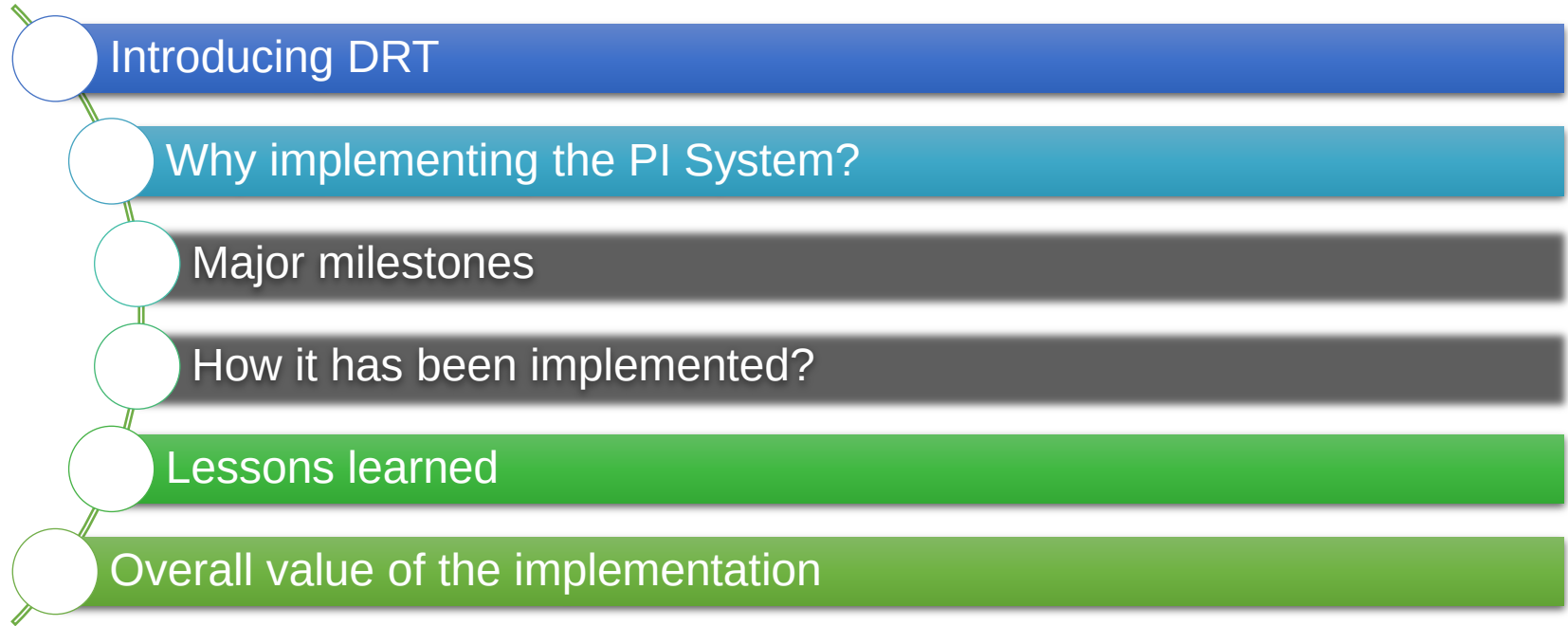


Implementing the PI System with internal ressources

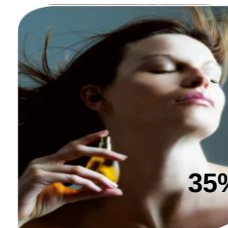
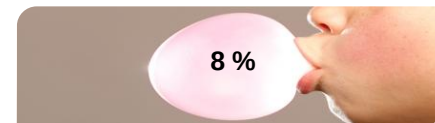
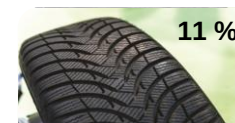
Béranger Orleach



