

The logo for West Yorkshire Combined Authority features a large, stylized 'W' shape composed of three overlapping, curved segments in shades of teal and blue. The text 'West Yorkshire' is written in a large, bold, teal font, with 'Combined Authority' in a smaller, teal font below it.

**West  
Yorkshire**  
Combined  
Authority

**SKILLS OBSOLESCENCE: OVERVIEW OF KEY ISSUES  
EMPLOYMENT AND SKILLS PANEL, 11 SEPTEMBER 2018**

# Outline of the presentation

---

- The topic insight approach
- The background to the skills obsolescence issue
- The potential impact of automation
- The jobs / skills that are most and least susceptible to becoming obsolete
- The implications
- Potential responses
- Questions for the Panel

# The topic insight approach

---

- It has been agreed with the Chair of ESP that topic insight sessions should become a core element of future ESP meetings.
- These sessions will explore key issues facing the Leeds City Region, based on summary of the evidence and key issues.
- The aim is to identify practical responses that meet local needs, whether that be in the form of policies or solutions / services.
- Actions will be taken forward by time-bound task-and-finish groups comprised of nominated members of ESP supported by officers.
- This session focuses on the action that needs to be taken locally to address the issue of skills obsolescence.

# What do we mean by skills obsolescence?

---

- In this context we mean a reduction in demand for particular skills in the labour market, arising out of technological advances and associated changes to work organisation – i.e. robots / algorithms perform some or all of the tasks that are currently performed by a person in their job
- Obsolete skills can mean that a worker needs to reskill for an entirely new job or develop complementary skills to meet the changing demands of their existing job

# How is technology driving skills obsolescence?

---

- Computerisation has moved beyond routine tasks that are explicitly rule-based – we have already seen automation of routine manufacturing and administrative processes
- Advances in machine learning mean that non-routine cognitive tasks can now be computerised – algorithms draw on banks of big data as basis for sophisticated pattern recognition:
  - Applied in medical diagnosis, legal research, financial advice
- Advances in mobile robotics combined with machine learning mean improved sensing and dexterity and greater scope to automate manual tasks:
  - Service robots can perform tasks like vacuuming, mopping, lawn mowing
  - Autonomous manufacturing and distribution systems, manufacturing 4.0
  - Driverless cars
- But social intelligence, creativity and manual dexterity remain difficult to automate

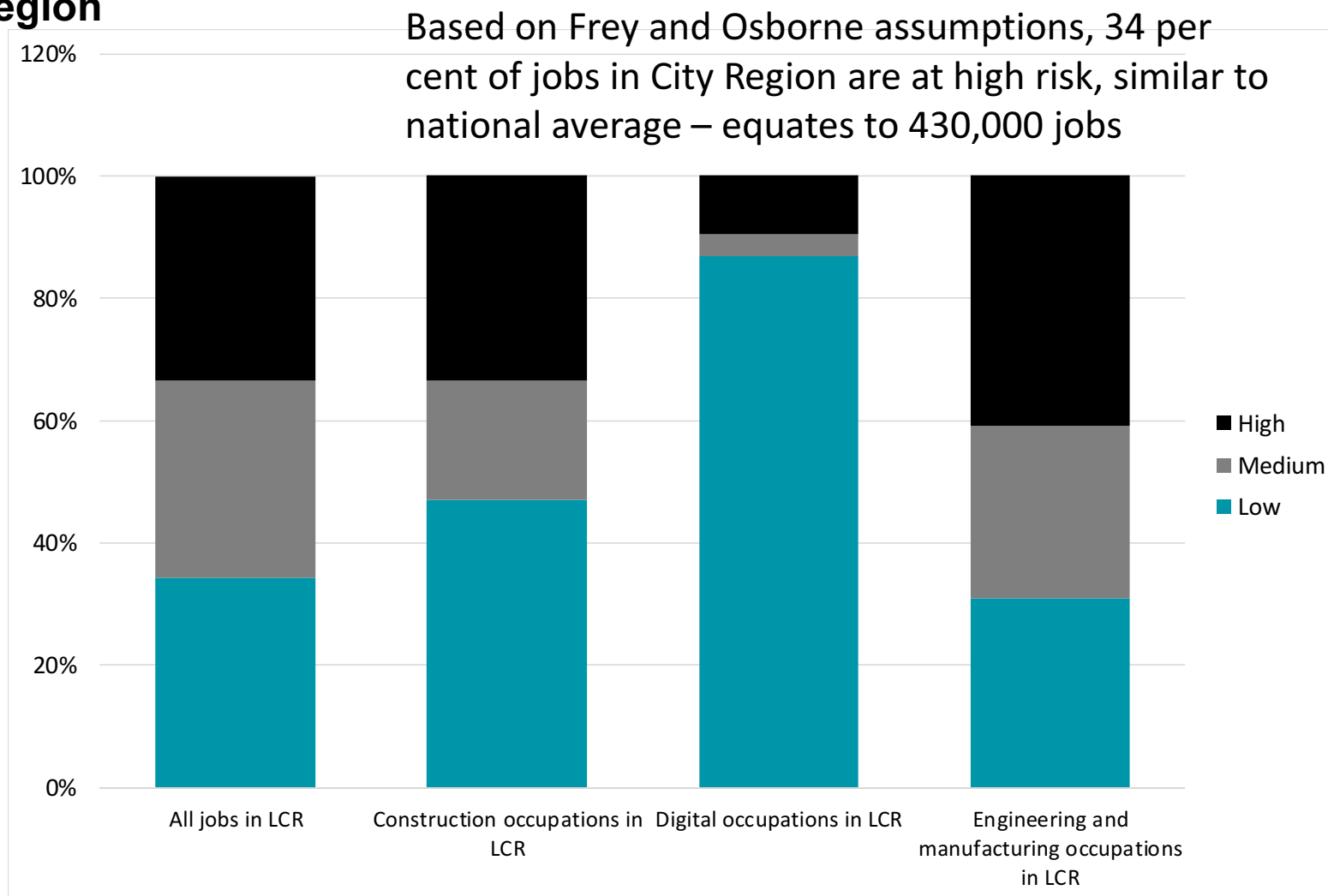
# What's the potential scale of impact of automation?

