MOBILISATION WORKSHOPS

Workshop title:
Identification and Analysis of Skills Gaps in the Offshore Energy Sector

Date:
17 May 2018

Place:
Aberdeen, Scotland

General description:
This workshop was hosted by Aquatera Ltd. The aim of our workshop was to:

- Inform stakeholders on the aims, objectives and projected activities of the MATES Project and to mobilise stakeholders to become active in the MATES Project in an advisory capacity.
- Discuss the key skills gaps in the offshore renewable energy (ORE) sector and the mechanisms that are or should be in place to fill those skills gaps.

The methodology for the workshop was to present a general overview of the MATES Project followed by a presentation of the state of the offshore renewable energy industry. These presentations served to feed into a discussion session on the identification of skills gaps in the offshore energy sector.

After the break, there was a presentation on the existing mechanisms to address those skills gaps, with a focus on occupational profiling. This lead into the second discussion session which was focused on the mechanisms to fill the skills gaps that had been identified in session 1. This discussion session covered the existing mechanisms and also an exploration of additional mechanisms that should be in place in order to better address skills gaps in the offshore renewable energy industry.

Target public:
Stakeholders in the offshore energy sector including industry, research, training, academia and regulators; from both environmental and technological aspects of the offshore energy sector
**Programme:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Registration &amp; Coffee</td>
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<tr>
<td>09:30</td>
<td>Welcome and introductions</td>
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<tr>
<td>09:45</td>
<td>General Overview of the Mates Project</td>
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<tr>
<td>10:00</td>
<td>Presentation: State of the industry in Scotland</td>
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<td></td>
<td>Max Carcas, Managing Director, Caelulum Ltd</td>
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<tr>
<td>10:15</td>
<td>Round Table: Identification of skills gaps in the offshore energy sector</td>
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<tr>
<td>11:00</td>
<td>Coffee break</td>
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<tr>
<td>11:20</td>
<td>Presentation: Mechanisms to address skills gaps; Occupational Profiling</td>
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<tr>
<td></td>
<td>Margaret Eleftheriou, Aqualex Multimedia Consortium Ltd</td>
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<tr>
<td>11:45</td>
<td>Round Table: Mechanisms to fill identified skills gaps in the offshore energy sector</td>
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<tr>
<td>12:30</td>
<td>Report out from round table sessions</td>
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<td>12:45</td>
<td>Closing Remarks and Next Steps</td>
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<tr>
<td>13:00</td>
<td>Close</td>
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**Description of attendance:**
14 attendees, plus two hosts from Aquatera-Jennifer Fox & Ian Johnstone

**Type of organisation of participants:**
- Six of the participants were from industry (consultancy)
- Seven of the participants were from academia (universities)
- Two participants were from government bodies (national and local)
- One participant was from a public body engaged with skills development
Gender information:
56% of the participants were male and 44% were female

Age information:
Unknown

Summary of the Workshop:

Main contents extracted from experts’ presentations:

- See two presentations attached to this report;
  - State of the industry in Scotland, Max Carcas, Managing Director, Caelulum Ltd
  - Mechanisms to address skills gaps; Occupational Profiling, Margaret Eleftheriou, Aqualex Multimedia Consortium Ltd

- Presentation 1. State of the industry in Scotland
  - There is a need for growth in the renewables sector in Scotland in order to decarbonise transport and heating
  - There is diversity in the types of offshore renewable energy available to us in the form of wind (fixed and floating), wave, tidal, ocean thermal, osmotic, marine biomass
  - Some of these industries are more developed & established than others
  - There is also a wide range of skills required through the process of planning, consenting, installation, operation and decommissioning.

