started on		9 4 F	llowing	Planned	Setting Running Tot 1:00 h 6:49 h	2.01 2.0512443	ty Work rate 066 890 Units/h

OUR ADVICE

This screen relies heavily on the working unit of quantity to produce, so make sure that this value is properly configured under the **Technical data** section of the machine record.

To start the declaration of production, click on **Started on**:

Declaration of performed times			Result					
	By duration b dont arrêts		Planned Performed Update (*) This remaining time	Setting 1:00 H 1:05 H 1:05 H is calculated	3:22 h	4:27 h 7:57 h • act	Quantity 6 066 2 985 ual, observed nned, theoretic	Work rate 890 Units/h 887 Units/h 100 % of planned rate work rate (ex-downtime) cal work rate
Total duration 4:27 End of work 14/02/2		h	Démonstration	1				
Total quantity 30 Conform quantity 29		20 Units						
Progress : Ongoin	ng (49%)	Production completed						Alert the schedule man.

This screen is made of two big panes: **Declaration of production times and quantity** and **Result**.

Let's see in details the contents of each pane.

Here, you simply declare that the job is started, at a certain date and time. For the start date and time, the system offers the date and time initially scheduled. You can change them if needed. Click on **Following** to place the job right after the end of the last started job of the day.

Entry of times:	O None	By duration	By end time
Performed setting	1:05 h dont	t arrêts 0:00	h 💟 Completed setting
Performed running	3:22 h incl.	stops 0:00	h
Total duration	4:27 h and	breaks 0:00	h
End of work	14/02/2018	13:57	

Entry of times:	None	By duration	0	By end time
Performed setting	1:05 h	dont arrêts 0:1	00 h	Completed setting
Performed running	3:15 h	incl.stops 0:1	00 h	
Total duration	4:20 h	and breaks 0:	00 h	
End of work	14/02/2018	13:50		

This box only displays if you activate the entry of times. You can enter times by durations (with automated calculation of the end time, above left) or by end time (with automated calculation of durations, above right).

Setting

When you modify the duration of the performed setting, Direct Planning refreshes the total updated duration of the job in the right pane (**Result**).

- As long as performed values are below or equal to expected values, and setting is not complete, the updated setting is capped at the expected values.
 Indicating that setting is finished aligns the updated setting with performed values.
- As soon as performed values exceed the expectations, the updated setting aligns with performed values, whether or not the setting is completed.

Running (entry of times by duration)

When you modify the performed running duration, Direct Planning:

- Recalculates the performed work rate in the right pane (Result);
- Refreshes the total updated duration in the right pane (Result) depending on the method chosen for calculating the remaining duration.

Downtimes

You can indicate machine downtimes, whatever the cause.

These will be subtracted from updated setting and running times.

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End of work (entry of times by end time)

Specify the running end date and time. Direct Planning automatically determines the performed running time, taking into account the performed setting time and the downtimes.

Total quantity	3 005	incl. non-conform	20	Units
Conform quantity	2 985	Planned quantity	6 066	Units
Progress	Ongoing (49%)	Product	on completed

This last zone focuses on the produced quantity.

If the working unit of quantity to produce is entered on the machine, you can already declare the total produced quantity and, if applicable, the non-compliant quantity. Direct Planning then deduces the compliant quantity and the progress.

OUR ADVICE

When creating jobs, leave this zone empty: the performed quantity will be specified later, when modifying jobs.

The performed quantity can exceed the quantity to produce, in which case the progress percentage reaches 100%. As an alternative to manual input, you can click in the progress bar to set the performed percentage. Direct Planning will refresh quantities.

This alternative is the only possibility offered when there is no working unit defined on the machine.

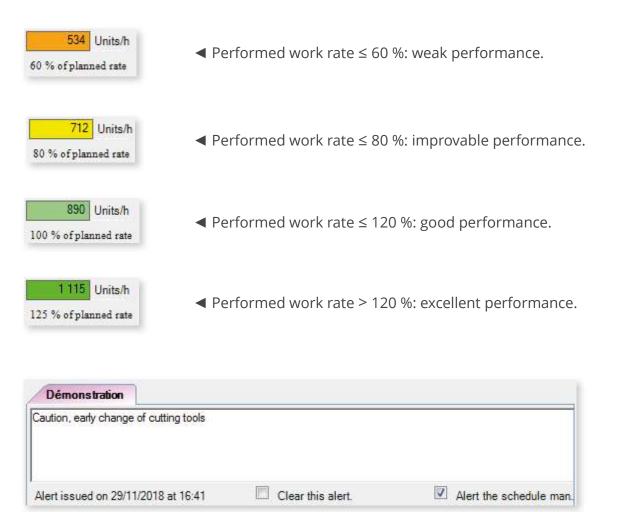
If the job is complete, check the **Production completed** box. The progress status automatically reaches 100%. Finished jobs are greyed out in the schedule.

You can declare the production as completed even if the produced quantity differs from the expected quantity.

	Setting	Running	Total	Quantity	Work rate
Planned	1:00 h	6:49 h	7:49 h	6 066	890 Units/h
Performed	1:05 h	3:22 h	4:27 h	2 985	887 Units/h
Update (*)	🛛 1:05 h	6:52 h	7:57 h		100 % of planned rate
This remaining t	ime is calculated u	pon:	 ac 	tual, observed	work rate (ex-downtime)
			© pla	nned, theoretic	cal work rate

The upper part of the **Result** pane displays a number of indicators related to production, displayed as a reminder but not modifiable. These indicators are refreshed when modifying production parameters.

Notice that the calculation of the remaining duration can use the theoretical work rate configured by default or the actual work rate calculated for the ongoing production, whose background colour reflects discrepancies between with the expected and performed work rates:



This zone allows the operator to notice the planning manager of an alert regarding a production issue. Checking the **Alert the schedule manager** box allows the creation of an alert for all to see, including the planning manager. This alert obeys the same rules as the other alerts.

Direct Pla	anning 4.0			Schedu	uling with Direc	c t Planning : Cr	reating jobs man
Alerts							
Information Manual alert	Technical elements	Flags	Time impositions	Declaration of production	Alerts (2)	Notes	
Manual alert	[Create	notes
Full list of alerts on	this job						
Process notific	ation 👿 Inconsistency errors	V Inconsistency	notifications			See the cleared a	lerts. (1)
User alert (Démi	onstration): Caution, early chan	ge of cutting tools		Notification			×
Job is late.				Notification			82

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The screen capture above shows a job with 2 alerts:

- A user-created manual alert (in purple)
- An system-generated automatic alert (in red)

The alert counter on a job is displayed in the tab title.

To clear an alert, click the cross displayed on the right. Cleared alerts (if any) can be displayed by clicking on the corresponding box. Cleared alerts are added to the list of alerts, in white. You find the date and time they were cleared, as well as a check mark:

Process notification 👿 Inconsistency errors 🔯 Inconsistency notifications		☑ See the cleared al	erts. (1)
User alert (Démonstration) : Caution, early change of cutting tools	Notification		
Job starts too early.	Error	Cleared on 29/11/2018 at 16:44	Ý
Job is late	Notification		X

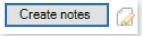
Click on the check mark to cancel the alert clearance:

Process notification I Inconsistency errors I Inconsistency notifications		\boxed{V} See the cleared alerts. (0)
User alert (Démonstration) Caution, early change of cutting tools	Notification	×
Job starts too early.	Error	×
Job is late.	Notification	*

Manual alerts can be enriched with notes by clicking on **Create notes**, which opens the following window:

Information	Technical elements	Flags	Time impositions	Declaration of production	Alerts (4)	Notes	
Manual alert							
Manual alert	Carbide tool materials					× [Hide notes 📄 😥
				X	🕒 🏝 🗙 Style 🗸	<u>G I W</u>	⊉- <u>A</u>- !≡ 4
Comments	For carbide tool material	s, the strength i	may be slightly reduced	due to the surface conditions. F	For finishing, use a di	amond gri	nder.

When notes have been set to complement the alert, the **Create notes** button turns into **Display notes** and the corresponding icon turns yellow:



See section 5.10, *Alerts*, for more information about alerts.

Notes

This last tab is used to enter notes on a job. When notes have been entered, the tab turns yellow to catch your attention in the job details.

Information	Technical elements	Flags	Time impositions	Declaration of production	A	Merts (4)	1	Notes				
				X	0 🗅	🗙 🛛 Style 🗕	G	ΙV	V 2.	<u>A</u> -	E	0.
lotes	You can enter any type of info	ormation in this box.										_
	This information will be availab	ble to <mark>everyone</mark> <u>viewi</u>	ng or modifying the schedule.									
	You can insert lists:											
	• Line 1 • Line 2 • Line 3											
	• You can also create shortc	auts:										
			en\direct-planning-news-version-3->	<u>c.pdf</u>								

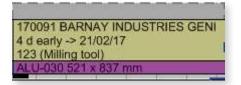
5.3. Manipulating jobs

Manipulating jobs covers multiple aspects which will be described in the following subsections.

5.3.1. Selecting jobs

All you have to do is click on a job to select it.

The selected job then shows against a dark grey background similar to the following example:



Various methods allow the selection of multiple jobs:

- Using the mouse, draw a rectangle over the jobs to include in your selection. All jobs included (even partially) in this rectangle will be selected.
- Hold the **Ctrl** key while clicking on the appropriate jobs.
- To select a range of jobs, click on the first and last jobs of the range while holding the **Shift** key.
- Right-click on a job and select **Widen selection** to select multiple jobs sharing characteristics (same route, same entity, same machine after the current job).

Selecting specific jobs

The job filtering features (**Search**, **Locator** and **Current route** functions) allow you to select in the schedule jobs matching your criteria. All there is to do is select them in the list and click **Select in schedule**.

For example, I would like to select in the schedule all jobs matching the customer AERO FUTURE (customer code AE0037) and using the milling tool OU-92.

M DirectPlanning : Job search	-	×
File List		
🗄 🔯 🚔 🛹 Display list 🛛 🖼 Export Excel 🕞		
Criteria Advanced criteria Options Result		
国 AE0037		×
■ 蘭 OU-092		×

In this window, I am using the search function to get the list of all jobs matching these criteria.

In the result window, all that is left to do is click **Select in schedule**.

DirectPI	lanning : Jo	ob search											Х
File List	:												
0 🔒 🕔	/ Display	list 🛛 🕱 Export Ex	cel 🔹										
		ria Options Resu											
	1			AERO		1		1			1		1
Des.of secti	Machine	Job start	WO no.	Customer designation	Product code	Designation		Qty to produce	Job durati	Designation Type	Planning de	Customer d	Manu
Milling	U1	07/02/2017 13:21	170023	AERO FUTURE	PE0028	AERO-I/	Cite-			wal	14/02/2017	15/02/2017	(
Milling	U1	08/02/2017 12:57	170020	AERO FUTURE	PE0014	AERO-H	Filte	r on this value		: <mark>wal</mark>	14/02/2017	15/02/2017	
Milling	U1	09/02/2017 05:47	170032	AERO FUTURE	PE0115	AERO-Y.	Focu	is on job		wal	15/02/2017	16/02/2017	
Milling	U1	09/02/2017 14:39	170026	AERO FUTURE	PE0057	AERO-M					15/02/2017	16/02/2017	
Milling	U1	09/02/2017 16:58	170029	AERO FUTURE	PE0103	AERO-Y. 📝	Job	letail		wal	15/02/2017	16/02/2017	
Milling	U1	15/02/2017 10:31	170070	AERO FUTURE	PE0014	AERO-H	Flags	5		⊾ : <mark>wal</mark>	20/02/2017	21/02/2017	
Milling	U1	15/02/2017 11:58	170120	AERO FUTURE	PE0014	AERO-H				wal	24/02/2017	25/02/2017	
Milling	U1	16/02/2017 14:00	170082	AERO FUTURE	PE0115	AERO-Y.	Selec	ct in schedule		wal	21/02/2017	22/02/2017	
Milling	U1	16/02/2017 18:11	170079	AERO FUTURE	PE0103	AERO-Y. 🧹	Sche	dule		Wal	21/02/2017	22/02/2017	
Milling	U1	16/02/2017 20:15	170129	AERO FUTURE	PE0103	AERO-Y.				wal	27/02/2017	28/02/2017	
							Com	iplete		•			
							Lock	ed job		→			
						V	Mov	e to compatible	machine	F .			
						>	Post	pone		+			
<								licate					>
							Dup	ICULC					
						X	Dele	te					
				10 job(s) found		, Li	Split	the range			Filter	Modify	1

Then I can perform all the actions available for groups of jobs (e.g. cluster jobs of selection).

To cancel a selection, select another job or click on a free area of the schedule, or start any other action such as for instance selecting an element in a menu.

5.3.2. Moving jobs

Unless locked, you can move any job in the schedule. One of Direct Planning's strengths lies in the intuitive scheduling management it offers.

The drag-and-drop method reflects this ease of use.

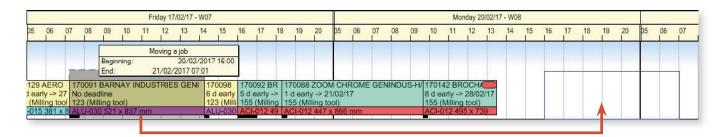
Note

The final result may slightly differ from what you asked: indeed, when planning assistance is active, Direct Planning tries to optimise the schedule according to the chosen automations.

Likewise, Direct Planning can modify (or even reject) moving operations if the related jobs belong to a route which impose constraints on them.

Several types of movements are possible:

Move a job to a free slot, without changing machine



When you release the mouse, without any active adjustment, the job is moved to your chosen location (the blue rectangle), leaving a gap at its original location (which can be filled via adjustment, see section 5.6. *Planning assistance*) ▼

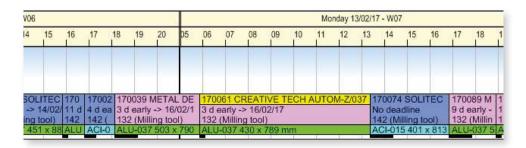
						Fri	day 17/	02/17 -	W07							1						Mon	day 20	/02/17	- W08							Ľ.		
05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	05	06	07
•			-					-							-																-			
i ear (Mil	AERO rly -> 1 ling to 381	27 DOI							6 d	i early 3 (Milli	- 5 d n 155	early 5 (Mill	-> 1 ing 1	d ea 55 (N	8 ZOC rly -> 2 1illing 1 12 447	21/02 tool)	'17	IE GE	ININD		8 d e 155	42 BF arly ~ (Millin 012 4	> 28/0 g tool)	2/17			No	deadli (Millir	ARNA ne ig tool 521 x)		RIES	GENI	ND

You can also perform this action by selecting a job and right-clicking at its destination. Then, you just have to select **Move selection here**.

Move a job to an occupied slot, without changing machine

W06													Мо	nday 1	3/02/17	- W07	2		
14	15	16	17	18	19	20	05	06	07	08	09	10	11	12	13	14	15	16	17
				Movin	g a jol	, ,	-U	1											t
	Be En	ginnin; d:	g:	13/0		/02/20 7 15:59		1:00							-				
SOL	JTEC 14/02/ tool)	170 11 d 142	1700 No d 142	74 SC leadlin (Milling	DLITE e g tool	1700 4 d e 142 (3de	early -	ETAL > 16/()2/1	17006 3 d ear 132 (N	rly ->	16/02		CHA	JTON	1-Z/037	170 9 d 132	ea
45	1 x 88	ALU	ACI-	015 40)1 x 8	ACI-	ALU	-037 !	503 x	790	ALU-0	37 43	80 x 7	89 mn	1	12	A	AL	J-0
-		5400 - S	21.2		1			82 Ju								/			

The moved job is placed right after the destination job. Because left adjustment is active, the gap is filled \blacksquare



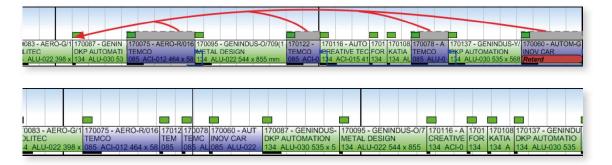
This simply comes down to modifying the sequence of jobs. Without adjustment, the gap is not filled.

Moving a group of jobs to an occupied slot without changing machine

If the selected jobs are grouped, they will remain grouped at the drop location:

1	inishing	507 (F	50	t 50	shing	7 (Fin	5 5		ng tool)	Finishi	507 (g tool)	nishing	501 (ving a job	Mo	ir
	120 3 Š	100 X	10	C 80	0 SE	0 X 12	R 11	P15 EI	EW NIM	120 N	80 X	C. HAN	20 SEC	4 <u>80 X</u>			14/1 4/02/2017		Beginn End:
1700 1 170 2 d e 2 6 d 510 5 510 100 1 80 5	TAL DES 16/02/17 ing tool) EC. HAN	-> vhe	2de	rly -	6 d ea	d ear	/02/ 3	IV -> 1	2 d ea			UTOMA 02/17 tool)	-> 16/0	2 d ea	3de	4 d 506	/02/17 tool)	065 INOV early -> 20 (Finishing	d 7d
				120	100 X	00 X	KID 1	120 3 :	100 X	1 400 1	= I with	S PALLE	U GSK	100 X	100	100	PALLET	120 STD) x 80 :
			00 A	120	100 X	X 00	KID 1	120 3	100 X	400 1	=1 with		0 GSK	100 X	100	100	PALLET	120 STD	x 80 :
I=F I=				120	100 X	00 X		120 3	100 X	14001			O GSK	100 X	100	100	PALLET	120 STD	0 x 80 :
	♪			120	100 X	00 X		120 3 :	1100 X	1001			U GSK	100 X	100	100	PALLET	120 STD	0 x 80 :
	^									1 400 1									0 x 80 :
METAL DES y -> 16/02/17 hishing tool)	170045 2 d earl	1700 2 d e	170 3 d	AUT	CAR	INOV	7006 d ea		1700	1 400 1		005	D 170	META y -> 16	70039	-	AUTOMA	037 DKP early -> 10	0 x 80 :

If the selected jobs are not grouped, the movement will automatically group them against the left-most selected job. This is a very useful action to position and gather multiple jobs, with a single drag-and-drop operation:



The context menu **Cluster jobs of selection** also groups all selected jobs against the left-most selected job, which is particularly useful to gather jobs remote from each other.

For "long distance" displacements, simply select your jobs and without dragging them, go to the drop location, right-click on the schedule background, and select **Move selection here** in the context menu. This replaces the "cut/paste" (Ctrl+X) function which was little used in Industry and Project modes because it broke links.

Moving a job on a compatible machine

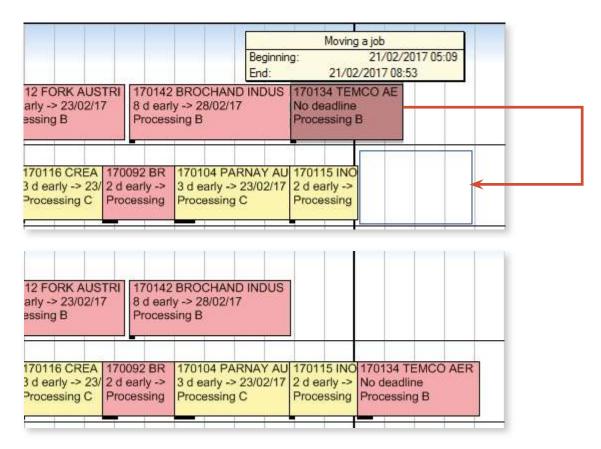
To move quickly a job to a compatible machine, right-click on the job to move, select **Move on a compatible machine** and select the appropriate machine:

V	Move to compatible machine	1	Equiva 1	
>	Postpore		Equiva 2	0
	Capy (Dat-C)		Speedex (special proc.)	
÷	Duplicate		Outsourced processing	

The current machine is greyed ut.

The compatible machines proposed in the sub-menu are those gathered in the same family in the **Data > Operations and machines** menu.

If you move a job to a compatible machine (on another line), Direct Planning behaves the same as for a movement on the same machine:



With automatic calculation of job duration enabled, Direct Machine can recalculate automatically the job duration while taking into account setting times and work rates specific to this destination machine.

Moving a	job to	an incom	npatible	machine
----------	--------	----------	----------	---------

When you move a job to an incompatible machine, Direct Planning displays the following warning (which can be customised with programmable formulas to reflect your business constraints):

Warnings	
CAUTION! Please confirm your action after	er you have thoroughly read the below warnings:
You are moving a job on a machine that is NOT con	npatible. Current setting and running times will be kept.
1 This action will cause a change of Section for the m	ioved job.
	OK and modify job OK Cancel

If you confirm (OK button), the job will be moved as per your request, but you are responsible for verifying the job details.

You can also click on OK and modify job to confirm. This opens the details of the moved job, to check and modify it if needed.

5.3.3. Duplicating jobs

Duplicating a job creates a new job which can be left untouched or modified. This allows the quick creation of similar jobs. When duplication is completed, you can modify the newly created job (if needed).

>	Duplicate •	to this place	
	Link selected jobs to each other	in 24 hrs	
×	Subdivide job	in 48 hrs	
	Delete	in one week	
		in two weeks	
		on a date	
	D. ISTNET PORT TO AND TRANSPORT	in several hours	
- 22	127 4 d 4 d mar Just in time in 2 2 d ma J	in several days	
1	Root 510 510 (F 507 (Funding to 506 (F 5	in several weeks	

◀ Use the job context menu to choose where the job should be duplicated: at a predetermined fixed interval (upper part) or according to an input value (lower part).

ሰ

Note

The requested duplication may be influenced by the adjustment to the left or right configured under the under the **Planning assistance** tab.

5.3.4. Copying/pasting jobs

The simplest and quickest method for copying/pasting jobs in Direct Planning is to use usual Windows shortcuts (Ctrl+C to copy, Ctrl+V to paste).

OUR ADVICE

The copy/paste functions offer a quick way to create new jobs with similar characteristics: instead of creating new jobs from scratch, it may be helpful to use the copy/paste function from existing jobs. You only have to make small modifications to the new job, if necessary.

Because pasting a job is like creating a job, the original time constraints apply.

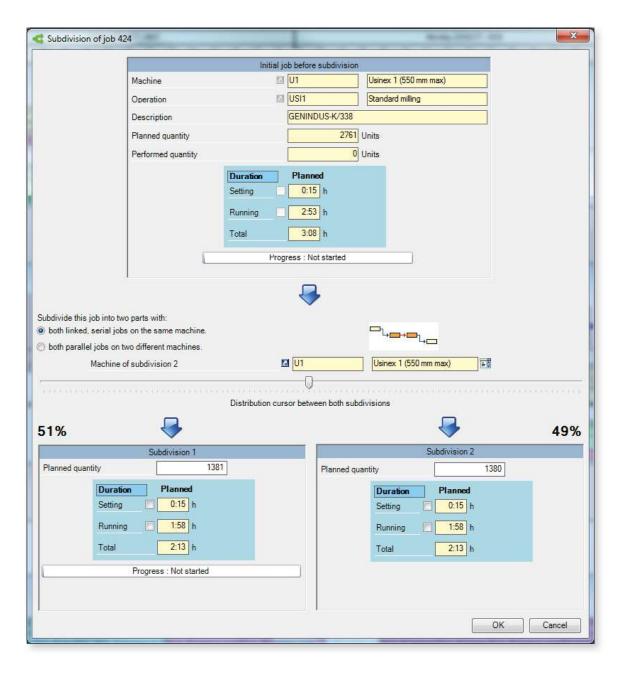
Besides, the machine compatibility check is also performed when you paste a job.

5.3.5. Subdividing jobs

Internal organisation may require you to subdivide jobs, that is to say split them in 2 parts distributed as desired.

For example, delivery constraints may require you to produce part of the quantity immediately to deliver it as soon as possible, and postpone the production of the remainder at a later date. Or you can offload an overloaded machine by assigning all or part of the workload to another machine. Subdivided jobs can be subdivided again. Direct Planning keeps existing links and transmits them the to the resulting job.

In the schedule, right-click on a job to open the context menu. Select **Subdivide job**:



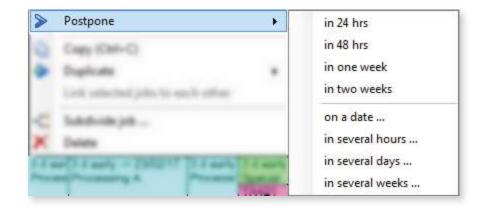
The upper part of this window provides you with information on the current job before separation. You cannot modify this data. However, you can choose whether the new jobs will both run on the same machine or if they will be paralleled on two different machines. A graphic representation helps you get an idea of the result.

A cursor is then available to adjust quantities for each job (by default, Direct Planning splits the job in half). Moving this cursor updates the expected quantity for each job. If you do not wish to use the cursor, you can enter directly the quantity to produce in these fields.

While Direct Planning calculates setting and running times in this example, you can force these values manually by checking the corresponding boxes. You can also set the progress of the first job.

5.3.6. Postponing jobs

You may have to postpone a job for different reasons like waiting the receipt of an item, various hazards, etc. After selecting the affected job, right-click to open the context menu:



◀ Use the job context menu to choose when the job should be postponed: at a predetermined fixed interval (upper part) or according to an input value (lower part).

Note

The requested postponement may be influenced by the adjustment to the left or right configured under the under the **Planning assistance** tab.

5.3.7. Deleting jobs

On a selection of jobs, click on **Delete**. Another (quicker) way is to press the **Del** key. You will be asked to confirm.

The **Ctrl+Z** combination is available to cancel any unintentional deletion. Conversely, the **Ctrl+Y** combination can be used to restore a deletion. You can also use the quick tools at the top of the screen.

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5.3.8. Accessing the jobs details

Previously covered when discussing how to create jobs manually, the job details window is the dashboard containing all job-related information.

To access it, select a job and click on **Job detail** in the ribbon, under the **Edit** tab. You can also right-click on the job and select **Modify job**, or simply double-click on the job in the schedule.

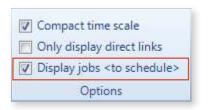
5.3.9. Scheduling/Unscheduling jobs

In the Gantt, a job to schedule appears on a special line.

This line has 2 functions:

- 1. Following an import, it contains all jobs coming from the ERP: any imported job in Direct Planning is set "to schedule".
- 2. It is used to place jobs pending scheduling in order not to forget them.

