

**International Conference:  
60 years of the nuclear industry and 65 years of technical university education in Pilsen**

# **Cooperation between AREVA and Czech / Slovak nuclear industry**

**Michal KAČENA**

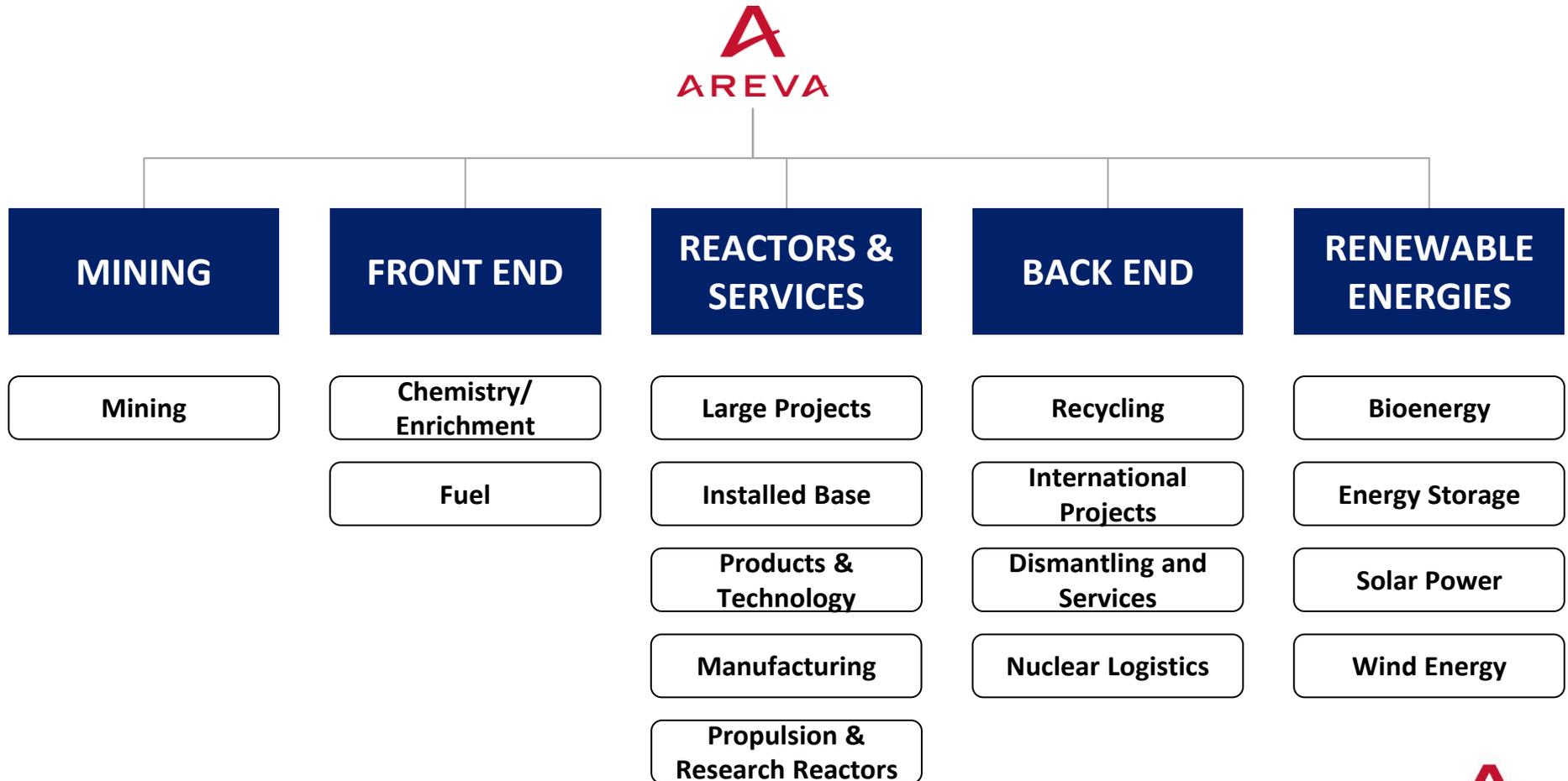
**AREVA, Director Business Development Cz / Sk**

**12 - 13 May 2016, Pilsen, Czech Republic**

- **Organizational evolution of AREVA**
- **Long-term cooperation with Cz / Sk nuclear industry since early 90's**
  - **Buying from Czech / Slovak companies for a global market**
  - **Supplier to Czech / Slovak companies**
  - **Direct supplier to nuclear operators**
- **Planning to grow cooperation on the Czech / Slovak / VVER market**

