

Maritime Skills  
Commission

# Future Ports Workforce Research Report

March 2022




## Summary

The UK ports sector has been for centuries a bedrock employer for communities all around the UK. It's proud commitment to skills can be seen in the provision of high quality apprenticeships, for example, and the number of senior leaders who have progressed through the ranks of port operators.

But times are changing, for society as a whole and the environment that ports operate within. New technologies, shifts in policy and demographics, and physical changes are transforming ports; in turn, this evolution is throwing up new challenges, as well as opportunities, when it comes to recruitment and training.

Sometimes challenges are also opportunities. The challenge of growing the diversity of the sector opens up new sources of talent. Technology and more automation challenges traditional ways of working but also offers important safety and efficiency benefits.

What does it mean to work in a port now, and what will the future ports workforce look like? What skill sets will be required, and what actions must the industry take in terms of training its existing workforce and attracting new people with those skills?

The importance of the Review was first highlighted in the Maritime Skills Commission's Labour Market Intelligence Scoping Report in October 2020.

A detailed study carried out by Strathclyde Business School on behalf of the UK Major Ports Group (UKMPG) and commissioned by the Maritime Skills Commission considered the future workforce needs of a sector that is often 'hidden' and frequently the subject of outdated perceptions and expectations by those outside the industry. Through a programme<sup>1</sup> of thorough interviews

and roundtables, covering industry and other key stakeholders like trade unions, the study mapped the situation today, some key trends looking forward and asked some hard questions of the sector itself.

Among its recommendations, the report calls for a clear lead on port skills, more collaboration to drive improvements in diversity, and an in-depth future skills mapping exercise. Sharing of best practice, identifying near-term skills gaps, developing more proactive approaches to upskilling, reskilling and retraining, collective working to deliver on key skills policy areas, and development of HR capability across the sector are also recommended.

Change is not optional, it is essential. What is undimmed is the port's sector commitment to skills and bringing forward new generations of talent – the talent that keeps the goods moving that our island nation relies on and that grows prosperity and opportunity all around the UK's coast.

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1. More detail on the content of the research programme is described on page 4.



## Setting the scene

### Key themes of the port sector context

#### The background – shifting port sector dynamics

Ports are far from alone in anticipating major changes in workforce requirements in the future. Many industries are set to be transformed by a range of current and anticipated drivers of change; some of these changes will impact very specifically on UK ports.

The key drivers include the advances in and implementation of new technologies, in particular in the areas of digitalisation and automation; policy shifts, for example around the need for diversity and decarbonisation ‘just transition’ agendas; demographic shifts with an ageing workforce and the younger generations’ changing expectations in the world of work; and physical transformations, for example with ports becoming hubs for wider economic activity.

The technology already available and emerging under the ‘Fourth Industrial Revolution’ umbrella is set to transform the way in which ports operate on a day-to-day basis. The UKMPG report highlights the likely impact of technologies such as the Internet of Things (IoT), Blockchain, Big Data and Advanced Industrial Robotics, bringing increased automation, sensors, drones, data gathering, storage and exchange, and production and warehousing systems, and notes that these and other advances such as networked systems and seamless engineering will require investment in hardware, software and training.

#### Technology: The Implications for Jobs and Skills

Ports have already experienced waves of mechanisation and, increasingly automation. So technology induced change – and its implications on skills and work force is not new. However, the current speed of change and

anticipated even further acceleration being driven by the data revolution – with major ports being hubs for data as well as goods – makes the current challenges particularly acute.

An increased demand for IT skills is inevitable, but a key challenge is that 90% of UK employers report digital skills deficits, and about 50% are concerned that this digital skills gap has already negatively impacted the productivity, competitiveness and profitability of their business.

So ports are not alone. But that is of very limited comfort. Our need is as acute as a range of other sectors and ports must up their game to attract more talent in these in demand areas. Here there is an interrelationship with the diversity theme. Ports simply must improve their diversity efforts if they are to successfully expand their pool of addressable potential talent.

