

**Finite capacity planning and scheduling
for manufacturing
Odoo – frePPLe connector**

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Agenda

- Introduction
 - Odoo and frePPLe
 - Connector
- Live demo
- Conclusions
- Q&A



Odoo in manufacturing



Business transactions that **execute** the day-to-day operations in a manufacturing company

- Manage sales orders
- Manage purchase orders
- Track all inventory movements
- Create production orders
- HR
- Accounting & finance
- ...

Odoo ERP is the backbone to execute a manufacturing company's business processes

Day in the life of a planner

odoo +



How do I schedule material, capacity and labor around my constraints?

What is the impact of an unexpected machine breakdown or a late material?

Some tough questions a production planner in a manufacturing plant has to answer...

Which orders risk to be shipped late?

When can we ship this new order?

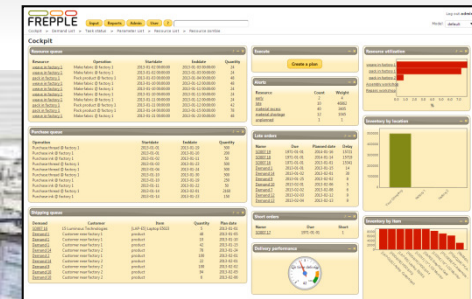
How do we make best use of our bottleneck resources?

What are our capacity needs for next year?

Which purchase orders should be expedited?

Boost your planning process

odoo +



When excel is no longer
the right tool to answer
these questions...

FrePPLe, open source APS tool

- over 9000 downloads per year
- finite capacity planning and scheduling
- optimized allocation of material and capacity
- intelligent decision support workflows

Integrated solution



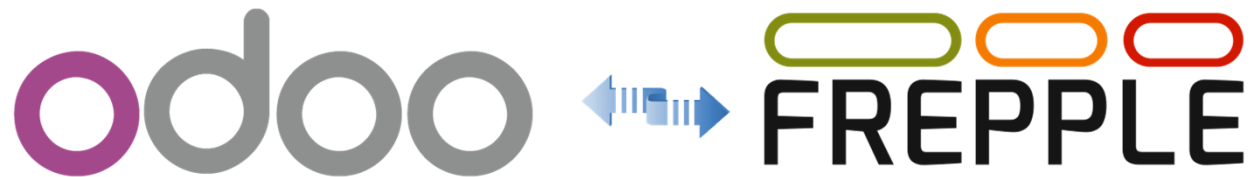
Business transactions to **execute** the day-to-day business processes

Decision support to **plan** beyond the ERP transactions

Business benefits of integrated solution

- Improve planning speed and accuracy
- Agile response to changes in demand and supply
- Improve your planner's productivity
- Reduce work in progress and inventory
- Improve delivery performance

Odoo – frePPLe connector



Workcenters
Routings
Bill of materials
Locations
Products
Customers

Inventory
Sales orders
Manufacturing orders
Work orders
Purchase orders



Manufacturing orders
Work orders
Procurement orders
Planned delivery date of sales orders

Odoo – frePPLe connector

XML-RPC connection

- Uses odoo standard XML-RPC API
- FrePPLe can be installed on the same server as odoo
Or
The planner can work on a personal installation of frePPLe

Net change integration

- Only recently changed objects are transferred
- Synchronization of the data is fast

Integration modes

- Different methods of integration
 - a. Replace odoo mrp scheduler
FrePPLe creates the purchase and manufacturing orders
 - b. Upload manufacturing orders at key steps in the production
Upload purchase orders for some materials
 - c. Standalone plan
Don't upload anything to odoo
 - d. Online quoting for sales orders
Promise delivery dates considering finite material and capacity

Live demo

IT'S DEMO TIME!

1. Create a new sales order in Odoo
2. Run connector Odoo=>frePPLe
3. Generate finite capacity plan in frePPLe
4. Review and approve plan in frePPLe
5. Run connector frePPLe=>Odoo
6. Check out the new procurement and manufacturing orders in Odoo

IT'S DEMO TIME!

