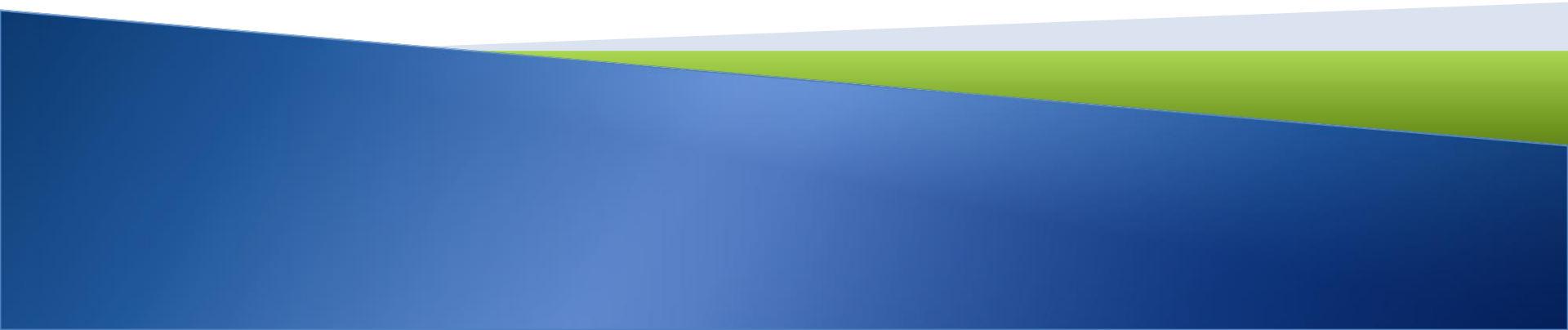




I2EN

International Institute
Of Nuclear Energy



The “Capacity Building Initiative” (CBI)

FRENCH NUCLEAR EDUCATION & TRAINING

*HCB Support to newcomer & expanding
countries*

I2EN—The entry point for countries wishing to acquire nuclear skills

I2EN serves peaceful nuclear energy programs in scientific, technical and vocational education & training. Its missions are to:

- Review the French offer in nuclear education & training with regards to the needs of industry in skilled personnel.
- Represent and coordinate the education & training offer abroad in order to:
 - Propose the best education & training solutions tailored to the needs of partner countries,
 - Share best practices in Human Capacity Building so as to contribute to the implementation of safe and reliable electronuclear programs,
 - Ensure collective capacity of welcoming foreign students and professionals in French nuclear corporations & research organizations.

I2EN's network of players



A complete nuclear education & training infrastructure...

Academia

- From high school to higher education (up to PhD)
- Focus on professional & research skills
- Response to international education and training requests



Paris-Saclay campus

Research

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



CEA research laboratory

Industry

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



CETIC center founded by EDF & AREVA

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



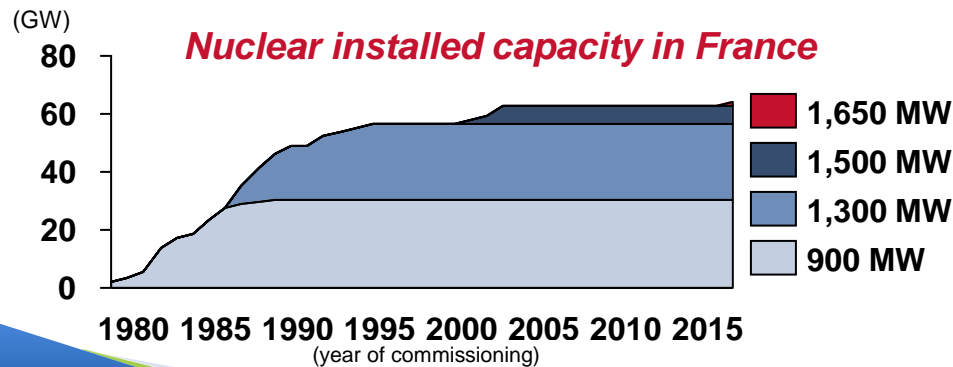
**Sharing of cutting-edge
nuclear expertise**

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

to maintain a safe, secure, and sustainable electronuclear industry...

A large nuclear installed capacity

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



A strong industry with several
thousand businesses of all sizes

Entire fuel cycle



Building and servicing nuclear components & reactors

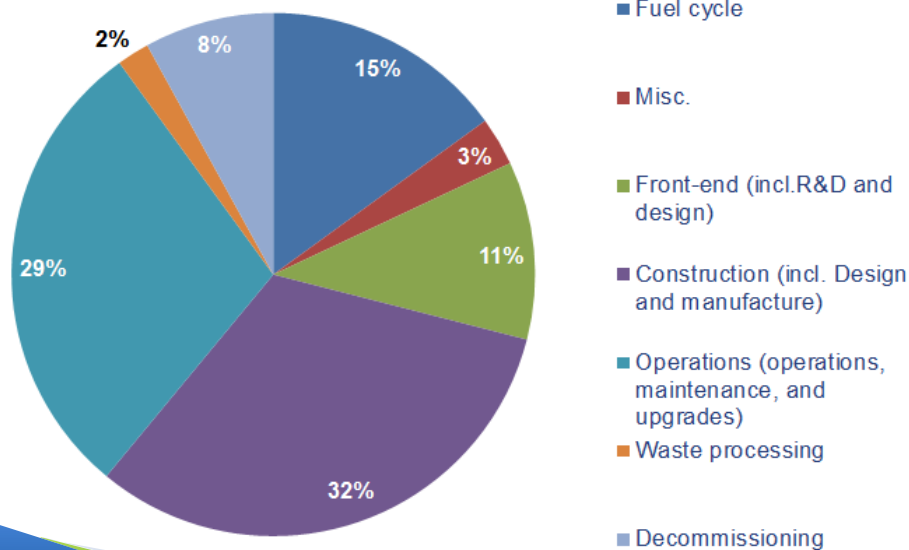


...thanks to a highly skilled workforce.

