

# Training and capacity development needs

Paris 24<sup>th</sup> January 2014

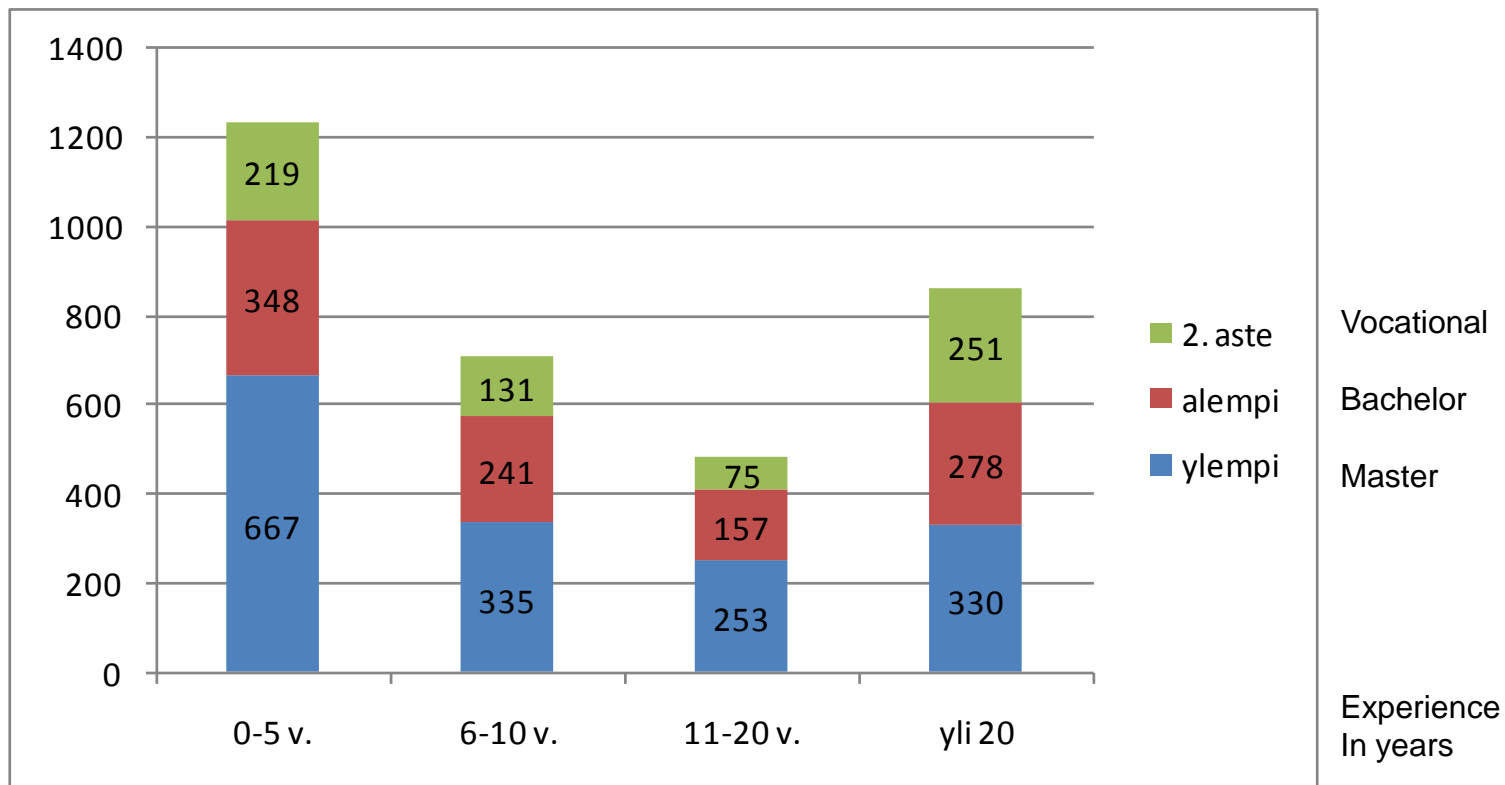
IEA/NEA Nuclear Technology Roadmap Update  
Stakeholder Engagement Workshop

