European
Lean IT Summit

13 & 14 october, 2011
Paris, France

Make problems visible and users happy

Catherine Chabiron – Lean Office
Faurecia

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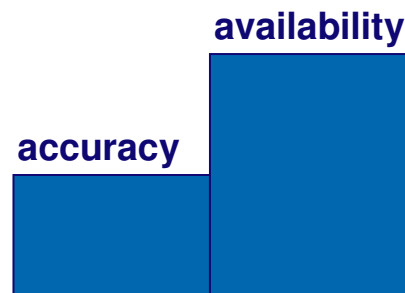
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Make users happy

How ?

The happy end user

- He / she expects (progressive stages) :
  1. Accuracy
  2. Availability (when and where)
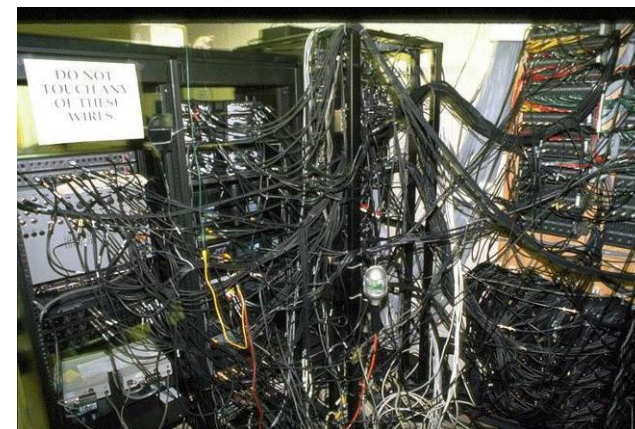 3. Partnership
  4. Advice

Accuracy and availability

availability

accuracy

First 2 basic stages

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Is this situation under control ?

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Is this situation under control ?

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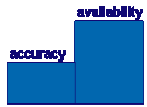
Can you positively answer the following questions ?

- Do we understand the target / mission ?

- Can we separate bad from good ?

- What are the major quality issues ?

- Where are the latest customer claims ?

- Are we late or on time ?

- Etc …

We had a strong suspicion that :

- If we could capitalize on what we know as best practices

- And implement means to spot any deviation versus those practices

- We could improve accuracy and availability

Hence the idea to implement work standards

Any idea what those are?

Proposed definition

– Sequence of tasks

– In a given time

– Based on field observation

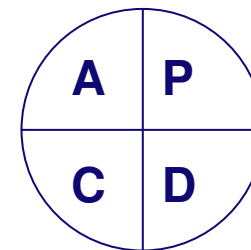– To efficiently manage recurrent tasks and free time for complex or extra-ordinary issues
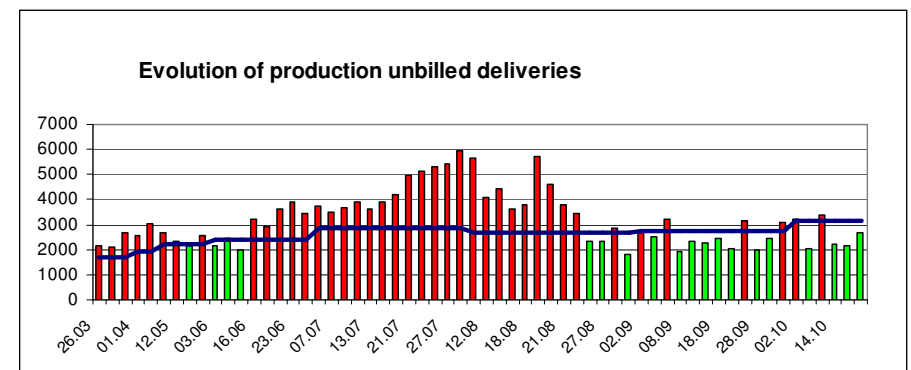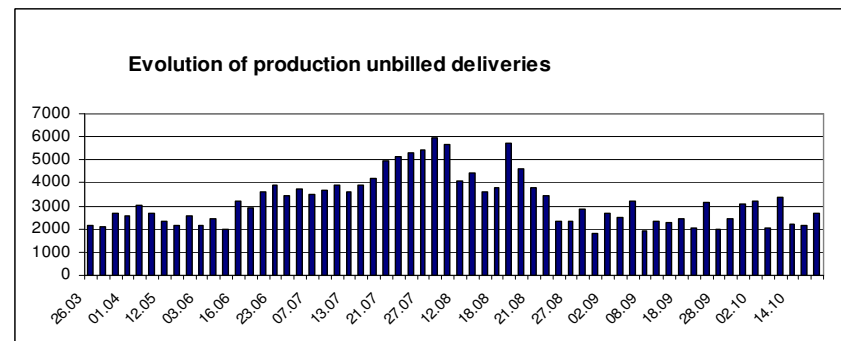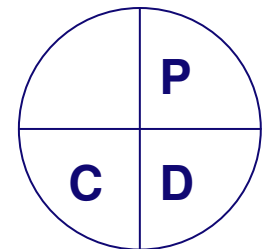
Why work standards ?

– Share and learn from experience (best known sequence)

– To better spot problems :

  • A problem is a deviation versus a standard

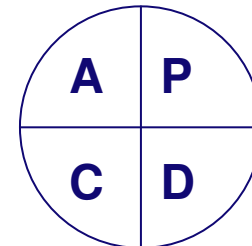– And enter a continuous improvement process (kaizen)

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A problem is a deviation versus a standard

Evolution of production unbilled deliveries

Evolution of production unbilled deliveries

Check and Adjust

- We observe execution of standard :

  – Why did not we work at standard ?

