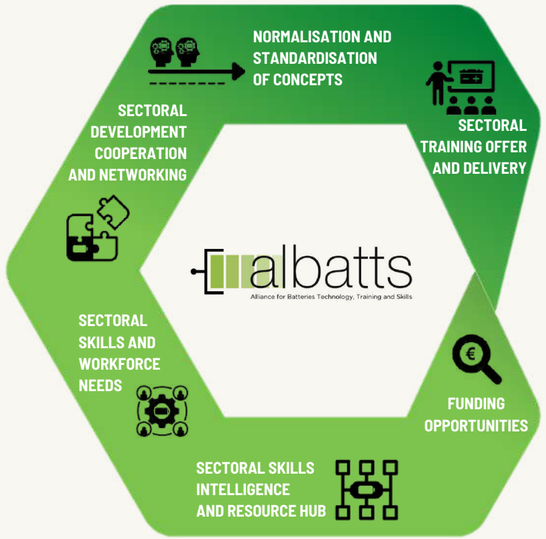
SECTORAL SKILLS INTELLIGENCE & STRATEGY FOR THE EUROPEAN BATTERY SECTOR

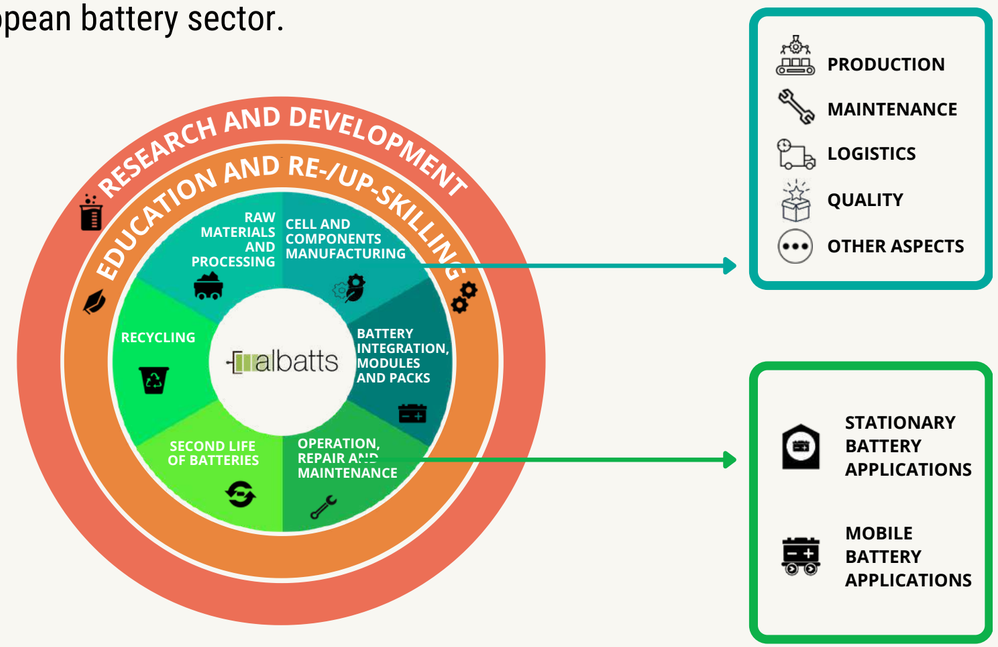
D3.10 – Sectoral Skills Intelligence and Strategy – Release 2

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 **raw materials extraction and processing**.