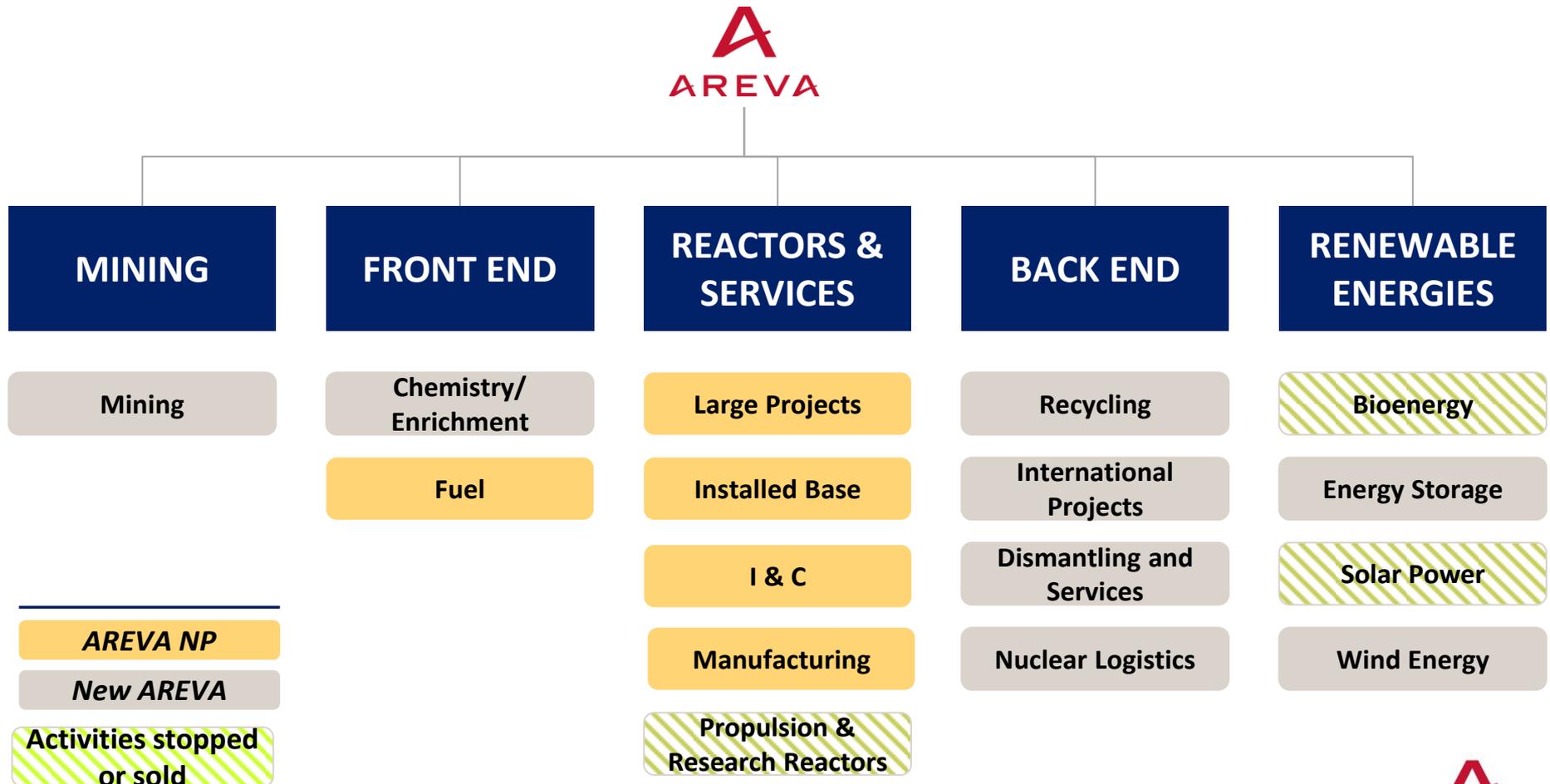
# AREVA's organization evolution

## Existing Organization



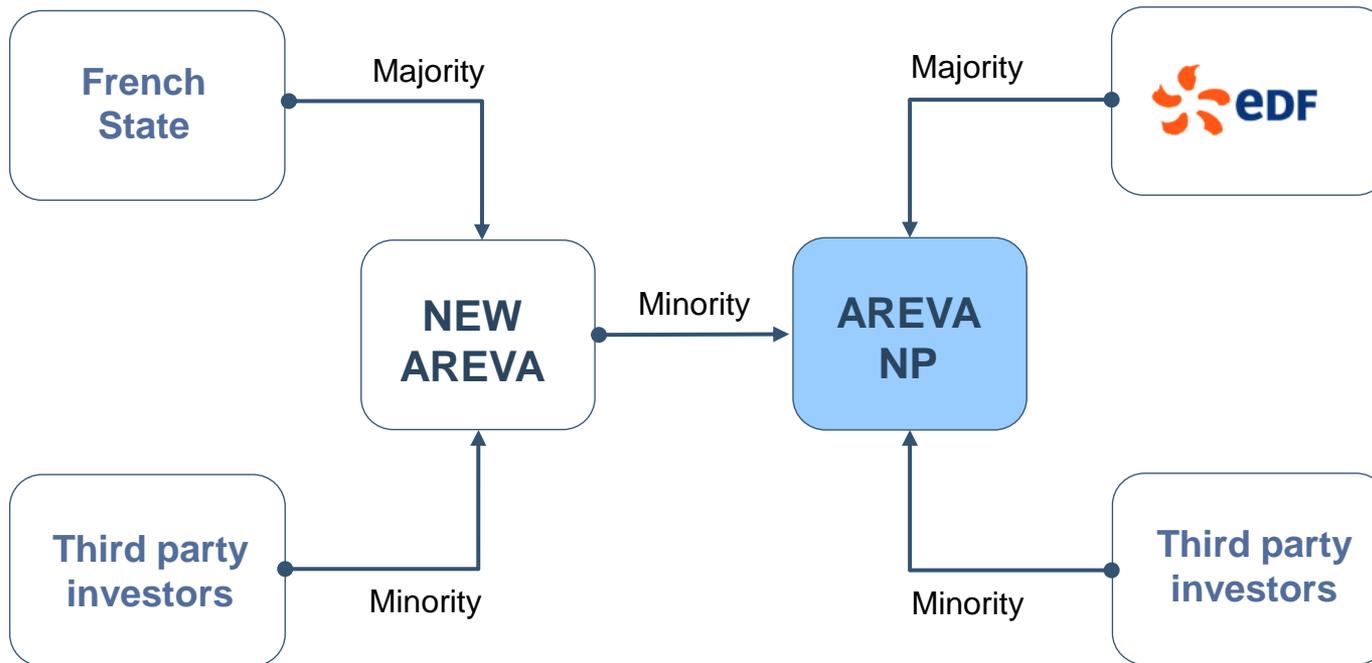
# AREVA's organization evolution

## ■ New Organization



# AREVA's organization evolution

- Divided into two major organizations
- With a strong support of the French state
- AREVA will remain a leading player on the nuclear market

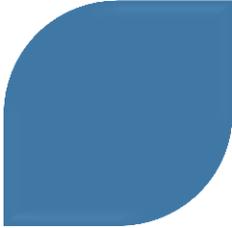


**AREVA is in advanced discussions with EDF for the sale of a majority stake in AREVA NP**

# AREVA NP Identity card

- **Scope:** Designer and supplier of Nuclear Steam Supply System and nuclear equipment, services and fuel for high levels of safety and performance
- Focus on the core business, keep innovating - better covering customers' needs
- Revenue of around € 3.5 to 4 billion (about CZK 100 billion)
- **Approx. 15,000 employees worldwide** (> 20 sites)
- With a customer base including key leaders in the international energy market





## **AREVA is engaged on the Czech / Slovak / VVER market since early 90's:**

- **Buying from local companies for a global market**
