



INTRODUCTION TO THE « CAPACITY BUILDING INITIATIVE » (CBI) & I2EN

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INTRODUCTION TO THE « CAPACITY BUILDING INITIATIVE » (CBI)

Understanding the needs, identifying and completing the capacity building offers by pooling the numerous offers of all member states

- **Capacity Building** is critical for both newcomers and nuclear-advanced countries:
 - to avoid isolationism and ensure a **sustainable supply of human resources**;
 - to address both **technical and political needs**;
- The need is continuously growing as more and more countries are starting or restarting nuclear programs and will soon **exceed the current Capacity Building offer**,
- Both IAEA and nuclear-advanced countries offer **various capacity building programs** based on their own major achievements.
- Now is the time for a **common international approach** to make sure that the supply meets both the needs and the demand,
 - **Identifying the needs**
 - **Identifying the offers**
 - **Offering the missing capacity building tools.**

CBI BASED ON 4 PILLARS

The French Capacity Building Initiative is designed to **meet the needs** and **implement the offers**, by a joint action of both newcomers and nuclear-advanced countries . It is organized in 4 pillars

Human Resource Development

Education & Training

Knowledge Management

Knowledge Network



Capacity Building Initiative

Human Resource Development



Help define the human resources roadmap meeting the country's needs

Education & Training



Provide structured knowledge and skills for individuals at the appropriate time

Knowledge Management



Capture, structure and transmit the knowledge





















Knowledge Network



Share knowledge and best practices through networking

Human Capacity Building (HCB)

AIEA's definition of HCB: *“A systematic and integrated approach to develop and continuously improve governmental, organizational and individual competences and capabilities necessary for achieving safe, secure and sustainable nuclear power programme.”*

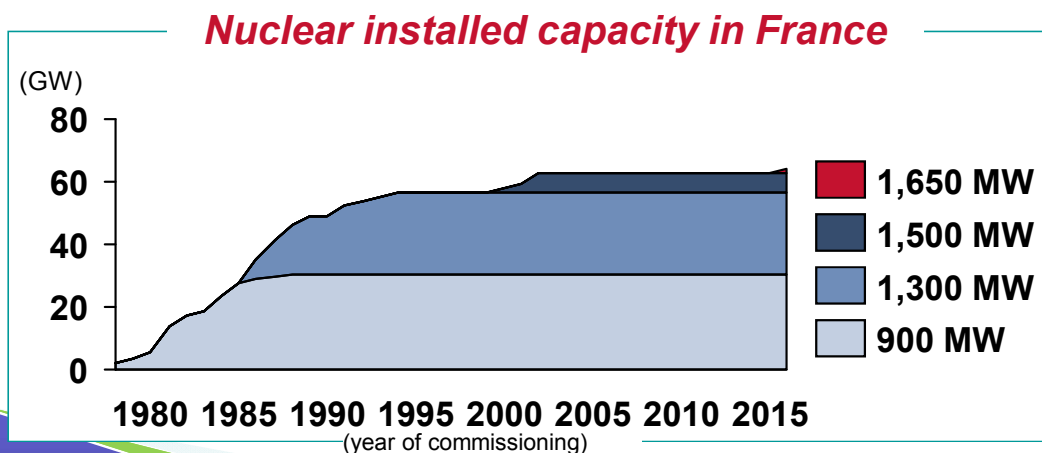
		Phase 1	Phase 2	Phase 3	Operation/decommiss ioning
		Pre-project	Project decision making	Construction	
1	Government				
2	Safety organizations				
3	Academia & scientific bodies				
4	Industry				
5	Dedicated agencies (e.g. waste)				

No involvement  →  Maximum involvement

France has developed a strong and sustainable electronuclear industry at home...

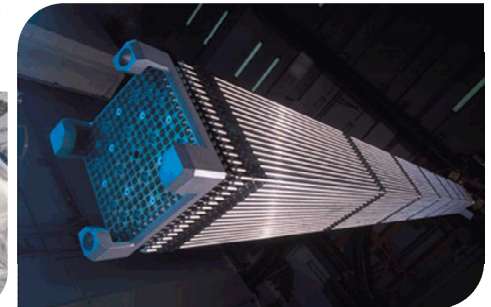
a large nuclear installed capacity

- **58 reactors in operation**
 - ✓ ~**2000** reactor-years of operating experience
- **75% nuclear share of electricity**
 - ✓ low electricity price
 - ✓ Low CO₂ intensity



... a strong industry , several hundreds of businesses of all sizes

From mining to nuclear fuel & its management



Building and servicing nuclear components & reactors



... creating a complete nuclear education & training infrastructure ...