But the challenge – and indeed need – is not just about new hires. In ports, while some skills and jobs are in greater demand, there is a decline in the demand for others. For example, some port operative routine tasks have already been partially automated and automation is expected to extend to other areas.

The report notes: “Sensitivity to such changes is needed, and retaining, retraining and upskilling the existing workforce in the transition to the ports of the future will be important.”

Whilst much focus – economy wide – is placed on the hiring element of the new skills equation, there is a need, opportunity and indeed responsibility to develop the pathways for the existing workforce to transition to the increasingly digitised workplace.

However, it is important to remember there will still be a need for a ‘baseload’ of more traditional skills, it says. Even where demand for some jobs and skills is shrinking, replacement demand will be significant.

#### The Challenge and Opportunity of Diversity

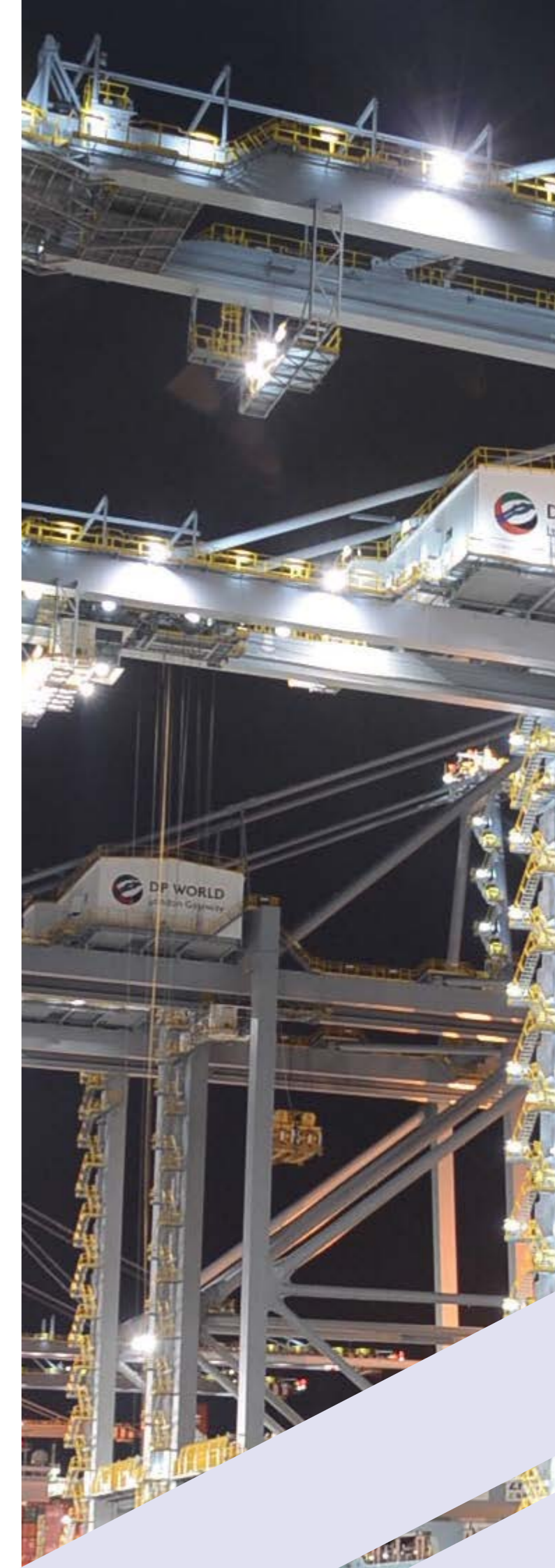
As in many other ‘traditional’ industries, there is a relative lack of diversity in UK ports – gaining access to a more diverse, and therefore wider, talent pool is vital in terms of addressing the current demographic profile, tackling skills gaps and meeting future needs.

