



# Introducing InnoEnergy Skills Institute

# Workforce transformation is a challenge



The transition to net zero will require retraining up to **18 million** workers around the world



Renewable energy sector employment will need to grow from 2020's 12 million figure to **38 million by 2030**



**800,000** workers will need to be retrained or upskilled by **2025** in EU battery sector



Between 2015 and 2030, the amount of solar PV jobs is expected to **quadruple**



In the battery workforce alone, more than **700 job roles** will come into play



The industry estimates that by 2025, this growing skills shortage could amount to some 800,000 jobs across the entire battery value chain.

We need to shift to training on the ground – and therefore, to roll out national reskilling and upskilling programmes across the Member States. [...]

To facilitate, **I have tasked EIT InnoEnergy** to team up with interested Member States to help them prepare their country-specific project proposals. InnoEnergy will soon launch a so-called **InnoEnergy Skills Institute**, developing curricula and training content based on the industry's skills.

EU Vice President, Maroš Šefčovič



## **We are transforming skills for a sustainable tomorrow**

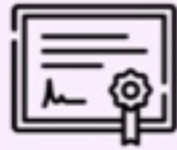
Our purpose is to equip the global workforce with the skills required to create a sustainable economy, distilling our unrivalled knowledge into know-how, through our effective and relevant modular training courses.

**Skills Institute's agility and expertise transforms today's skills into those needed for a sustainable tomorrow.**

# We are transforming skills for a sustainable tomorrow



**40,000+**  
workers  
trained and  
upskilled



**35+**  
certificates



**80+**  
courses and  
programs



**500+**  
lessons



**10**  
languages our  
training is  
available in

# Online learning library built to scale and adapt to the changing needs of global workforce

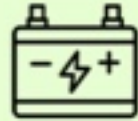
Core offering



Online/On-demand Learning Library

within courses of

Batteries



Hydrogen



PV



General



to acquire



Knowledge-based Certification

to provide solutions for



Direct to Industry



Governments

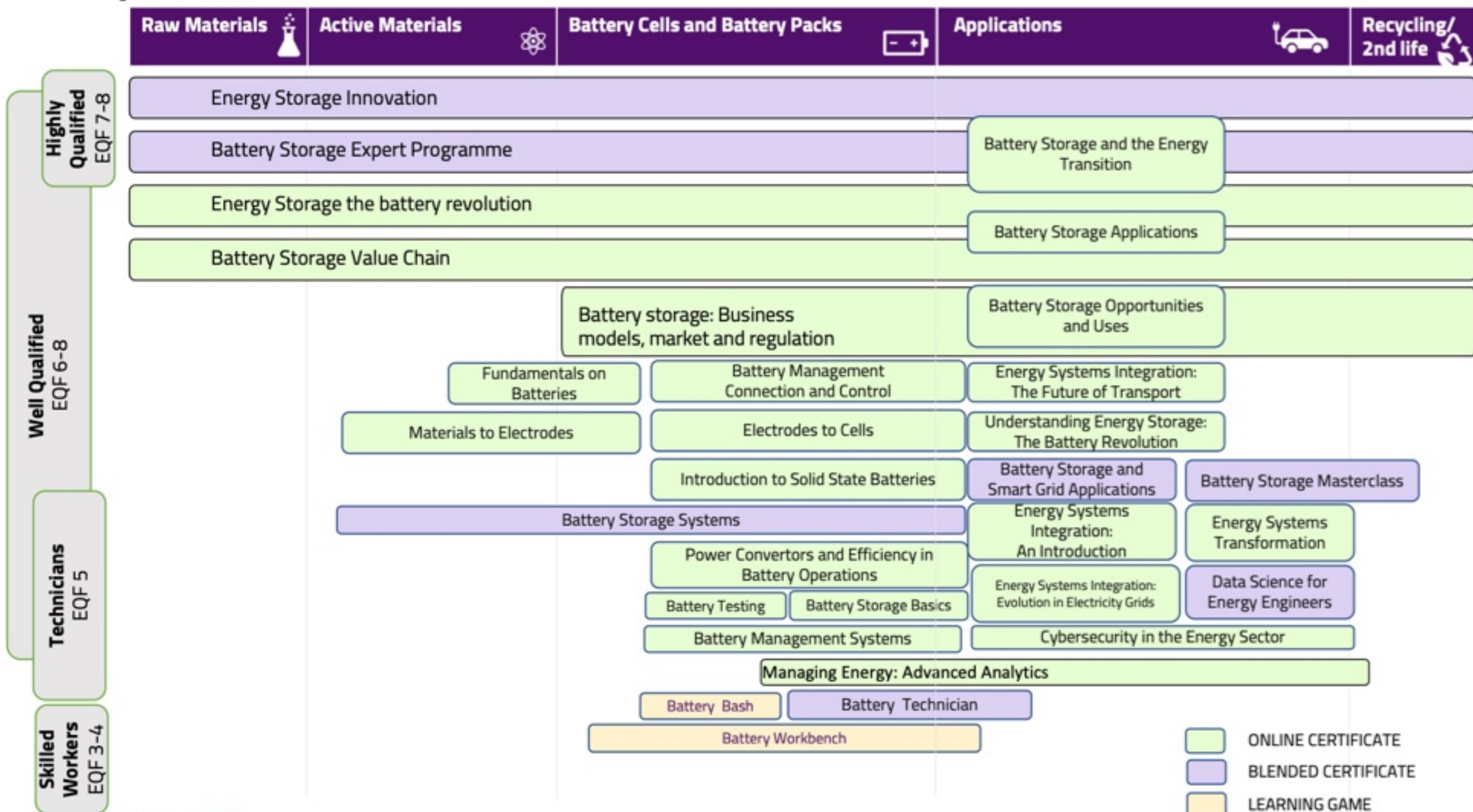





Distributors



Universities

# Current portfolio



-  ONLINE CERTIFICATE
-  BLENDED CERTIFICATE
-  LEARNING GAME

# InnoEnergy Skills Learning Packages

content overview

51 HOURS

91+51 HOURS

27+51 HOURS

169 HOURS

BASIC	PLUS	PRO	PREMIUM
Battery storage basics	Energy Storage: The battery revolution	Power Convertors and Efficiency in Battery Applications	All offerings from <b>Basic</b>
Fundamentals on Batteries	Battery Storage Applications	Battery testing	All offerings from <b>Plus</b>
Battery storage and the energy transition	Managing Energy Data: Advanced Analytics	Battery Management Systems	All offerings from <b>Pro</b>
Understanding energy storage: the battery revolution	Battery storage value chain	Battery management connection and control	
Energy Systems Integration: the future of transport	Cybersecurity in the energy sector	Electrodes to Cells	
Energy Systems Integration: evolution in electricity grids	Energy Systems Transformation	Materials to Electrodes	
Energy systems integration: an introduction	Battery storage: Business models, market and regulation	Solid-state batteries	
Battery storage opportunities and uses	+ offerings from <b>Basic</b>	+ offerings from <b>Basic</b>	



# InnoEnergy Skills Learning Packages

## mapping with job profiles after the training



### BASIC CONTENT HELPS TRAIN

- Assembly operator
- Automotive technician
- Battery lab technician
- Battery test technician
- Environmental technician
- EV Battery repair technician
- EV Diagnostics technician

### PREMIUM CONTENT HELPS TRAIN

- Application engineer - BESS
- Applications engineer - Battery systems
- Assembly manager
- Battery cell engineer
- Battery cell researcher
- Battery engineer
- Battery material engineer
- Battery systems engineer
- Engineering technician
- Process engineer - Battery systems
- Product manager - Battery systems
- Production engineer
- Production engineer - Battery systems
- Research engineer
- Sustainability manager
- Technical manager - Battery systems
- Technical product manager
- Technical product manager - Grid storage

### PLUS CONTENT HELPS TRAIN

- Automotive engineer
- Battery system consultant
- Business analyst
- Data analysis engineer
- Data analyst
- Data engineer
- Energy analyst
- Energy consultant
- Energy consultant - Battery systems
- Energy engineer
- Energy engineer - Battery systems
- Energy engineering technician
- Energy strategist
- Environmental analyst
- Environmental manager
- EV project engineer
- Innovation manager - Battery systems
- Logistics engineer
- Logistics manager
- Process technician - Battery systems
- Project engineer
- Sales engineer
- Smart meter engineer
- Supply chain coordinator
- Sustainability manager - Battery systems

### PRO CONTENT HELPS TRAIN

- Assembly engineer
- Battery Algorithms Engineer - BMS
- Battery analysis technician
- Battery maintenance technician
- Battery management system developer
- Battery management system engineer
- Battery Management System Engineer - EV battery packs
- Battery management systems technician
- Battery service technician
- Battery testing engineer
- Calibration technician
- Cell material engineer
- Cell testing engineer
- Control systems engineer
- Design engineer
- Electrical engineer - BMS
- Electrical/Mechanical test engineer
- EV battery maintenance manager
- Installation technician
- Integration technician
- Power electronics engineer
- Power electronics technician
- Process technician
- Quality control engineer - Battery materials
- Quality control engineer - Battery systems
- Quality control technician - Battery systems
- Test automation engineer - BMS

# Continuously evolving intelligence ecosystem

Since 2018, we have been building intelligence in the skills sector through continuous data aggregation from industry reports, job listings, business intelligence, and market trends. We continuously analyze, update, and expand skills, knowledge, and job roles lists across the value chain based on new data. We create skills matrices starting from battery cell manufacturing to map specific skills to job roles, enabling effective workforce planning.

**>600**

Analysis on more than 600 job roles across the value chain (white/blue collar)

**>700**

Analysis on more than 700 skills and knowledge requirements across the value chain (white/blue collar)

**Every 6 months**

Analysis of top skills and job roles per value chain step (updated every six months)