This line only displays when there are jobs to schedule and when the **Display jobs to schedule** option is checked in the **Display** menu:

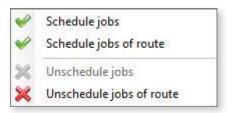


It is located under the actual schedule line, in a different colour and with the machine name followed by the [*] character, as in the following screen capture:

Usinex 2 (700 mm max)	V CAR A 170044 ZOO 170053 KATIA 170 170062 20/02/1 7 d early → 18 d early → 177 12 d 10 d ea 6 d earl 6 d early → 16/02/17 Inel Cus 155 (Milling 11 155 (Milling tot 155 155 (Mill 123 (M Delayed receipt Waiting for material' 7 x 826 ALU-037 515 ALU-037 544 x ALU ALU-02 ALU-02 ALU-02 4 x 789 mm	170052 FORK A 6 d early -> 16/02/1 134 (Milling tool) ALU-037 471 x 890
Usinex 2 (700 mm max) [*]	170015 INOV CAR A. 170045 METAL DESI 5 d early -> 14/02/17 6 d early -> 16/02/17 155 (Milling tool) 134 (Milling tool) ALLI-037 557 x 826 ALLI-022 544 x 855	

Various methods are available to schedule a job placed on the "to schedule" line:

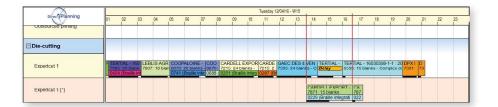
1. Right-click on a job to schedule and select **Schedule** > **Schedule jobs** (this menu can also be used to schedule the whole route to which the job belongs):



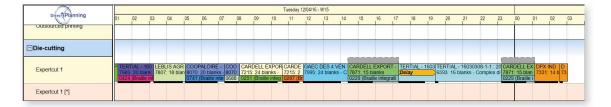
- 2. Move the jobs using the mouse.
- 3. Under the **Edit** tab, use the **Schedule** menu to toggle jobs between scheduled and to schedule lines in the schedule.

In cases 1 and 3 (using menu functions), for each job to schedule, the program remembers the pair

"scheduled job cross by beginning of job to schedule" and the job is scheduled after the scheduled job memorized:



Once scheduled, the jobs are separated, each job to schedule is scheduled right after the scheduled job:



In case 2 (moving with the mouse), it's the grouped move function explained in section 5.3.2. *Moving jobs* which is used:

										Tu	esday 12	V04/16 - V	V15										
DirectPlanning	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Outcourced printing																							
⊡Die-cutting																							
Expertcut 1	7905	TIAL - 16 20 bian (Braille	k 7007	IS AGR	0070:	ALOIRE 20 blank Braille in	3 - 0070	7215	24 blan	ks - 72	15:2	GAEC E 7995: 24	ES 4 VE I blanks	N TEF	ay	TERTI/							
Expericut 1 [*]													7	871: 15	blanks	RT - C. 78 grati 02	87						

										Т	uesday 1	2/04/16 - V	V15															
Direc	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04
Outsourced printing																												
Die-cutting																				-								
	-														-		1	1										
Expertcut 1		TIAL - 16 20 blar (Braille			n 8070.	20 blank		7215	24 blar	nks - 7	215:2	GAEC D 7995: 24		- C 787	71: 15 b	EXPORT lanks lle integra	787	Delay	AL - 160		16 blan				D 73			
Expertcut 1 [*]																												

5.3.10. Locking jobs

You can quickly lock/unlock a job via right-click **Lock/Unlock** on a job, via the **Edit** > **Lock/Unlock** menu or in the job details.

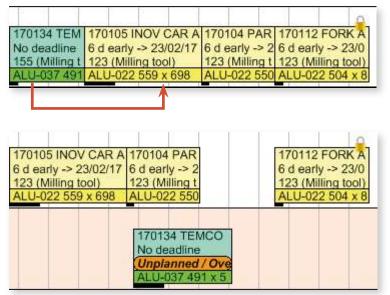
A locked job cannot be modified or moved.

When moving a job makes another job collide with a locked job, Direct Planning offers the administrator the ability to choose between two behaviors (**Configuration** menu > General **configuration** > **Planning assistance**)

Method used when movin	ng jobs over locked jobs —
Our Construction of the second sec	en overlapping locked jobs.
O Move jobs after lock	ed jobs.

Method 1: Unschedule the jobs colliding with locked jobs

The job conflicting with the locked job is unscheduled. This avoids the job being thrown too far down the schedule if several locked jobs follow each other.



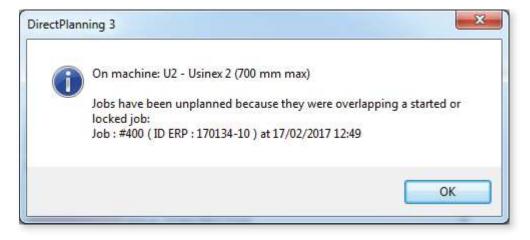
◄ In the opposite example, the objective is to move the first job (in green) after the second job (170105). Normally, this would shift jobs 170105 and 170104 to the right (left adjustment).

Because the last job is locked, this operation will unschedule the 170104 job colliding with it.

Please note that an alert is automatically generated on the unscheduled job:

170134 TEMCO No deadline	
ALU-037 491 x	170134 TEMCO AERO-H/106 - Renewal
	No deadline 155 (Milling tool)
	ALU-037 491 x 556 mm Start : 17/02/2017 12:50
	End : 17/02/2017 16:05 Duration : 3:15 h of which setting : 1:00 h
	(!) Unplanned due to a movement on a non-movable job.

And a warning screen appears before the job is unscheduled:

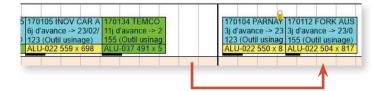


Method 2: Move jobs after the locked jobs

In this example, we want to move the first job (in green) after the second job (170105). Normally, this would move jobs 170112 and 170104 to the right (left adjustment).

170134 TEM	170105 INOV CAR A	170112 FORK AUS	170104 PARNA
11 d'avance	6j d'avance -> 23/02/	6j d'avance -> 23/0	Pas de délai
155 (Outil usi	123 (Outil usinage)	155 (Outil usinage)	123 (Outil usina
ALU-037 491	ALU-022 559 x 698	ALU-022 504 x 817	ALU-022 550 x

This time, job 170112 is not unscheduled but rather moved after the locked job:



5.4. Resources and Needs

The "Needs and Resources" menu allows you to configure and manage the availability of resources, including human resources, to meet the specific needs of your machines.

File	Home	Edit Dis	play Planning	; assistance	Data	Calendars	Needs and resources
Quantitative resources	(O) Needs	Assignment order	Programmable data	Availability Calendars	(interview) Needs calculation	52	

You can anticipate requirements and ensure that the right resources are assigned to the right tasks at the right time.

5.4.1. Needs Management

Needs represent the specific resources required to perform tasks on your machines. For example, this could include the number of drivers or assistants needed.

5.4.2. Creating the List of Needs



The list of needs will be displayed.

😳 Li	st of N	leeds	- 🗆	l X
OC) 📫 \mid 🧟 🛀 🖼 Export Excel 🕞	📑 New 🏐 M	lodify 📄
Using	g this r	esource	= :	
Color	#	Need label	Number of Associated Resou	



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The following screen is displayed:

					×
Label and color of the need					
lentifiant 1					
iouleur 📃 🛃					
Resources satisfying the need			Availat	le resources	
	Remove 🔶				💠 Add
⊡- Family : Default Lablanc Florian		E- Family : Default			
		Save a	and next	Save and close	Cancel

Choose a label and a color for the need.

To associate this need with one or more resources, select the resource you wish to assign to this need.

Then, click on the * Add or double-click on it.

Note:

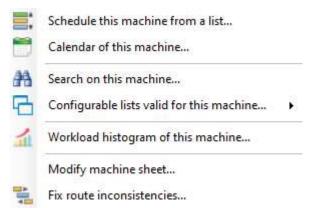
If no available resource is assigned to this need, when you click **Save and Close**, the following error message will appear:

hecking information	×	
Error confirming entered inform There must be at least one reso	lation: urce assigned to this need	
	1 1 1 2 V 2	

If you have multiple needs to create, click **Save and Next.** If you are finished, click **Save and Close**.

5.4.3. Definition of Machine Needs

Define the machine's needs: Access the machine's record by right-clicking and selecting "**Edit Machine Record**".



The following screen is displayed:

Machine	Notes	Informatio	ons process	Needs	
Please check t	the needs to assoc	tiate with this ma	achine and indica	te their default value :	
] N Opérator				
	ault quantity of nee	ed		1,00	
	Need calculation		171		i ×
	N opérator treat	ement Equiva			
Def	ault quantity of nee	ed		1.00	
	Need calculation	formula	13		I X

Check the necessary resource families for the machine.

Then, enter the required value for each activated resource family.

Note

You can also refine the calculation of setting times and work rates by defining programmable formulas. For more information about programmable formulas, see next section, *Configuring programmable formulas*.

Once the needs are defined, click **Save and Close**. These data will then be automatically integrated into the planning system.

5.4.4. Resource Management

Resources can include individuals, groups of people assigned to operational tasks, as well as other necessary elements such as materials and equipment. For example, this may involve specific employees or groups like "Temporary Operators."

5.4.5. Creating the Resource List



In the toolbar, click on

The list of resources will appear:

💦 Qu	antita	ative resources		– 🗆 X
00	0) 👔 🔯 🚔 💌 Export Excel 👻	📑 New 📑 Modify	/ 🔜 📫 Calendar 🔘 Associated Needs
Color	#	Resource designation	Resource Family	Number of Associated Needs
	1	1 Lablanc Florian	Default	2
		2 Belineau Gerard	Default	1

00	Prioritize the resource that will be used first to meet the need
٢	Allows for automatic color assignment.
ŧ	Manage the grid columns
O.	Preview before printing.
	Print the resource list.
Export Excel 👻	Export the resource list to Excel.
Calendar	Allows direct access to the resource availability calendar.
Associated Needs	Displays the list of needs associated with this resource.

Click on to add a new resource.

New

Modification : Ressource	e quantitative « Lablanc Flo	rian » X		
Identifiant	1			
Data designation	Lablanc Florian			
Resource family	Default	~ @		
Couleur		2		
Default availabilities			e.	
Morning shift		0,00		
Afternoon shift		0,00		
Night shift		0,00		
🖂 Day shift		0,00		
Availability calendar				
Current input interval		Hour ~		
J	Save and Close	Cancel	family, or create a new one by	clicking on

Choose a color for your resource to easily identify it in your schedule.

Resource family

~ @

Finally, check the one or more shifts during which this resource will be available.

Default

5.4.6. Resource Availability Calendar Management.

In the main toolbar, click on



The list of calendars is displayed:

🤏 Lie	st of calenda	ars		×
			😽 Availabilit	ty calendar
				×
Color	Identifier	Quantitative resources	Famille de ressources	
		1 Lablanc Florian	Default	
		2 Belineau Gerard	Default	

Click on the resource whose availability you want to view.

The resource's availability calendar will be displayed:

Calendar	period										
Period : fro	m 🔶	01/02/2017	т 🗂 То	28/02	/2017	🖱 🥅	×				
Resource		Lablanc Flor	ian								
Availabilit	ies										
Input inter	val : Hour 👻										
Input inter	val : Hour 👻		mer.	jeu.	ven.	sam,	dim.	lun.	mar.	mer.	jeu.
Input inter	rval : Hour 👻	A	mer. 01/02	jeu. 02/02	ven. 03/02	sam. 04/02	dim. 05/02	lun. 06/02	mar. 07/02	mer. 08/02	jeu. 09/02
Environe	4	A 08:00	1900000000			1	Contraction of the second		Negroterer		09/02
Week	from	10505-05050	01/02	02/02	03/02	04/02	05/02	06/02	07/02	08/02	

Select a start date to display the availability for the entire month from this date.

Calendar period	1				
Period : from	-	01/02/2017	To 🗂	28/02/2017	

You can modify the availability for each shift and each day. To do so, select multiple cells directly by right-clicking, then choose 'Modify Selection.' Next, manually enter the desired value and press Enter.

Input inte	rval : Shift 👻							
			mer.	jeu.	ven.	sam.	dim.	lun.
Week	from	А	01/02	02/02	03/02	04/02	05/02	06/0
Jour	07:00	18:00	1.00	1.00	1.00	0,00	0,00	0,0
						Modify s Delete se		í.

5.4.7. Configuration of Resources

Administration		\$
Secondary resources are con tab: General configuration	figured in the General Settings of Direct F	lanning, under the Configuration
🔀 General configuration of sched	ule - Configuration of resources	
General	Saisir les différents horaires de chaque faction	
Machines	Day shift	
Jobs	Start time of faction :	07:00
Jobs: configurable areas	End time of faction :	18:00
Flags	Couleur	
Alerts	Morning shift	
Planning assistance	Start time of faction :	05:00
Secondary resources	End time of faction :	13:00
Automatic import	Couleur	
Automatic export	Afternoon shift	
Backup copies	Start time of faction :	13:00
Advanced options	End time of faction :	21:00
	Couleur	2
	Night shift	
	Start time of faction :	21:00
	End time of faction :	05:00
	Couleur	
Click on the icon shift, then choose a You can manage the resourc		and end times for each clicking on the icon.

5.4.8. Resource Assignment to Needs

Once your needs and resources are configured, you need to associate them.



In the toolbar, click on

The "Resource Assignment Order to Needs" screen will appear:

😳 Ori	der of resource assignment to needs			\times
Choos	e the priority order for using resources in r	needs		
00)			
Ordre	Need to prioritize	Resource to prioritize		
1	N Opérator	Lablanc Florian		
2	N Opérator	Belineau Gerard		
3	N opérator treatement Equiva	Lablanc Florian		

You have the option to define which resources will be prioritized to meet a specific need.

This order can be rearranged based on the relevance or availability of the resources for each need.

Select the resource you want to prioritize, then click on the icon **O** to move it before or after another resource in the list.

Once finished, click on "Save and Close".

5.4.9. Unmet needs calculation



The unmet needs calculation screen appears:

Start date of the calculation horizon 09/02/2017 0 Days after current day	~	End date of the calculation horizon ○ 23/02/2017 ● □ □ □ □ □ □ □ □ □ □ □ □ □	~
Select needs to analyze		Operating options	
All needs N Opérator N opérator treatement Equiva	?	Calculation interval Hour	~ ?
		Calculate and visualize in Excel	Close

Choose the start and end date of the calculation horizon by clicking on or type a date in the format DD/MM/YYYY.

Then, select the needs to analyze:

- All needs: check this option if you want to analyze all types of needs.
- **Specific operators:** check or uncheck the different types of operators you want to include.

Finally, select the desired interval for your analysis.



Once the resources and needs are configured, click on Calculate and visualize in Excel

The following screen appears:

	Data calculation in progress
Status :	Tri des ressources des besoins
	55 %

The data calculation begins to verify if all necessary resources are available to meet the identified needs for each period.

A detailed report in Excel format is then generated, showing the periods where there may be resource shortages. This allows you to anticipate and adjust your planning if necessary.

The Excel file consists of 3 tabs:

- Daily Needs

This tab provides an overview of all unmet needs during the requested period. If a need is unmet, it will be displayed in **red**.

- Hourly Needs

This tab provides an initial overview of hourly needs. If a need is unmet, it will be displayed in red. For more details, **click on the icon**

Hourly Resources

This tab provides an initial overview of hourly resources.

As with the other tabs, if you need to view more details, **click on the icon or on the specific cells**.

5.5. Creating routes

Direct Planning allows the creation of links between jobs. Routes can be defined as sets of jobs which must be performed in a specific chronological order. A route implies the respect of time constraints. A route contains a number of jobs which can belong to one or more machines.

5.5.1. Creating routes quickly

To create simple links, select two jobs to connect, right-click on one of them and select **Link selected jobs to each other**:



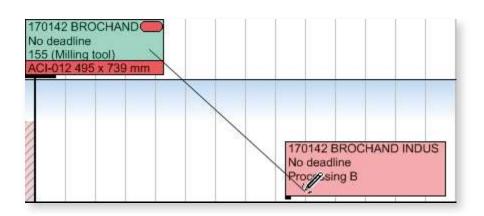
This mode is completed by the **Link creation** mode which is more exhaustive and allows to create more complex links.

5.5.2. Link creation mode

This mode can be accessed via the **Edit** > **Link creation (Ctrl+I)** tab.

Switching to Link creation mode turns the pointer of your mouse into a pencil: 🥒

This pencil allows to "draw" links between jobs, by moving it from a job to the other.



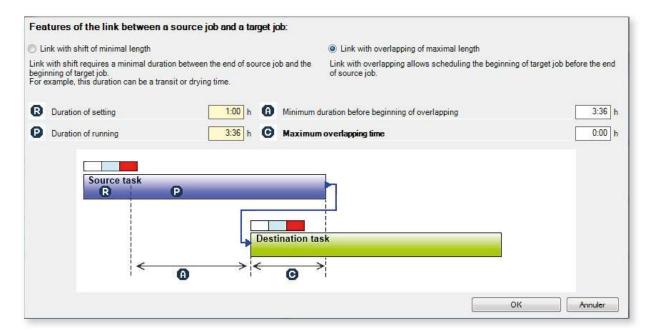
When releasing the mouse, the link creation window displays to configure the gap between jobs:

Fea	tures of the link between a source job and a target job:	
) Li	nk with shift of minimal length	Link with overlapping of maximal length
Link begin For e	with shift requires a minimal duration between the end of source job and ning of target job. xample, this duration can be a transit or drying time.	d the Link with overlapping allows scheduling the beginning of target job before the end of source job.
Ð	Minimum duration of shift	0:00 h
	Source task	Destination task
		O

Two options display when linking two jobs:

1. Link with shift of minimal length (above): this option option is recommended when the jobs must not overlap. Setting the Minimum duration of shift field to 0:00 h makes the destination job start right after the source job.

2. Link with overlapping of maximal length:



This option allows to handle job overlapping. In our example, the destination job can start **10 minutes** before the end of the source job (zone C). Otherwise, see it the other way, thinking that you have to wait **3h26** after the setting of the source job (zone A) before starting the destination job (which boils down to the same thing).

In both cases, Direct Planning relies on the P running time and recalculates A from C or C from A.

To **modify/delete** a link, the quickest method is to right-click on it and choose the associated option:



Deletion of links between jobs

To help you delete links between jobs, an entry is available when right-clicking on a job.

If you select a single job of the route, the **Delete links** ... menu will offer two actions: **Delete incom**ing links and **Delete outgoing links**:

 Second and and Second and and a second and Second and a second and Second and a second an	
Contract ()	

If multiple jobs are selected, this menu will offer the **Delete links between selected jobs** action.



5.5.3. Visual appearance of links

Trail

Links are materialised by lines which can take 3 different aspects depending on the case:

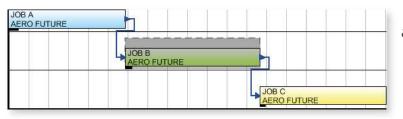
Appearance	Туре	Description
	Solid line	Exact chaining
	Dotted line	Gap
	Dotted line and dots	Overlapping

Colour of links

The administrator can configure the display mode to have colour links reflect the progress of the route. Link colours are based on the following rules:

Colour	Type of link
	Link whose upstream job is complete
	Link whose upstream job is started
	Link within a route in which there is one or more started or completed job
	Link within a route with no started job

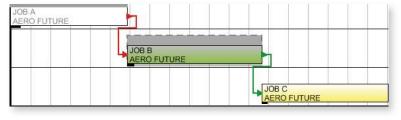
Examples:



OB A ERO FUTURE		
	JOB B AERO FUTURE	
		JOB C AERO FUTURE

- No job of the route has started: all links are displayed in blue.
- ◄ Job A has started: the A-B link are displayed in orange.

The B-C link displays **in green** to indicate that a job of the route has started.



◄ Job A is complete: the A-B link is displayed in red.

The B-C link displays **in green** to indicate that a job of the route has started (in this case it is completed).

Link visibility

It is possible to display only the direct links for the selected job. The inbound and outbound links for the selected job will be the only links displayed.

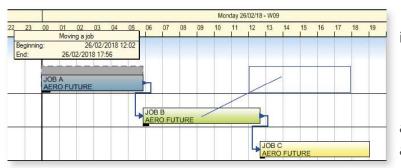
To this end, check the **Only display direct links** box under the **Display** tab of the ribbon:

Only display direct links	Only display direct links
JOB A	JOB A
AERO FUTURE	AERO FUTURE
JOB B	JOB B
AERO FUTURE	AERO FUTURE
JOB C	JOB C
AERO FUTURE	AERO FUTURE

In both cases, job C is selected: whether or not **Only display direct links** option is checked, Direct Planning displays or hides link between jobs A and B.

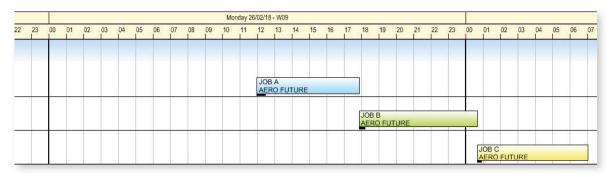
5.5.4. Manipulating routes

When moving a job belonging to a route, the other jobs of the route may also be moved depending on the route constraints:

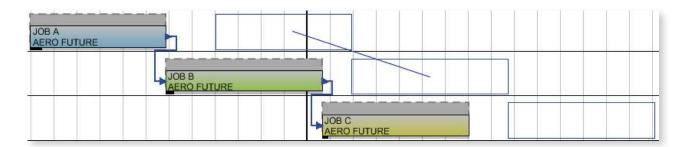


◄ In this example, the first job (A) of the route is moved to make it start at 12:00.

▼ Notice below that because jobs B and C are scheduled to start right after job A, they are also moved.



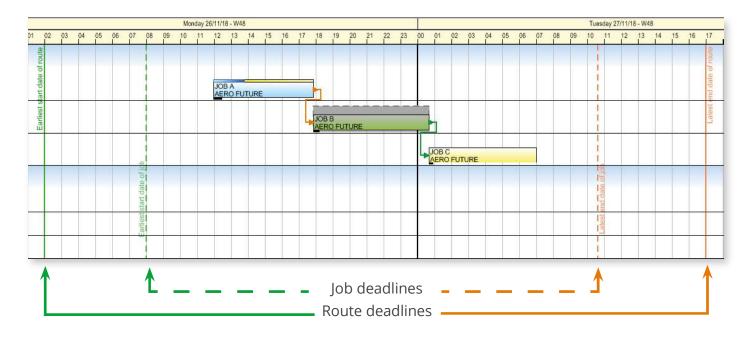
Select the different jobs of the route to preview their location after movement (materialised by blue rectangles):



5.5.5. Route deadlines

In the schedule, deadlines are materialised by vertical lines. They are displayed for jobs, routes and groups of jobs.

In the schedule, when you select a job, its deadlines display as vertical dotted lines (in green for the earliest start date and in orange for the latest end date). If the job belongs to a route, its deadlines display as vertical dotted lines (in green for the earliest start date and in orange for the latest end date), as in the following example:



5.6. Managing calendars

The calendar is used to define the following periods, for each machine:

- Regular activity periods
- Exceptional activity periods (occasional work overloads, extra opening days, etc.)
- Regular inactivity periods (periods outside working hours, periods of equipment maintenance, etc.)
- Occasional and planned inactivity periods (public holidays, vacations, etc.)
- Occasional and unplanned inactivity periods (sick leaves, machine downtime, etc.)

5.6.1. Standard days

The definition of standard days is required to create a calendar. You must create at lease one standard day to indicate your machine operating hours.

Standard days are available by clicking on **Calendars** > **Standard days** in the ribbon:



A standard day is defined by a designation and some shifts:

	Export Excel •	New	Moc	dify 📷	
# 4 Code	Designation	Morning	Afternoon	Night	Day
1 JT6	05:00 - 21:00 (2x8)	V.	V		
2 JT7	06:00 - 20:00 (2x7)	v	1		
3 JT8	05:00 - 05:00 (3x8)	v	1	1	
4 JT9	05:00 - 13:00	v			
5 JT10	06:00 - 13:00	\checkmark			
6 JT11	13:00 - 21:00		1		
7 JT12	13:00 - 20:00		1		
8 JT13	07:00 - 15:00				v
9 JT_24H	24h worked				v
10 JT_FERIE	Holiday				
11 JT_NT	Closure				

Click on New to create a new standard day.

Creation : Standa	ard day			×
Designation		Special]
Color		-	2	
Worked shifts				-
Morning	Afternoon	Night	Day	
Non-working day				
		Save and Next	Save and Close	Cancel

Enter a designation for this standard day and define a work shift. By default, no box is checked, which is why Direct Planning displays **Non-working day**.

Clicking on a shift opens a zone to enter the corresponding times as well as break periods, when appropriate:

Morning	Afternoon	Night	🖾 Day
Morning shift	from 05:00	to 11:00	Shift duration: 06 h 00
Break 1	from 08:00	€ to 08:15 €	

◄ When you enter the working hours for the shift, Direct Planning automatically calculates the corresponding duration.

Multiple shifts can be checked for the same standard day:

Morning	Afternoon	Night	Day Day
Morning shift	from 05:00	(L) to 11:00 (L)	Shift duration: 06 h 00
🔽 Break 1	from 08:00	🕒 to 08:15 🕒	
🕅 Break 2			
Afternoon shift	from 13:00	to 21:00	Shift duration: 08 h 00
🔽 Break 1	from 17:00	🕒 to 17:30 🕒	
🔄 Break 2			

Click on **Save and close** to return to the list of standard days. Note that certain standard days are shown in blue in this list. These are preconfigured system standard days that you cannot delete but for which you can change the designation.

Click on Use cases to display standard weeks leveraging the selected standard day:

"Use cases of standard day 'Special'	- D >
This standard day is used:	
	Med
⊡ In standard week: └ Standard 7h-15h15	
	Complete

This screen is not only informative: selecting a standard week allows to modifying it by clicking on the **Modify** button at the top right hand corner.

More information about standard weeks in the next section.

5.6.2. Standard weeks

Standard weeks follow the same principles as standard days: whereas standard days break down into working hours, standard weeks break down into standard days.