There is a determined push across many port operators to attract and retain a more gender diverse future ports workforce. This makes sense purely in business terms; Maritime UK has noted that more diverse companies are better able to attract top talent and improve their customer and employee satisfaction and decision making, “leading to a virtuous cycle of increasing returns”.

However, gendered stereotypes and biased assumptions are often embedded within workplace cultures and can have an impact on recruitment selection decisions and work practices.

There is also a need for better portrayal or ‘branding’ of the industry, the roles it offers and the modern port as a workplace in order to attract a more diverse range of talent, including the younger generation.

The sector recognises the challenge. Determined efforts to meet this challenge are underway. But more needs to be done, both at a port operator and sector level.





## Research framework

### A UK Ports Skill Ecosystems Lens

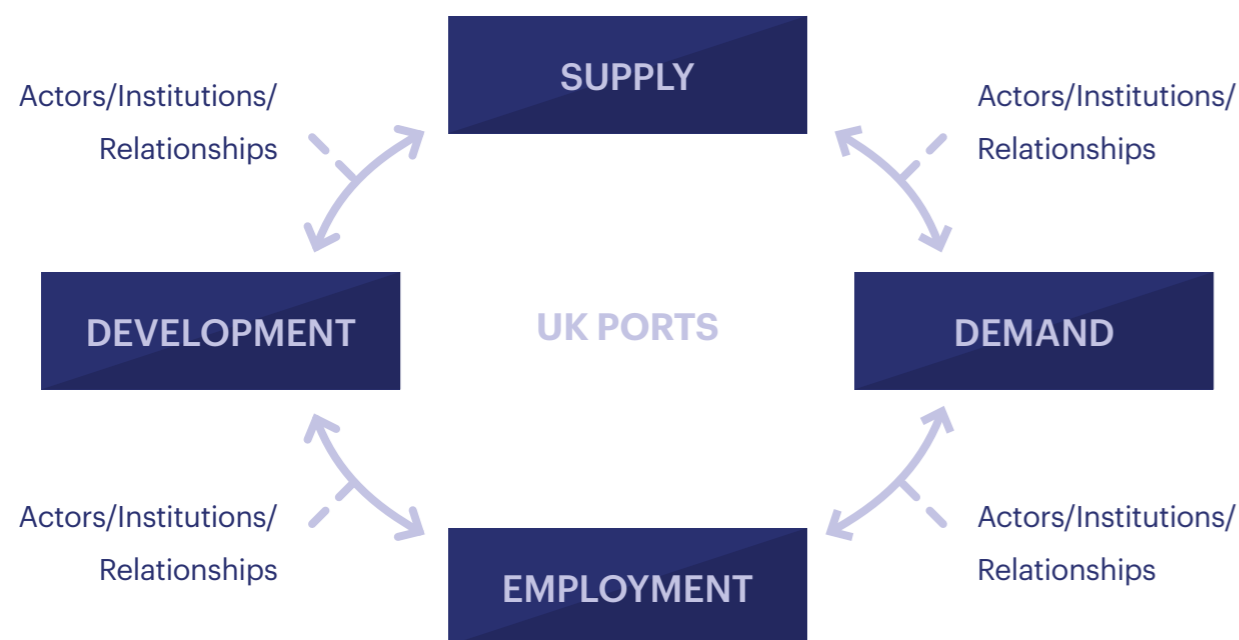


Figure 1: Adapted from Anderson and Warhurst, 2012: 117

The research, analysis and synthesis for the Future Ports Workforce project was undertaken by Strathclyde Business School, principally Dr Pauline Anderson (Senior Lecturer, Work, Employment and Organisation) and Dr Margaret Hawthorne.

The Strathclyde team adopted the concept of the 'skill ecosystem lens', exploring four dimensions – skills supply, demand, development and deployment – in its interviews and analysis.

Following a broadly based literature review and period of desk research, interviews and roundtables were held with 21 people with deep experience in the workforce field: nine port HR directors, three trade union representatives, two comparative sector representatives (from the construction and transport sectors), four port learning and

development specialists, and three strategic stakeholders (two Commissioners from the Maritime Skills Commission and a previous CEO of Port Skills and Safety, a ports sector collective body).