1. Create a new sales order in Odoo

OpenERP

Sales Orders / SO010

Customer: Agrolait, Thomas Passot
69 rue de Namur
1300 Wavre
Belgium

Date: 05/29/2014
Customer Reference:

Product	Description	Quantity	Unit of Measure	Taxes	Unit Price	Subtotal
[PC-DEM] PC Assemble + Custom (PC on Demand)	[PC-DEM] PC Assemble + Custom (PC on Demand)	10.000	Unit(s)		900.00	9000.00

Untaxed Amount : 9000.00 €
Taxes : 0.00 €
Total : 9000.00 €

Quotation confirmed
• Customer: Agrolait, Thomas Passot
• Untaxed Amount: 9000.0

Administrator updated document • less than a minute ago • like

IT'S DEMO TIME!

2. Run connector Odoo=>frePPLe

▼ Import data from Odoo

Launch

Import data changes in the last days from the ERP into frePPLe.

FREPPLÉ Input Reports Admin User ? Log out admin Model: default ▼

Cockpit > Demand List > Task status > Parameter List

Demand List


Filter Save Undo Add Copy Delete Import Export

	Name ▾	Item	Customer	Description	Category	Subcategory
<input type="checkbox"/>	SO011 26 ▾	[CD] Blank CD ▾	6 Agrolait ▾			odoo
<input type="checkbox"/>	SO011 25 ▾	[CARD] Graphics Card ▾	6 Agrolait ▾			odoo
<input type="checkbox"/>	SO010 23 ▾	[PC-DEM] PC Assemble + Custom (PC	30 Thomas Passot ▾			odoo
<input type="checkbox"/>	SO007 19 ▾	USB Adapter ▾	15 Luminous Technologies ▾			odoo
<input type="checkbox"/>	SO007 18 ▾	[DC] Datacard ▾	15 Luminous Technologies ▾			odoo
<input type="checkbox"/>	SO007 17 ▾	[GRAPs/w] GrapWorks Software ▾	15 Luminous Technologies ▾			odoo
<input type="checkbox"/>	SO007 16 ▾	[LAP-E5] Laptop E5023 ▾	15 Luminous Technologies ▾			odoo
<input type="checkbox"/>	SO005 14 ▾	[PRINT] Printer, All-in-one ▾	6 Agrolait ▾			odoo
<input type="checkbox"/>	SO005 13 ▾	Blank DVD-RW ▾	6 Agrolait ▾			odoo
<input type="checkbox"/>	SO005 12 ▾	[EXT-HDD] External Hard disk ▾	6 Agrolait ▾			odoo
<input type="checkbox"/>	Demand 9 ▾	product ▾	Customer near factory 2 ▾			

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IT'S DEMO TIME!

3. Generate finite capacity plan in frePPLe

 Log out **admin**
Model: default

Input Reports Admin User ?

Cockpit > Demand List > Task status > Parameter List

Task status


Autorefresh Filter Export

Identifier	Name	Submitted	Started	Finished	Status
631	generate plan	2014-05-29 16:59:21	2014-05-29 16:59:24	2014-05-29 16:59:29	Done
630	Odoo import	2014-05-29 16:51:12	2014-05-29 16:51:15	2014-05-29 16:51:53	Done
629	Odoo import	2014-05-29 16:49:02	2014-05-29 16:49:05		0%
628	Load database	2014-05-29 16:44:20	2014-05-29 16:44:42	2014-05-29 16:44:42	Done

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Launch new tasks

Create a plan

 Load frePPLe from the database... and create a plan in frePPLe... and export results into the database

Plan type:

☒ Constrained plan
This plan respects the constraints enabled below.
In case of shortages the demand is planned late or short.

☐ Unconstrained plan
This plan shows material, capacity and operation problems that prevent the demand from being planned in time.
The demand is always met completely and on time.

Constraints:

☒ Capacity: respect capacity limits

☒ Material: respect procurement limits

☒ Lead time: do not plan in the past

☒ Release fence: do not plan within the release time window

View log file

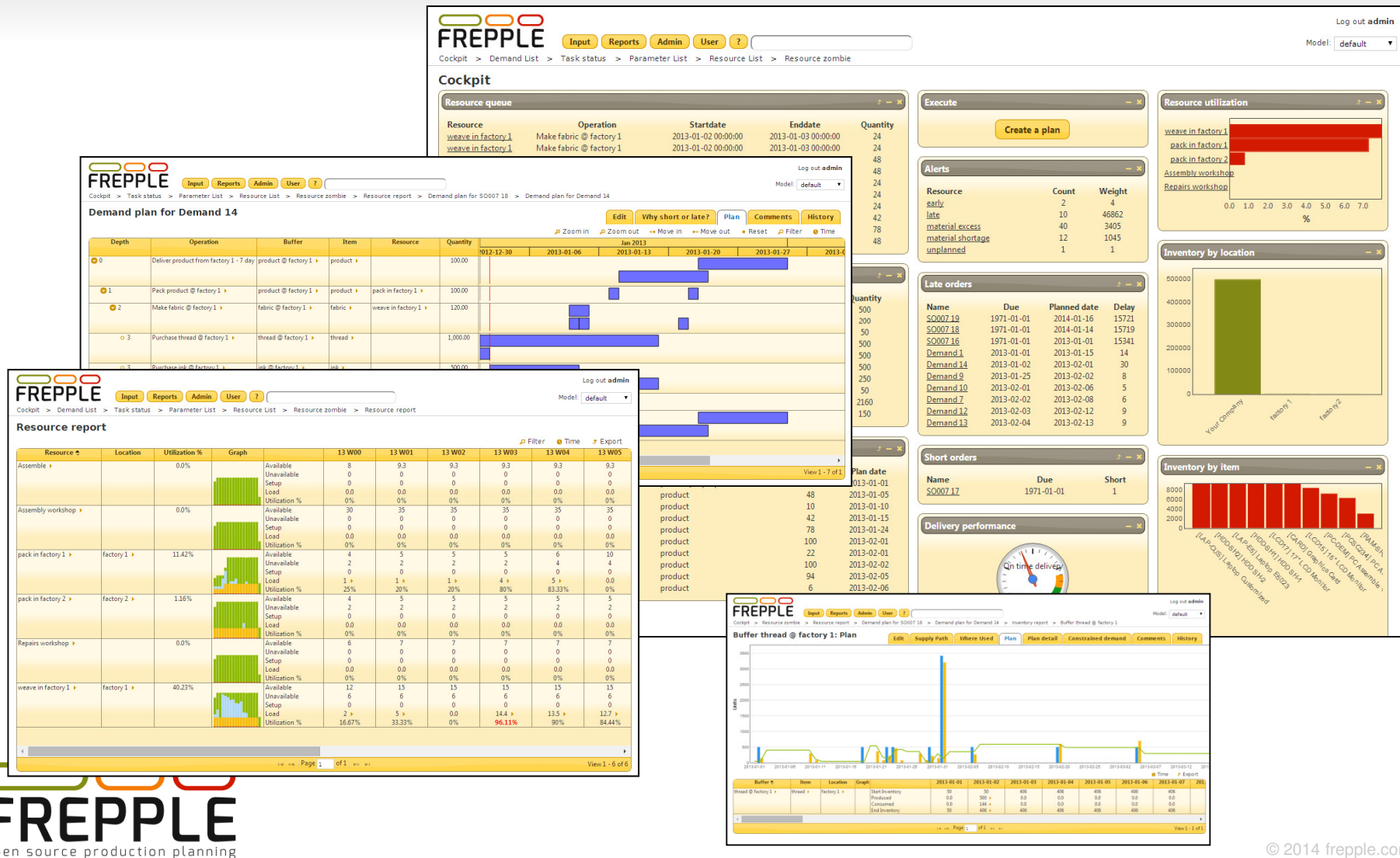
Export a spreadsheet

Import a spreadsheet

Scenario management

IT'S DEMO TIME!

4. Review and approve plan in frePPLe



IT'S DEMO TIME!

5. Run connector frePPLe=>Odoo

FREPPLE Input Reports Admin User ? Log out admin Model: default

Cockpit > Resource report > Demand plan for SO007 18 > Demand plan for Demand 14 > Inventory report > Buffer thread @ factory 1 > Task status

Task status

Autorefresh Filter Export

Identifier	Name	Submitted	Started	Finished	Status	Message
633	Odoo export	2014-05-29 17:12:49	2014-05-29 17:12:52		50%	
632	generate plan	2014-05-29 17:02:30	2014-05-29 17:02:32	2014-05-29 17:02:37	Done	
631	generate plan	2014-05-29 16:59:21	2014-05-29 16:59:24	2014-05-29 16:59:29	Done	
630	Odoo import	2014-05-29 16:51:12	2014-05-29 16:51:15	2014-05-29 16:51:53	Done	
629	Odoo import	2014-05-29 16:49:02	2014-05-29 16:49:05		0%	
628	load dataset	2014-05-29 16:44:30	2014-05-29 16:44:43	2014-05-29 16:44:43	Done	

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Launch new tasks

- Create a plan
- Export a spreadsheet
- Import a spreadsheet
- Scenario management
- Back up the database
- Empty the database
- Load a dataset
- Import data from Odoo
- Export data to Odoo**

Launch Export frePPLe plan to the ERP.