  – Is the work standard adequately covering the risk ?

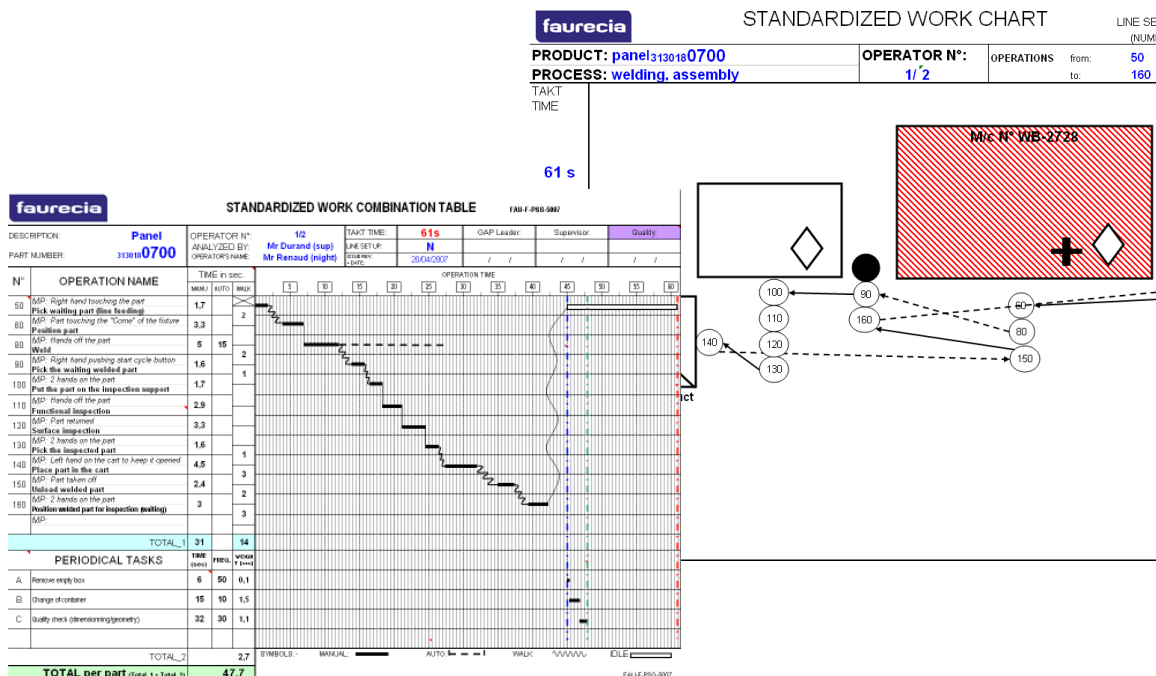- And we adjust :

  – Train to standard

  – Improve the standard

A	P
C	D

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Right, but which standards ?

- Plant work standards ?

ITIL standards ?

- ITIL tells you what to do

- but does not explain how

Incident Mgmt
Capacity Mgmt
Configuration Mgmt
Service Level Mgmt
Availability Mgmt

Info → Analysis

Identification & Recording

Classification & Allocation → Known Problem

Investigation & Diagnosis

Tracking and Monitoring of Problems

Root Cause & Workaround

Problem Control

Error Control

Known Error Identification & Recording

Solution Investigated

Defining Solution → RFC → Change Management

Problem Evaluation & Review ← Successful Change?

Tracking and Monitoring of Errors

Problem Closure

Known Error

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Need to come back to work standard definition

– Sequence of tasks

– In a given time

– Based on field observation

– To efficiently manage recurrent tasks and free time for complex or extra-ordinary issues

Spot recurrent tasks

IT recurrent tasks impacting accuracy and availability

- Projects
  - Roll-outs
  - Code

- Operations
  - Changes to production environment
  - Monitoring and alerts

- Support
  - Helpdesks, call centers
  - Support chains

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So how do we start ?

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availability
accuracy

First attempt with FMEA (critical systems)

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PROCESS FMEA (Failure Modes and Effects Analysis)

Process : MES incl traceability and conformity
Plant :

		PROCESS			Planned/Existing					ACTION		
	Operation	Potential failures	Causes of failure	Failures effects	Control plan	SCORE D O S		C	Actions planned	Resp.	Dead Line
10.1	Receive customer message	Communication breakdown with the customer	Physical transmission mean to plant damaged	Customer message is not received - No labels or production orders are issued. Faurecia and possibly customer production stop	see 100						
10.2			Modem or router out of order or unplugged Faurecia side		see 100						
10.3			Modem or router out of order or unplugged Customer side under the Faurecia resp.		see 100						
10.4			Firewall out of order (case of Customer		see 100						
10.5		EDI application out of order	EDI Server out of order		see 100						
10.6			EDI Application failure		see 100						
10.7		Customer doesn't send message	Customer application failure								
10.8			Customer assembly line is stopped								
10.9		Customer sends an incorrect message format	Wrong format of the data sent								
10.10			Loss of data during the transmission								
10.11		Transfer problem between the EDI server and the MES server (via FTP)	FTP service is blocked or down on the EDI server								
10.12			FTP service is blocked or down on the MES server								

Example :

External warehouse

Customer

JIT plant

Remote support - FAU (a)

Remote support - PLC

Remote support - MES (a)

Network Services (d)

