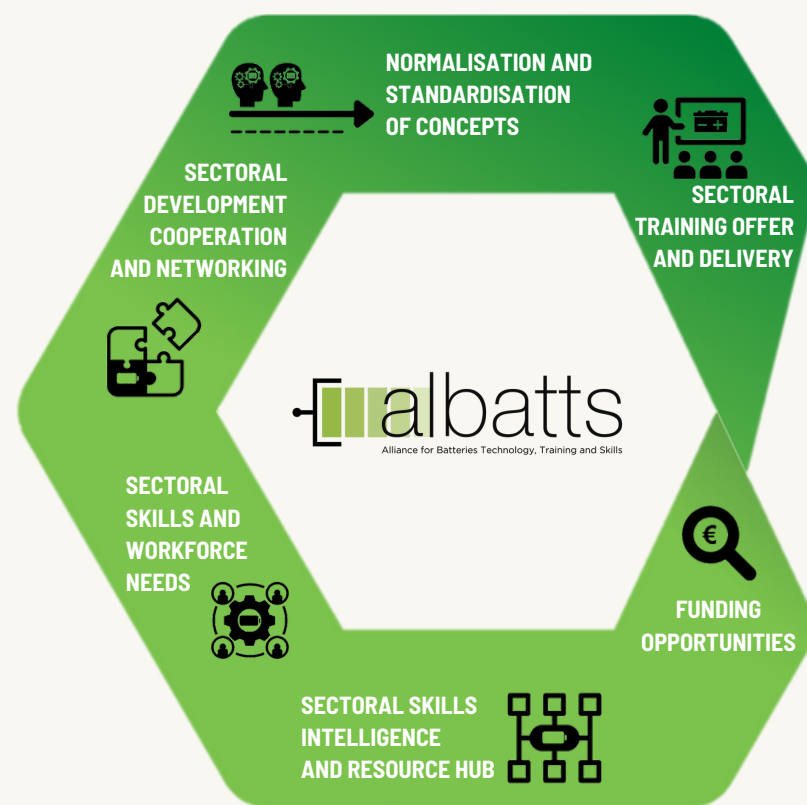


SECTORAL SKILLS INTELLIGENCE & STRATEGY FOR THE EUROPEAN BATTERY SECTOR

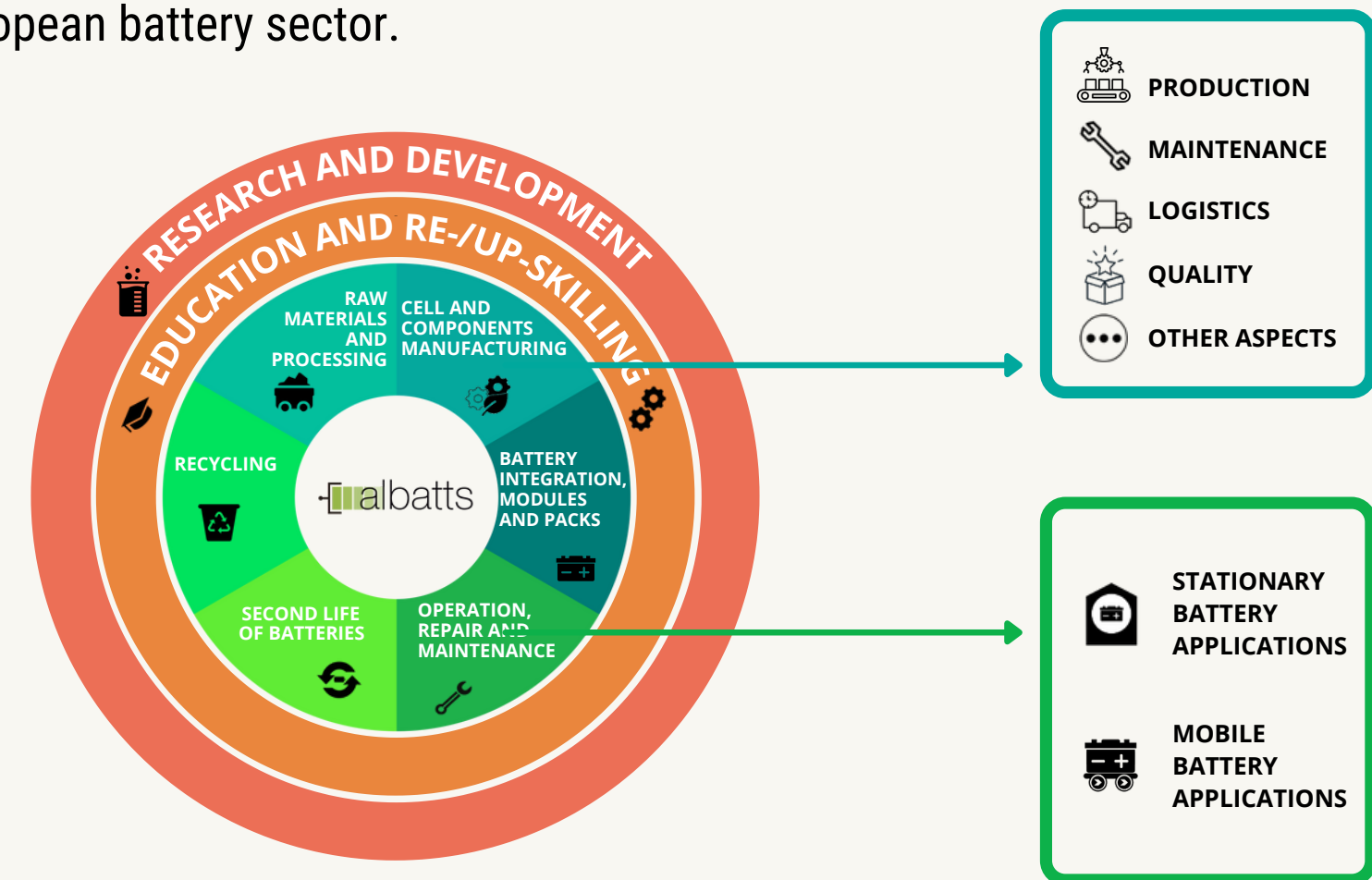
D3.10 – Sectoral Skills Intelligence and Strategy – Release 2

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.