INFORMATION
www.project-albatts.eu
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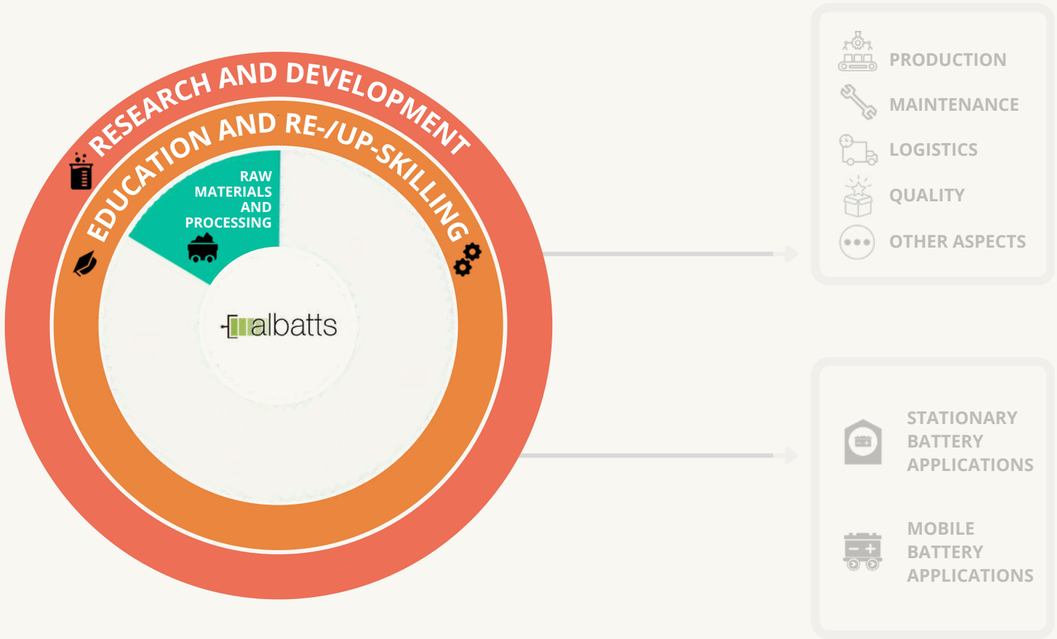
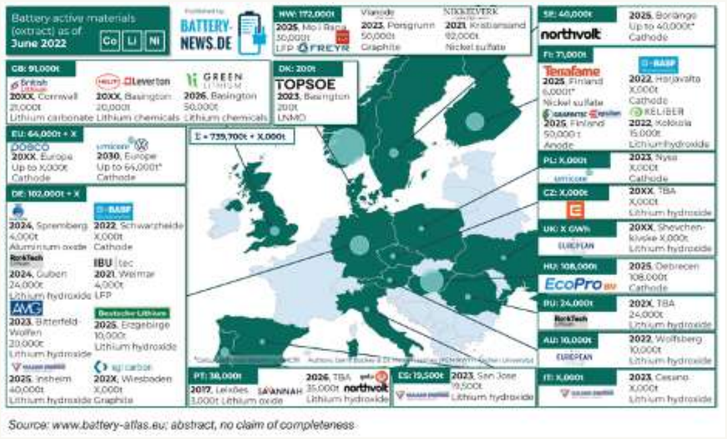
RAW MATERIALS EXTRACTION AND PROCESSING



STAKEHOLDERS/COMPANIES



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

The role of **RAW MATERIALS** in the growth of the European battery value chain is, as it is well known, quite critical. A battery cell producer cannot function in a competitive market without or with too expensive raw materials. In addition, the level of dependence on Asia, Australia and the American continent is extreme. According to the last EU raw materials criticality list from 2020, 74 % of all battery raw materials originate in China, Latin America, and Africa and this trend is expected to proliferate with increased European demand for expanding cell production. Only aluminum, manganese, copper, and nickel are not listed as directly critical for European supply. There are, however, many European initiatives on the policy level to remediate this situation, by new European sourcing (mines, concentrator, and refining facilities) and a very high level of recycling.

Currently, a European cell producer typically gets raw materials through: **a)** import from companies on other continents, **b)** new European sourcing as a desirable alternative to remediate the situation, **c)** recycling operations to take care of the raw materials used optimally.

TARGET GROUPS: Prospecting and mining companies, refineries, and their white- and blue-collar workforce; branch organisations; and authorities involved in exploration permits and mining concessions.