OS / Application updates (c)
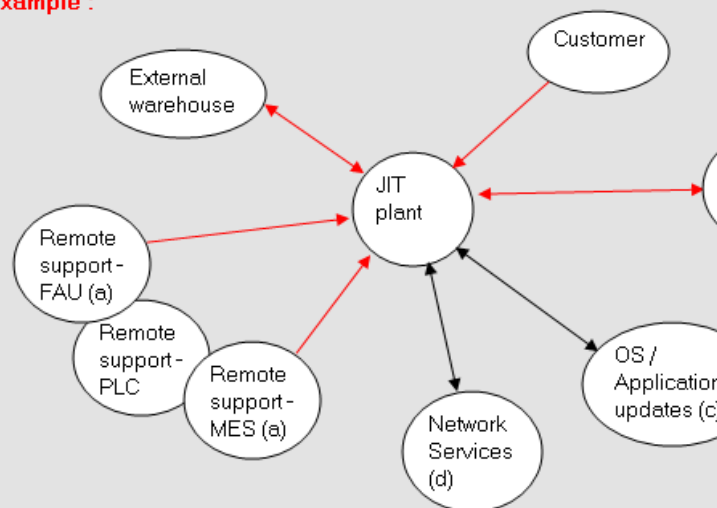
LABEL BUFFER (JIT Windows less transportation etc ..)
FINISHED PRODUCT INVENTORY
CUSTOMER WORKING HOURS
REMOTE SUPPORT OPENING HOURS   FAU
   MES
   PLC

20	= mn till production stops
120	= mn till customer stops

5:00 to 21:00 Mon to Fr
From Mon 5:00 to Sat 13:00
5:00 to 20:00 Mon to Sat
5:30 to 23:00 Mon to Fri

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First attempt with FMEA (critical systems)

Not bad but painful approach

So we went back to Gemba !

- A work standard is based on field observation :

Plant	IT
Observe a product launch	Observe a software rollout
Stop the line to spot causes of a defect at assembly	Get key IT actors on board to spot causes of an IT outage that just occurred

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We started with projects

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We observed project wastes

- Buy more than the need

- Buy redundant solutions

- Loose track of the initial need

- Forget to involve users who will use the tool

- Develop unused functionalities

- Develop and go (support ? maintenance ?)

- ….

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And started collecting what we knew

Key Project Risks	Items to check	status
Adapt solution to need	Do we know clearly what is the problem we are trying to solve ? Is the solution we are proposing correctly answering the problem we are trying to solve ?	
Adapt solution to need	Have we organised a presentation to the relevant actors (CC, daily operations, security...) involved in the project to help to define the assessment matrix for the different solutions and partners ?	
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution need		
Adapt solution to need	Have we defined the service level requirements for external suppliers & IT Operations ? (system availability, critical period, planned shutdowns, support availability, ...)	

Principle :
- **7 risk areas**
- **5 Gate Reviews**
- **Asking questions on the risk mitigation rather than proposing ready-made solutions to address them**

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We added some features

No.	C	Key Project Risks	Items to check	Deliverables	Status Yes/No	Assessment (text)	What	Who	When
			Global Assessment:		KO				
			Number of red critical items / total nb critical items: 0 / 9		OK	for "green", all "Critical Items" needs to be "Y"			
			Confidence Index:		0%	for "green", 90% of all itmes has to be "Y"	Action Plan		
15	C	Handover	Have the solution and documentation been transferred to IT operations, and signed off accordingly on both sides (project team and IT operations) ? (technical docs, set-up docs, risk management plan, installation docs for new plants)	GIS-F-LSG-0025 - Operations Handover	N				
16	H	dover	Has ITQP defined the impacted user population, so as to alert them in case of shutdown of the application or of any associated middleware ?		NA				
17		Hand	Has the support chain been properly informed and trained ? Are roles and responsibilities between support level 1, 2 and 3 correctly described ?		Y				
18		Handover	If support is centralised, are the issues with time zones and languages taken in account ? If the support is not centralised, is the transfer of documentation and training done for each of the rations departments and helpdesks ?		Y				
19		Handover	asurement of the number of bugs, change requests, master data setting and functional nised during the launch phase ? Is a time to deliver solutions measured ?		Y				
20		Handover	In t nce and/or hosting of operations, is the process in place, test						

Critical

Is a measurement of the number of bugs, change requests, master data setting and functional issues organised during the launch phase ? Is a time to deliver solutions measured ?

Questions on risks, rather than ready-made solutions

And used every single incident to improve the standard

Order bar
code readers
in time
(GR2b)

Master
unscheduled jobs
(GR3)

Monitor physical
move of
equipment, servers
… (GR2b)

Wait for
architecture design
to order hardware
(GR2a)

Add outage
communication
system for
users (2011)

Reformulate
support
(2010)

Reformulate
support chain
(2009)

d critical item

to che

the so
ordingly on
echnical docs, set-

Has ITOP defined the impact
application or of any associated middleware ?

Handover | Has the support chain been properly informed and
between support level 1, 2 and 3 correctly describ

Handover | If support is centralised, are the issues with time z
If the support is not centralised, is the transfer of do
exploitation departments and helpdesks ?