Summary



From Pine Tree to Chemical Ingredients



DRT today



Family-owned
business founded in

1932

recently bought

1500



Collaborators
worldwide



90%

of turnover generated in
international markets



DRT produces more than 300
ingredients used in daily life



6,5%

Of the workforce
dedicated to R&D



RESINS

NATURAL EXTRACTS

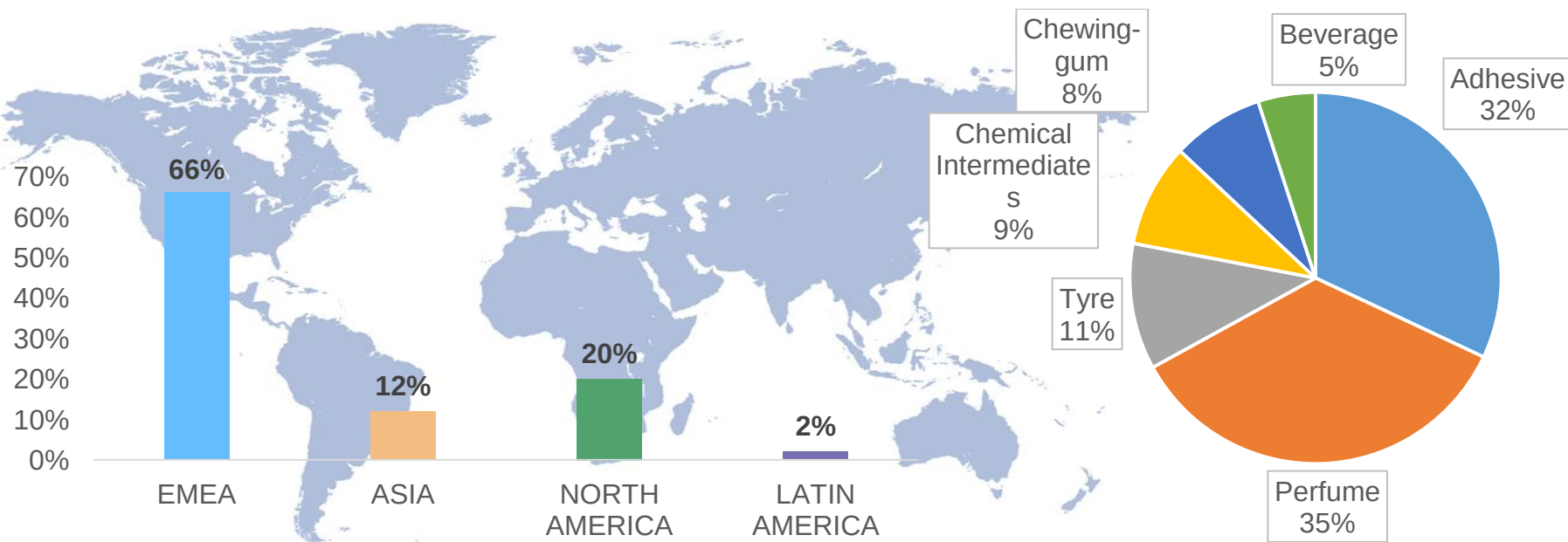
500 M€

Turnover

Our global Reach



DRT Global Revenue

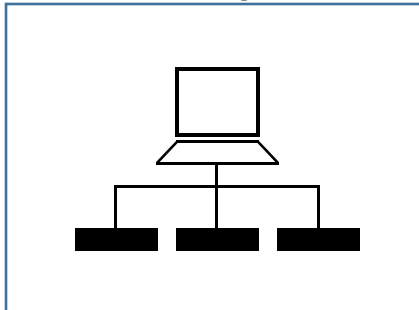


The previous situation

Production Engineer

Mainly there were three different ways for the engineer in charge to know what was really happening on site:

Monitoring Room

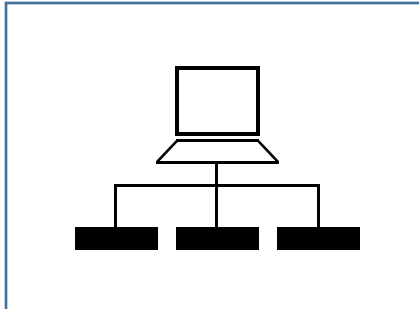


The previous situation

Engineer



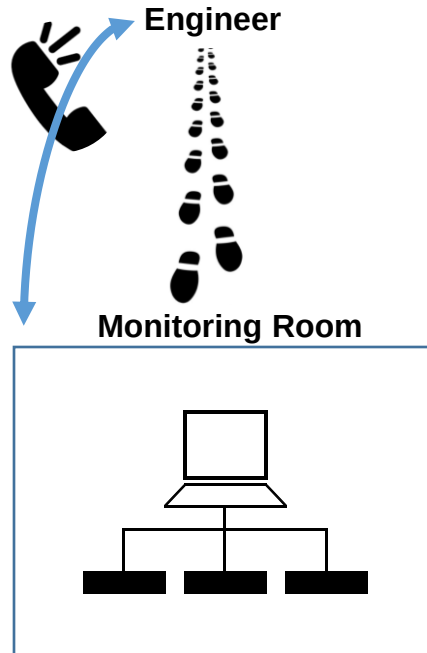
Monitoring Room



Mainly there were three different ways for the engineer in charge to know what was happening on site:

1. Walking from his office to the given plant

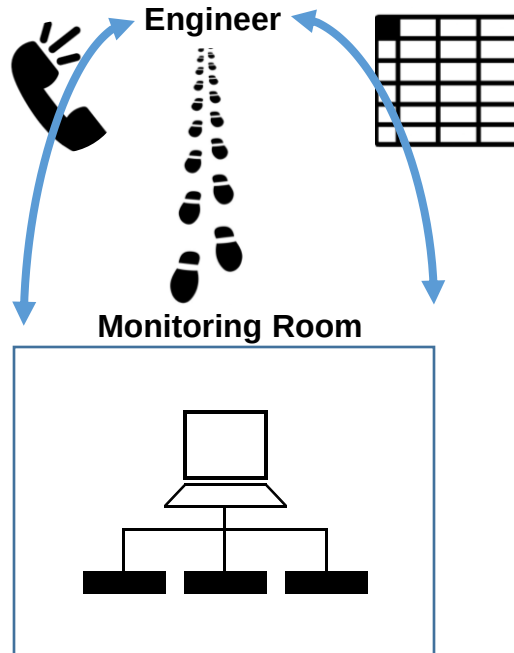
The previous situation



Mainly there were three different ways for the engineer in charge to know what was happening on site:

1. Walking from his office to the given plant
2. The phone call

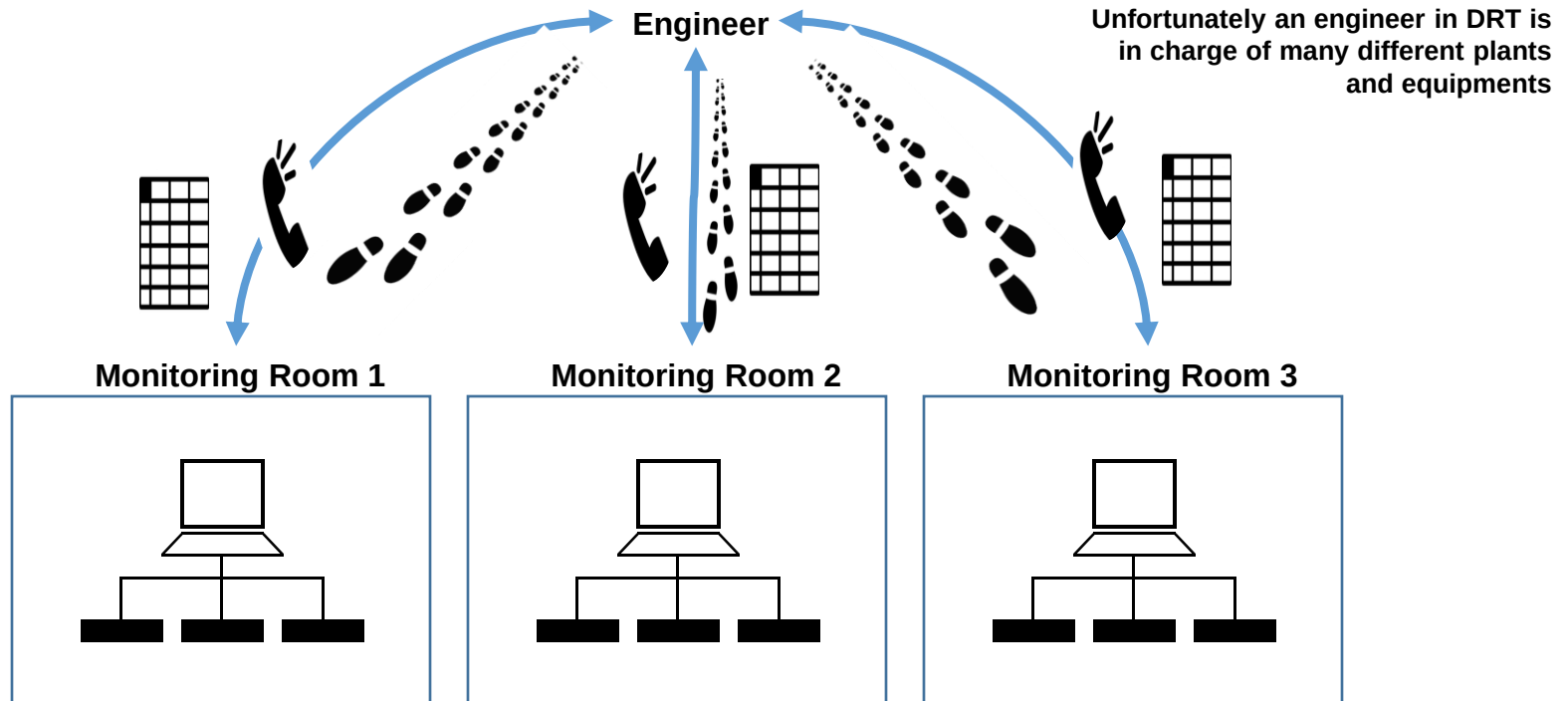
The previous situation



Mainly there were three different ways for the engineer in charge to know what was happening on site:

1. Walking from his office to the given plant
2. The phone call
3. The spreadsheet

The previous situation



Consequences

Difficulties to collect reliable set of data

Hardly any post-analysis on unexpected event based on data

No abilities to monitor data away from the monitoring room

No historic of past data after a year

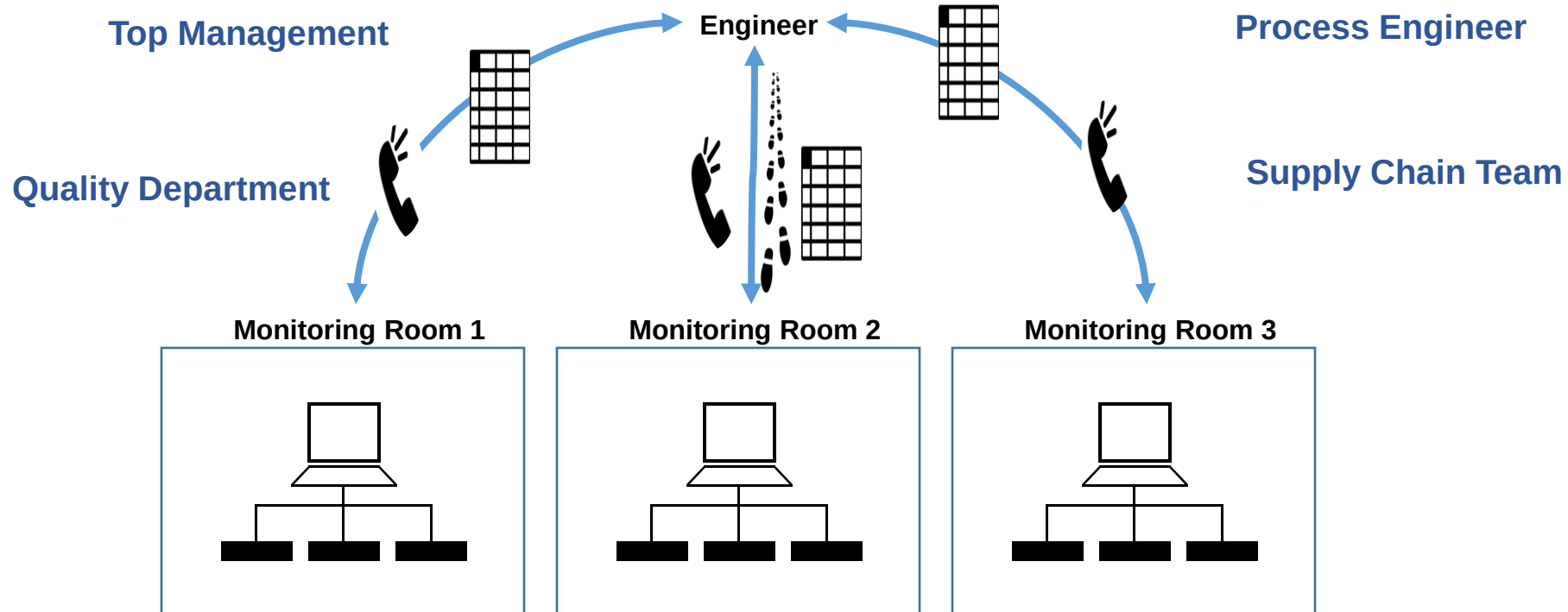
Spreadsheet on paper or Excel spreadsheet:

Only one data every two hours

Workers were not at ease with the Excel environment

Really hard to maintain and difficult to use in a very effective way

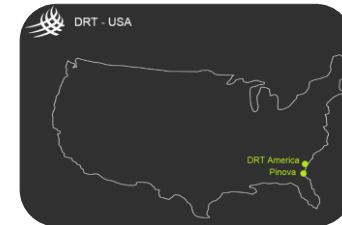
The previous situation



Major Milestones

In 2,5 years, the PI System has been successfully deployed:

- Over the 3 French Sites and one site in the US
- With over 400 displays for 15,000 tags
- The displays are being used on a daily basis by all the production department changing dramatically the way of working
- Reports are sent for other departments for further analysis



The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

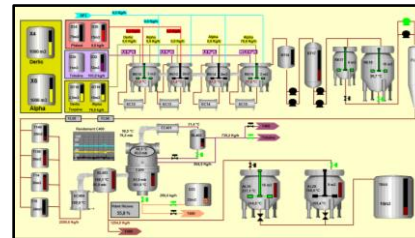
Process Control Tools

Notifications

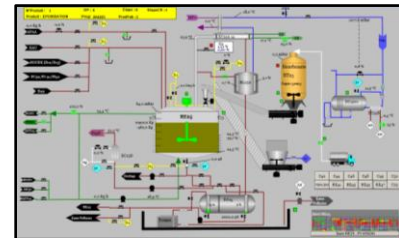
Reducing Manual Data Entry

Analysis Tools

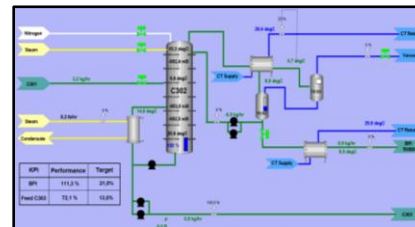
OEE Displays



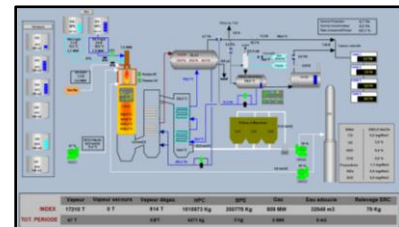
Continuous Process



Batch Process



Distillation Column



Steam Generator

The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

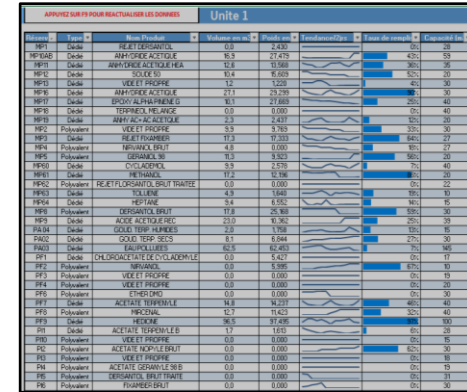
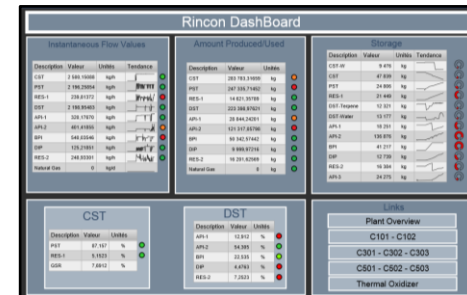
Process Control Tools

Notifications

Reducing Manual Data Entry

Analysis Tools

OEE Displays



The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

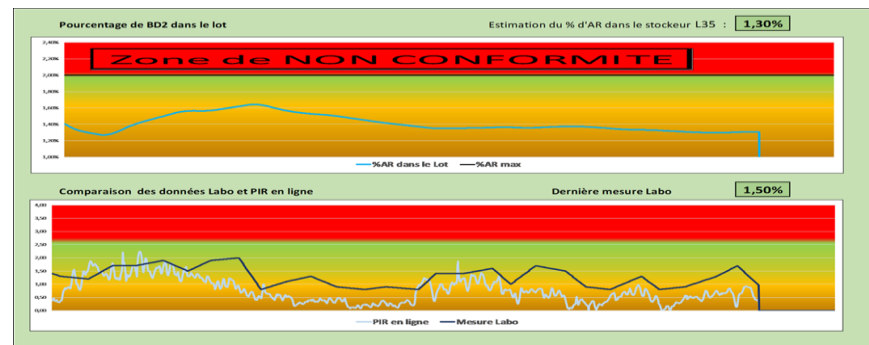
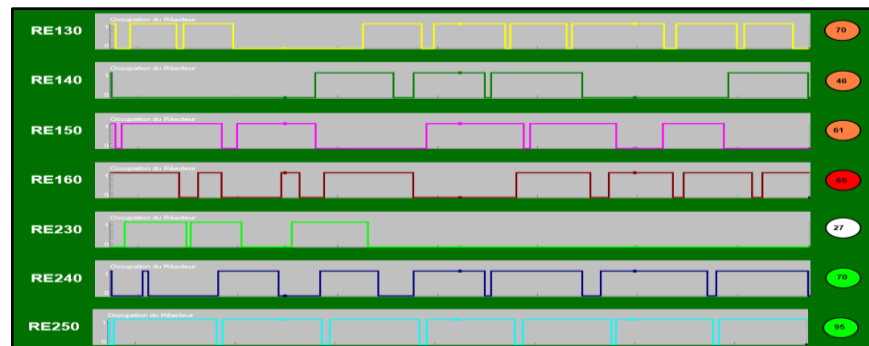
Process Control Tools