You can access standard weeks by clicking on **Calendars > Standard weeks** in the ribbon:



When you click on this button, you get the list of standard weeks configured for the schedule:

		Export Excel 👻	_				New	🗎 🖏 Modify 📑 🚺	Use cas
#	t ode	Designation	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunda
	1 ST10	2x8	05:00 - 21:00 (2x8)	05:00 · 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)		
	2 ST11	2x8 + Saturday 5h-13h	05:00 - 21:00 (2x8)	05:00 · 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 · 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 13:00	
	2 ST_24H	Worked 24hrs	24h worked	24h wo					
	3 ST12	2x8 + Saturday 5h-21h	05:00 - 21:00 (2x8)	05:00 · 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 · 21:00 (2x8)	
	3 ST_STD	Worked 24h excluding weekend	24h worked	Closure	Closure				
	4 ST13	3x8	05:00 - 05:00 (3x8)	05:00 - 05:00 (3x8)	05:00 - 05:00 (3x8)	05:00 · 05:00 (3x8)	05:00 - 05:00 (3x8)		
	5 ST14	3x8 + Saturday 5h-13h	05:00 - 05:00 (3x8)	05:00 - 05:00 (3x8)	05:00 - 05:00 (3x8)	05:00 - 05:00 (3:8)	05:00 - 05:00 (3x8)	05:00 - 13:00	
	6 ST15	3x8 + Saturday 5h-21h	05:00 - 05:00 (3x8)	05:00 - 21:00 (2x8)					
	7 ST16	Morning 5h-13h	05:00 - 13:00	05:00 - 13:00	05:00 - 13:00	05:00 - 13:00	05:00 - 13:00		
	8 ST17	Morning 6h-13h	06:00 - 13:00	06:00 - 13:00	06:00 - 13:00	06:00 - 13:00	06:00 - 13:00		
	9 ST18	Standard 7h-15h15	07:00 - 15:00	07:00 - 15:00	07:00 - 15:00	07:00 - 15:00	07:00 - 15:00		
	10 ST9	2x7	06:00 - 20:00 (2x7)	06:00 · 20:00 (2x7)	06:00 - 20:00 (2x7)	06:00 · 20:00 (2x7)	06:00 - 20:00 (2x7)		
	11 ST NT	Closure	Closure	Closure	Closure	Closure	Closure	Closure	Closure

Click on New to create a new standard week:

Designation:	Standard week	
Color	Mon. Tue. Wed. Thu. Fri.	Sat. Sun.
Working days		
Nonday Standard day:	05:00 - 21:00 (2x8)	
Specific time slot:	Moming : 05:00 - 13:00 Aftemoon : 13:00 - 21:00	
	D5:00 - 21:00 (2x8) Moming : 05:00 - 13:00 Afternoon : 13:00 - 21:00	
Vednesday	D5:00 - 21:00 (2x8)	国
Specific time slot:	Moming : 05:00 - 13:00 Aftemoon : 13:00 - 21:00	
hursday Standard day:	05:00 - 21:00 (2×8)	1
Specific time slot:	Moming : 05:00 - 13:00 Aftemoon : 13:00 - 21:00	
	05:00 - 21:00 (2x8) Momina : 05:00 - 13:00 Aftemoon : 13:00 - 21:00	E.
Saturday		
Standard day:	05:00 - 13:00 Moming : 05:00 - 13:00	
Sunday	Non-working day	

◄ After choosing a designation and a colour for the week, you assign a standard day to each day of the week.

Click on 📷 to pick from the list of standard days and on 🚺 to view the details of the standard day.

If you wish to create a day without creating a standard day, click on **Specific time slot**. You can create specific working hours from a standard day if you select it beforehand.

The Standard days button gives access to the configuration of standard days.

By default (if you do not check anything), the week day is a non-working day (similar to the **Closing** standard day in our example).

Colour of a star	ndard week						
Color		2 📒	Wed.		Sat.	Sun.	

Colours play an important role in the visual identification of weeks in a calendar. A colour is automatically proposed by default for each standard week. You can modify the colour of the week conventionally or click on the colour square corresponding to each day of the week.

Modification of standard days/weeks through import of a file

In the same fashion as you can modify dynamically your machine calendars, by assigning standard days and/or weeks with given week and days, you can now perform these operations using the following import commands:

Command	Description
CAL-ST-L	Addition/Modification/Deletion of the standard week of a given week, using the designation of this standard week.
CAL-ST-C	Addition/Modification/Deletion of the standard week of a given week, using the code of this standard week.
CAL-JT-L	Addition/Modification/Deletion of the standard day of a given date, using the designation of this standard day.
CAL-JT-C	Addition/Modification/Deletion of the standard day of a given date, using the code of this standard day.

Example of modification of the standard week using its designation (CAL-ST-L command):

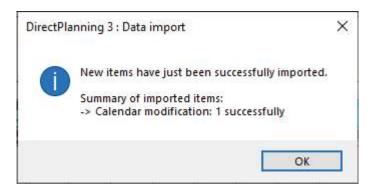
Before importing: On machine 2100, the standard week assigned with week 12 is the "2x8 Even weeks" week:

Det	ailed view	<mark>of a calenda</mark> r						
Caler	ndar		2100	KBA 6 Colours		Year:	2016 🔹	E Copy to
	d selection	From	Standard week	Monday	Tuesday	Wednesday	Thursday	Friday
6	08/02	14/02	3x8 Even weeks	3x8	3x8	3x8	3x8	Not worked
7	15/02	21/02		3x8	3x8	3x8	3x8	Friday 3x8
3	22/02	28/02	3x8 Even weeks	3x8	3x8	3x8	3x8	Not worked
)	29/02	06/03		3x8	3x8	3x8	3x8	Friday 3x8
10	07/03	13/03	3x8 Even weeks	3x8	3х8	3x8	3x8	Not worked
	14/03	20/03		3x8	3x8	3×8	3×8	Friday 3x8
12	21/03	27/03	2x8 Even weeks	2x8	2x8	2x8	2x8	Not worked
10	20/00	00/04		Holiday	3×8	3x8	3x8	Friday 3x8

The import file will modify this week by running the following command:

```
# TASK;Version;Action;ID MACHINE;DATE;CODE
CAL-ST-L;4;CM;2100;21/03/2016;3x8 Even weeks
Syntax : Job ; Version, Action, Machine code, 1st day of the week, designation of the new standard
week
```

The following import confirms that the command was taken into account:



Result: The standard week of week 12 is now the week labelled "3x8 Even weeks":

De	tailed view	of a calendar						
Cale	ndar		2100	KBA 6 Colours		Year.	2016 🔹	E Copy to
	nd selection ekTo	From	Standard week	Monday	Tuesday	Wednesday	Thursday	Friday
6	08/02	14/02	3x8 Even weeks	3x8	3x8	3x8	3x8	Not worked
7	15/02	21/02		3x8	3x8	348	3x8	Friday 3x8
3	22/02	28/02	3x8 Even weeks	3x8	3x8	3x8	3x8	Not worked
Э	29/02	06/03		3x8	3x8	3x8	3x8	Friday 3x8
10	07/03	13/03	3x8 Even weeks	3x8	3x8	3x8	3x8	Not worked
11	14/03	20/03		3x8	3x8	3×8	3x8	Friday 3x8
12	21/03	27/03	3x8 Even weeks	2x8	3x8	3x8	2x8	Not worked
13	28/03	03/04		Holiday	3×8			Friday 3x8

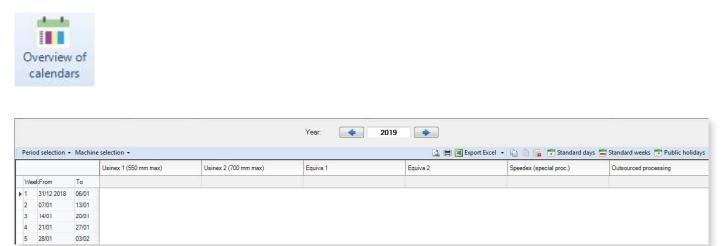
Observations

- Just like for the manual modification of the standard week, forced days are not affected by this command (Monday and Thursday of week 12 in the example above).
- Likewise, the annual standard week and holidays are not affected, their configuration being done once for the whole year.

5.6.3. General view of calendars

After defining at least one standard day and one standard week, you can define your calendars.

The general view of calendars is available by clicking on **Calendars > Overview of calendars**:



This screen is still empty because no calendars have been yet created. The quick action icons in the upper-right corner give access to the configuration of standard days/weeks and public holidays. Follow these steps to configure the new calendar:

1. Selection of the new calendar scope:

Year:	-	2019	-

You can refine the selection of scope by clicking on **Period selection**:

elect weeks		
Display following	weeks	
From:	lun. 31/12/2018 🗂 Week 01	
To:	dim. 29/12/2019 😁 Week 52	The whole year
	<pre>dim. [29/12/2019 Week 52 weeks with timetables different from those of the ann public holidays).</pre>	

◀ Use this screen to narrow the display of the calendar.

In this example, the calendar will only display the second semester for the year 2018: weeks 26 to 52.

2. Selection of machines governed by the calendar:

	Selection of machines	
Machine selection -	Display calendars of the following machines: All machines	

When this is configured, the selected machines are the only ones displayed in table column headers.

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You do not have to filter the list of machines: you may as well leave them all displayed, even if they are governed by different calendars. When creating calendars, you will have the option to do this by selecting the concerned machines beforehand.

3. Now that the "When" and "What" questions are answered, we can start to fill the calendar with an annual standard week, which will be discussed in more details in the next section.

5.6.4. Annual standard week

The annual standard week: defines the reference standard week used throughout the year. You will be able to add exceptions at a later stage.

First select the weeks/machines governed by the annual standard week (the selected cells are shown in blue):

- You can click on a column to select a machine and all the weeks of the calendar.
- You can "draw" a rectangle with your mouse to select the machines/weeks of your choice.
- You can select all machines and all weeks by right-clicking in the calendar and choosing **Select all** cells.

When your selection is made, click on the **E** button, in the lower part, on the **Annual standard week** line.

The annual standard week selection window opens, listing the standard weeks previously configured.

Select a standard week, which will populate the selected cells:

This sequence of tasks is shown below:

			Usinex 1 (550 mm max)	Usinex 2 (700 mm max)
We	eek:From	То		
1	31/12 2018	06/01		
2	07/01	13/01		Selection of all calendar
3	14/01	20/01		weeks for the Usinex 1
4	21/01	27/01		machine
5	28/01	03/02		
6	04/02	10/02		
7	11/02	17/02		
8 Ann	18/02 ual standard	24/02 week:	2	Opening of the annu- standard week selectio
Ann		week:	2 2 2	
Ann	ual standard ekly standard # 1 2	week: d week: Designat 2x8 2x8 + Sat		Opening of the annual standard week.

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			Usinex 1 (550 mm max)	
We	ek:From	To	2x8	
1	31/12 2018	06/01	2x8	
2	07/01	13/01	2x8	
3	14/01	20/01	2x8	
4	21/01	27/01	2x8	Annual standard week
5	28/01	03/02	2x8	applied to the Usinex 1 machine
6	04/02	10/02	2x8	machine
7	11/02	17/02	2x8	
8	18/02	24/02	2x8	
9	25/02	03/03	2x8	

To delete an annual standard week from the calendar, selected the concerned weeks and click on the icon circled below:

Annual standard week:	2x8	
Weekly standard week:	A 2x8	

For the sake of readability, this documentation offers a narrow view of the calendar. However, you should adopt an holistic vision, in particular to benefit from the colours associated to standard days/ weeks:

			Usinex 1 (550 mm max)	Usinex 2 (700 mm max)	Equiva 1	Equiva 2	Speedex (special proc.)	Outsourced processing	Finishing machine 1	Finishing machine 2
Vier	From	To	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
1	02/01	08/01	2x8	2x8	2x8	2x8	2x8	3x8	2/7	2x7
2	09/01	15/01	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
3	16/01	22/01	2x8	2x8	2x8	2x8	2x8	3x8	2x7	207
4	23/01	29/01	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
5	30/01	05/02	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
6	06/02	12/02	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
7	13/02	19/02	2x8	2x8	2x8	2x8	2x8	Эх8	2x7	2x7
8	20/02	26/02	2x8	2x8	2x8	2x8	2x8	3x8	2(7	2x7
9	27/02	05/03	2x8	2x8	2x8	2x8	2x8	3668	207	201
10	06/03	12/03	2x8	2x8	2x8	2x8	2x8	348	2x7	2x7
	13/03	19/03	2x8	2x0	2x8	2x8	2x8	Gk0		2(7
	20/03	26/03	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	27/03	02/04	2x8	2x8	2x8	2x8	2x8	3x8	2(7	2x7
14	03/04	09/04	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	10/04	16/04	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2(7
16	17/04	23/04	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	24/04	30/04	2x8	2x8	2x8	2x8	2x8	3x8	2:7	2x7
	01/05	07/05	2x8	2x8	2x8	2x8	2x8	348	2x7	2x7
	08/05	14/05	2x8	2x8	2x8	2x8	2x8	3x8	2x7	207
20	15/05	21/05	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2(7
	22/05	28/05	2x8	2x8	2x8	2x8	2x8	3x8	2(7	2x7
	29/05	04/06	2x8	2x8	2x8	2x8	2x8	3x8	207	207
	05/06	11/06	2x8	2x8	2x8	2x8	2x8	3x8	247	2x7
	12/06	18/06	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	19/06	25/06	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	26/06	02/07	2x8	2x8	2x8	2x8	2:8	3x8	2x7	2x7
	03/07	09/07	2x8	2x8	2x8	2x8	2x8	3x8	247	2(7
	10/07	16/07	2x8	2x8	2x8	2x8	2x8	3x8	2x7	2x7
	17/07	23/07	2x8	2x8	2x8	2x8	2x8	3x8	247	2x7
	24/07	30/07	2x8	2x8	2x8	2x8	2:8	3x8	207	2x7
	31/07	06/08	2x8	2x8	2x8	2x8	2x8	3x8	2x7	æ7
	07/08	13/08	Closure	Closure	Closure	Closure	Closure	Closure	Closure	Closure
33	14/08	20/08	Closure	Closure	Closure	Closure	Closure	Closure	Closure	Closure

5.6.5. Weekly standard week

You can force weeks (which are different from the annual standard week) for certain machines. In a way, this action is like managing exceptions.

To do this, you must first select the concerned weeks and machines before choosing a week:

			Usinex 1 (550 mm max)	Usinex 2 (700 mm max)
We	ek:From	To	2x8	2x8
▶1	02/01	08/01	2x8	2x8
2	09/01	15/01	2x8	2x8
3	16/01	22/01	2x8	2x8
4	23/01	29/01	2x8	2x8
5	30/01	05/02	2x8	2x8
6	06/02	12/02	2x8	2x8
7	13/02	19/02	2x8	2x8
8	20/02	26/02	2x8	2x8
9	27/02	05/03	2:18	2x8

◀ Usinex 1 and Usinex 2 machines are currently subject to the annual standard week previously configured (2x8).

Let's assign them the **Closure** standard week for the 1st week of the calendar year.

2 methods offer the ability to can force a weekly standard week:

Method 1: by clicking at the bottom of the screen on the **Weekly standard week** line, in a similar way as for configuring the annual standard week:

Annual standard week:	2x8	
Weekly standard week:	2:8	

Method 2: by right clicking on the selected week, and choosing Edit standard week:

Usinex 2 (700 mm max) 2x8		Equiva 1 2x8		Equiva 2 2x8	
2x8 2x8 2x8 2x8 2x8 2x8 2x8 2x8	Delete	2x8 2x8 2x8 2x8 2x8 2x8 2x8 2x8		Mi Sta 2xi Cli	orning 5h-13h orning 6h-13h andard 7h-15h15 7 osure Vo imposed standard week>
2x8	2x8				2x8

The weekly standard week **Closure** displays in W1 for machines Usinex 1 and Usinex 2:

Ŧ

			Usinex 1 (550 mm max)	Usinex 2 (700 mm max)
We	ekFrom	То	2x8	2x8
1	02/01	08/01	Closure	Closure
2	09/01	15/01	2x8	2x8
3	16/01	22/01	2x8	2x8
4	23/01	29/01	2x8	2x8
5	30/01	05/02	2x8	2x8
6	06/02	12/02	2x8	2x8
7	13/02	19/02	2x8	2x8
8	20/02	26/02	2x8	2x8
9	27/02	05/03	2x8	2x8

Reminder

As a general rule, remember that the right-click always opens a context menu with the most common actions.

Right-click to view the available choices! Try on a selection of weeks/machines, on a column header (that is the name of a machine), on a week, etc.

To modify a weekly standard week for a single machine, a rapid method is to double-click on the corresponding cell, displaying the standard weeks available in a dropdown list:

2x8	
2x8 + Saturday 5h-13h	
2x8 + Saturday 5h-21h	
3x8	
3x8 + Saturday 5h-13h	
3x8 + Saturday 5h-21h	
Morning 5h-13h	
Morning 6h-13h	
Standard 7h-15h15	
2x7	
Closure	

In the same way as to delete an annual standard week, click on the icon circled below to delete a weekly standard week:

Annual standard week:	2x8	
Weekly standard week:	Closure	

5.6.6. Displaying week details

To display the details of the selected week, right click on the concerned week and click on Show details.

Monday	16/01/2017	05:00 - 21:00 (2x8)				
Tuesday	17/01/2017	05:00 - 21:00 (2x8)	Friday	20/01/2017	05:00 - 21:00 (2x8)	
Wednesday	18/01/2017	05:00 - 21:00 (2x8)	Saturday	21/01/2017	Non-working day	
Thursday	19/01/2017	05:00 - 21:00 (2x8)	Sunday	22/01/2017	Non-working day	

This detailed view provides you with 2 choices:

- 1. Force one or more days within this week (exception at the level of the day).
- 2. Force the working hours for a specific day (exception at the level of the working hours for a day).

Two cases may occur:

- Your selection covers a single week, the 7 days are displayed in details. You can modify the dates of your choice. If you modify one of these days, your modification will only affect that very day, unique in the year. :
- Your selection straddles multiple identical weeks. If you modify any of the 7 days, Monday for example, your modification will apply to all Mondays of your selection.

To force an exceptional day within the week, click on the 📑 icon in the line of the affected day and select the standard day of your choice. The new standard day displays in the detailed view:

Monday	16/01/2017	☑ 05:00 - 21:00 (2x8)	I				
Tuesday	17/01/2017	05:00 - 21:00 (2x8)	E 2	Friday	20/01/2017	06:00 - 13:00	E 🖓 🕵
Wednesday	18/01/2017	05:00 - 21:00 (2x8)	I	Saturday	21/01/2017	Non-working day	1
Thursday	19/01/2017	05:00 - 21:00 (2x8)	I	Sunday	22/01/2017	Non-working day	E 📝

In the example above, an exceptional day is configured on the Friday. Visually, this exceptional day stands out from the others with its yellow background. In the calendar, the week displays in bold to indicate that it contains an exception:

Usinex 1 (550 mm m	ax)
2x8	
Closure	
2x8	
2x8	
2x8	

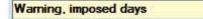
To force exceptional working hours within the week, click on the 📝 icon in the line of the affected day and select the hours of your choice. The new standard hours display in the detailed view:

Monday	13/02/2017	05:00 - 21:00 (2x8)					
Tuesday	14/02/2017	05:00 - 21:00 (2x8)		Friday	17/02/2017	05:00 - 21:00 (2x8)	1
Wednesday	15/02/2017	05:00 - 21:00 (2x8)	II 😥	Saturday	18/02/2017	Non-working day	
Thursday	16/02/2017	Modification of 05:00 - 21:00 (2x	(8) 📑 🕜 🚘	Sunday	19/02/2017	Non-working day	

In the example above, an exceptional day is configured on the Thursday. Visually, this exceptional day stands out from the others thanks to its pink background. Similar as when we impose a standard day, the week displays in bold to indicate that it contains an exception.

The 🚺 icon only shows the hours for the selected day.

Whether the change affects days or hours, a warning informs you that the week was modified:



At the bottom right of the window, a caption reminds the status of standard days according to their typography:

inition in the second
Imposed
Exceptional time slo

Another caption is also available at the top right of the window, when clicking on the 🔞 icon:

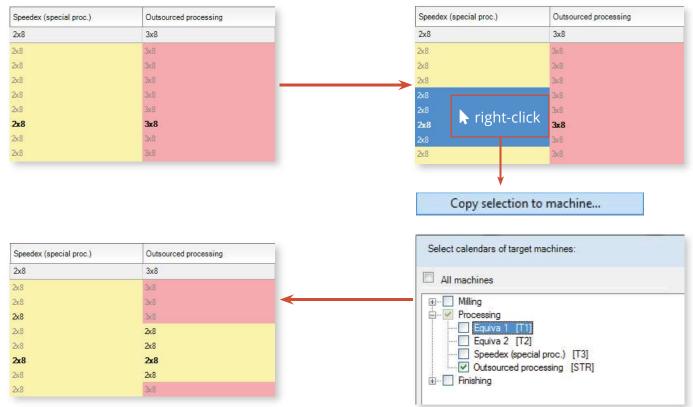
Ŵ	Legend of colors of grid 🛛 👔
Standard week	inherited from annual standard week
Forced, weekl	y standard week
Standard we	ek containing a forced or exceptional standard day

 You can move this window where you want in the general view of calendars.

5.6.7. Copying/pasting/deleting in the calendar

These operations mimic Windows standard functions, briefly reminded below: Before any copy, you must select a cell or a range of cells to copy. After selecting cells, the following operations are available:

- Copy/paste selection: use Windows standard Ctrl+C/Ctrl+V shortcuts to copy/paste jobs quickly in your calendar. Otherwise, these actions are also available from the context menu on a cell.
- Copy selection to machine: if your selection covers only one machine, you can copy it to one or more other machines. Select the weeks and choose **Copy selection to machine** in the context menu:



This will make an exact copy of weeks

Paste selection with options: this special paste function is available to choose the elements to paste:

Paste with options	×
Select items to paste.	
 Weekly standard week Imposed daily time slot (standard day or exceptional hour) 	
	OK Cancel

• Copy/paste the whole calendar of a machine: click on a column header to select the whole calendar of a machine. In the context menu, select **Copy calendar** or **Copy calendar to machine**. Then click

on the column header corresponding to the destination machine and click on **Paste calendar** or select directly the destination machine after clicking on **Copy calendar to machine**.

Deleting calendar elements

Different options are available to delete calendar elements. The simplest way is to select the desired weeks/machines and press the **Del** key. This action only lets you delete the weekly standard weeks or the exceptional days/hours applied to the selection:

Delete	
Select items to delete:	
 Weekly standard week Imposed daily time slot (standard day or exceptional hour) 	
	OK Cancel

Checking these two options resets the week to the annual standard week.

Completely deleting a calendar

To delete the annual standard week of a machine and clear its calendar, right-click on the column header and choose **Delete annual standard week** > < **No imposed standard week** >. You will be asked to confirm.



This operation cannot be cancelled!

5.6.8. Displaying the list of calendars

Click on List of calendars under the Calendars tab of the ribbon to view the list of calendars:

1.						
List of calendars						
hist of cale	endars			-		X
		Year: 4 2017	•			
🔚 Calendar (of condensed time scale			🗎 M	lachine c	alendar
						×
Machine code	Machine designation	Section designation	Yearly standard week			
U1	Usinex 1 (550 mm max)	Milling	2x8			
U2	Usinex 2 (700 mm max)	Milling	2x8			
T 1	Equiva 1	Processing	2x8			
T2	Equiva 2	Processing	2x8			
Т3	Speedex (special proc.)	Processing	2x8			
STR	Outsourced processing	Processing	3x8			
F1	Finishing machine 1	Finishing	2x7			
F2	Finishing machine 2	Finishing	2x7			

The list of calendars displays all the calendars configured for each machine of your schedule. To view the calendar of a machine, select a machine and click on **Machine calendar**, thereby opening its **Detailed view** (see next section).

The list of calendars also enables you to view the **Calendar of condensed time scale**. This calendar defines the periods which will be hidden when selecting the **Compact time scale** option, under the **Display** tab.

This screen allows the definition of non working hours shared by all your machines, which need not be displayed. Therefore, the calendar of condensed time scale affects your company as a whole. The condensed time scale is configured the same way as standard calendars.

Note

Breaks affecting day shifts are hidden by the condensed time scale.

This preserves the existing behaviour when switching from Direct Planning 1 to a newer version of Direct Planning. Indeed, in this case, old working hours are all converted to day shifts, regardless of the actual hours.

On the other hand, breaks affecting Morning, Afternoon and Night shifts are not hidden.

This avoids having to create standard days and standard weeks dedicated to the condensed time scale.

5.6.9. Detailed view

The detailed view offers an overall picture of a calendar (for a machine).

Each line of the table represents a week, whereas each column represents one of the 7 days of the week.

The background colour is directly linked with the colour of the standard week:

					A)					
Cale	ndar		U1	Usinex 1 (550 Briax)	Yea	ar.	2017 →	<u> </u>	I	Copy to	
Peri	od selection	*						🕱 Export Excel 🔹 🗎	🗿 🚢 📩 Stand	lard days 🛗 Standard w	veeks ?
We	ek:To	From	Standard week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	^
▶ 52	26/12	01/01 2017									
1	02/01	08/01		05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	Closure	Closure	
2	09/01	15/01		05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	Closure	Closure	
3	16/01	22/01		05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	Closure	Closure	
4	23/01	29/01		05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	Closure	Closure	
5	30/01	05/02		05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2×8)	05:00 - 21:00 (2x8)	Closure	Closure	
6	06/02	12/02		05:00 - 21:00 (2x8)	05:00 - 21:00 (2×8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	05:00 - 21:00 (2x8)	Closure	Closure	

The upper part displays:

- The year of the calendar (A);
- The affected machine (B);
- The configured annual standard week (that you can modify, delete or copy to another machine) (C);
- The standard shortcut icons (D); and
- The calendar itself (E).

Z 2×8Z 05:00 - 21:00 (2×8)		for the week 1 from 02/01/2017 to 08/01/2017 for Monday 02/01/2017	Hide details 🗢
05:00 b to 13:00	Afternoon shift	from 13:00 (1) to 21:00 (1)	Caption of standard days:
	Break 1		Imposed
	2 05:00 - 21:00 (2x8)	Image: Construction of the state o	Image: D5:00 - 21:00 (2x8) Image: D5:00 million of the model of the m

The lower part of the screen displays functions similar to those of the general view, with the ability to configure weekly standard weeks and exceptional standard days.

Graphic indications, summarised at the bottom right in the caption, are the same as in the general view.

5.6.10. Management of public holidays

Use this function to select public holidays for all or part of your machines. It is available under the **Calendars** > **Management of public holidays** tab:

Yes Select public holidays Country: Country: Country: Sel. Date 01/01/2018 02/01/2018	United Kingdom	Select Group Official	ct an action Add selected public holidays
Select public holidays Country: Customize this list Sel. Date O1/01/2018	United Kingdom	Select Caroup	Add selected public holidays
Country: Customize this list Sel. Date O1/01/2018	▲ Wording New year's day	Group	Add selected public holidays
Customize this list Sel. Date 01/01/2018	▲ Wording New year's day	Group	
Sel. Date 01/01/2018	▲ Wording New year's day		
01/01/2018	New year's day		
		Official	
02/01/2018			Delete selected public holidays
	New year's day	Partial	
17/03/2018	Saint Patrick's Day	Partial	
30/03/2018	Good Friday	Unofficial	Delete all public holidays
01/04/2018	Easter	Unofficial	
02/04/2018	Easter Monday	Official	
07/05/2018	May Day Bank Holiday	Official	
20/12/2010	Boxing day	Unicial	
	∠ 28/05/2018 12/07/2018 20/05/2018 27/08/2018 27/08/2018 25/12/2018 26/12/2018	☑ 28/05/2018 Spring Bank Holiday □ 12/07/2018 Orangemen's Day □ 06/08/2018 Summer Bank Holiday □ 27/08/2018 Summer Bank Holiday ☑ 25/12/2018 Onristmas day	28/05/2018 Spring Bank Holiday Official 12/07/2018 Orangemen's Day Partial 06/08/2018 Summer Bank Holiday Partial 27/08/2018 Summer Bank Holiday Partial 27/08/2018 Summer Bank Holiday Partial 25/12/2018 Christmas day Official

Follow these steps to add public holidays to your calendar:

- 1. Check that the year displayed is the current year. If needed, use left and right arrows to display the desired year or type it.
- 2. Select the relevant calendars. As a reminder, one machine = one calendar.
- Then select the public holidays in the list.
 Above the list of public holidays, check that your country is displayed.
 If needed, open the dropdown list to change it.
 The background colour of days reflects their nature:
 - Yellow background: official public holidays, checked by default
 - Grey background: public holidays affecting only a portion of the territory, unchecked by default
 - White background: informal public holidays, unchecked by default
- 4. On the right, select **Add selected public holidays** to add them to the calendars of the related machines.