availability
accuracy

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Problems are now visible

| Name	Organization	Domain	CAR	Project leader	Last modific	CAR Budget	Actual cost (	Estimate at	Planned start	Go-Live Plann	Revised start	Go-Live Revis	Doc?	Gate 1	Gate 2a	Gate 2b	Gate 3	Gate 4
		IT	Yes		06/09/11	105,0	55,0	110,0	01/03/11	01/06/11				Green	Green	Green	Green	
		IT	No		06/09/11		163,0	163,0	01/01/11	11/04/11		01/06/11	📋	Green	Green	Orang	Green	
		IT	Yes		21/07/11	255,0	554,0	589,3	18/05/10	04/10/10	14/06/10	08/12/10	📋	Green	Orang	Orang	Green	Green
		IT	Yes		05/10/11	211,3	376,0	407,0	01/06/10	15/12/10			📋	Green	Orang	Green	Green	Green
		IT	No		06/10/11		83,0	83,0	01/06/11	03/01/12			📋	Green	Green			
		IT	No		21/07/11		210,0	210,0	14/03/11	01/07/11				Green	Green	Green	Green	
		IT	No		06/10/11		34,0	34,0	01/01/10	01/01/14				Green	Green			
		IT	No		23/09/11			485,0	01/09/11	01/08/12								
		Manufact	No		06/10/11				01/01/10	01/01/14	10/01/11	03/10/11	📋	Red	Green			
		IT	Yes		05/10/11	1 360,0	1 050,0	1 190,0	01/07/10	01/02/11			📋	Green	Green	Green	Green	
		IT	No		05/10/11		939,0	939,0	01/11/10	01/05/11			📋	Green	Orang	Red	Red	
		IT	No		05/10/11		201,0	201,0	01/01/10	01/01/14								
		IT	No		05/10/11		230,0	230,0	01/10/10	01/04/11							Green	
		IT	No		05/10/11		98,0	98,0	01/07/10	30/06/11								
			Yes		05/10/11	299,0	434,0	523,0	01/01/11	01/06/11			📋	Green	Green	Green	Green	
		IT	Yes		21/07/11	250,0	85,0	90,0	15/11/10	01/05/11			📋	Red	Green	Red	Green	
		IT	No		05/10/11		165,0	165,0	01/03/11	01/07/11			📋	Green	Green	Green	Green	
		IT	No		05/10/11		413,0	413,0	01/03/11	01/10/11				Green	Orang	Green		
		Manufact	Yes		06/10/11	385,0	376,0	616,0	01/03/11	01/07/11		31/10/11	📋	Green	Green			
		IT	No		06/10/11		220,0	220,0	01/03/11	01/06/11		03/10/11	📋	Green	Green			
		IT	No		05/10/11		239,0	239,0	01/03/11	01/06/11			📋	Green	Green	Green		
			No		07/10/11				01/02/11	01/09/11	02/01/12			Green	Green			
		IT	No		05/09/11		52,0	52,0	01/06/11	01/09/12								
		IT	No		21/07/11		50,0	50,0	01/01/11	01/05/11			📋	Green	Green	Green	Green	
		IT	No		06/10/11		129,0	129,0	01/03/11	01/10/11				Orang				
		IT	No		21/07/11		105,0	105,0	14/03/11	01/07/11				Green	Green	Green	Green	
		IT	Yes		22/09/11				01/07/11	31/12/11								
		IT	Yes		05/10/11		612,0	612,0	01/10/10	01/05/11			📋	Green	Red	Green	Green	Green
		IT	No		21/07/11		105,0	105,0	01/01/10	01/07/11				Green	Green	Green	Green	Green
		IT	No		05/10/11		46,0	46,0	01/01/10	01/01/14								
		IT	No		06/09/11		296,0	296,0	01/03/11	01/06/11			📋	Green	Green	Green	Green	
		IT	No		21/07/11				01/01/11	01/06/11								
		IT	No		05/10/11		1 950,0	1 950,0	01/08/10	01/06/11			📋	Green	Green	Orang	Green	
		IT	No		06/10/11		65,0	65,0	01/03/11	01/06/11			📋	Green	Green	Green	Green	

Efficient ?

- 75 % of projects on time (64 % in Jan 2008, est < 50 % before 2007)

- 100 % of projects severely off track had not followed the approach

- 11 800 users rolled out on SAP in 4 years as per plan

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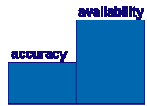
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We also worked on support and operations

Learn from IT incidents with QRCI

Describe, measure and protect user = 24 h

Confirm causes = 10 WD

Correct, learn and share = 60 WD

Analyse deviation vs standard

D5 – Cause of occurrence (Why happens this time & no other time) (In case customer does not exist, D5 come before D4)	**RETAINED FACTOR –D5–**		**Control point**	**Standard**	**Real situation**		**Real vs. Std.**	**Std. OK ?**
	N°	IS/ IS NOT influence retained factor of occurrence	How to measure/ characterize the retained factor	What is the rule for risk Prevention / Occurrence?	**NOK**	**OK**		
	01	CAD DEF cleansing script	count of nb of objects deleted	control script and input file	no count, no control		X	X

In this example, standard not complied with

But standard itself was not clear enough

Create or correct standard

Hence the Lessons Learned Sheet :

- Clear Before / After

- Share it

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06/2011

PG/Div/Site: **GIS**
Program: **n/a**
UAP/Line: **n/a**
Author : **Lorenzo CASTIGLIONI (GIS BI)**

