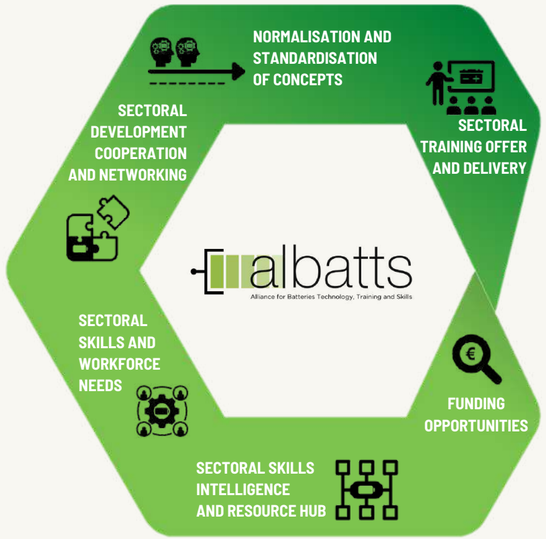
SECTORAL SKILLS INTELLIGENCE & STRATEGY FOR THE EUROPEAN BATTERY SECTOR

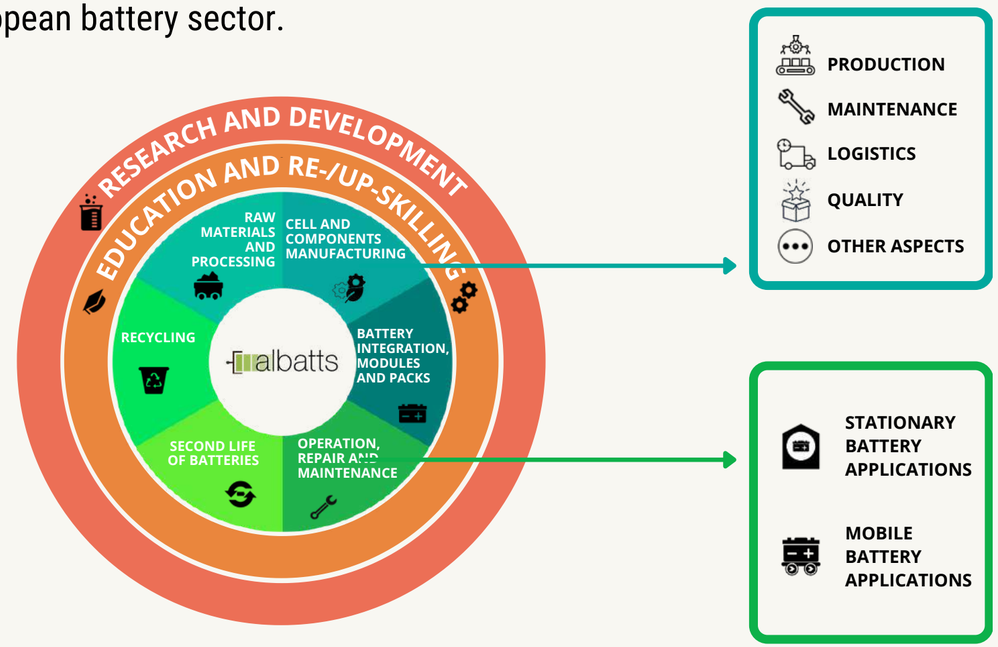
D3.10 – Sectoral Skills Intelligence and Strategy – Release 2

This is the **second** release of the sectoral skills intelligence and strategy **covering the whole European battery value chain from raw materials to recycling of batteries in terms of skills needs, job roles needs and recommendations**.



Readers will find designated actions needed in the sector to boost the overall re-/up-skilling activities as well as cooperation, information sharing and provision and many more.

The report also provides quantitative and qualitative overviews of the skills and the job roles needs per identified areas of interest consisting of the battery value chain steps, as well as specific aspects of production, quality or safety tailored to the battery production or other processes that are happening within the European battery sector.



This factsheet provides a summary of the report in what regards **recycling**.