Note

The list of public holidays is not static: click on **Customize this list** to import, export, create, modify and delete public holidays.



5.6.11. Tools

The toolbox is available under the **Calendar** > **Tools** tab:



This menu offers the **Batch processing** to make mass actions on all or part of your calendars (modification or deletion of annual standard weeks, weekly standard weeks or standard days):

📅 Batch calendar processing		×
	Year. 2017	
1. Select calendars	2. Select an action	3. Select an argument
	Modify an annual standard week	You have chosen to apply a yearly standard week to the selection of calendars.
é-⊻ Finishing	Modify a weekly standard week Modify a standard day	Select the yearly standard week to apply.
	O Delete calendar for this year.	
	O Delete a weekly standard week.	
	O Delete a standard day	Apply this change
<u> </u>		Close

Follow the displayed sequence for batch processing:

- 0. Check that the year displayed is the current year.
- 1. Select the relevant calendars
- 2. Select an action to perform on the selected calendars
- 3. Enter the information required by the selected action:

Modify yearly standard week.

Modify weekly standard week.

3. Select an argument	3. Select an argument
You have chosen to apply a yearly standard week to the selection of calendars.	You have chosen to apply a weekly standard week to the selection of calendars.
Select the yearly standard week to apply.	Select the weekly standard week to apply.
2x8 + Saturday 5h-13h	2x8 + Saturday 5h-13h
	Select the period which applies :
	From Iun. 06/02/2017 🗂 Week 06
	To dim. 12/02/2017 😁 Week 06
Apply this change	Apply this change

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Modify standard day.

Select st	andard day to a	apply.
05:0)0 - 05:00 (3x8)	
Select the	e period which	applies :
	From	jeu. 09/02/2017 🗂 Week 06
	To	jeu. 09/02/2017 🗂 Week 06

3. Select an argument	
You have chosen to rer selection of calendars.	move the yearly standard weeks from the

Delete a weekly standard week.

Delete a standard day.

 Select an argument You have chosen to remov of calendars. 	e the week standard weeks from the selection	 Select an argument You have chosen to remov from the selection of calen Public holidays are not affer 	
Select the period which	applies :	Select the period which	applies :
From	lun. 06/02/2017 🗂 Week 06	From	jeu. 09/02/2017 🤭 Week 06
To	dim, 12/02/2017 🗂 Week 06	То	jeu. 09/02/2017 🤭 Week 06
	Apply deletion		Apply deletion

5.7. Planning assistance

Planning assistance encompasses a set of powerful tools to optimise the schedule while also respecting time constraints.

When planning assistance is active, Direct Planning applies the following rules to all jobs located within its scope.

- Respect of route constraints: Within a route, Direct Planning automatically moves all jobs positioned downstream of the moved job in order to respect the precedence constraints. The respect of these constraints can also take into account the duration of gaps and overlaps.
- Jobs which started prematurely are automatically moved to start in time.

To enable planning assistance, click on **Planning assistance** in the ribbon and on the **Planning assistance** button:



Direct Planning offers 3 adjustment options:



5.7.1. Planning assistance without adjustment

If you select this option, moving the job leave a gap behind it, which is not filled automatically. Similarly, the moved job is not automatically placed against the previous or following job:

Before

Aftor



170112 FORK AUS	170104 PARNA
3 d early -> 23/02/1	3 d early -> 23/
155 (Milling tool)	123 (Milling tool
ALU-022 504 x 817	ALU-022 550 x
	3 d early -> 23/02/1 155 (Milling tool)

If the job belongs to a route, the movement also affects the other routed jobs on the same principles.

5.7.2. Planning assistance with adjustment

Adjustment to the left

Adjustment at the earliest (to the left) is used to perform each job as soon as possible.

When active, unjustified gaps between 2 jobs of the same machine are shrunk in order to compact the schedule.

The following illustrates this:

Before

11 d early -> 6 d early -> 23/02/17 6 d early -> 2 3 d early -> 23/02/1 155 (Milling t 123 (Milling tool) 123 (Milling t 155 (Milling tool) 155 (Milling tool) ALU-037 491 ALU-022 559 x 698 ALU-022 550 ALU-022 504 x 817 A	170134 TEM	170105 INOV CAR A	170104 PAR	170112 FORK AUS		
	11 d early ->	6 d early -> 23/02/17	6 d early -> 2	3 d early -> 23/02/1		
ALU-037 491 ALU-022 559 x 698 ALU-022 550 ALU-022 504 x 817	155 (Milling t	123 (Milling tool)	123 (Milling t	155 (Milling tool)		
	ALU-037 491	ALU-022 559 x 698	ALU-022 550	ALU-022 504 x 817		

After

	170105 INOV CAR A			
11 d early ->	6 d early -> 23/02/17	3 d early -> 23/02/1	3 d early -> 23/	
155 (Milling t	123 (Milling tool)	155 (Milling tool)	123 (Milling tool	
ALU-037 491	ALU-022 559 x 698	ALU-022 504 x 817	ALU-022 550 x	

Adjustment to the right

Adjustment to the right follows the same principle: jobs are moved as late as possible while also respecting time constraints.

ADMINISTRATION

The administrator can define the behaviour of adjustment to the left/right in **General configuration** > **Planning assistance** in order to avoid jobs being thrown too far down the schedule.

Screen captures shown on the next page are derived from this screen.

Configuration items that are useful for pl	annunger
Start time of the <mark>d</mark> ay:	05:00
Set the limit dates for se	chedulina

◄ If you choose 05:00 as beginning of the day and limit the left adjustment to the day, then jobs will be pushed leftwards to 05:00.

Ċ

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Adjusting at the earli	est
"In case of ""Adjus	ting at the soonest"", a job can be automatically moved to the left until this date."
The start date of	f planning assistance specified by the user.
The current day	v start of each job. Therefore, a job doesn't move to another day with this adjusting setting.
The current we	ek start of each job. Therefore, a job doesn't move to another week with this adjusting setting.
Adjusting at the late:	at
"In case of "Adjust	ting at the latest"", a job can be automatically moved to the right until this date:"
O The end date o	f planning assistance specified by the user.
The current da	y end of each job. Therefore, a job doesn't move to another day with this adjusting setting.
The current we	ek end of each job. Therefore, a job doesn't move to another week with this adjusting setting.

In the period covered by planning assistance, you can limit the adjustment of jobs at the earliest and latest. In both cases, you can limit the adjustment to the dates configured by the administrator (see next section), to the day or to the week.

These last two cases ensure you that a job will not leave the day or the week in which you affected it.

Boundaries

To function, the planning assistance module needs boundaries defining the time scope of its operations. Therefore, the planning manager has to define these boundaries.

The planning assistance module will only process jobs included in this frame: jobs placed in the distant future will not be affected by planning assistance.

Moreover, we just saw that within this time frame, the administrator can limit the earliest/latest adjustment of jobs to the day or week. Without losing the optimisation offered by the adjustment of jobs, this will ensure you that a job will not leave the day or week to which you assigned it.

To define the boundaries of planning assistance, click on **Planning assistance** > **Set limit dates** in the ribbon:



🔄 Set boundary dates for planning assistance		×
Horizon for planning assistance: Starts 0 weeks before the current date and spreads over 06/02/2017: blue vertical, dotted line	14 Weeks 15/05/2017: pink vertical, dotted line	

5.7.3. Movement with grouping

When moving jobs, users can ask for the jobs of the route to be grouped. This function is available under the **Planning assistance** tab of the ribbon:

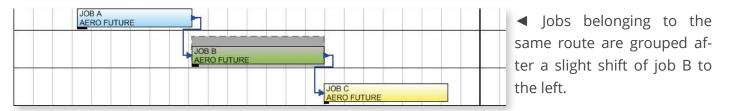
🔩 Upstream jobs only (F6)	
All the jobs of the route (F7)	
Source Stream Jobs only (F8)	

 Clicking on these options does not perform the actual movement but defines which jobs will remain grouped after the movement.

To move a job with route grouping, move the route while holding the Alt key. In the following example, the movement with grouping is activated for All jobs of the route:

	JOB C AERO FUTURE
10 mm	JOB B AERO FUTURE

When moving job B (to the right or left) while holding Alt, the upstream (A) and downstream (C) jobs are moved as closed as possible to job B:



The grouping can also be performed without movement, by right clicking on the job and selecting **Gather the jobs of the route**.

You can also do it for all routes of a machine via the context menu of that machine. This grouping is particularly relevant for schedules which do not benefit from planning assistance. Uncontrolled inputs can lead to route inconsistencies which need rectification (for example when activating planning assistance).

At the machine level, the grouping of jobs is performed to **Fix route inconsistencies**, allowing also to enter the scope of grouping by typing start and end dates:

🖳 Fix route inconsistencies			×
This process is aimed at inconsistent schedu The process will explore the jobs of the selec inconsistencies of the upstream or downstrea	ted Machine, and try t		
Section	S1	Milling	
Machine	U1	Usinex 1 (550 mm max)	
Limits of processing:			
Start date:			
End date:			
Options of gathering:			
O Grouping of upstream jobs only.			
Grouping of all jobs of the route.			
O Grouping of downstream jobs only.			
Launch processing		Close	

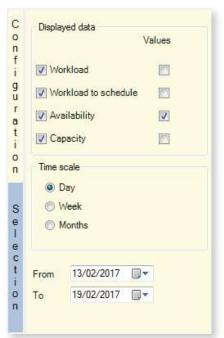
5.7.4. Workload histogram

The workload histogram is used to analyse the workload and the capacity by machine and section. You have different possibilities to access it:



Right clicking on the histogram allows to copy/save/print the image.

The left of screen contains two tabs to configure the histogram: **Building** and **Selection**:



Workload: displays the machine workload (in blue on the graph)

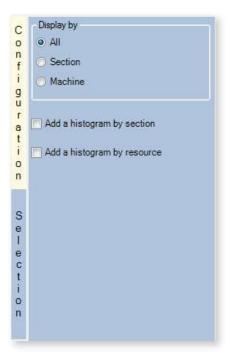
Workload to schedule: displays the workload to plan (in orange on the graph). The workload to schedule can only be displayed if the workload is also requested. The scheduled overload is also displayed (in red on the graph).

Availability: displays the machine idle time (in green on the graph).

Capacity: displays the total capacity of the machine (the green background on the graph).

Opposite to this information, check the **Values** box to display data with its respective values.

Choose the **Time scale** of the histogram by checking the corresponding button, as well as the period it covers.



Check one of the three buttons according to your choice:

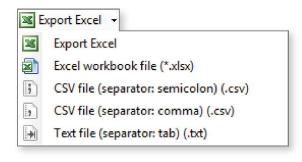
All for an histogram encompassing all machines

Section/Machine to select the sections/machines included in the histogram.

Below, use the Add a histogram by section and Add a histogram by resource boxes to add histograms for each section/machine, in addition to the overall histogram (which will display at the bottom of the list)

When you change the configuration of the histogram, do not forget to click on the **Refresh** button at the top left to update the graph.

In addition to the traditional buttons for previewing and printing the histogram, this area can also be used to perform an **Excel export** of the histogram in various formats:



Note

Whatever the format, the histogram is exported as data and not as a graph.

5.8. Planning with lists

This function is available from the ribbon, under the **Home** > **Schedule via a list** tab:



It is also available from various context menus (e.g. on the name of the machine to the left of the schedule) or by selecting a job and pressing Ctrl+P.

Planning with lists offers the ability to schedule jobs via vertical drag and drops in a special list, complementing the Gantt chart already used:

Section :	\$1		Milling	_		🛃 Machines :	U1	U2						
Since :	30/01/	2017 🛅	,										1	×
Nee D	Date	Start	End	Lock	Job duration	Progress	ERP ID	Customer code	Product code	Designation	Planned qu	Operation	Manual alert	^
6 jeu			07:36		1:49	Started	170032-10	AE0037	PE0115	AERO-Y/395	823	Standard milling		
6 jeu.	09/02/17	07:36	12:27		4:51	Not started	170035-10	BA0452	PG0013	GENINDUS-Q/342	3271	Standard milling		
6 jeu.	09/02/17	12:27	14:39		2:12	Not started	170036-10	BR0149	PG0017	GENINDUS-E/095	1027	Standard milling		
6 jeu	09/02/17	14:39	16:58		2:19	Not started	170026-10	AE0037	PE0057	AERO-M/027	1435	Standard milling		
6 jeu.	09/02/17	19:01	05:13 (+1)		2:12	Not started	170041-10	BA0452	PG0104	GENINDUS-F/096	1027	Standard milling		
6 ven.	10/02/17	05:13	07:07		1:54	Not started	170048-10	BR0149	PG0165	GENINDUS-G/028	1129	Standard milling		
6 ven.	10/02/17	07:07	08:47		1:40	Not started	170055-10	IN1458	PA0068	AUTOM-R/158	925	Standard milling		
6 ven.	10/02/17	08:47	13:01		4:14	Not started	170046-10	QU2384	PG0160	GENINDUS-B/362	3577	Standard milling		
6 ven.	10/02/17	13:01	16:19		3:18	Not started	170030-10	SO3202	PE0109	AERO-Z/035	2149	Standard milling		
6 ven.	10/02/17	16:19	17:18		0:59	Not started	170080-10	SO3202	PE0109	AERO-Z/035	517	Standard milling		
6 ven.	10/02/17	17:18	20:17		2:59	Not started	170074-10	SO3202	PE0032	AERO-C/277	1741	Standard milling		
6 ven.	10/02/17	20:17	05:21 (+3)		1:04	Not started	170024-10	SO3202	PE0032	AER0-C/277	517	Standard milling		
7 lun.	13/02/17	05:21	09:05		3:44	Not started	170039-10	ME0039	PG0082	GENINDUS-Z/516	2557	Standard milling		
7 lun.	13/02/17	09:05	16:35		7:30	Not started	170061-10	CR0549	PA0136	AUTOM-Z/037	6128	Standard milling		
7 lun.	13/02/17	16:35	17:53		1:18	Not started	170089-10	ME0039	PG0082	GENINDUS-Z/516	823	Standard milling		
7 lun.	13/02/17	17:53	18:18		0:25	Not started	170111-10	CR0549	PA0136	AUTOM-Z/037	109	Standard milling		
7 lun.	13/02/17	18:18	19:52		1:34	Not started	170139-10	ME0039	PG0082	GENINDUS-Z/516	1129	Standard milling		
7 Iun.	13/02/17	19:52	05:59 (+1)		2:07	Not started	170049-10	DK0578	PG0174	GENINDUS-V/067	1129	Standard milling		
7 mar.	14/02/17	05:59	10:50		4:51	Not started	170067-10	F05478	PA0178	AUTOM-U/094	3271	Standard milling		~
🔀 Jobs to	schedule					U1	U2							
Nee D	Date	Start	End	Lock	Job duration	Progress	ERP ID	Customer code	Product code	Designation	Planned qu	Operation	Manual alert	
6 jeu.	09/02/17	16:58	19:01		2:03	To schedule	170029-10	AE0037	PE0103	AERO-Y/323	823	Standard milling		-

On the left, this window features a few standard columns which cannot be modified. On the right, columns can customised for this shop floor section (by right-clicking the column header). This way, technical data helpful to job scheduling can be displayed as columns.

For any section, the background colour of columns End and Lckd (Locked).

To do this, click on the icon 🚄 .					
Definition of the special colourisation					
You can colour the columns "End" and "Locked" ac	cording to specific data				
Colour list by:	Customer				
Colour the following column instead:	Job duration	~			
		OK Cancel			

Then, select the data you want (default: client) and click OK.

Sectio Since							Machines :	U1	U2	1	
/ee		Date	Start	End	Lock	Job duration	Progress	ERP ID	Customer code	Product code	
6	jeu	09/02/17	05:47	07:36		1:49	Started	170032-10	AE0037	PE0115	
6	jeu.	09/02/17	07:36	12:27		4:51	Not started	170035-10	BA0452	PG0013	
6	jeu.	09/02/17	12:27	14:39	T	2:12	Not started	170036-10	BR0149	PG0017	

You may also colour another column of your choice.

Click on the icon again 🚄 .

Definition of the special colourisation			
You can colour the columns "End" and 'Locked' ac	cording to specific data		
Colour list by:	Customer		~
Colour the following column instead:	Job duration	~	
		ОК	Cancel

Check the box "Color the next column instead", choose the column you want to color, and click OK.

Sectio	n:	S1		Milling			Machines :	U1
Since Wee		30/01/	2017 Start	End	Lock	Job duration	Progress	ERP ID
	jeu	09/02/17	1	07.36	EUCIN	1	Started	170032-10
	jeu.	09/02/17	07:36	12:27			Not started	170032-10
	jeu.	09/02/17	20176	14:39		2:12	Not started	170036-10
	jeu.	09/02/17		16:58		2:19	Not started	170026-10

In these lists, you can select one or more jobs and place them where you want via drag and drop. A coloured line indicates whether the job being moved is placed before (green) or after (red) the destination job:

6	Thu	09/02/17	14:39	16:58	OU-125	2:19	170026-10	AE0037	PE0057	AERO-M/027	1435	Standard milling
6				20:16	OU-142	3:18	170030-10	SO3202	PE0109	AERO-Z/035	2149	Standard milling
6	l hu	09/02/17	20:16	06:19 (+1)	00-123	2:03	170029-10	AE0037	PE0103	AERU-Y/323	823	Standard milling
6	Fri	10/02/17	06:19	08:01	OU-123	1:42	170041-10	BA0452	PG0104	GENINDUS-F/096	1027	Standard milling
6	Fri	10/02/17	08:01	09:55	OU-123	1:54	170048-10	BR0149	PG0165	GENINDUS-G/028	1129	Standard milling
6	Fri	10/02/17	09:55	11:35	OU-123	1:40	170055-10	IN1458	PA0068	AUTOM-R/158	925	Standard milling
6	Fri	10/02/17	11:35	15:49	OU-123	4:14	170046-10	QU2384	PG0160	GENINDUS-B/362	3577	Standard milling
G	Eri	10/02/17	15:49	17:18	OU-142	1:29	170000-10	303202	PE0109	AER0-Z/035	517	Standard milling
6	Fri	10/02/17	17:18	<mark>20</mark> :17	OU-142	2:59	170074-10	SO3202	PE0032	AER0-C/277	1741	Standard milling
6	Fri	10/02/17	20:17	05:21 (+3)	OU-142	1:04	170024-10	SO3202	PE0032	AERO-C/277	517	Standard milling

The lower part of this screen displays the jobs to schedule for this machine:

	Jobs to	schedule					[]	U2						
Wee	D	Date	Start	End	Lock	Milling tool	Job duration	ERP ID	Customer code	Product code	Designation	Planned qu	Operation	Manual alert
6	Thu	09/02/17	16:58	20:31		OU-142	3:33	170030-10	SO3202	PE0109	AERO-Z/035	2149	Standard milling	

In that zone, the **U1** and **U2** buttons represent the machine codes. They are used to toggle between machines, both in the list of scheduled jobs or jobs to schedule.

Clicking in the table also selects the job in the Gantt and conversely (please note that in the example below, jobs are greyed out for readability purposes and not because of a processing by Direct Planning):

	6	Thu	09/02/17	07:36	12:27	OU-092
UST 170036 BR 170026 AE 170029	6	Thu	09/02/17	12:27	14:39	0U-125
5 d early -> 5 d early -> 5 d early -> 125 (Milling 125 (Milling Delayed	6	Thu	09/02/17	14:39	16:58	OU-125
n ALU-022 3 ALU-037 35 ACI-015	6	Thu	09/02/17	16:58	19:01	0U-123
170030	6	Thu	09/02/17	19:01	20:43	OU-123

Double-clicking in the list centres the Gantt by focusing on that job.

In the list, a column of green pictograms shows whether jobs are grouped in the schedule or separated by gaps.

Jobs grouped
Jobs not grouped

This list is not designed to be opened all the time because managing both the list and the Gantt inevitably extends response times.

Direct Planning 4.0

5.9. Optimising planning times

As discussed, planning assistance can group jobs belonging to a route. This section covers a slightly different topic: grouping jobs sharing technical characteristics in order to optimise setting times. First, the planning manager wants to be able to identify quickly these jobs and, second, to group them in order to optimise times.

Let's take the example of jobs requiring specific tools whose changes result in time losses.

To optimise this schedule, let's first create a formula reflecting the fact that the setting time is reduced when the same tool is used for the previous job (Configuration > Setting time):
Programmable formula : 1 Milling set-up Enabled formula
<pre></pre>
Then, the last line of tickets is configured to have its colour reflect the tool number (Configuration >
Display modes):
Color of line 4 by : Image: Color of line 4 by : Image: Color
This results in the following display (before optimisation):
170036 BR 170041 BA 170080 170048 BRO 170026 AERO 170074 SOLITEC 170035 BARNAY INDUSTRI 5 d early -> 7 d early -> 12 d earl 7 d early -> 1 5 d early -> 14/ 11 d early -> 21/02 4 d early -> 14/02/17 125 (Milling 142 (Milling 142 (Milling tool) 125 (Milling tool) 092 (Milling tool) 092 (Milling tool) ALU-022 3 ALU-030 5 ALU-030 509 ALU-037 353 x ACI-015 401 x 813 ACI-012 361 x 717 mm
The planning manager now has to group jobs sharing the same colour in order to shorten setting times, materialised below by the black bottom bar:
170036 BR 170026 AE 170041 BA 170048 B 170080 170074 SOLITE 170035 BARNAY INDUSTRI 5 d early -> 5 d early -> 7 d early -> 7 d early -> 7 d early -> 12 d earl 11 d early -> 21/ 4 d early -> 14/02/17 125 (Milling 123 (Milling 123 (Milling 123 (Milling 142 (Milling 142 (Milling 100) ALU-022 3 ALU-037 35 ALU-030 5 ALU-030 ALU-037 ACI-015 401 x 8 ACI-012 361 x 717 mm

OUR ADVICE	Ċ
To tailor the configuration to your business needs, please contact the Volume Software team.	

Direct Planning 4.0 5.10. Searching Jobs

5.10.1. Search

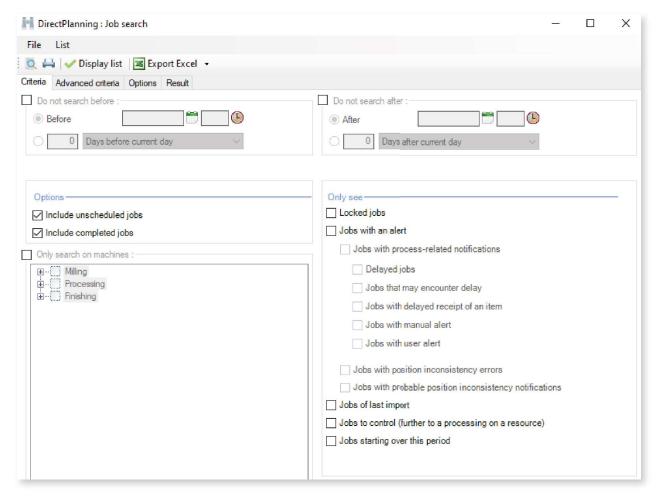
Multiple methods can be used to find jobs quickly. The typical way is to access the **Home** tab of the ribbon and click on **Search and lists**:



This button is split in 2:

Upper part: opens the search screen

Lower part: opens the list selection/creation screen (if you have the required permissions)



The first tab allows the entry of basic search criteria (for example by setting time boundaries in the upper part).

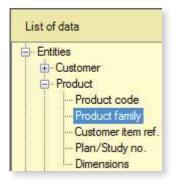
It also offers the ability to select different job filters based on their status (**Option** zone), their type (**Only see** zone) or the machine which they depend on (**Only search on machines** zone).

If you do not set any criteria before clicking on **Display list**, Direct Planning will display all scheduled jobs.

If basic criteria are not sufficient, you can refine your search by clicking on the Advanced criteria tab.

Direct Planning 4.0	Scheduling with Direct Planning : Searching jobs
M DirectPlanning : Job search	–
File List	
📃 🞑 💾 🛹 Display list 🛛 🖼 Export Excel 🕞	
Criteria Advanced criteria Options Result	2
	×

① Choose a first filter



² Choose a second filter refining the first

	Equal to :	r Product family O Different from :
	Code	▲ Designation
	AER	Aeronautic industry
1	AUT	Automotive industry
	GEN	General industry

To customise the result window, click on the **Options** tab.

