



Vit Janik – ESN Skills Engagement Lead

Understanding the Skill Requirements Across Your Organisation

Skills taxonomy

1. Knowledge

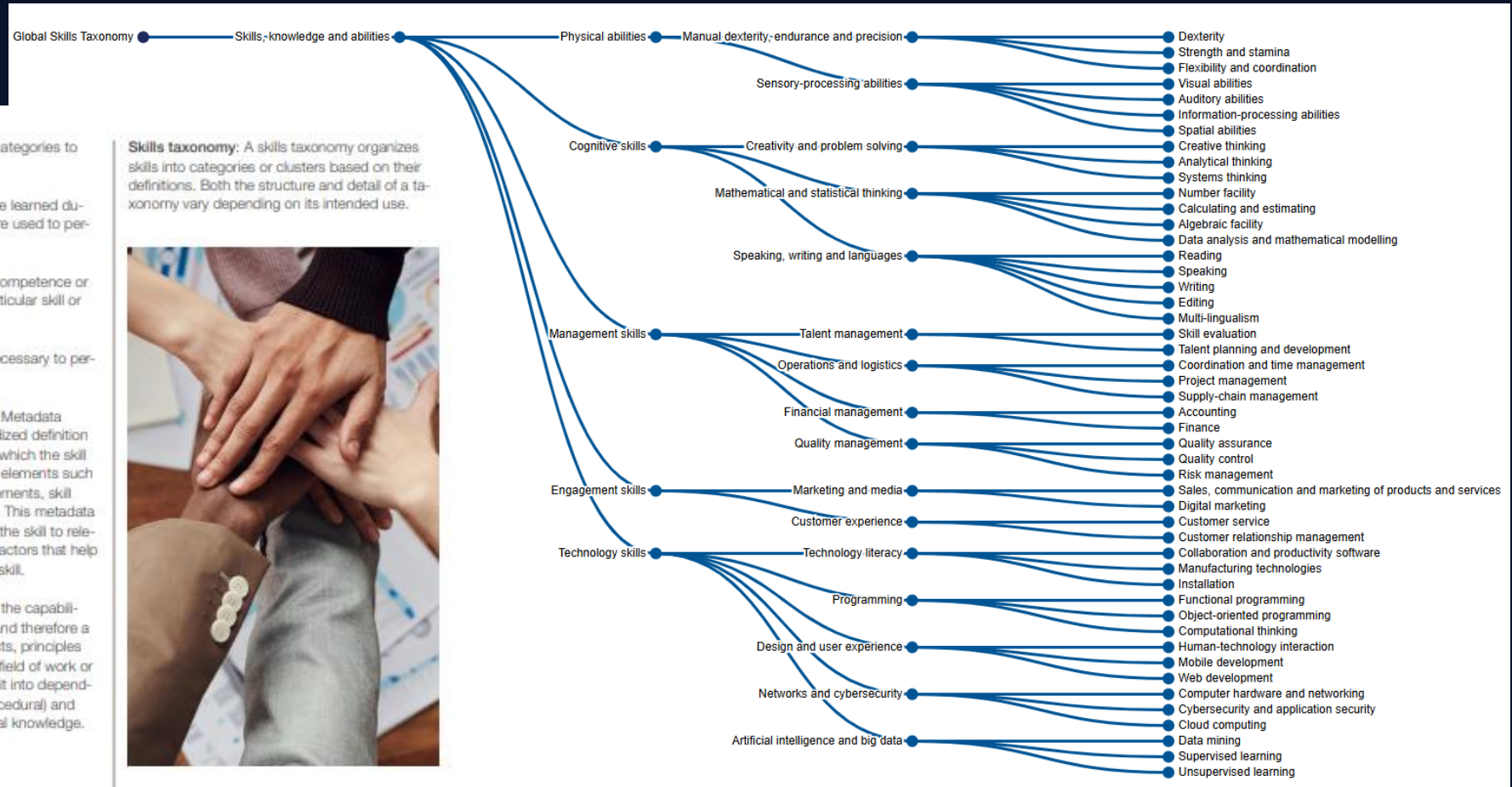
2. Skills

3. Abilities

4. Attitudes / Behaviours



WEF Global Skills



Abilities: Possession of the physical, psychomotor, cognitive and sensory means to perform a job.