Type	Detection ☐	Logistics ☐
	Occurrence ☐	Internal ☐
	Management ☑	Suppliers ☐

CORRECTIVE ACTIONS

WHAT WAS THE PROBLEM? (5W + 2H)	WHAT IS THE CAUSE?
What happened? Split Mono and w/o Mono on BI reports (L29, C12 / C35) is incorrect. **Why it is a problem?** The data on those BI reports is not reliable because the data extracted from FCS is not correct (only total is correct, but the split Mono vs w/o Mono is wrong). **When did it happen ?** At every BI extraction (from FCS) on a daily basis. **Who has detected it ?** The users found the problem (Controllers) when using the BI reports at monthly closure on Bragança site. **Where has it been detected ?** The problem has been discovered on BI report L29 (FCS Inventory movement: Mono w/o Mono Scrap reporting) + impact on BI reports C12 & C35 (Daily Plant Score Card). **How has it been detected?** During the monlthy closing (February 2011) and strange figures in Bragança, compared with the real data in SAP ECC FCS. **How many ?** For every FCS FECT plants on a daily basis. But only Beaulieu plant was using it until end of February 2011.	The BI extraction processes (of split Mono versus w/o Mono) are different between: - Inventory, - Scrap (based on Valuation Class or table created in FCS), - Deliveries (based on ZMON with extract of current price for the right customer). There is a doubt on initials extraction rules. SAP FCS tables (ZJCO30 and ZJCO40) used by the BI extraction processes are not correctly updated. The SAP ECC FCS Valuation Class used by the BI extraction processes is not updated correctly at material master level.