Academia

- ▶ From high school to higher education (up to PhD)
- ▶ Focus on professional skills and researchers' competencies
- ▶ Response to international education and training requests



Paris-Saclay campus

**Job-ready for nuclear
(industry and research)**

Research

- ▶ Research entities hand-in-hand with industry
- ▶ Experimental facilities / simulation tools
- ▶ Systematic internships of students

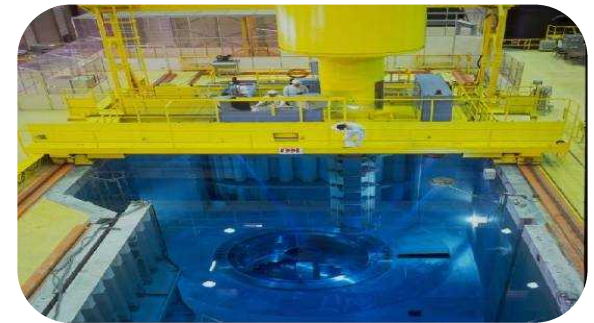


CEA, research laboratory

**Sharing of cutting-edge
nuclear expertise**

Industry




















- ▶ Learn to operate NPP
- ▶ On-site experience using simulators
- ▶ Full-scale NPP models
- ▶ Systematic internships of students



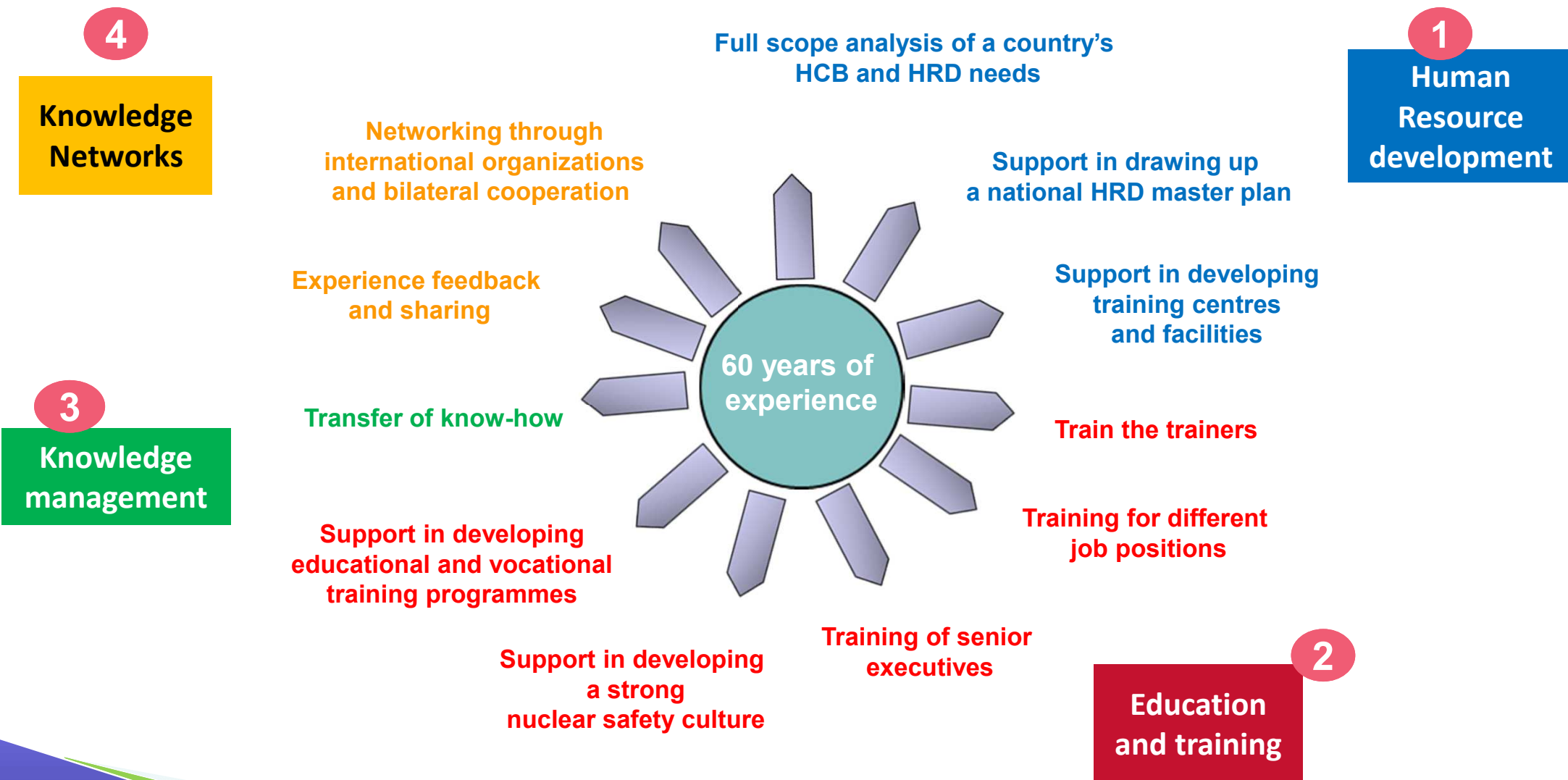
CETIC center, founded by EDF & AREVA

**Real-life conditions
preparing