Sort order Sort by	The left side of this window offers the ability to define the sorting order of the results, with the possibility to apply an ascending or descending order for each of the
Oes.of section	3 hierarchical levels.
then by	The right side of the window offers the ability to define the printing options for the list of results: page break
Oes.of machine Oescending Oescending	and total/subtotal printing ▼
then by	Page skip for
Job start © Descending	Print sub-total
	Print grand total

To display the list of jobs matching your criteria, click on **Display list**. The list of matching jobs displays under the **Result** tab:

Des.of secti	Machine	Job start	WO no.	Customer designation	Product code	Designation	Qty to produce	Job durati	Designation Type	Planning de	Customer d	Ī
inishing	F1	08/02/2017 06:00	170001	CREATIVE TECH	PA0001	AUTOM-Z/528	6,000	7:00	New product	13/02/2017	14/02/2017	ñ
inishing	F1	08/02/2017 13:00	170002	FORK AUSTRIA	PA0002	AUTOM-N/590	800	0:58	Trial order	13/02/2017	14/02/2017	1
Finishing	F1	08/02/2017 13:58	170008	KATIA AUTOMATIVE	PA0105	AUTOM-C/485	1,000	1:10	Renewal	13/02/2017	14/02/2017	
Finishing	F1	08/02/2017 15:08	170004	PARNAY AUTOCAR	PA0046	AUTOM-E/278	2,800	3:00	Renewal	13/02/2017	14/02/2017	
Finishing	F1	08/02/2017 18:08	170011	CREATIVE TECH	PA0136	AUTOM-Z/037	1,000	1:11	Specifications m	13/02/2017	14/02/2017	
Finishing	F1	08/02/2017 19:19	170017	FORK AUSTRIA	PA0178	AUTOM-U/094	2,400	2:25	Renewal	14/02/2017	15/02/2017	
Finishing	F1	09/02/2017 12:09	170010	INOV CAR	PA0122	AUTOM-G/019	300	0:27	Renewal	13/02/2017	14/02/2017	
Finishing	F1	13/02/2017 12:10	170053	KATIA AUTOMATIVE	PA0036	AUTOM-Q/036	2,300	2:20	Renewal	17/02/2017	18/02/2017	
Finishing	F1	14/02/2017 08:33	170051	CREATIVE TECH	PA0001	AUTOM-Z/528	100	0:16	Renewal	17/02/2017	18/02/2017	
Finishing	F1	14/02/2017 14:37	170054	PARNAY AUTOCAR	PA0046	AUTOM-E/278	500	0:42	Renewal	17/02/2017	18/02/2017	
Finishing	F1	14/02/2017 15:19	170052	FORK AUSTRIA	PA0002	AUTOM-N/590	2,700	2:40	Renewal	17/02/2017	18/02/2017	
Finishing	F1	16/02/2017 06:00	170058	KATIA AUTOMATIVE	PA0105	AUTOM-C/485	6,000	5:44	Renewal	17/02/2017	18/02/2017	
Finishing	F1	16/02/2017 12:26	170061	CREATIVE TECH	PA0136	AUTOM-Z/037	6.000	5:14	Specifications m	20/02/2017	21/02/2017	
Finishing	F1	16/02/2017 17:40	170060	INOV CAR	PA0122	AUTOM-G/019	2,100	2:07	Renewal	17/02/2017	18/02/2017	
Finishing	F1	17/02/2017 12:54	170067	FORKAUSTRIA	PA0178	AUTOM-U/094	3.200	3:10	Renewal	20/02/2017	21/02/2017	
Finishing	F1	17/02/2017 16:04	170111	CREATIVE TECH	PA0136	AUTOM-Z/037	100	0:16	Renewal	24/02/2017	25/02/2017	
Finishing	F1	20/02/2017 18:30	170116	CREATIVE TECH	PA0172	AUTOM-S/219	1,400		Renewal	24/02/2017		
Finishing	F1	21/02/2017 11:40	170105	INOV CAR	PA0068	AUTOM-R/158	2,700	2:27	Renewal	23/02/2017	24/02/2017	
Finishing	F1	21/02/2017 16:15	170115	INOV CAR	PA0168	AUTOM-C/524	900	1:07	Renewal	24/02/2017	25/02/2017	
Finishing	F1	21/02/2017 17:22	170103	KATIA AUTOMATIVE	PA0036	AUTOM-Q/036	300	1:17	Renewal	23/02/2017	24/02/2017	
Finishing	F2	08/02/2017 06:00	170014	PARNAY AUTOCAR	PA0161	AUTOM-R/025	1,700	2:44	Renewal	14/02/2017	15/02/2017	
Finishing	F2	08/02/2017 10:00	170006	CREATIVE TECH	PA0099	AUTOM-D/144	1,000	1:10	New product	13/02/2017	14/02/2017	
Finishing	F2	08/02/2017 11:15	170013	KATIA AUTOMATIVE	PA0151	AUTOM-T/093	300	0:29	Renewal	14/02/2017	15/02/2017	
Finishing	F2	08/02/2017 11:44	170012	FORK AUSTRIA	PA0147	AUTOM-C/405	700	0:52	Renewal	13/02/2017	14/02/2017	
Finishing	F2	08/02/2017 12:36	170007	FORK AUSTRIA	PA0100	AUTOM-X/223	3,200	3:24	Renewal	13/02/2017	14/02/2017	
Finishing	F2	08/02/2017 17:27	170009	PARNAY AUTOCAR	PA0116	AUTOM-J/498	2,500	2:42	Renewal	13/02/2017	14/02/2017	
Finishing	F2	09/02/2017 08:49	170016	CREATIVE TECH	PA0172	AUTOM-S/219	3,500	3:55	Renewal	14/02/2017	15/02/2017	
Finishing	F2	09/02/2017 18:59	1/0005	INOV CAR	PA0058	AUTOM-R/158	3,200	2:50	I rial order	13/02/2017	14/02/2017	
Finishing	F2	10/02/2017 09:33	170003	KATIA AUTOMATIVE	PA0036	AUTOM-Q/036	2,100	2:22	New product	13/02/2017	14/02/2017	
Finishing	F2	13/02/2017 05:46	170015	INOV CAR	PA0168	AUTOM-C/524	2,700	3:51	Specifications m.	14/02/2017	15/02/2017	
Finishing	F2	13/02/2017 08:27	170062	FORK AUSTRIA	PA0147	AUTOM-C/405	800		Renewal	20/02/2017	21/02/2017	
Finishing	F2	13/02/2017 09:22	170065	INOV CAR	PA0168	AUTOM-C/524	3,200		Renewal	20/02/2017		
Finishing	F2	13/02/2017 14:35	170055	INOV CAR	PA0068	AUTOM-R/158	900	0:55	Renewal	17/02/2017	18/02/2017	
Finishing	F2	14/02/2017 10:18	170056	CREATIVE TECH	PA0099	AUTOM-D/144	1,400	1:21	Renewal	17/02/2017	18/02/2017	
Finishing	F2	14/02/2017 11:39	170063	KATIA AUTOMATIVE	PA0151	AUTOM-T/093	2,100	1:57	Renewal	20/02/2017	21/02/2017	
Finishing	F2		170066	CREATIVE TECH	PA0172	AUTOM-S/219	1,000		Renewal	20/02/2017		
Finishing	F2	16/02/2017 08:52	170059	PARNAY AUTOCAR	PA0116	AUTOM-J/498	800		Renewal	17/02/2017		
Finishing	F2	16/02/2017 15:44	170057	FORK AUSTRIA	PA0100	AUTOM-X/223	2,200		Renewal	17/02/2017		
Finishing	F2	16/02/2017 17:58	170064	PARNAY AUTOCAR	PA0161	AUTOM-R/025	2.800		Renewal	20/02/2017		
Finishing	F2	22/02/2017 10:12	11000000000	FORK AUSTRIA	PA0147	AUTOM-C/405	2,700	Sec.	Renewal	24/02/2017	Constant of the other second	
<					10.578-5.51	1	2,)	į
							261,300	386:16				
		100 :-1	o(s) found				Г Ц6	hlight	Filte		Modify	1

From this search result window, multiple actions are available:

- Use the filters located above the column headers.
- Select the job by double-clicking on the corresponding line.
- Access quickly common actions by right-clicking on a job.
- Highlight found jobs by clicking **Highlight** at the bottom of the window.
- Filter found jobs by clicking the **Filter** button at the bottom of the window, or use the **Filter this value** function via right-click on a cell to quickly add/delete a filter.

If possible and set in the options, a counter displays the column totals.

Quick search

To find jobs quickly, right-click on a machine/section and select the **Search on this machine/section** action. This opens the window above and displays by default all jobs scheduled for this machine/section.

Direct Planning 4.0 5.10.2. Current route

Real Property lies

From the **Home** tab of the ribbon, the **Current route** button (Ctrl+ G) opens a small window which can be moved anywhere. This window can be minimized by clicking **See less** or by double-clicking on the header:

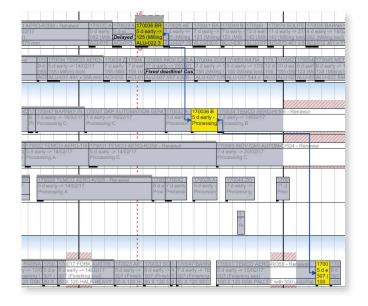
Current route (CTRL + G)								
List mode	- current ro	ute (Ct	Swit	ch route mode		+	See less	х
Highlight	💎 Filter		•	📕 🛛 3 items fo	oun	ıd		
Machine	Planned	Status		Start date:	*	End	То	
U2	4	Completed		08/02/17 09:42	2	08/02/17 17:42	Т3	
Т3	V	Started		08/02/17 17:42	2	09/02/17 10:43	F2	
F2	~	Not started		10/02/17 13:33	3	13/02/17 06:52		

When selecting a job in the schedule, this window displays all jobs belonging to the same route.

	4	
170026 AE	170041 BA	170048 B
5 d early ->	7 d early ->	7 d early -
ALU-037 35	ALU-030 5	ALU-030
	5 d early ->	170026 AE 5 d early -> 125 (Milling ALU-037 35 ALU-030 5

 Double-click in this table to browse through the schedule and access quickly the jobs belonging to the route:

The **Highlight** button allows to highlight instantly all jobs of the route (see section 5.9.4, *Filter and High-lighting* for more information):



In this table, use the context menu to modify a job or change quickly its progress status:

Direct Planr	ning 4.0						Schedulin	g witl	h Direct Pl	annii
List mode	- current ro	ute (Ctrl+G)		Switch route mo	ode	+	See less	х		
Highlight	💎 Filter		•	📕 🛛 3 items four	nd					
Machine	Planned	Status		Start date:	End	То				
U2	V	Completed		08/02/17 09:42	08/02/17 17:42	T3				
Т3	¥	Started		08/02/17 17:42	09/02/17 10:43	F2				
F2	¥	Not started		Focus on job						
			1	Modify job						
				Progress status	of this job 💦 🕨		Start job			
				Select all (Ctrl+)	A)		Complete job			
			2	Select in schedu	ule		Job not started			

Direct Planning 4.0 5.10.3. Locator

From the **Home** tab of the ribbon, the **Locator (Ctrl+ L)** button opens a window dedicated to quick search. This window can be minimized by clicking **See less** or by double-clicking on the header:

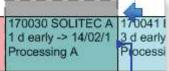
	Locator (Ctrl+L)	See less	X
	📑 Search 🛛 🗸 Result 🛛 🔤 Highlight 🗍 💎 Filter 🗍 🛤 🔺 🕨 🖌 No item fou	nd	
Locator	 See jobs:		
(Ctrl+L)	Scheduled Vot scheduled Completed		
	Add search criteria		

Use the "Search" tab to define your most used search criteria (e.g.: File number, Tool number, Special technical data, etc.). In addition to more traditional input methods, use the **Selected job** button to populate a criterion automatically based on the job currently selected, avoiding keyboard inputs:

Locator (Ctrl+L) See less 🗴	170030 SOLITEC A 170041 BA 1/117001170052 FORK AUSTRIA AUT 170061 CREATIVE TECH AUTOM-7/037 - Specifical 1
📴 Search 🛛 📽 Result 📋 Highlight 🛛 🍸 Filter 🛛 🔕 🔕 🔕 🕲 No item found	1 d early -> 14/02/1 3 d early -> 38 d e 3 d early -> 16/02/17 6 d early -> 20/02/17 9 € Processing A Processing A Processing A Processing A Processing A
See jobs: 🕼 From: 09/02/2017 🗂 🔲 To:	
V Scheduled V Not scheduled Completed	\uparrow \land Selection of a reference job
O Processing complexity	
Add search criteria	
▲ Selection of the Processing complexity as th	e
search criterion, then click on Selected job t	C Locator (Ctrl+L)
Search chileholi, then click of Selected job t	C Search ≪ Result Highlight T Filts © © © 0 39 items found
choose a reference job.	See jobs: 🔽 From: 09/02/2017 🗂 To:
, c	V Scheduled V Not scheduled Completed
Filter on the Form code of the selected job ▶	Corressing complexity
	Add another activity

The **Result** button executes that search and displays the list of resulting jobs. The columns in this list can be customized by right clicking on the header:

Locato	r (Ctrl+L)				+	See less	X
📑 🕻 Sei	arch 🛛 🖌 Result	High	light 💎 Filter	⊲ ● ▶ 20	items found		
	Des.of machine	to sch	Job start	Designation			^
•	Usinex 1 (550 mm	¥	09/02/2017 16:58	AERO-Y/323			
	Usinex 1 (550 mm		10/02/2017 07:07	AUTOM-R/158			
	Usinex 1 (550 mm		13/02/2017 09:05	AUTOM-Z/037			
	Usinex 1 (550 mm		13/02/2017 17:53	AUTOM-Z/037			
	Usinex 1 (550 mm		14/02/2017 05:59	AUTOM-U/094			
	Usinex 1 (550 mm		14/02/2017 19:03	AUTOM-U/094			



◄ From this list, double-click to navigate quickly to the job, or right-click to modify this job (via the **Job detail** option) ▼

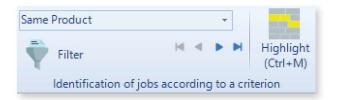
1						
Locat	tor (Ctrl+L)			+	See less	х
<mark>∎</mark> ₿ S	earch 🛛 🖌 Result	High	llight 💎 Filter	🖂 🔹 🕨 📔 20 items found		
	Des.of machine	to sch	Job start	Designation		^
⊳	Usinex 1 (550 mm	. ¥	09/02/2017 16:58	AERO-Y/323		
	Usinex 1 (550 mm		Focus on jol	58		

Use the **Highlight** button to spotlight all found jobs found (more information about highlighting in the next section):

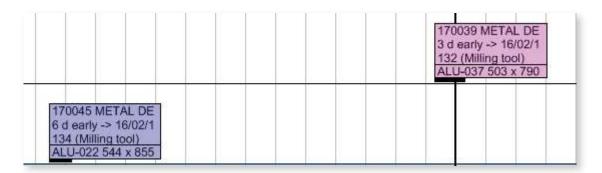
170030 SOLITEC A 17004 I d early -> 14/02/1 5 i ear Processing A Proces		riy -> 16/02/17		y -> 20/02/17	A010M-2/037 - Sp	9 6 d early -> 20 P Processing B
170045 METAL DESIGN 3 d early -> 16/02/17 Processing C	17005 170065 C 3 d ea 7 d early - Proce Processin	3 d 3 d early		2/ 2 d early ->	1 6de	67 FORK AUSTRIA A arly -> 20/02/17 essing C
	170048 BR 170055 3 d early -> 4 d earl Processing Process	3 d early ->	170039 METAL D 3 d early -> 16/02 Special TX11	170074 SOLITE 7 d early -> 21/0 Special TX43	170063 KATIA AUT 6 d early -> 20/02/1 Special TX63	170089 ME 170 1700 8 d early -> Just 2 d e Special Spe TX82 TX8 TX27

Direct Planning 4.0 5.10.4. Filter and Highlighting

These two options are available under the **Home** tab of the ribbon:



Use the filter and highlighting functions to isolate/spotlight certain jobs depending on their characteristics. First select in the dropdown list the common feature that you wish to highlight. Then click on a job to isolate/spotlight the other jobs sharing that feature:



In the example above, the filter is applied to the customer. The jobs attached to the same customer are the only ones displayed in the Gantt: all the others are hidden. Click again on the filter button to cancel the filter.

The example below illustrates highlighted jobs meeting the same criteria as the filter above. Highlighted jobs are the same colour and, unlike the filter function, jobs which do not meet the criteria are not hidden but greyed out:

170035 BARNAY INDUS 4 d early -> 14/02/17 092 (Milling tool)	TRI 17000 7 d ee Side	55 IN arty -> dime	170046 0 6 d early 123 (Milli	UALICA ~ 16/02/ ng tool)	BLE 17	1700; 4 d ei 142 (arly	3 d earl	METAL y -> 16/ Iling too	02/1	1700 3 d e 132
ACI-012 361 x 717 mm	ALUH	022.5	ALU-037	488 x 57	ā.m	AGI-0	115	ALU-03	7 503 x	790	ALU
170045 METAL DE Berl 6 d early -> 16/02/1 Mi 134 (Milling tool) -02 AL U-022 544 x 855	0 d early Delayed ro		2/17	VE AUTO	om-c	./40	1700 3 d a 134	152 FOI sarly ~ (Milling	16/02/1 tool)	7 7 d 134	early (Mil

When the highlight is based on data such as machines or operations, the highlight colour is the one chosen by the administrator for the involved machine or operation.



Shared by both functions, the navigation buttons can be used to browse through filtered/highlighted jobs.

The filtering and highlighting function can be combined. However, the highlighting functions available via the **Current route** and **Locator** options are mutually exclusive: you must first disable one to enable the other.

5.11.1. Configuring alerts

Administration	\$
Alerts are configured via the Configuration > General configuration > Alerts tab:	
Notifications linked to process	
The job is late.	
Job ends 0:00 hour(s) after its latest end date	
The job may encounter delay.	
Job ends 4:00 hour(s) before its latest end date	
Manual alert on jobs	
User alert	
Position inconsistency errors	
Job is positioned before its earliest start date.	
Job is not positioned on its declared start date.	
Job is completed but it doesn't finish on its declared end date.	
Proven position inconsistency with upstream job.	
Job is involved in an unsolved cycle of constraints.	
Color of the inconsistency errors:	
Notifications of probable position inconsistency	
Job has started and and is positioned before its ealiest start date.	
Probable position inconsistency with upstream job.	
V Lock removed further to overlapping a started job.	
V Lock removed because an upstream job in the same route has started.	
The job is unplanned because it was moved on a non-movable job (started or locked)	
Color of the inconsistency notifications:	

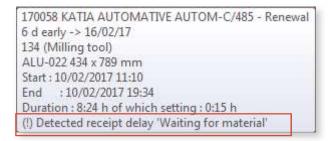
Use this window to select events which will trigger an alert, as well as the colour of the corresponding alert.

Direct Planning 4.0 5.11.2. 5.10.2. Viewing alerts in the schedule

Gantt

Administration
Reminder: to enable/disable alerts in the schedule and choose the line on which they will appear in the
ticket, click on Configuration > Display modes > Job display :
See alert message on line 3 170058 KATIA AUTOMATIVE AUTOM-C/4 6 d early -> 16/02/17 Delayed receipt "Waiting for material" ALU-022 434 x 789 mm

Depending on the schedule zoom level, it is fairly common for the alert to be displayed incompletely on the ticket (as in the example above). To display the alert message in full without opening the job details window, place your cursor on the job. The popping tooltip recaps the characteristics of the job, including alerts, preceded by (!) :



If the job is subject to multiple alerts, the number of additional alerts displays at the end of the alert:

170058 KATIA AUTOMATIVE AUTOM-C/48(1 h late -> 16/02/17 Delayed receipt "Waiting for material" (+1) ALU-022 434 x 789 mm

Again, you just have to place your cursor on the job to view the list of associated alerts:

170058 KATIA AUTOMATIVE AUTOM-C/485 - Renewal
1 h late -> 16/02/17
134 (Milling tool)
ALU-022 434 x 789 mm
Start : 16/02/2017 10:59
End : 16/02/2017 19:38
Duration : 8:39 h of which setting : 0:30 h
(!) Detected receipt delay 'Waiting for material' (!) Job is late.



This opens the list of jobs with alerts, at the left of the projection:

Liste des tâches en alerte 🛛 🔯	Image: Section 1 = 1
	File Home Edit Display
All alerts -	Display Planning
170029 AERO FUTURE AERO-Y/323 - 09/02/2017 07:36:00	Color by: Ticket main colour (by sect
Delayed receipt	Dis
170065 INOV CAR AUTOM-C/524 - Re 09/02/2017 10:07:00	DirectPlanning
Manual alert	⊡Milling
170055 INOV CAR AUTOM-R/158 - Re 10/02/2017 12:54:00 Side dimension (559 mm) exceeds th	Usinex 1 (550 mm max)
170058 KATIA AUTOMATIVE AUTOM% 16/02/2017 10:59:00	Usinex 2 (700 mm max)
Delayed receipt	Processing
170058 KATIA AUTOMATIVE AUTOM- 17/02/2017 07:48:00	Equiva 1
170058 KATIA AUTOMATIVE AUTOM- 17/02/2017 17:14:00	Equiva 2
170092 BROCHAND INDUSTRIES GE 23/02/2017 06:03:00	Speedex (special proc.)
Celay 🔊	

In the upper part of the List of jobs with alerts, you can:

- Minimize the window
- Push the window to the right or left of the screen
- Filter the displayed alerts
- Display the list on another screen

Each box represents a job with alerts. The nature of alerts depends on their background colour, as configured by the administrator.

To clear an alert, you just have to click on the corresponding red cross.

5.11.3. Creating alerts

Direct Planning automatically creates a number of alerts, including those about time constraints and machine incompatibilities.

As stated in the section discussing the jobs details screen, users can also create manual alerts via the **Alerts** tab.

Direct Planning 4.0 5.11.4. Clearing alerts

Alerts can be cleared from the List of jobs with alerts but other methods are available:

- In the job details window, Alerts tab
- By clicking on **Display** > **Alerts** > **Clear alerts** in the ribbon. Use this window to clear all alerts affecting jobs scheduled before a given date (the current date by default)

🕜 Clear alerts	×
Clear alerts	
Process jobs located before:	03/12/2018
	OK Cancel
	UK Carcer

If alerts have been cleared accidentally, click in the ribbon on **Display** > **Alerts** > **Rebuild alerts** to regenerate them.

Direct Planning 4.0 5.12. Purging data



To purge the schedule data, click the **Data** tab on the top toolbar.

🚦 Purge schedule data		×
Selection of items to purge		
lobs.before	06/02/2017	
Unused years in the calendars.		
Unused entities		
Customer		
Product		
□ wo		
Unused reference data		
Sales representative		
Product family		
Type of production		
Type of milling		
Level of complexity		
Milling tool no.		
Material		
Type of processing		
Type of finishing		
Finishing tool no.		
Pallet		
	Start purge	Close

The completed jobs clutter the schedule. In the same fashion, the unused entities and data make them harder to select.

Purging data regularly removes those outdated elements, and therefore relieves the schedule, thus significantly increasing efficiency.

Before initiating the purge of data :

- Save your schedule.
- Make sure that there is no user currently working on the schedule.

This screen allows to indicate which data to purge, by ticking the corresponding boxes.

You have the ability to purge all jobs placed before a specific date : click on the calendar to select a date or enter it directly.

You can also purge the years which are not used in calendars.

Finally, you can purge the unused elements for each entity or reference data. This screen lists the entities and reference data which are specific to your schedule, which is why the displayed elements differ from a schedule to another.

When your selection is complete, click on the **Start purge** button.

0

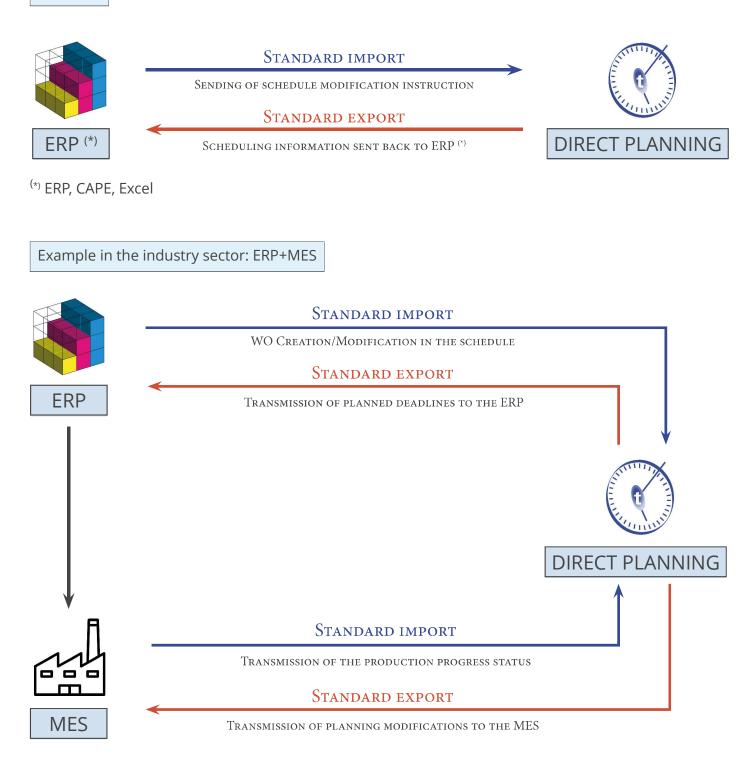
6. Interfacing an ERP with Direct Planning

ADMINISTRATION

This section is fully reserved to the Direct Planning administrator.

6.1. Summary diagram

Overview



6.1.1. Principles

An application managing jobs can send information to your schedule. The imported data can come from an ERP, a spreadsheet such as Microsoft Excel[©] or any other application generating data in CSV format.

The CSV format is one of the most widespread: data is recorded in a text file and separated by semicolons (more information below).

In addition to this import function, Direct Planning can transfer planning data to another application able to receive data in the CSV format or in the format of your choice via development of a plugin (following a study). You can use the export functionality without configuring the import beforehand. Using the import and export functions together allow Direct Planning to send the external software scheduling information for previously imported jobs.



6.2. Importing data

As discussed, a third party application (e.g. ERP, CAPE, specific program or Excel macro) can generate instructions for Direct Planning. These CSV files can be automatically integrated to the schedule when they are placed in an import directory. To avoid disrupting the existing planning, imported jobs are assigned the "to schedule" status.

6.2.1. Direct Planning import capabilities

Direct Planning can import the following data:

- Reference data (DREF1 to DREF999)
- Entities (ENT1 to ENT10)
- Jobs with flags (TASK)
- Process Information (TASK-IP1 to TASK-IP999)
- Links (LINK)
- Technical elements (TEC1 to TEC20)
- Memos (MEMO)
- Standard Days/Weeks in calendars (CAL-JT-L, CAL-JT-C, CAL-ST-L, CAL-ST-C)

6.2.2. The CSV file

The imported data is contained in a csv file containing instructions for updating the schedule in Direct Planning.

Name and location of file

The file name must comply with the import_xxx.csv format and that file must be located in the folder configured by the administrator (**Configuration** > **General configuration** > **Automatic import**). The import folder is scanned each time Direct Planning is started, and then every 2 minutes. Furthermore, the planning manager can occasionally perform "on demand" imports when visual alerts indicate that a new file is ready for import.

Structure

The file data is saved in a text file and semicolon-separated.

In a file to import, each line forms a record and must end by a carriage return and line feed (CR LF). Below is an example of instruction to import in Direct Planning:

```
ENT1;4;CM;CR0549;CREATIVE TECH;Chateaubriant;44110;;BROCHARD Sébastien;+33 (0)2 36 45 78 99;s.brochard@creativetech.fr;;DEL;;\\SERVER\CLIENT\CR0549;RANDOM;;;;;;;;;
```

Lines starting with # will be ignored to avoid the import of certain lines, without deleting them from the

166

file, especially for test purposes.

Import directives are now strictly processed in the order in which they appear in each import file. This corrects the problems which may arise when there are creation and deletion directives of the same job in the same file.

You will find sample import files in your Direct Planning installation folder.

Exclusive locks

An external application writes import files while Direct Planning reads them. If these two actions happen simultaneously, there is a conflict. Direct Planning preserves data integrity thanks to a lock management which secures the imports:

- When reading an import file, Direct Planning creates the **directplanning_read.lck** lock file in the import folder.
- When writing to the import file, the external application must create the **external_write.lck** lock file in the import folder.

Note

This management is available but optional.

If you know that the generation of import files is never performed when Direct Planning is being used (for example at night), this security feature is optional.