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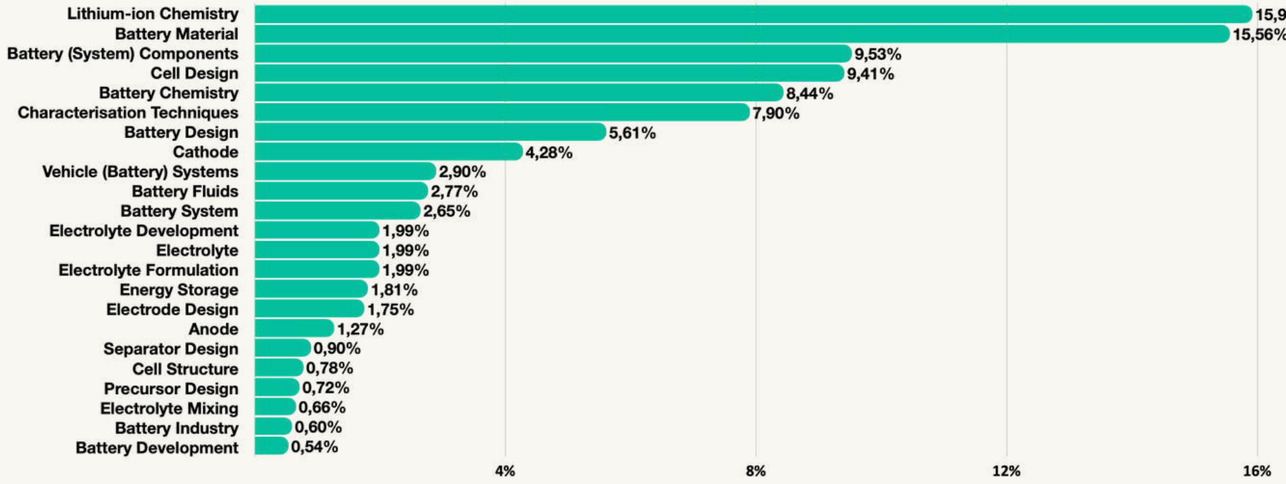
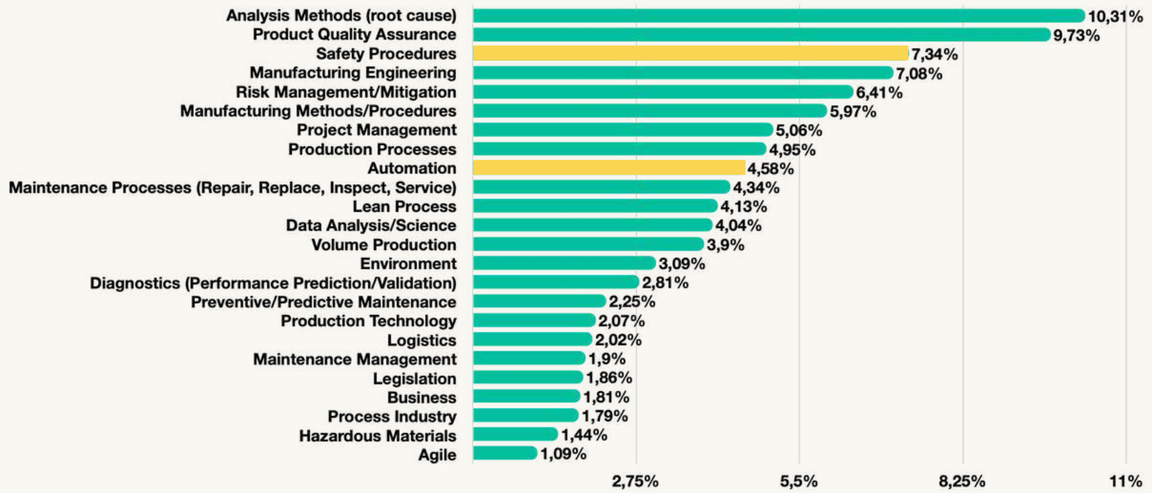
SKILLS, COMPETENCES & KNOWLEDGE NEEDS