---

- Frey and Osborne estimate that 35 per cent of jobs in UK are at high risk of automation over next 20 years and this translates into 34 per cent of jobs in City Region, based on their assumptions
- According to McKinsey, up to 30 per cent of hours worked globally could be automated by 2030, with 7m FTEs displaced in UK
- But main impact of automation will be in shaping the range of tasks within jobs rather than displacing jobs completely :
  - In about 60 percent of occupations, at least one-third of the constituent activities could be automated
  - But only 5 per cent of occupations consist of activities that can be fully automated

# Priority skill areas have differing exposure to automation

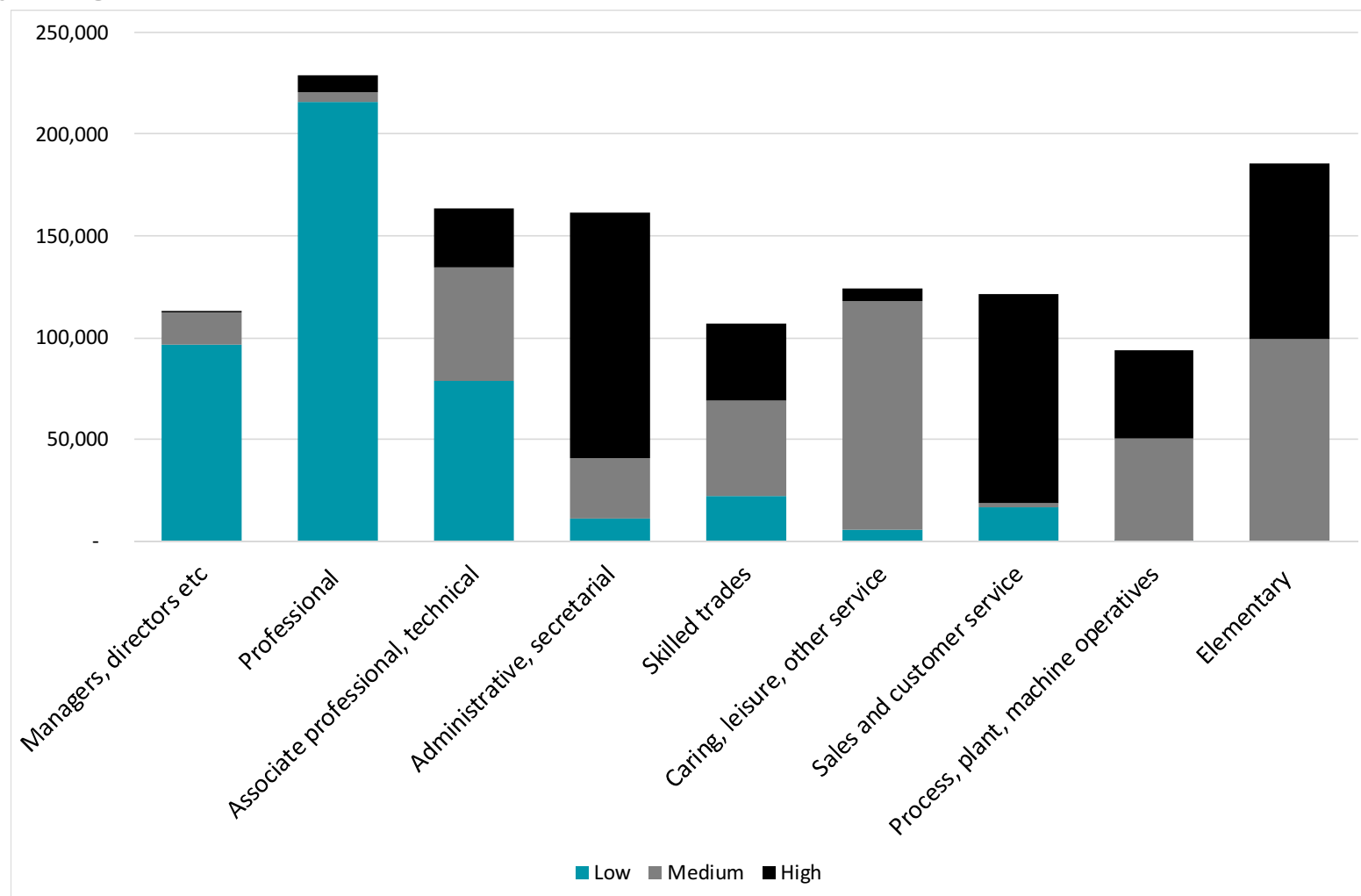
## % of employment at high risk of automation by priority skill area, Leeds City Region



