

# **Nuclear Training Excellence Project**

## **in Slovenské elektrárne**

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# 1. Slovenské elektrárne, an Enel Group Company

Enel world presence

Presence in  
40 countries

Installed capacity  
98,916 MW

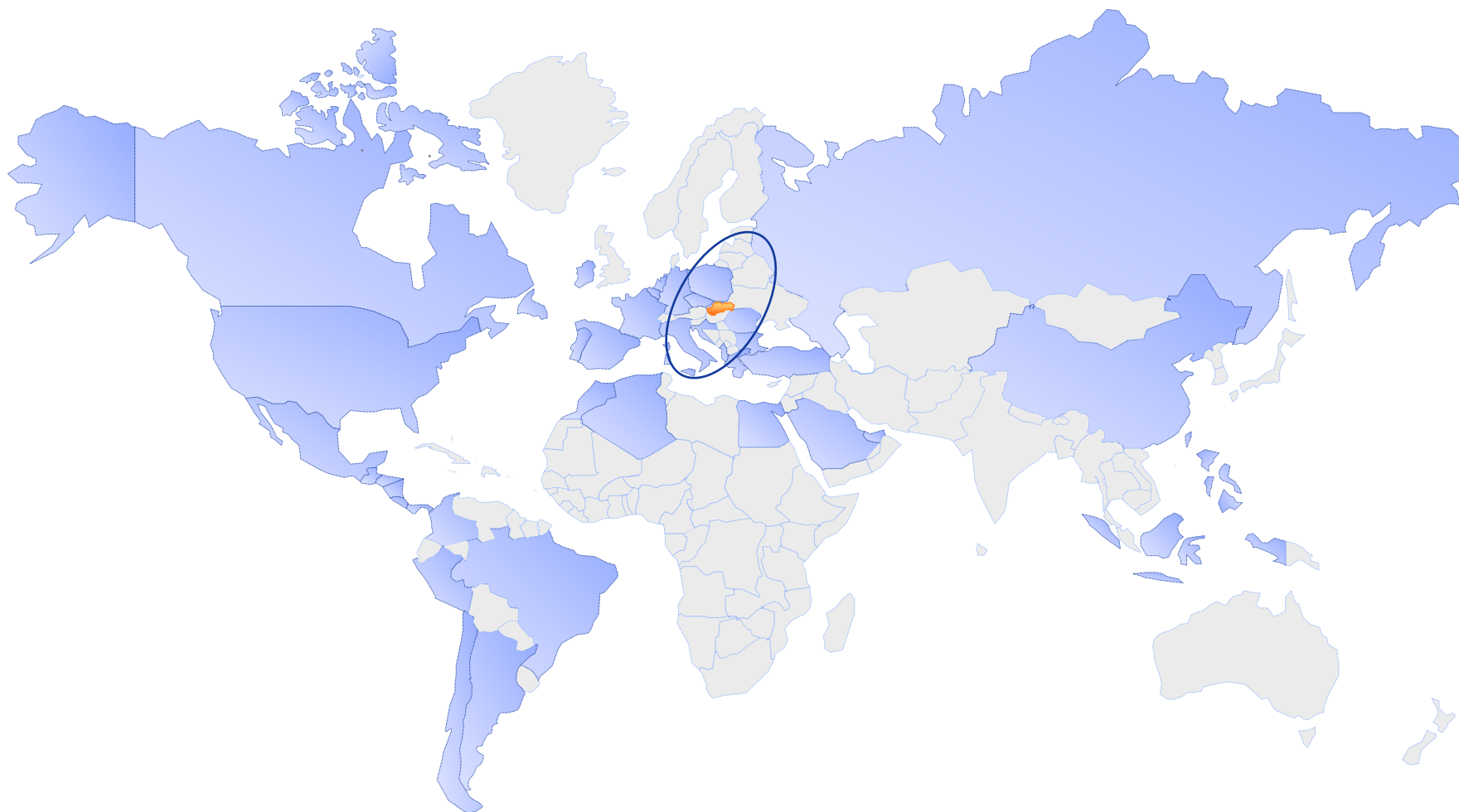
Annual production  
286 TWh

EBITDA  