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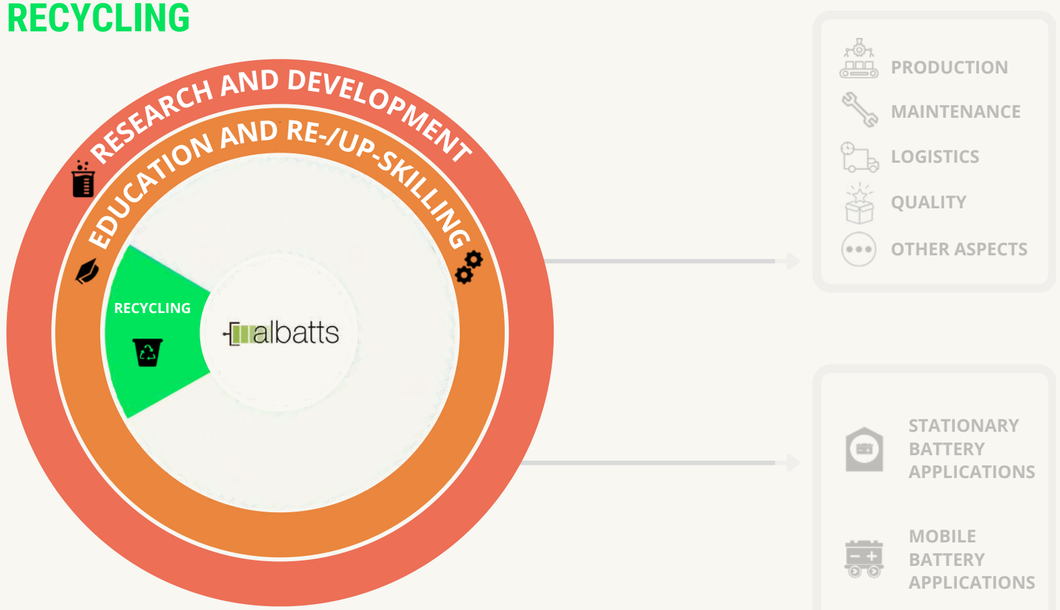
GO TO REPORT

RECYCLING

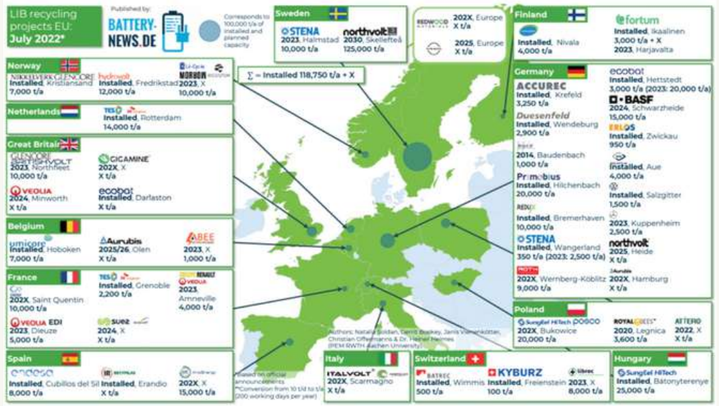


- PRODUCTION
- MAINTENANCE
- LOGISTICS
- QUALITY
- OTHER ASPECTS

- STATIONARY BATTERY APPLICATIONS
- MOBILE BATTERY APPLICATIONS

STAKEHOLDERS/COMPANIES

RECYCLING COMPANIES



Source: www.battery-atlas.eu; abstract, no claim of completeness

Batteries are covered in the EU Directive 2006/66/EC. This Battery Directive sets **recyclability** requirements (50% for the battery removed from the vehicle and 75% for the battery that is embedded into a scrapped vehicle). They are bound to get stricter within a regulation that is currently being processed.

Gigafactories need to develop their production processes so that they meet the legal frameworks of the sustainability and environmental protection legislation. Additionally, they need to pay attention to:

- the responsible procurement of certain raw materials that are either scarce or sourced in an unsustainable, unethical manner
- the high energy consumption and the power supply and the potential impact of specific greenfield projects that need prior deforestations and land-use change
- waste handling – relevant policies and regulations as well as relevant material recovery

TARGET GROUPS: Educational institutions, government agencies, companies in the battery recycling business, recruitment companies, head-hunters, consultants.