for ever safer operations**

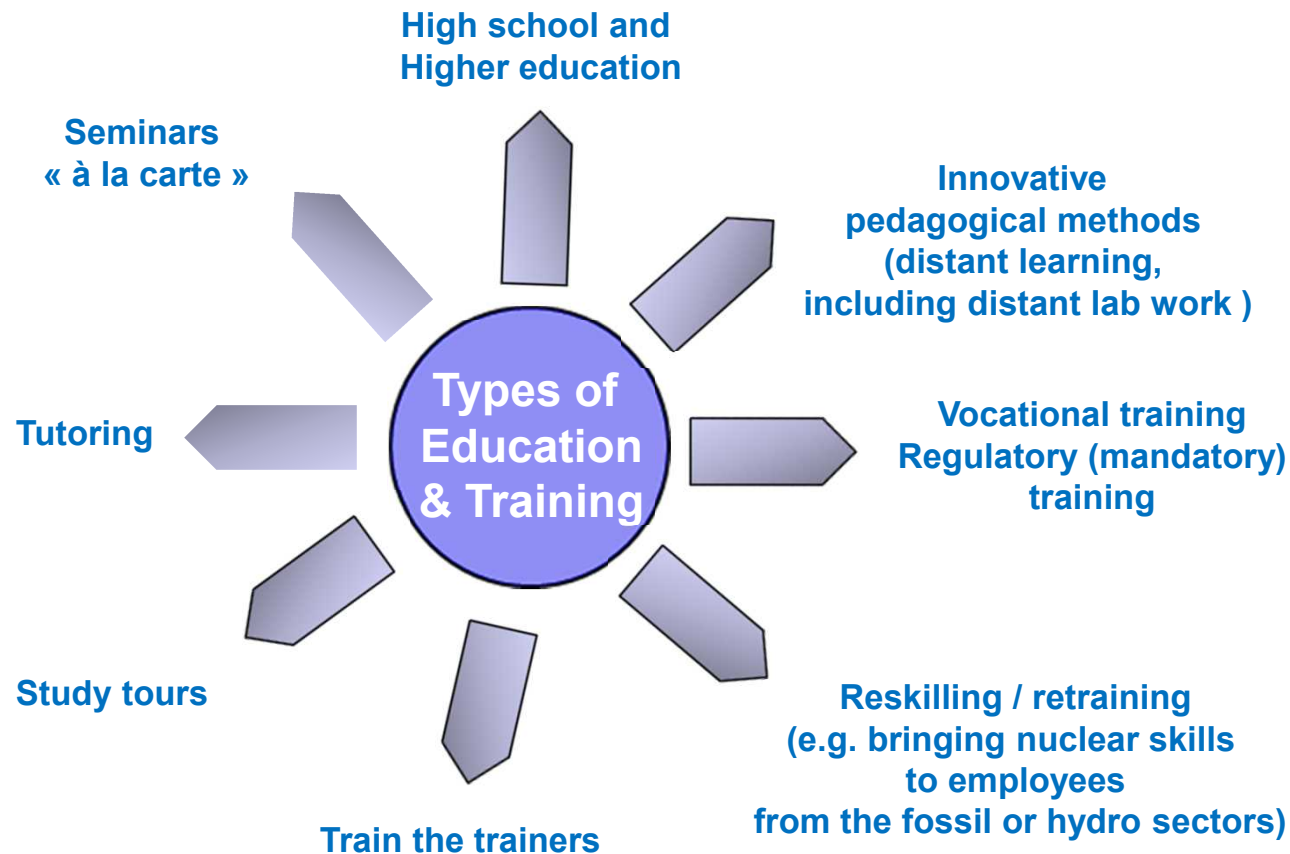
... and has been sharing its knowledge and learning with other countries for decades

Areas of support	Knowledge and learning sharing		Examples
HCB	40+	years of successful HCB guidance and cooperation with fellow countries since 1970's.	 
Education and training (all types)	55+	partnerships with top universities worldwide. Set up of joint training centers.	   
NPP operation	850+	trainees from foreign operators trained over the last 30 years.	  
	346	reactors supported, out of the 435 in operation, with products and services.	   
Localization	100% (up to)	sustainable development potential of local nuclear industries – both NPP and fuel cycle – through technology transfer and skills development, including R&D support.	     