17 bln. €

Capex 2014-18  
25.7 bln. €

Customers  
61 million

Employees  
71,394



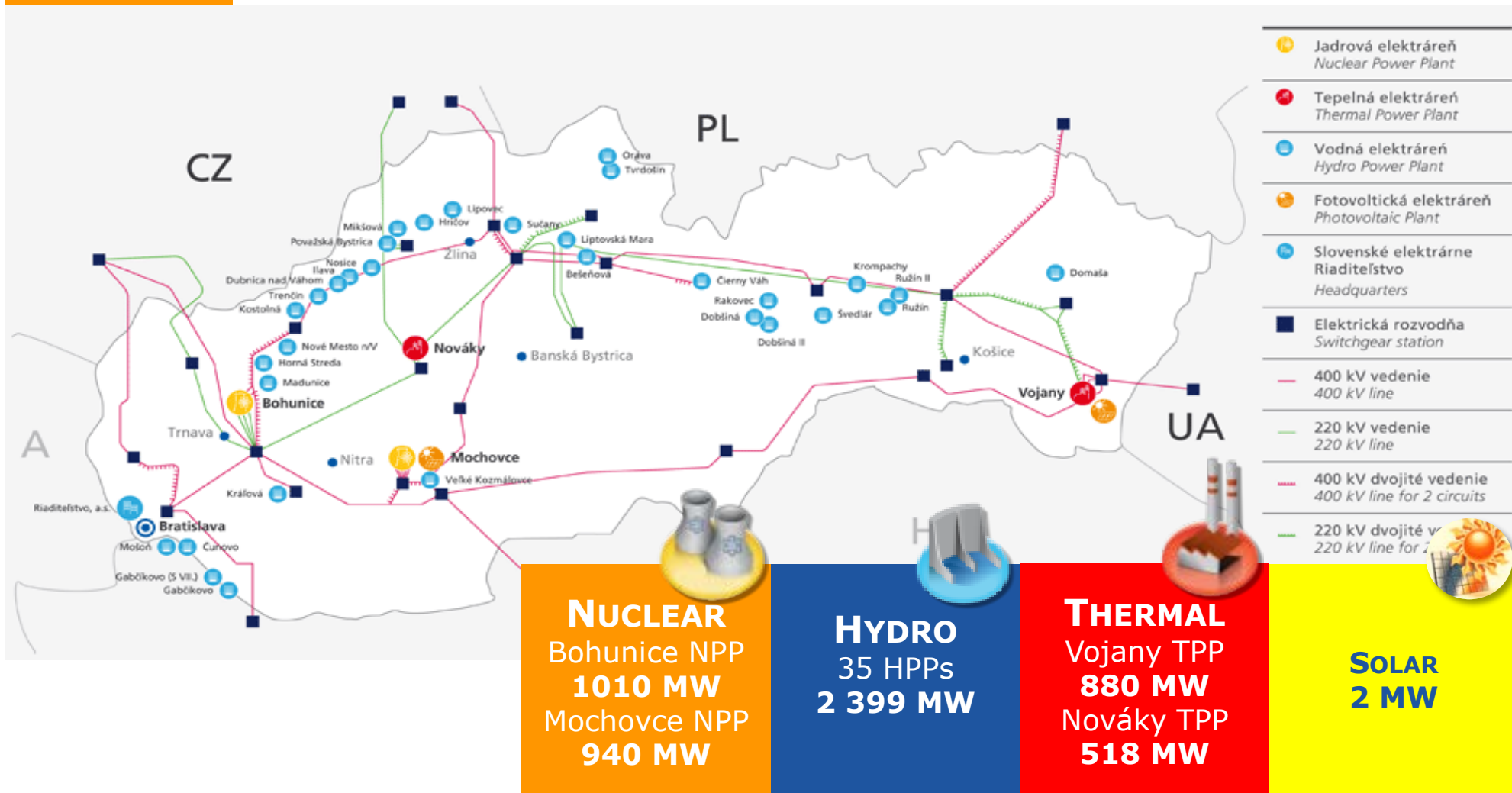
## Stock exchange

Enel is listed on the Milan stock exchange (~1.2 mln shareholders). 14 companies of the Group are listed on Milano, Madrid, Mosca, New York stock exchanges and in other Latin American countries

