Training and capacity development needs

Paris 24th January 2014
IEA/NEA Nuclear Technology Roadmap Update Stakeholder Engagement Workshop
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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

<table>
<thead>
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<th>lkm 2015</th>
<th>lkm 2020</th>
<th>lkm 2025</th>
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<tbody>
<tr>
<td>2. aste</td>
<td>742</td>
<td>841</td>
<td>832</td>
</tr>
<tr>
<td>alempi</td>
<td>1126</td>
<td>1465</td>
<td>1573</td>
</tr>
<tr>
<td>ylempi</td>
<td>1849</td>
<td>2047</td>
<td>2117</td>
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</tbody>
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The diagram illustrates the projected number of human resources needed in Finland for the years 2015, 2020, and 2025. The categories are 2. aste, alempi, and ylempi, with the respective counts for each year shown in the table.
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.