- Presentation 2. Mechanisms to address skills gaps; Occupations Profiling
  - There has been a lot of work done to date to standardise qualifications (EQF, ECVET, EQAVET, ESCO, Skills passport, Skills Guarantee)
  - These have a focus on learning outcomes
  - These bridge the gap between education and employment and provide a common language between educations and the job market
  - We should also look to other sectors to learn lessons there eg. Aquaculture
  - Previous work done to examine skills gaps and map competencies for offshore renewable energy by Aquatera and AquaTT within the AquaRET Project. This work will be built upon within MATES
Main contents extracted from debates:

Table 1 Discussion session 1. Identification of skills gaps in the offshore energy sector

<table>
<thead>
<tr>
<th>Discussion Question</th>
<th>Summary of Discussion</th>
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| What are the skills gaps?   | • Important to consider how serious this is currently, is it holding back the sector or are there other more important issues holding back the sector. Perhaps it is not the most vital issue at the moment but has potential to become a bigger issue in the future?  
• Specific gaps identified  
  o There is a specific gap for electronic engineers  
  o There are specific requirements for the offshore sector on a technician level to be able to work in this challenging environment. E.g. Larger offshore wind farms are now looking at housing maintenance teams on site  
  o Risk analysis and management is a vitally important area to the success of projects.  
  o An important gap is in the multi-disciplinary needs of the sector. E.g. People who trained in ecology are required to have a complex understanding of engineering also. This need (and gap) increases in the higher levels- managerial and director level  
  o There is a gap for people who are willing and capable to be a ‘jack of all trades’. This is also seen as a risk in some ways as you are not specialised.  
  o There are skills gaps in language- important to be able to transfer skills globally, but language and culture can be barriers to this. Experience in other cultures, and skills in language are important  
  o There is a gap in bringing technology to market. This is a common challenge for any innovative technology  
  o Market, financial and investment expertise is a gap in the sector eg. Levelised cost of energy, subsidy framework etc.  
  o Vital for engineers to have an understanding of the market/ financial aspect of the project and vice versa  
• From the regulator’s point of view  
  o There is a wide range of skill level seen by the regulator when it comes to consenting. Some developers that need minimal assistance with the process and some that require much more  
  o This is dependent on the focus of the company e.g. Technology developer, environmental consultant, financial consultant etc.  
  o It is important that the right company is chosen to do the right task- e.g. environmental consultancy to lead on environmental consenting. |
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<tr>
<td>o Experience to understand the importance of early engagement with regulators and with the public on renewable energy developments is a gap</td>
<td>• Due to the early stage of the marine renewable sector, there is an element of competition that leads to experience and learning not being shared</td>
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<td>o Possible reason for this is relative newness of the marine renewable sector leading to lack of experience by project and technology developers</td>
<td>• The sector is growing rapidly (marine energy including offshore wind) and hence, the workforce is growing rapidly. This can lead to people being brought into positions in which they are not well experienced. This can lead to issues in leadership at the managerial/director level</td>
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<td>o This was also the case in the oil &amp; gas industry; through experience and time, standards have been developed for technology and environmental issues</td>
<td>• When there are people in high positions with little experience, effective project management becomes even more important</td>
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<td>• A concern that there is a temporary nature with some of the positions related to a technology development. Workforce have to move from project to project and hence learning is sometimes lost. There needs to be a permanence for the workforce in order to maintain learning and experience</td>
<td>• See the UK CS Workforce Dynamics published last week looking at skills gaps in the oil and gas (O&amp;G) sector¹</td>
</tr>
<tr>
<td>• Skills Development Scotland are also working on this - updating the Skills Development Strategy²</td>
<td>• Hazard Identification (HAZID) &amp; Hazard Operability (HAZOP) techniques in O&amp;G industry are techniques used whereby an external person is employed to evaluate risk in a project. This should be incorporated into the offshore renewable energy sector</td>
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<td>• It is possible that companies do not want to be upfront about their internal skills gaps (ie. weaknesses within the team). Therefore a cautious and trusting approach is required to fully collect data on existing skills gaps</td>
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Discussion Question | Summary of Discussion
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Is there a gap at director level and/or management level? | • Consensus in the group- yes there is a gap here.  
• ‘Soft Skills’ are vitally important- e.g. networking, decision making, foresight, team management, project management.  
• From the government, there are very ambitious targets set for the renewable energy sector, but little thought as to how those targets will be achieved. There needs to be more done to strategize the growth in the industry to achieve these targets.  
• There are lessons to be learned from the offshore wind industry by the wave and tidal industry in risk management- e.g. Environmental risk

Are there gaps that will become more important in the future? Do we need to consider future proofing the skills base within the workforce? | • We need to consider the future skills requirements of the sector also  
• Should consider scenarios for the development of the sector and this should be included in any strategy for addressing skills gaps in the sector  
• Should take into account the likelihood of each scenario. There has been work done on this in the UK for the Marine Management Organisation  
• It was seen that there was not a willingness to move between the O&G sector and the renewables sector. Although it is thought that this is now changing. Possible reason for this is the difference in salary levels between the two sectors; although this should be explored further  
• Big data, industry strategy funding, innovation, internet of things.

