
AREVA

Analyst day - Equipment business unit

Introduction

AREVA – Société Générale / Investor day
Burgundy – April 9, 2009

Disclaimer

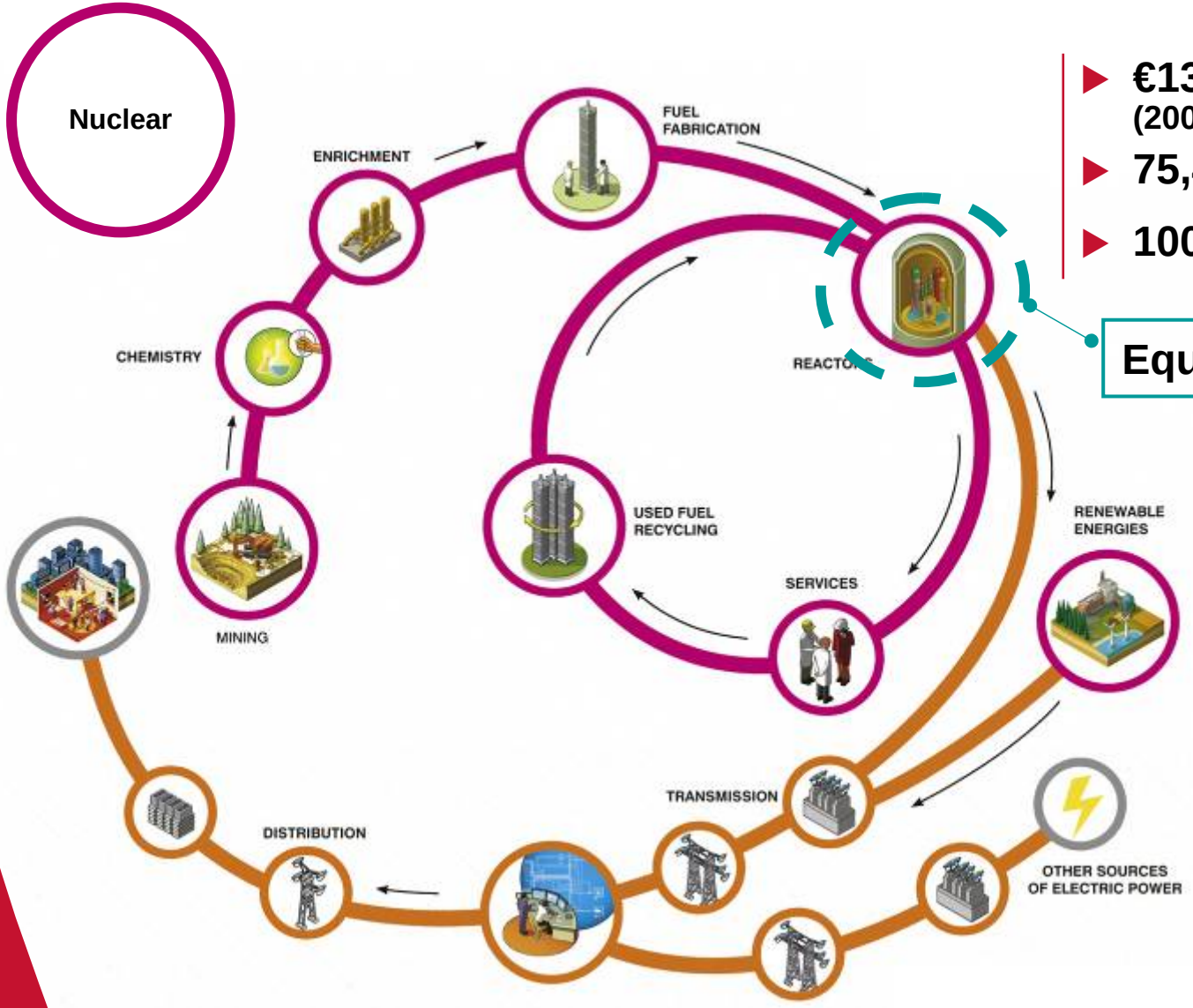
Forward-looking statements

- **This document contains forward-looking statements and information. These statements include financial forecasts and estimates as well as the assumptions on which they are based, statements related to projects, objectives and expectations concerning future operations, products and services or future performance. Although AREVA's management believes that these forward-looking statements are reasonable, AREVA's investors and investment certificate holders are hereby advised that these forward-looking statements are subject to numerous risks and uncertainties that are difficult to foresee and generally beyond AREVA's control, which may mean that the expected results and developments differ significantly from those expressed, induced or forecast in the forward-looking statements and information. These risks include those developed or identified in the public documents filed by AREVA with the AMF, including those listed in the "Risk Factors" section of the Reference Document registered with the AMF on April 15, 2008 (which may be read online on AREVA's website, www.areva.com). AREVA makes no commitment to update the forward-looking statements and information, except as required by applicable laws and regulations.**

Agenda

1. **Introduction**
2. **Overview of Equipment business unit**
3. **Le Creusot plan**
4. **Chalon / St Marcel plant**

AREVA provides solutions for CO_2 free electricity generation, transmission and distribution



- **€13,160M sales (2008)**
- **75,400 people**
- **100 countries**

Equipment BU

AREVA's strategy: to set the standard in CO_2-free power generation and electricity transmission and distribution

1 **Capitalize on our integrated business model to spearhead the nuclear revival**

- Maintain the existing fleets' safety and performance levels
- Build 1/3 of new nuclear generating capacities*
- Make the fuel cycle secure for our current and future customers

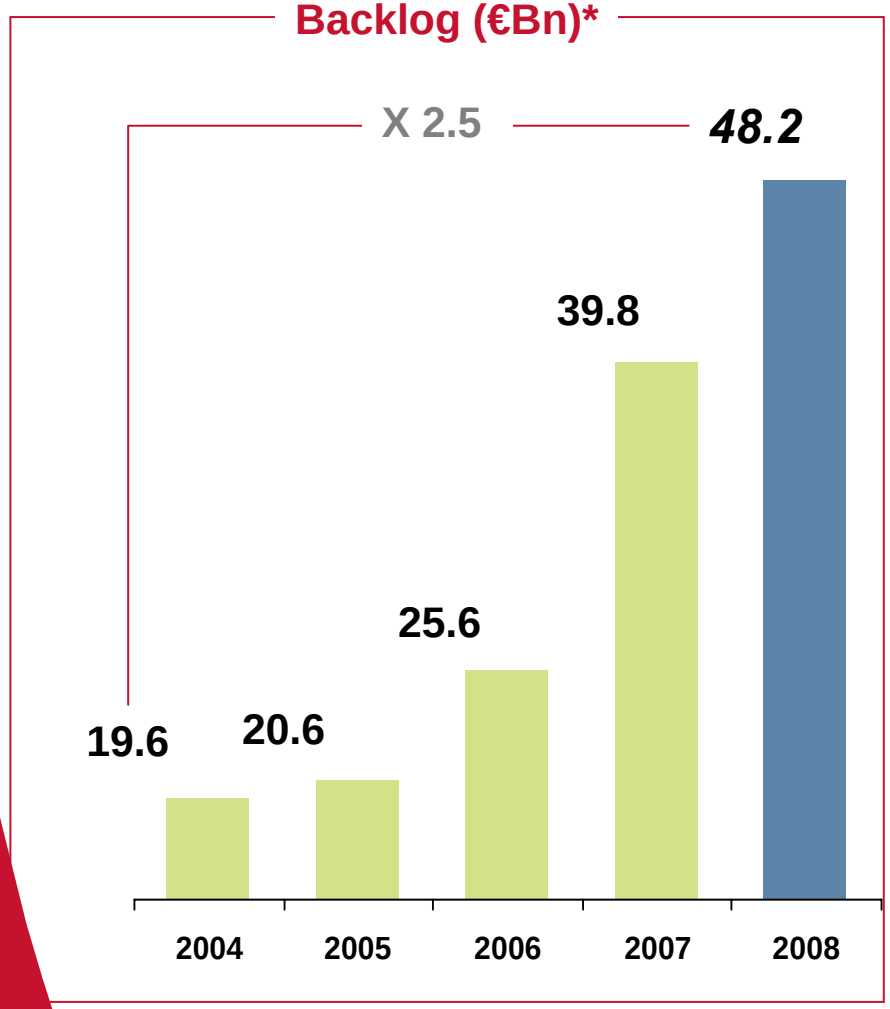
2 **Ensure sustainable, profitable growth in T&D**

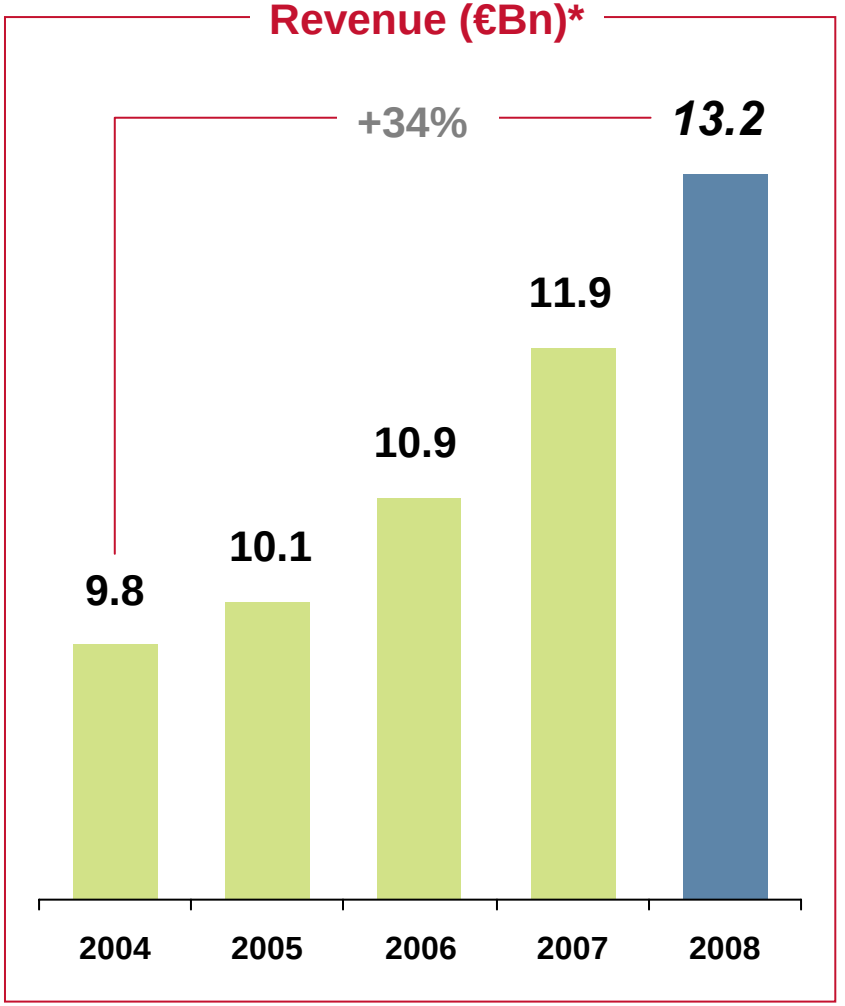
3 **Expand our renewable energies offering**