Source: LEP estimates based on Frey and Osborne (2013) and EMSI

# Routine and lower-skilled occupations are at greatest risk of automation in City Region

% of employment at high risk of automation by occupational category, Leeds City Region

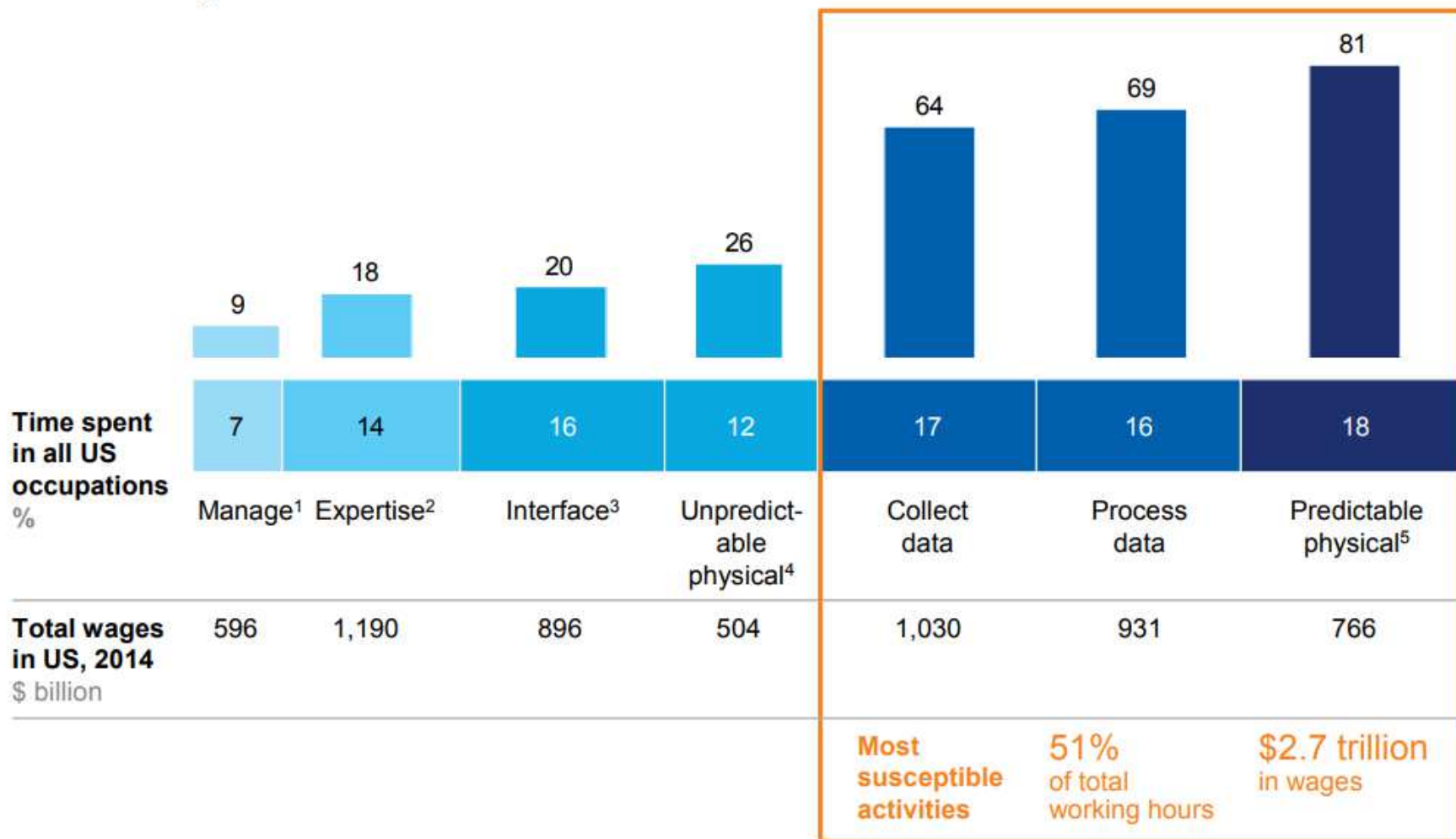


Source: LEP estimates based on Frey and Osborne (2013) and EMSI



Three categories of work activities have significantly higher technical automation potential

Time spent on activities that can be automated by adapting currently demonstrated technology  
%



*A future that works: Automation, employment, and productivity*, McKinsey Global Institute, 2017

# Which occupations are expected to continue to grow in spite of automation?

---

## Drivers

- Technology
- Globalisation and rising global incomes
- Demographic change, including population ageing
- Infrastructure investment
- Market for previously unpaid work



## Growth occupations

- Healthcare jobs at all levels
- Professionals, including engineers, scientists
- Managers
- Digital professionals
- Education professionals
- Creative occupations
- Construction occupations
- Manual and service jobs in unpredictable environments, such as home carers and gardeners

# Implications of automation

---

- Automation doesn't necessarily mean a net loss of jobs – could drive an increase in productivity that contributes to stronger growth in economy and job creation
- Will mean new kinds of jobs and new ways of working – people working in conjunction with machines
- Potential for negative impact on quality of work in some roles (digital Taylorism) but also less routine / dull work in others
- Could worsen inequality – lower paid workers likely to be particularly affected by automation and other groups, like older workers could suffer.

# How can we address the challenge through skills 1?

---

- Improve our understanding of the jobs / skills most susceptible to automation and the career opportunities most likely to offer sustainable employment in the future
- Influence school curriculum to ensure that it reflects emerging / future skill requirements and develops resilience and flexibility among young people
- Ensure that individuals (young people and adults) are aware of the challenge and the opportunities available so that they can plan for career change
- Provide access to finance to enable individuals to invest in skills for career adaptability