Data as of Dec.2013



# 1. SE Production Portfolio



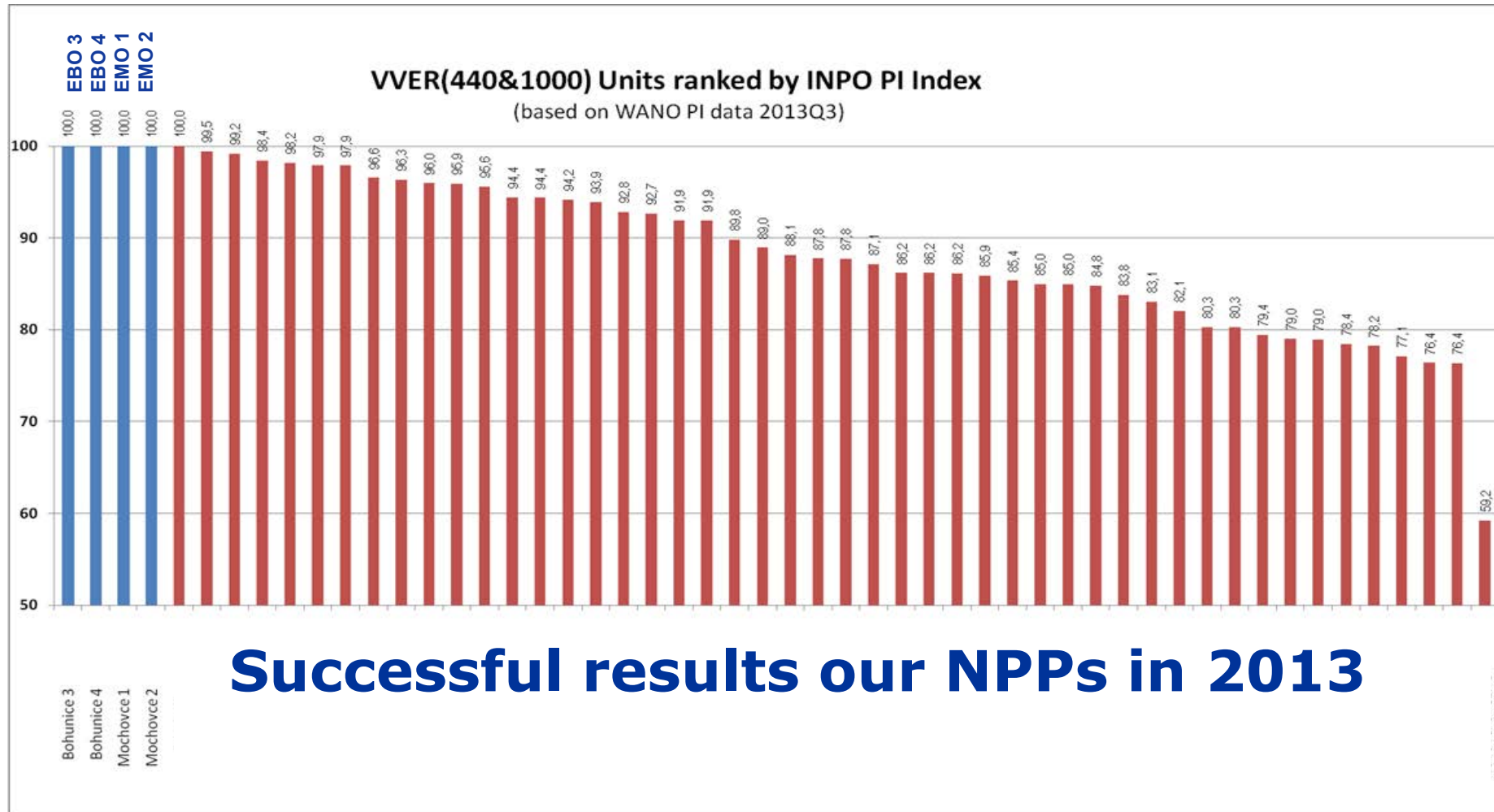
**Nuclear:** Excluding the decommissioned Bohunice V1 units (1&2) which are not owned by SE