...while remaining the leader in safety and security

** of the accessible market*

Strong growth

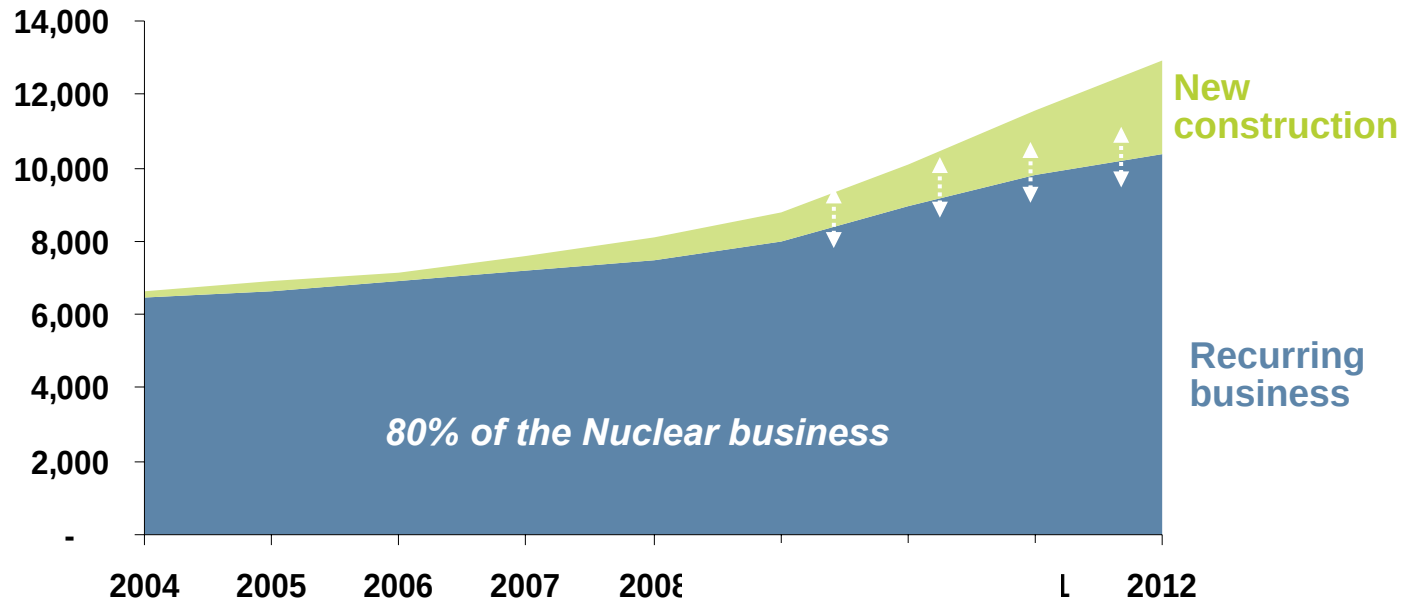




** excluding FCI – Connectors division*

AREVA: a solid, sustainable model

Recurring nuclear revenue vs. New Builds (€M)



Source: AREVA strategic plan

- **No power plant will shut down due to the economic and financial crisis**
- **80% of our nuclear business is recurring**
- **The integrated business model is winning market share**
- **The backlog gives very strong visibility**
- **Capex is secured by the sale of future production (e.g. 90% of GBII production has already been sold up to 2020)**

The crisis has not slowed down New Nuclear

- **10 utilities have already chosen the EPR™…**

- **…and are making commitments for the entire fuel cycle**

  Examples since the crisis began:

  - **CGNPC – China: supply of front end of the fuel cycle through 2026**
  - **NPCIL – India: wants to secure reactor supplies for the life of the reactors (60 years)**
  - **EDF: multi-year contract in the front end and back end (beyond 2030)**

Continuing to grow while maintaining the group's financial soundness

- **Pursue the plan for capital expenditure needed to sustain AREVA's strategic positions**

- **Maintain financial soundness and value creation**
  - **Pursue the program of non-strategic asset disposals and minority share float in some operating companies (mining, GBII)**
  - **Carry out the cost reduction program**
  - **Preserve the group's liquidity and optimize working capital requirement**

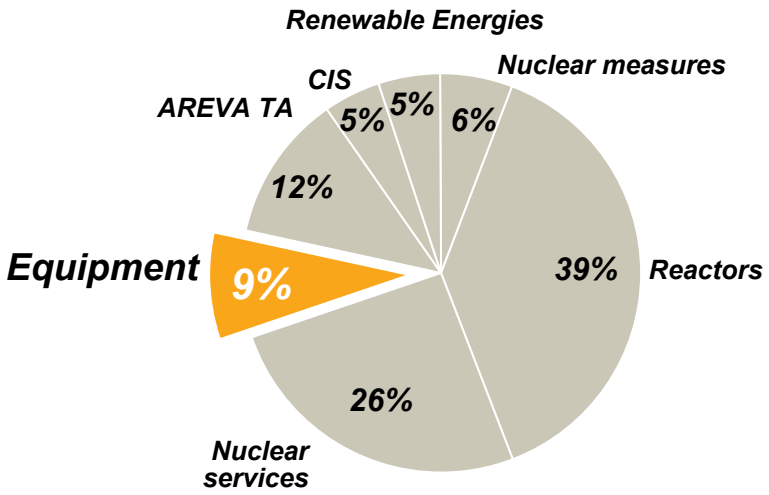
Overview of the Equipment business unit

Guillaume Dureau
Executive Vice President of the Equipment business unit

Investor day in Burgundy – April 9th, 2009

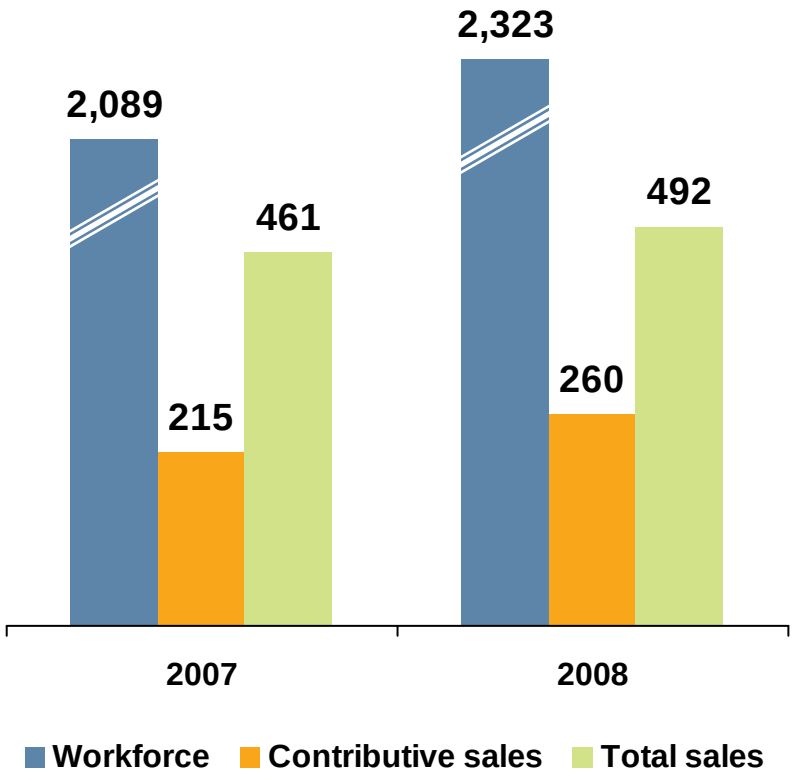
Equipment BU within the Reactors & Services division

Share in the 2008 Reactors & Services division sales (in €M)



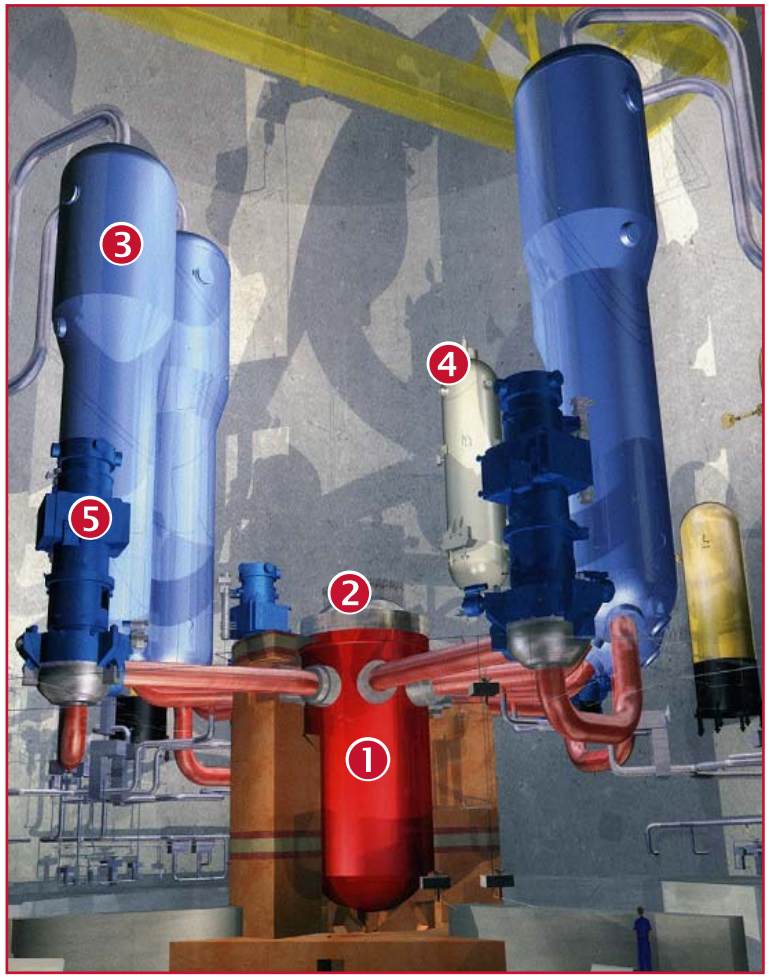
2008 Sales revenue: €260M
2008 Workforce: 2,323 people