- Ensure that relevant learning provision is available to meet demand in areas of skills growth

# How can we address the challenge through skills 2?

---

- Develop learning culture within organisations: employers can re-skill existing staff for new roles rather than recruiting from outside
- Use technology to improve job matching in the labour market
- Implement careers / skills passports to support career mobility
- Improve availability of flexible delivery models to enable people in employment to access learning and use technology to enable individuals to become more effective learners (e.g. personalised content)
- Re-design jobs to improve their viability
- Build forecasting, workforce planning capability

# Levers currently available to us

---

- Enterprise in Education – raise awareness among young people of future demands of labour market
- Careers campaigns for adults
- Advanced Learner Loans – individuals receive loans to develop skills at level 3+
- Adult Education Budget – individuals can enrol at college or another provider to develop their skills – free up to level 2 and also free at level 3+ for the low-paid
- National Retraining Scheme – currently piloting approaches that can help adults to reskill
- ESIF projects e.g. [re]boot and Skills Service
- Apprenticeships – potential for employers to use to upskills / reskill existing employees
- Delivery agreements – shape mainstream provision to develop “future proof” skills

# Questions to inform the discussion

---

- How does this evidence chime with the experiences / views of panel members on this issue?
- What actions need to be taken locally, rather than nationally, in addressing this issue?
  - Do we need to influence national policymakers on any aspect e.g the need to raise the level of resources currently dedicated to this problem?
  - How can we best leverage national policy and resources to address this issue at the local level e.g. how will we ensure that we take on board and apply the lessons of the career learning pilot?
- What should be the role of our wider economic strategy in addressing this issue e.g. how can we grow the right kinds of jobs in the City Region that are resistant to obsolescence?
- How can we support the development of a lifelong learning culture that will provide the basis for investment in career learning? How can employers contribute to this? How do we ensure that our approach is inclusive?

**West  
Yorkshire**  
Combined  
Authority