- **Supplier to local companies**
- **Direct supplier to nuclear operators**
  
- **Reciprocal cooperation**
- **Open to various business schemes – best for the project and the customer**
- **Open to sharing know-how**

# Buying from Czech companies for projects worldwide

## Suppliers with realized or running contracts (examples):

- Škoda JS
- Vítkovice
- ZAT
- OT Energy Services
- ÚJV Řež
- Excon Steel
- TS Plzeň
- Červenka
- Mandík
- ČEZ Energoservis
- ...

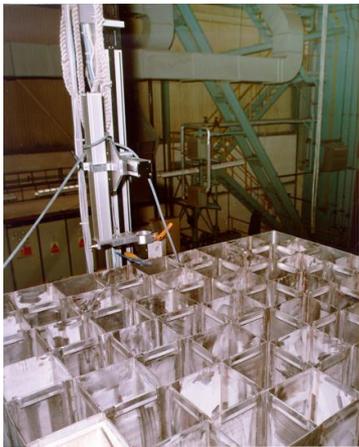
Overall contracts value in the **range of billions CZK (hundreds million EUR)**



# Buying from Czech companies - examples

## ■ 1991 – 1993: ŠKODA JS

- **Main Condensate Filters reconstruction (BWR) - 13 sets**
  - Siemens / KWU Germany – for Olkiluoto 1&2 NPP, Finland
- **RPV Support Ring (PWR) - 1 pc.**
  - Framatom ANP, France – for Civaux 1 NPP, France
- **Compact Spent Fuel Storage Racks (PWR) – 7 455**
  - Siemens/KWU, Germany – for Kori 3 NPP, South Korea