Key data 2008



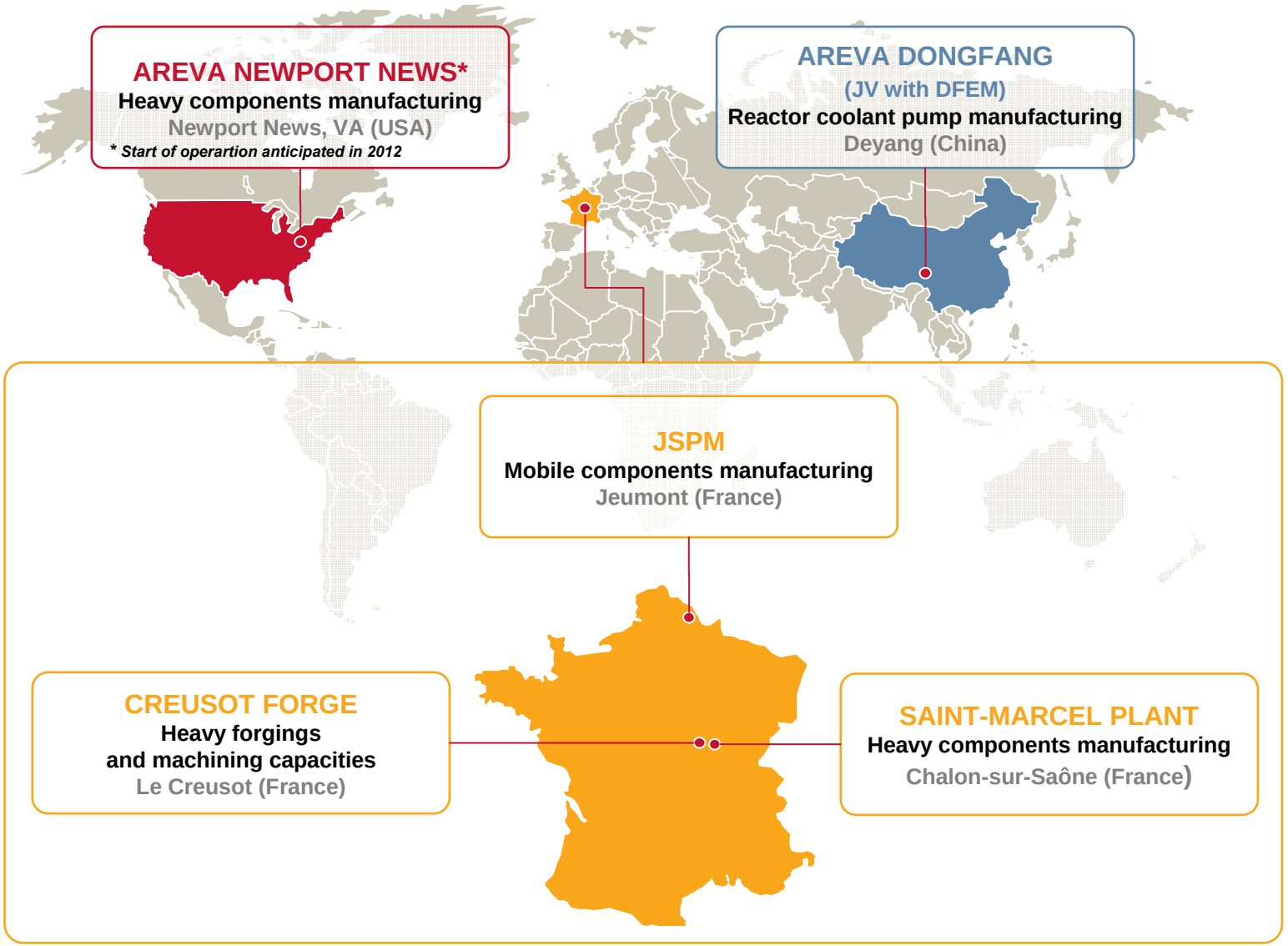
What do we sell?

The Equipment BU is the worldwide leader for nuclear island components manufacturing



- Saint-Marcel plant manufactures heavy components such as
  - ❶ Reactor pressure vessels
  - ❷ Reactor vessel heads & internals
  - ❸ Steam generators
  - ❹ Pressurizers
- Jeumont plant manufactures mobile mechanical components such as
  - ❺ Reactor coolant pumps
  - ❷ Control rod drive mechanism
  - ● Seals & other spare parts…
- Sfarsteel provides most of the forgings required for those components

Where are we?


AREVA NEWPORT NEWS*
Heavy components manufacturing
Newport News, VA (USA)
* Start of operartion anticipated in 2012
AREVA DONGFANG
(JV with DFEM)
Reactor coolant pump manufacturing
Deyang (China)
JSPM
Mobile components manufacturing
Jeumont (France)
CREUSOT FORGE
Heavy forgings
and machining capacities
Le Creusot (France)
SAINT-MARCEL PLANT
Heavy components manufacturing
Chalon-sur-Saône (France)

Equipment BU major industrial assets

Saint-Marcel – NSSS equipment

- Start of operations: 1976
- Workshop: 39,000 m²
- Lifting capacity: 1,000 tons
- ISO 9001 – 14001 – OHSAS 18001
- RCC-M + ASME N, NPT, NS
- Workforce: 1,100

Jeumont – RCP and CRDM

- Start of operation: 1898
- Workshop: 13,000 m²
- ISO 9001 – ISO 14001 – OHSAS 18001
- RCC-M + ASME N, NPT
- Workforce: 500

Sfarsteel (Le Creusot) - Forgings

- Heavy forging and machining
- Workshops: 85,000 m² (4 sites)
- Workforce: 600

Equipment BU products

CHALON Saint-Marcel plant

- Over 350 Steam Generators
- 80 Reactor Vessels & Closure Heads
- 76 Replacement Closure Heads
- 72 Pressurizers

JEUMONT plant

- Over 5,500 Control Rod Drive Mechanisms
- 240 Reactor Coolant Pumps

CREUSOT Forge

- 200 Heavy forgings for petrochemical & nuclear industry per year

The Equipment BU's market

- **Our components are dedicated to two markets**
  - **New builds construction**
    - **Supply of the nuclear island**
  - **Replacement market linked to power plant life extension**
    - **Heavy components: reactor vessel heads, steam generators and pressurizers**
    - **Mobile components: new control rod drive mechanisms, components of reactor coolant pumps**

- **Our customers**
  - **New builds market: a single customer, AREVA**
  - **Replacement market: multiple customers consisting of power plant operators**

A changing market (1/2)

Main evolutions over the last 5 years

Yesterday

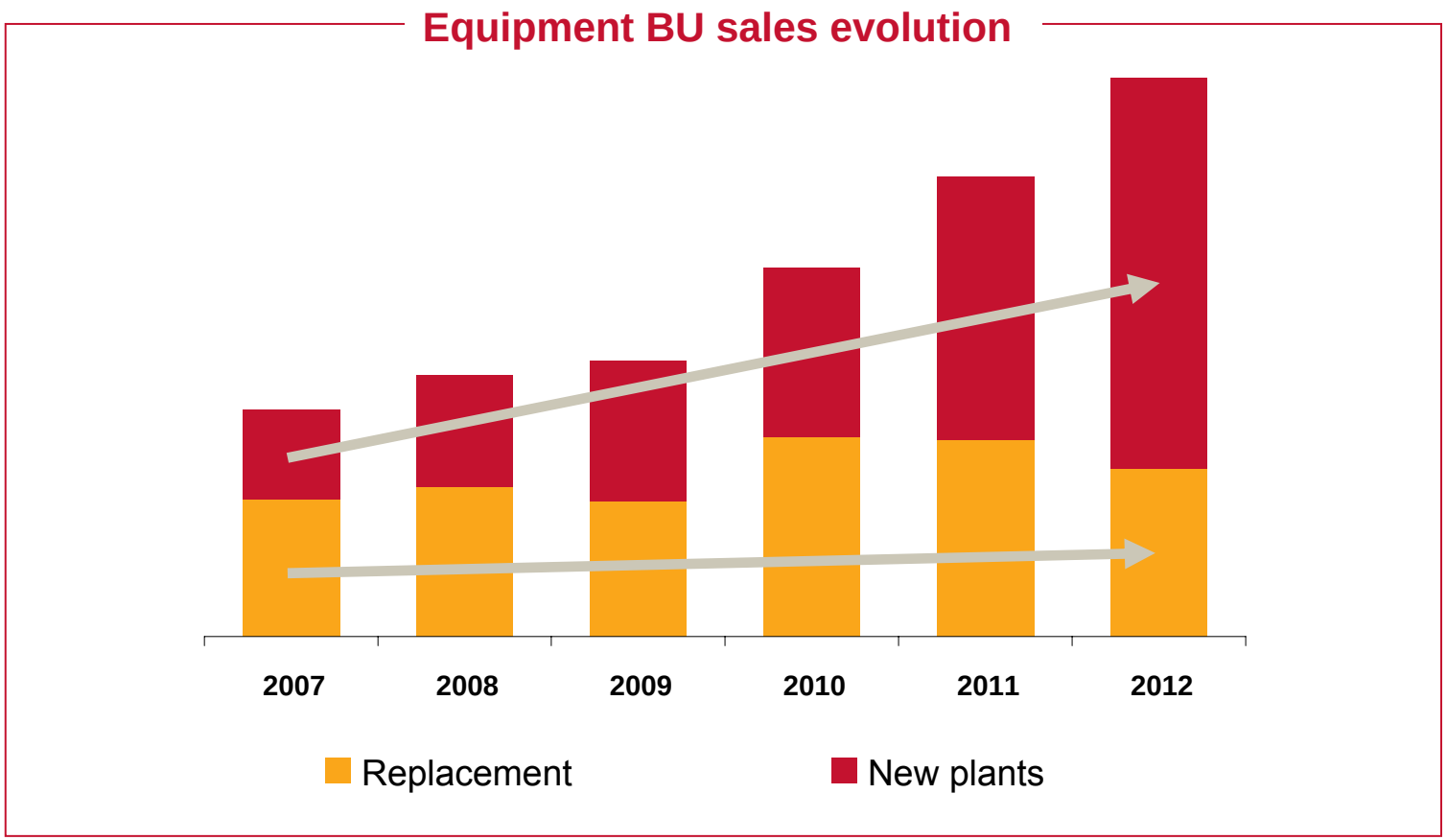
- Mainly domestic market
- Low demand and available capacity
- Almost one single client: EDF
  - Well known range of products
  - Almost no competition
  - Limited pressure on delays and costs

Today

- Worlwide market
- Strong demand and scarce resources
  - Tension on critical supplies
- New markets…
  - More important variety of products
  - New range and new technologies
  - Competition and pressure on prices
- … and more demanding clients
  - Quality/cost/delay
  - Innovative solutions: technical, product life time, warranty extension…

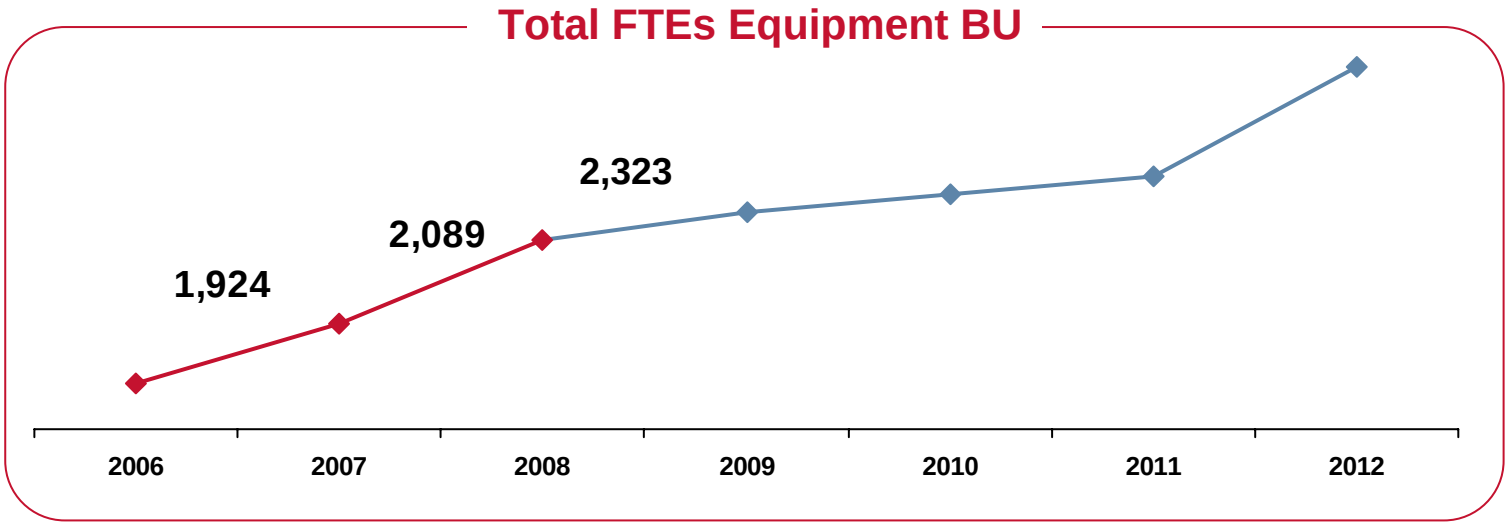
A changing market (2/2)