**2nd edition**

Second edition of employment growth analysis within a gigafactory

# Skills Intelligence Methodology

## Data capture and management

Reports and literature on job and skill needs

Job listings

Expert panels

Interaction with industry players and local training providers

Business intelligence and training demand

Interaction with relevant initiatives and projects

## Data analysis

Data processing and analysis

Software and tools

Skills and job roles analysis per step of the battery value chain

Data visualisation

Identification of certain market and technology trends

## Jobs & skills mapping

Skill trends along the value chain

Mapping skills and job roles per value chain step

Mapping skills to job roles

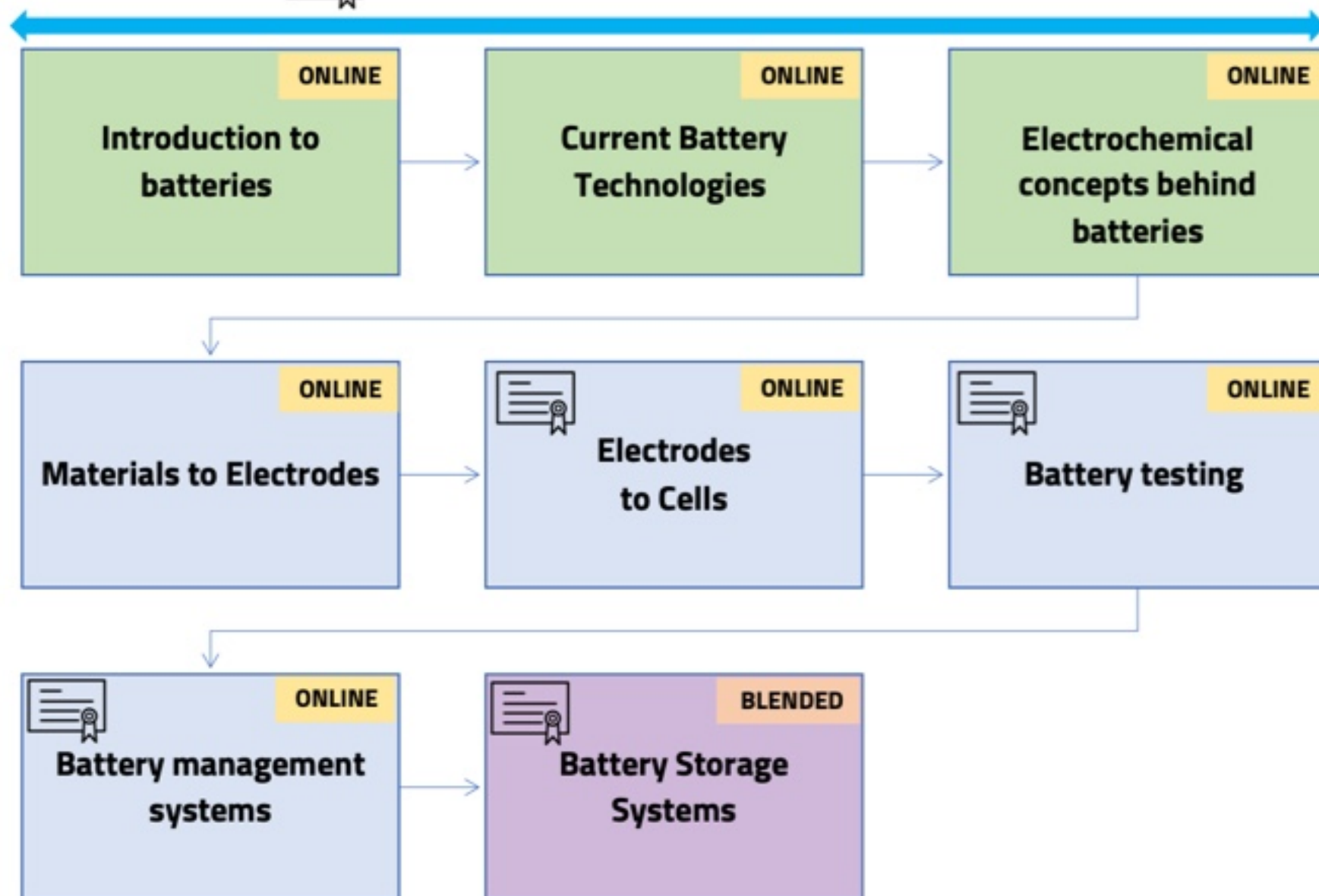




## Production Engineer: Sample Learning Pathway with our Current Content

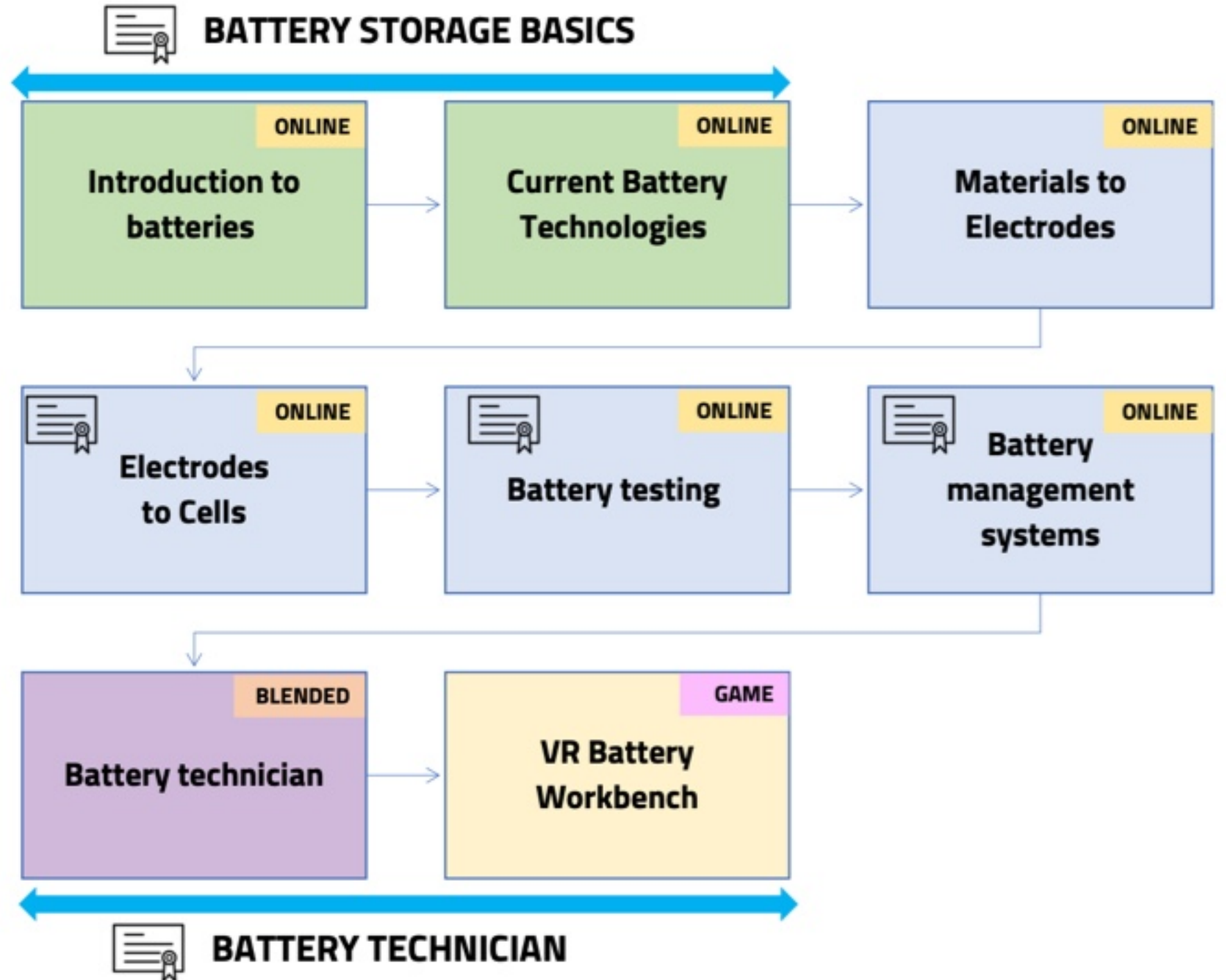


### FUNDAMENTALS ON BATTERIES





## Process Technician: Sample Learning Pathway with our Current Content



# Customized learning paths & custom content creation

Collaborate with us to create learning solutions that deliver cutting-edge learning experiences as well as measurable business impact. We will deliver them, end-to-end, seamlessly and at scale, wherever you are.

Our customization services:



**Custom  
Micro-  
credentials**



**Development of  
New Learner  
Personas**



**Learning  
Journey  
Mapping**



**Content  
Curation**



**New Content  
Curation and  
Creation**



**Dimitra Maleka**

[dimitra.maleka@innoenergy.com](mailto:dimitra.maleka@innoenergy.com)

InnoEnergy  
Skills Institute



Alliance for **B**atteries **T**echnology, **T**raining and **S**kills  
2019-2023

## **TRAINING CONCEPT AND PLANNING**

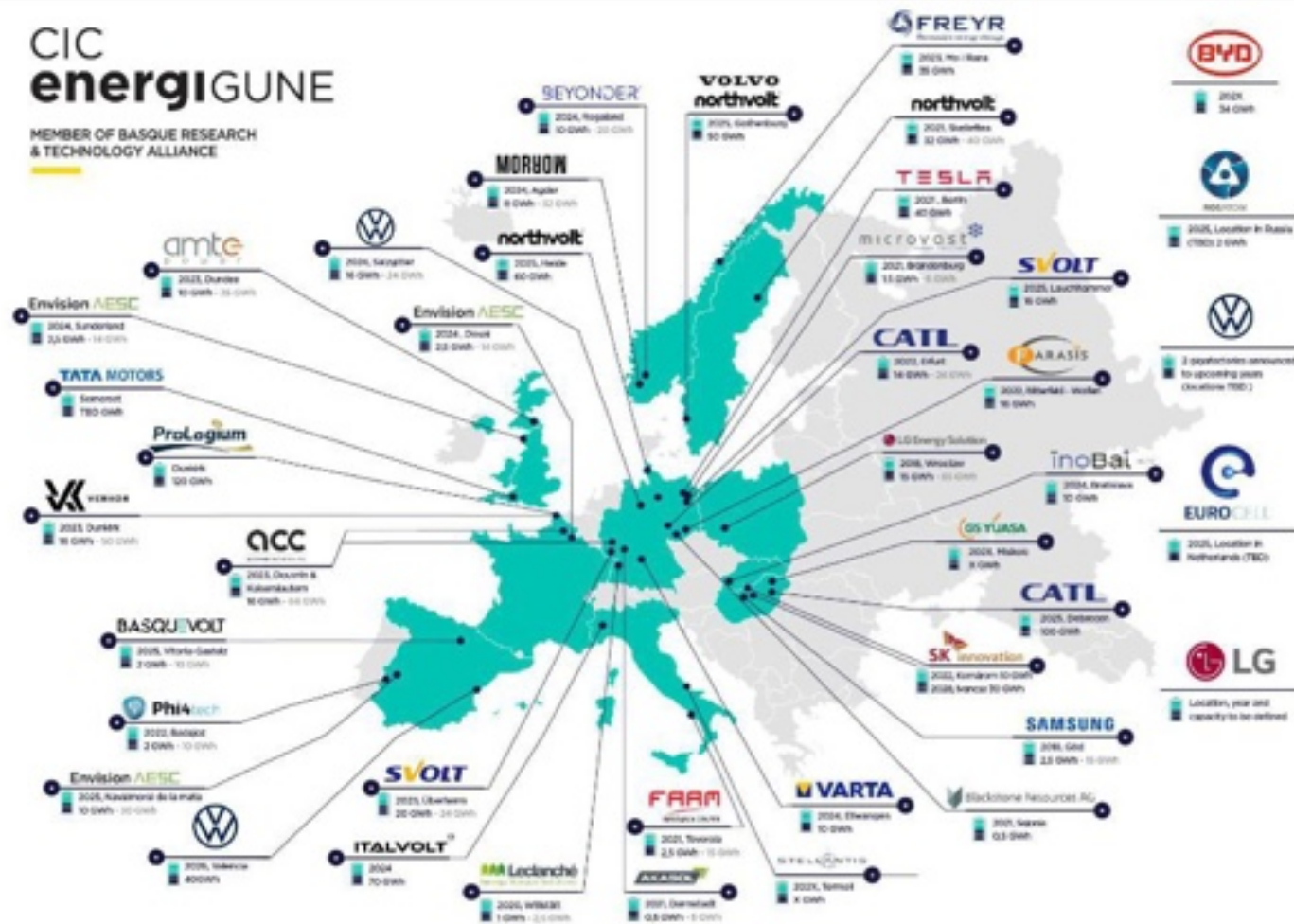
João Alves, WP6 co-Leader



# Battery Production in Europe



## EUROPEAN GIGAFACTORIES MAP



- ⚡ Electromobility is pushing the battery sector
- ⚡ This needs to be supported by the **workforce** with the **right competence**
- ⚡ Workforce needs to be **trained** properly

Source: Own elaboration from public information | Version 13, Last update: 05/2023



The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

# BATTERY CELL MANUFACTURERS

Battery projects as of July 2022

Published by **BATTERY-NEWS.DE**

NW: 125 GWh + X	SE: 110 GWh + X	LV: X GWh	DE: 493.6 GWh + X
<b>MORHOF</b> 2024, Agder 1,000 t/a	<b>northvolt</b> 2025 1,000 t/a	<b>Anodox</b> Energy Systems 202X, Germany 2024, Döbeln	<b>CALB</b> 202X, Germany 2024, Döbeln

# EQUIPMENT SUPPLIERS

Battery equipment

Poland: **REIFFER**

Sweden: **VACUUM**

Finland: **REIFFER**

Germany: **REIFFER**

# RECYCLING COMPANIES

LIB recycling projects EU: July 2022\*

Published by **BATTERY-NEWS.DE**

Corresponds to 100,000 t/a of installed and planned capacity

<b>Norway</b> Installed, Kristiansand 7,000 t/a	<b>Netherlands</b> Installed, Rotterdam 14,000 t/a	<b>Great Britain</b> Installed, Northfleet 10,000 t/a	<b>Belgium</b> Installed, Hoboken 7,000 t/a	<b>France</b> Installed, Saint Quentin 10,000 t/a	<b>Spain</b> Installed, Cubillos del Sil 8,000 t/a	<b>Sweden</b> Installed, Halmstad 10,000 t/a	<b>Finland</b> Installed, Nivala 4,000 t/a	<b>Germany</b> Installed, Krefeld 3,250 t/a	<b>Poland</b> Installed, Sukowice 20,000 t/a	<b>Italy</b> Installed, Scarmagno X t/a	<b>Switzerland</b> Installed, Wimmis 500 t/a	<b>Hungary</b> Installed, Szeged 25,000 t/a
---	--	---	---	---	--	--	--	---	--	---	--	---

Check [battery-atlas.eu](http://battery-atlas.eu) and coming **ALBATTs** reports

# MODULE AND PACK MANUFACTURERS

Battery system manufacturing

Published by **BATTERY-NEWS.DE**

SE: 100,000	LV: 100,000	FE: 100,000	DE: 100,000
<b>VALMET AUTOMOTIVE</b>	<b>VALMET AUTOMOTIVE</b>	<b>VALMET AUTOMOTIVE</b>	<b>VALMET AUTOMOTIVE</b>

# ACTIVE MATERIAL SUPPLIERS

Battery active materials (extract) as of June 2022

Published by **BATTERY-NEWS.DE**

NW: 172,000t	Vianade	NIKKELTEK	SE: 40,000t	2025, Borlänge
2025, Mo i Rana 30,000t LFP	2023, Porsgrunn 50,000t Graphite	2021, Kristiansand 92,000t Nickel sulfate	<b>northvolt</b>	Up to 40,000t* Cathode
Freyr	Freyr	Freyr	Freyr	Freyr

# BATTERY TEST CENTERS

Battery testing as of July 2022

Published by **BATTERY-NEWS.DE**

<b>Norway</b> IFE Halden	<b>Netherlands</b> DEKRA Arnhem, ENSCHEDÉ, SGS Spijkenisse	<b>Great Britain</b> UTAC Bedford, intertek Leatherhead, element MIRA Wednesbury	<b>France</b> FEV Saint Quentin en Yvelines, SERMA SERMA Bordeaux, Chambéry, Grenoble, Le Cheylas	<b>Spain</b> cidetec Tolosa, SERMA Valladolid	<b>Sweden</b> intertek SCANIA Stockholm Södertälje	<b>Poland</b> Warsaw	<b>Finland</b> VALMET AUTOMOTIVE Uusikaupunki	<b>Germany</b> TÜV Rheinland Aachen, ISP Salzburg, Fraunhofer Freiburg, FEV Sandersdorf-Brehna, SGS München, VDE Offenbach, voltaVision, TWAI, BU, Betzigau	<b>Austria</b> AIT, AVL, Graz	<b>Italy</b> Turin	<b>Switzerland</b> Biel/Bienne	<b>Other</b> BI SYSTEMS Aachen, kiwa Kaufbeuren, LAB CO Loxstedt-Stotel, CTC advanced Saarbrücken, bertrandt Stuttgart, MAGNA Sellauf, Hofer Nürtingen, VALMET AUTOMOTIVE Bad Friedrichshall, Wehrbrunn, Aschaffenburg, Hartberg
-----------------------------	---	---	--	--	---	-------------------------	--	--	----------------------------------	-----------------------	-----------------------------------	---

Source: [www.battery-atlas.eu](http://www.battery-atlas.eu); abstract, no claim of completeness

# ALBATTTS in a nutshell



## MISSION:

TO ENSURE THE FUTURE COMPETITIVENESS OF THE EUROPEAN BATTERY SECTOR THROUGH THE AVAILABILITY OF A HIGHLY SKILLED AND COMPETENT WORKFORCE

