



ArcelorMittal

Safety & Operational Risk Management at ArcelorMittal

Edwin Heene

10 November 2011

Agenda

1 Operational Risk Management in ArcelorMittal Flat Carbon Europe

2 ArcelorMittal Co-Innovation Experience



Key Messages

Safety & Operational Risk Business Drivers

□ Keep People & Environment Safe

- *ArcelorMittal commits to operating in a responsible way with respect to the health, safety and well-being of its employees, contractors and the communities in which it Operates – ArcelorMittal Annual Report*

□ Increase Availability of Production Capacity & Equipment Efficiency

- Every ton you cannot produce is lost forever

□ Preserve Organizational Knowledge & Know How

- Capture and improve know-how both within and across plants

IT Impacts

□ IT Strategy has to support business strategy, model & processes

- Use IT for its strengths – collection of data, maintaining an overview even when faced with data volume, process standardization, traceability & monitoring, reduction of administrative workload

• IT needs to be an open partner with the business & with vendors

- IT can be the bridge between business needs and technology innovation
- Provide capabilities to business at lowest possible cost by avoiding in-house development when possible



ArcelorMittal – The World Leader in Steel Products

ArcelorMittal

❑ Global Reach

- Europe, Asia, Africa, North America, South America

❑ Diversified & Integrated

- Operations spanning Mining, Milling (Flat, Long, Coil), Distribution, Finished (Automotive, Construction)

❑ Enormous Scale

- Operations spanning Mining, Milling (Flat, Long, Coil), Distribution, Finished (Automotive, Construction)
- 2010 Revenue US \$78.03 billion
- 263,000 Employees EOY 2010
- 2010 Production Volume: 85 Million Tons (~6% Global Production)

ArcelorMittal – Safety First, Zero is our Goal



- Health and Safety frequency rate³ improved in 2010 to 1.8x as compared to 1.9x in 2009; marked improvement in 4Q 2010 with rate at 1.6x compared with 1.9x for 3Q 2010.

Amsterdam, Paris, Brussels, Luxembourg), IMTS (wagning), the world's leading steel company, today announced results¹ for the three and twelve month periods ended December 31, 2010.

Successful spin-off of stainless steel business (Aperam) following shareholders' approval on January 25, 2011. Accordingly, stainless steel results for 4Q 2010 are recorded as discontinued operations, and prior results and operational KPI's have been recast to reflect the new presentation².

- Highlights:**
- Health and Safety frequency rate³ improved in 2010 to 1.8x as compared to 1.9x in 2009; marked improvement in 4Q 2010 with rate at 1.6x compared with 1.9x for 3Q 2010.
 - Full year EBITDA⁴ of \$8.5 billion (excluding \$0.4 billion for Aperam), 52% higher than 2009; full-year net income of \$2.9 billion or \$1.93 per share.
 - 4Q 2010 EBITDA of \$1.9 billion (including \$0.1 billion from sale of CO₂ credits); Q4 2010 net loss of \$0.8 billion (or \$0.51 loss per share) primarily due to impairment associated with the stainless demerger.