From replacement market to new plants boom



- A steady workload with the replacement market…
- … compensated by increasing perspectives for new plants

HR key issues

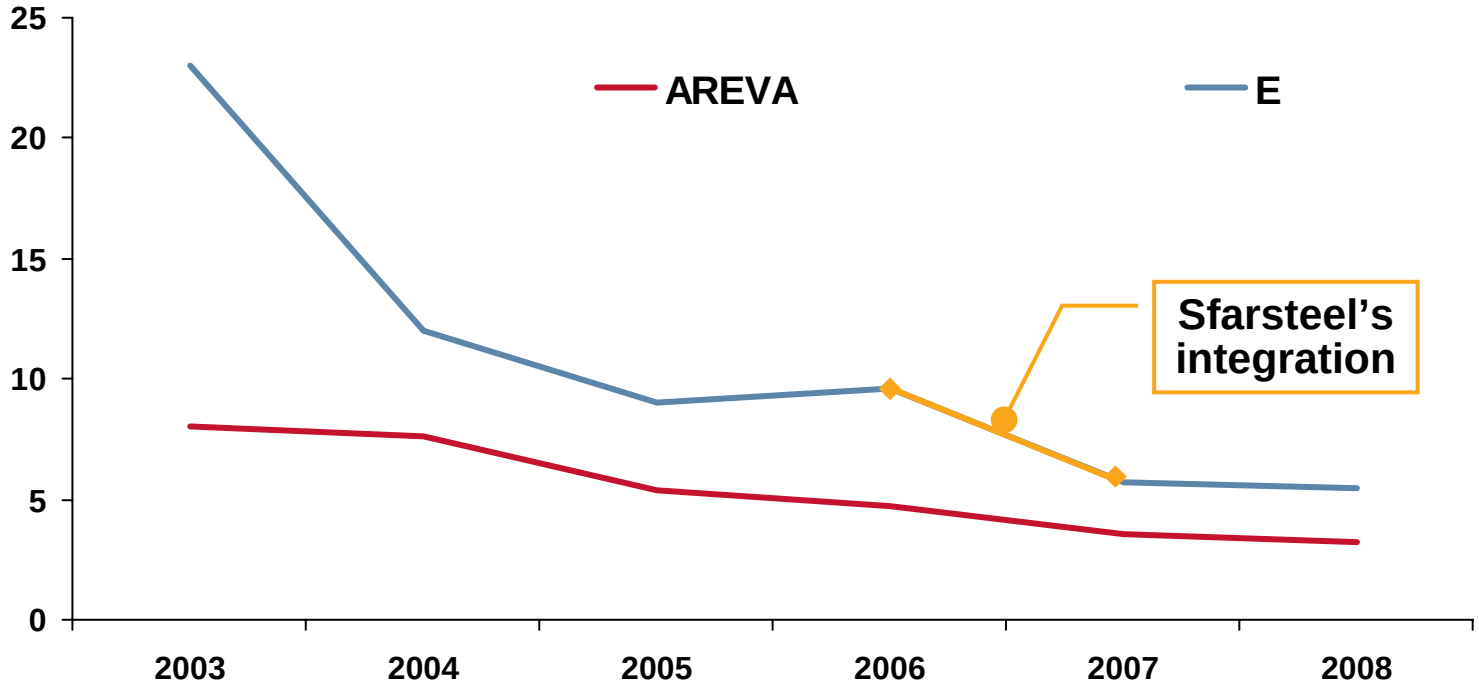


- **A new HR environment**
  - **Strong rise in number of employees**
  - **International expansion**
  - **Competencies requirements**
    - **Shortage of specific skills in France and abroad (welders, forge masters…)**
    - **Integration of new skills (PM, supply chain, multi-cultural profiles…)**

- **Leading to a necessary evolution in HR management**
  - **Develop an international HR network**
  - **Anticipate quantitative and qualitative recruitment plans**
  - **Secure key competencies**

Ensuring safety performance meets nuclear standards and requirements

Accident Frequency Rate



- Sharp decrease at BU Equipment level since 2003 (from 23 to 5.5)
- Objective to reach an accident frequency rate of 4.0 in 2009
- …to be compared to French industry: 25.7 (in 2008)

Potential OEM's position regarding manufacturing

Worldwide increase in energy demand

Rising need in heavy equipments

(petro-chemical, fossile, nuclear, dedicated ships… + competition with other industries)

Resources will become rare and more expensive

(manufacturing, raw materials, critical supplies, competencies…)

Nuclear equipments: two ways to approach this challenge

Seek maximum flexibility and bet that the market will adapt

=> Used to be mainly outsourcing model

(US business model) switching to partially integrated model with manufacturing capacities of Toshiba and Hitach

Anticipate shortage of resources and secure major part of manufacturing and supply needs

=> partially Integrated model

	W. / Toshiba GE / Hitachi	AREVA
Advantages	▶ Maximal flexibility	▶ Quality, cost & delay control (« QCD ») ▶ Key technologies and know-how controled by the Group ▶ Synergies with AREVA's integrated global offer
Disadvantages	▶ Capacity to honour contracts ▶ Interface management	▶ Potential overcosts in case of market turnaround
	Best in a market driven by customers	**Best in a market driven by suppliers**

Market condition driving a potential evolution of GE / Westinghouse models

Equipment BU's key objectives

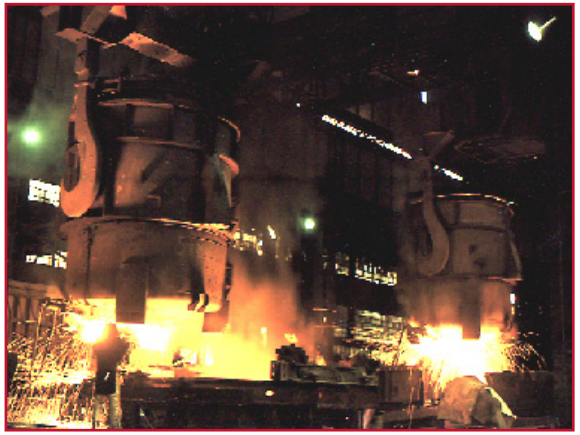
Equipment BU's mission within AREVA

- **Support AREVA's sale of new plants by providing core components of the primary loop (heavy and mobile components, legs, etc.) anywhere in the world at the best cost, delivered on time and that meet quality requirements and local safety standards**
- **Consolidate in a sustainable and profitable way our leading position in the primary component replacement market profitably and sustainably**

Equipment BU's key objectives

- **Achieve state-of-the-art performance in existing manufacturing facilities**
- **Adapt the industrial footprint to changes in the nuclear market: secure additional flexible manufacturing capacities**
- **Identify and solve major bottlenecks in the supply chain to meet expectations in terms of new builds (forgings, tubing, etc.)**
- **Manage human resource requirements**

Forgings supply



Forgings supply challenge (1/2)

- **A very tensed market**
  - **Worldwide increase in energy demand leading to a rising need in heavy equipments**
  - **Resources will therefore become rare and more expensive**
  - **Nuclear forgings market (and especially very big forgings) follows this trend**
    - **Strong global nuclear renaissance**
    - **Large gap between supply and demand (reinforced by nuclear forgings specificities)**

➔ ***Necessity for AREVA to secure its supply in heavy forgings in order to guarantee on-time delivery of its equipments and competitive prices***

- **Sfarsteel's acquisition in 2006 represented a first milestone for AREVA on the path to secure its supply of heavy forgings**

- **Creusot Forge industrial capacity remains however insufficient to meet AREVA's anticipated needs**
  - **In terms of capacity (i.e. number of forgings), given needs related to new builds growth scenario**
  - **In term of capability (i.e. size of forgings), given its dependence to japanese forgemaster JSW for the supply of ultra heavy forgings**

Forgings supply challenge (2/2)

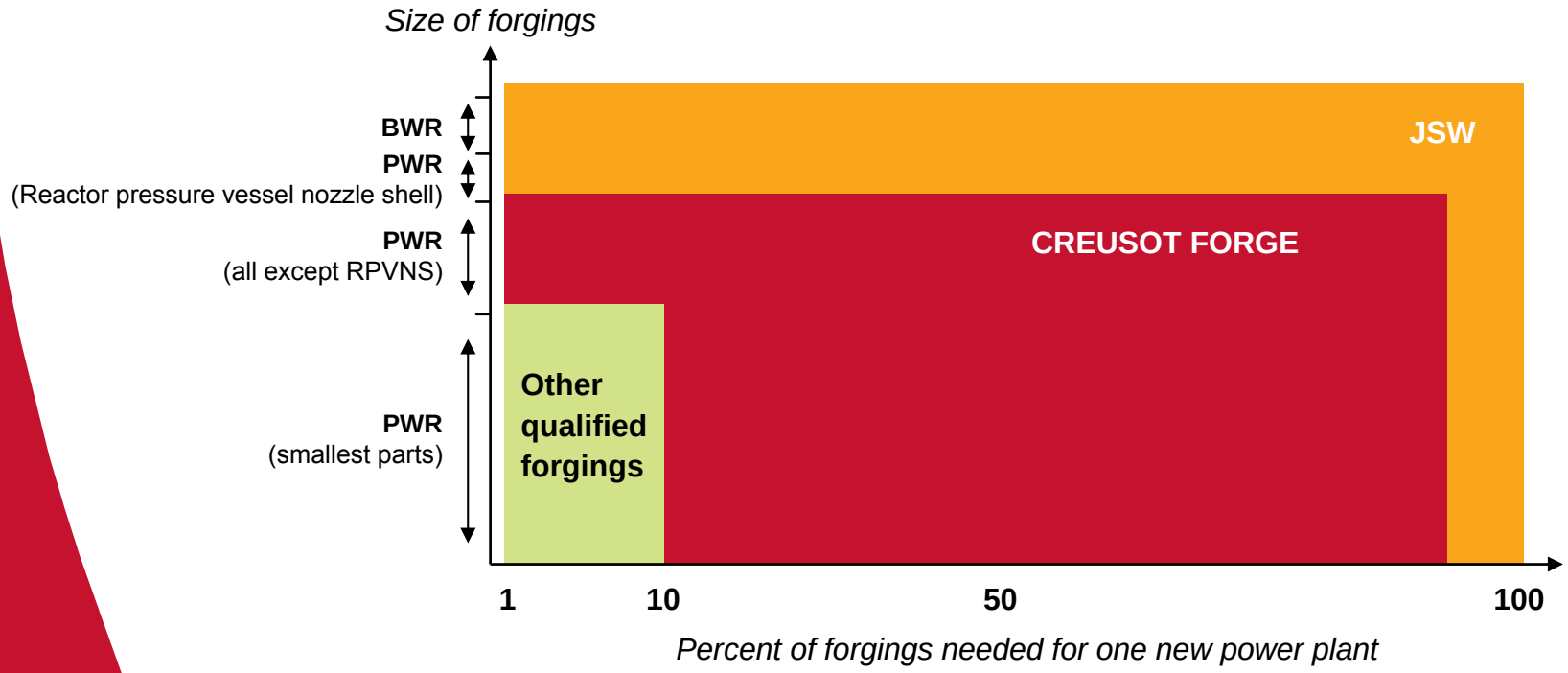
Necessity to secure additional resources