---

ALBATTTS is a project funded by the Erasmus+ Sector Skills Alliances Programme



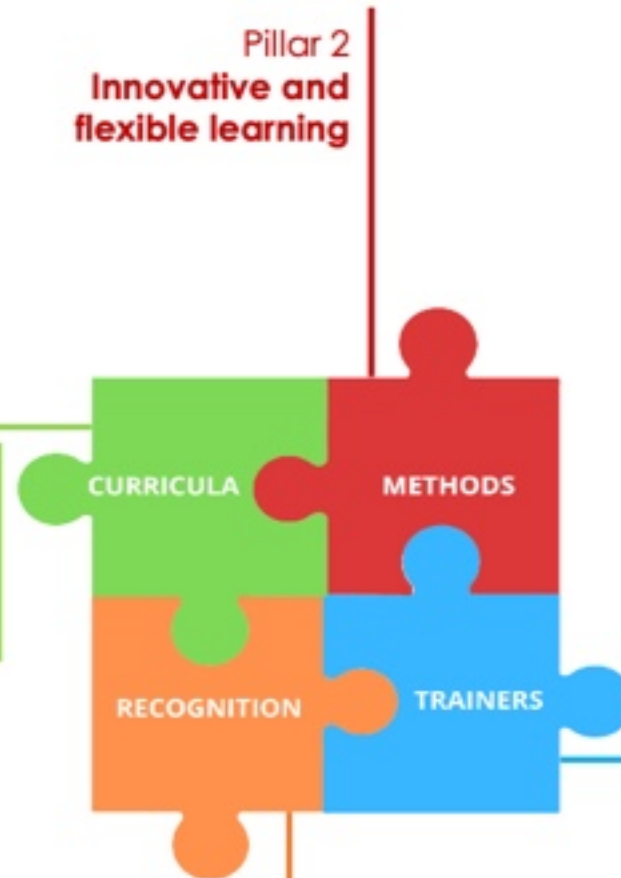
**COVERING THE WHOLE BATTERY VALUE CHAIN INCLUDING MOBILE AND STATIONARY APPLICATIONS**

# Education & Training Framework



## Pillar 1 Curricula for all levels

- EQF levels 3 to 8
- Learning outcomes approach
- Modular approach based on micro-learning
- Reference of transversal, cross-sectoral, sector-specific and occupation-specific skills



Pillar 2  
**Innovative and  
flexible learning**

Pillar 3  
**Competent trainers and tutors**

Pillar 4  
**EU wide recognition**

## Skills Cards

# Skills Cards



<https://www.project-albatts.eu/en/skillscards>



## BATTERY MANUFACTURING TECHNICIAN



A battery manufacturing technician is responsible for the production of batteries in a manufacturing facility.

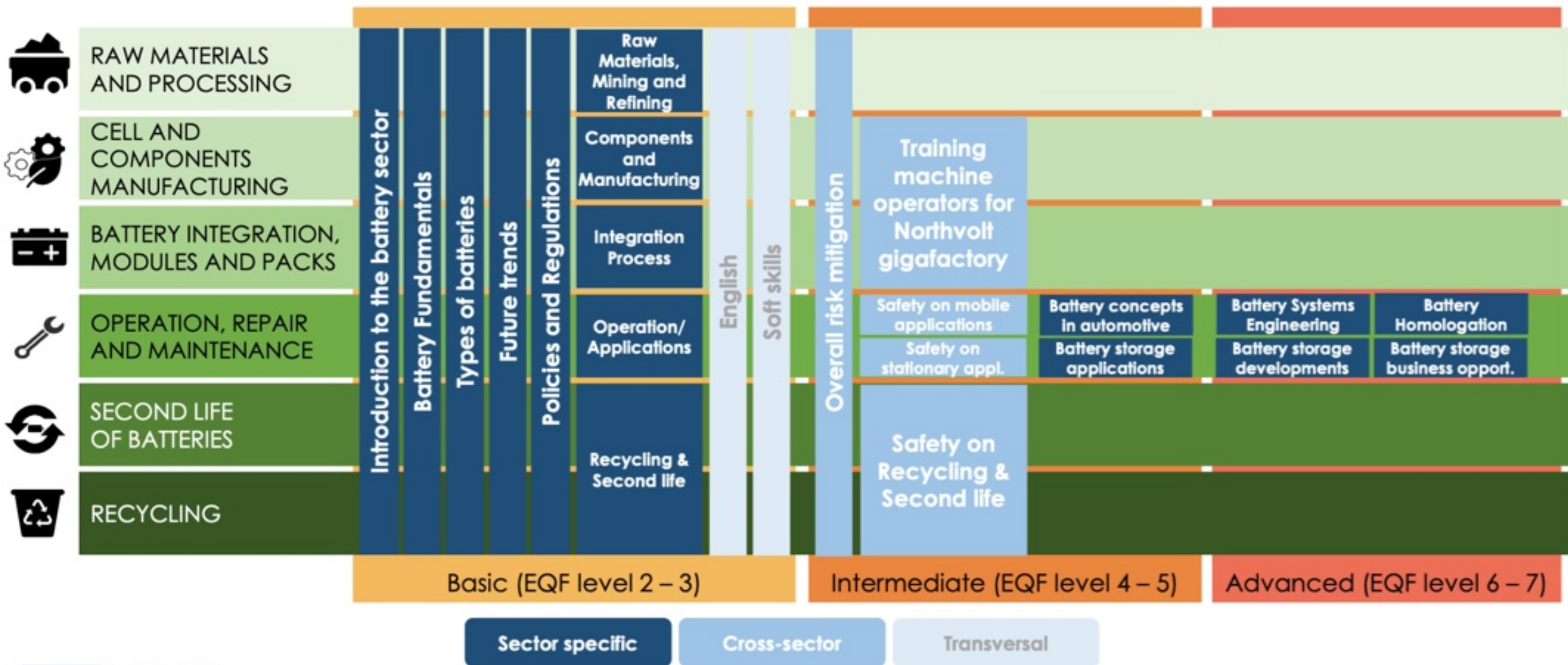


They work with a team of engineers and scientists to assemble, test, and package batteries for various applications such as electric vehicles, consumer electronics, and grid storage.



They are responsible for the assembly, testing and packaging of the battery cells, packs, and systems, ensuring that they meet the required quality standards and performance specifications.

# ALBATTTS Training Offer



# Education & Training Framework



## Pillar 1 Curricula for all levels

- EQF levels 3 to 8
- Learning outcomes approach
- Modular approach based on micro-learning
- Reference of transversal, cross-sectoral, sector-specific and occupation-specific skills

## Pillar 2 Innovative and flexible learning

- Inclusive training methods
- Training methods adapted to initial and up/re-skilling
- Work-based learning
- ICT based on open educational resources
- Adaptive learning solutions
- Joint educational programs, including transnational learning



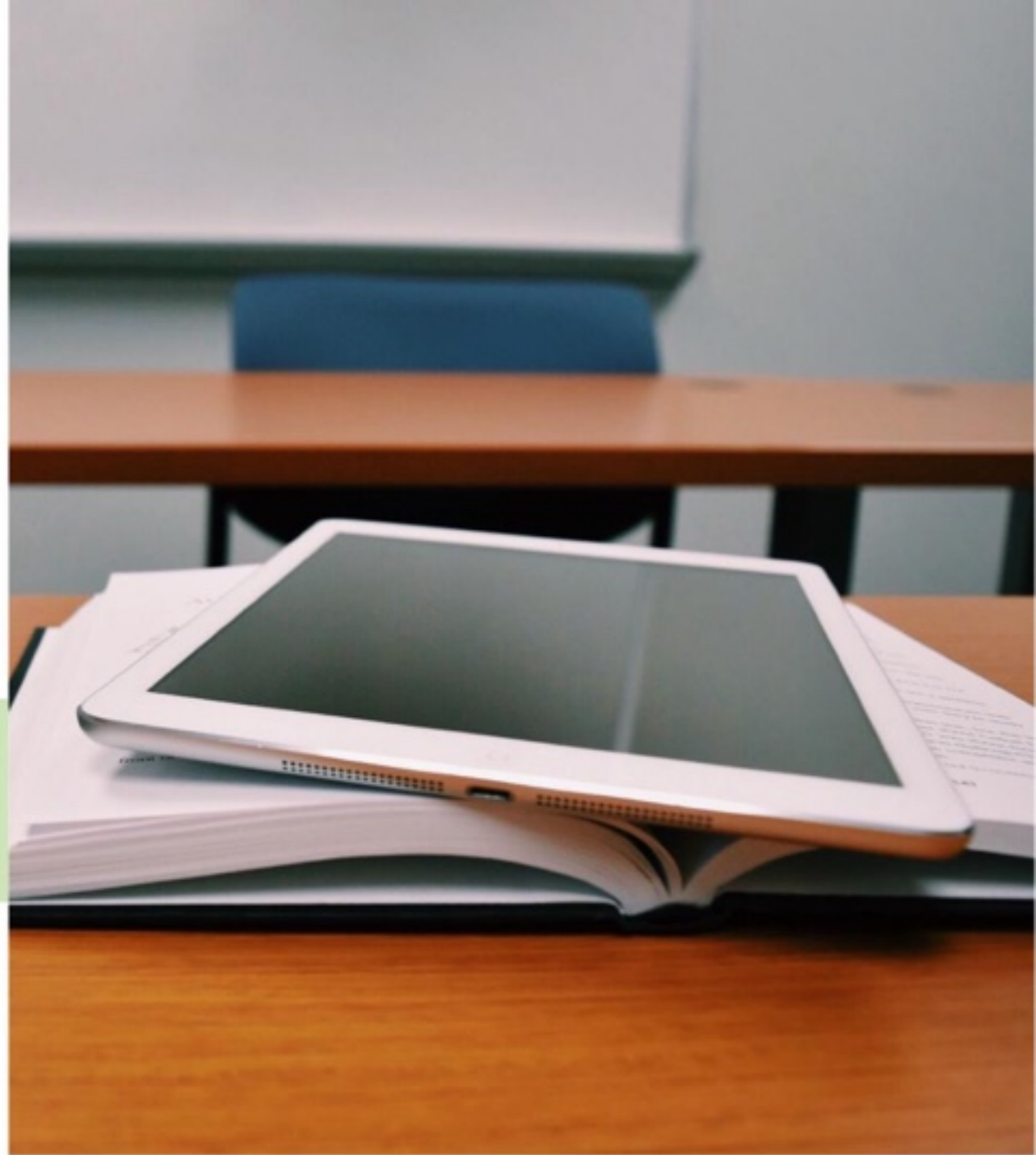
## Pillar 3 Competent trainers and tutors

## Pillar 4 EU wide recognition

# E-learning solutions

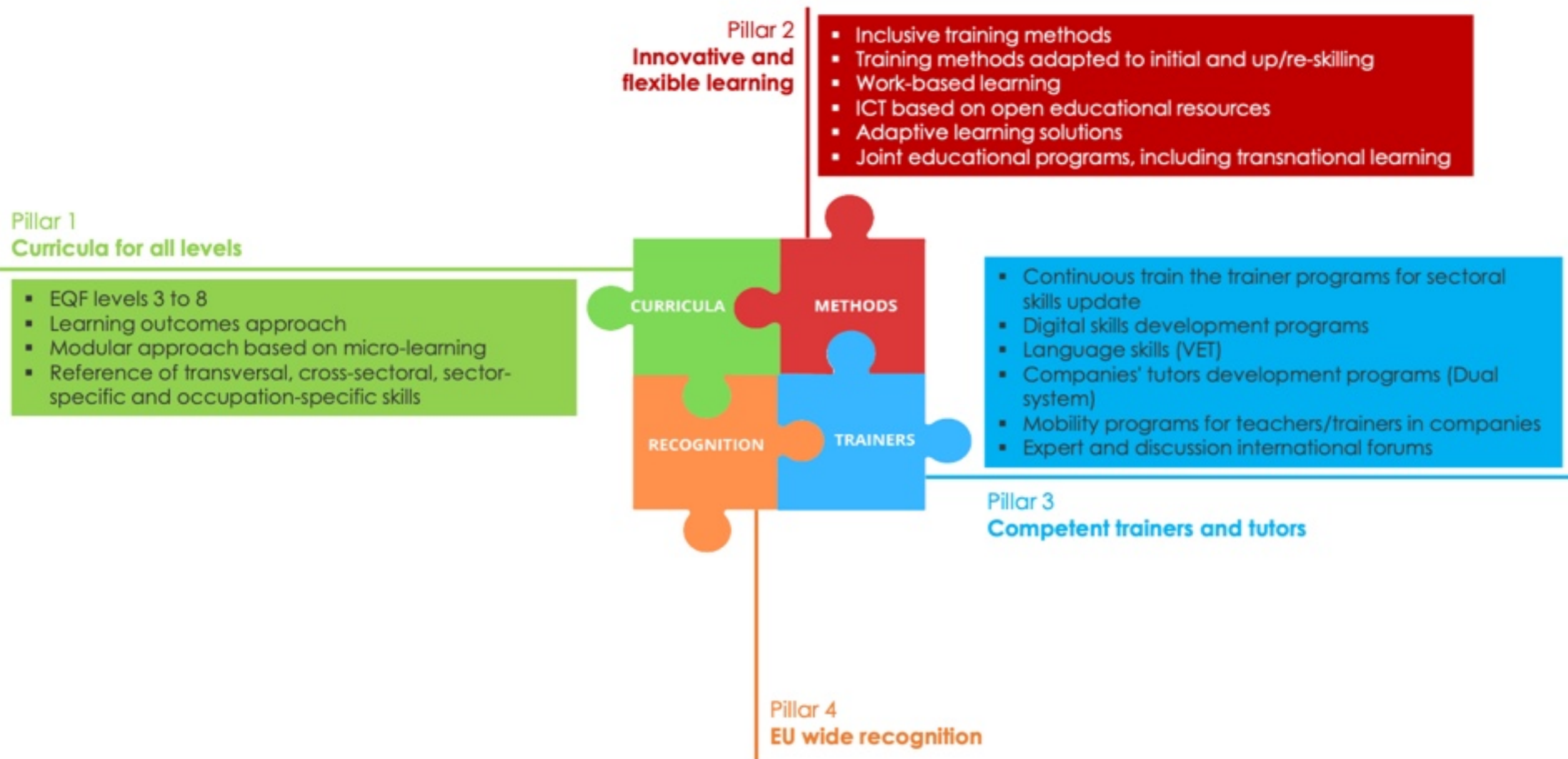
- MOOC
- Blended learning

To be available in the **Automotive Skills Alliance (ASA)** learning platform





# Education & Training Framework



# Building a teachers and trainers forum



# Batteries Teachers & Trainers Forum



Exchange good practices

Build networks

Peer learning

Contact with new technologies and technological development in the industry



## GOALS

Updated sectoral information

Build WBL network

Develop and share training material

Develop cooperation between higher education and VET

Build teachers' capacity to provide training within the battery sector

# Batteries Teachers & Trainers Forum



Teachers meeting 1-2 times a year in different locations in Europe

Mainly aimed at teachers in Vocational Education and Training



Each meeting is thematic (eg. Battery industry in general, Giga factories, Electromobility, Automotive)

Building an international online teachers forum where they can meet and exchange ideas

## CONCEPT

# Do you want to get involved?



Request to join!