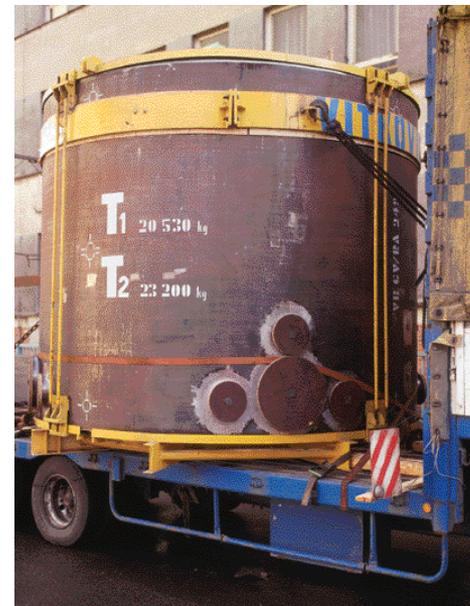


# Buying from Czech companies - examples

## ■ 1993 – 1996: VÍTKOVICE Power Engineering

### ■ Welded rings for vertical Steam Generators - 42 pcs

- Framatom, Diameter: ~ 3500 mm, weight: max. 65 000 kg, material: 18MND5



# Buying from Czech companies - examples

## ■ 2000 – 2006: ŠKODA JS

### ■ Hydrogen Recombiners (ABWR) – 4 pcs.

- Siemens / KWU Germany – for Lungmen NPP, Taiwan

### ■ Heat Exchanger for the spent fuel storage pool (PWR) - 1pc.

- Framatom ANP GmbH, Germany - Krsko NPP, Slovenia

### ■ Locking Devices - 5pcs.

- AREVA NP – for ISAR NPP, Germany



# Buying from Czech companies - examples

## ■ 2009: Excon Steel

### ■ De-aerator for Flamanville NPP, France



# Buying from Czech companies - examples

## ■ 2008 – 2015: ŠKODA JS

### ■ Support Ring (EPR) ... 1pc.

- AREVA NP, France - OL3 Finland

### ■ Reactor Internal Parts, Lifting Device, Stands (EPR) – more pcs.

- AREVA NP, France – OL3 Finland, Taishan 1 China



# Buying from Czech companies - examples

## ■ 2014 – on-going: ZAT

- **I&C modernization – 20 units 1300 MW in France**
  - AREVA NP, France – so far realized NPP Paluel, Cattenom

## ■ 2015 – on-going: OT Energy Services

- **Building & Security technologies** (communication, protection and security systems)
  - AREVA NP, France – for Angra 3 NPP in **Brazil**



# Supplier to CEZ, SE and local firms...

## Examples of delivered products and services:

- Safety I&C - Teleperm XS (Bohunice V2; Mochovce 3-4)
- PAMS
- Hydrogen recombiners
- COMBO - Continuous Measurement of Boron Concentration
- SUS - Vibration monitoring system
- COMSY - Aging and life-time management
- NDE – Non-destructive examinations
- ....



# ... and supplier to the entire VVER region

## Examples of delivered products and services:

- Safety **I&C** on most VVER units
- Full I&C at Tianwan NPP in China
- **Post-Fukushima safety systems**, Diagnostic & Measurement, EDG – projects at many VVER units
- **Maintenance**, outage services
- ....

# Local people and services in place

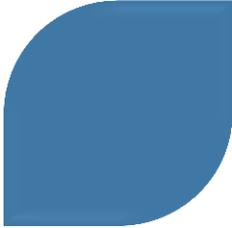
## Current organization units in Cz / Sk:

- Business Development representation, Prague
- I&C team, Dukovany NPP
- REAKTORTEST, Trnava (NDE – Non-destructive examination)
- AREVA Controls, Bratislava (I&C, electric projects worldwide)



# Conclusion

- **Strong cooperation between AREVA and Czech / Slovak nuclear industry:**
  - Dated since early 90'... fruitful today ... to grow further in future ...
  - Good products and services to offer
  - Strong engagement in / references from the VVER NPPs
  - Interesting worldwide projects to buy for
  - Within easy reach
  - Open to various cooperation schemes
  
- **Opening doors to**
  - Broader scope of services / products / projects locally
  - Broader opportunities in the VVER region
  - To the PWR / BWR projects worldwide



**Thank you for your attention,  
looking forward to your questions  
and further contacts!**

**[Michal.Kacena@areva.com](mailto:Michal.Kacena@areva.com)**