Why do these gaps exist? | • Early stage of the sector  
• Possible that where a company are specialised in a single task, if the staff become too highly trained or experienced, they will move to a more general/ diverse role

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Table 2 Discussion session 2. Mechanisms to fill identified skills gaps in the offshore energy sector

| Discussion Question | Discussion Summary |
--- | ---|
What are the existing mechanisms? | • See Presentation 2 for summary of EU mechanisms that exist eg. EuroPass CV, ESCO Project, OpenBadge etc.  
• See examples of work done by AquaLEX (Partner in MATES) in aquaculture- started with looking at the basic technical issues and fed up to the managerial and marketing aspects. |
<table>
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</table>
| • There is a skill investment plans established by Skills Development Scotland- looking specifically at the future and how the workforce will change in the future- e.g. age demographic of people and hence retirement etc. Skills Investment Plan, 2015 is split out into each level, project management to technicians and it is stated exactly how many people will be recruited as time goes on  
• Look to other sectors e.g. Aquaculture for SQA; Scotland’s national qualifications body.  
• The model of Cranfield University (England) is to only host post graduate students and to also offer all of those modules as short courses to people from industry. The MSc students do a group project which is industry focused. The MSc courses also have industry advisory panels.  
• Also run short courses such as environmental risk and uncertainty for PhDs and post-doctorals. Additionally, each of the PhDs has an industry partner addressing a particular need.  
• MScs- have links to business schools- offshore energy MScs have specific training in project management.  
• There are industry- academia joint programmes in the field of energy. Rather than the supervisor choosing a topic of study, the topic is chosen by industry or government. The first of these programmes has 30 students that have graduated and are now completing a placement in the industry.  
• Skills Development Scotland also run an ‘Adopt an apprentice’ programme |

| How well are they working? | • There are mechanisms in place that are working. However there is more to be done as the offshore renewables sector develops  
• There are good examples of mechanisms to address skills gaps, however there is a need for these to grow and be more readily available on a wider basis  
• Important to note that companies may not be willing to be completely open about skills gaps within their teams, and hence it can be difficult to get the full picture of the skills and experience gaps within the sector  
• The ORE sector is extremely diverse. There are basic technical courses that individual companies do. There is a need for an overarching framework to addressing gaps. |

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<table>
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| What more should we be doing? | • In large companies, there are mechanisms used, e.g. In Google, staff have opportunities to work on a project entirely separate from their usual work for one day a week in order to share experiences and learning with other staff and learn about other projects. This is not as easy in small companies with less capacity  
• It is important to gain an understanding for how much the industry are consulted in the design on academic and other courses.  
• It is also important for academic and other courses to have a feedback loop when their graduates work in the field in which they were trained. This is an important asset.  
• There is also a need for graduates to have short training courses. The short training course should have nothing to do with ECVETs. It fits into the skills portfolio. People should be able to show evidence or validation of what they have done.  
• It is very important to have industry feed in to the mechanisms to fill skills gaps.  
• It is extremely important for people in the sector to have a diverse set of skills. There is a need for multidisciplinary approach because of the unknown unknowns. When you look at a wind turbine training course. It can be quite detailed, but it might be interesting to do a wind turbine intro course for someone in other specialities- e.g. Consents and licensing or ecology.  
• Staff could earn the right to do short term sabbaticals, after a period of time, eg. After two years in post, a staff member could do a two week training course in a subject not directly related to their work, or gain experience as an intern in another company  
• Training mechanisms needs to maintain a level of flexibility and/or customisability. There is no ‘one size fits all’ solution to addressing skills gaps  
• There is a need for any new training mechanisms to be recognised or certified at a national or EU level |
## Results of satisfaction survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
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<tbody>
<tr>
<td>The language in which was held the workshop facilitated my participation</td>
<td>4.75</td>
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<tr>
<td>The format allowed the participation of attendees and their interaction</td>
<td>4.75</td>
</tr>
<tr>
<td>The attendance of different types of organisations and experts enriched the debate</td>
<td>4</td>
</tr>
<tr>
<td>Materials and means used were adequate</td>
<td>4.5</td>
</tr>
<tr>
<td>The workshop had high quality presentations</td>
<td>4.25</td>
</tr>
<tr>
<td>The themes targeted were relevant and well selected</td>
<td>4.75</td>
</tr>
<tr>
<td>The work program was coherent and allowed to understand the objectives of the project</td>
<td>4.75</td>
</tr>
<tr>
<td>My expectations on the workshop were fulfilled</td>
<td>4.25</td>
</tr>
<tr>
<td>Logistics organisation was satisfactory</td>
<td>4.5</td>
</tr>
<tr>
<td>Do you consider the duration of the meeting? (1 = insufficient, 5 = too long)</td>
<td>3.25</td>
</tr>
<tr>
<td>What is your overall score for the workshop?</td>
<td>4.5</td>
</tr>
</tbody>
</table>
Four people responded to the survey anonymously. To the question asking what kind of organisation the respondee was from, two respondees answered ‘Research organisation’, one answered ‘Enterprise’ and one answered ‘Other, Skills Development Scotland’. The overall feedback from the workshop was very positive. One person added an extra comment of ‘Great presentation!’ The average score for the questions in the survey (excluding question ‘Do you consider the duration of the meeting?’) was 4.5 out of 5.