ArcelorMittal Flat Carbon Europe Scope



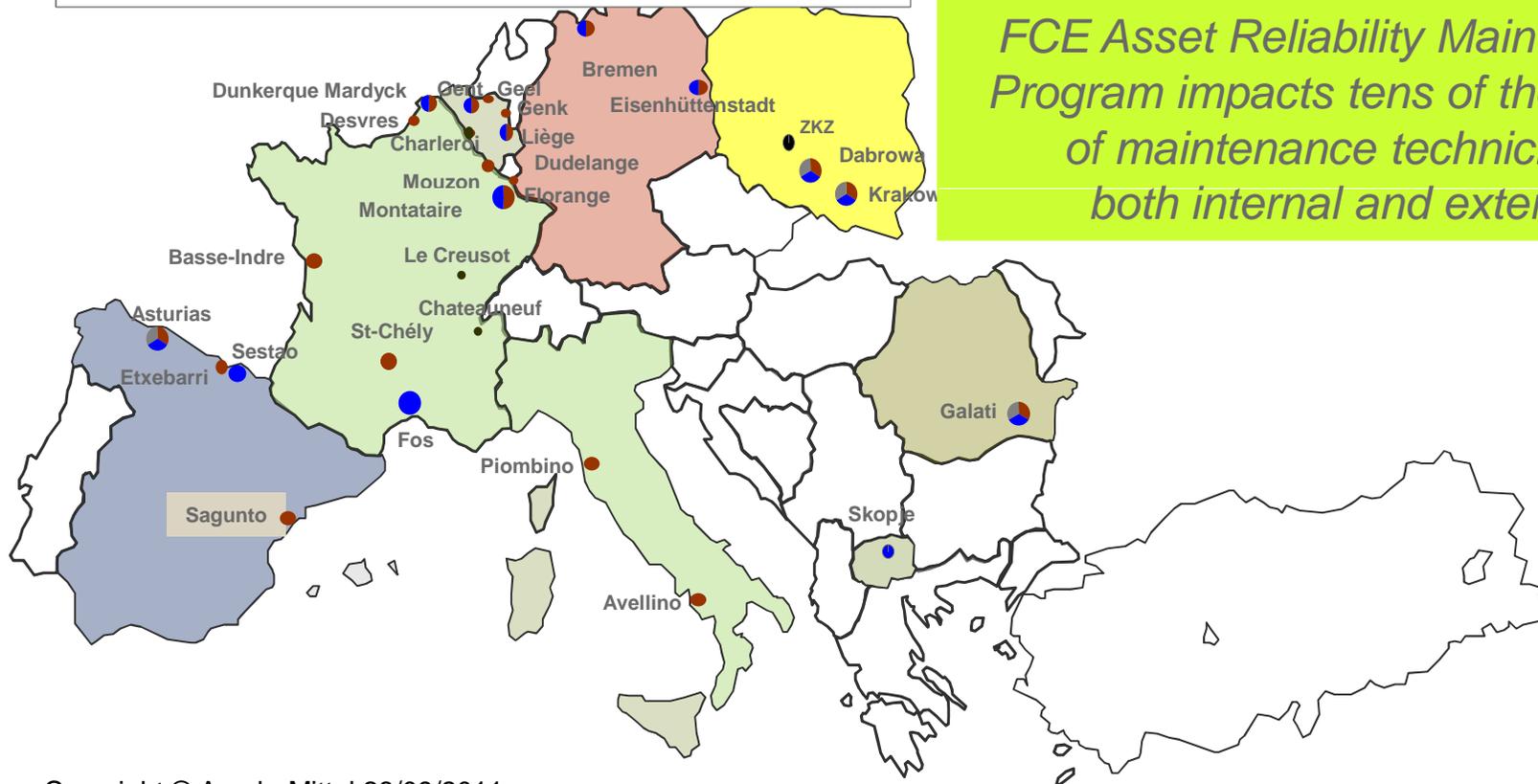
ArcelorMittal

Products:

- Automotive
- Construction
- Civil Engineering
- Mechanical Engineering
- Pipes
- Mechanical Engineering
- Process Industries
- Domestic Appliances
- Electrical Applications
- Packaging

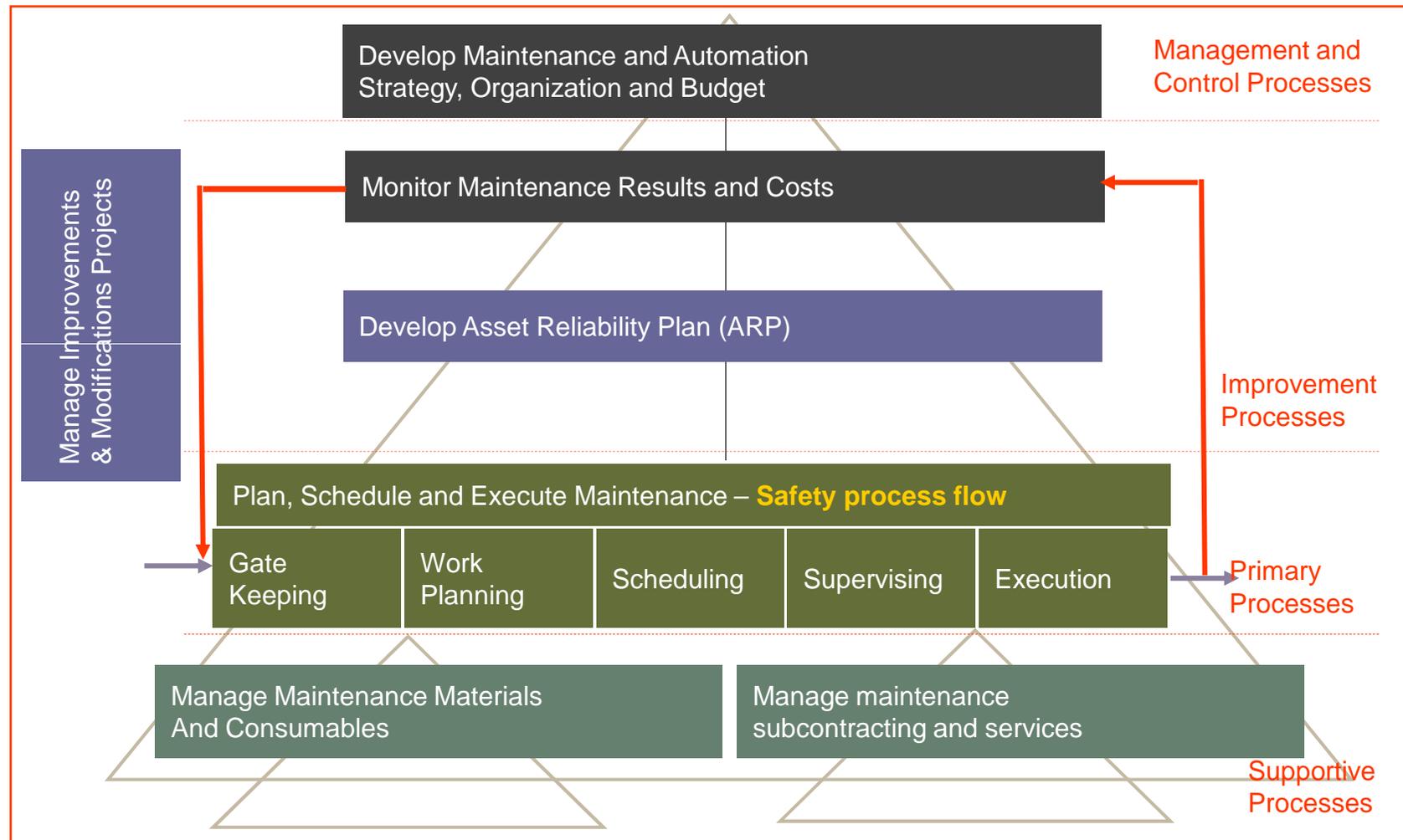
Stats:

- 30% of ArcelorMittal's total business
- 7 countries
- 35 plants



FCE Asset Reliability Maintenance Program impacts tens of thousands of maintenance technicians, both internal and external

Unique Asset Reliability Business Model for Flat Carbon Europe



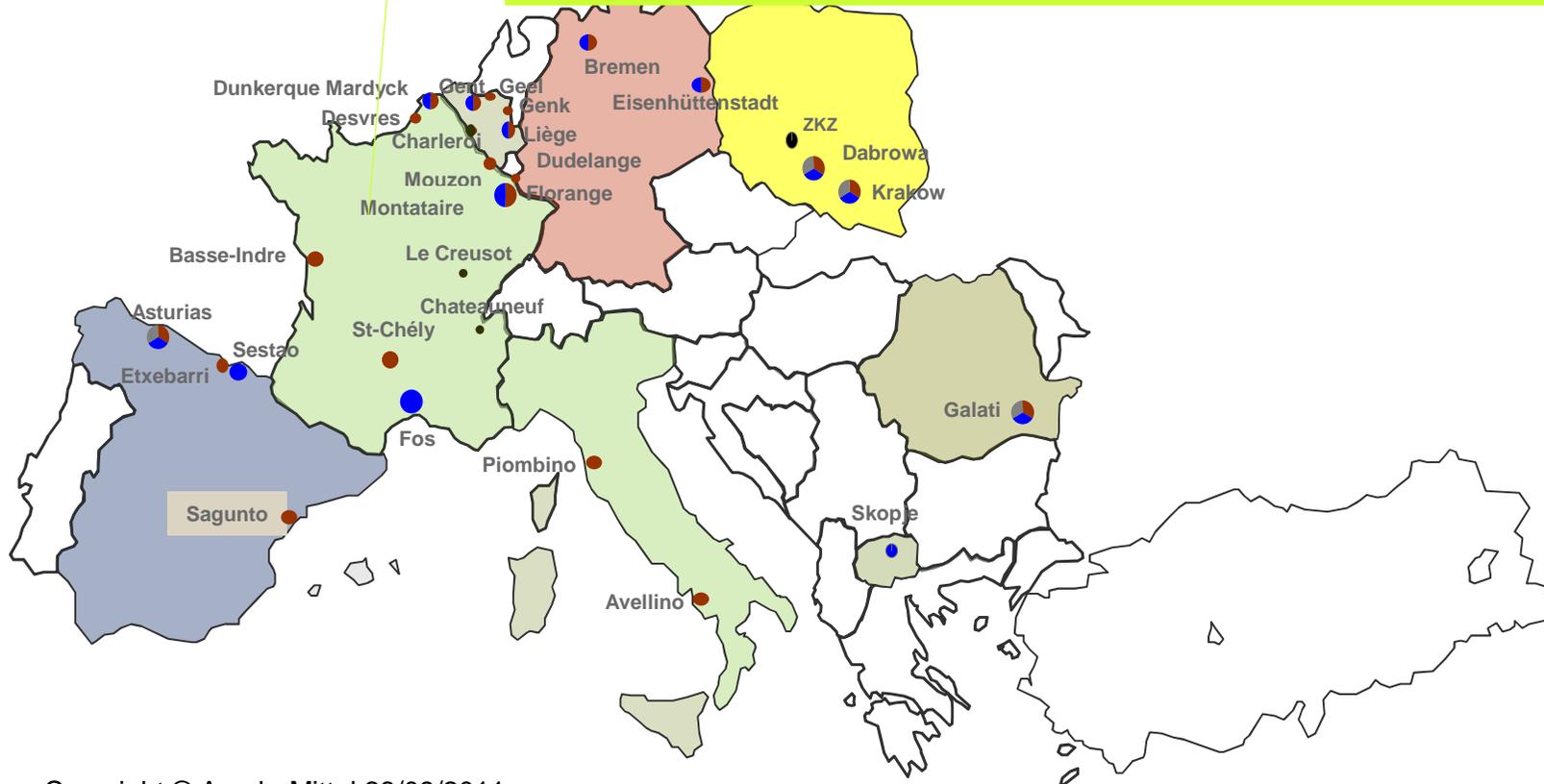
ArcelorMittal FCE Geographical and organisational Scope