BEFORE	AFTER
BI report designed for on site (Beaulieu) on non core "Mono / w/o Mono" FCS customizing.	Make sure that BI report is based on clear & validaded business rules (with process owners validation) for all concerned sites.
No clear standards (*) written (*) business rules for BI data extraction	Clear standards (*) written (*) business rules for BI data extraction

What we learned

LEARNED FACTOR	CONTROL POINT	STANDARD / REACTION RULES
Clear & coherent written business rules must be provided in order to be able to build robust IT solutions.	BI project leader will check if clear & coherent written business rules are attached to any request (new project, change).	No request (new project, change) will be validated by the BI CC without clear & coherent written business rules.

KNOWLEDGE MANAGEMENT IMPROVEMENT

manager validation	Field expert's check:	status vs Best practices	link with relevant best practices
name: date:	name: date:	n/a: upgrade: creation: X date: June 27 2011	references: or e-link: Comprehensive map of extraction rules comments:

Potential Applicability

Examples of results brought by work standards

Data Quality PSS plants

NRFT

Global tickets backlog per user
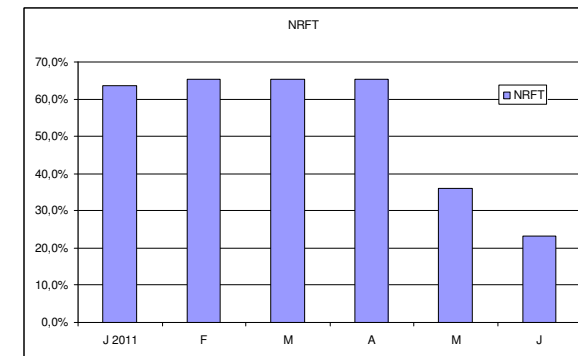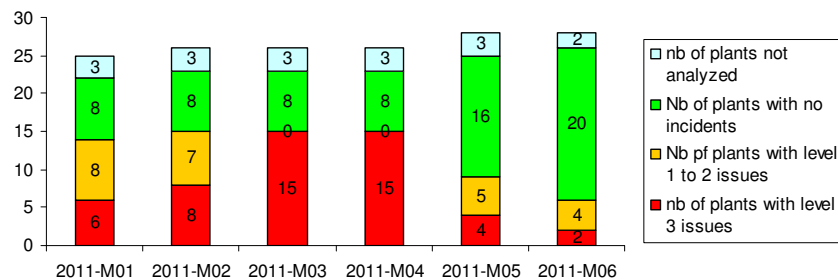
Worldwide satisfaction ratio
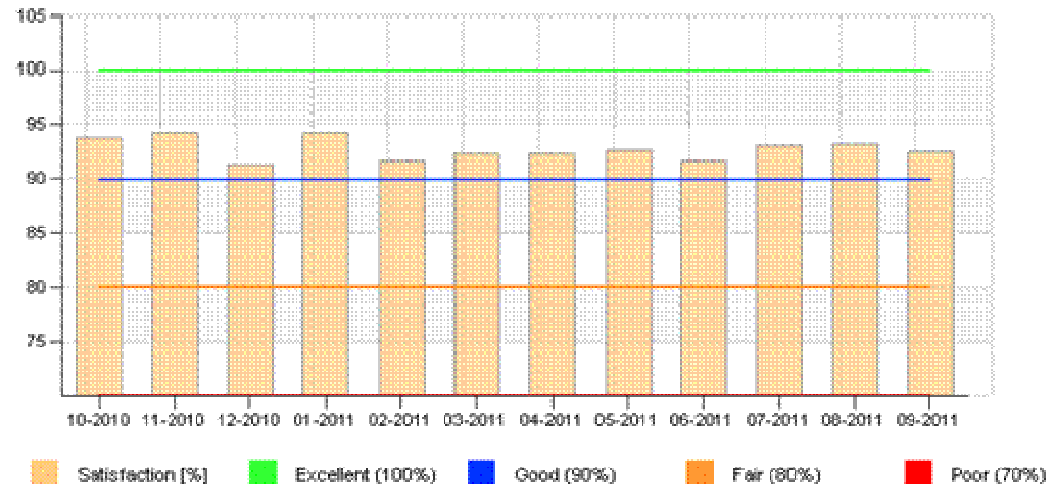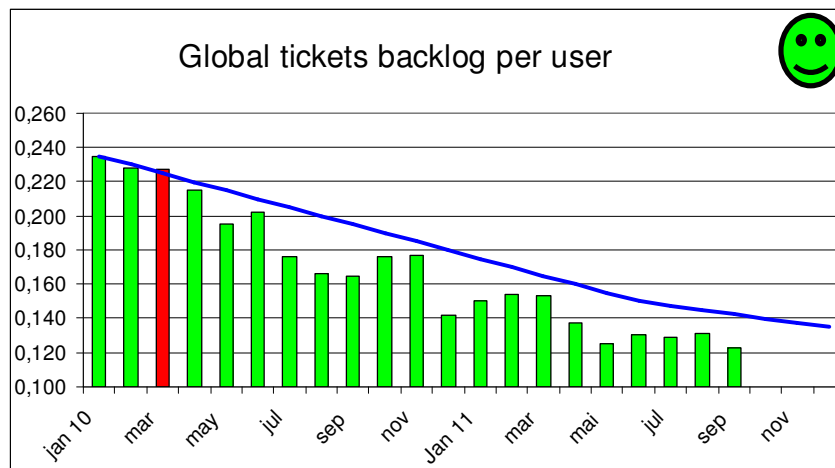
Partnership and Advice
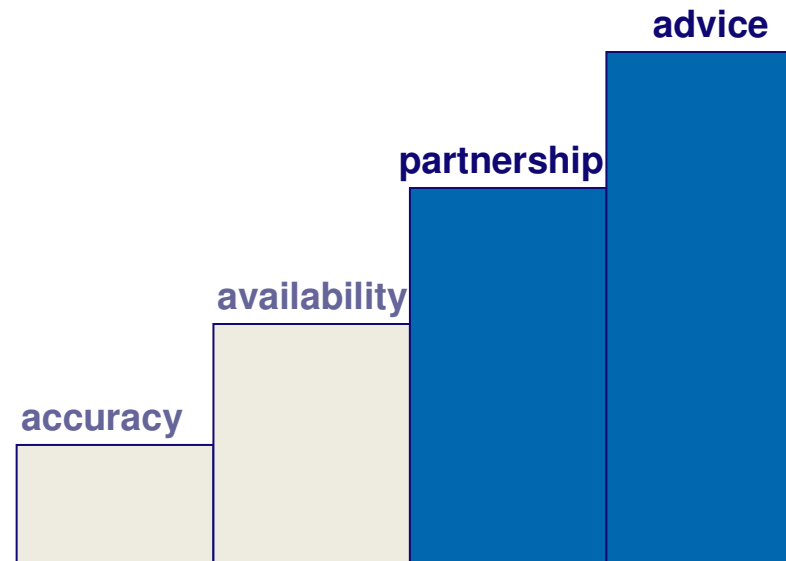
Ultimate stages of user satisfaction