Attitudes: Learned behaviours, emotional intelligence traits and beliefs that individuals exhibit that influence their approach to ideas, persons and situations.

Categorizations: Process of organizing items, concepts or data into distinct groups or classes based on shared characteristics or criteria. In the context of skills taxonomies, categorizations help structure skills into broader categories, making it easier to identify, classify, and manage different skill sets.

Competencies: Collection of skills, knowledge, attitudes and abilities that enable an individual to perform job roles.

Enabler: Factor or condition that facilitates the successful implementation or achievement of a particular goal, strategy or process. Enablers help ensure that objectives can be met effectively and sustainably.

Granularity: Level of detail or specificity in data or information. In a skills taxonomy, granularity indicates how finely or broadly skills are classified. A highly granular taxonomy provides detailed breakdowns of individual skills, while a

less granular one uses broader categories to group skills.

Preferred skills: Skills that can be learned during onboarding and training or are used to perform non-essential job duties.

Proficiency: Level of expertise, competence or mastery an individual has in a particular skill or area of knowledge.

Required skills: Skills that are necessary to perform essential job duties.

Rich Skills Descriptors (RSDs): Metadata package that provides a standardized definition of a skill, including the context in which the skill is applied. RSDs typically include elements such as a concise skill name, skill statements, skill categories and various metadata. This metadata often includes information linking the skill to relevant keywords, along with other factors that help contextualize and categorize the skill.

Skills and knowledge: Skills are the capabilities needed to complete a task, and therefore a job. Knowledge is the body of facts, principles and theories that are related to a field of work or study, and that can be further split into dependent knowledge (practical and procedural) and context-independent or theoretical knowledge.

Skills taxonomy: A skills taxonomy organizes skills into categories or clusters based on their definitions. Both the structure and detail of a taxonomy vary depending on its intended use.



Global perspective

1. USA O*NET – 35 distinct skills + 52 distinct abilities
2. WEF – 93 distinct skills
3. Singapore Skills Framework – 2,000 technical skills + competencies
4. EU ESCO – 13,939 skills + knowledge
5. UK SSC – Knowledge, skills, behaviours

[Skills & competences | European Skills, Competences, Qualifications and Occupations \(ESCO\)](#)

[WEF Reskilling Revolution 2030](#) [O*NET 29.1 Database at O*NET Resource Center](#)



Workforce Foresighting Cycle

1. Manufacturing Lithium Ion Cells in Large Scale Gigafactories
2. Assembling Lithium Battery Modules
3. Battery Recycling