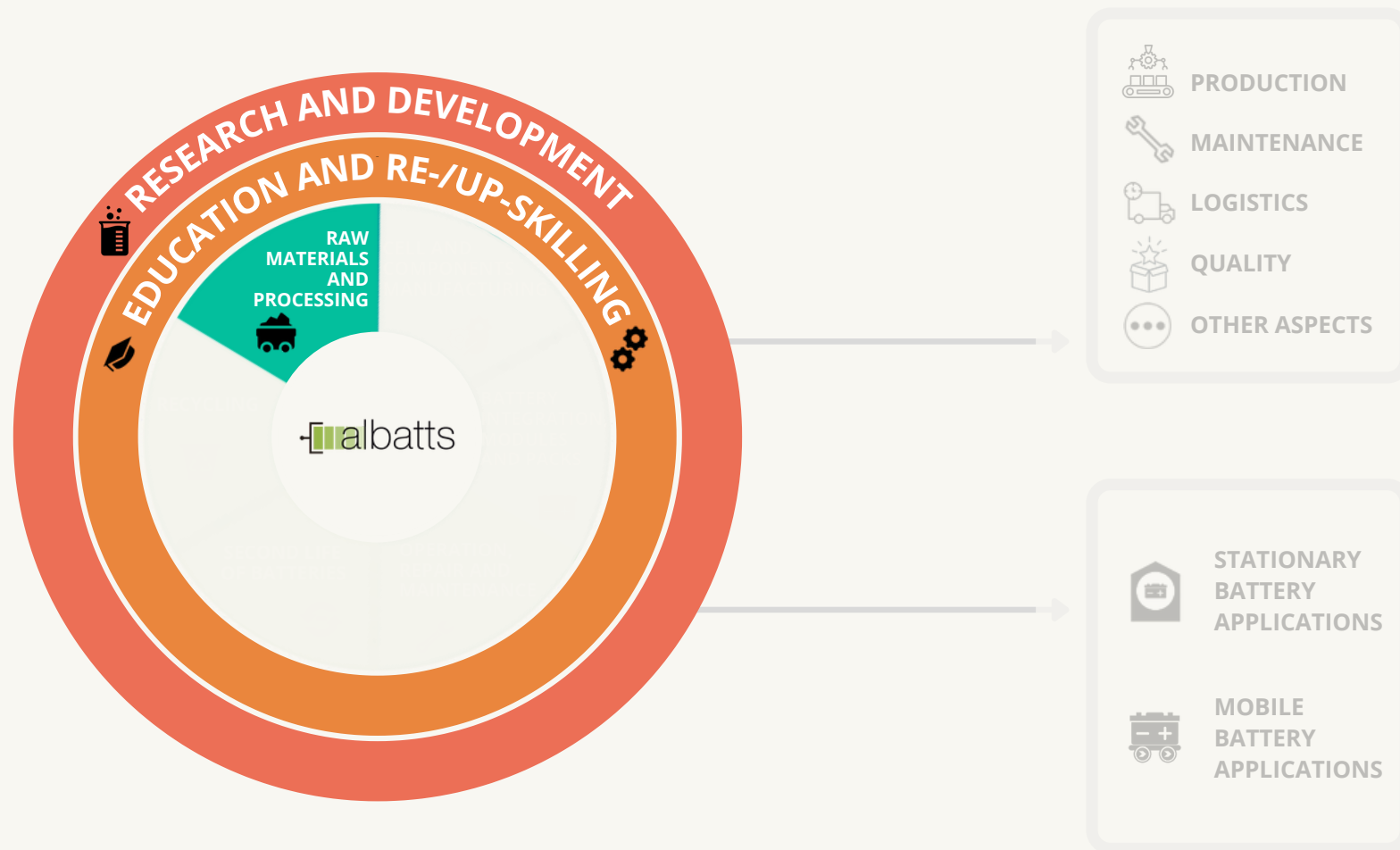
Readers will find designated actions needed in the sector to boost the overall re-/up-skilling activities as well as cooperation, information sharing and provision and many more.