External ID (or ERP ID)

Jobs originating from an third party application (like an ERP) have an external identifier.

This identifier is assigned by the third party application for jobs created via import.

Its purpose is to allow the third party application to recognise a job it previously transferred to Direct Planning. For convenience, we will call it the external ID.

WARNING

The external ID must never contain the following signs :

- # Hash
- * Asterisk
- % Percent
- [Opening bracket
-] Closing bracket

When a job is created in Direct Planning, its external ID is set to 0 (zero) and hidden.

The external ID is unique. It can be modified during the import in Direct Planning.

The identifiers are displayed in the job details window, via double-click in the schedule (see next page).

Direct Planning	ID	
↑	ERP ID	
🚟 Identifier of job Nr 10 [1	170035-10	
Section	Z S1	Milling
Machine	2 U1	Usinex 1 (550 mm max)

6.2.3. Data import formats

Formats and Direct Planning versions

Format version	Direct Planning version
4	Since Direct Planning 3.1
3	Direct Planning 3.0
2	Direct Planning 2.*

In creation, the required zones are specified in the **Comments** column.

Importing entities

No.	Designation	Format	Comments
1	Data type	alpha	Possible values: from ENT1 to ENT10
			Required
2	Version of import format	alpha	Value: 4
			Required
3	Action	alpha	C (Creation)
			CM (Creation when the entity does not exist,
			Modification if it already exists). In entity creation, the
			@ sign can be used to force a zone, following the @
			ZONE format. However, if the entity already exists, this character indicates that the specified zone must not
			be modified.
			Required
4	Identifier	alpha	Job identifier for the ERP
			Required
5	Designation	alpha	
6	Configurable area 1	alpha	Configurable areas are typed.
7	Configurable area 2	alpha	
8	Configurable area 3	alpha	If the value transmitted in the import file does not
9	Configurable area 4	alpha	match the type of zone, it will be ignored (e.g. an "ABC"
10	Configurable area 5	alpha	string exported to a zone set as numeric).
11	Configurable area 6	alpha	
12	Configurable area 7	alpha	
13	Configurable area 8	alpha	
14	Configurable area 9	alpha	
15	Configurable area 10	alpha	
16	Colour	alpha	3 methods are available to express the colour:
			RGB: (3 comma-separated values)
			Html name
			The RANDOM keyword can be used to set a random
			colour when creating technical elements

No.	Designation	Format	Comments
17	Identifier of linked entity 1	alpha	
18	Identifier of linked entity 2	alpha	
19	Identifier of linked entity 3	alpha	
20	Identifier of linked entity 4	alpha	Links between entities are optional.
21	Identifier of linked entity 5	alpha	When links are included in the import file, the
22	Identifier of linked entity 6	alpha	presence of linked entities is checked.
23	Identifier of linked entity 7	alpha	presence of mixed entities is encered.
24	Identifier of linked entity 8	alpha	
25	Identifier of linked entity 9	alpha	

Notes:

- Alpha fields are limited to 50 characters for codes and 200 characters for any other text zone.
- There can be no link for entity 1 which sits at the top of the hierarchy.
- Entity links are always created "upwards": for instance, if entities 2 and 3 are linked, the link must be declared from entity 3 to entity 2, and not the opposite.
- Links must respect the hierarchy: for example, if entity 3 is linked with entity 2 and entity 2 is linked with entity 1, then entity 3 must also be linked with entity 1.
- There can be no duplicate, neither in the identifier nor in the designation of entities.
- If a duplicate is found in the identifier of an entity, a warning message is generated. This situation can be normal when importing a job attached to an existing customer: the customer is reimported with the new job, triggering a normal warning message.
- If there is a duplicate in the designation of an entity (different identifier but identical designation), the import will add the identifier in parentheses after the description.

Example of instruction to import an entity (in creation/modification):

ENT2;4;CM;PA0001;AUTOM-Z/528;AUT;WB9752;16072;92.5x49x93.5;;;;;;;RANDOM;CR0549;;;;;;;;

Importing reference data

Reserved to the **Industry** mode.

No.	Designation	Format	Comments
1	Data type	alpha	Possible values: from DREF1 to DREF999
			Required
2	Version of import format	alpha	Value: 4
			Required
3	Action	alpha	C (Creation)
			CM (Creation when the reference data does not exist,
			Modification if it already exists)
			Required
4	Identifier of the reference data	alpha	Required
5	Designation of the reference data	alpha	
6	Colour	alpha	3 methods are available to express the colour:
			RGB: (3 comma-separated values)
			Html name
			The RANDOM keyword can be used to set a random
			colour when creating reference data. If CM: not
			modified

Notes:

- There can be no duplicate, neither in the identifier nor in the designation of reference data.
- If a duplicate is found in the identifier of reference data, a warning message is generated. This situation can be normal when importing a job with existing reference data: the reference data is reimported with the new job, triggering a normal warning message.
- If there is a duplicate in the designation of reference data (different identifier but identical designation), then the import will add the identifier in parentheses after the description.

Example of instruction to import reference data (in creation, designation in green):

DREF1;4;C-NOERROR;0;Nouveauté;RANDOM

Importing jobs

No.	Decignation	Mode			Comments	
NO.	Designation	I	Р	S	Comments	
01	Data type	0	0	0	Value: TASK Format: alpha <mark>Required</mark>	
02	Version of import format	0	0	•	Values: 4 Format: alpha <mark>Required</mark>	
03	Action	0	0	0	Action code Format: alpha <mark>Required</mark>	
04	Unique external identifier for this job (ERP ID)	0	0	0	Your unique identifier for this job, or the Direct Planning identifier. Normally, this is where you indicate your unique identifier for this job. Instead of your identifier, you can specify the Direct Planning identifier preceded by the hash sign (#). Format: alpha Required	
05	Move selection down	0	0	0	Format: alpha	
06	Identifier of resource	0	0	0	Format: alpha When creating a job, use the @ character to pre-position the job on the specified resource. If the job already exists, it indicates that this resource must not be modified. Required	
07	Operation identifier	0	8	8	If it is #DEF, the job operation will be initialised to the machine default operation. If blank, content is forced to blank. Format: alpha	
08	Start date and time	0	O	•	The start or end time must be indicated, but not both.	
09	End date and time	0	0	0	If none is entered, the start date is forced to the current date and time. Format: datetime *	
• • • •	time formats available: DD.MM.YYYY hh:mm (with a sp DD/MM/YYYY hh:mm (with a sp DD.MM.YYYY DD/MM/YYYY "NOW": conversion to the date	bace bet	tween the	import	and time)	
10	Planned quantity	O	8	8	Format: quantity	
11	Percentage of variable waste	0	•	8	Only one decimal taken into account Format: 3 or 3.0 for 3% of variable waste Format: decimal	
12	Number of WU to produce per operative WU	•	8	8	The number of working units of quantity to produce contained in a working unit of operative quantity. e.g. the number of posters (representing the quantity recorded in production) per sheet (representing the quantity processed by the machine). By default: 1 .	
13	Number of work rate WU per operative WU	0	8	8	The number of working units for entering the work rate contained in a working unit of operative quantity. E.g. the linear footage (unit in which is entered the machine work rate) for a sheet (representing the quantity processed by the machine).	

17

No.	Decignation	Designation			Comments
NO.	Designation	I	Р	S	Comments
14	Performed quantity	0	8	8	Will be entered only if the ERP is to force the performed quantity. Forcing this value will automatically calculate the progress percentage. Format: quantity
15	Non-compliant quantity	⊘	0	0	Non-compliant product quantity Format: quantity
16	Progress percentage	0	0	8	Value: from 0 to 100. Not to be entered if the performed quantity is specified. If the planned quantity is entered, this value will allow the calculation of the performed quantity. Format: integer
17	Forced transition time (deprecated)	•	8	8	Should be entered when forcing a transition duration (be careful, 0 is a value). Otherwise, leave it blank. The value must be ignored if management of transition times is not enabled in the schedule. Format: duration **
** Dur •	rations can be expressed in two An integer indicating the num A number of hours and a num	ber of r	ninutes ninutes	(e.g. 12 separa	0) Ited by the character ":" (e.g. 7:50)
18	Forced planned setting duration	0	8	8	To be entered when forcing the planned setting duration. Leaving it blank will make DP calculate setting duration. Format: duration
19	Performed setting duration	0	8	8	Should be entered when the ERP is aware of the performed setting duration. Format: duration
20	Performed durations of setting downtime	S	0	0	Durations of downtime incurred by setting Format: duration
21	Completed setting	0	8	8	Allows to indicate that the setting is complete. O/N or Y/N or 0/1 Format: O/N
22	Industry: Forced planned running duration	S	0	0	Industry mode: to be entered when forcing the planned running duration.
	Service: Duration				Leaving it blank will make Direct Planning calculate running duration.
	Project: Planned duration				Format: duration Required in Project and Service modes
23	Industry mode: Performed running duration Project mode: Performed duration	0	0	8	To be entered when the ERP is aware of the performed running duration. Format: duration
24	Duration of downtime	0	•	8	Should be entered when the ERP is aware of the downtime durations during running. Format: duration
25	Earliest start date and time***	0	0	8	Format: datetime
26	Latest end date and time***	Ø	0	8	1

*** In Industry and Project modes: if the format imported to this field is a short format (DD/MM/YYYY), the program will automatically set the default time configured.

Otherwise, the imported time is used even if it is 00h00.

If the field Earliest start date is not populated, it will be initialised by Direct Planning to the date of the import. Of course, the Latest end date field is left blank if the expected element is not received.

		Mode			
No.	Designation	1	Р	S	Comments
27	Manual alert message	0	0	0	Used to force a manual alert message on the job. Format: alpha
28	Actual start date of job	0	0	I	Format: datetime
29	Actual end date of job	0	I	•	Format: datetime
30	Started job	0	0	0	If value is O and field 28 is empty, the job current start date is used. Format: O/N
31	Completed job	0	•	0	If value is O and field 32 = 0, field 29 is ignored. The job current end date is used. If value is O and field 32 = 1, field 29 is ignored. The calculation of end date is based on the performed durations. If value is O and field 32 = 2, field 29 is required. The performed running duration is calculated automatically. Format: O/N
32	Method of time entry	0	0	0	0=none / 1=by performed duration / 2=by end date Format: integer
33	ID of entity 1	0	0	I	alpha
34	ID of entity 2	0	0	I	
35	ID of entity 3	0	0	I	
36	ID of entity 4	0	I	I	
37	ID of entity 5	0	I	•	
38	ID of entity 6	0	0	•	
39	ID of entity 7	0	I	•	
40	ID of entity 8	0	0	•	
41	ID of entity 9	0	0	•	
42	ID of entity 10	0	0	I	
43	Configurable area 1	0	0	I	alpha
44	Configurable area 2	0	I	I	
45	Configurable area 3	0	I	•	
46	Configurable area 4	0	0	I	
47	Configurable area 5	I	0	I]
48	Configurable area 6	0	•	I]
49	Configurable area 7	0	0	I]
50	Configurable area 8	0	0	I]
51	Configurable area 9	0	0	I]
52	Configurable area 10	I	I	•	

No.DesignationIPSComments53ID of technical element 1 \bigcirc	
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75Actual date of receiptImage: Constraint of the status of the flags. Will on taken into account if the status of the flag correst received element. Format: datetime	
76 Configurable area 1 Image: Configurable area 1	
77 Configurable area 2 Image: Configurable area 2	
78 Configurable area 3 Image: Configurable area 3	
79 Configurable area 4 Image: Configurable area 4	

			Mode		
No.	Designation	I	Р	S	Comments
80	Configurable area 5	Ø	0	0	
81	Configurable area 6	0	0	I	
82	Configurable area 7	0	I	I	
83	Configurable area 8	I	Ø	I	
84	Configurable area 9	I	0	I	
85	Configurable area 10	S	0	S	
				Fl	ag 2
86	Status	•	0	•	Values: 0 to 5 Format: num
87	Planned date of receipt	•	0	0	Applies only to Waiting for element receipt flags Format: datetime
88	Actual date of receipt	•	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
89	Configurable area 1	I	I	0	
98	Configurable area 10				
				Fl	ag 3
99	Status	S	0	0	Values: 0 to 5 Format: num
100	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime
101	Actual date of receipt	•	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
102	Configurable area 1	I	0	I	
111	Configurable area 10				
			·	Fl	ag 4
112	Status	•	0	•	Values: 0 to 5 Format: num
113	Planned date of receipt	•	0	0	Applies only to Waiting for element receipt flags Format: datetime
114	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
115	Configurable area 1	0	0	0	
124	Configurable area 10				
				Fl	ag 5

			Mode		
No.	Designation	I	Р	S	Comments
125	Status	0	0	0	Values: 0 to 5 Format: num
126	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime
127	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
128	Configurable area 1	0	0	0	
137	Configurable area 10				
				Fla	ag 6
138	Status	•	0	0	Values: 0 to 5 Format: num
139	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime
140	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
141	Configurable area 1	0	0	0	
150	Configurable area 10				
				Fla	ag 7
151	Status	0	0	0	Values: 0 to 5 Format: num
152	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime
153	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
154	Configurable area 1	0	0	0	
163	Configurable area 10				
				Fla	ag 8
164	Status	0	0	0	Values: 0 to 5 Format: num
165	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime
166	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime
167	Configurable area 1	0	0	0	
176	Configurable area 10				

Interfacing an ERP with Direct Planning : Importing jobs

No	Decignation		Mode		Comments			
No.	o. Designation	I.	Р	S	Comments			
Flag 9								
177	Status	0	0	0	Values: 0 to 5 Format: num			
178	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime			
179	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime			
180	Configurable area 1	0	0	0				
189	Configurable area 10							
				Fla	g 10			
190	Status	0	0	0	Values: 0 to 5 Format: num			
191	Planned date of receipt	0	0	0	Applies only to Waiting for element receipt flags Format: datetime			
192	Actual date of receipt	0	0	0	Only for Waiting for receipt types of flags. Will only be taken into account if the status of the flag corresponds to a received element. Format: datetime			
193	Configurable area 1	0	0	I				
202	Configurable area 10							

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Action codes

Action code	Description
С	Creation of a job
CM	CM (Creation when the job does not exist, Modification if it already exists).
М	Job modification
M-PLAN	Job modification with assigning of the "to schedule" status.
	This allows the external software to decide what will be the impact of a modification on the
	schedule status: this way, after an import, jobs scheduled in Direct Planning can take the to
	schedule status because of significant changes which took place in the external software.
S	Job deletion

OUR ADVICE

Each action code can be completed by -NOWARNING and -NOERROR extensions to prevent, respectively, the display of a warning or error message. It is recommended to reserve these extensions to the deletion action (**S**), when deleting an element to replace it (like in the "cancel and replace" example of the next section).

Job modifications (CM, M, M-PLAN)

- The 4 first zones are required as they form the key used to formally identify a job and the action to perform. These zones are the following: 01-Data type 02-Version of the import format 03-Action 04-External unique identifier (ERP) for this job.
- 2. The zones which must not be modified must contain the @ sign.
- **3.** Zones 08 and 09 (start and end date and time) can only be modified if you assign the job the to schedule status (action code M-PLAN above).
- 4. The zones requiring modification must contain the new value. If a zone is empty, this means that its content is deleted.
- 5. To modify a job based its Direct Planning internal ID, and not on its external ID, you must put a hash sign (#) at the beginning of zone 04 (external ID) in the import file on a line where the action code = M (Modification). For example, indicating #120 modifies the job with Direct Planning internal ID 120. This is useful to modify jobs created in Direct Planning.
- 6. You can also modify the external ID. Indeed, for a job created by Direct Planning and not yet attached to an external ID, the ERP ID is zero. An external ID can then be assigned to the job by preceding it with the | (pipe) character. Examples: #120|ABC to find the job with internal ID 120 and assign it the external ID ABC, or TUV|ABC to modify the job with external ID TUV and change it to ABC.



7. When modifying a job which has an external ID and which was split into multiple jobs, the modifications apply to all the subdivided jobs (the modification of the duration is the only one forbidden).

Example of instruction to import a job in creation/modification with the "@" character:

TASK;4;CM;180021;Laser cutting;@MAC1;

This instructions specifies that the job designation must always contain "Laser cutting", whether the job exists or not. Entering the character @ before MAC1 indicates that if the job is created, it is prepositioned on the MAC1 machine. However, if the job already exists, @ indicates that this zone (the machine code) must not be modified. This way, if the planning manager had moved this job to another machine, its positioning is preserved.

Job deletions (S)

- 1. Deleting a linked job also deletes the links, without deleting the other linked jobs.
- You can put an asterisk as a wildcard in zone 04 (external ID). For example, indicating 05116001-1-* deletes all jobs whose external ID begins with 05116001-1-. This interesting feature allows the ERP (e.g. VoluPack) to perform a simple cancel and replace type of regeneration. This can be used to delete all operations attached to a WO, and then recreate the WO.

Importing Process Information

No.	Designation	Format	Comments
1	Data type	alpha	Possible values: from TASK-IP1 to TASK-IP999
			Required
2	Version of import format	alpha	Value: 4
			Required
3	Action	alpha	CM (Creation Modification): in Process Information
			creation, the @ character can be used to force a zone,
			following the @ZONE format. However, if Process
			Information already exists, this character indicates
			that the specified zone must not be modified.
			M (Modification)
			S (Deletion)
			Required
4	ERP ID	alpha	Job identifier for the ERP
			Required
5	Configurable area 1	alpha	Configurable areas are typed.
6	Configurable area 2	alpha	
7	Configurable area 3	alpha	If the value transmitted in the import file does not
8	Configurable area 4	alpha	match the type of zone, it will be ignored (e.g. an "ABC"
9	Configurable area 5	alpha	string exported to a zone set as numeric).
10	Configurable area 6	alpha	
11	Configurable area 7	alpha	
12	Configurable area 8	alpha	
13	Configurable area 9	alpha	
14	Configurable area 10	alpha	

Like the job import, the Process Information import is based on the ERP ID or the Direct Planning. Normally, this is where you indicate your unique identifier for this job. Instead of your identifier, you can specify the Direct Planning identifier preceded by the hash sign (#).

Reminder	Ŧ
The hash sign (#) must never be appear in your ERP identifier.	

A warning message will be logged in the journal if a Process Information is not active for this machine. Deleting a job also deletes the associated Process Information.

Example of instruction to import Process info (in creation/modification, ERP ID in green):

TASK-IP1;4;CM;**17030187-1-1-1-0/020**;EP07075;1300;948;XPC0010;300;2;230;;;



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Importing technical elements

Reminder

To harness the full potential of Direct Planning, you better use Reference data, introduced in version 3.1 instead of technical elements.

No.	Designation	Format	Comments
1	Data type	alpha	Possible values: from TEC1 to TEC20
			Required
2	Version of import format	alpha	Value: 4
			Required
3	Action	alpha	C (Creation)
			CM (Creation when the technical element does not
			exist, Modification if it already exists)
			Required
4	Identifier of technical element	alpha	Required
5	Designation of technical element	alpha	
6	Colour	alpha	3 methods are available to express the colour:
			RGB: (3 comma-separated values)
			Html name
			The RANDOM keyword can be used to set a random
			colour when creating technical elements

Observations:

- There can be no duplicate, neither in the identifier nor in the designation of technical elements.
- If a duplicate is found in the identifier of a technical element, a warning message is generated. This situation can be normal when importing a job with an existing technical element: the technical element is reimported with the new job, triggering a normal warning message.
- If there is a duplicate in the designation of a technical element (different identifier but identical designation), then the import will add the identifier in parentheses after the description.

Importing links

No.	Designation	Format	Comments
1	Data type	alpha	Value: LINK
			Required
2	Version of import format	alpha	Value: 4
			Required
3	Action	alpha	C (Creation)
			M (Modification)
			S (Deletion)
			Required
4	External unique ID for the source job	alpha	Job identifier for the ERP
			Required
5	External unique ID for the destination job	alpha	Required
6	Link duration	Num	0 for a simple end - start link.
			n lf n > 0: link with n minutes gap.
			If n < 0: link with n minutes overlap.
			Required

C Link modifications (M)

- 1. The 5 first zones are required as they form the key used to formally identify the link and action to perform.
- 2. Consequently, field 6 (Link duration) is the only one modifiable.
- 3. If field 6 contains the @ symbol, this means that nothing is modified.

Link deletions (S)

- 1. Deleting a link does not delete the linked jobs.
- 2. Deleting a link does not delete the other links of the route.

Example of instruction to import a link (in creation, source and target jobs in green):

LINK;4;C-NOWARNING;17030187-1-1-1-0/020;17030187-1-1-1-0/030;0

Importing memos

Memos contain user comments.

No.	Designation	Format	Comments
1	Data type	alpha	Value: MEMO <mark>Required</mark>
2	Version of import format	alpha	Value: 4 <mark>Required</mark>
3	Action	alpha	CM (Creation when the memo does not exist, Modification if it already exists) Required
4	Job external identifier (ERP ID)	alpha	
5	Direct Planning internal identifier	Num	
6	Login of Direct Planning user	alpha	If internal identifier of DP user does not exist
7	Comment text	alpha	To create a line break: \\r Semicolons are replaced by commas. Double quotes are doubled.
8	State of the alert linked to the comment		
9	Date of comment modification	datetime	
10	Date of comment comment alert	datetime	

Importing calendar modifications

Direct Planning enables you to import directives for creating / modifying / deleting standard days and weeks based on their code or designation (a single file can contain several import directives).

N°	Désignation	Format	Observations	
1	Directive	alpha	Possible balues : CAL-JT-L: Modif. of std day using its designation CAL-JT-C: Modif. of std day using its code CAL-ST-L: Modif. of std week using its designation CAL-ST-C: Modif. of std week using its code Required	
2	Version of import format	alpha	Value : 4 Required	
3	Action	alpha	C (Creation) M (Modification) Required Note: The deletion is a CM code action with a blank value on the standars week (or day). Examples: - Modif. of a SW in calendar using its designation «Std week 2x8» CAL-ST-L; 4; CM; MAC1; 06/09/2021; Std week 2x8 - Deletion (reset to blank) od a SW in calendar CAL-ST-C; 4; CM; MAC1; 06/09/2021;	

N°	Désignation	Format	Observations
4	Machine code	alpha	Machine code <mark>Required</mark>
5	Date of the standard day or week	DD/MM/ YYYY	Date of std day (CAL-JT-L and CAL-JT-C directives) start of std week (CAL-ST-L and CAL-ST-C directives) Required
6	Designation / Code of the std day or week	alpha	 Designation (or code) of the day (or week) to impose Notes: An empty value can be used to delete the std day or week pre- viously imposed The @ value will not trigger any processing (no modification) Required

Colour codes

Html name	RGB code	Html name	RGB code	Html name	RGB code
AliceBlue	240,248,255	GhostWhite	248,248,255	NavajoWhite	255,222,173
AntiqueWhite	250,235,215	Gold	255,215,0	Navy	0,0,128
Aqua	0,255,255	GoldenRod	218,165,32	OldLace	253,245,230
Aquamarine	127,255,212	Gray	190,190,190	Olive	128,128,0
Azure	240,255,255	Green	0,128,0	OliveDrab	107,142,35
Beige	245,245,220	GreenYellow	173,255,47	Orange	255,165,0
Bisque	255,228,196	HoneyDew	240,255,240	OrangeRed	255,69,0
Black	0,0,0	HotPink	255,105,180	Orchid	218,112,214
BlanchedAlmond	255,235,205	IndianRed	205,92,92	PaleGoldenRod	238,232,170
Blue	0,0,255	Indigo	75,0,130	PaleGreen	152,251,152
BlueViolet	138,43,226	lvory	255,255,240	PaleTurquoise	175,238,238
Brown	165,42,42	Khaki	240,230,140	PaleVioletRed	219,112,147
BurlyWood	222,184,135	Lavender	230,230,250	PapayaWhip	255,239,213
CadetBlue	95,158,160	LavenderBlush	255,240,245	PeachPuff	255,218,185
Chartreuse	127,255,0	LawnGreen	124,252,0	Peru	205,133,63
Chocolate	210,105,30	LemonChiffon	255,250,205	Pink	255,192,203
Coral	255,127,80	LightBlue	173,216,230	Plum	221,160,221
CornflowerBlue	100,149,237	LightCoral	240,128,128	PowderBlue	176,224,230
Cornsilk	255,248,220	LightCyan	224,255,255	Purple	128,0,128
Crimson	237,164,61	LightGoldenRodYellow	250,250,210	Red	255,0,0
Cyan	0,255,255	LightGreen	144,238,144	RosyBrown	188,143,143
DarkBlue	0,0,139	LightGrey	211,211,211	RoyalBlue	65,105,225
DarkCyan	0,139,139	LightPink	255,182,193	SaddleBrown	139,69,19
DarkGoldenRod	184,134,11	LightSalmon	255,160,122	Salmon	250,128,114
DarkGray	167,167,167	LightSeaGreen	32,178,170	SandyBrown	244,164,96
DarkGreen	0,100,0	LightSkyBlue	135,206,250	SeaGreen	46,139,87
DarkKhaki	189,183,107	LightSlateBlue	132,112,255	SeaShell	255,245,238
DarkMagenta	139,0,139	LightSlateGray	119,136,153	Sienna	160,82,45
DarkOliveGreen	85,107,47	LightSteelBlue	176,196,222	Silver	192,192,192
Darkorange	255,140,0	LightYellow	255,255,224	SkyBlue	135,206,235
DarkOrchid	153,50,204	Lime	0,255,0	SlateBlue	106,90,205
DarkRed	139,0,0	LimeGreen	50,205,50	SlateGray	112,128,144
DarkSalmon	233,150,122	Linen	250,240,230	Snow	255,250,250
DarkSeaGreen	143,188,143	Magenta	255,0,255	SpringGreen	0,255,127
DarkSlateBlue	72,61,139	Maroon	128,0,0	SteelBlue	70,130,180
DarkSlateGray	47,79,79	MediumAquaMarine	102,205,170	Tan	210,180,140
DarkTurquoise	0,206,209	MediumBlue	0,0,205	Teal	0,128,128
DarkViolet	148,0,211	MediumOrchid	186,85,211	Thistle	216,191,216
DeepPink	255,20,147	MediumPurple	147,112,219	Tomato	255,99,71
DeepSkyBlue	0,191,255	MediumSeaGreen	60,179,113	Turquoise	64,224,208
DimGray	105,105,105	MediumSlateBlue	123,104,238	Violet	238,130,238
DodgerBlue	30,144,255	MediumSpringGreen	0,250,154	VioletRed	208,32,144
Feldspar	209,146,117	MediumTurquoise	72,209,204	Wheat	245,222,179
FireBrick	178,34,34	MediumVioletRed	199,21,133	White	255,255,255
FloralWhite	255,250,240	MidnightBlue	25,25,112	WhiteSmoke	245,245,245
ForestGreen	34,139,34	MintCream	245,255,250	Yellow	255,255,0
Fuchsia	255,0,255	MistyRose	255,228,225	YellowGreen	154,205,50
Gainsboro	220,220,220	Moccasin	255,228,181		

6.2.4. Examples of use

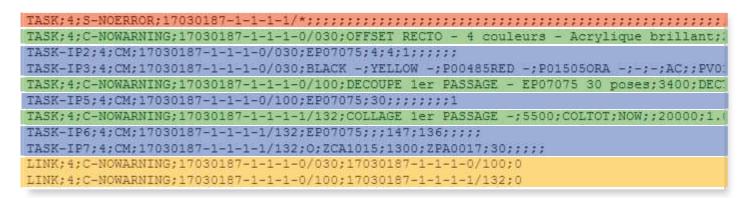
🖒 The WO data changed in the ERP

"Cancel and replace" import

(Instructions are truncated for readability purposes)

ENT1;4;CM;C54144;INDUSTRIA;;;;;;;;;RANDOM;;;;;;;;
ENT2;4;CM;PS54144-0000814;ETUI MAGIC 6% 10ML;39.5 x 34 x 68;8U780A00;A2220;;;;;;;RANDON
ENT3;4;CM;17030187-1-1;910855/1;VDR;;;;;;;;RANDOM;C54144;;;;;;;;
ENT4;4;CM;17030187-1-1-1;17030187-1-1-1;20000;SAINT-PIERRE DES CORPS;25/04/2017;26/04/20
DREF12;4;CM;A2220;A2220 (A112) PATTES ALTERNEES;RANDOM
DREF13;4;CM;EP07075;7075 - 30 poses;RANDOM
DREF14;4;CM;ZPA0017;ZPA0017 - PALETTE H 100X120 NIMP15 5 SEM CEINTUREE;RANDOM
DREF15;4;CM;ZCA1015;ZCA1015 - CA15-6543- CARN 598 X 324 X 200;RANDOM

The first four lines (dark green) create entities 1, 2, 3 and 4 (customer, product...) via **CM** action. The next four lines (light green) create Reference data 12, 13, 14 and 15 (product, type...) via **CM** action.



