Empowering a Human-Centric Industry for the Twin Transitions

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- Project Up-skill
## Rationale

<table>
<thead>
<tr>
<th>CODE</th>
<th>CATEGORISATION</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>AAA</td>
<td>Full Automation</td>
<td>It is likely the job will ultimately cease to exist because it can be wholly automated, as and when equipment is available and becomes a cost-effective option</td>
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<tr>
<td>AAH</td>
<td>Irreducible Human Integration</td>
<td>Roles will be largely automated but require certain human intangible characteristics/intelligence/judgement which cannot be automated, and perhaps should not be automated</td>
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<tr>
<td>HAA</td>
<td>Strategic Human Integration</td>
<td>These are Industrial-scale products, but must retain a level of skilled craft to maintain the quality of product and desirability to consumers</td>
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<tr>
<td>HHA</td>
<td>Artisanal work Augmented with Technology</td>
<td>A skilled craft, often an isolated artisan who seeks to engage technology, where appropriate, to augment their craft and maximise its potential market value and deliver efficiency</td>
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</tbody>
</table>
Research and intervention

Ethnographic research sites

Germany: Webber

UK: FORD

Italy: Attolini, Molteni, Victoria Accordion, Pipe Savinelli, Aurora Penne.

SWE: ALFA, HEK - Ztift
Industry 4.0: Accelerative, escalatory.

- **Acceleration, escalation mind-set**
  - Workers need to be disciplined - prevented from interfering with production
  - Skilled workers create a ‘wage bill problem’
  - Skilled workers shortage
  - Giving workers a stronger voice is risky

- **Subsequent demand for technology -1**
  - Automation
  - Surveillance technologies
  - Data collection to facilitate manage and accelerate production
  - Augmentation and cooperative-robots as a step toward automation

- Government sides with industry choices
Industry 5.0: Sustainable, shared prosperity

**Sustainable, shared prosperity mind-set**

- Workers regarded as citizens - should have an agreed standard of living
- Skilled workers should be retained and supported
- Industrial work should be made more attractive and training expanded
- Workers must have a stronger collective voice - unions supported
- Government supports workers and science to drive shared prosperity and green solutions

**Subsequent demand for technology -2**

- Augmentation aimed at better quality work and products and giving workers more control
- Surveillance technologies not adopted
- Co-bots (whose bots?) - better to think about 'team bots, servant bots, helper bots'
- Data collection aimed at augmenting shop-floor decisions, supporting horizontal coordination and cooperation
- Data collection aimed at identifying and reducing carbon footprint not accelerating production
1\textsuperscript{st} September 2023 – 30\textsuperscript{th} August 2025

5 million Euros

Research sites in Sweden, UK, Italy, Germany
Mälardalens University (SWE), Anglia Ruskin University (UK), Lancaster University (UK) and University of Milan (IT)

website: upskill-horizon.eu