Common IT tool and IT Template

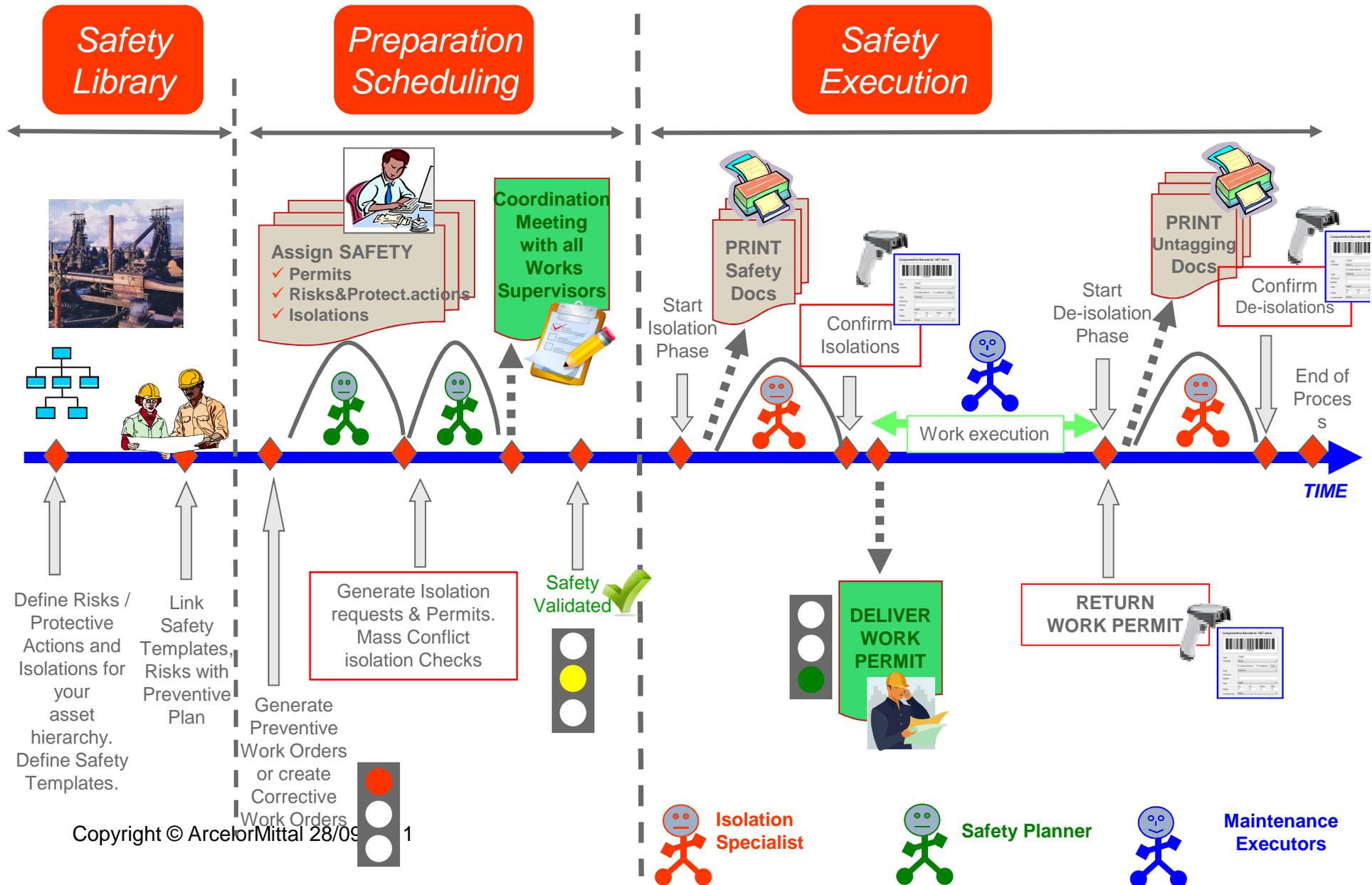


ArcelorMittal

1. Decision to use the same IT Tool in Flat Carbon Europe (FCE)
2. Decision to use the same Business Processes and common IT Template
3. Decision to use the same Master Data / Parameters / catalogues
4. Decision to use the same IT programs (to develop only once)
5. Decision to use the same User Interface/reporting, except all interfaces must be in the local languages