Conclusions:
The aims of the workshop were to

- Inform stakeholders on the aims, objectives and projected activities of the MATES Project and to mobilise stakeholders to become active in the MATES Project in an advisory capacity.
- Discuss the key skills gaps in the offshore renewable energy (ORE) sector and the mechanisms that are or should be in place to fill those skills gaps.

These were achieved within the course of the three presentations and the two discussion sessions that were held as part of the workshop. An open and frank discussion was undertaken on the state of the industry currently and the likely development of the industry in the future. More specifically, how the workforce in Scotland is capable of maximising the success of the industry currently and in the future.

The workshop was well attended by important stakeholders and experts in the offshore renewable energy sector from academia, industry and government. It was considered to have a mix of stakeholders present at the workshop in order to gauge the opinions of a representative sample from across the diverse range of stakeholders in the ORE sector.

It is clear from the discussions that there are skills gaps in the Scottish ORE sector and likely gaps in the future as the industry grows and develops. While there are a variety of mechanisms to address these gaps, there is certainly more to be done to ensure that these mechanisms are rolled out across the country and are widely available and also to expand the mechanisms currently available to ensure that those gaps that were identified can be minimised.

The next steps for this process will be to further engage those who were in attendance and those who expressed an interest but were unable to attend to become mobilised and active within the MATES Network and to further explore those items that were discussed at this workshop.
Figure 2 Jennifer Fox presenting an overview of the MATES Project and the planned programme for the workshop

Figure 3 Max Carcas presenting on the state of the offshore renewable energy industry in Scotland
Figure 4 Margaret Eleftheriou presenting on the mechanisms for addressing skills gaps, particularly in relation to occupational profiling
Impact on Media
The workshop announcement was posted on Twitter, Facebook and LinkedIn in advance of the workshop. The workshop itself was shared on Twitter, Facebook and LinkedIn with photos of the workshop. Below is a screenshot from both of the Tweets, indicating the impressions, engagements and profile views.

- Workshop announcement tweeted by Aquatera (Figure 6 below)
- Workshop announcement shared on Facebook and Linkedin by Aquatera
- Workshop announcement tweeted by Shape Energy, 1 retweet, 2 likes
- Workshop announcement tweeted by Mates Project (@ErasmusMATES), 3 retweets, 7 likes
- Workshop tweeted by Aquatera (See Figure 5 below)
- Workshop tweeted by Mates Project (@ErasmusMATES), 3 retweets, 2 likes
- Workshop shared on Facebook and Linkedin by Aquatera, 4 likes, 7 likes respectively

Figure 5 Tweet from Aquatera’s account on the workshop with statistics on the reach of this Tweet

Figure 6 Tweet from Aquatera’s account announcing the workshop with statistics on the reach of this Tweet