**Thermal:** Including 4x110 MW installed off-line capacity at TPP Vojany II

**Hydro:** Including run-of-the-river plant VEGA (746,4 MW) which is operated by SE but owned by Vodohospodarska vystavba; Hydro fleet consist of pumped storage and run-of-the river plants  
As of Dec. 2013

# 1. 2013 Results

## External Benchmark



## 2. Business Needs and Strategy

### **Training is part of the Core Business**

Prime responsibility of the operating organization is to provide adequate training to all personnel.

***"Training is as important as other station activities or is an important part of the station culture or core business."***

*(INPO Analysis of Training Program Probations Since 2006, July 2012)*



### **Slovenské Elektrárne Vision in Nuclear training area:**

Nuclear Training to be:

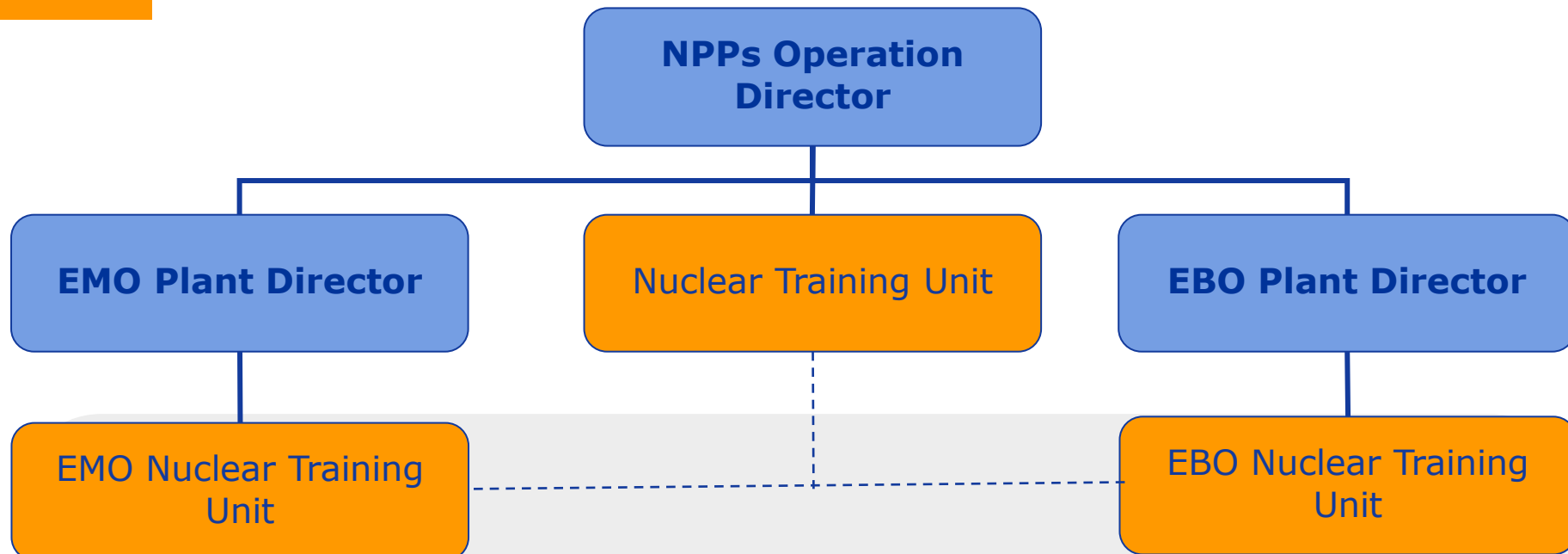
- **Inevitable part of day-to-day work of station employees**
- **Tool for management and improvement of company performance**
- **Tool for knowledge retention inside company**