All interviews were recorded and transcribed in line with academic best practice, before forming key evidence for the analysis and synthesis stages.

A summary of the findings from this extensive background of source material are set out below, grouped by each 'skill ecosystem lens':

#### Skills supply

**Outdated perceptions of port work do not do justice to the broad range of job roles within the sector. For**

example, one HR director said there is a perception that ports and logistics are a heavy industry involving working in bad weather conditions – whereas, in fact, there is a variety of roles offering a meaningful career, including engineering, procurement, commercial, HR, legal, finance and IT. "It's important to us to get that message out there so people understand that it's not just about a truck, a warehouse or somebody stood on a dock edge, it's more than that."

- We are an island – and yet, the 'hidden' nature of the industry is another obstacle when it comes to attracting young people to the sector. One stakeholder noted: "The biggest reason why there are no young people coming into it – they don't know it exists."
- There was a strong feeling that careers and teaching professionals could do more to help raise awareness or and champion the sector – and even that these professionals often perpetuate the outdated stereotypes of the sector and job roles on offer.
- A more diverse workforce is key. Without this, the industry is missing out on the opportunity to attract a wider cross-section of the workforce. For example, young women do not see a port or harbour as an attractive career option. There is a 'diversity branding' challenge for ports, which have not quite shifted away from the 'pale, male and stale' image.
- Barriers to widening diversity need addressing – for example, inflexible working patterns and unsociable hours are likely to impact women disproportionately, and ports need to understand the changing work preferences and orientations of the next generations of workers.
- More work needs to be done around workforce planning.

#### Skills demand

**When it comes to the potential impact of technology on future skills demand, views of the interviewees varied.**

- Some acknowledged that the introduction of new technologies in ports is gathering pace – but there was an uncertainty about the timescale and the impact on the workforce. In the immediate term, it was suggested that current reliance on a lot of manual labour will persist but that change is inevitable and lack of preparation risks further problems.
- Others expected that the advances in technology will reduce demand in some areas of port work, and that automation will markedly impact manual labour. For example, autonomous truck technology could replace the need for HGV drivers in the non-too-distant future.
- There are interesting challenges relating to the anticipated impact of automation and related recruitment issues. Some ports see contractor or agency staff as a means of supporting a core of existing workers' jobs.
- New technologies within the ports have led to increased demand for more IT savvy workers and more non-manual workers – for example, ports are looking for people with skills in software and data analysis.
- More generally, there is a broad picture of relatively low levels of recruitment reflecting low levels of 'churn', with ports reporting limited replacement recruitment demand because of low levels of workforce exit.
- There is a need to rethink existing HR recruitment and selection processes and practices – one HR director noted: "The core group of people that we've recruited historically are not what we are targeting now."
- As a piece of brutal reflection there was some acknowledgement that diversifying the talent pool can be difficult due to unconscious bias creeping in to hiring decisions, leading to organisational 'cloning'.
- There are good examples of ports trying to address recruitment problems, including through gender diversity strategies and policies, introducing assessment centres, insisting on panel interviews and moving to more flexible working practices. However, it is also clear that there is further to go and an active debate about the extent and effectiveness of various strategies.

### Skills development

Skills gaps are not just confined to ‘new’ areas like data and IT. Core engineering skills are generally in high demand across the economy, and ports can struggle to compete for the talent. For example, the offshore wind sector is said to be paying higher rates to attract high-quality engineers, and ports have lost people to that sector.