Foresighting for battery manufacturing

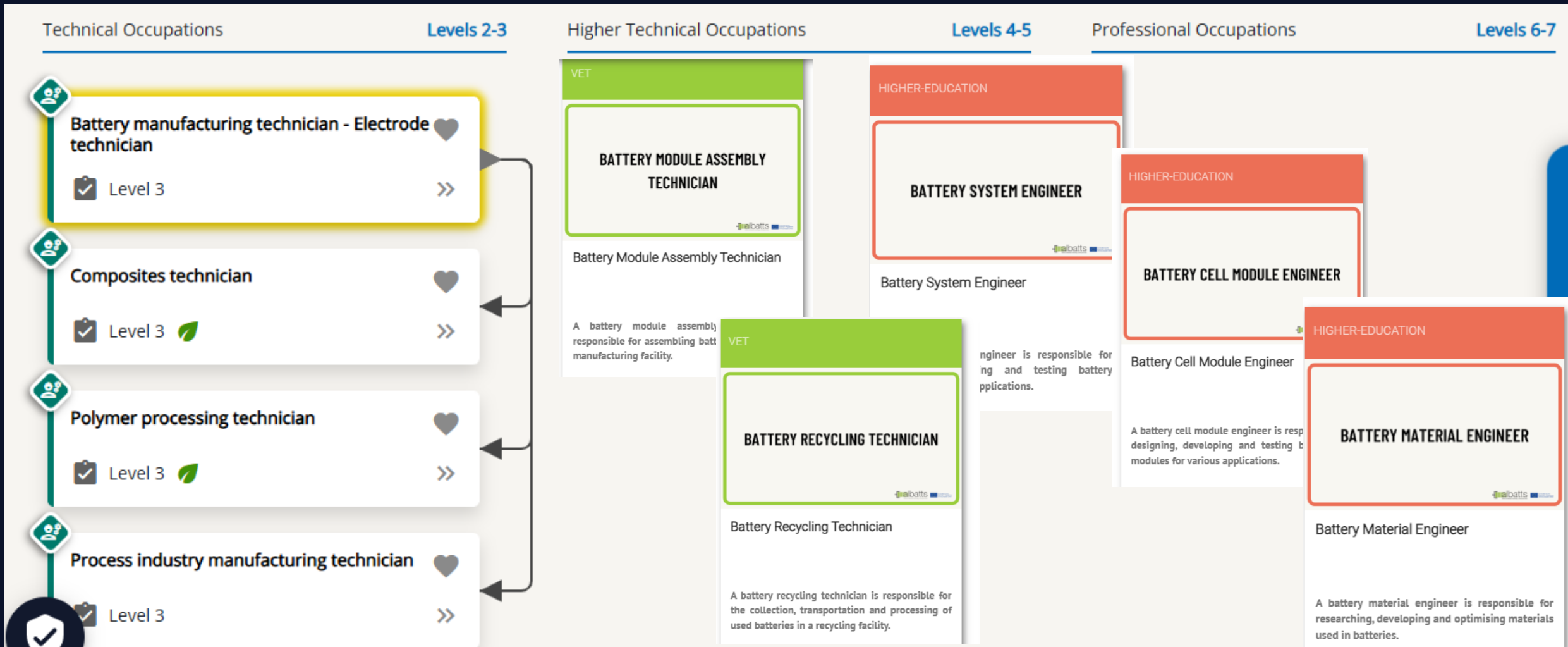
Expected Knowledge + Skills + Behaviours mapped against occupational standards

Skill gaps identified: ~70% of all job roles not matching current provision

- Logistics and Warehousing Manager
- Logistics Manager
- Operations Engineer
- Quality Control Manager Operations
- Warehouse Manager
- Quality Assurance and Validation Manager
- Data Scientist (analyst)
- Quality Control Operations Auditor
- Operations Manager
- Compliance and Regulatory Professionals
- Sustainability Officers
- Warehouse Operator
- Recycling Operator
- Quality Assurance and Validation Engineer
- Operations Senior Engineer
- Compliance and Environmental Auditor



Course and qualification development



Course and qualification development

Electrode Technician

Battery Fundamentals

In the area "Battery Manufacturing"

Level: Introduction

Focus: Theory

Activity: Populated

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Objectives

1. Understand battery functions, materials, classifications and capacity
2. Understand battery structures
3. Understand battery conditioning, charge cycles and configurations
4. Understand battery cell chemistry advantages and disadvantages
5. Understand different types of cells and their assemblies

Qualifications

- [Battery Manufacturing Technician](#)
- [Introduction to Battery Manufacturing and Working with Batteries](#)

Courses

- [Introduction to EV Propulsion - Batteries](#)
- [Introduction to Battery Manufacturing](#)
- [Introduction to Rechargeable Batteries](#)
- [Battery School](#)
- [Introduction to Electrochemistry](#)
- [Foundation in High Voltage \(HV\) Battery Assembly](#)