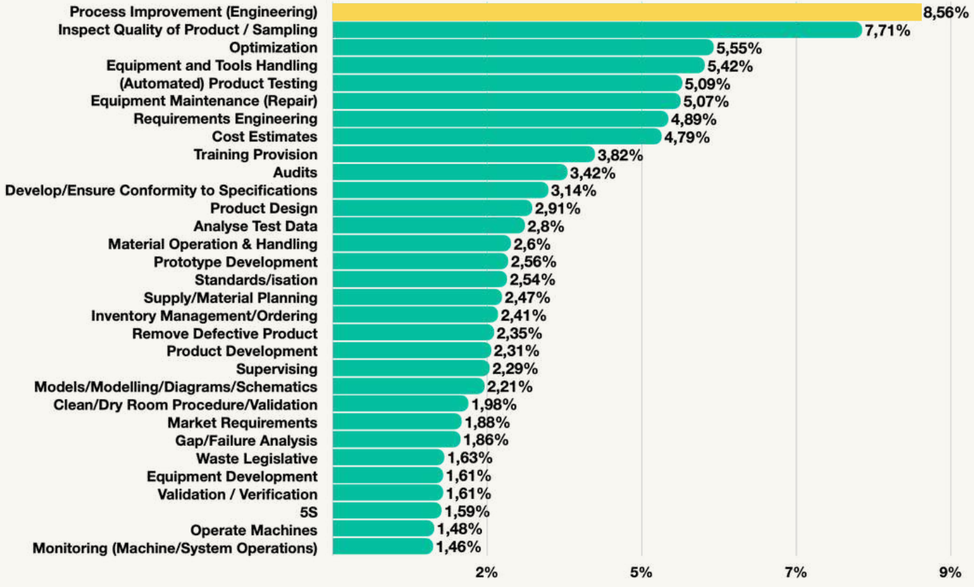
SECTOR SPECIFIC COMPETENCE



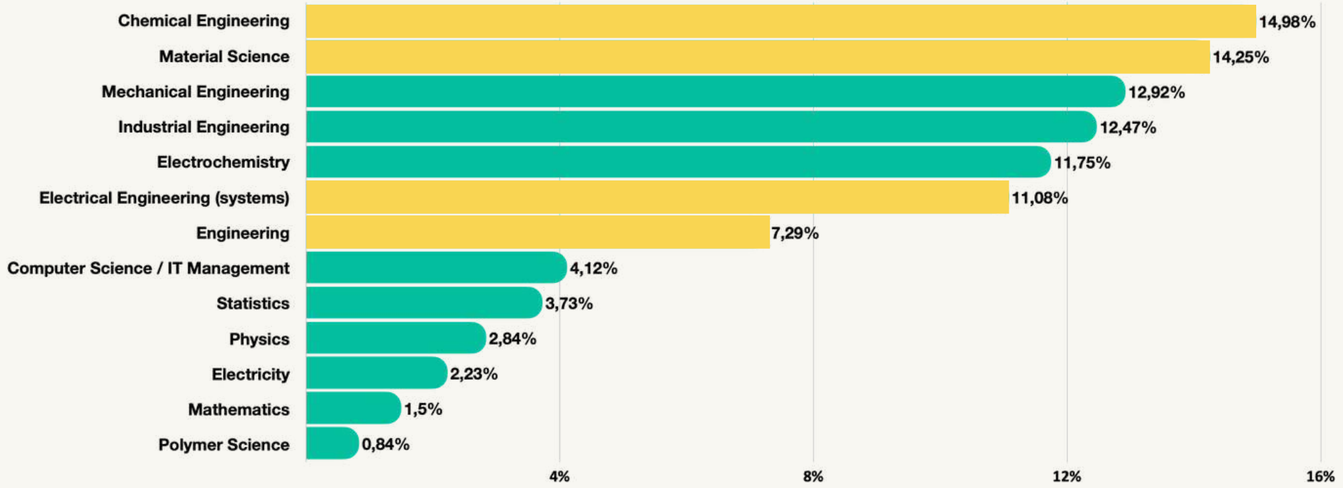
CROSS-SECTORAL SPECIFIC KNOWLEDGE



CROSS-SECTORAL SPECIFIC SKILLS



ACADEMIC COMPETENCE



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

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JOB ROLES

BLUE-COLLAR

MATERIAL EXPERT/SPECIALIST
LOCALISATION SPECIALIST
METROLOGIST
PLANNER
MATERIAL SCIENCE
MAINTENANCE PERSONNEL
MAINTENANCE TECHNICIAN
SHIFT LEAD
MATERIAL PLANNER
MATERIAL HANDLER
PROCESS OPERATOR – UPSTREAM
CALIBRATION TECHNICIAN
CLEAN ROOM SPECIALIST
SENIOR PLANNER
LITHIUM MAINTENANCE TECHNICIAN
OPERATOR
MACHINE OPERATOR
PRODUCTION ASSEMBLER OPERATOR
AUTOMATION / PROCESS OPERATOR
INVENTORY AND RECEIVING SPECIALIST
BATTERY PRODUCTION TECHNICIAN

WHITE-COLLAR

DEVELOPMENT ENGINEER – HIGH-VOLTAGE COMPONENTS
BLUEPRINT DATA SCIENTIST
MAINTENANCE SPECIALIST
PLANNING AND LOGISTICS MANAGER
DIRECTOR OF SUPPLY CHAIN
SHIF MANAGER UPSTREAM
MATERIALS TECHNOLOGY ENGINEER
SENIOR SCIENTIST
ELECTROLYTE ENGINEER
ELECTROCHEMISTRY LEAD – BATTERY MATERIALS
MATERIAL ENGINEER CATHODE
UPSTREAM PRODUCTION ENGINEER
CONTROLS ENGINEER
ISO INTERNAL AUDITOR
INSPECTION ENGINEER
AUTOMATION ENGINEER
SENIOR CELL MATERIAL ENGINEER–ELECTROLYTE
SHIFT LEAD MATERIALS MANAGEMENT
RESEARCH & DEVELOPMENT BATTERY CHEMIST