- Engineering apprenticeships are viewed as an important mechanism for sustaining the future ports engineering workforce. However, while there is a longstanding tradition of engineering apprenticeships within ports, it seems that the ageing ports workforce is focusing minds on the ever-growing skills gap. One port, noting that most of its engineers are over 50, said it usually takes on two or three apprentices a year, but this will have to be increased significantly.
- Apprenticeships are effective in helping ports to ‘grow their own’, as apprentices tend to stay with the business, across many disciplines.
- Engineering apprenticeships may need to be revisited to ensure they are fit for purpose in the light of advancing technology; there was a view that engineers will have to be multidisciplinary in the future.
- Some smaller ports are committed to delivering high-quality apprenticeships but may not have the capacity to take on more apprentices. Also, the bureaucracy around apprenticeships is seen as counterproductive.
- Upskilling the existing port operative workforce is seen as a particular challenge, with a number of explanations: these roles were traditionally filled by people who had not necessarily excelled at school; the workforce is now ageing and ‘set in their ways’; and operatives can lack basic skills, most notably in IT.
- Even using the technology already in place today can be outside the comfort zone of port operators and line managers; the IT skills gap can lead to a tendency to ‘go back to old ways of working’ rather than maximise the technology available.

### Skills deployment

The interviews suggested that the ports sector is broadly thought of as ‘traditional’ and ‘with a big heart’. On the more tangible side, ports tend to offer competitive pay, terms and conditions, including for what may be considered as low-skilled but still valuable jobs.

- However, ports often use agency workers to deal with seasonal and other peaks, and there was concern on the trade union side that a shift to more widespread use of agency staff may ‘fragment terms and conditions of the workforce’.
- The industry has moved away from the ‘racy calendar’ environment of the past, and attitudes that would be at odds with a forward-thinking workplace looking for a more diverse workforce. As one interviewee put in: “The seventies way of people behaving has gone and we’ve set the standards in terms of what’s acceptable and what isn’t.” Nevertheless, there is acknowledgement that inflexible working arrangements can present challenges to women in particular in operational roles.
- While promoting a culture, policies and practices in line with bringing in a more diverse workforce was seen as key, the fact that ‘age’ is a protected characteristic was not apparently considered. It seems that many in the sector are resigned to waiting for older workers to retire, instead of putting their skills to work in the best way and/or preparing them for change.

### Stakeholders and partnerships

**Who leads the ports skills agenda? HR directors were generally unclear. There is widespread recognition that the UK Major Ports Group, British Ports Association and Port Skills and Safety all play important roles in this,**

**but there was a lack of clarity around their respective remits. This may partly explain an apparent disconnect between maritime-wide strategies and initiatives, and related activities at port level.**

- Networking and sharing experiences about what works well (or does not) is seen as valuable.
- Not all HR Directors are ‘equal’ – some have more power and influence in their organisations than others. The view was that real change will only happen if management and senior people and the influencers are prepared to change.
- Covid-19 has shone a spotlight on HR activities and changed attitudes to mental health, emotional health, culture and engagement.
- Trade union reps were keen to highlight the value of working in partnership to effect change, but there was also evidence of tension between employers and some employee bodies. Part of this tension seems linked to uncertainty about the longer-term impact of new technologies and the potential that automation will lead to job losses.



**Figure 1:** Anderson, P. and Warhurst, C. (2012). ‘Lost in Translation? Skills Policy and the Shift to Skill Ecosystems’, in D. Nash and T. Dolphin (eds), *Complex New World: Translating New Economic Thinking into Public Policy*, London: IPPR, pp. 109–120.



## The Future Ports Workforce Recommendations

The report makes **eight key recommendations**. Given that there are differing areas of good practice across individual port operations, however, the authors note that it is difficult to make sweeping company level recommendations. The recommendations therefore focus on collective actions.

1

### Clarify which body is leading on port skills

The absence of a lead body on the issue of port skills is holding back the sector. Clarity is needed on which organisation or body is leading; this lead should play a key role in addressing the disconnect between maritime-wide strategies and initiatives, and related activities at port level.

2

### More joint working within the ports and maritime sector to drive improvements in diversity

There should be a common effort in examining what measures are and are not being effective, more sharing of good practice, and a concerted approach to bring in lessons from outside the sector.