Current workforce

- ca. **220,000** direct jobs
- ca. **10%** of which are nuclear specialists
- 10,000** recruitments/year until 2020

Distribution of the current French nuclear workforce

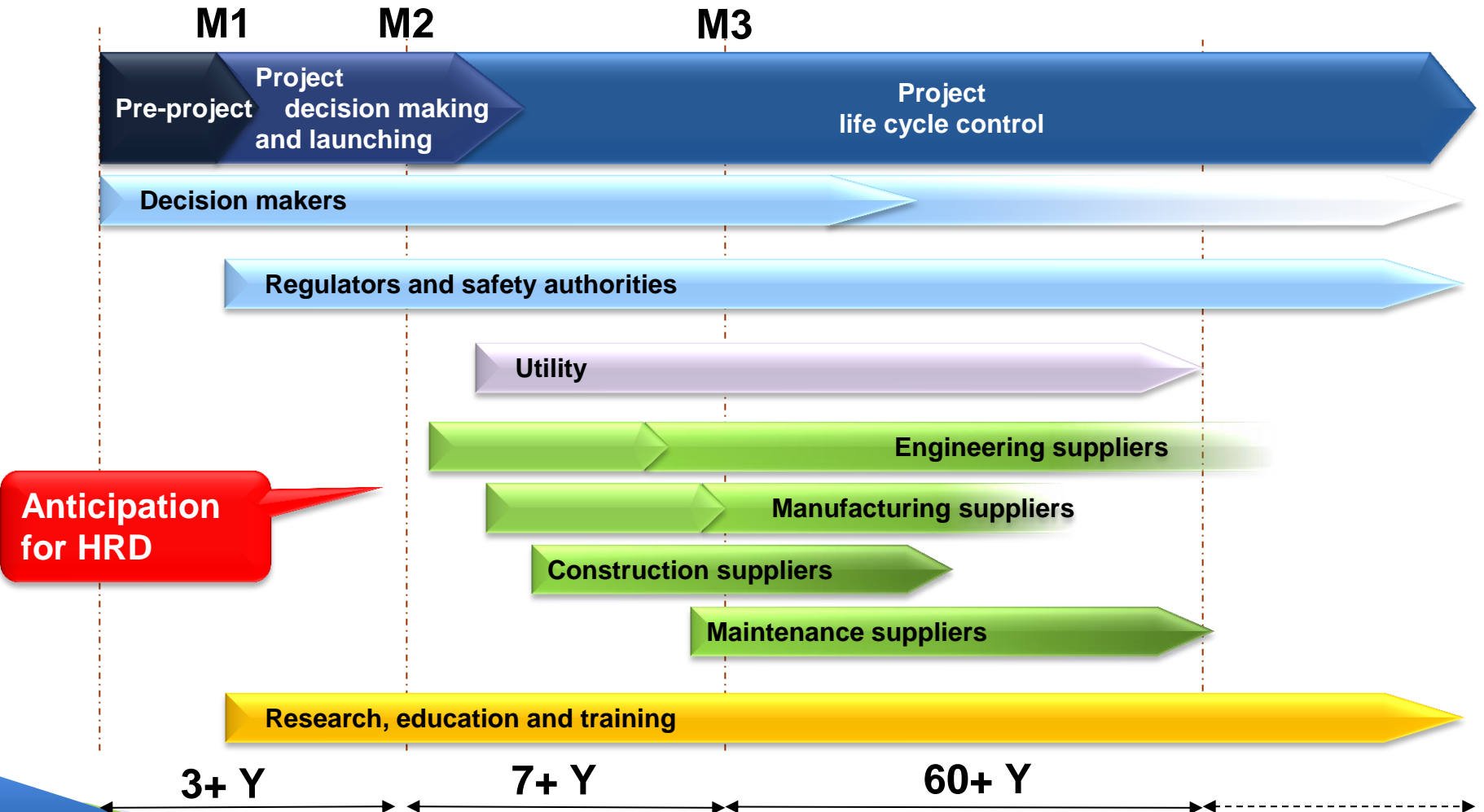


Future workforce

- ca. **1,400** graduates/year
- Over **200** Doctors (PhDs)
- Over **800** Masters (MS' and Mengers)
- 230** Bachelors from 16 Bachelor's programs
- 50** Advanced technicians graduating from 16 Associate's degrees and advanced technician programs
- 100** Technicians graduating from vocational high school programs







Nuclear Education & Training needs to be anticipated



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.”

Areas of support	Knowledge and learning sharing	Examples
HCB	40+ years of successful HCB guidance and cooperation with fellow countries since the 1970s.	
Education & 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.	
Localization	100% (up to) sustainable development potential of local nuclear industries—both NPP and fuel cycle—through technology transfer and skill development, including R&D support	

The French offer in nuclear HCB



Thank you for your attention

We are present at booth C30



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