MAINTENANCE ENGINEER
PRODUCTION ENGINEER
SENIOR/STAFF BATTERY ENGINEER
SENIOR AUTOMATION ENGINEER
MANUFACTURING ENGINEER
LEAN MANUFACTURING ENGINEER
QUALITY ENGINEER
BATTERY TECHNICAL LEAD
BATTERY MATERIALS ENGINEER
INDUSTRIAL ENGINEER
SENIOR CATHODE ENGINEER
MANUFACTURING ENGINEER, LI-ION ENGINEER
EQUIPMENT ENGINEER
SAFETY SPECIALIST
SUPPLY CHAIN MANAGER FOR RAW MATERIALS
SAFETY MANAGER
PROCESS ENGINEER
MATERIAL ENGINEER – ELECTRODE JUNIOR
MANAGER OF BATTERY MAINTENANCE
BATTERY MATERIALS ENGINEER HIGH DENSITY ANODES

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GO TO REPORT

CONSIDERATIONS / RECOMMENDATIONS

Strengthening the awareness on the critical raw materials questions for Europe and connected emerging trends.

Development of new skills needs (and relevant training material) for mining and refining raw materials.

Manpower is required in mining, concentrator and chemical plants, maintenance, laboratories, logistics, and supportive/administrative functions.

Basic education required includes process, chemical, mechanical, electricity, and automation engineering as well as geology and chemistry.

LINKS & RESOURCES

- Sectoral Skills Intelligence and Strategy - Raw Materials and Processing
- See the list of the ALBATTS **SKILLS CARDS**

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