



joint venture

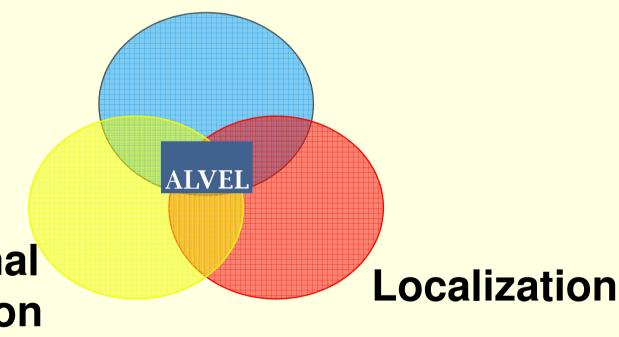
Localization of Know-How & International Cooperation in The Nuclear Fuel Cycle Area

Josef Běláč, managing director <u>josef.belac@alvel.eu</u> www.alvel.eu

### **Outline of the presentation**



### **Nuclear Fuel Cycle**



International Cooperation



ALVEL, a.s. – Czech Rep. based joint venture of:

- ALTA Invest (Czech Republic) private company
- TVEL (Russian Federation) ROSATOM





# **ALVEL** in Nuclear Fuel Cycle ALVEL Nuclear Fuel Cycle Back End Reactor Operation

### **ALVEL in Nuclear Fuel Cycle**

## ALVEL





## **ALVEL - International Cooperation** in Nuclear Fuel Cycle



R&D Project Management

Material research & Methods development

**Plant operation support** 

**Core Design & Safety Evaluation** 

Core Monitoring Systems - Design, Implementation and Support

Lectures, trainings, workshops for under - & post-graduate students, trainings, workshops Knowledge management

**Technology transfer** 

Peer coaching of young employees by senior colleagues



#### Management of R&D and Tech. Transfer Projects:

on the EU territory (Use the Best Available):

- Material research for nuclear fuel applications
- Development and modernization of core monitoring systems
- Spent fuel storage
- Technology transfer

#### **ALVEL – Current R&D Projects**

### ALVEL

- 3D fuel behavior modeling for alternative fuel cladding alloy materials;
- Experimental research on irradiation induced growth of current and prospective fuel cladding and assembly structural materials from Zr alloys;
- High temperature oxidation and hydriding of zirconium alloy materials;

#### **ALVEL** in Localization

## ALVEL

### Product Marketing

Advanced Products and Fuel Types

#### **Licensing support**

**Core Design & Safety Evaluation** 

#### **Plant operation support**

Reload Core Design & Safety Evaluation
Core Monitoring Systems

Fuel Fabrication

Assembling

Production technology development

## ALVEL

### **Marketing and licensing support:**

of TVEL production on European market, including VVER/PWR fuel segment;

- VVER 440 (Gd2, Gd2M, Gd2M+, Gd3);
- VVER 1000/1200 fuel (TVSA-T, TVSA, TVS-2M);
- PWR (TVS KVADRAT);
- Fuel related services.

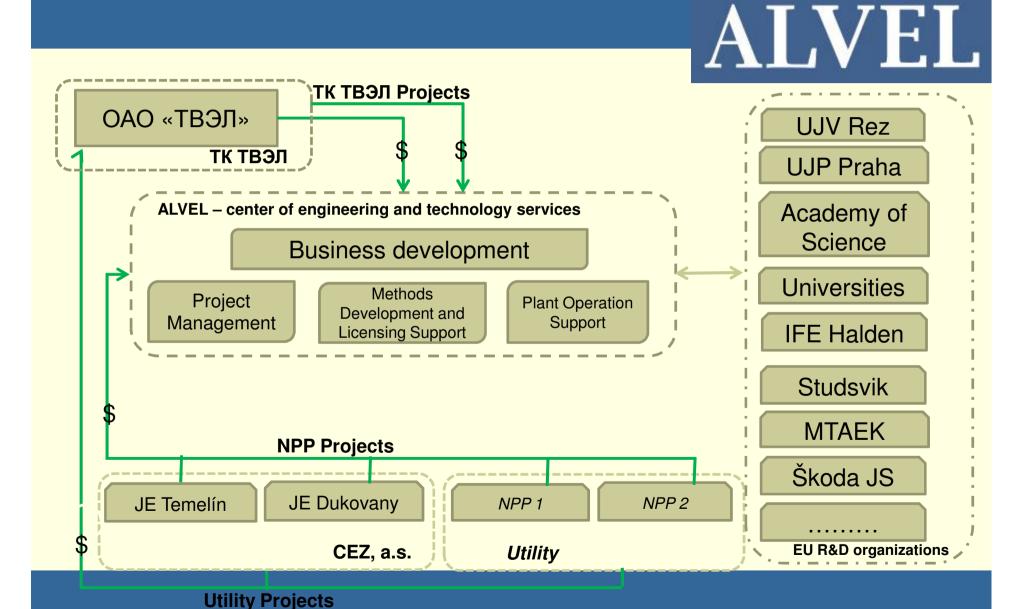
## ALVEL

#### **Localization of services:**

for NPPs on the territory of EU (expanding from CZ and SK);

- plant operation engineering support;
- reload design and safety evaluation;
- core monitoring;
- licensing support of new and inovated fuel designs.

#### **ALVEL Business model**



#### **ALVEL for EU customers - Utilities**

Security of supply

ALVEL

Production ocalization

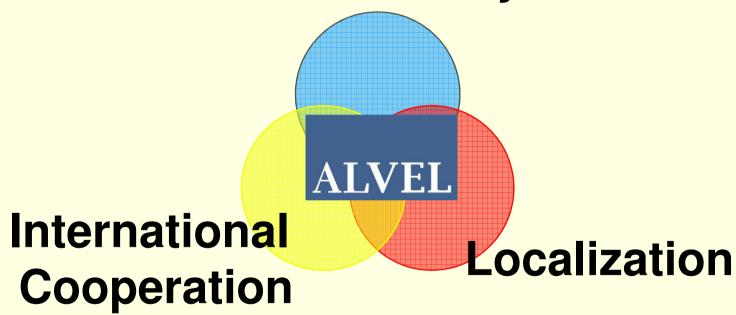
Localization of Technology Knowledge and Services

International Cooperation

#### **Thank You for Your Attention**

### ALVEL

### **Nuclear Fuel Cycle**



ALVEL, a.s., Štefánikova 41, 602 00 BRNO, Czech Republic

WWW.alvel.eu, E-mail: office@alvel.eu, Phone: +420 541 550 650