The first line (red) deletes all the WO phases via the S action (with NOERROR extension).

Phases (Printing > Cutting > Gluing) are then recreated (green) via the **C** action.

Corresponding Process Information (blue) is created or, as appropriate, modified via the **CM** action. Finally, the links between WO phases (orange) are created via the **C** action.

Import in "creation/modification"

(Instructions are truncated for readability purposes)

TASK;4;CM;17030187-1-1-1-0/020;COUPEUSE - Avec refente;1200;COUP;NOW;;1228;1.0;2.000;
TASK-IP1;4;CM;17030187-1-1-1-0/020;EP07075;1300;948;XPC0010;300;2;230;;;
TASK;4;CM;17030187-1-1-1-0/030;OFFSET RECTO - 4 couleurs - Acrylique brillant;2100;IM
TASK-IP2;4;CM;17030187-1-1-1-0/030;EP07075;4;4;1;;;;;;
TASK-IP3;4;CM;17030187-1-1-1-0/030;BLACK -;YELLOW -;P00485RED -;P015050RA -;-;-;AC;;P
TASK;4;CM;17030187-1-1-1-0/100;DECOUPE 1er PASSAGE - EP07075 30 poses;3400;DECTOT;NOW
TASK-IP5;4;CM;17030187-1-1-1-0/100;EP07075;30;;;;;;;1
TASK;4;CM;17030187-1-1-1-1/132;COLLAGE 1er PASSAGE -;5500;COLTOT;NOW;;20000;1.0;1.000

In the example above, the WO is not deleted. Phases are imported via the CM action, meaning they are created if they do not exist or modified if they do.

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6.2.5. Course of import and logging

Reminder

To set the import folder, click on **Configuration** > **General configuration** > **Automatic import**.

Warning

The files are processed in chronological order, according to their creation date. If two files share the same creation date, then they are processed by alphabetical order.

If sending files typed by instruction, filenames must be generated so as to take them into account in the right order.

Assuming that the import file is D:\DirectPlanning\import_001.csv

The import makes the following transactions:

- Creation of a time-stamped history folder, for example: D:\DirectPlanning\ histo\2018.02.01-12:00.
- Saving of the schedule before import, as a dpl2 file in this folder.
- Actual achievement of the import.
- Creation of import detailed logs: D:\DirectPlanning\histo\journal.log and D:\ DirectPlanning\journal.log.
- Each import file is moved to the time-stamped folder and the .ok extension is added if all records were processed successfully. Example: D:\DirectPlanning\ histo\import_001.csv.ok
- Each import file is moved to the time-stamped folder and the .err extension is added if there is at least one record in error in this file. Example: D:\DirectPlanning\histo\import_001.csv.err
- The scheduled is backed up after import, provided that no error was encountered during import and the automatic backup was not disabled.

These transactions are performed for reasons of security (to avoid a file being imported more than once) and traceability (to maintain a history of the different imports and their outcome).

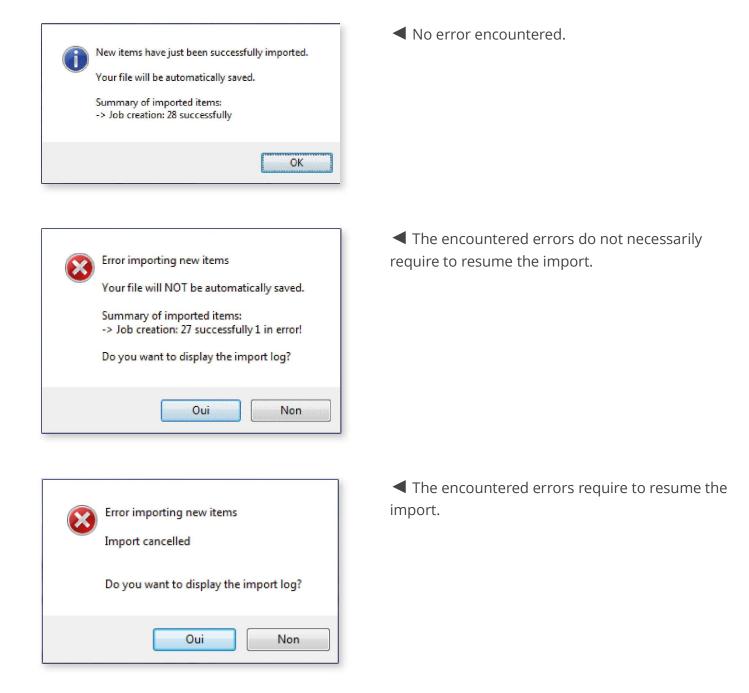
Note

Logging of the schedule can quickly saturate disk space.

Remember the check how the automatic purge of imports is configured (**Configuration** > **General configuration** > **Automatic import**)

6.2.6. Import result

3 scenarios may arise:



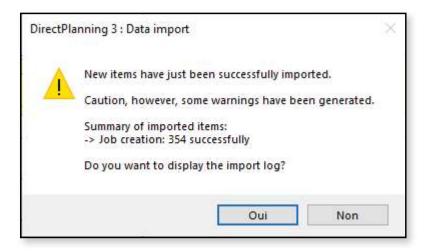
Resuming procedure

Following import, when closing the schedule without saving, 2 scenarios are possible:

- 1. Make the corrections in the program generating the files to import, regenerate the files to import and relaunch the import.
- 2. Put the affected files back in the import folder, delete the .err extension, directly edit the corresponding .csv files you relaunch the import.

Import log

As just seen, in case of error or warning, Direct Planning enables you to open the import log:



It is displayed in a window which is embedded in Direct Planning. In the log, the warnings are displayed in yellow and the errors in red:

mport fror	m: 🛛 🗖 2021.1	1.09-14.47 🗸 🗸	Wamings identified during the import	Close
iearch			Display only erroneous or warning lines	Display import files
L	ignes			
-	- START OF log			
0	9/11/2021 14:47:58 :			
-	- Adaptation of import file			
-	- Import of file \\VOLUPC203	DP Connect\Import 3.7_EN\1	Import_2021-10-26-10-07-19_ok.csv	
-	- Formatting the values of v	arious items		
	warning ->> Expected st	art date Hour, Minute, and	Second parameters describe an un-representable DateTime. : 07/02/2	017 34:43(Line 20)
-	- Starting import			
2	- Import of: Import_2021-10-	26-10-07-19_ok.csv		
	+ Creation	Job: [ID: 170001-10] (#	(# 1109) on resource U2	
	+ Creation	Job: [ID: 170001-20] (#	(# 1110) on resource T3	
	+ Creation	Job: [ID: 170001-30] (#	(# 1111) on resource F1	
	+ Creation	Job: [ID: 170002-10] (#	(# 1112) on resource U2	
	+ Creation	Job: [ID: 170002-20] (#	# 1113) on resource T2	
	+ Creation	Job: [ID: 170002-30] (#	(# 1114) on resource F1	
	+ Creation	Job: [ID: 170003-10] (#	(# 1115) on resource U1	
	+ Creation		# 1116) on resource T2	

A quick filter is available to view only warnings and errors:

🕥 Display import logs				
Import from:	2021.11.09-14.47	~ 0 0	Wamings identified during the import	

The search field enables you to find quickly a character string in the log.

For example, this will allow us to find all the import lines associated with a WO number:

mport from:	2021.1	1.09-14.47	~	0	0	Warnings identified during the import	
Search	170006	170006			[Display only erroneous or warning lines	
Lignes							
Lignes	+ Creation	Job: [ID:	170006-10]	(#	1124)	on resource UZ	
Lignes	+ Creation + Creation	A CONTRACT PROPERTY		ALC: N	and the second	on resource U2 on resource T2	

This log file also gives you access to the list of import files, in order to quickly review their content:

es				Close					
			Uisplaj	/ import files					
				^	Manual ale	rt			
				•					
resent	able DateTi	ime. : 07/02/201	7 31:13(Line 2	•					
🕑 Li	st of files in th	e import folder: \\VC	LUPC203\DP Conn	ect\Import 3.7_EN\I	Histo\2021.11.09-14.4	47		—	
Impo	rt files		Import_2021-10	0-26-10-07-19_ok.cs	v.ok	~		Ci	ose
	-			1	1		1	1	
	#	TASK	Version	Action	ID Ext	Description	ID Ressource	ID Operation	De
			1.00850.000	Contraction of the	36655365		Second Distance Second	Concern Management of Concerns	De
	1	# TASK TASK	Version 4	Action CM	ID Ext. 170001-10	Description	ID Ressource U2	ID Operation USI1	06
			4			Usinage standard			
	3	TASK	ė.	CM	170001-20	Traitement stand		TRA1	07.
	4	TASK	4	CM	170001-30	Finition standard	F1	FIN1	08.
	5	TASK	4	CM	170002-10	Usinage standard	U2	USIT	06
	6	TASK	4	CM	170002-20	Traitement stand		TRA1	07
	7	TASK	4	CM	170002-30	Finition standard	F1	FIN1	08
	8	TASK	4	CM	170003-10	Usinage standard	U1	USI1	06.
	9	TASK	4	CM	170003-20	Traitement stand		TRA1	08
	10	TASK	4	CM	170003-30	Finition standard	F2	FIN1	10,
	11	TASK	4	CM	170004-10	Usinage standard	U1	USI1	06
	12	TASK	4	CM	170004-20	Traitement stand		TRA1	07
	13	TASK	4	CM	170004-30	Finition standard	F1	FIN1	08
	14	TASK	4	CM	170005-10	Usinage standard	U1	USI1	06.
	15	TASK	4	CM	170005-20	Traitement stand	T2	TRA1	07.
	16	TASK	4	CM	170005-30	Finition standard	F2	FIN1	09
	17	TASK	4	CM	170006-10	Usinage standard	U2	USI1	06,
	18	TASK	4	CM	170006-20	Traitement stand	T2	TRA1	07/
	19	TASK	4	CM	170006-30	Finition standard	F2	FIN1	08,
	20	TASK	4	CM	170007-10	Usinage standard	U1	USI1	07,
		TASK	4	CM	170007-20	Traitement stand	T1	TRA1	08.
	21			10000	170007 00	Finition standard	F2	FIN1	08
	21 22	TASK	4	CM	170007-30	Finicion standard	FZ	1.030	UO.
		TASK TASK	4	CM	170007-30	Usinage standard	U2	USI1	06

You can also browse quickly the import logs from previous imports:

2021.11.09-14.47	~
2021 11:09-14:47	
	- 2021111.00 14.47

6.3.1. Data export formats

Exporting Process Information

No.	Designation	Format	Comments
1	Data type	alpha	Possible values: from TASK-IP
2	Version of export format	alpha	Value: 4
3	Direct Planning identifier for this job	alpha	
4	Process Information number	Num	
5	Configurable area 1	alpha	
6	Configurable area 2	alpha	
7	Configurable area 3	alpha	
8	Configurable area 4	alpha	
9	Configurable area 5	alpha	
10	Configurable area 6	alpha	
11	Configurable area 7	alpha	
12	Configurable area 8	alpha	
13	Configurable area 9	alpha	
14	Configurable area 10	alpha	

6.3. Exporting data

As discussed earlier, Direct Planning can generate files for third party applications (such as an ERP, CAPE, specific program or Excel macro).

Direct Planning exports jobs (with attached flags), links and optionally the daily and weekly workload.

The export is automatically generated each time the schedule is saved.

To configure the export, click on **Configuration** > **General configuration** > **Automatic export**:

🔀 General configuration of schedu	ule - Configuration of imports / exports	×
General	Automatic export	-
Machines	Whenever you save the schedule, Direct Planning can automatically create CSV export files. These files describe jobs, links and workload.	
Jobs		
Jobs: configurable areas	Enable automatic export	
Flags	Directory for export:	1
Alerts	Check write rights in this directory	
Planning assistance	Enable job export in version:	
Secondary resources	Version 4 Version 3 Version 2	
Automatic import	Enable export of daily and weekly workload	
Automatic export	Start date of workload export	
Backup copies	Start date of first job	
Advanced options	O Beginning of current year	
	O Beginning of current week	
	Have the export start: 2 weeks before this date.	
	End date of workload export	
	End date of last job	
	O End of current year	
	End of current week	
	Have the export end: 2 weeks after this date.	
	OK Cancel	

Characteristics of exported files

- CSV format
- Placed in the export folder configured in the screen above (Configuration > General configuration > Automatic export)
- Contain all the modifications made since the last backup. Named:
- **export_task.csv** for jobs in the v1 format.

- **export_task_v2.csv** for jobs in the v2 format.
- export_link.csv for links in the v1 format (there is no v2 format for links).
- **export_calendar_day.csv** for calendars and the daily workload.
- export_calendar_week.csv for the weekly workload.

Note

The colon replaces the semicolon in all text zones of the exported file.

The formatted notes are exported as plain text, without formatting and carriage returns. These are replaced by the character string %/% (percent slash percent).



Exporting jobs

No.	Designation	Comments
01	Data type	Value: TASK or TITLE Format: alpha
02	Version of import format	Values: 4 Format: alpha
03	ERP unique identifier for this job	The purpose of this zone is to allow the third party application to recognise a job it previously transferred to Direct Planning via the import function. For imported jobs, it contains the number assigned by the external software. For jobs created in Direct Planning, it is set to 0 (zero) unless you give it a value during import. When a job is subdivided, the 2 resulting jobs are identified by #1 and #2 suffixes. Format: alpha
04	Direct Planning unique identifier for this job	This zone contains the unique internal number assigned by Direct Planning. Format: alpha
05	Date of update	Format: datetime
06	Job name	Format: alpha
07	Identifier of resource	Format: alpha
08	Designation of resource	Format: alpha
09	Operation identifier	Format: alpha
10	Operation designation	Format: alpha
11	Working unit identifier	Format: alpha
12	Working unit designation	Format: alpha
13	Start date and time	Format: datetime***
14	End date and time	Format: datetime***
15	Entered earliest start date and time	Format: datetime***
16	Earliest start date and time derived from flags (with element receipt constraint)	Format: datetime***
17	Earliest start date and time forced by upstream jobs of route	Format: datetime***
18	Actual earliest start date and time	Format: datetime***
19	Earliest start date and time of route	Format: datetime***
20	Latest end date and time entered	Format: datetime***
21	Latest end date and time forced by downstream jobs of route	Format: datetime***
22	Actual latest end date and time	Format: datetime***
23	Latest end date and time of route	Format: datetime***
*** Da	atetime columns use the DD.MM.YYYY hh:m	m format (with a space between the year and time).
24	Declared start date and time of job	
25	Declared end date and time of job	
26	Former start date and time of job	

No.	Designation	Comments
27	Former end date and time of job	
28	Method of time entry	
29	Planned quantity	Format: quantity
30	Percentage of variable waste	Format: decimal
31	Nbr of WU to produce per operative WU	Format: decimal
32	Nbr of work rate WU per operative WU	Format: decimal
33	Performed quantity	
34	Non-compliant quantity	
35	Started job	
36	Completed job	
37	Progress percentage	Value: from 0 to 100 Format: num
38	Transition duration (deprecated)	Format: duration
39	Planned setting duration	Format: duration
40	Performed setting duration	Format: duration
41	Performed duration of setting stops	
42	Setting completed?	Format: O/N
43	Scheduled setting duration	Format: duration
44	Planned running duration	Format: duration
45	Performed running duration	Format: duration
46	Duration of downtime	Format: duration
47	Scheduled running duration	Format: duration
48	Total planned duration	Format: duration
49	Total performed duration	Format: duration
50	Total scheduled duration (ex-transition times)	Format: duration
51	Total scheduled duration including transition times	Format: duration
52	Locked job	Value: O/N Format: alpha
53	Job to schedule	Value: O/N Format: alpha
54	Job alert code	 0: No positioning alert 1: The job starts too early. 2: Job may end too late. 3: Job ends too late. Format: num

No.	Designation	Comments
55	Cycle alert code	 0: No cycle 1: The job is part of a cycle which is applies on the route of this job 2: The job is caught in a cycle. A job in cycle on the resource blocks the job and prevents its movement. The job does not actually belong to the cycle. 3: Impossible movement Format: num
56	Alert code of multi-status flag pending element receipt	0: No flag in alert 1: At least one Element not received flag in alert Format: num
57	Manual alert code	0: No manual alert 1: Manual alert positioned Format: num
58	Manual alert message	Format: alpha
59	Identifier of entity 1	Format: alpha
60	Designation of entity 1	Format: alpha
61	Identifier of entity 2	Format: alpha
62	Designation of entity 2	Format: alpha
63	Identifier of entity 3	Format: alpha
64	Designation of entity 3	Format: alpha
65	Identifier of entity 4	Format: alpha
66	Designation of entity 4	Format: alpha
67	Identifier of entity 5	Format: alpha
68	Designation of entity 5	Format: alpha
69	ldentifier of entity 6	Format: alpha
70	Designation of entity 6	Format: alpha
71	Identifier of entity 7	Format: alpha
72	Designation of entity 7	Format: alpha
73	Identifier of entity 8	Format: alpha
74	Designation of entity 8	Format: alpha
75	Identifier of entity 9	Format: alpha
76	Designation of entity 9	Format: alpha
77	Identifier of entity 10	Format: alpha
78	Designation of entity 10	Format: alpha
79	Free zone 1	Format: alpha
80	Free zone 2	Format: alpha
81	Free zone 3	Format: alpha
82	Free zone 4	Format: alpha
83	Free zone 5	Format: alpha
84	Free zone 6	Format: alpha
85	Free zone 7	Format: alpha
86	Free zone 8	Format: alpha
87	Free zone 9	Format: alpha



No.	Designation	Comments
88	Free zone 10	Format: alpha
No.	Decignation	Comments
	Designation	
89	Identifier of technical element 1	Format: alpha
90	Designation of technical element 1	Format: alpha
91	Identifier of technical element 2	Format: alpha
92	Designation of technical element 2	Format: alpha
93	Identifier of technical element 3	Format: alpha
94	Designation of technical element 3	Format: alpha
95	Identifier of technical element 4	Format: alpha
96	Designation of technical element 4	Format: alpha
97	Identifier of technical element 5	Format: alpha
98	Designation of technical element 5	Format: alpha
99	Identifier of technical element 6	Format: alpha
100	Designation of technical element 6	Format: alpha
101	Identifier of technical element 7	Format: alpha
102	Designation of technical element 7	Format: alpha
103	Identifier of technical element 8	Format: alpha
104	Designation of technical element 8	Format: alpha
105	Identifier of technical element 9	Format: alpha
106	Designation of technical element 9	Format: alpha
107	Identifier of technical element 10	Format: alpha
108	Designation of technical element 10	Format: alpha
109	Identifier of technical element 11	Format: alpha
110	Designation of technical element 11	Format: alpha
111	Identifier of technical element 12	Format: alpha
112	Designation of technical element 12	Format: alpha
113	Identifier of technical element 13	Format: alpha
114	Designation of technical element 13	Format: alpha
115	Identifier of technical element 14	Format: alpha
116	Designation of technical element 14	Format: alpha
117	Identifier of technical element 15	Format: alpha
118	Designation of technical element 15	Format: alpha
119	Identifier of technical element 16	Format: alpha
120	Designation of technical element 16	Format: alpha
121	Identifier of technical element 17	Format: alpha
122	Designation of technical element 17	Format: alpha
123	Identifier of technical element 18	Format: alpha
124	Designation of technical element 18	Format: alpha



No.	Designation	Comments
125	Identifier of technical element 19	Format: alpha
126	Designation of technical element 19	Format: alpha
127	Identifier of technical element 20	Format: alpha
128	Designation of technical element 20	Format: alpha

Exporting flags

No.	Designation	Comments
		Flag 1
129	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num
130	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
131	Alert code on this flag	0: No alert on this flag1: Expired planned receipt date for a waiting for element receipt flag.
132	Planned date of receipt	Format: datetime***
133	Actual date of receipt	Format: datetime***
*** Date	time columns use the DD.MM.YYYY hh:mm	format (with a space between the year and time).
134	Configurable area 1	Format: alpha
135	Configurable area 2	Format: alpha
136	Configurable area 3	Format: alpha
137	Configurable area 4	Format: alpha
138	Configurable area 5	Format: alpha
139	Configurable area 6	Format: alpha
140	Configurable area 7	Format: alpha
141	Configurable area 8	Format: alpha
142	Configurable area 9	Format: alpha
143	Configurable area 10	Format: alpha
		Flag 2

No.	Designation	Comments
144	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num
145	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
146	Alert code on this flag	0: No alert on this flag1: Expired planned receipt date for a waiting for element receipt flag.
147	Planned date of receipt	Format: datetime
148	Actual date of receipt	Format: datetime
149	Configurable area 1	Format: alpha
158	Configurable area 10	
Flag 3		
159	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num
160	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
161	Alert code on this flag	0: No alert on this flag 1: Expired planned receipt date for a waiting for element receipt flag.
162	Planned date of receipt	Format: datetime
163	Actual date of receipt	Format: datetime
164	Configurable area 1	Format: alpha
173	Configurable area 10	
		Flag 4
174	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num

No.	Designation	Comments
175	Status of receipt (For Waiting for element receipt flags)	0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
176	Alert code on this flag	0: No alert on this flag 1: Expired planned receipt date for a waiting for element receipt flag.
177	Planned date of receipt	Format: datetime
178	Actual date of receipt	Format: datetime
179	Configurable area 1	Format: alpha
188	Configurable area 10	
		Flag 5
189	Status	 Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num
190	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
191	Alert code on this flag	0: No alert on this flag 1: Expired planned receipt date for a waiting for element receipt flag.
192	Planned date of receipt	Format: datetime
193	Actual date of receipt	Format: datetime
194	Configurable area 1	Format: alpha
203	Configurable area 10	
		Flag 6
204	Status	 Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num
205	Status of receipt (For Waiting for element receipt flags)	0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num
206	Alert code on this flag	0: No alert on this flag1: Expired planned receipt date for a waiting for element receipt flag.
207	Planned date of receipt	Format: datetime
208	Actual date of receipt	Format: datetime

No.	Designation	Comments	
209	Configurable area 1	Format: alpha	
218	Configurable area 10		
		Flag 7	
219	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num	
220	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num 	
221	Alert code on this flag	0: No alert on this flag1: Expired planned receipt date for a waiting for element receipt flag.	
222	Planned date of receipt	Format: datetime	
223	Actual date of receipt	Format: datetime	
224	Configurable area 1	Format: alpha	
233	Configurable area 10		
		Flag 8	
234	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num	
235	Status of receipt (For Waiting for element receipt flags)	0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num	
236	Alert code on this flag	0: No alert on this flag 1: Expired planned receipt date for a waiting for element receipt flag.	
237	Planned date of receipt	Format: datetime	
238	Actual date of receipt	Format: datetime	
239	Configurable area 1	Format: alpha	
248	Configurable area 10		
		Flag 9	

No.	Designation	Comments	
249	Status	 Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num 	
250	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num 	
251	Alert code on this flag	0: No alert on this flag1: Expired planned receipt date for a waiting for element receipt flag.	
252	Planned date of receipt	Format: datetime	
253	Actual date of receipt	Format: datetime	
254	Configurable area 1	Format: alpha	
263	Configurable area 10		
		Flag 10	
264	Status	Values: -1: Unconfigured flag 0: Inactive flag 1: Active indicative flag or multi-status flag with status 1 2: Multi-status flag with status 2 3: Multi-status flag with status 3 4: Multi-status flag with status 4 5: Multi-status flag with status 5 Format: num	
265	Status of receipt (For Waiting for element receipt flags)	 0: The flag is not a Waiting for element receipt flag 1: Waiting for element receipt 2: Received element Format: num 	
266	Alert code on this flag	0: No alert on this flag 1: Expired planned receipt date for a waiting for element receipt flag.	
267	Planned date of receipt	Format: datetime	
268	Actual date of receipt	Format: datetime	
269	Configurable area 1	Format: alpha	
278	Configurable area 10		

Exporting links

No.	Designation	Comments	
1	Data type	Value: LINK (or TITLE) Format: alpha	
2	Version of export format	Value: 4 Format: alpha	
3	Direct Planning identifier of source job	Format: alpha	
4	Direct Planning identifier of destination job	Format: alpha	
5	External identifier of source job	Format: alpha	
6	External identifier of destination job	Format: alpha	
7	Link duration	Format: num	

Exporting memos

No.	Designation	Comments	
1	Data type	Value: LINK (or TITLE) Format: alpha	
2	Version of export format	Value: 4 Format: alpha	
3	External identifier of job (ERP ID)	Format: alpha	
4	Direct Planning internal identifier	Format: alpha	
5	Login of Direct Planning user	Format: alpha	
6 Comment text To create a line break: \\r Semicolons are replaced by commas. Double quotes are doubled.		Semicolons are replaced by commas.	
7	State of alert linked to comment		
8	Comment modification date		
9	Comment alert date		



Interfacing an ERP with Direct Planning : Calendars and daily workload

Direct Planning 4.0

Calendars and daily workload

The exported file contains only one type of record: the hours worked by day and by resource (**DAILY**). 17 fields exported, translating into 16 semicolons.