- Investment plan in Creusot Forge (carried out since 2006)
- Agreement with Industeel for the upgrade of the melting shop
- Slots reservation by JSW
- Long term supply agreements (on-going actions)

Creusot Forge

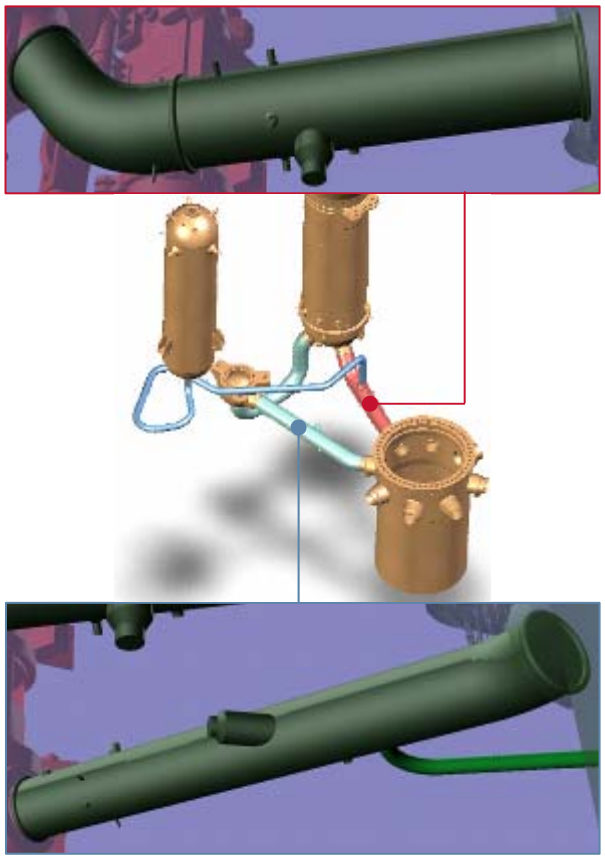
Current capacity limits for EPR™ forgings

- **Creusot Forge is one of two manufacturers of forged components meeting nuclear standards, next to Japan Steel Works (JSW)**
- **Creusot Forge and JSW benefit today from a clear edge over the competition and stand out as the key players of Nuclear Renaissance**



Case study: hot and cold legs

Hot legs



Cold legs

- Unlike previous reactors generations, EPR™ design rely on primary pipings manufactured from forged pieces
- Creusot Forge took responsability for the manufacturing of primary pipings (forging, bending and machining operations) for OL3 and FA3 projects
- Main technical challenges that have been faced are the following
  - Manufacture of pieces with fully forged integrated nozzles (without welding)
  - Manufacture of pieces in solid stainless steel, material known to be difficult to forge
  - Guarantee by full control of internal integrity and mechanical properties of pieces
  - Starting ingots of 170T for resulting legs of 13T for CL and 6T for HL
- The 8 OL3 legs have been delivered on site

Creusot Forge is today the only forge in the world to master generation III+ primary pipings' fabrication

Chalon Saint-Marcel plant

Heavy component assembly challenge

- **The nuclear renaissance is today a reality at Chalon St-Marcel plant**
  - **The plant has a backlog equivalent to three years of operations**
  - **On-going projects: EDF projects (FA3, steam generator replacement), OL3 project, various projects for US customers and Chinese projects (incl. Ling Ao phase 2 and future EPRs)**
- **The St Marcel plant will not have enough capacity to keep pace with the anticipated growth of the nuclear market**
- **AREVA has already begun to adjust its production capabilities and its supply chain to be able to meet anticipated demand**
  - **Capital expenditure programs and hiring in progress (cf. “Chalon 1300”)**
  - **Plant productivity improvement programs**
  - **Monitoring of supplier situation to ensure they are able to cope with future industrial expansion**
- **The development of new industrial capacity (new sites, partnerships, JV, localization programs, etc.) is necessary to supplement the growing capacity of the St Marcel plant**
  - **Signature of JV with Northrop Grumman to build a new heavy component facility in Newport News (US)**
  - **Projects under study in Asia**

Investment programs completed and in progress

- **Investment program completed (~€50M from 2000 to 2007)**
  - **Expansion of the heavy bay in 2006**
  - **Welding school inaugurated May 2008**
  - **Squirrel cage for welding of RPV nozzle shell started up May 2008**
- **Investment program in progress (2007-2009)**
  - **Capacity: investment in equipment for heavy component bay, startup of EPR™ clean modules, welding arms, etc.**
  - **Productivity: automation of hydraulic expansion, automation of inspections (laser tracker), use of new welding processes (Maglay), etc.**
  - **Upgrades: replacement of linear accelerator, overhaul of thermal treatment furnaces, etc.**
- **"Chalon 1300" plan**
  - **Over the coming years, the group will be investing in the plant to bring its annual production to an average equivalent of 2.7 EPRs™, up from around 1.7**
  - **This gradual ramp-up will create 200 new jobs, mainly in production activities, which will bring employee numbers to 1,300**

Reduction of lead time

- **Objective: reduce overall lead time for Chalon St-Marcel plant products via a phased 3-year plan (2007-2009)**

- **Program organized around 4 areas of improvement (19 projects in progress as of today)**
  - **Design and Engineering**
  - **Project Management**
  - **Procurement**
  - **Fabrication**

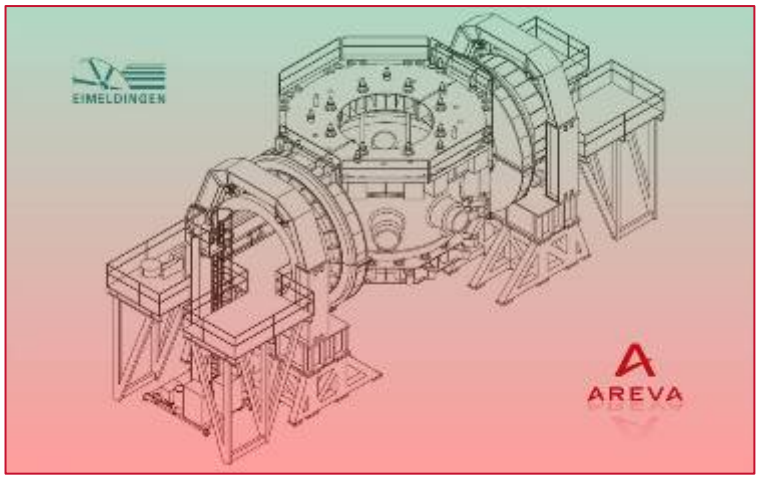
Examples of activities related to Engineering

- **Bring Chalon teams closer together**
  - **New organization**
    - **Establishment of project platforms**
    - **Centralized planning**
  - **Accelerate document flows (establishment of documentation packages)**
- **Bring Chalon and Paris teams closer together**
  - **Increase regular dialogue between Plants and Equipment BU teams**
  - **Integrate Plants BU into new project platforms**

Examples of activities related to the workshop

- **Steam generator tubing time module**
  - **Objective: reduce SG tubing time in clean modules**
  - **Implement via Total Productive Manufacturing (TPM): work station design, preparation of tooling, involvement of maintenance operators, etc.**
- **Modernize inspection reports**
  - **Set up mobile device application to automate input of production inspection reports**

Case study: “squirrel cage”



- The new design of the EPR™’s RPV shell required the development of tooling for set-on welding of nozzles
  - Flux-coated electrode welding process chosen to replace orbital welding process because it is more effective and simpler to use
  - Objective: to optimize the productivity of the welding operation
- The tooling, developed jointly by the Chalon plant and *Eimeldingen*, had to meet the following challenge
  - Smooth rotation of a piece weighing about 200 MT along the axis of the tubing while ensuring operator safety and piece integrity
- This tooling entered into operation in 2008

This investment is a first in France and gives the St-Marcel plant an innovative, highly efficient tool

Status of major projects

OL3

- Reactor pressure vessel/vessel head: finalized by MHI end 2008 and delivered on site early 2009
- Steam generators: first SG finalized and 3 others under finalization – Availability anticipated H2 2009
- Pressuriser: anticipated availability H2 2009
- RPV internals: anticipated availability mid 2009
- Legs: all legs (set of 8) have been delivered on site

FA3

- Reactor pressure vessel/vessel head: manufacturing operations begun in May 2007. Vessel head assembled, nozzles being welded on the vessel body
- Steam generators: manufacturing operations begun in July 2007 – Start of tubing operations mid 2009
- Pressuriser: ongoing procurement phase – Start of manufacturing end of March 2009
- RPV internals: on-going manufacturing operations, subcontracted to DCNS and Creusot Mécanique
- Legs: all legs have been poured, anticipated availability anticipated H2 2009

AREVA Newport News – US new heavy component facility

- **Signature in October 2008 of a JV with Northrop Grumman to build a new heavy component manufacturing facility**
- **Location: Newport News (Virginia), the site benefits from NG's shipyard facilities (cranes, access to water…)**
- **Workshop of approx. 300,000 square-foot**
- **Anticipated workforce: ~ 400 employees**
- **Investment: ~ $400 million including plant, property and equipments**
- **Scope: full-scale manufacturing and engineering facility dedicated to supply heavy components, such as reactor vessels, steam generators and pressurizers to address the US and the global nuclear energy market**
- **Start of operation anticipated in 2012**

Conclusion

- **Optimization of the existing industrial tool**
- **Anticipation of additional manufacturing capacities**
- **Securization of the supply chain**
- **HR needs management**

Equipement BU contributes to AREVA's integrated model and is ready to face the *Nuclear Renaissance* challenge

Creusot Forge plant

Jean-Bernard Ville
Creusot Forge CEO

Analyst day in Burgundy - April 9th, 2009

SFARSTEEL - group structure

AREVA

Share owner since Sept. 2006

SFAR STEEL

Holding
Mr. J.B. Ville - CEO

- CIVAD — Welding equipment
- SFAR — Mid size machining
- CREUSOT FORGE — Forging & Casting
- CREUSOT MECANIQUE — Large machining