IT'S DEMO TIME!

6. New Odoo procurement and manufacturing orders

OpenERP

Manufacturing Orders

Create

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Reference	Scheduled Date	Product	Product Quantity	Product Unit of Measure	Routing	Total Hours	Total Cycles	Source Document	Status
MO/00003	03/24/2014 14:14:33	[C-Case] Computer Case	3.000	Unit(s)		0.00	0.00	MO/00001	Cancelled
MO/00004	03/26/2014 01:00:00	[C-Case] Computer Case	12.000	Unit(s)		0.00	0.00	frePPLe	Awaiting Raw Materials
MO/00005	03/26/2014 01:00:00	[PC-DEM] PC Assemble + Custom (PC on Demand)	12.000	Unit(s)	Manual Component's Assembly	28.50	6.00	frePPLe	Awaiting Raw Materials
MO/00002	03/26/2014 14:14:33	[LAP-CUS] Laptop Customized	1.000	Unit(s)	Custom Assembly Line	10.45	4.00		Cancelled
MO/00001	03/26/2014	[PCSC349] PC Assemble SC349	3.000	Unit(s)	Manual Component's	7.13	1.50		Done

OpenERP

Purchase Orders

Create

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Reference	Order Date	Supplier	Company	Expected Date	Source Document	Untaxed	Total	Status
PO00014	03/20/2014	Vicking Direct	Your Company	03/25/2014	frePPLe	4258.00	4258.00	Purchase Order
PO00013	03/23/2014	China Export	Your Company	03/25/2014	frePPLe	1512.00	1512.00	Purchase Order
PO00012	03/23/2014	China Export	Your Company	03/25/2014	frePPLe	120.00	120.00	Purchase Order
PO00011	12/28/2012	Seagate	Your Company	01/01/2013	frePPLe	3900.00	3900.00	Purchase Order
PO00010	12/30/2012	Mediapole	Your Company	01/01/2013	frePPLe	44.93	44.93	Purchase Order
PO00009	12/27/2012	Vicking Direct	Your Company	01/01/2013	frePPLe	1750.00	1750.00	Purchase Order
PO00008	12/25/2012	Mediapole	Your Company	01/01/2013	frePPLe	65.00	65.00	Purchase Order
PO00006	03/26/2014	Vicking Direct	Your Company	03/26/2014		1335.00	1335.00	Purchase Order
PO00002	03/26/2014	China Export	Your Company	03/28/2014		3718.00	3718.00	Purchase Order
						16702.93	16702.93	

Current status

- First set of users



Produces wooden furniture

Factory located in Indonesia
Employs >1000 people
Current planning spreadsheet of 35MB!

FrePPLe + Odoo will enable improved capacity planning process and improved on time delivery

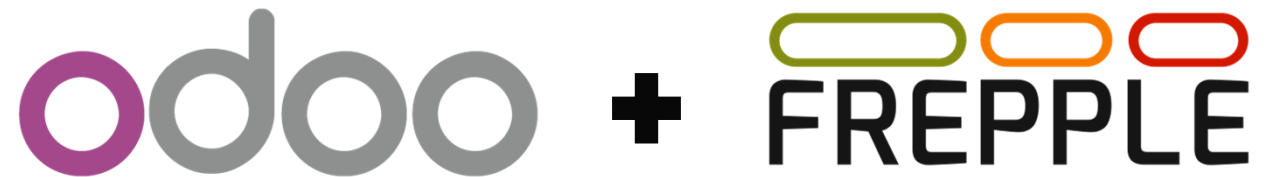


Produces plasma cutting and welding equipment

Located in Germany
Employs around 400 people
Implementation partner Elego software solutions

FrePPLe + Odoo to generate detailed production schedules

Conclusions



... delivering business value to manufacturing

... opening up new opportunities in manufacturing

Questions & answers

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Looking for:

- New employees!
- Challenging projects
- Implementation partners