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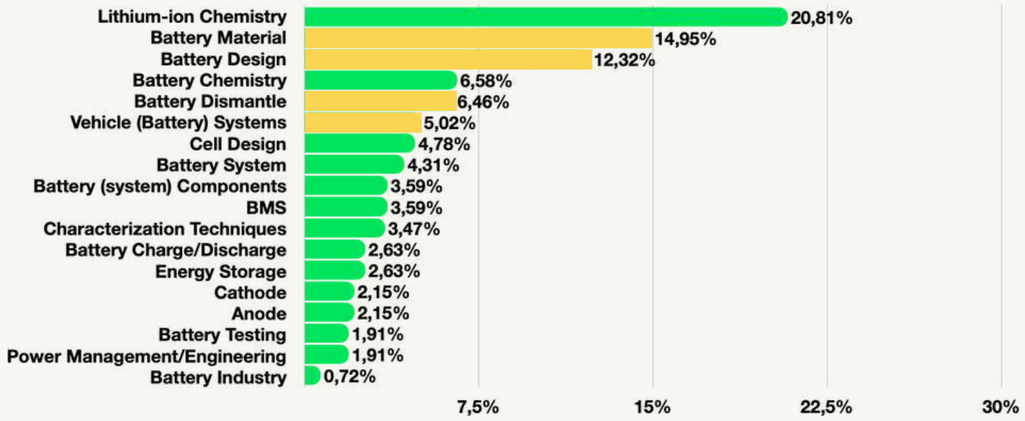
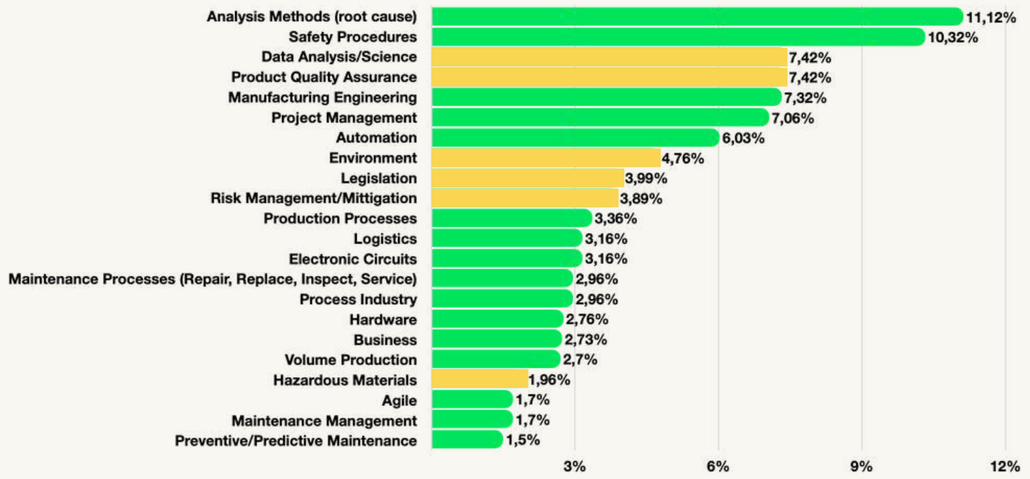
SKILLS, COMPETENCES & KNOWLEDGE NEEDS