# 3. Project Drivers

- **Core Business Needs**
  - Need to maintain good performance results in future
  - Generation exchange - experienced employees going to retire
- **Nuclear Training Dept.'s Self-assessment**
  - **Nuclear training weaknesses identified internally:**
    - ✓ *Training is understood by line managers and supervisors*
    - ✓ *Limited involvement of line management into training process*
    - ✓ *Not targeted training programs - insufficient application of SAT methodology*
    - ✓ *Not sufficient quality and scope of practical and dynamic training*
    - ✓ *Very limited resources dedicated to nuclear training*
- **Independent External Reviews**
  - significant improvements in nuclear training are necessary...

## 4. Organizational Change in Nuclear Training

Project Preparation 2011/2012



As of the 1<sup>st</sup> of September 2012:

- Number of employees of the training units has increased from 16 to 45.
- Local nuclear training units created, directly subordinated to Plant Directors in order to keep close distance to the core business.
- Centralized training unit sets strategic guidelines and common methodology for the plants, and monitors their fulfillment.

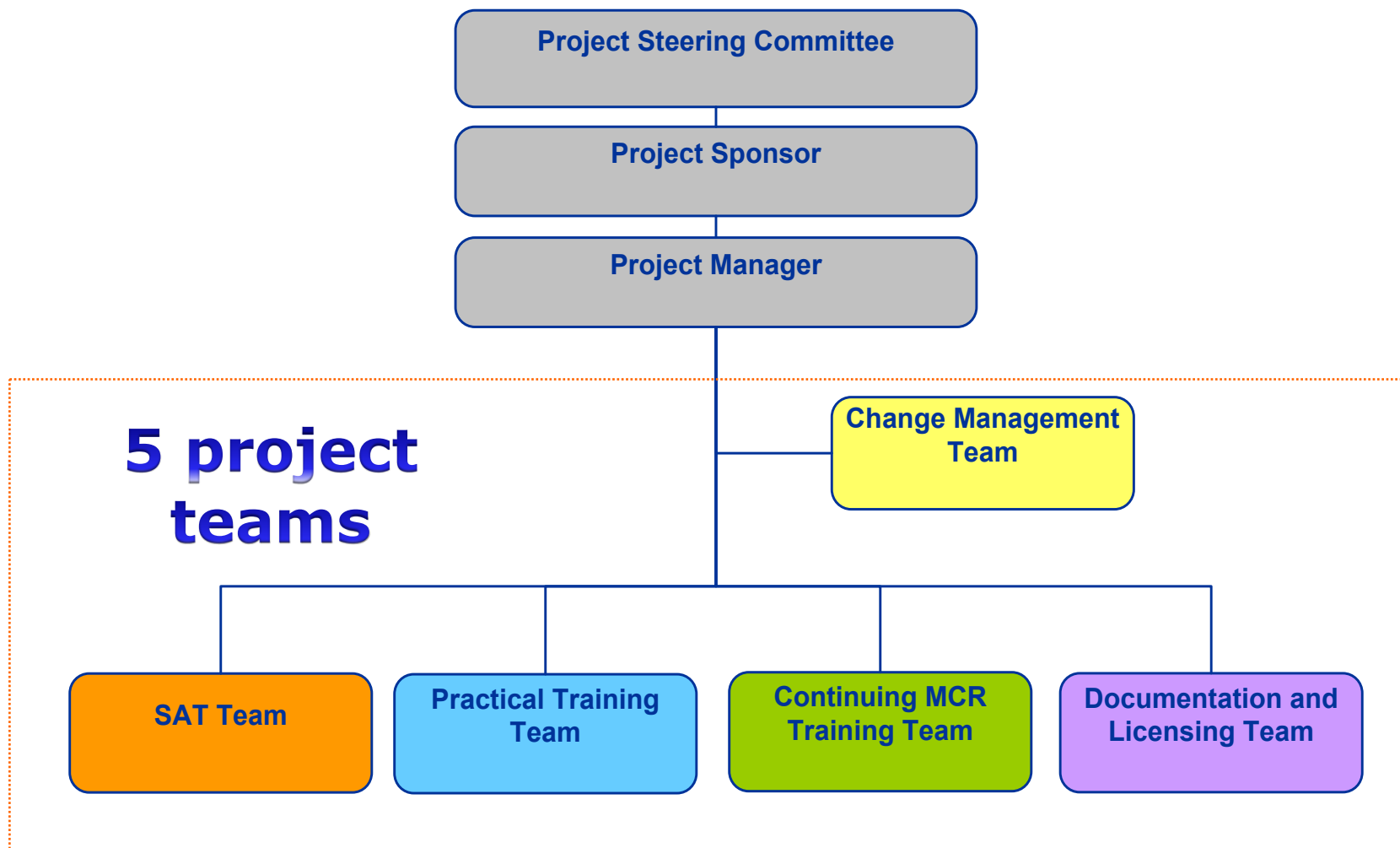
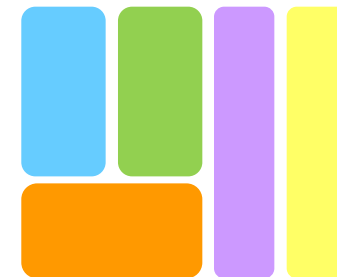