# Education & Training Framework



## Pillar 1 Curricula for all levels

- EQF levels 3 to 8
- Learning outcomes approach
- Modular approach based on micro-learning
- Reference of transversal, cross-sectoral, sector-specific and occupation-specific skills

## Pillar 2 Innovative and flexible learning

- Inclusive training methods
- Training methods adapted to initial and up/re-skilling
- Work-based learning
- ICT based on open educational resources
- Adaptive learning solutions
- Joint educational programs, including transnational learning



- Continuous train the trainer programs for sectoral skills update
- Digital skills development programs
- Language skills (VET)
- Companies' tutors development programs (Dual system)
- Mobility programs for teachers/trainers in companies
- Expert and discussion international forums

## Pillar 3 Competent trainers and tutors

- Reference to other frameworks
- Micro-credentials / Digital badge
- Adapted to national and regional frameworks
- Validate and recognition of Competence
- Training recognition
- Sectoral Skills Strategy Alignment
- European Vocational Core Profiles

## Pillar 4 EU wide recognition

# Training recognition



The screenshot shows a web browser displaying the 'Learning Platform' website. The page is titled 'COURSES' and has a navigation menu with options: 'All', 'General', 'Production', 'Maintenance', 'Engineering R&D', and 'Battery Sector'. The 'Battery Sector' option is highlighted. Below the navigation, there is a grid of course cards. Each card features a header image, a title, and a 'Details' button. The visible course titles are: 'ALBATTIS - Integration Process', 'ALBATTIS - Manufacturing Processes', 'Battery Systems Engineer', 'ALBATTIS - Raw Materials, Mining and Refining', 'EU Policies and Regulations', 'Future Trends', 'Types of Batteries', and 'Battery Fundamentals'. The browser's address bar shows 'learn.asa-framework.eu'.

- Recognized by the sector
- Skills recognition through digital badges
- Skills aligned with European Frameworks (e.g. ESCO)

Training available on the **Automotive Skills Alliance (ASA)** learning platform

# Education & Training Framework



## Pillar 1 Curricula for all levels

- EQF levels 3 to 8
- Learning outcomes approach
- Modular approach based on micro-learning
- Reference of transversal, cross-sectoral, sector-specific and occupation-specific skills

## Pillar 2 Innovative and flexible learning

- Inclusive training methods
- Training methods adapted to initial and up/re-skilling
- Work-based learning
- ICT based on open educational resources
- Adaptive learning solutions
- Joint educational programs, including transnational learning



- Continuous train the trainer programs for sectoral skills update
- Digital skills development programs
- Language skills (VET)
- Companies' tutors development programs (Dual system)
- Mobility programs for teachers/trainers in companies
- Expert and discussion international forums

## Pillar 3 Competent trainers and tutors

- Reference to other frameworks
- Micro-credentials / Digital badge
- Adapted to national and regional frameworks
- Validate and recognition of Competence
- Training recognition
- Sectoral Skills Strategy Alignment
- European Vocational Core Profiles

## Pillar 4 EU wide recognition





# Thank you!



FOLLOW US / GET INVOLVED



[info@project-albatts.eu](mailto:info@project-albatts.eu)



<https://www.project-albatts.eu>



@ALBATTs – Alliance for Batteries Technology, Training and Skills



@ALBATTs1



@Project ALBATTs

JOIN OUR STAKEHOLDERS' DATABASE THROUGH OUR WEBSITE AND GET FIRST-HAND INFORMATION ABOUT OUR WORK!

NEW SKILLS

TRAINING

## Learning Platform – a framework for massive training

Marek Spányik, ASA / VSB-TUO / ALBATTTS WP Leader, [marek.spanyik@vsb.cz](mailto:marek.spanyik@vsb.cz)

2019-2023

TOWARDS A FUNCTIONING BATTERY ECOSYSTEM – BUILDING KNOWLEDGE AND REQUIRED SKILLS;  
27<sup>th</sup> June 2023; online – Sustainable Energy Week

# Need for Framework and Learning Environment



# Framework and Learning Environment



- ⚡ Training offer need to be provided via right and accessible technology
- ⚡ Learners are in the focus

- ⚡ One place for training offer
- ⚡ Accessible and available to the training providers

- ⚡ Mutual recognition of the concepts and achievements



# Framework and Learning Environment



Learning  
Platform

## [Learning platform \(learn.skills-framework.eu\)](https://learn.skills-framework.eu)

- Online platform for hosting online courses
- More than 40 online courses now and growing



Skills  
Framework

## [Skills framework \(www.skills-framework.eu\)](https://www.skills-framework.eu)

- One-stop shop database for training courses in the Automotive-mobility ecosystem
- Definition and recognition of job roles and skills/competence concepts using micro-badges.
- The training courses linked and advertised by providers according to coherent structure and mapping exercise
- More than 140 courses linked through the framework now



# Learning Platform



# Learning Platform



- ⚡ More than 40 courses available
- ⚡ Free and accessible **after registration**

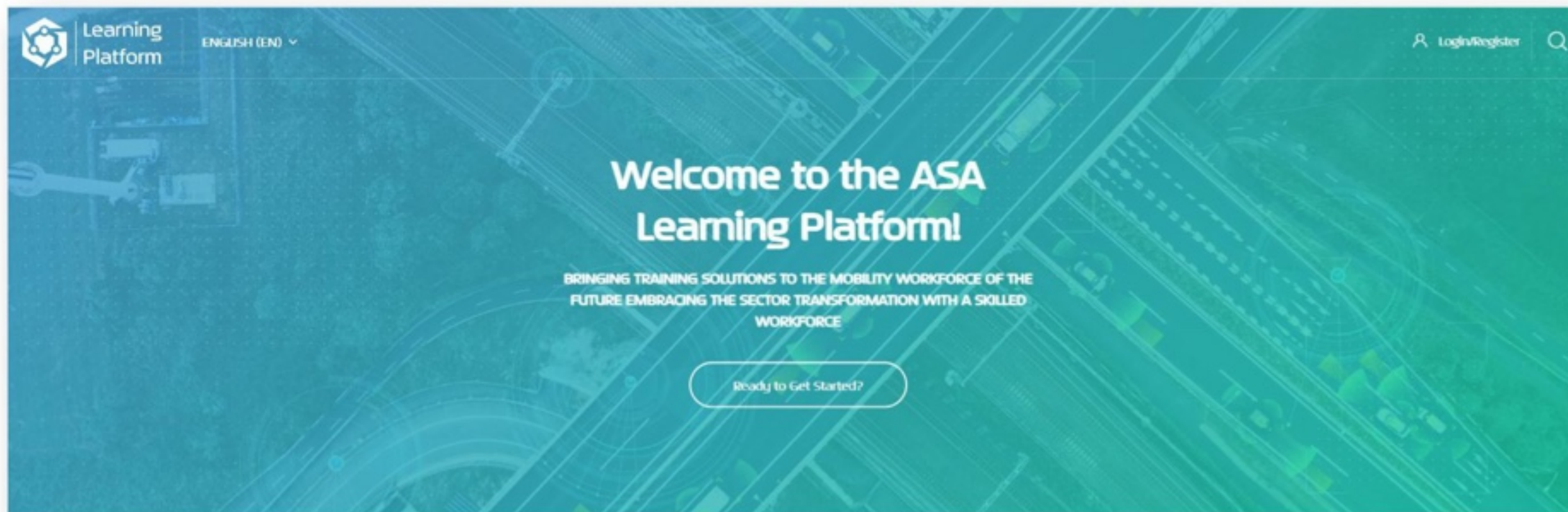
- ⚡ Automotive engineering, safety, batteries, six sigma and more
- ⚡ **Open to providers to host their course**

- ⚡ Collaboration with European Training Providers
- ⚡ InnoEnergy Skills Institute, E+ Projects, Industry, etc.

# Learning Platform



- ⚡ ALBATTIS courses are accessible there
- ⚡ Platform issues ASA micro-credentials – more on that later!





# Learning Platform



ENGLISH (EN) ▾

Login/Register

All General Production Maintenance Engineering R&D **Battery Sector**

<p>Integration Process Enter course</p> <p>ALBATTs</p> <p><b>ALBATTs - Integration Process</b></p> <table border="1"><tr><td>MOOC TYPE</td><td>-</td></tr><tr><td>DURATION</td><td>-</td></tr><tr><td>EN LANGUAGE</td><td>-</td></tr><tr><td>OUTCOME</td><td>-</td></tr></table> <p>8 5</p> <p>Details</p>	MOOC TYPE	-	DURATION	-	EN LANGUAGE	-	OUTCOME	-	<p>Manufacturing Process</p> <p>ALBATTs</p> <p><b>ALBATTs - Manufacturing Processes</b></p> <table border="1"><tr><td>MOOC TYPE</td><td>-</td></tr><tr><td>DURATION</td><td>-</td></tr><tr><td>EN LANGUAGE</td><td>-</td></tr><tr><td>OUTCOME</td><td>-</td></tr></table> <p>5 5</p> <p>Details</p>	MOOC TYPE	-	DURATION	-	EN LANGUAGE	-	OUTCOME	-	<p>Battery Systems Engineer</p> <p>ALBATTs ISCN</p> <p><b>Battery Systems Engineer</b></p> <table border="1"><tr><td>MOOC TYPE</td><td>12 h</td></tr><tr><td>DURATION</td><td>-</td></tr><tr><td>EN LANGUAGE</td><td>ASA Badges</td></tr><tr><td>OUTCOME</td><td>-</td></tr></table> <p>51 5</p> <p>Details</p>	MOOC TYPE	12 h	DURATION	-	EN LANGUAGE	ASA Badges	OUTCOME	-	<p>Raw Materials, Mining and Refining</p> <p>ALBATTs</p> <p><b>ALBATTs - Raw Materials, Mining and Refining</b></p> <table border="1"><tr><td>MOOC TYPE</td><td>-</td></tr><tr><td>DURATION</td><td>-</td></tr><tr><td>EN LANGUAGE</td><td>-</td></tr><tr><td>OUTCOME</td><td>-</td></tr></table> <p>6 5</p> <p>Details</p>	MOOC TYPE	-	DURATION	-	EN LANGUAGE	-	OUTCOME	-
MOOC TYPE	-																																		
DURATION	-																																		
EN LANGUAGE	-																																		
OUTCOME	-																																		
MOOC TYPE	-																																		
DURATION	-																																		
EN LANGUAGE	-																																		
OUTCOME	-																																		
MOOC TYPE	12 h																																		
DURATION	-																																		
EN LANGUAGE	ASA Badges																																		
OUTCOME	-																																		
MOOC TYPE	-																																		
DURATION	-																																		
EN LANGUAGE	-																																		
OUTCOME	-																																		

# Learning Platform – Example MOOC



**Login to your account**

spangit

••••••••••

Remember username [Forgot Password?](#)

**Log In**

cookies must be enabled in your browser ⓘ

Some courses may allow guest access

**Log in as a guest**

or



**Is this your first time here?**

For full access to this site, you first need to create an account.

**Create new account**



**Course Content** Course start date: 14/04/22 Category: Battery Sector

- Welcome ^
- Learning Outcomes ^
- 01 - History of Batteries ▾
  -  History of Batteries ☑
- 02 - Battery Value Chain ▾
  -  Battery value Chain ☑

# Learning Platform – Example MOOC



The image shows a screenshot of a MOOC course page. On the left, there is a circular image of orange and black cables. The main content area has a white background with the following elements:

- ## 011 History of Batteries
- [RESUME COURSE](#) (green button)
- 
- |  |                                     |
|--|-------------------------------------|
| <input checked="" type="checkbox"/> History of batteries | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Battery Inventions   | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Evaluation                      | <input type="checkbox"/>            |



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



# Skills Framework



# Skills Framework



⚡ One-stop shop **database for training courses** in the **automotive-mobility ecosystem**