Forging & Casting:
- C.R.M.C — Research center
- ArcelorMittal — Industeel Creusot — Melting shop

Key dates Creusot Forge

1782	Start of the company	→	French revolution
1876	Erection of the world's largest forging press	→	Industrial revolution
1975	Creusot Loire is the key player in the development of the nuclear industry in France	→	1st oil choc (1973)
1984	Creusot Loire Industrie (CLI) is created as a separate division of the Usinor steel producing group		
2003	SFARSTEEL group buy the forge, the foundry and 2 large machining shops	→	Investment restart
2006	AREVA buys Sfarsteel	→	Restart of the NPP market

Key dates Creusot Mécanique

1973	Creation of the Nothern workshop in Creusot Loire
1984	The workshop is bought by FRAMATOME
1989	NFM, Framatome's subsidiary, manufacture coopers under MHI license
2001	The workshop is bought by Group SEEB and becomes UIGM
2003	Creation of the Sfarsteel group following the purchasing of UIGM and the Forge
2006	AREVA buys Sfarsteel

→ 1st oil choc (1973)

→ Investment restart

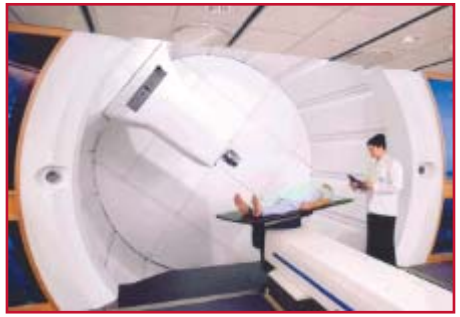
→ Restart of the NPP market

Markets

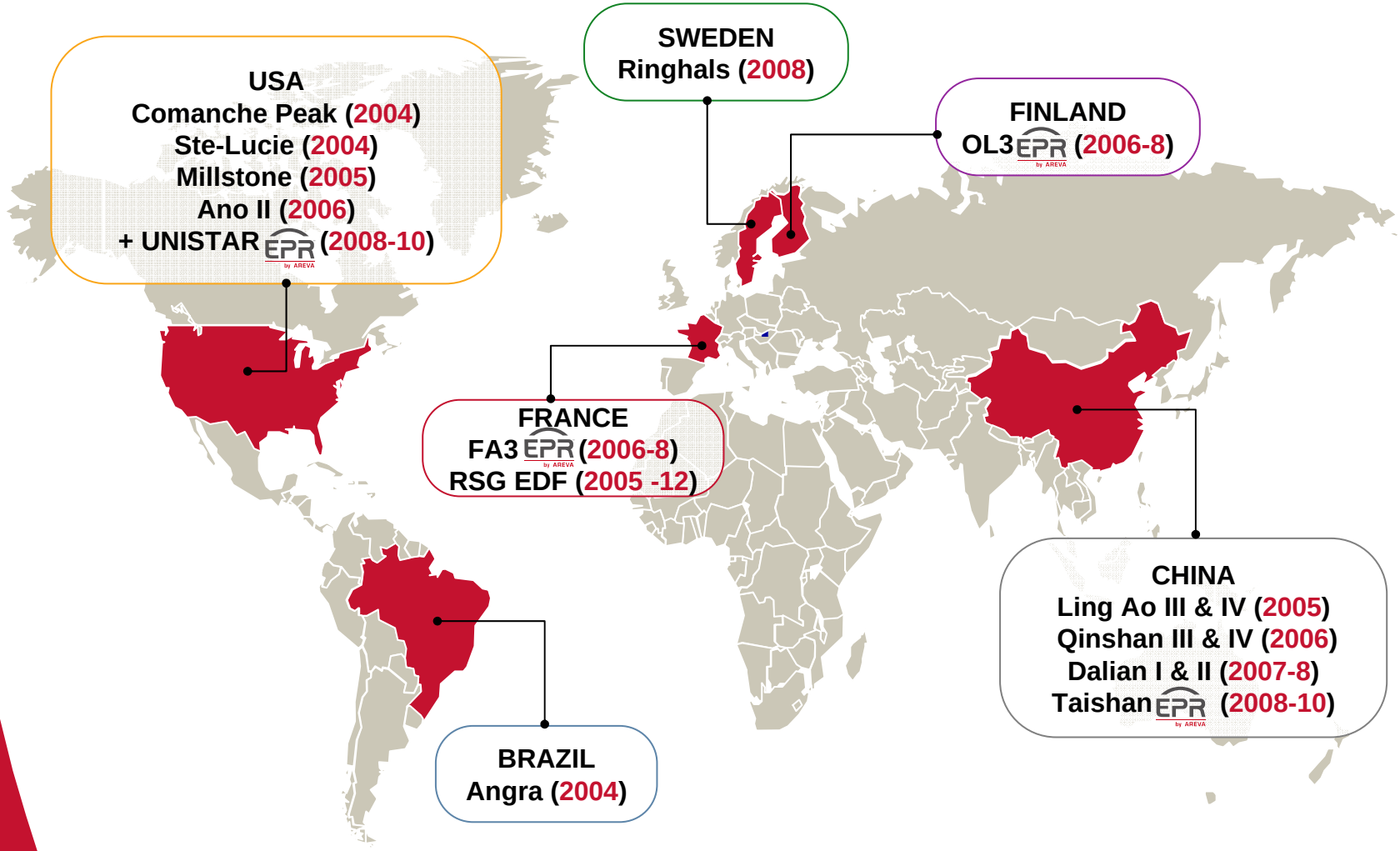
- **Energy/Nuclear system:** Sfarsteel provides most of the forgings required for nuclear island components (new builds and replacement projects)

- **Petrochemical industry:** manufacturing of products (shell rings, top & bottom heads, …) dedicated to various applications: refineries (oil), liquefaction (gas or coal), transformation (chemical)

- **Medical:** magnets for cyclotrons



Our recent experience



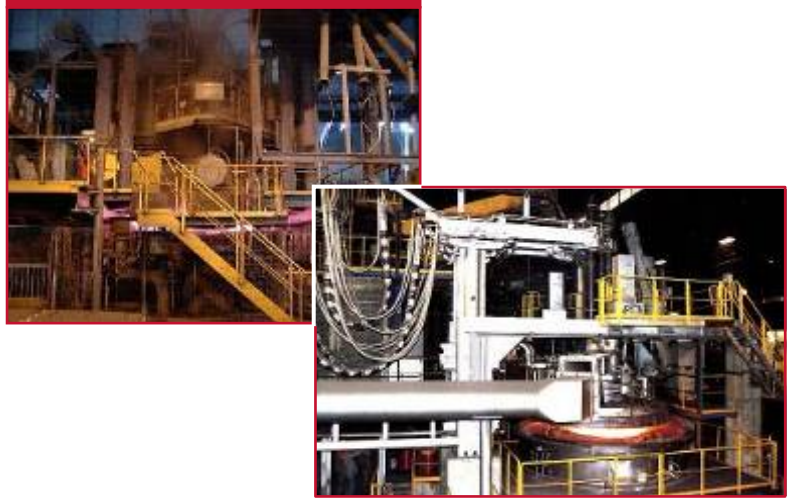
Manufacturing resources

Steel melting shop operated by: ArcelorMittal

Electric Furnace

- Initialized in 2004
- Capacity: 200 kT / year
- Power: 32 MVA
- Heat sizes: 100 T

Ladle and VD/VOD

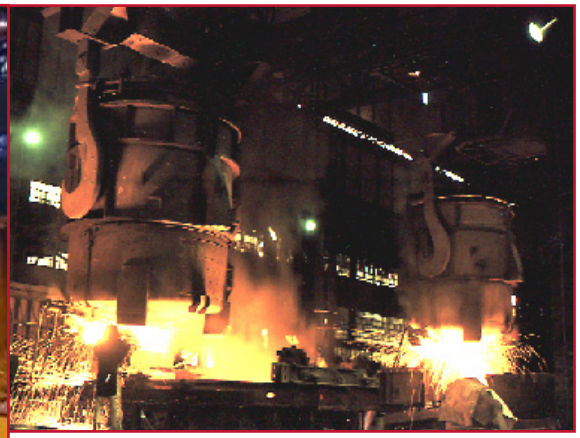


- Initialized in 1998
- Ladle furnace (16 MVA)
- Vacuum oxygen decarburizing (supersonic injection)
- Vacuum degassing
- Micro alloying with filled wire
- Station for nitrogen injection

Steel melting shop

INGOT POURING

- Forging ingots up to 250 t of which:
  - Vacuum ingots
  - Hollow ingots
  - Bottom pouring ingots



Forging shop

FORGING OF VERY LARGE COMPONENTS

- 2 Hydraulic presses 11.300 T
  7.500 T → Retrofitted in 2008
- Reheating gaz forging furnaces
- Heat treatment furnaces:
  - Vertical gaz furnaces
  - Horizontal gaz furnaces
  - Vertical Electrical furnaces

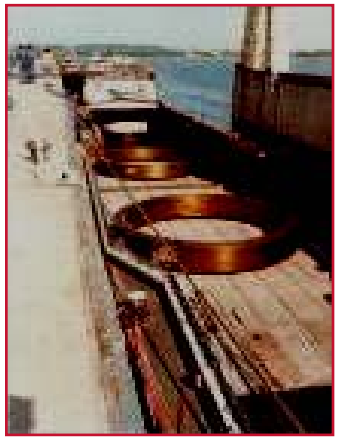
Foundry shop operated by: ArcelorMittal

INDUSTEEL CREUSOT

- **Casting of very large parts**

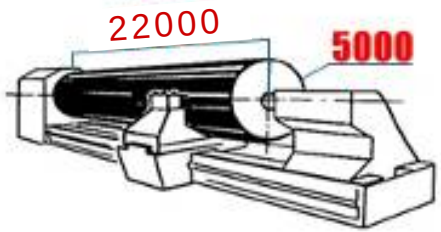
Casting:

- **Mobile or stationary sand casting**
- **Casting pits up to 10x7x5 m**
- **250 t max weight**
- **Heat treatment facilities**

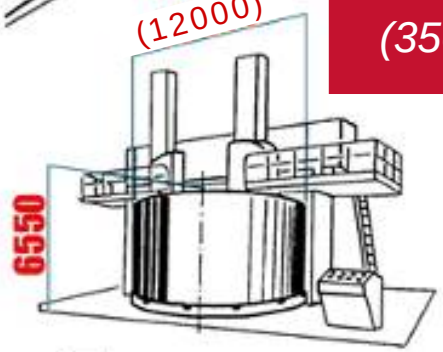


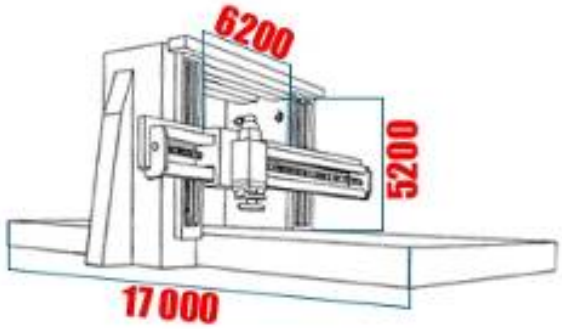
Machining shop

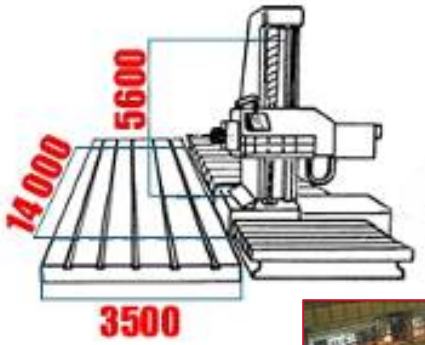
10
(160 t max)