## 5. Project Goals 2013-2015

**Focus on  
Practical training !**

- **Set and implement nuclear training in accordance with the best nuclear practice:**
  - ✓ Change understanding of nuclear training by line management – nuclear training is part of core business
  - ✓ Apply Systematic Approach to Training methodology thoroughly
  - ✓ Develop and start implementing new training programs
- **Prepare practical training centers in EBO and EMO for real operation.**

## 6. Project Organization



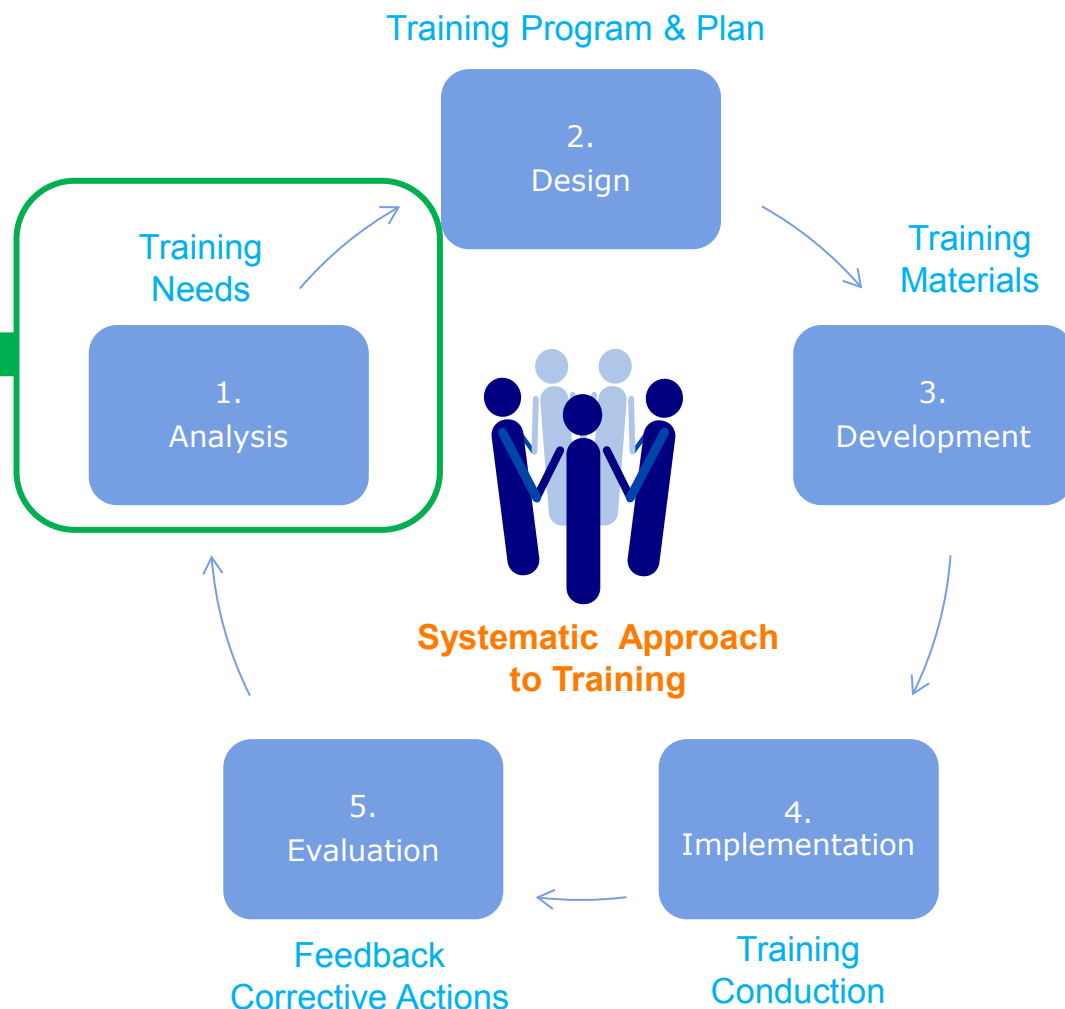
# 7. Project Teams and Activities

## SAT Team



### 2013 Activities & Outcomes

- **SAT methodology localization**
  - ✓ Benchmarking (ANAV, Pakš)