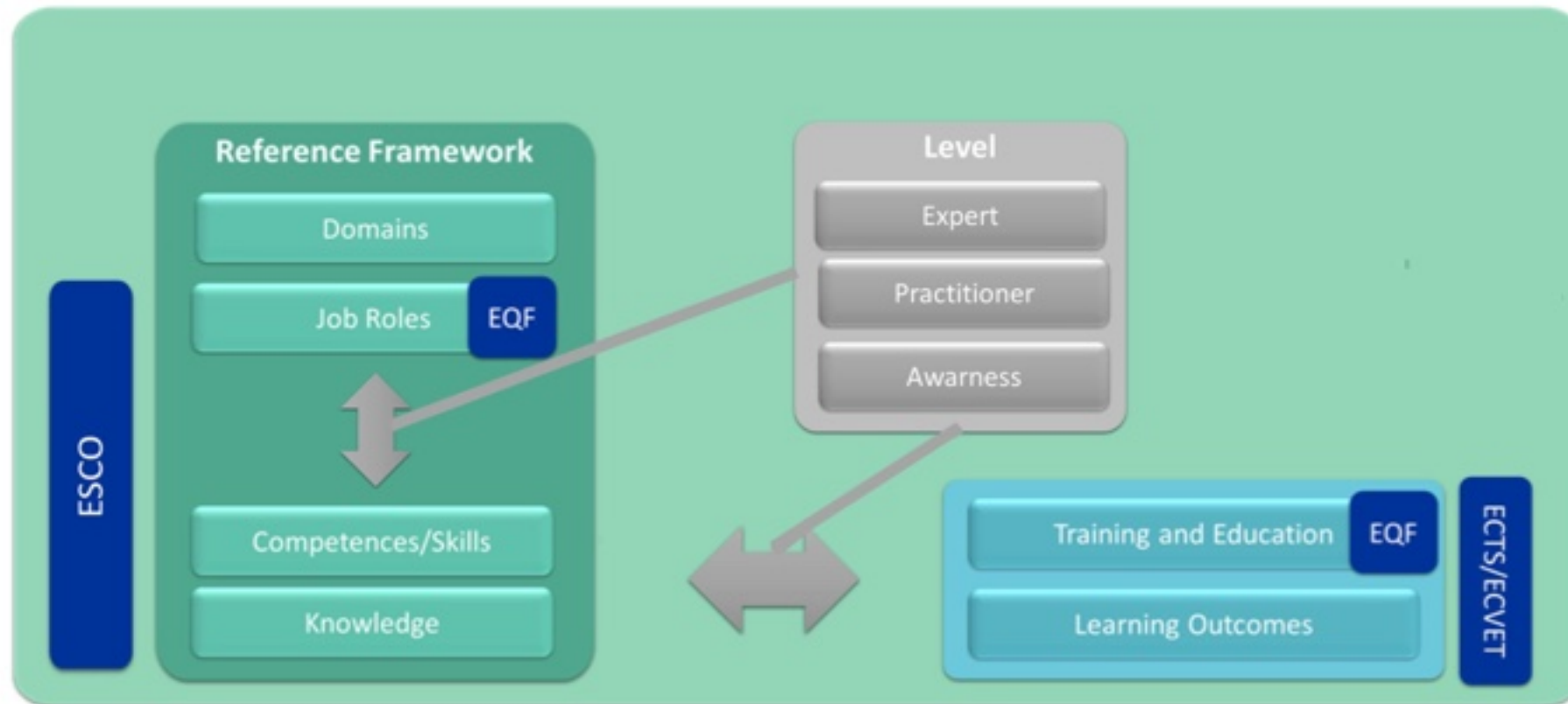
⚡ Definition and recognition of **job roles** and **skills/competence concepts** using **micro-credentials** (digital badges)

⚡ Training courses linked and **advertised by providers** according to **coherent structure** and **mapping exercise**

⚡ Builds on **existing schemes** and **accreditation bodies** (ESCO)

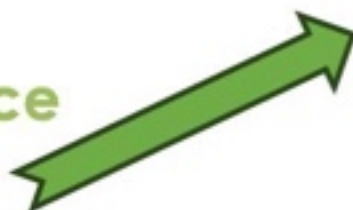
⚡ **More than 150+ courses** linked through the framework now

# Skills Framework



# Skills Framework - Concepts

Skills Intelligence



## BATTERY SYSTEM ENGINEER

**A battery system engineer is responsible for designing, developing, and testing battery systems for various applications.**

They work with a team of engineers and scientists to create efficient, safe and cost-effective energy storage solutions for electric vehicles, consumer electronics, grid storage and other applications.

They are responsible for the overall performance of the battery system, which includes the battery cells, control and management, electronics, thermal management and safety systems. They need to have a strong understanding of electrical engineering, materials science, and manufacturing processes, as well as experience with battery management systems, safety protocols and regulations. They also need to be familiar with simulation and modeling tools to predict the performance of the battery systems under different conditions.

Skills Card



Concept SF

### Advanced Powertrain Engineer

DRIVES Framework  
Initiative
DRIVES Project  
Working Group

The objective of an Advanced Powertrain Engineer is to develop highly efficient, sustainable and affordable electric, hybrid and fuel cell powertrains. He combines skills of mechanical and electrical engineers with tailored focus on specific automotive and environmental requirements. This starts with knowledge on key aspects of primary energy sources and extraction energy storage systems. An Advanced Powertrain Engineer masters complexity and diversity of operating powertrain concepts, recommends specific production solutions, together with their options and limits and maximizes their efficiency potential while minimizing emissions. Detailed expertise about structure, main operating principles and characteristics of electric and dual-fuel powertrain systems and their component design is needed. Furthermore, specific control understanding regarding all component interactions in specific operating modes ensures to set tomorrow's powertrain trends for sustainable mobility.

Training
Skills & Knowledge

Advanced Powertrain Engineer	91% <a href="#">Detail</a>
Effective Power Measurement of Controlled Powertrains	7% <a href="#">Detail</a>
Electric Vehicles	7% <a href="#">Detail</a>

ELECTRO-MECHANICAL ENGINEER    EV PROJECT MANAGER  
 MECHANICAL CELL DESIGN ENGINEER    BATTERY SYSTEM & TECHNOLOGY ENGINEER  
 MECHANICAL SUPERVISOR    PROJECT ENGINEER-CONTROLS    ELECTRONICS FOR MOBILITY  
 HIGH-VOLTAGE BATTERY DRE    SENIOR INTEGRATION ENGINEER    SYSTEM ENGINEER  
 LITHIUM ION CELL BATTERY SYSTEM ENGINEER    MECHANICAL BATTERY DESIGN ENGINEER  
 MECHANICAL ENGINEER    PRODUCTION BLOCK MANAGER    PRODUCTION ENGINEER  
 SENIOR ENGINEER-BATTERY MODELLING & ANALYSIS    APPLICATION ENGINEER  
 CELL TEST ENGINEER    ELECTRIC ENGINEER-FIRMWARE MANAGER  
 PRODUCTION MANAGER CELL ASSEMBLY    BATTERY SYSTEM ENGINEER  
**MOBILE HYDRAULICS-APPLICATION ENGINEER**  
 ELECTRICAL VEHICLE ENGINEER-CHARGING    BATTERY SYSTEMS MANAGER  
 BATTERY TECHNICAL LEAD    DESIGN ENGINEER-BATTERY TECHNOLOGY  
 MAINTENANCE ENGINEER    PRODUCTION MANAGER DOWNSTREAM  
 SENIOR SYSTEM DESIGN ENGINEER    SOFTWARE/MODELLING ENGINEER LEAD  
 PRODUCTION ENGINEER    MANUFACTURING ENGINEER    FORMATION MAINTENANCE MANAGER  
 CONTROLS ENGINEER    ELECTROMOBILITY PROJECT LEADER    POWER DISTRIBUTION ENGINEER  
 ELECTRICAL SYSTEM ENGINEER    SR. ELECTRONICS ENGINEERING TECHNICIAN

# Skills Framework – Training Offer



The screenshot shows the Skills Framework website interface. At the top, there is a navigation bar with the Skills Framework logo on the left and a menu with items: TRAINING COURSES, CONCEPTS, ADMIN, PROVIDER, EXPERT, CORPORATION, TOOLS, WIKI, and ABOUT. A user profile for "Marek Spányik" is visible on the right. Below the navigation bar is a search bar with the text "Search for Training Courses" and a search button. The main content area displays a grid of six training course cards. Each card includes an icon, duration, mode (Online or No Upcoming Date), title, provider, cost (Free), and a "Details" button. The courses are:

- Predictive Maintenance Expert DRIVES Project**: 48 h, Online, Free, #25 | C0
- Basics of Microelectronics**: 5 weeks / 5 h, Online, Free, #15 | C11
- Learning program - Introduction to Lithography - Exposure - part 3**: Online, Free, #8 | C3
- Sensor assessment applicable to the project IAL Innovazione Apprendimento Lavoro FVG**: 58 h, No Upcoming Date, Free, #7 | C2
- Electromagnetic Compatibility of Integrated Circuits**: 8 weeks / 10 h, Online, Free, #5 | C3
- Introduction to Power MOS-FETs**: Online, Free, #55 | C27

At the bottom of the grid, there is a pagination bar with numbers 1 through 10, where 1 is highlighted.



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



# Skills Framework – Training Offer



The screenshot shows the Skills Framework website's search interface for training courses. At the top, there is a navigation bar with links for TRAINING COURSES, CONCEPTS, ADMIN, PROVIDER, EXPERT, CORPORATION, TOOLS, WIKI, and ABOUT. A user profile for "Marik Spányik" is visible in the top right. Below the navigation bar is a search bar with the text "Search for Training Courses" and buttons for "Search" and "Filter".

On the left side, there are "Additional Options" and a "Search By Competence Level" dropdown menu set to "electric drives". A large green arrow points from this dropdown menu towards the search results.

The search results are displayed in a grid of course cards. Each card includes the provider logo, course title, duration, and a "Details" button. The courses shown are:

- educom**: E-learning - Introduction to electricity (Free, #2 | 0)
- educom**: Extension - HEV1-Reloaded - E-learning (Free, #16 | 0)
- BaTT**: BaTT Teachers and Trainers Forum - ŠKODA Auto (Free, #6 | 0)
- ECPE**: ECQA Certified Electric Powertrain Engineer (Free, #3 | 1)
- educom**: Depollution HEV ED1 - E-learning (75 €, #2 | 0)
- FH JOANNEUM**: Electric Vehicles (500 €, #5 | 0)

On the right side, there is a filter sidebar with dropdown menus for Sort, Provider, Delivery Method, and Country. Below these is a search filter for "electri" with a list of related terms: electric drives (checked), electric current, Electrical Components, electricity principles, and Electrical Energy Storage. At the bottom of the sidebar, there are sections for "Domains" and "Qualification".

# Skills Framework – Linkage



## ECQA Certified Electric Powertrain Engineer

#4 | 1

Enroll

VSB-TUO Provider	40 h Duration	- ECF
Svatopluk Stolfa Contact Person	Free Price (€)	- ECTS Credits
- Target Group	None Training Proof	- ECVET Credits



One of the main technological challenges forced by CO2 reduction regulations in the automotive sector nowadays is the need to develop and implement efficient electric powertrains. To be able to cope with this change and be able to propose innovative solutions, engineers must be able to understand the domain-specific knowledge. In this 5 days training course the attendees get introduced to the different architectural concepts of electric powertrains. The participants will participate actively be involved in case studies and elaborate on the concepts of an electric powertrain architecture. The approach of „Learning by Doing“ is used to elaborate different forms of electric powertrains, analyze advantages and disadvantages, do a safety analysis and elaborate questions concerned with motor control.

Delivery Method Skills & Knowledge Job Roles

Lean Six Sigma Black Belt	3%	Detail
e-Powertrain Engineer	95%	Detail
Automotive Engineer	6%	Detail



# Skills Framework – Micro-credentials



## ECQA Certified Electric Powertrain Engineer

#4 | 1

Enroll

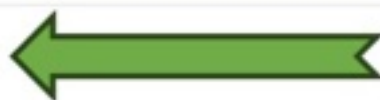
VSB-TUO Provider	40 h Duration	- EGF
Svatopluk Stolfa Contact Person	Free Price (€)	- ECTS Credits
- Target Group	None Training Proof	- ECVET Credits



One of the main technological challenges forced by CO2 reduction regulations in the automotive sector nowadays is the need to develop and implement efficient electric powertrains. To be able to cope with this change and be able to propose innovative solutions, engineers must be able to understand the domain-specific knowledge. In this 5 days training course the attendees get introduced to the different architectural concepts of electric powertrains. The participants will participate actively be involved in case studies and elaborate on the concepts of an electric powertrain architecture. The approach of „Learning by Doing“ is used to elaborate different forms of electric powertrains, analyze advantages and disadvantages, do a safety analysis and elaborate questions concerned with motor control.

Delivery Method Skills & Knowledge Job Roles

Lean Six Sigma Black Belt	3%	<a href="#">Detail</a>
e-Powertrain Engineer	95%	<a href="#">Detail</a>
Automotive Engineer	6%	<a href="#">Detail</a>





# Skills Framework

## Digital Badges



# Skills Framework – Micro-credentials

- ⚡ **Digital Badge** is proven and recognized **achievement of Competence(skill) and its level**
  - ⚡ E.g. Artificial Intelligence – level Expert
- ⚡ **Digital Badge is parallel to existing certificates**
- ⚡ **Trainee** after successful training **receives DRIVES Digital Badge for Competence(skill) and its levels achieved**
  - ⚡ Could see it in the system, share to social networks, etc.
- ⚡ **Training organization** with its training courses plugged-in Skills Framework **register trainees to the system** to be able to receive Digital Badge

# Skills Framework – Micro-credentials



- ⚡ **Trainee based on successful completion of training course receives the Digital Badge for all competences/skills (on defined levels) linked to the training.**
- ⚡ **Recognition criteria** influence the type of the badge
- ⚡ [Example](#)
- ⚡ **Badge provides a flexible way to recognize learning** wherever it happens, in and out of formal education and the workplace. They can represent any achievement from simple participation to evidence-backed competency development

# Skills Framework – Micro-credentials





Get in touch with us regarding the  
learning environment!



# Do you want to know more?



Is your **region** or **city** working or planning to start activities in the battery value chain?

Are you already or looking for a **career** within the development, production or handling of energy storage?