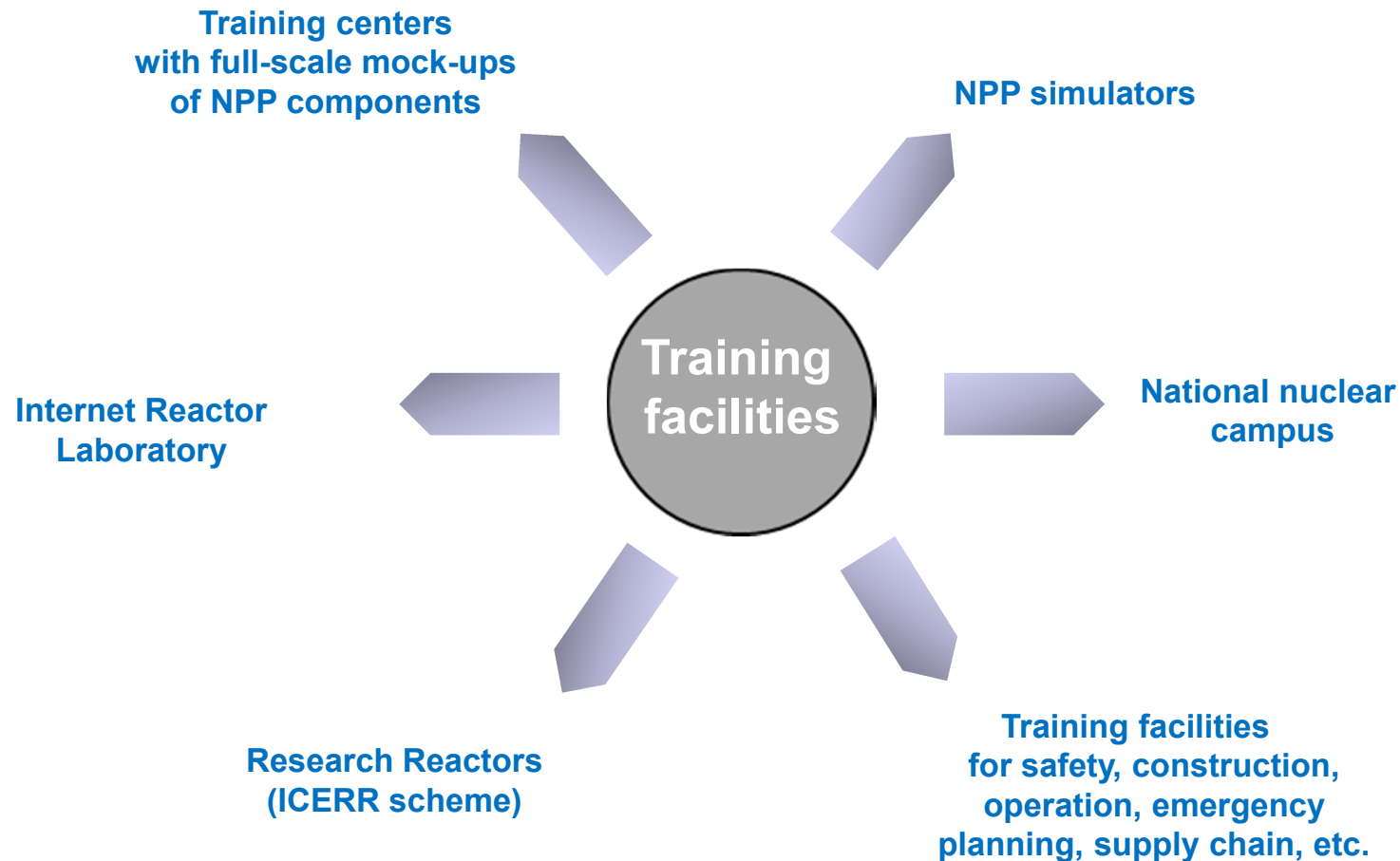
Examples of HCB guidance and training solutions



Examples of HCB guidance and training solutions



Examples of HCB guidance and training solutions



Recent partnerships between France with other countries

▶ Poland

- ◆ Train the trainers program
- ◆ Welcoming of students (Master and PhD level)
- ◆ Collaboration between both Safety authorities, training of Polish inspectors

▶ South Africa

- ◆ Support to NPP operation

▶ Czech Republic

- ◆ Collaboration
- ◆ Bilateral seminar on safety

Thank you