Notifications

Reducing Manual Data Entry

Analysis Tools

OEE Displays



The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

Process Control Tools

Notifications

Reducing Manual Data Entry

Analysis Tools

OEE Displays

4 Date: Semaine dernière		
PINotifications@dax.dr.fr	STG\Linder\Notifications[Ecart Consommation/Prevue > 8%] generated a new notification eve...	jeu. 11/01/2018 07:50
PINotifications@dax.dr.fr	STG\Linder\Notifications[Ecart Consommation/Prevue > 8%] generated a new notification eve...	mar. 09/01/2018 17:45
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	mar. 09/01/2018 16:53
PINotifications@dax.dr.fr	STG\Linder\Notifications[Ecart Consommation/Prevue > 8%] generated a new notification eve...	mar. 09/01/2018 11:25
PINotifications@dax.dr.fr	STG\Linder\Notifications[Ecart Consommation/Prevue > 8%] generated a new notification eve...	mar. 09/01/2018 04:30
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	mar. 09/01/2018 02:10
PINotifications@dax.dr.fr	STG\Linder\Notifications[Ecart Consommation/Prevue > 8%] generated a new notification eve...	lun. 08/01/2018 08:05
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	lun. 08/01/2018 06:28
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	lun. 08/01/2018 06:13
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	lun. 08/01/2018 05:50
4 Date: Il y a deux semaines		
PINotifications@dax.dr.fr	STG\Linder\Notifications[Chaudiere Linder sous 305C] generated a new notification event.	dim. 07/01/2018 07:37

Name: Ecart Consommation/Prevue > 8%

Server: DRTPI

Database: Vielle Saint Girons

Start Time: 11/01/2018 07:50:00 Paris, Madrid (GMT+01:00:00)

Trigger Time: 11/01/2018 07:50:00 Paris, Madrid (GMT+01:00:00)

Target: STG\Linder

State: OutsideControl

Priority: Normal

Actions:

[Acknowledge](#)

[Acknowledge With Comment](#)

The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

Process Control Tools

Notifications

Reducing Manual Data Entry

Analysis Tools

OEE Displays

Num OP		1	2	3
Date de Début		09-janv-18 23:11:20	11-janv-18 09:30:00	12-janv-18 18:23:20
Date de fin		*	12-janv-18 18:13:10	
Partie Matière	Valeurs Cibles			
Titre Alpha		92,1%	94,0%	94,0%
Quantité Alpha	13500	13509	13506	13509
Titre APAA n°1	33	35,8%	36,1%	34,8%
Poids Bicarbonate n°1	2568	2634	2493	2634
Poids APAA n°1	5715	5424	5227	5424
Titre APAA n°2	33	35,8%	35,5%	34,4%
Poids Bicarbonate n°2	2568	2529	2421	2529
Poids APAA n°2	5715	5487	5316	5487
Titre APAA n°3	33	35,8%		34,4%
Poids Bicarbonate n°3	2568	2412	2301	2412
Poids APAA n°3	5715	5487	5316	5487
Poids APAA total	15000	16398	15859	16398
Poids Bicarbonate	7050	7575	7215	7575
APAA 100	5400	5870	3785	5663
Acetate de soude (1)	5100	5853	5460	5853
Acetate de soude (2)	5400	6150	5778	6150
Acetate de soude (3)	5400	6051	6051	6000
Eau de lavage 1	5400	6051	7575	7899
Acetate de soude total	15900	18054	17289	18003
Epoxy	14200	14172	14121	0
Soude	60	60	60	60
Eau	6400	6447	6417	6417
Méthanol	125	130	130	130
Conversion (analyse)	67%	66,2%	66,4%	
Rendement	105,2%	104,9%	104,6%	0,0%
Rendement Molaire APAA	90,0%	89,3%	138,4%	0,0%

The way we use the PI System

Different tools developed

Process Monitoring

DashBoards

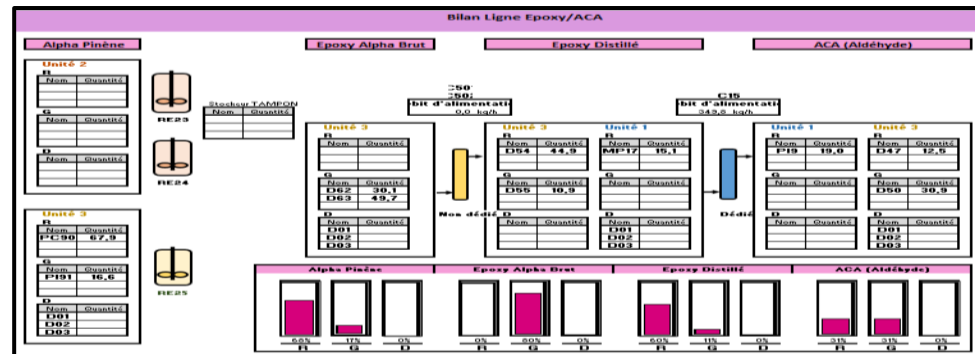
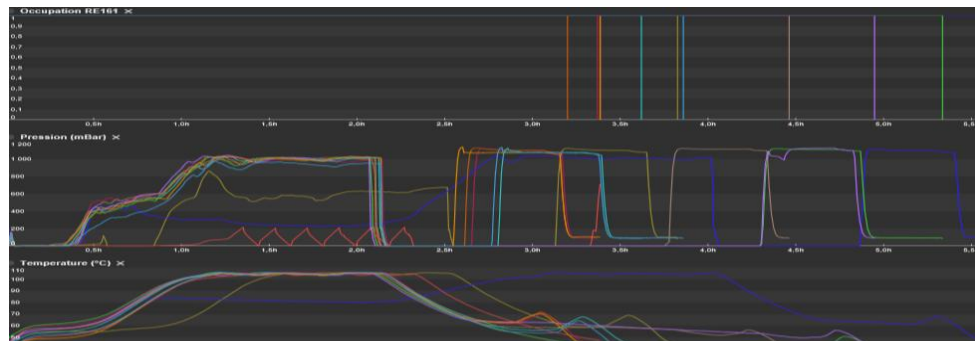
Process Control Tools