  - ✓ Experience from Laguna Verde, Mexico
- **Launching Training Committees**
  - ✓ Key role of line management
- **Conduction of analysis in both NPPs - Maintenance, Safety, Operation Depts.**
  - ✓ Cooperation with SMEs
- **Ensuring IT support tool - VISION**



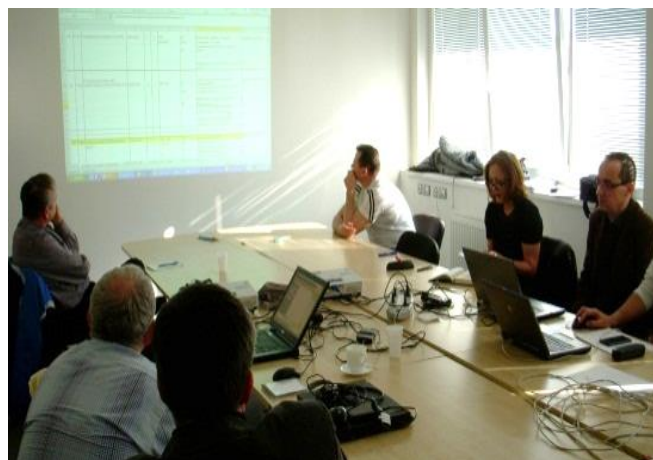
# 7. Project Teams and Activities

## SAT Team



### 2014 Activities & Outcomes

- Implement software VISION to support SAT
- Complete analysis in both NPPs (Maintenance, Safety, Operation) in VISION
- Conduct Design phase activities at Operation & Maintenance pilot units in both NPPs – develop practical training and on the job training programs