Supply chain : rollout a process rather than a tool
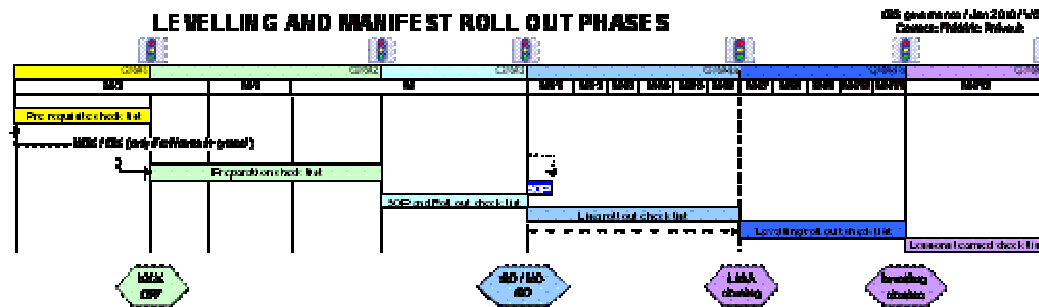
**Plants rolled out :
- 2 days of stock**

2.4 plant / month vs 0.4

Reduce investment decision lead time by 60%

60 days

20 days

Technical validation

Budget approval
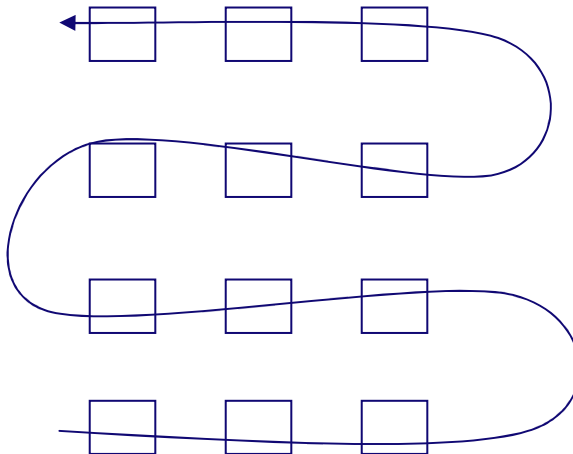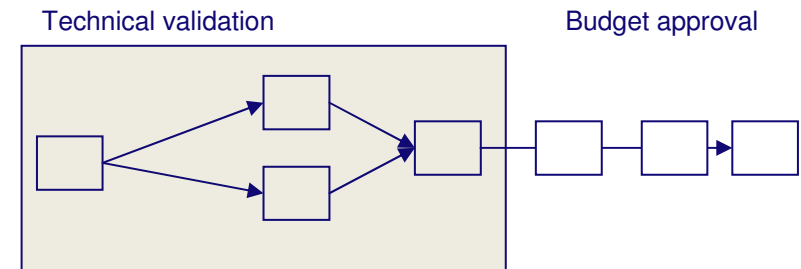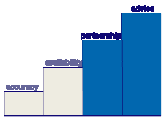
Help collect best practices on cross border flows
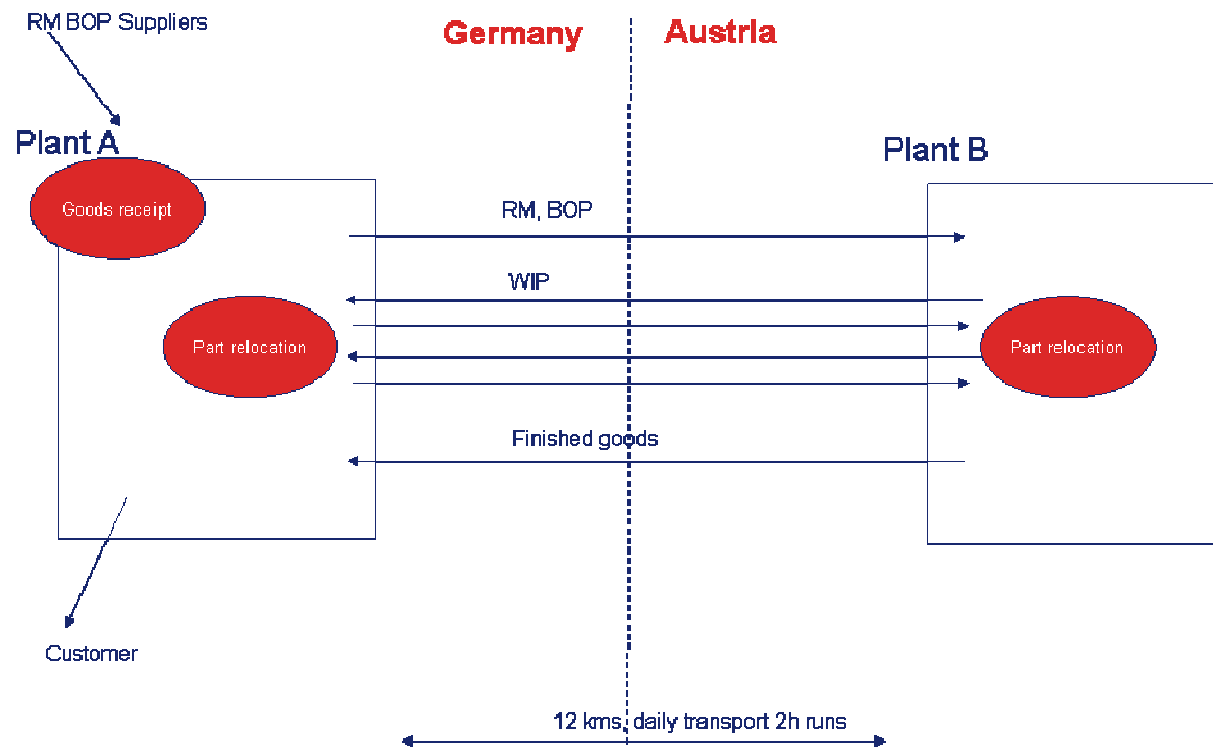
Or on customer self billing

Risk Assessment (Customer self-billing)

Date : 21 Sept 2011

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NB : Key control steps are in bold

enter green, red, yellow or N/A and the color will be displayed

Enter the category of risk
. Control issue
. System misuse (under control but not using the system)
. System not at standard (system unable to support process or control)
. Customer constraint
. Process waste