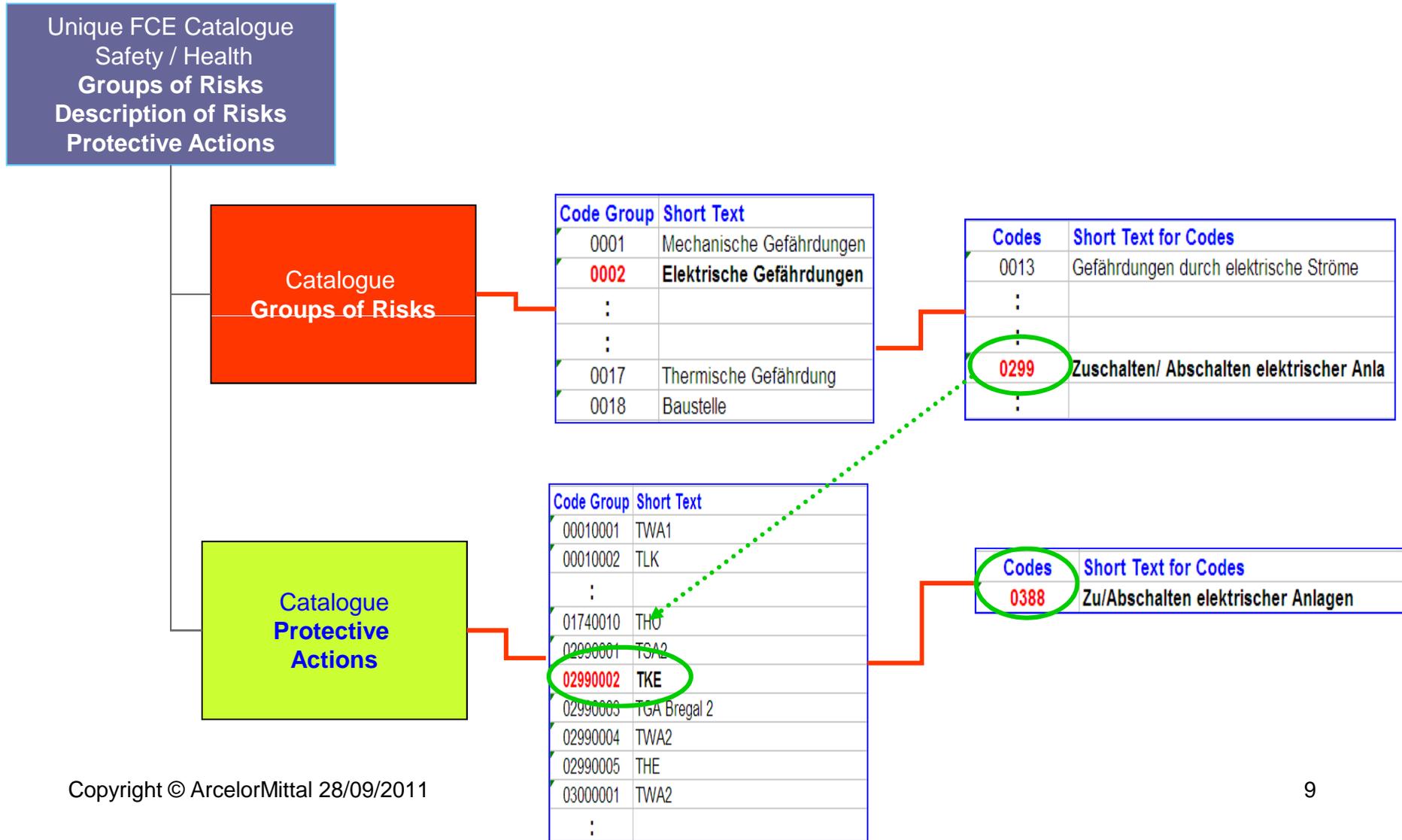


The Operational Safety Process



Concept 1 : Store Know-how in risk catalogues

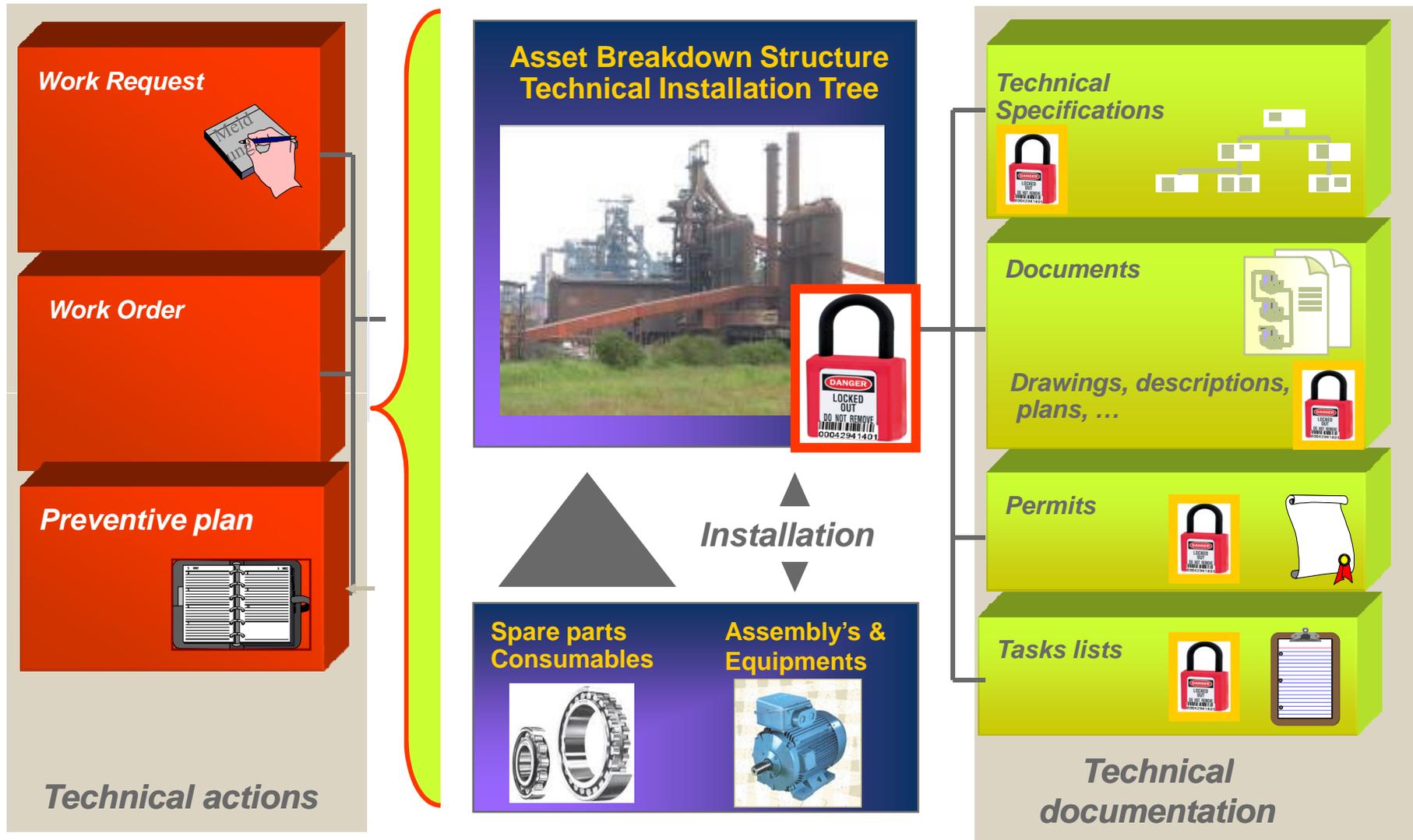
The Operational risks and protective actions catalogue



Concept 2 : Storing Safety information in the SAP system and make it available at execution



ArcelorMittal



Concept 3 : Ensure safety at execution Store the right status of the switching items

WCD_Template Edit Goto Extras System Help

Display WCD Template: Maintenance Screen

WC Document: 400000000210 WCD Template Pump Station K1-B01 1 / 1

Status: CRTE

Technical Object	06	Tag. Cond.	TT	TS	B1T	Ph	TR	PF	Untag. Cond.	UT	US
Short Text									LT	DL	
Location		Switching Location									
<input type="checkbox"/> 10 F K1-B01-1A	M	OPEN	A	1				XXXX	CLOSED	A	2
Valve 1											
K1-B01											
<input type="checkbox"/> 20 F K1-B01-1B	M	OPEN	A	2				XXXX	CLOSED	A	1
Valve 2											
K1-B01											
<input type="checkbox"/> 30 F K1-B01-2A	M	CLOSED	A	0				XXXX	OPEN	A	0
Valve 1											
K1-B01											
<input type="checkbox"/> 40 F K1-B01-2B	M	CLOSED	A	0				XXXX	OPEN	A	0
Valve 2											
K1-B01											