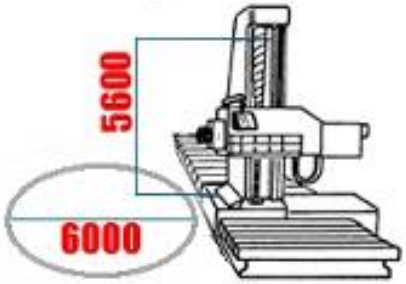


25
(350 t max)









23
(400 t max)

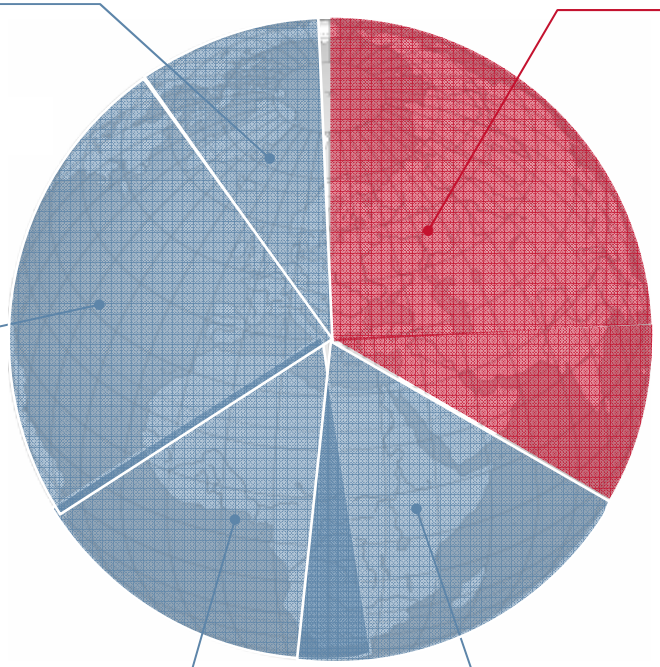
55 machines dedicated to all kind of activities

Investment plan

€90M between 2005 & 2010
+ 20% in quantity & in weight / 2007

Target : capacity 2 EPR™ in 2010

- **HUMAN RESOURCES**
- **OTHERS 10%**
- **+ 40 people between 2007 to 2008**



- **Melting shop 35 %**
  - **Bulding**
  - **Handling devices**
  - **Pouring pits**
  - **Melting zone**

- **FURNACE: 25 %**
  - **+ 2 reheating furnaces**
  - **+ 2 treatment frunaces**

- **MACHINING : 15 %**
  - **+ 6 vertical lathe**
  - **Productivity**

- **FORGING PRESSES & HANDLINGs: 15 %**
  - **Bay « 400 t »**
  - **New 400 t Crane**

Research & Development

Creusot Forge

- New forging numeric simulation software enforcing our means in order to :
  - Develop new products
  - Develop new forging process
  - Optimize actual forging process

In collaboration with CRMC

Collaboration with Universities & Institutional labs (CEA, CNRS)

- Several cooperation with universities' and other labs in order to
  - Optimize manufacturing process (machining, NDT,…)
  - Develop new process with PhD students (dimensional,…)

CRMC is operated by : ArcelorMittal

Chalon / St-Marcel Plant

Frédéric Leconte
Public Relations AREVA NP Chalon/St-Marcel
Hervé Hottelart
St-Marcel Plant Manager

Investor day in Burgundy - April 9th, 2009

Chalon/St-Marcel Plant

2006 extension

- **Start of operation: 1976**
- **Workforce: 1,100**
- **Sales revenue: ~ €250 M**
- **Workshop: 39,000 m²**
- **Triple certification: ISO 9001, ISO 14001 and OSHAS 18001**

A world-class manufacturing facility responding to worldwide demand

Key Dates In History of Chalon/St-Marcel

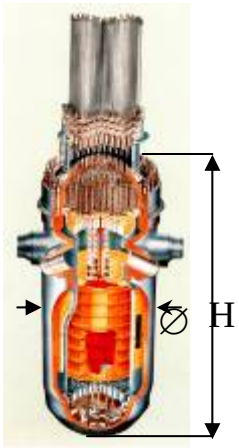
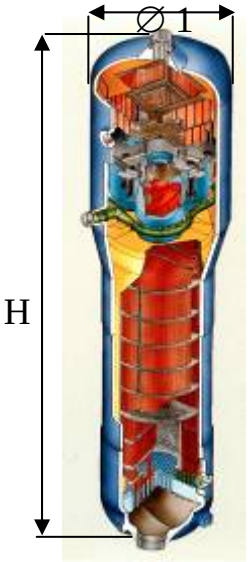
DATE	EVENT	PLACE
~1000 BC	Chalon-sur-Saône becomes inhabited	
1600s	Steel-making begins in Creusot/Chalon area	
1958	Framatome founded	
1964	Delivery of the reactor vessel for Chooz A	***Le Creusot***
1972	Construction of Framatome SG workshop	***Chalon***
1973	Construction of Framatome RV workshop	***Le Creusot***
1975	Construction of the heavy workshop	***St-Marcel***
1986	Grouping of all nuclear production in St-Marcel	***St-Marcel***
1992	Framatome completes purchase of B&W U.S. Commercial	***USA***
2001 - 2004	Framatome becomes AREVA	***St-Marcel***
2001 - 2004	Doubling of fabrication capacity: process improvement	***St-Marcel***
2005 - 2006	Extension to the factory	***St-Marcel***

Long metallurgical tradition and skills in Chalon area

Main delivered products

- **309** Steam Generators and 47 on order
- **77** Reactor Vessels & Closure Heads and 3 on order
- **73** Replacement RVCHs and 3 on order
- **67** Pressurizers and 5 on order

PWR Component Dimensions

	Reactor Vessel	Steam Generator	Pressurizer
			
Height	12.3 – 13.1m	20.6 – 24.2m	11.1 – 13.5m
Max Diameter	4.4 – 5.4m	4.4 – 5.9m	2.3 – 2.9m
Total Mass	313 – 526t	300 – 542t	79 – 146t

Our Customers

FRANCE	New Power Stations *(EDF)* / Replacement SGs and RVCHs
SOUTH AFRICA	New Power Stations *(KOEBERG 1 & 2)*
SOUTH KOREA	New Power Stations *(ULCHIN 1 & 2)*
PEOPLE's REPUBLIC OF CHINA	New Power Stations *(Guangdong 1 & 2 - Ling Ao 1 & 2 - Ling Ao 3 & 4)* / Qinshan replacement RVCHs
BELGIUM	Replacement SGs, RVCHs and PZR *(TIHANGE, DOEL)*
SWEDEN	Replacement SGs *(RINGHALS 3 & 4)*
SWITZERLAND	New Reactor Vessels and Replacement SGs *(BEZNAU 1 and 2)*
SPAIN	Replacement SGs *(ASCO and ALMARAZ)*
ENGLAND	New Reactor Vessel and Replacement RVCH *(SIZEWELL B)*
FINLAND	New EPR™ Power Station *(OLKILUOTO 3)*
BRAZIL	Replacement SGs for ANGRA II
U.S.A.	New Reactor Vessels *(Prairie Island 1&2)* – Replacement RVCHs *(North Anna – Surry – TMI – Crystal River 3 - Arkansas, Turkey Point, Salem, St Lucie, DcCook)* - Replacement SGs *(Prairie Island 1, Callaway, Arkansas, Salem, St Lucie, TMI)* – Replacement PZR *(St Lucie, Milestone)*
SLOVENIA	*Replacement SGs (Krsko)*

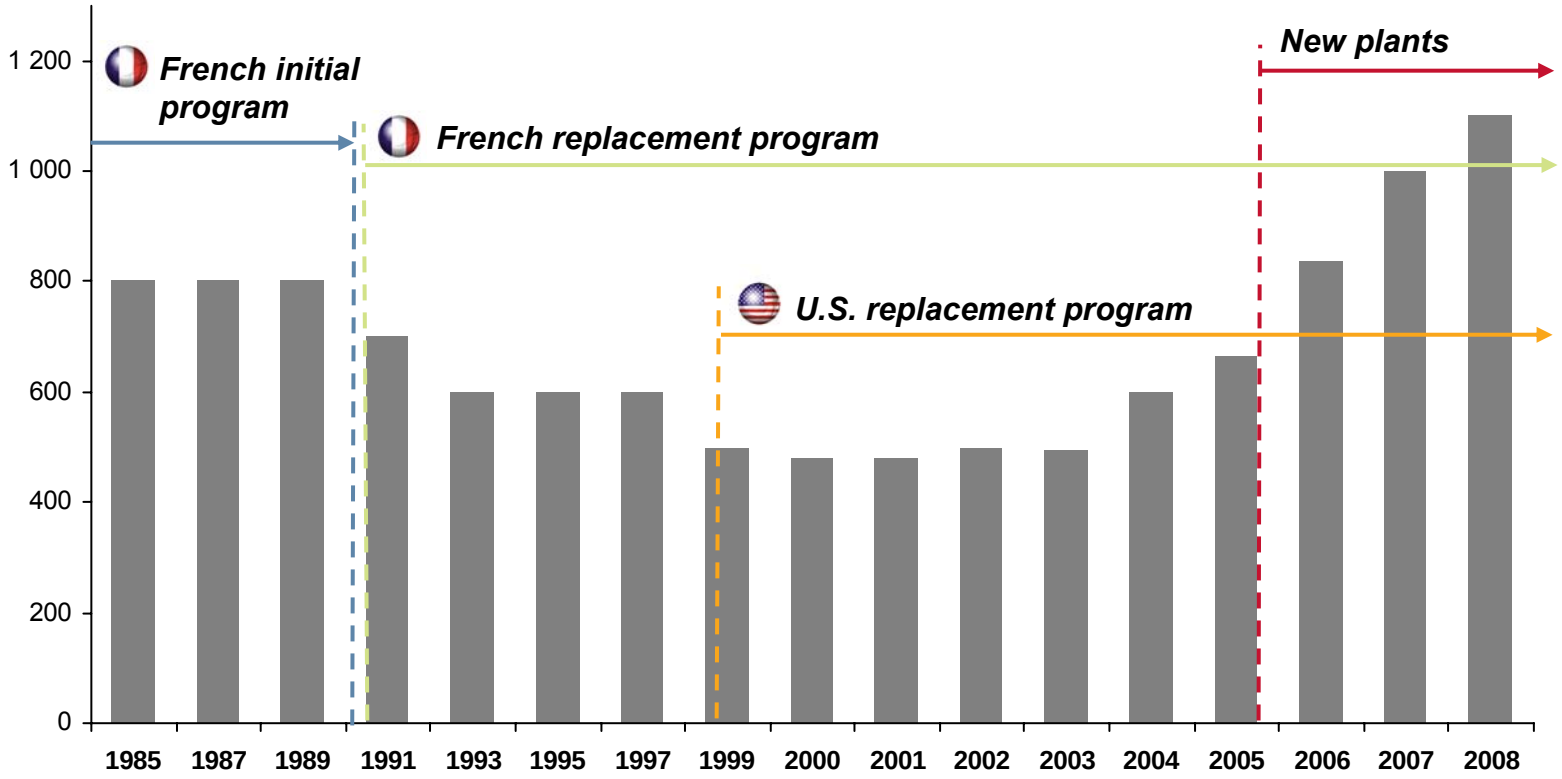
Actors for design and manufacturing of components