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.



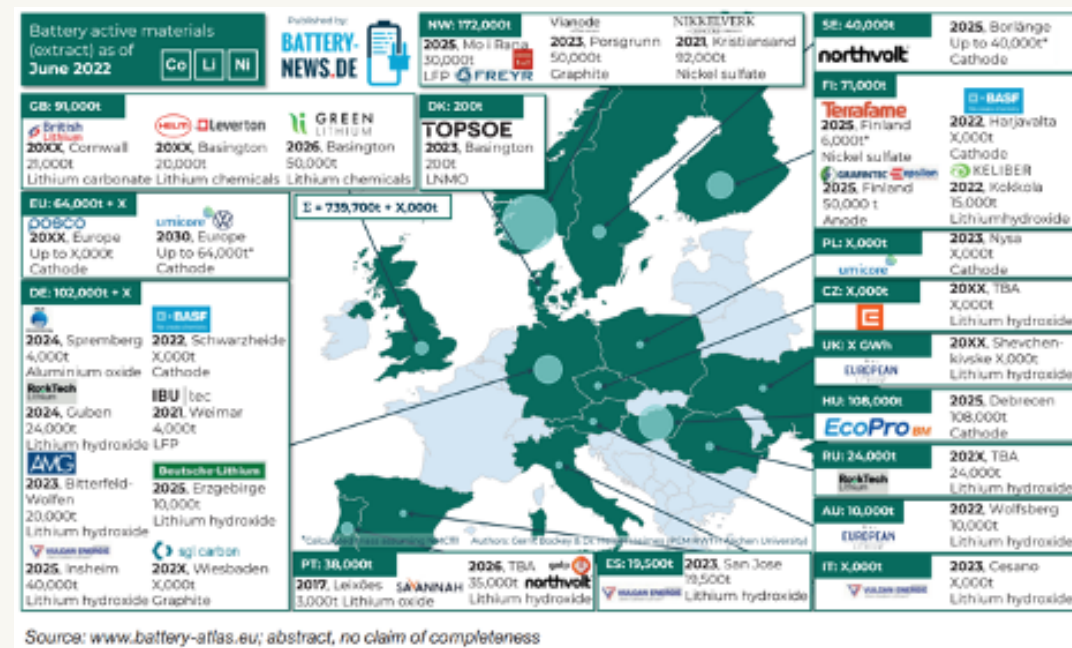
This factsheet provides a summary of the report in what regards **raw materials extraction and processing**.