## CHECK WEBSITE RESULTS PAGE OR CONTACT US!

### SECTORAL SKILLS STRATEGY FOR THE EUROPEAN BATTERY SECTOR

RELEASE 1  
D3.6



D3.6 Analysis of Sectoral Intelligence - Release 1

### RECOMMENDATIONS FOR THE EUROPEAN BATTERY SECTOR

RELEASE 1  
D3.6



D3.6 Analysis of Sectoral Intelligence - Release 1

### INTELLIGENCE IN BATTERY MANUFACTURING AND BATTERY TECHNOLOGY

RELEASE 2  
D3.7



D3.7 Desk Research & Data Analysis - Release 2



[info@project-albatts.eu](mailto:info@project-albatts.eu)



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

# Thank you!



FOLLOW US / GET INVOLVED



info@project-albatts.eu



<https://www.project-albatts.eu>



@ALBATTs – Alliance for Batteries Technology,  
Training and Skills



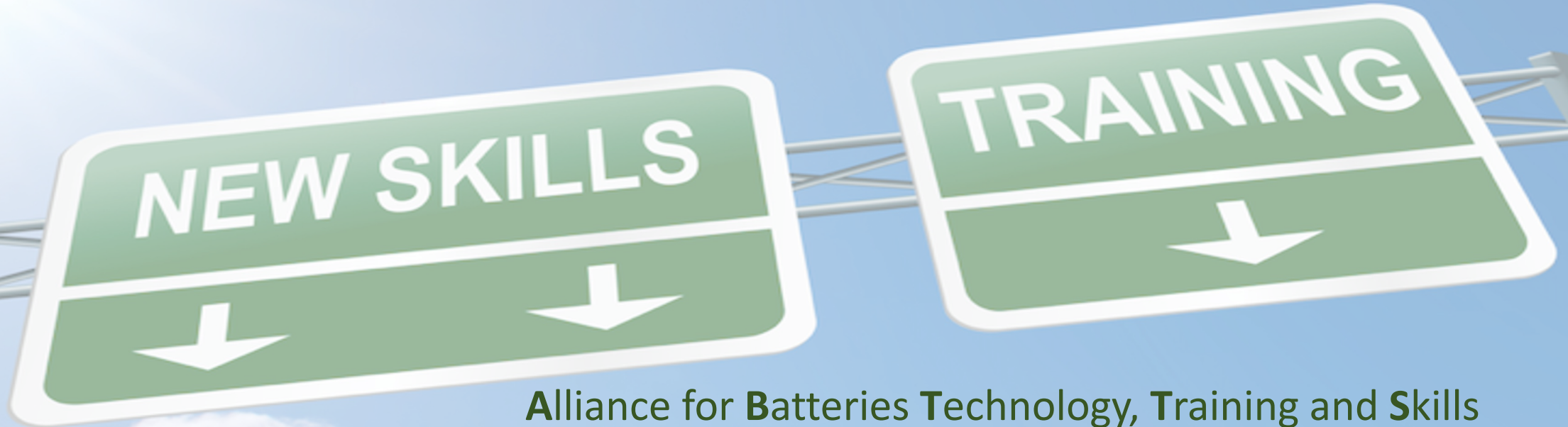
@ALBATTs1



@Project ALBATTs

JOIN OUR STAKEHOLDERS' DATABASE THROUGH OUR WEBSITE AND GET FIRST-HAND INFORMATION ABOUT OUR WORK!





Alliance for **Batteries Technology, Training and Skills**  
2019-2023

# GREEN ECONOMY TRENDS WITH A GLANCE ON SKILLS FOR THE BATTERY ECOSYSTEM

Utimia MADALENO, Eupportunity, Portugal

28.06.2023

# The transition to a greener economy



- ⚡ ALBBATS contributes to environmental sustainability
- ⚡ There is a general concern for greenhouse gas emissions
- ⚡ Environmental concerns impact all sectors of economy





# JOBS



AGRICULTURE



INFRASTRUCTURES



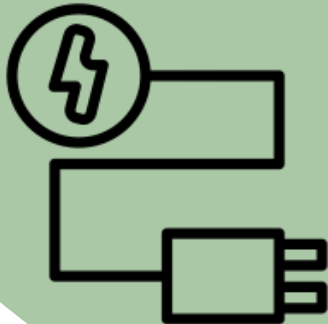
HEALTH



TOURISM



TRANSPORT



ENERGY



FINANCIAL  
MARKETS



INSURANCE



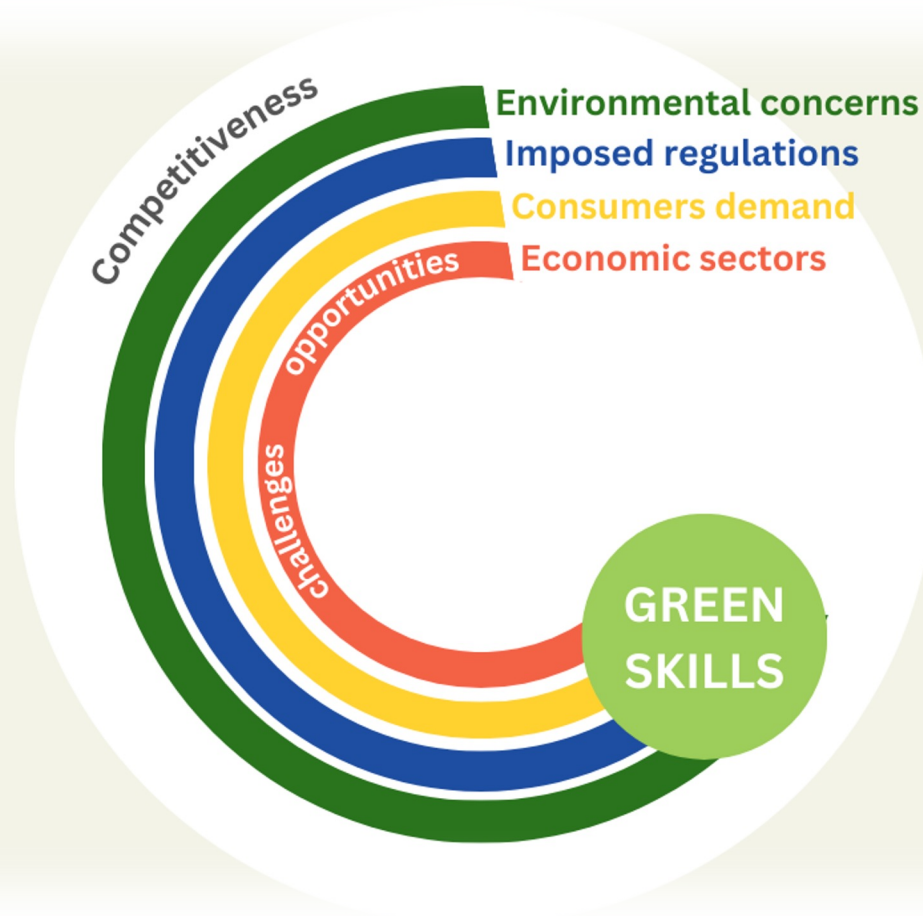
MOBILITY



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

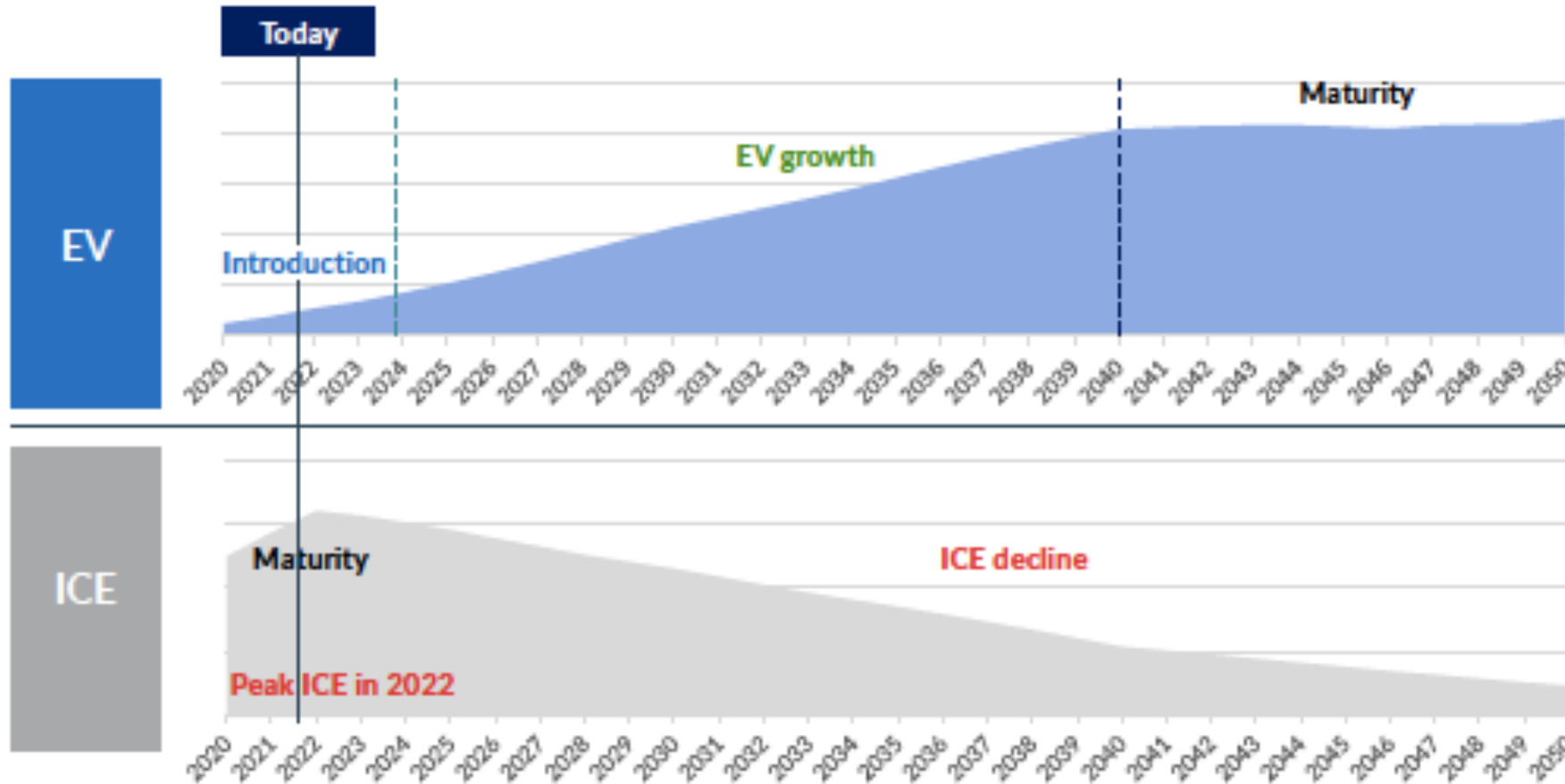
# Green Skills supporting the transition



- ⚡ Urgent demand to adapt to environmental challenges
- ⚡ Economies, governments and businesses are vigilant about competitiveness



# Decarbonisation of Mobility



- ⚡ Electromobility affect powertrain components
- ⚡ ICE engines will decline dramatically

Source: Plante Morgan



Co-funded by the Erasmus+ Programme of the European Union

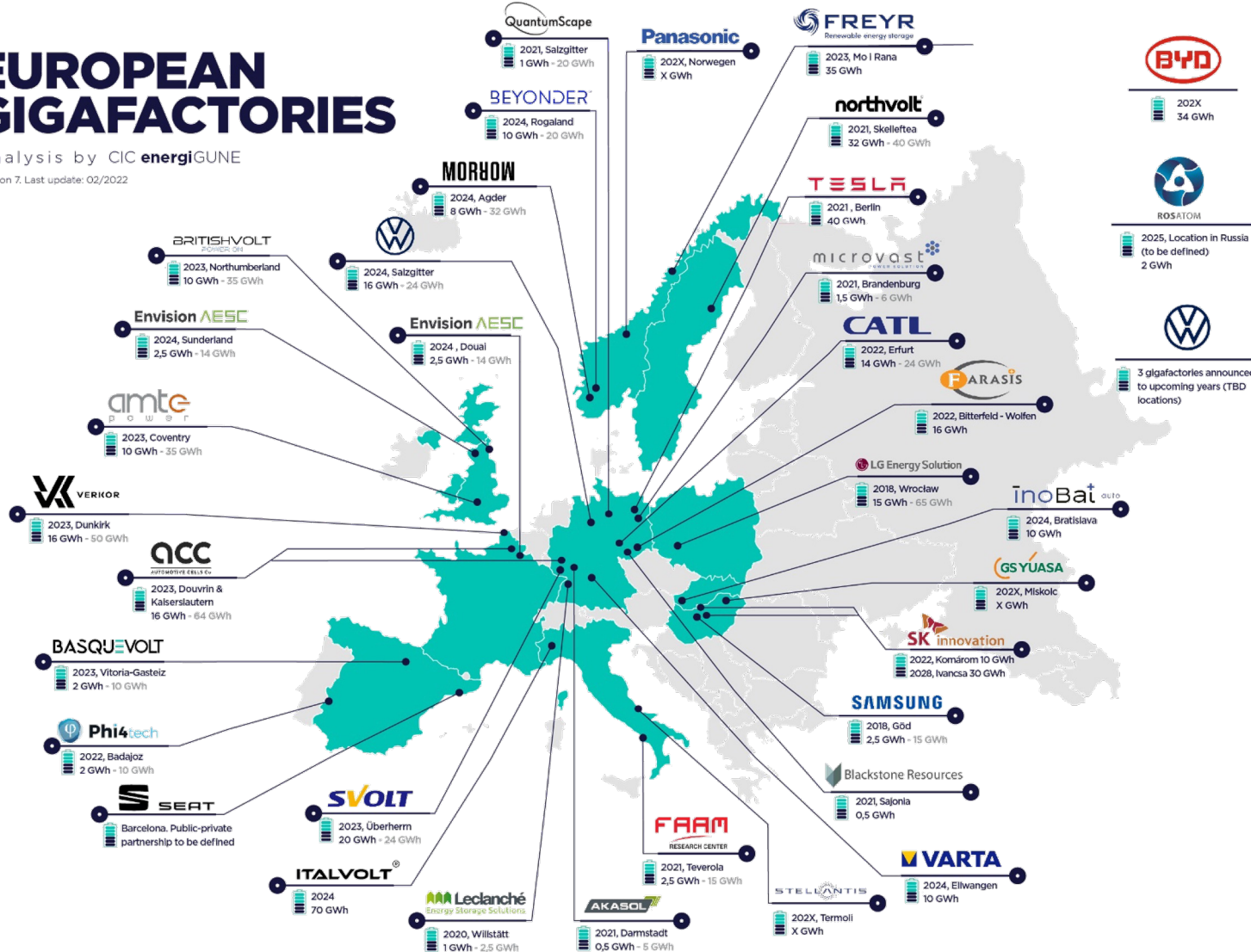
The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