ENGINEERING	FACTORY
AREVA	AREVA ENSA (Spain) MHI (Japan)
WESTINGHOUSE owned by TOSHIBA - *Japan*	ENSA *(Spain)*
	Ansaldo *(Italy)*
	MHI *(Japan)*
	SBW *(China)*
ABB-CE *(BNFL)*	Doosan *(South Korea)*
BWI	BWI *(Canada)*

Suppliers

SG TUBES	**Valinox *(France)***	**2 competitors *(Sandvik Sweden - Sumitomo Japan)***
FORGINGS	**Sfarsteel *(France)***	**1 competitor *(JSW Japan)***
PLATES	**Industeel *(France)***	**No competitor**
SG INTERNALS	**ACM *(France)***	**No competitor**

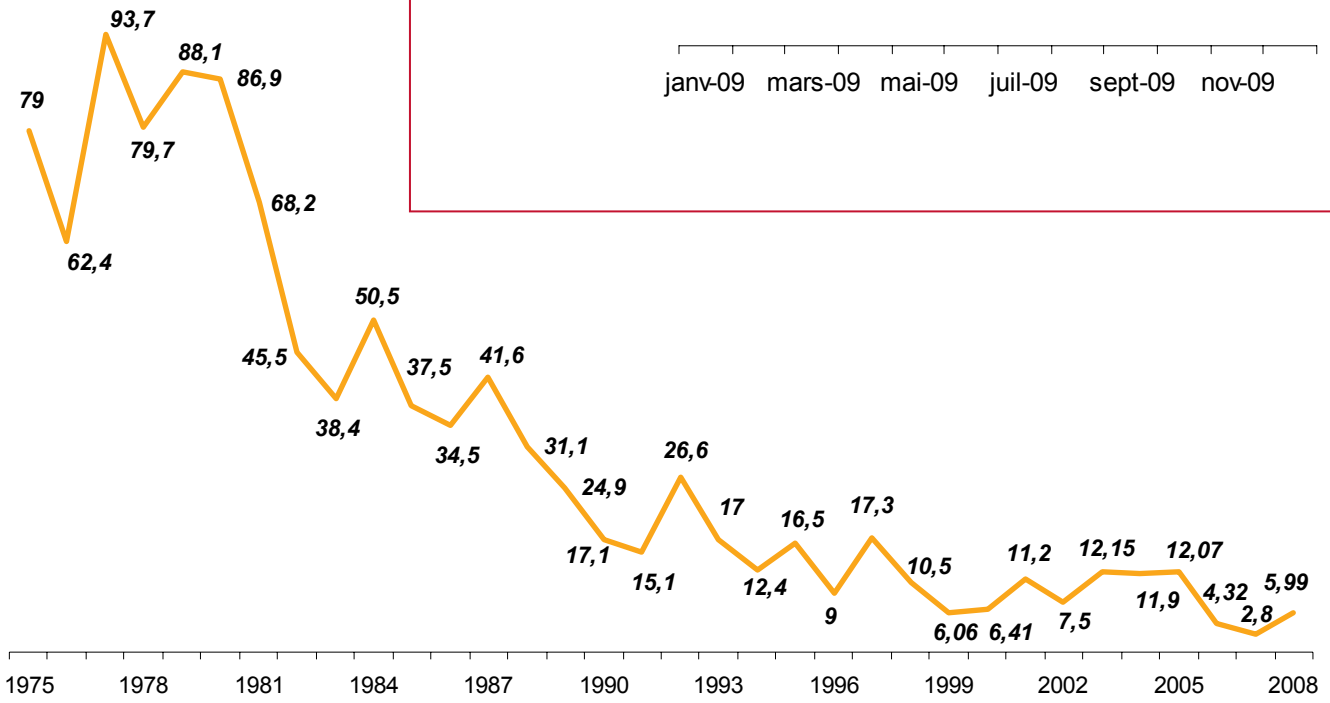
Workforce: Growth



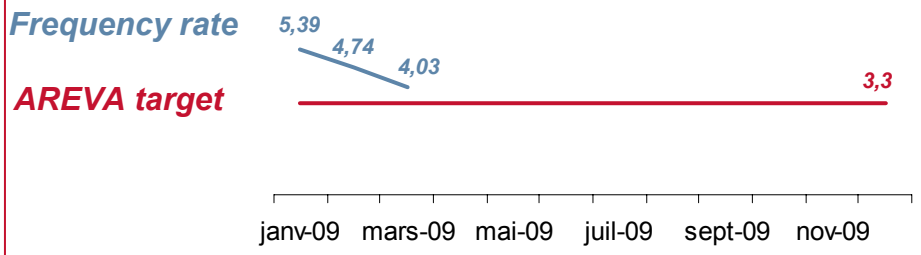
In 2008, AREVA worldwide hired one person every 45 minutes, every day of the year

Frequency Rate – St Marcel plant

Lost Time Accident
Frequency Rate
1975-2008



12 months LTA
Frequency Rate
2009

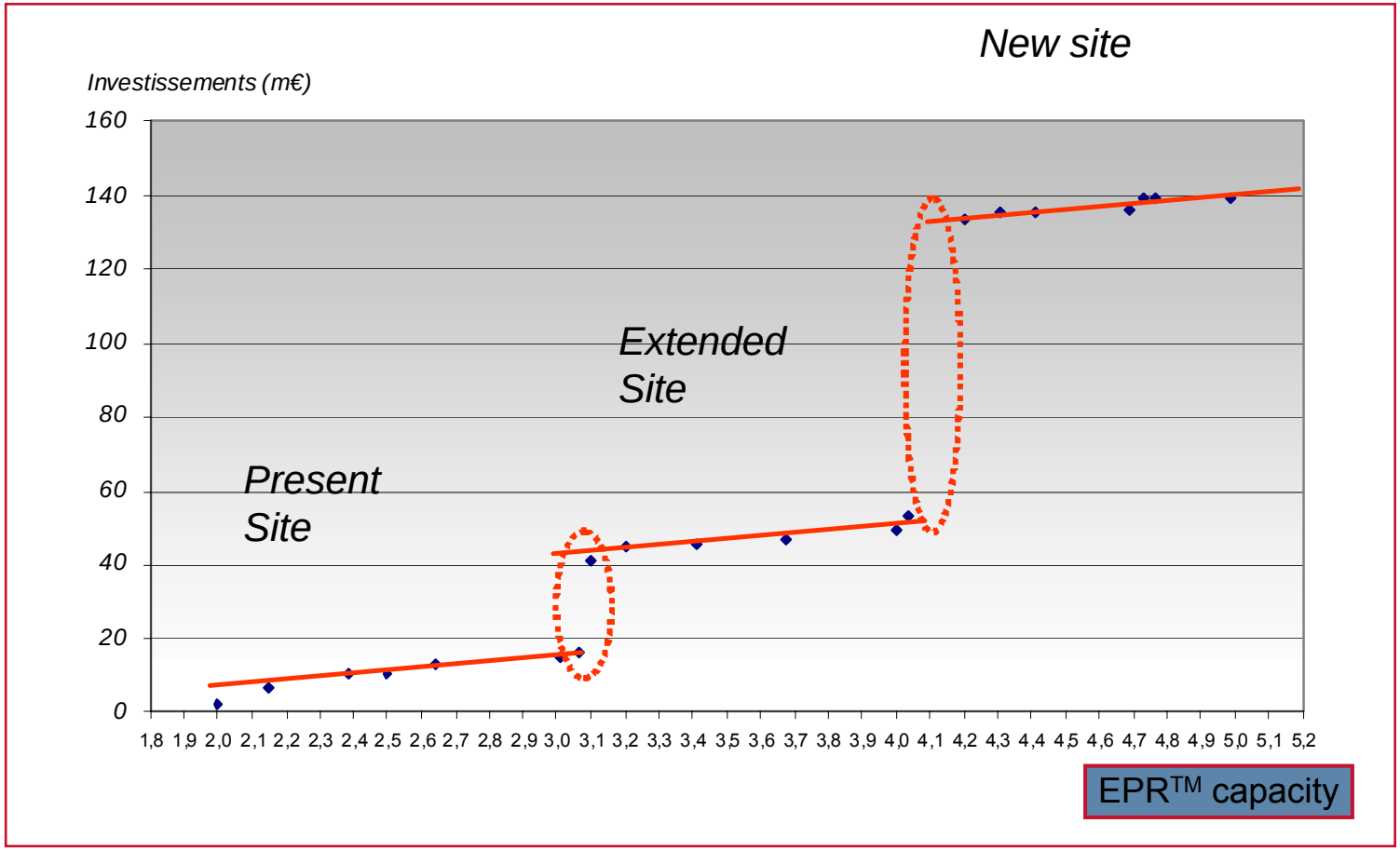


Investment to increase manufacturing capability

- **Started in 2003 at an average level of €8M/year**
  - **Extension to the heavy bay (capability increased by 10%)**
  - **Doubling of the key manufacturing process**
  - **New radiographic testing equipment**
- **A €10M investment in 2008**
  - **Renovation of the welding training center**
  - **Equipment dedicated to EPR™**
  - **New traffic organisation**
  - **New office building on site**
- **CHALON 1300: a new industrial investment pogram**

Increase industrial capability for Europe, 3 scenario for CHALON/ St-Marcel

The study identified 3 levels of capability



Firstly Optimize then Increase our manufacturing capability, this is our « CHALON 1300 » project …

- **With a equivalent production area,**
  Optimize our production tool

- **Industrial Assets: +€35M**
  - **Adapt our production means**

- **Human Resources: +200 people**
  - **St-Marcel staff: from 1,100 to 1,300**

Our Objective:
To produce 2.7 equivalent EPR™

Nuclear pole of Burgundy

What is it for ?

- **Assembling production tools and promoting new technologies to prepare the future**
- **Renewing workforce people to prepare the new generation to the nuclear renaissance**
- **Developing our R&D efforts to maintain our premier manufacturer level**

Workshop Risks during Visit

Loading Equipment

- Do not stand near or under hanging loads
- Watch out for forklifts

Radiography & Other Inspection Activities

- Do not enter radiography rooms
- Do not interfere with on-going inspection activities

Hot parts

- Do not touch anything
  Parts may be hot

Visit Instructions

- **Cameras are forbidden**
- **Observe safety instructions given by the workshop guide**
- **Do not look at active welding operations**
- **… Do not hesitate to ask questions… !**


AREVA