Pump 1

Pump 2

First Valve

Second Valve

First Valve

Second Valve

Tagging condition

Tagging sequence

Untagging condition

Un-tagging sequence

Concept 4 : Tags and Locks & lock boxes



ArcelorMittal

Electric switches
Electrical board
Safety locks

Valves
&

Safety locks

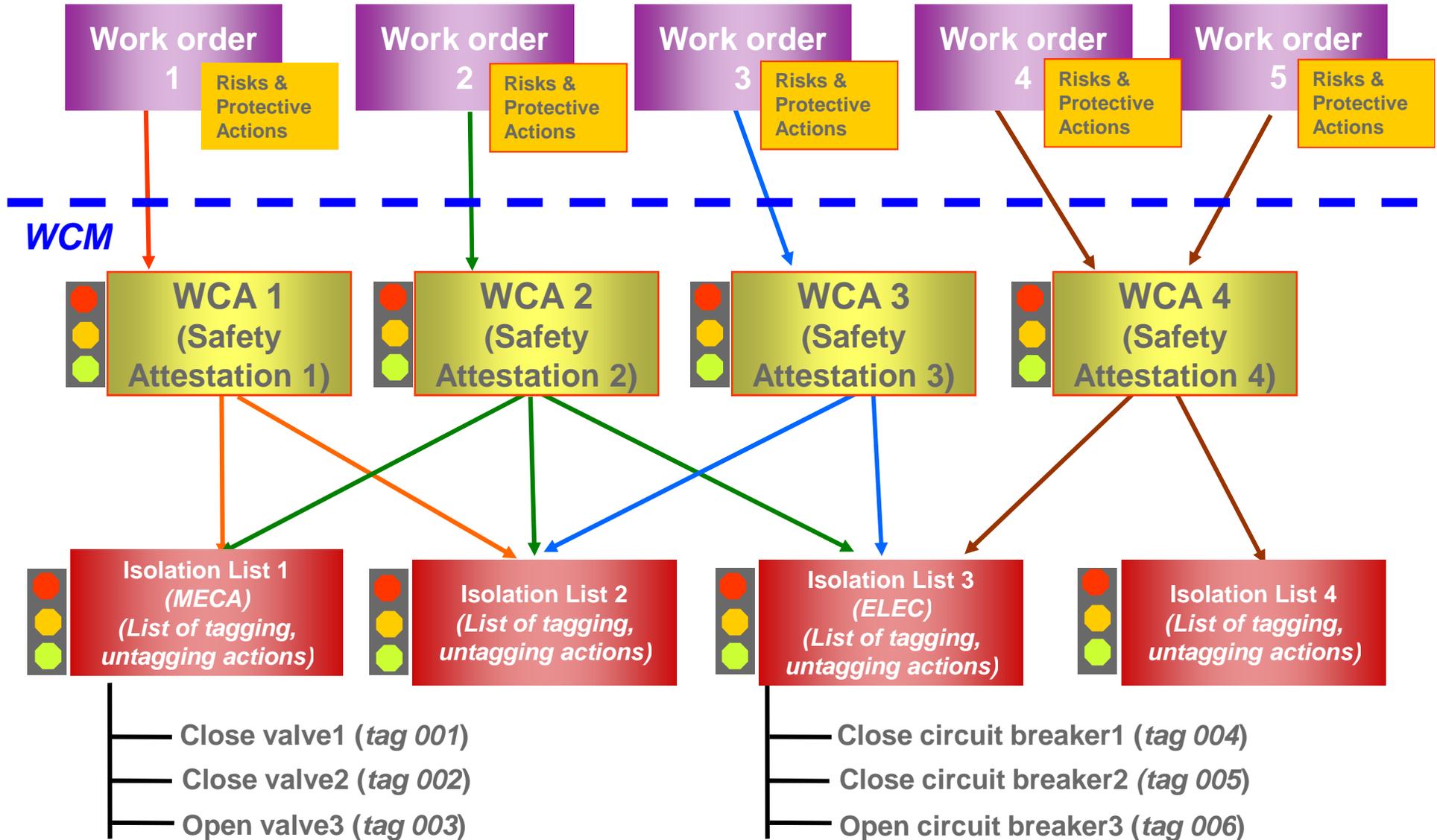


Concept 5 : Inheritance of the risks, protective actions
 Concept 6 : Tagging list and physical locks



ArcelorMittal

PM



Summary of the 6 concepts



ArcelorMittal

Risk Management system

Catalogue
Safety / Health
Groups of Risks
Description of Risks
Protective Actions

Catalogue
Groups of Risks

Code Group	Short Text
0001	Mechanische Gefährdungen
0002	Elektrische Gefährdungen
:	:
0017	Thermische Gefährdung
0018	Baustelle

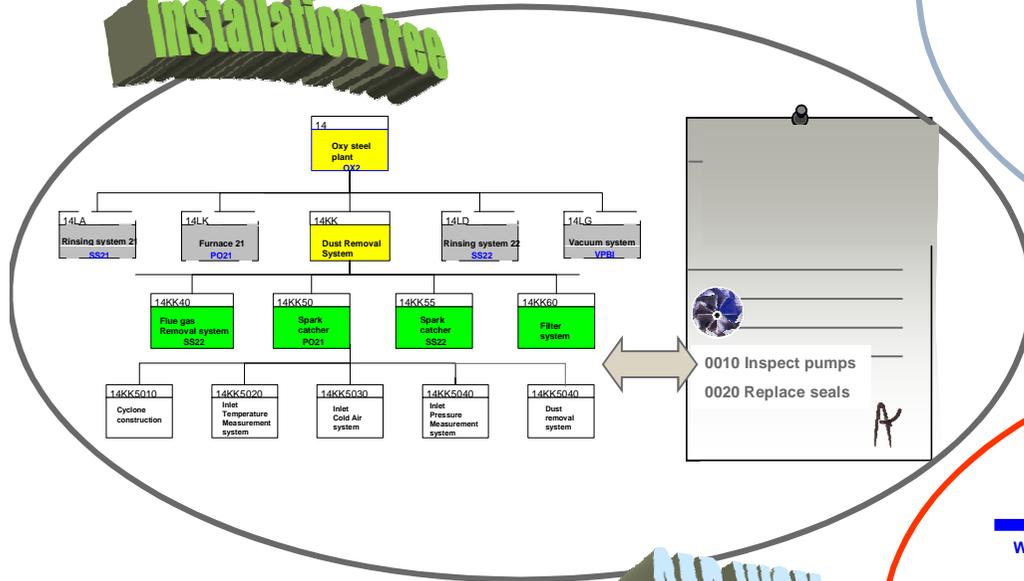
Codes	Short Text for Codes
0013	Gefährdungen durch elektrische Ströme
:	:
0299	Zuschalten/ Abschalten elektrischer Anla
:	:

Catalogue
Protective
Actions

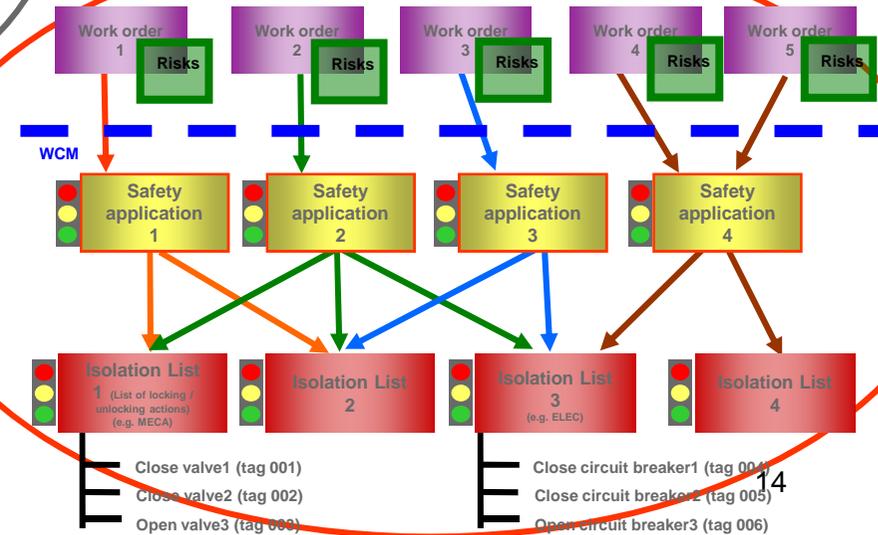
Code Group	Short Text
00010001	TWA1
00010002	TLK
:	:
01740010	THE
02990002	TKE
02990001	TLK Bregal 2
02990004	TWA2
02990005	THE
03000001	TWA2
:	:

Codes	Short Text for Codes
0388	Zu/Abschalten elektrischer Anlagen

Work Orders linked to SAP PM Installation Tree



SAP-WCM system



Thanks to the co-innovation program ArcelorMittal FCE could define a clear roadmap for operational risk management



- ✓ Common FCE Safety Catalog (Risks & Protective Actions)
- ✓ Management of risks and protective actions linked to asset breakdown structure and maintenance activities
- ✓ Management of common and strict safety process flow for maintenance operations
- ✓ Management of isolations and work permits directly linked with maintenance activities
- ✓ SAP WCM Cockpit in order to guide process business workflow, limit number of clicks and manage stronger automation



Implementing this brings H&S Processes integrated with Plant Maintenance

- ✓ Integration of significant standard and strategic enhancements with SAP WCM (new work permit system, flexible User Interface, ...)
- ✓ Integration of strong ArcelorMittal isolation requirements (Mass functionalities, Tag or Lock optimization, Safety WCM Templates integrated with preventive / corrective maintenance, Use of PDA and barcode, ...)



Implementing this reduces the workload i.e. efficiency increase

- ✓ Implementation standard "Worker Safety" to replace specific development :
 - ▶ "Safety Plan" fully integrated with corrective and preventive maintenance
 - ▶ Standard Risk Repository approach at the level of the enterprise with GRC
 - ▶ Standard Integration between SAP PM (Maintenance), SAP GRC (Risk Repository) and SAP WCM (Isolation and work permits)
- ✓ SAP WCM enhancements in EhP6



Main AM requirements integrated in standard SAP + Enterprise Risk Management

Main benefits to enter in a co-innovation program

- You get an insight in the future developments of SAP
- Therefore you can evaluate whether or not to go for specific developments
- You get the opportunity to explain your specific needs
- You can influence the future developments
- You can get a lot of functionalities in standard SAP
- You can influence the prioritization

Introducing SAP to Steel Production Reality



Conclusion : based on this positive experience

- ArcelorMittal FCE IT will continue to invest in co-innovation initiatives
- ArcelorMittal FCE IT will continue to participate to the User Groups
- ArcelorMittal FCE IT will continue to seek for collaboration with other SAP customers

Summary

- 1** Operational Risk Management in ArcelorMittal Flat Carbon Europe
- 2** ArcelorMittal Co-Innovation Experience