# Battery Production in Europe



## EUROPEAN GIGAFACTORIES

Analysis by CIC energiGUNE  
Version 7. Last update: 02/2022



⚡ Electromobility is pushing the battery sector

⚡ This needs to be supported by the **workforce** with the **right competence**

⚡ Workforce needs to be **trained** properly



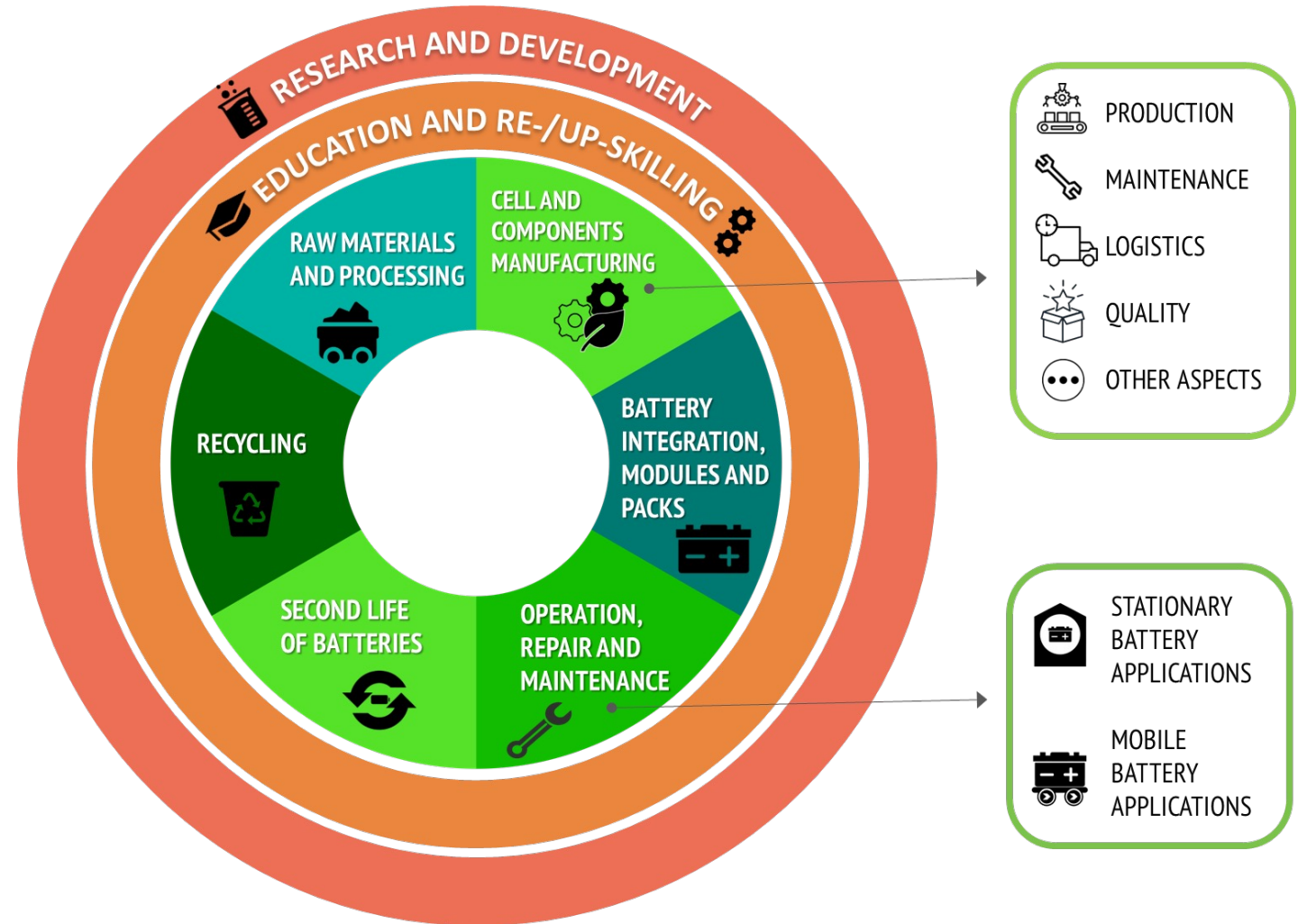
# The Battery Value Chain



⚡ There is a **lack of information** on needed **skills** and **job roles**

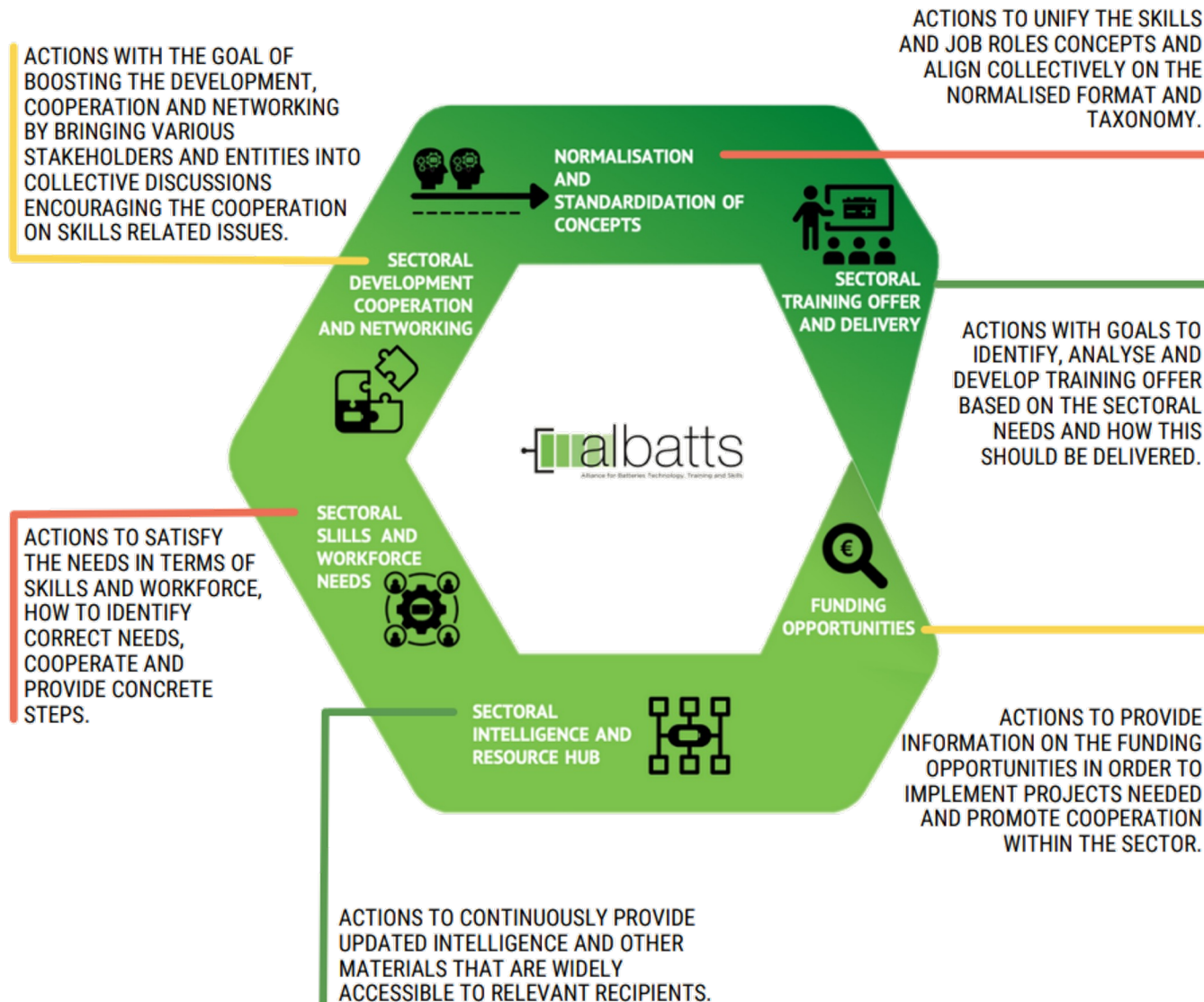
⚡ We need **more collaboration**

⚡ Needed **skills impact** on **each** phase of the **production cycle**



As studied in ALBATTs Project – [Sectoral Skills Strategy – Release I \(2021\)](#)

# Skills Agenda and Strategy



- ⚡ Battery is an emerging and raising sector in Europe
- ⚡ The whole value chain and **all levels of education** need to be addressed
- ⚡ Competences can be **sector specific** and **cross-sectoral**

# Glance on Needed Skills

## RAW MATERIALS AND PROCESSING



⚡ **Awareness** on the **critical raw materials** questions for Europe and connected emerging trends and issues;

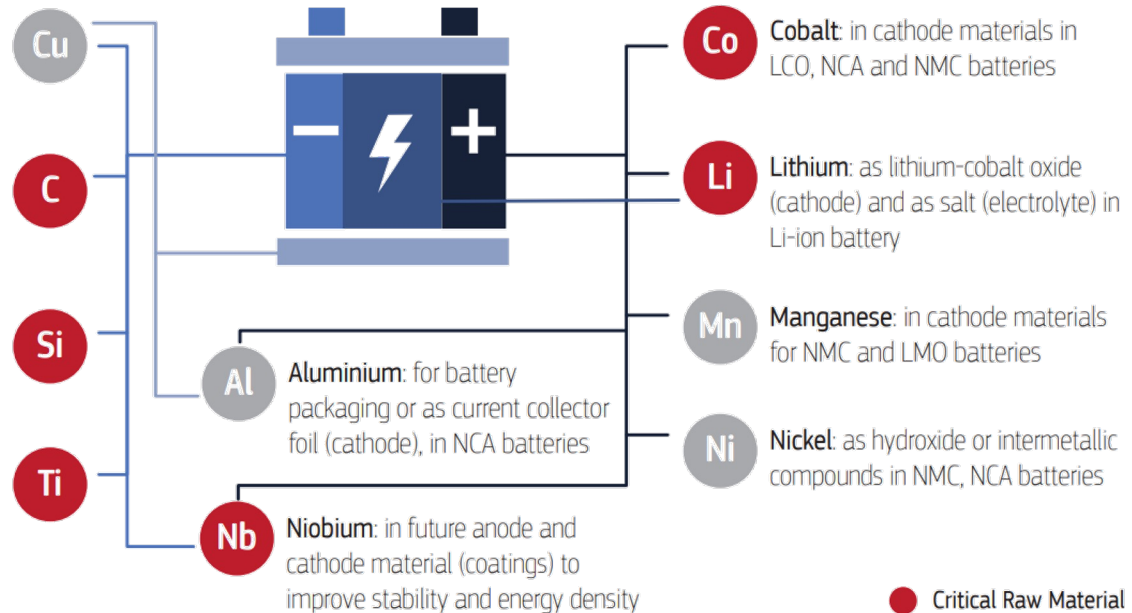
⚡ Development of new skills needs for **mining and refining** of **raw materials** relevant for the battery production (and relevant training material)

**Copper:** as current collector foil at anode side, in wires and other conductive parts

**Graphite:** natural or synthetic high-grade purity in anode electrode in all Li-ion battery types

**Silicon:** in (future) anodes to enhance energy density

**Titanium:** in future anode materials and coatings, in LTO, for battery packaging



**Critical Raw Materials for Europe** - [DocsRoom - European Commission \(europa.eu\)](https://docsroom.ec.europa.eu/)



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

# Raw Materials and Processing – Job Roles



→ What Industry Demands

GENERAL  
PURCHASING ROLES IN GENERAL  
CONTINUOUS IMPROVEMENTS TEAM ROLES  
ROLES WITH METHODOLOGY DEVELOPMENT  
LOGISTICS EXPERT  
PURCHASING ROLES - RAW MATERIALS

WHITE-COLLAR

BLUE-COLLAR

PLANNER INVENTORY AND RECEIVING SPECIALIST  
PROCESS OPERATOR - UPSTREAM  
AUTOMATION / PROCESS OPERATOR

MATERIAL PLANNER OPERATOR  
SHIFT LEAD MATERIALS MANAGEMENT  
MAINTENANCE PERSONNEL SHIFT LEAD

SHIFT MANAGER UPSTREAM METROLOGIST

CALIBRATION TECHNICIAN  
CELL MATERIALS ENGINEERING TECHNICIAN  
INSTRUMENT TECHNICIAN DOCUMENT CONTROL SPECIALIST

MATERIAL HANDLER PURCHASING SPECIALIST

SENIOR PLANNER QUALITY TECHNICIAN

MACHINE OPERATOR

MATERIAL ENGINEER - ELECTRODE JUNIOR  
BLUEPRINT DATA SCIENTIST PRODUCTION CONTROL COORDINATOR  
MATERIAL EXPERT/SCIENTIST BATTERY MATERIALS ENGINEER  
QUALITY CONTROL ENGINEER RESEARCH & DEVELOPMENT BATTERY CHEMIST  
UPSTREAM PRODUCTION ENGINEER MATERIALS DESIGNER  
DATA ANALYST RESEARCHER  
SAFETY SPECIALIST LOCALIZATION SPECIALIST MATERIAL ENGINEER CATHODE  
BATTERY LEAD COMMODITY DELIVERY ENGINEER EQUIPMENT ENGINEER  
SUPPLY CHAIN MANAGER FOR RAW MATERIALS ELECTROLYTE ENGINEER  
LEAN MANUFACTURING ENGINEER MAINTENANCE ENGINEER  
CELL MATERIAL ENGINEER  
PLANNING AND LOGISTICS MANAGER PRODUCTION ENGINEER  
CLEAN ROOM MANAGER QUALITY ENGINEERS - GENERAL ISO INTERNAL AUDITOR  
SENIOR CELL MATERIAL ENGINEER - ELECTROLYTE  
CLEAN ROOM SPECIALIST MANUFACTURING ENGINEER, LI-ION ENGINEER  
PROCESS ENGINEER BATTERY MATERIAL ENGINEER HIGH DENSITY ANODES  
INSPECTION ENGINEER CONTROLS ENGINEER QUALITY ENGINEER  
COMPLIANCE ENGINEER LOGISTICS DEVELOPER LOGISTICS BUSINESS ANALYST INTERNAL LOGISTICS MANAGER  
PURCHASING COORDINATOR SAFETY MANAGER SENIOR CATHODE ENGINEER

Blue-collar workers expertise domains: **process and machine operation; material planning; calibration and instruments/equipment;** and other.