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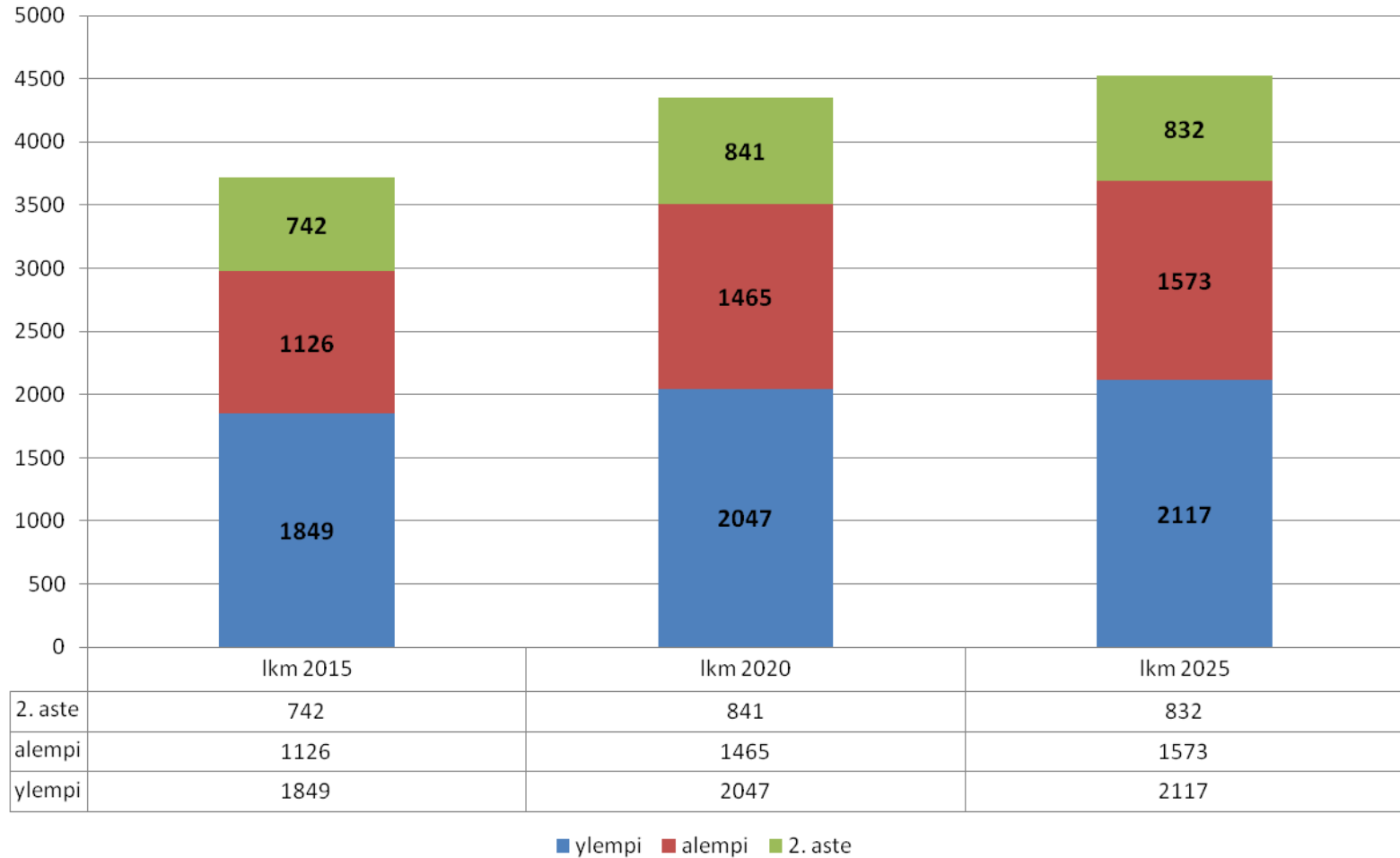
Finnish Ministry of Employment and the Economy



# Human resources in nuclear by years of experience and age (2012) in Finland – 3300 experts now but until 2025 a need of 2400 experts more



# Need for human resources in the future in Finland; Report of the Committee for Nuclear Energy Competence in Finland, MEE 2012



# Training and capacity development needs globally 1

- "Prospects for nuclear" are dividing the world areas and inside them the countries, but thousands of new specialists are needed
- Europe is particularly divided and also the process is going to different directions: UK and Sweden (revival) Germany and France (opposite directions), Italy and Slovakia (different motivation). EHRO-N is the EC work tool in E&T. Website <http://ehron.jrc.ec.europa.eu>
- USA and the Americas are still vital; in USA alone there are still more than 40 universities where you can graduate from nuclear engineering.
- Far East is the strongest player, but also there the countries are in very different situations: China and Japan, Vietnam and Malesia
- Middle East and Africa are coming: UAE case, next is Saudi Arabia and how about Nigeria or Kenya?



# Training and capacity development needs globally 2

- The suppliers are having strong part in the projects;
  - Korea in the UEA (seven active universities in Korea, training also foreigners, a new university in the UEA)
  - Rosatom in Vietnam, Bangla Desh, India, Jordania, Turkey (a huge education/training program) and now in Finland (Fennovoima), Hungary and even in UK, BOO principle
  - Toshiba, Hitachi, Areva, Westinghouse, others
- In some countries there is a serious problem: you educate your specialists and then they leave to other countries for better pay
- People are mobile; an EHRO-N study 2013 shows that 33 % of respondents are prepared to work anywhere in the world. But also 50 % of respondents are considering moving out from nuclear.
- IAEA has a strong and important role in Capacity Building (=UN term) for the new countries. Peer reviews are important also here.