# 7. Project Teams and Activities

## Practical Training Team



### 2013 Activities & Outcomes

- Practical training centers in NPPs Bohunice & Mochovce prepared for real operation
- Practical training at both NPPs responding to actual NPPs' needs – topics followed within the project - e.g.:
  - ✓ Practicing execution of controls – for management & maintenance personnel (Mochovce) ~ **213 personnel trained**
  - ✓ Practicing the use of EPT – for maintenance & operation personnel (Bohunice) ~ **387 personnel trained**
  - ✓ Practicing scraping bearings - for foremen and site locksmith at maintenance (Bohunice) ~ **62 personnel trained**
  - ✓ Practicing heat-up and operation of steam pipe line - for operational support (Mochovce) ~ **230 personnel trained**

### 2014 Activities & Outcomes

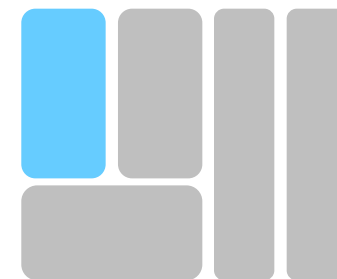
- Standardize practical training in both NPPs based on SAT



# 7. Project Teams and Activities

## Practical Training Team

### NPP Mochovce Practical Training Center





# 7. Project Teams and Activities

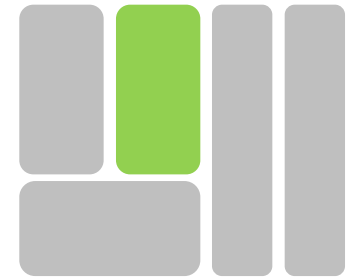
## Practical Training Team

### NPP Bohunice Practical Training Center



# 7. Project Teams and Activities

## Continuing MCR Training Team



### 2013 Activities & Outcomes

#### Launching of the team's activities in 3Q/2013.

- New type of scenarios was developed for 2nd half of 2013, they were verified at a pilot training

### 2014 Activities & Outcomes

- Develop and verify in practice methodology for continuing MCR training scenarios and programs
- Develop and verify in practice methodology for evaluation of continuing MCR training quality
- Develop methodology for evaluation of operating crew performance during continuing MCR training



## 7. Project Teams and Activities

### Documentation and Licensing Team

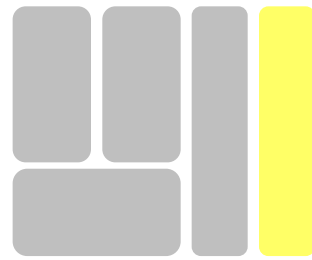
Purpose of this team is to ensure that changes within this project are in **compliance with** the requirements of **the Nuclear Regulatory Authority of the Slovak Republic**.

#### 2014 Activities & Outcomes

- Prepare project plan and timeline for insourcing theoretical training

# 7. Project Teams and Activities

## Change Management Team



**Managing „soft“ aspects of change with a goal of securing its acceptance.**

### **2013 Activities & Outcomes**

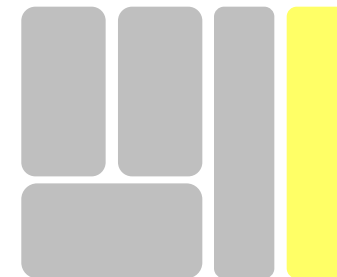
- Searching for and responding to feedback on project activities
- Communication activities e.g. – presentations at regular line meetings, articles on project topics, motivation meetings of NPPs Top Management with SMEs
- Preparation of training on SAT for NPPs in cooperation with INPO

### **2014 Activities & Outcomes**

- Realization of training on SAT for Top Management & training personnel
  - *78 employees and 5 internal lecturers on SAT trained*
- Preparation and realization of trainings on SAT for lower management
  - *400 employees to be trained*
- Realization of trainings on VISION, support IT tool for SAT
  - *50 employees to be trained*
- **Communication and resistance management**

# 7. Project Teams and Activities

## Change Management Team



12-16 May 2014

Nuclear Training Excellence Project

 **SLOVENSKÉ  
ELEKTRÁRNE**