White-collar workers expertise domains: **material engineering (electrode, cathode, electrolytes and other); production control; inspection and quality; supply chain management; production; process and methodology improvement;**



Co-funded by the  
Erasmus+ Programme  
of the European Union

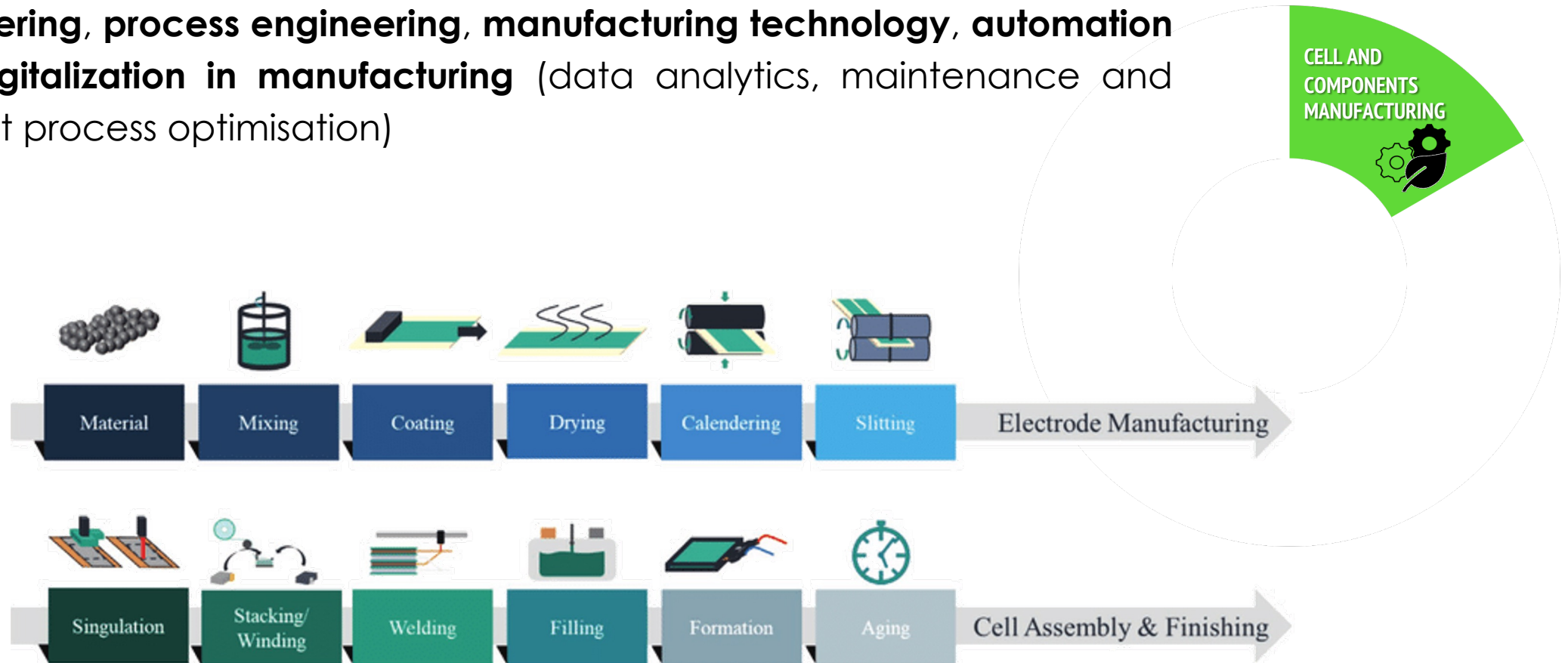
The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

# Glance on Needed Skills

## CELLS PRODUCTION & CELLS MAINTENANCE



- ⚡ Understanding in fields **electrochemistry, electronics, mechanical engineering, process engineering, manufacturing technology, automation** and **digitalization in manufacturing** (data analytics, maintenance and product process optimisation)



Critical Raw Materials for Europe - [DocsRoom - European Commission \(europa.eu\)](https://docsroom.ec.europa.eu/)



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

# Production and Maintenance



## → What Industry Demands

**CELL ASSEMBLY TECHNICIAN** **BATTERY ASSEMBLER** **BATTERY TEST TECHNICIAN** **CALIBRATION TECHNICIAN** **SHIFT LEAD** **SHIFT MANAGER UPSTREAM** **DIRECT LINE INTERNSHIP** **SHIFT LEAD MATERIALS MANAGEMENT** **MAINTENANCE PERSONNEL** **CAR MECHANIC-BATTERY ASSEMBLY** **SENIOR ELECTRONICS ENGINEERING TECHNICIAN** **AUTOMATION/PROCESS OPERATOR** **CLEANING TECH** **SENIOR QUALITY TECHNICIAN** **INDUSTRIAL ELECTRICIAN** **MACHINE OPERATOR** **AUTOMOTIVE BATTERY TECHNICIAN** **ELECTRICIAN ASSEMBLER** **OPERATOR** **INSTRUMENT TECHNICIAN** **EV BATTERY MAINTENANCE TECHNICIAN** **BATTERY STACKER** **PROCESS OPERATOR UPSTREAM** **FACILITY TECHNICIAN** **SERVICE TECHNICIAN** **QUALITY PLANNER BATTERY ASSEMBLY** **TECHNICIAN FOR BATTERY ANALYSIS** **SHIFT MANAGER** **ENTRY LEVEL MANUFACTURING ASSOCIATE** **MATERIAL PLANNER** **PRODUCTION ASSEMBLY OPERATOR**

WHITE-COLLAR

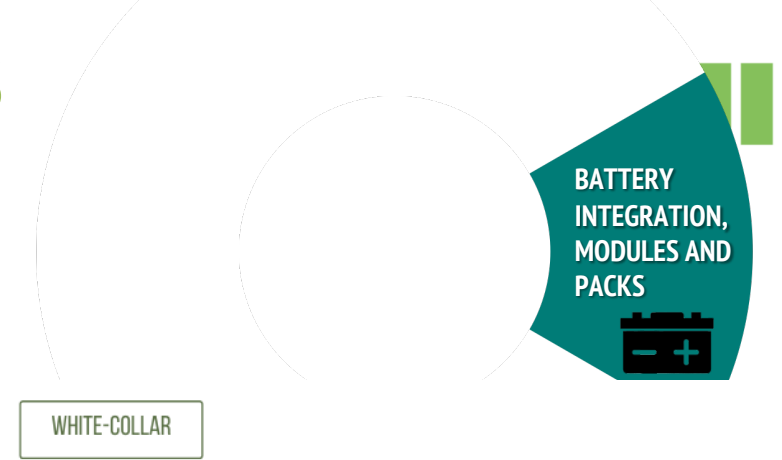
**MANAGER OF BATTERY MAINTENANCE** **PRODUCTION MANAGER DOWNSTREAM** **PROCESS ENGINEER** **PRODUCT ENGINEER (ENERGY STORAGE)** **FORMATION MAINTENANCE ENGINEER** **CELL MODULE ELECTRICAL ENGINEER** **FIELD SERVICE ENGINEER (MICROGRIDS & BEES)** **ELECTRICAL ENGINEER/BATTERY SPECIALIST** **APPLICATION ENGINEER (PV ENERGY STORAGE)** **UPSTREAM PRODUCTION ENGINEER** **SENIOR CATHODE ENGINEER** **TEST AUTOMATION ENGINEER** **TOP CAP ENGINEER** **CELL DESIGN ENGINEER** **CELL MODULE MECHANICAL ENGINEER** **POWERTRAIN/BATTERY DEVELOPMENT** **SOFTWARE/MODELING ENGINEER LEAD** **EQUIPMENT ENGINEER** **CELL MATERIALS ENGINEERING TECHNICIAN** **MATERIAL ENGINEER - ELECTRODE JUNIOR** **INVENTORY TEAM SPECIALIST** **MATERIAL ENGINEER CATHODE** **MANUFACTURING ENGINEER, LI-ION ENGINEER** **CLEAN ROOM SPECIALIST** **MECHANICAL CELL DESIGN ENGINEER** **MECHANICAL DESIGNER ENGINEER** **ENERGY ENGINEERING TECHNICIAN** **ELECTRICAL ENGINEER (PV)** **PRODUCTION CONTROL COORDINATOR** **ELECTRICAL ENGINEER HYBRID VEHICLES** **AUTOMATION ENGINEER** **BATTERY ENGINEER** **CELL MECHANICAL ENGINEER** **ENGINEERING TE** **PRODUCTION ENGINEER** **MAINTENANCE ENGINEER** **MECHANICAL BATTERY DESIGN ENGINEER** **DEVELOPMENT ENGINEER - HIGH-VOLTAGE STORAGE COMPONENTS** **BATTERY DESIGN SENIOR** **CELL TEST ENGINEER** **SENIOR CELL DESIGN ENGINEER** **PROCESS & TEST ENGINEER - BATTERY TECHNOLOGY** **LEAN MANUFACTURING ENGINEER** **BATTERY REPAIR ENGINEER** **BATTERY MATERIALS ENGINEER** **SR. CELL MATERIAL ENGINEER - ELECTROLYTE** **ELECTROLYTE ENGINEER** **BATTERY MATERIALS ENGINEER HIGH DENSITY ANODES** **CELL ENGINEER** **SENIOR ELECTRIC DISTRIBUTION SYSTEMS & CHARGING** **CONTROLS ENGINEER** **ENERGY STORAGE PRINCIPAL ENGINEER** **BATTERY SYSTEMS ENGINEER** **CELL MATERIAL ENGINEER** **ELECTRICAL ENGINEER - EV BATTERY DEV.** **CELL SIMULATION ENGINEER** **PRODUCTION MANAGER CELL ASSEMBLY** **PRODUCT MANAGER CELL ASSEMBLY** **BATTERY CELL DEVELOPER - ENERGY FUNCTIONS** **ENERGY ENGINEER** **ELECTRICAL ENGINEER (BMS)** **SENIOR BATTERY SYSTEMS ENGINEER - INNOVATION** **CELL MODULE SIMULATION ENGINEER** **PROCESS ENGINEER - BATTERY DISMANTLING** **CELL ASSEMBLY PROCESS ENGINEER** **APPLICATION ENGINEER** **SENIOR/STAFF BATTERY ENGINEER**



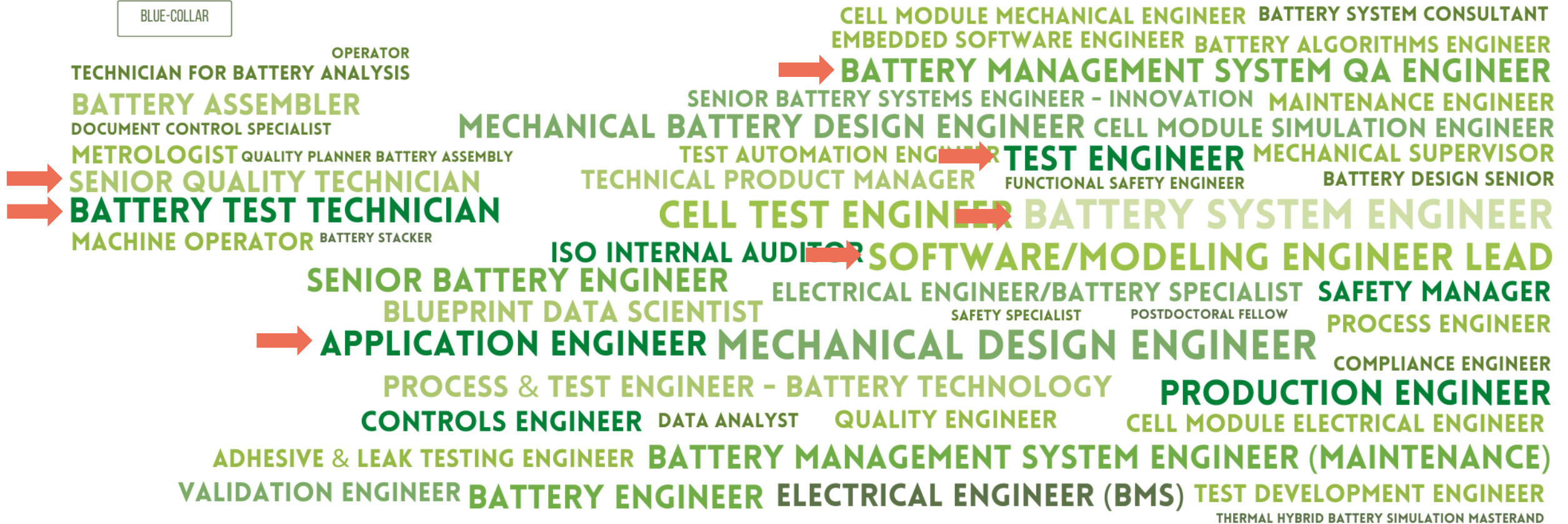
# Glance on Needed Skills

BATTERY INTEGRATION, MODULES & PACKS

→ What Industry Demands



BLUE-COLLAR



Co-funded by the Erasmus+ Programme of the European Union

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



# Thank you!



FOLLOW US / GET INVOLVED



[info@project-albatts.eu](mailto:info@project-albatts.eu)



<https://www.project-albatts.eu>



@ALBATTs – Alliance for Batteries Technology, Training and Skills



@ALBATTs1



@Project ALBATTs

JOIN OUR STAKEHOLDERS' DATABASE THROUGH OUR WEBSITE AND GET FIRST-HAND INFORMATION ABOUT OUR WORK!



Co-funded by the  
Erasmus+ Programme  
of the European Union

*The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*