Course and qualification development

Electrode Technician

Electrode Manufacturing

In the area "Battery Manufacturing"

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Level: Technical

Focus: Theory and
Practical

Activity: Populated

Objectives

1. Know and understand key stages of the material preparation for the electrode manufacturing
2. Understand the specifics of the coating and drying technologies
3. Understand the calendaring process and its key parameters
4. Understand the electrode slitting and its key parameters
5. On the line inspection

Qualifications

- [Electrode technician](#)

Courses

- [Deep Dive - Electrode Manufacture](#)
- [Battery Electrode Manufacture](#)
- [Battery Materials](#)
- [Foundation in High Voltage \(HV\) Battery Assembly](#)



Course and qualification development

Battery Cell Module Engineer

Sustainable Battery Design

In the area "Battery Manufacturing"

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Level: Senior Technical

Focus: Theory and
Practical

Activity: Populated

Objectives

1. Understand the battery module and pack materials selection
2. Understand the specifics of battery design process
3. Know and understand the module and pack design strategies
4. Apply knowledge from power electronics and automatic control systems in BMS design
5. Utilise engineering software and tools

6. Understand sustainability in relation to battery module and pack design and manufacture
7. Understand the main components and organisation of a battery module and pack

Qualifications

- [Product design and development engineer](#)

Courses

- [Product Design and Development Engineer](#)
- [Electrochemistry and Battery Technologies](#)
- [Pack Engineering](#)





BATTERY MANUFACTURING SKILLS PATHWAY

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Faraday Battery Challenge



POWERING UP

Introducing the UK's first accredited battery training programme, where hands-on skills development meets cutting-edge immersive learning.

City & Guilds Accredited



5 core pillars

Expertise & Accreditation

Diversity & Inclusion

Innovation & Learning Approach

Impact & Career Readiness
/ Industry Alignment

Scalability & Flexibility



Advanced & Immersive Learning Approach

A blended learning model combining hands-on training, simulations, and industry-grade tools to develop real-world skills.



Birmingham B-MSP delivers hands-on, industry-aligned training that goes beyond theory. Through real-world simulations, cutting-edge digital learning, and access to industry-grade tools, trainees develop the practical skills they'll use from day one in the workplace. A blended learning model - combining classroom instruction, virtual experiences (VR/AR), and physical practice - ensures deep understanding and long-term competency.

Workforce-Ready

Bringing business and education together to create job-ready graduates with practical, in-demand skills.



Birmingham B-MSP brings business and education together in a way that delivers immediate value to both. Designed in direct partnership with industry, the programme ensures that trainees don't just learn about battery manufacturing - they train on the actual processes they'll use in the workplace. This collaborative approach means employers benefit from a workforce equipped with the right skills, while trainees develop the hands-on experience, confidence, and qualification needed to contribute from day one.

Certified & Powered by Industry

An accredited qualification, built with industry leaders, ensuring recognised, transferable skills.



Accredited by City & Guilds, Birmingham B-MSP provides a recognised and transferable qualification developed in collaboration with industry leaders. Partners such as University College Birmingham, Warwick Manufacturing Group, Cranfield University, Jaguar Land Rover, Microsoft, Atlas Copco, and Rockwell Automation have shaped the programme to meet real-world demands. Employers trust Birmingham B-MSP to deliver high-quality, validated skills training that supports workforce development and industry progression.

Flexible & Scalable

Customisable, adaptable training that meets the needs of both small teams and large-scale employers.



Birmingham B-MSP adapts to employer needs, offering customisable content, company-specific modules, and seamless integration with in-house training. Built for scalability, it supports both small teams and large-scale workforce rollouts. A structured core maintains a rigorous, accredited foundation while allowing industry partners to shape training to their processes and priorities, ensuring relevance at any scale.





Enrolment Open

Course Start Date: Available September onwards



SCAN ME

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Faraday Battery Challenge



**Innovate
UK**

THANK YOU



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