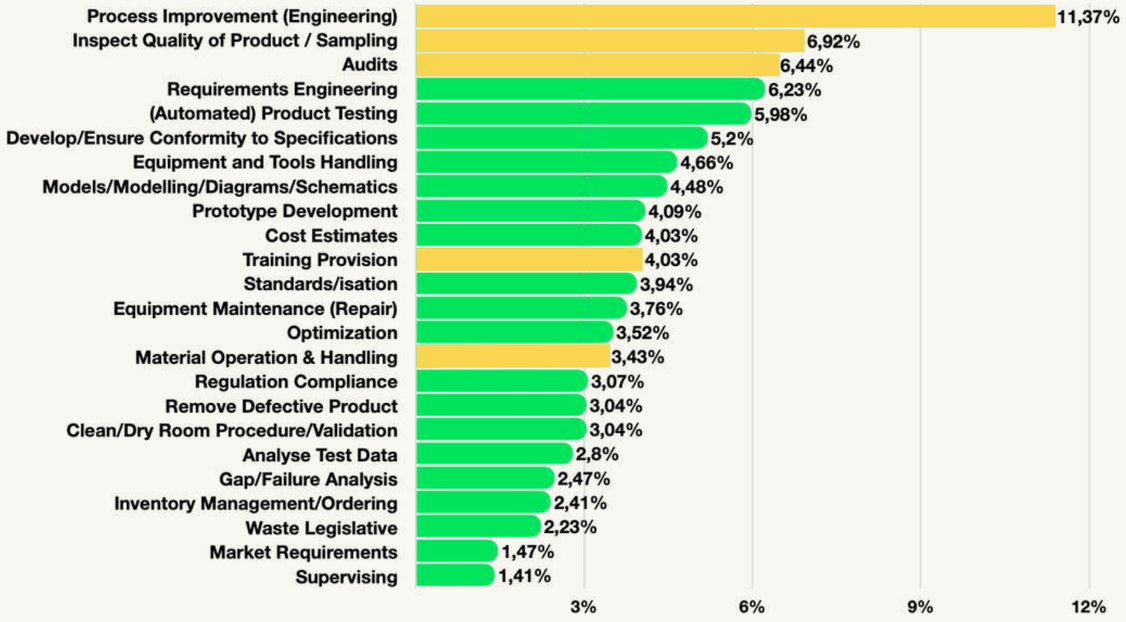
SECTOR SPECIFIC COMPETENCE



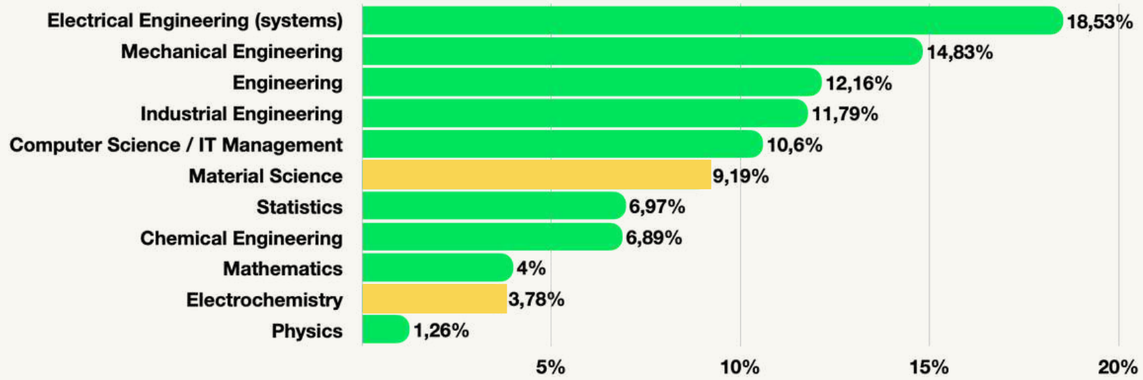
CROSS-SECTORAL SPECIFIC KNOWLEDGE



CROSS-SECTORAL SPECIFIC SKILLS



ACADEMIC COMPETENCE



YELLOW-HIGHLIGHTED ROWS – CONCEPT WAS ENDORSED/MENTIONED DURING THE WORKSHOP/INTERVIEW BY THE PARTICIPANTS

INFORMATION
www.project-albatts.eu
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JOB ROLES

BLUE-COLLAR

RECYCLING TECHNICIAN
QUALITY TECHNICIAN
MACHINE OPERATOR
MATERIAL HANDLER
CELL INSPECTION TECHNICIAN
AUTOMATION/PROCESS OPERATOR
MATERIAL PLANNER
DIRECT LINE WORKER

WHITE-COLLAR

LOGISTICS MANAGER
TECHNICAL PRODUCT MANAGER
SAFETY MANAGER
ISO INTERNAL AUDITOR
SENIOR SCIENTIST
INDUSTRIAL PRODUCTION MANAGER
SENIOR AUTOMATION ENGINEER
PROCESS ENGINEER
QUALITY PROCESS ENGINEER
POWER SYSTEM REGULATORY ENGINEER
MECHANICAL ENGINEER
CERTIFICATION & HOMOLOGATION MANAGER
INTERNAL LOGISTICS MANAGER
AUTOMATION ENGINEER
DATA ANALYST
ELECTRICAL ENGINEER
SAFETY SPECIALIST
BLUEPRINT DATA SCIENTIST
BATTERY TEST ENGINEER
MAINTENANCE ENGINEER
QUALITY ENGINEER
BATTERY MATERIALS ENGINEER
ENGINEERING TECHNICIAN
COMPLIANCE ENGINEER

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CONSIDERATIONS / RECOMMENDATIONS

The most extensive recruitment challenges currently concern the hiring of engineers and researchers. In the set-up phase of recycling plants, most staff are university-educated white-collar employees. However, after a plant becomes more established, the share of blue-collar employees with vocational education increases.

With the battery recycling-related positions, it is important to know battery technologies and recycling processes (chemical/physical) themselves.

Regarding environmental legislation, it is important to understand related national and EU directives. Safety is also important.

It is recommended to provide education and training in the following areas: (1) Environmental management and circular economy concepts; (2) Battery design - Battery components: Cell, anode, cathode, electrolyte and Precursor design, Electrode design, Separator design; (3) Battery material (material science) - Battery fluids and chemistry (Lithium-ion) and other materials and their properties; (4) Vehicle and other battery systems; (5) Material flow including procurement; (6) Battery testers; (7) Recycling knowledge to enable developing recycling programs - Recycling processes and technologies, R&D, Automation; (8) Production Planning.

LINKS & RESOURCES

- Sectoral Skills Intelligence and Strategy - Recycling
- See the list of the ALBATTS **SKILLS CARDS**

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