3

### Undertake a systematic review of how skills are used now, and anticipated changes in skills/job requirements in the future

The lack of clarity about future skills needs requires urgent attention. The sector should consider an in-depth, quantified future skills pipeline mapping exercise, with particular focus on the projected impact of automation.

4

### Eating the elephant a mouthful at a time – focused best practice sharing and ‘sprints’

Instead of trying to address all skill issues at once, an initial collective focus on one area, such as skills supply, would be useful. The researchers uncovered a lot of examples of innovative/good practice within ports, and these need to be shared more widely.

5

### Investigate priority near-term skills gaps/shortages, including learning lessons from sectors

The sector should confirm the priority areas of concern and formulate a sector level response. A more nuanced understanding of issues around the quality and quantity of engineering apprenticeships is needed. The sector also needs to consider how its proposition compares with competing sectors for similar skills.

6

### Develop more proactive approaches to upskilling, reskilling and retraining the current workforce

A ‘just’ transition to future ports requires strategies and interventions that will ensure that the existing workforce, across ages and job roles, can play their full part.

7

### Working together to inform a better skills policy and funding landscape

The ports sector should improve its collective stance and advocacy on key skills policy areas, such as the Apprenticeship Levy.

8

### Developing the HR capability across the sector

There are good examples of HR professionals coming together now to share good practice and learnings. This should be increased, looking not only at workforce development tactics but also how HR insight and capability can be better built into corporate strategy.



## The Future Ports Workforce

### Next steps

The recommendations made in the Future Ports Workforce are comprehensive and, rightly given the importance of the subject, ask some fundamental questions of the ports sector itself as well as the wider skills and development infrastructure.

As the report notes in its first recommendation, clear sector level leadership is key. The Port Skills and Safety organisation has revitalised its skills focused strategic pillar, including diversity and inclusion, and is increasing its resourcing in this area. Given the underlying Port Skills and Safety remit and the renewed commitment to the workforce development agenda it is the right time to clearly establish Port Skills and Safety leadership on the issues and opportunities covered in the Future Ports Workforce.

The ports trade associations, the UK Major Ports Group and the British Ports Associations are committed to working with Port Skills and Safety on the skills agenda. All three organisations share a common vision of a vibrant, skilled and diverse workforce as a critical foundation of the future UK ports sector.

**Port Skills and Safety will be bringing forward their full skills strategy shortly. However, to maintain momentum a number of tangible priority activities have been identified to progress a number of the report's recommendations:**

- A 'Sprints' programme on key areas of workforce planning and development. These are envisaged to be one day events, using practices from innovation sectors focused on key workforce landscape dynamics. The aim is to uncover tangible, tactical quick-wins as well as longer term strategic requirements. The first one is anticipated to be on 'Supply' – building the local and national pipeline of talent, responding to Recommendation 4 (Eating the

elephant a mouthful at a time – focused best practice sharing and 'sprints');

- A 'HR masterclass' series. We aim to hold a series of practitioner-driven roundtable 'master classes' for HR professionals across the sector. The first event under development is "Driving progress on diversity – what's working, what's not" in conjunction the Maritime UK Diversity network. This responds to Recommendations 2 (More joint working within the ports and maritime sector to drive improvements in diversity) and 8 (Developing the HR capability across the sector).
- Sharing and learning with other sectors in coastal communities. We aim to hold a roundtable with the offshore energy sector to better understand approaches to workforce developments and investigate any common challenges and opportunities for growing talent supply and development in coastal communities. This responds to Recommendation 5 (Investigate priority near term skills gaps/shortages, including learning lessons from sectors).
- We will look to work with the Maritime Skills Commission to leverage broader activity in building a detailed understanding of the future skills needs of the ports sector. For example, we would look to be active participants in the Maritime Skills Commission's and quantitative 'future workforce pipeline modelling' project for maritime to ensure a robust ports outlook. This responds to Recommendation 3 (Undertake a systematic review of how skills are used now, and anticipated changes in skills/job requirements in the future).



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