Notifications

Reducing Manual Data Entry

Analysis Tools

OEE Displays



The way we use the PI System

Different tools developed

Process Monitoring

Dashboards

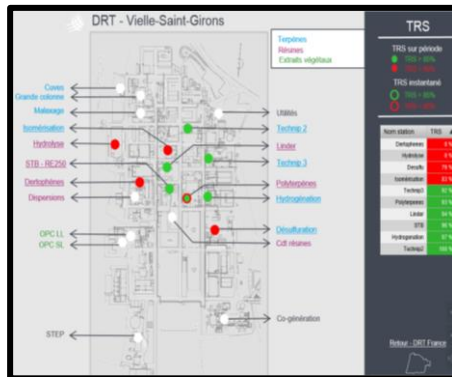
Process Control Tools

Notifications

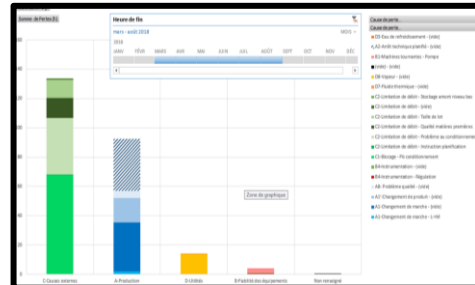
Reducing Manual Data Entry

Analysis Tools

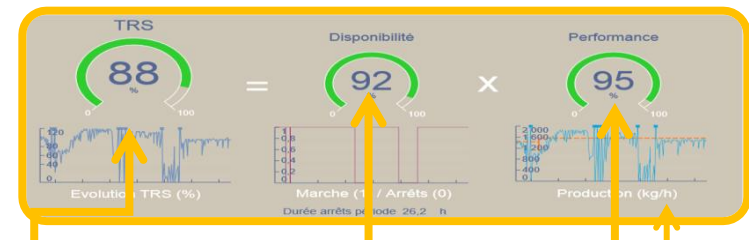
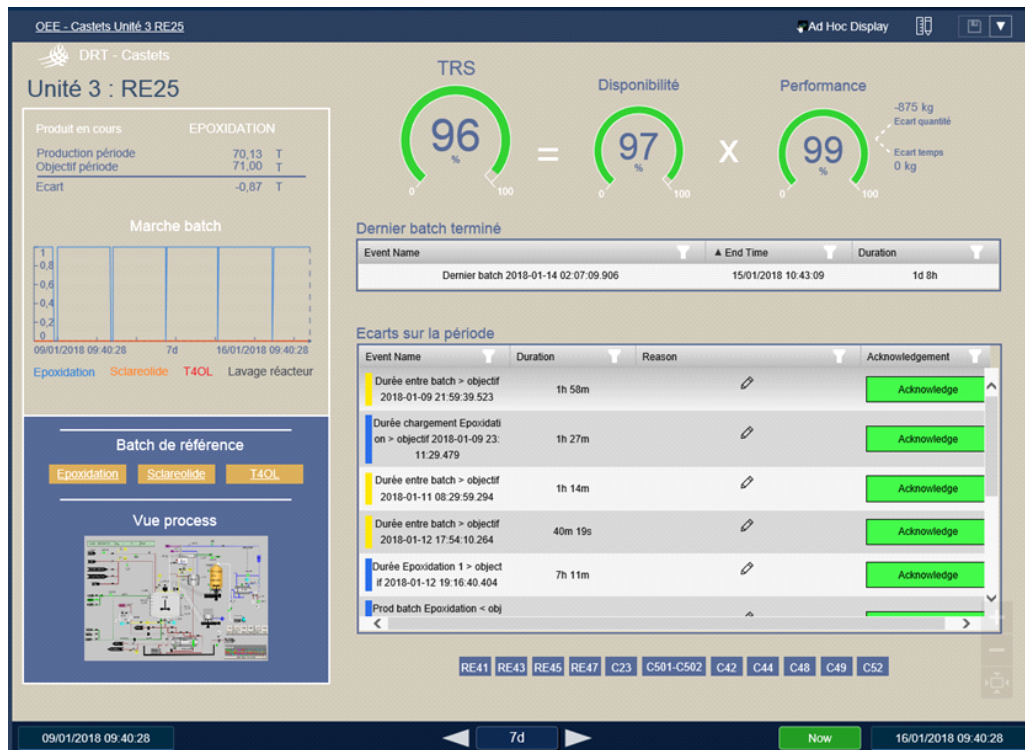
OEE Displays



Nom de l'événement	Heure de fin	Raison	Confirmation
Production batch Dersantol < objectif	13/07/2018 04:38:09	D-Unités/D-Vapeur	Co
Durée Hydrogenation Dersantol < objectif	14/07/2018 00:10:20	A-Production/A8-Problème qualité	Co
Production batch Dersantol < objectif	14/07/2018 02:47:01	C-Causes externes/C4-Apro matière exé neur/inganox	Co
Durée entre batch > objectif	14/07/2018 03:40:00	A-Production/A1-Changement de marche	Co