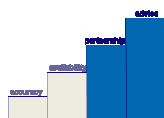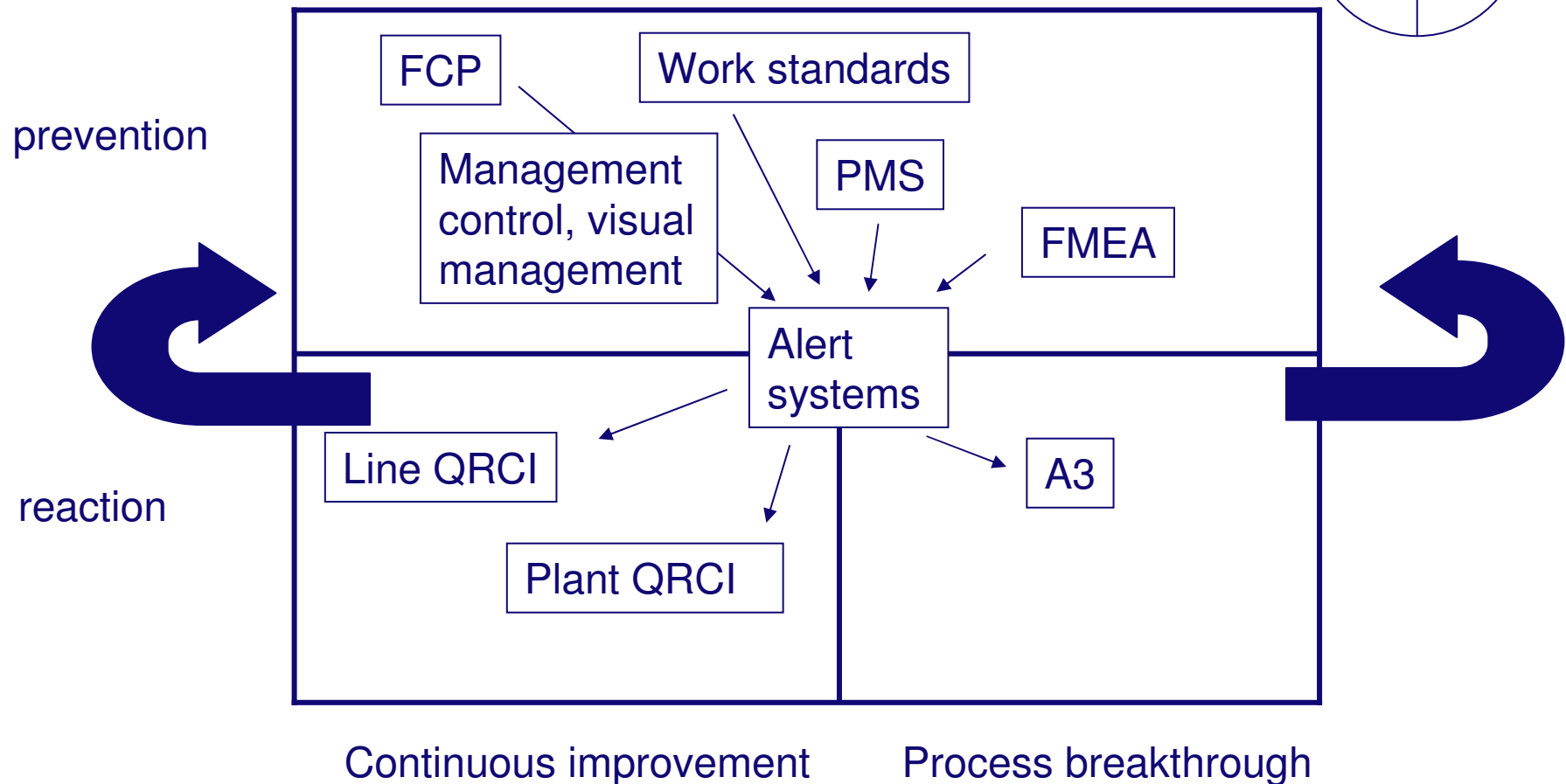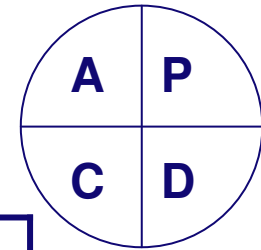| Process Step	Areas of risk	Assessment (how do you detect it, how do you solve it)		Ca	
Update prices	Prices not updated in time	400 parts out of 1600 checked showed that the price was not what was expected. Not specific to Audi - VW	red	cor	
Update prices	Price not accurate (data entry errors)				
Update prices	For lack of clear rules in terms of price update (such as only change prices in Faurecia system if you have a confirmed purchase order from the customer and accrue for any difference under negociation), systematic differences with the customer self billing are encountered	root cause on gaps investigated for Daimler. Long lasting issue for Angel Demmel. Even used services of a third party to identify sales price. Even sales price were not known by salesmen. Also 3 orders on 1 part with different prices so OEM not clean either			
Update prices	Extra costs or surcharges not created / updated in Faurecia system, creating systematic reconciliation issues	some occurrences where B price (logistics) may not have been recorded	red	control issue	Consultant ?
Control integration of confirmed quantity message	No one controls the integration of the EDI message on confirmed quantities and the log of errors is not empty	Only applicable to Rhenus flows. Checked by Local IT and corrected in case of errors.	green		
Book internal invoice	Internal invoice (or equivalent such as deliveries with an unbilled status or stock consignments, depending on the situation) not booked at all	booked based on TSL info	green		
Book internal invoice	Internal invoice (or equivalent such as deliveries with an unbilled status or stock consignments, depending on the situation) not booked in time for reconciliation, no automated process	not the case	green		
Book internal invoice	Faurecia system does not issue an internal invoice nor a internal delivery note (= quantity x price) to enable reconciliation vs customer self billing info	not the case	green		
Control integration of self billing message	No one controls the integration of the EDI message on self billing information and the log of errors is not empty	message not integrated today in SAP	red	system not at standard	
Control integration of self billing message	There is no self billing electronic message, eveything is received manually on paper or via a manual download from the customer extranet portal. Risk of errors, process waste.	not the case	green		

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Conclusion

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What we have implemented

A	P
C	D

prevention

FCP

Work standards

Management control, visual management

PMS

FMEA

Alert systems

Line QRCI

Plant QRCI

A3

reaction

Continuous improvement   Process breakthrough

Why ?

- Each of us needs to manage :
  - Daily operations
  - AND
  - Continuous improvement

Invest in kaizen
Firefighter

Time for complex issues
Manage standards
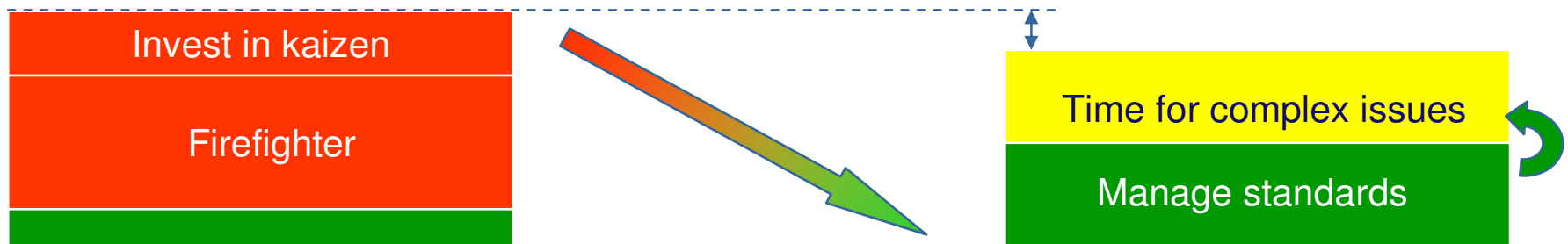
Traps and difficulties

- Difficulties :
  - Convince management to develop their own standards

- Traps :
  - Design standards away from where things happen
  - Never change standards