The first line of the exported file is a header line to ease the identification of columns (data type = TITLE).

No.	Designation	Comments
1	Data type	Value: DAILY (or TITLE) Format: alpha
2	Version of export format	Value: 1 Format: alpha
3	Date	Format: dd/mm/yyyy
4	Direct Planning identifier of the resource	Format: alpha
5	Work capacity for this resource at this date	ln minutes Format: num
6	Actual workload for this resource at this date	In minutes Format: num
7	Workload percentage for this resource at this date	= zone 6/zone 5 X 100 Format: num
8	Range start 1	00:00 as start time means midnight of the day.
9	Range end 1	00:00 as end time means midnight of the next day.
10	Range start 2	Start and date time not entered: unused time range
11	Range end 2	Format: hh:mm
12	Range start 3	Format: nn:mm
13	Range end 3	
14	Range start 4	
15	Range end 4	
16	Range start 5	
17	Range end 5	

Warning

If you open the **export_calendar_day.csv** file in Microsoft Excel and the software is configured to not display zero values, confusion may arise as 00:00 values no longer appear, mixing up 24 hour and zero hour work capacity cases!

Weekly workload

This file indicates the workload and work capacity by week and by resource.

The exported file contains only one type of record: the hours worked by week and by resource (**WEEKLY**). 8 fields exported, translating into 7 semicolons.

No.	Designation	Comments
1	Data type	Value: WEEKLY (or TITLE) Format: alpha
2	Version of export format	Value: 1 Format: alpha
3	Week number	Format: num
4	Week start date	Format: dd/mm/yyyy
5	Direct Planning identifier of the resource	Format: alpha
6	Work capacity of this resource for this week	ln minutes Format: num
7	Actual workload of this resource for this week	In minutes Format: num
8	Workload percentage of this resource for this week	= zone 7/zone 6 X 100 Format: num

Note

The week spreads from Monday to Sunday.

7. Administration

ADMINISTRATION

This section is, by definition, fully dedicated to the Direct Planning administrator.

7.1. Managing your schedule backups

Configuration > General configuration > Backup copies

🔀 General configuration of schedu	ule - Configuration of backup copies X	:
General	Automatic local backup copy	
Machines	Every hour, as a background task, Direct Planning automatically and seamlessly performs a local backup copy of your schedule (in a .autosave.dpl2 file), even if you have forgotten to save.	
Jobs	Furthermore, upon each manual backup, Direct Planning makes a local backup copy of your schedule (in a .backup.dpl2 file).	
Jobs: configurable areas		
Flags	Access local backup directory	
Alerts		
Planning assistance	Centralizing and logging of automatic backup copies	
Secondary resources	this copy, the backup archive is stamped with date and time.	
Automatic import		
Automatic export	Enable centalization of automatic backup copies	
Backup copies	Directory for backup copies:	
Advanced options	Check write rights in this directory	
	Automatically purge backup copies older than: 60 Days	

0

Backup copies are made in the DPL2 format.

What is the DPL2 format?

Schedules are saved in a SQL Server database.

Therefore, they are not materialised by files which can be copied in the explorer or with a backup management tool.

However, each schedule can be exported in a DPL2 file which can be copied or saved with any Windowsbased tool.

Local backup

Direct Planning's automatic backup provides basic security.

It is performed every hour, even when users do not purposely perform the backup. Should an incident occur, this allows the recovery of a recent backup copy.

The backup is performed in the following folder:

```
C:\Users\[utilisateur]\AppData\Roaming\Volume Software\DirectPlanning 2\
backup
```

Click on Access local backup directory to reach this folder directly.

Centralised (network) backup

Further security is provided by saving your schedule on another machine, in a shared and centralised folder. To do this, check the corresponding box and specify the backup folder by clicking on the 📷 icon on the right.

This folder centralises all backups performed by all computers.

It can integrate with the overall framework of backup procedure in your enterprise.

Click on Check write rights in this directory to check that you have writing permissions in this folder.

Backup purge

Finally, you can request the automatic purge of outdated backups by checking the corresponding box. The age of backups can be configured: 60 days by default.

Backup summary

In this table:

- Manual backups are those purposely launched by users.
- Automatic backups are those automatically launched by Direct Planning.
- Critical backups are those performed automatically when a crash occurs. They allow the recovery of crucial information. You can also send it to us for diagnostic purposes.

Backup	Local folder	Centralisation folder (where appropriate)
Manual	[Schedule name].[Num].backup.dpl2	[Schedule name].[Num].backup.dpl2 [Schedule name].[Num].backup.[date].dpl2
Automatic	[Schedule name].[Num].autosave.dpl2	[Schedule name].autosave.[date].dpl2
Critical	[Schedule name].autosave-error.[date].dpl2	

[Num] shows the database number, to differentiate different bases sharing the same schedule name.

[date] indicates that the file is time-stamped in the YYYY.MM.DD-hh.mm.ss format.

Opening DPL2 files

A dedicated tool can be used to display, and eventually modify, the contents of DPL2 files. This tool is located in the Direct Planning install directory and is named **DPL2_File_Viewer.exe** It is reserved for the administrator. This tool should be used with extreme caution when modifying DPL2 files.

OUR ADVICE	Ď
It is essential to backup the DPL2 file before making any change.	
A DPL2 file may be modified upon agreement with Volume Software maintenance staff.	

Start the DPL2_File_Viewer.exe program and open the DPL2 file by clicking on 📷, and Charger (Load):

Fich	hier à inspecter		🖾 C:\Program Files	\Volume Software\DirectPlanning 3\Exam	ples in English \industrie \`	Enregistrer
Tab	le visualisée		SYS_USER_RE	GISTRE	Nombre d'enregistrements : 160	
SYS	_USER_MODE_	AFFICHAGE_INTERDIT	SYS_USER_F	REGISTRE SYS_USER SY	S_USER_LISTE_PARAMETRABLE_INTERDIT	SYS_REGISTR
	ID_USER	CHAPITRE	SOUS_CHAPITRE	CLE	VALEUR	
•	0	Configuration_Generale	Fenetre_Detail_Tache	IdOnglet	5	
	0	Configuration_Generale	Fenetre_Detail_Tache	IdRadio Entite	1	
	0	Configuration_Generale	Fenetre_Detail_Tache	Id Type Entite	1	
	0	Configuration_Generale	Fenetre_Liste_Tache	Mode_Affichage_Fenetre	0	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Dock	Тпе	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Dock_Droite	False	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Dock_Reduced	False	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Height	1040	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Left	0	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Poste	VOLUPC09	
	0	Configuration_Generale	Fenetre_Liste_Tache	Position_Fenetre_Statut_Principal	0	
	0	Configuration Generale	Fenetre Liste Tache	Position_Fenetre_Top	0	

2 methods are available to view the tables in your .DPL2 file: by selecting a table in the dropdown list **Table visualisée** (Table displayed) or by clicking on the tables displayed above the columns (SYS_ REGISTRE, LISTE_PARAMETRABLE, etc.).

The table and column denominations are internal names used in the database.

Clicking on a column header column sorts the display. To change a piece of data, click a first time in the concerned cell. Then click a second time to switch to printing mode.

When you are done with your modifications, click on the **Enregistrer** (Save) button.

7.2. Administering databases

Use the **File > Administration** menu to administer Direct Planning databases.

Password for database administration	
	OK Cancel

▲ The first time you access the administration module, you must create a password which will be requested on each access.

You can change it later.

Warning	
This password is separate from the user password of the administrator.	

After entering your password, the list of bases displays:

List of bases : 11 DFR IND - Cattonnages et transformateurs 22 DFR PRO - Gestion de projets informatiques 33 DFR SER - Réservation de salles 4 Planning AGM 5 Démonstration Industrie 2.2 6 Démo regroupement 7 Usine de Rouen 9 DFR PRO DOC - Gestion de projets informatique 9 DFR PRO DOC - Gestion de projets informatique 10 DFR IND - Générique pour industrie 9 DFR PRO DOC - Gestion de projets informatique 11 Emballux 12 Cartonnages et transformateur 13 DEN IND - Genéric planning for industry 14 Cartonnages UltraPack 15 Planning de démonstration 19 Planning de démonstration 19 Planning de démonstration 19 Planning de démonstration 19 REFF - I - Generic planning for industry 17 Imprim 2018 18 Planning de démonstration 19 Planning de démonstration 20 REFF - I - Generic planning for industry (3.3) 21 REF Utra Pack cardboard (3.3) 22 Ste de Tours 23 Demo schedule	Database administration			
	 DFR IND - Cartonnages et transformateurs DFR PRO - Gestion de projets informatiques DFR PRO - Gestion de salles Planning AGM Démonstration Industrie 2.2 Démo regroupement Usine de Rouen DFR IND - Générique pour industrie DFR PRO DOC - Gestion de projets informatiqu DFR IND - Générique pour industrie DFR PRO DOC - Gestion de projets informatiqu DFR IND - Générique pour industrie DFR PRO DOC - Gestion de projets informatiqu DFR IND V3.1 - Cartonnages et transformateu. Emballux Cartonex DEN IND - Generic planning for industry Cartonnages UltraPack Planning vide DEN IND - Generic planning for industry Impim 2018 Planning de démonstration REF - 1 - Generic planning for industry (3.3) REF Ultra Pack cardboard (3.3) Site de Tours Demo schedule 	Database name Database description Database version Access lock Actions on base Database administra Delete base	REF - 1 - Generic planning for industry (3.3) 3.3.0 None	

To delete a base, select the base to delete in the list on the left and click on Delete base after checking

the corresponding box.

To access the actual administration, choose the database to administer and click on **Database administration**. The following screen opens:

General	Sessions	Base info	Table info	Maintenance
formation on databa	ase			
latabase name	directplann	ing20		
atabase descriptio	n REF - 1 - G	eneric planning for industry (3	8.3)	
atabase version	3.3.0]		
atabase access loc	k			
ccess <mark>l</mark> ock	None			
	-			

The **General** tab provides an overview of the base.

The **Sessions** tab display the history of sessions for the schedule:

General	Sessions		Base info	Т	able info	Maintenance	
Id Session			Sessions of	du :	🗂 au :		1
Voir uniquement le	es sessions en erre	ur					
og of schedul	an and the second second		12 2				2
r Type	User	Machine	Complet	Beginning	Last backup	Nb. backups	Last import
24 Modification	Démonstratio	VOLUPC12	1	2018-03-29 11:02			
23 Modification	Démonstratio	VOLUPC12	1	2018-03-29 10:12:0	00		
22 Modification	Démonstratio	VOLUPC12	1	2018-03-27 17:24:0	00		
21 Modification	Démonstratio	VOLUPC12	1	2018-03-23 09:01:0	00		
	Démonstratio	VOLUPC12	1	2018-03-21 10:19:0	00		
20 Modification	-	VOLUPC12	1	2018-03-19 09:31:0	00		
20 Modification 19 Modification	Démonstratio						
	Démonstratio Démonstratio		1	2018-02-20 09:42:0	00		
19 Modification		VOLUPC12	V V	2018-02-20 09:42:0			

Double-click on a session to display its details:

General Session events			
Session type	Modification	Session start date	23/03/2018 09:01
Jser name	Démonstration,	End date of session	23/03/2018 09:48
Machine name	VOLUPC12	Duration	0:47s
Date of last backup		Number of backups	0
Date of last import		Number of imports	0
Session terminated			
Abnormal termination	of session		
Error message			

The Base info tab offers detailed information about your database (files, data types, sizes, etc.):

General	Sessions		Baseinfo	Table	info	Maintenance	6
						Data	2,160 Ko
	2	Files		Allocated	3,936 Ko	Index	1,416 Ko
		Data [20,480 Ko	-		Unused	360 Ko
Base si	30,720 Ко			Not allo	16,548 Ko		
		Log	10,240 Ko				
husiaal filaa		Log [10,240 Ko				
h <mark>ysical files</mark> le name	,	Log [10,240 Ko	Туре	File size (Ko)	Max size (Ko)	Increment
le name	crosoft SQL Serve		10,240 Ko	Type	File size (Ko)		Increment 10240 KB
le name Program Files\Mi		er\MSSQL10		SW data only		0	
e name Program Files\Mi		er\MSSQL10	0_50.SQLEXPRESS_VS	SW data only	20,48	0	10240 KB

The **Table info** tab provides information about the tables included in your base (table names, number of records, allocated space, etc.):

	Sessions	Base info	Table info	Mainten	ance
Tables					
able name	Number of records	Allocated space (Ko)	Data size (Ko)	Index size (Ko)	Unused space (Ko)
CTIVITE	3	16	6 8	8	0
CTIVITE_FAMILLE	3	- 32	2 8	24	0
CTIVITE_RESSOU	8	16	8	8	0
CTIVITE_RESSOU	4	16	8	8	0
CTIVITE_RESSOU	0	C	0	0	0
ALENDRIER_ANNEE	41	16	8 8	8	0
ALENDRIER_SEMA	430	48	3 32	16	0
ONFIG_DONNEE	11	16	5 8	8	0
ONFIG_ELEMENT	0	C	0	0	0
ONFIG_ENTITE	3	16	8	8	0
ONFIG_INFO_PRO	3	16	8	8	0
ONFIG_MARQUEUR	3	16	8	8	0
ETAIL_JOUR_TYPE	15	16	8 8	8	0
ONNEE_REF	50	16	8	8	0
LEMENT_TECHNIQ	0	C) 0	0	0
NTITE	316	136	96	16	24
ERIE_ANNEE_PAYS	0	C	0	0	0

Finally, use the **Maintenance** tab allow to perform various operations on the database:

General	Sessions	Base info	Table info	Maintenance	
ARNING! The b	elow maintenance features	are to be used with extreme	caution and by a confirmed	administrator only.	
ick the checkbo	x to enable the button on its	right			
ick the checkbo	to enable the batton on its	ngne.			
1	Delete access lock	Used further to a automatically del	n error where the access lo	ck would not have been	
Swit	ch database to maintenance		ccess to the schedule. No lo	ock must be set	
	Purge database	Purge session lo	9		
	Pack database	Packing database			

Note regarding the **Delete access lock** option: a lock prevents 2 computers from modifying simultaneously the same schedule. Normally, this lock is released when closing the schedule.

When Direct Planning is unexpectedly closed, this lock is not released and prevents any modification of the schedule. To solve this problem, check the corresponding box and click on **Delete access lock**.

Warning

Do not try to delete this lock if other people are working on this base, in which case this lock is completely justified.

7.3. Licenses

Since version 3, Direct Planning relies on a named license manager, which ensures more freedom in the distribution of licenses between the different user stations.

This named license manager is called Volume Licence Administration (VLA).

30 days trial version

Upon first installation on your station, Direct Planning runs in trial version valid for 30 days. The trial version is identical to the full offer, without operational limitations.

When the trial period expires, or before if you wish, you can purchase Direct Planning. To do this, please contact Volume Software by calling (+00.33) 02.47.66.47.20 or email us at info@directplanning.com. Contacting Volume Software also gives you the opportunity the extend the trial period.

Registering the Direct Planning license

After the first start, Direct Planning is in trial version, valid for 30 days from the installation date. This screen acts as a reminder each time you start Direct Planning and the software is not registered. You can also display this screen by selecting **About** in the "?" menu.

🕜 About DirectPlanni	ing <mark>4</mark>	×
	Direct Plannin	Ig
Version	DirectPlanning ® 4.0.0.9075	
Web	 www.directplanning.com Twitter 	
Licence	Accreditation renewed on 25/11/2024 at %2 (Server contacted). SLN file: \\voluapp01\sln volume\02.dired	
	Enter licence	Request a license by email
Warning: this software is pro	Software work of José Manuel Menéndez Poo (www stected by copyright laws and by international conventions specting these conditions will be guilty of infringement offe	. Any reproduction or partial or full distribution
System infor	mation	Close

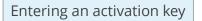
◄ When the 30 day trial expires, running your software requires a license.

Click on License entry or Request a license by email to activate Direct Planning.

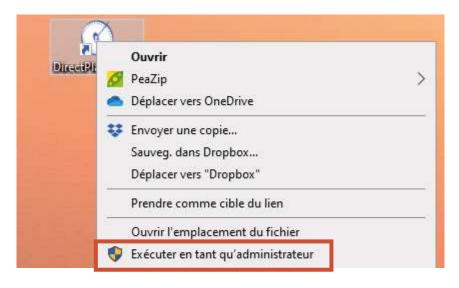
Direct Planning can be activated by entering a local activation key or by connecting to license server (see next pages).

Click on **Request a licence by email** to send us an email containing the information required to grant you a license.





For entering the license, start the application right-clicking on the DirectPlanning shortcut and select **Run as administrator**:



This applies both for mono-station and VLA licenses.

Click on License entry to open the following window, containing your station key:

	DirectPlannin	g 3
Station key : LY93	D5ZY ER2B OPLB	8X1A Copy the workstation key
Local activation keys :		New license
Description :		
Status :		
Connect to a named lic	nce server.	Link
) Connect to a named lic	nce server.	Link
) Connect to a named lic	nce server.	Link
cense status :		Link
icense status : icense is wrong or not re 2071 The evaluation peri	jistered. d of DirectPlanning is over	
icense status : icense is wrong or not re 2071 The evaluation peri	jistered.	

Write down or copy your station key, and transmit it to Volume Software to obtain an activation key.

When you receive your activation key, click on **New license...** to enter it manually or paste it:

		Dire	ctPlan	ning 3		
Station key :	LY93	D5 ZY	ER2B	OPLB	8X1A	
Activation Key :						
Description :	License r	egistered	on 03/12/7	2018		
Description : Key status :	License r	egistered	on 03/12/	2018		
	License r	egistered	on 03/12/	2018		 lose

Connecting to a license server (in the context of a Server license)

Volume Licence Administration (VLA) must first be installed and configured (please refer to the documentation of this product).

Click on Connect to the named license server:

		DirectPlann	ing 3	
Station key :	LY93 D5ZY	ER2B OPLB	8X1A	Copy the workstation key
) Local activat	on keys :			New license
Descript	ion :			
Status :				
Connect to a	named licence serv	er.		Link
icense <mark>status</mark> :				
icense is wron 0207] The eval	g or not registered. Jation period of Dire Volume Software to g	ctPlanning is over.		

amed Licence Server file :	Voluapp01\sin volume\01.direc	planning.vla	-0
	Check validity of this	file	
	Valid file		
Function test			
Name of machine :	VOLUPC12]	
Windows login :	f.cathelin	Check licence for this pair	

Click on to search for the Named licence server file. Two buttons can also be used to check the validity of the selected file as well as the license for the Machine/Login pair.

Save and Quit: you are now registered.

Once registered, another click selecting **About** in the "?" menu shows that your accreditation is renewed for a period of one month:

Licence	Accreditation renewed on 03/12/2018 at 14:32, will expire on 01 14:32 (Server contacted). SLN file: \\voluapp01\sln volume\01.directplanning.vla.	
	Enter licence	Request a license by email

This means that you can stay **30 days** without connecting to the server. Beyond this period, you can still launch Direct Planning **5 times**. Each launch is accompanied by a warning message with a countdown. When the countdown is over, you must connect to the server to regain your accreditation.

7.4. Plugins

Direct Planning includes a plugin manager. Plugins are specific programs which can be called by Direct Planning via various triggers such as each backup, each loading, every x minutes, etc.

They are for instance used to generate exchange files towards your ERP, in the native format expected by this ERP.

The list of plugins is available by clicking on **Configuration** > **Plugins** in the ribbon:

Plugins Plugin configuration					
Label1					
# 4 Active Name	Description	Version	Triggered by	Status	Last run
1 DP> Volupack	Création d'un fichier d'interf	1.0.0	Au clic sur un bouto	Désactivé	
2 DP> OSYS	Création d'un fichier d'interf	1.0.0	A chaque sauvegar	Désactivé	
3 DP> SAP	Création d'un fichier d'interf	1.0.1	A chaque sauveqar	Désactivé	

Double-click on a plugin (or click on **Modify**) to access its detailed information:

🔡 Plugin detail			
Information on plugin		- [Configuration du Plugin : DP> Volupack
GUID	3b9d7fb3-5f7a-45e4-9ca3-06a3ed55a19f		
Plugin designation	DP-> Volupack		Création d'un fichier d'interface pour DirectPlanning
Description	Création d'un fichier d'interface pour Direct Planning		Répertoire de sortie :
Plugin type	Sortie		Vérifier les droits en écriture dans ce répertoire
Triggered by	Au clic sur un bouton et planning sauvegardé		
Nom du fichier	Plugin_DP_LGR_03.dll		Nom du fichier :
Version	1.0.0		
Status	Indisponible		Nombre de mois d'ancienneté maximum : 12
Last error message	Le répertoire n'est pas renseigné. Veuillez choisir un chemin valide.		Remplir les temps de calage et d'exécution OK Annuler
Last run -		- /	
Date of last run			
Status of last run			▲ This configuration window is specific to
Message of last run			the selected plugin.
Implementation	Plugin configuration		
	Save and Close Cancel		

While writing plugins is currently reserved to the Direct Planning team, third party developers may also be able to contribute to them in the future. Our development team will be happy to assist you with your project.

Annex A: Keyboard shortcuts

Common quick actions

F1	Call to documentation
F5	Refresh display
F3	Go down the time scale
F4	Go up the time scale
F11	Hide/Show the ribbon (full screen)
F12	About window
Ait + 1 / 2	Time scale 1, 2, etc.

Common quick actions with Ctrl

Ctrl + A	Select all jobs
Ctrl + C	Сору
Ctrl + V	Paste
Ctrl + S	Save
Ctrl + F	Search
Ctrl + G	Current route
Ctri + L	Locator
Ctrl + P	Schedule via a list
Ctrl + Z	Cancel
Ctrl + Y	Redo

Ctrl + 1	Open the list for entity 1 to 10 (0 for the tenth)
Ctrl + E	Selection mode
	Link creation mode
Ctrl + M	Enable/Disable highlighting
Ctrl + Mouse wheel	Zoom in
Ctri + Mouse wheel	Zoom out
Ctrl + F10	Trace mode

Job on the same criterion, navigation with CTRL (highlighting)

Ctri +	First job
Ctri + 🜉	Previous job
Ctri + →	Next job
Ctrl + End	Last job

Horizontal scroll in the schedule

← or →	Time scroll from a quarter of a screen
Alt + Mouse wheel	Time scroll to the future
Alt + Mouse wheel 👽	Time scroll to the past
Alt + - or -	Time scroll from a whole screen
	Go to start date of planning assistance
End	Go to end date of planning assistance
Alt +	Go to first job of the machine (if a job is selected)

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Alt + End	Go to last job
t or L	Go to current date
Alt + t or t	Go to selected job

Vertical scroll in the schedule

Mouse wheel 🕜 or 🕹	Vertical scroll in the schedule
Page Up	Move up in schedule
Page Down	Move down in schedule

Quick access to tabs

Alt + F	Show/Hide File menu
	Home menu
	Display menu
	Edit menu
	Planning assistance menu
Alt + S	Status menu
	Data menu
	Configuration menu

Annex B: Glossary

Term	Definition
Alerts	Alerts are messages used to draw attention on specific activities, for example if a job ends after the latest end date (retained by Direct Planning).
Calculation of running times	Running times can be forced or calculated depending on the quantity to produce and the work rate. The latter can be indicat- ed on the machine but it also possible to go beyond, for instance by configuring complex formulas which take your business con- straints into account.
Calculation of setting times	Setting times can be forced or calculated according to your business rules. For instance, DP can consider the time needed to change tools and reduce automatically the setting time of the current job uses the same tools as the previous job.
Calendars	Calendars allow the definition of machine-specific periods of ac- tivity/inactivity, regular or exceptional.
Compatible machines	Based on your business rules and data, Direct Planning can tell whether or not a job can be moved to another machine. Moving a job to an incompatible machine displays a warning.
Configurable areas	Certain standard data in Direct Planning (machines, jobs, mul- ti-status flags, entities and Process Information) can be comple- mented by configurable areas which are customisable according to your needs.
Configurable lists	Configurable lists are used to create custom lists tailored to us- er-specific needs. Each list can be exported to Excel with a single click.
Constraints	 Jobs can be subject to different constraints: Strong constraints: earliest start date and links between jobs attached to the same route. Objective constraints: latest end date.
Declaration of production	The declaration of production updates the observed quantities and durations. It can be input manually or imported from an ERP/MES.
Display modes	Display modes are used to customise how jobs are displayed and coloured in the schedule. They also define time scales and display restrictions.
Earliest start/Latest end date	 When a job/route is selected, its time boundaries are displayed as vertical lines (solid or dotted): Earliest start date: green dotted line (job), green line (route) Latest end date: orange dotted line (job), orange line (route)

Term	Definition
Entities	Entities are data lists which evolve with your activity (Sales repre- sentatives, Customers, Orders,). Entities must first be configured according to your needs, provid- ing a list for each piece of data.
ERP export	Direct Planning can return planning data to another application able to receive data in the CSV format.
ERP import	An application managing jobs can send information to your sched- ule via Direct Planning's import function.
Flags	Flags are coloured and sometimes hatched bullets located above and/or on the right of jobs.
	They serve the same purpose as paper clips and other stickers put on traditional wall schedules.
Jobs	A job represents an occupation or activity at a given time, for a given resource.
Jobs to schedule	As the name implies, jobs to schedule are jobs that you want to see on your schedule without setting them to a specific date.
Links	The succession of jobs within a route is materialised by links (coloured arrows).
Locked jobs	Identified by a lock icon, locked jobs cannot be modified or moved.
Machines	Machines are the foundation of the Industry planning. Please note that in Project and Service modes, machines are replaced by resources (e.g. rooms, employees, etc.).
Operations	Your machines perform operations.
	Examples: this machine makes die-cutting, that machine makes bonding, etc.
Planning assistance	Planning assistance encompasses a set of powerful tools (adjust- ment of jobs to the left or right, workload histograms) to optimise the schedule.
Plugins	Plugins are specific programs that Direct Planning can call with triggers.
Process information	Process Information is technical data whose display is limited to certain machines.
Production route	A set of jobs which must be performed in a specific chronological order is called a route. A route implies the respect of time con- straints.
Progress status	Direct Planning allows to view the progress status of unfinished jobs, materialised by a blue bar, at a glance.

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Term	Definition
Reference data	Reference data are data lists represented by a code, a designation and a colour. Examples: lists of sales representatives, product families, cutting dies, colours, etc.
Sections	Sections are groups of machines.
Technical data	Technical data are essential components for calculating setting times and work rate. They can be quantitative (e.g. dimensions) or qualitative (e.g. material types).
Time scale	The time scale is the time axis of the schedule.
Working units	Working units express the unit of measure for your machines.
	Examples: panels, sheets, kilograms, copies, linear feet.
Workload histogram	The workload histogram is used to analyse workload and capacity by machine and section.