OEE Tools using the PI System



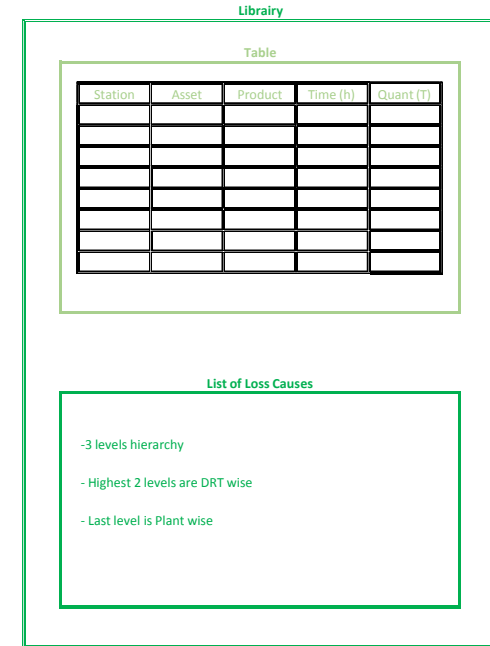
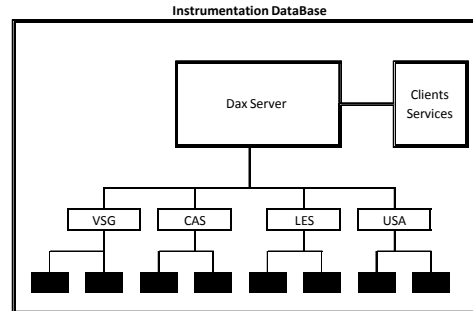
OEE over the period

Availability over the period

Performance over the period

Target
Actual Flow Rate

OEE Tools using the PI System

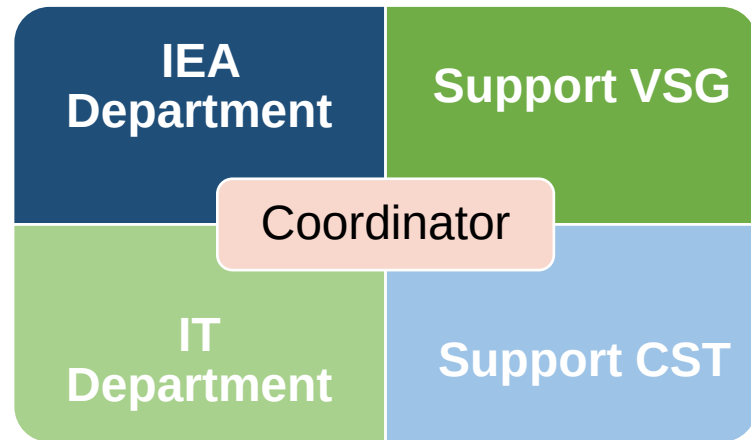


How has it been implemented?

A trial project of the PI System was launched in February 2016. A coach from OSIsoft came on site for a one week training. 5 people from DRT were trained. This starting phase ended in May 2016.

Since then a new project of deployment has been implemented with the following team:

Thanks to the on-line videos and the help from the support. The team has become more and more efficient over the months.



How has it been implemented?

Amongst the tools developed by OSIsoft we mostly use the following software:

**Process
Book**

DataLink

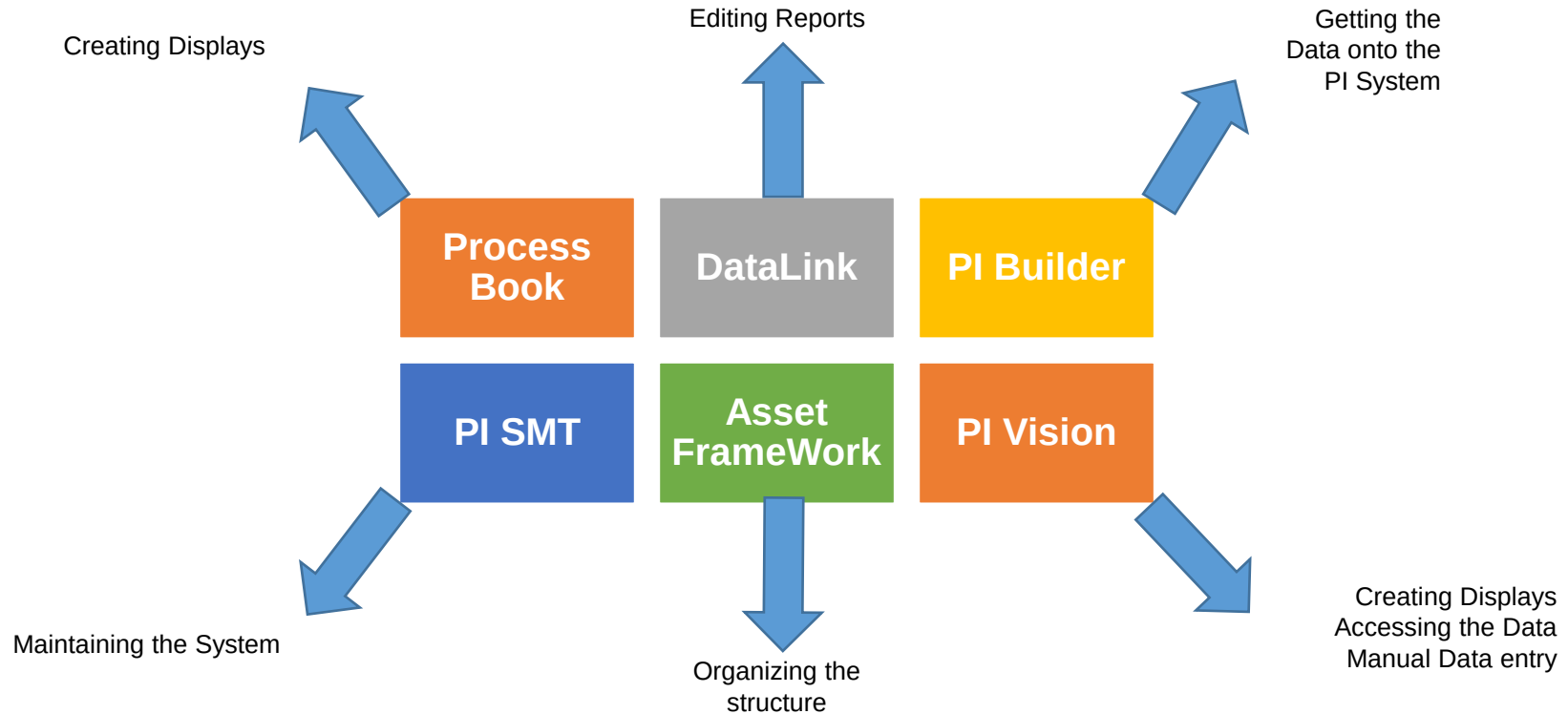
PI Builder

PI SMT

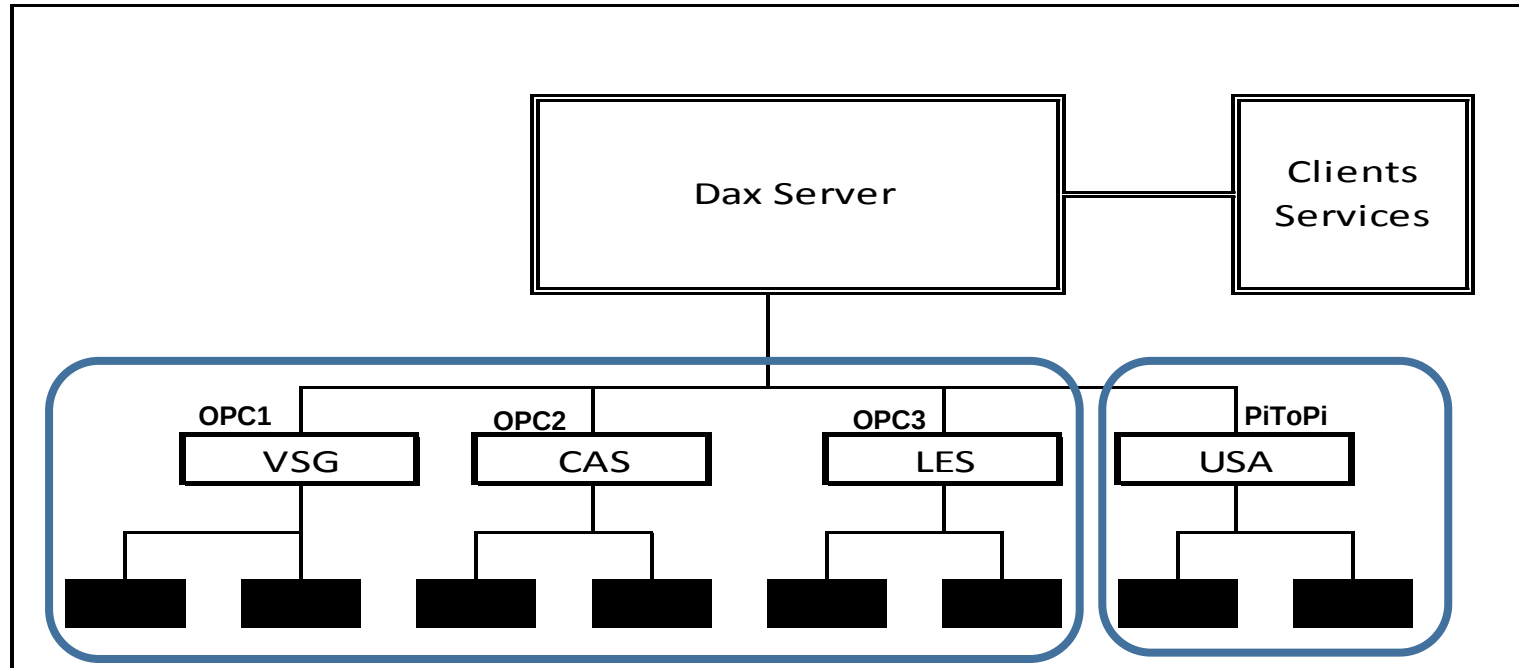
**Asset
FrameWork**

PI Vision

How has it been implemented?



Architecture of our PI System today



Lesson learnt

It's doable and very powerful !

CHALLENGE

Get value out of the PI System as soon as possible

- Project manager had virtually no IT Skills
- Corporate culture is rather resistant to changes
- Well organized database from Automation and Industrial Computing Services

WHAT HELPED US

A good help from the TechSupport

- 1 week of coaching
- OSIsoft Learning Videos
- Nearly 100 cases opened and sloved
- Internal training sessions for users

RESULTS

Displays and tools used on a daily basis

- Constant demand for more tags from the producers
- Tools developed are considered relevant and powerful
- Up to 15% increase of productivity

What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?



What the PI System allowed us to achieve?

- It is difficult to evaluate financially how much the implementation of the PI System has brought to our company but...
 - 2017 has been one of the two best years ever for DRT
 - We have reached the best ever productivity rate for many assets (up to 15% increase of productivity)
 - One Continuous Improvement Project using the PI System has create benefits of over 1,5 M€/year

Questions?

Please wait for
the **microphone**

State your
name & company



Please rate this session in the mobile app!