RAW MATERIALS EXTRACTION AND PROCESSING



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.

STAKEHOLDERS/COMPANIES

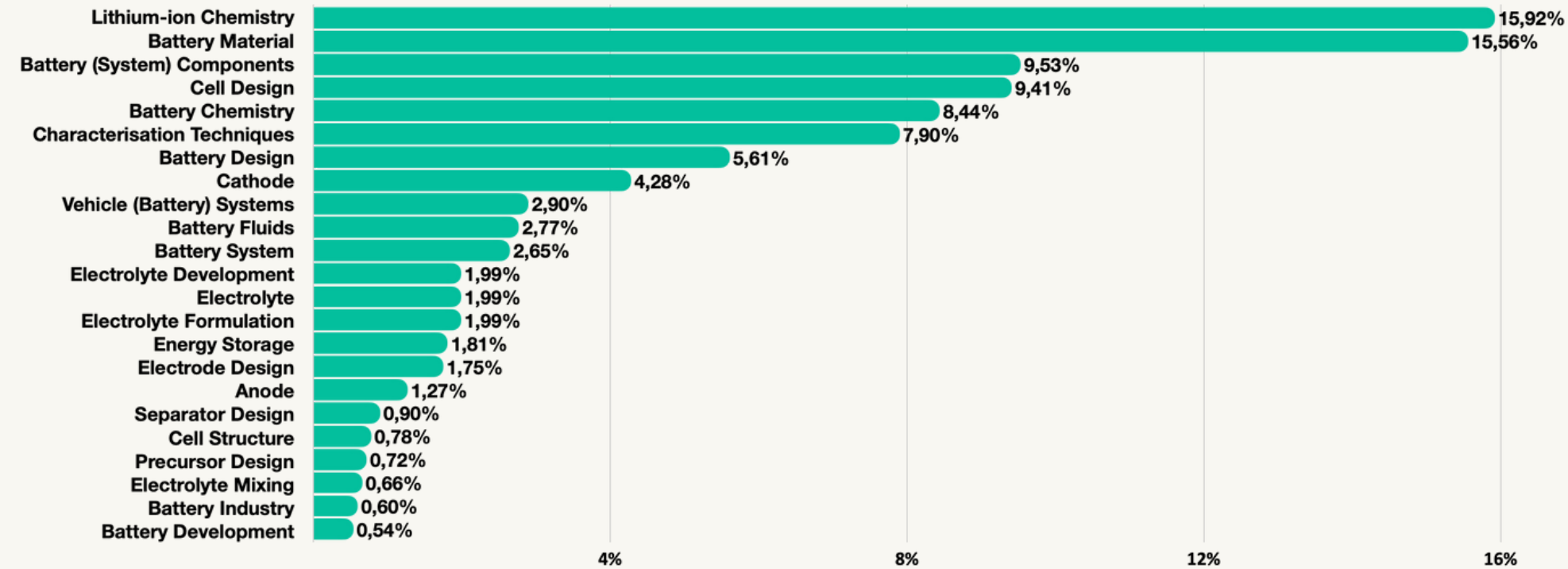


Currently, a European cell producer typically gets raw materials through: **a)** import from companies on other continents, **b)** new European sourcing as a desirable alternative to remediate the situation, **c)** recycling operations to take care of the raw materials used optimally.

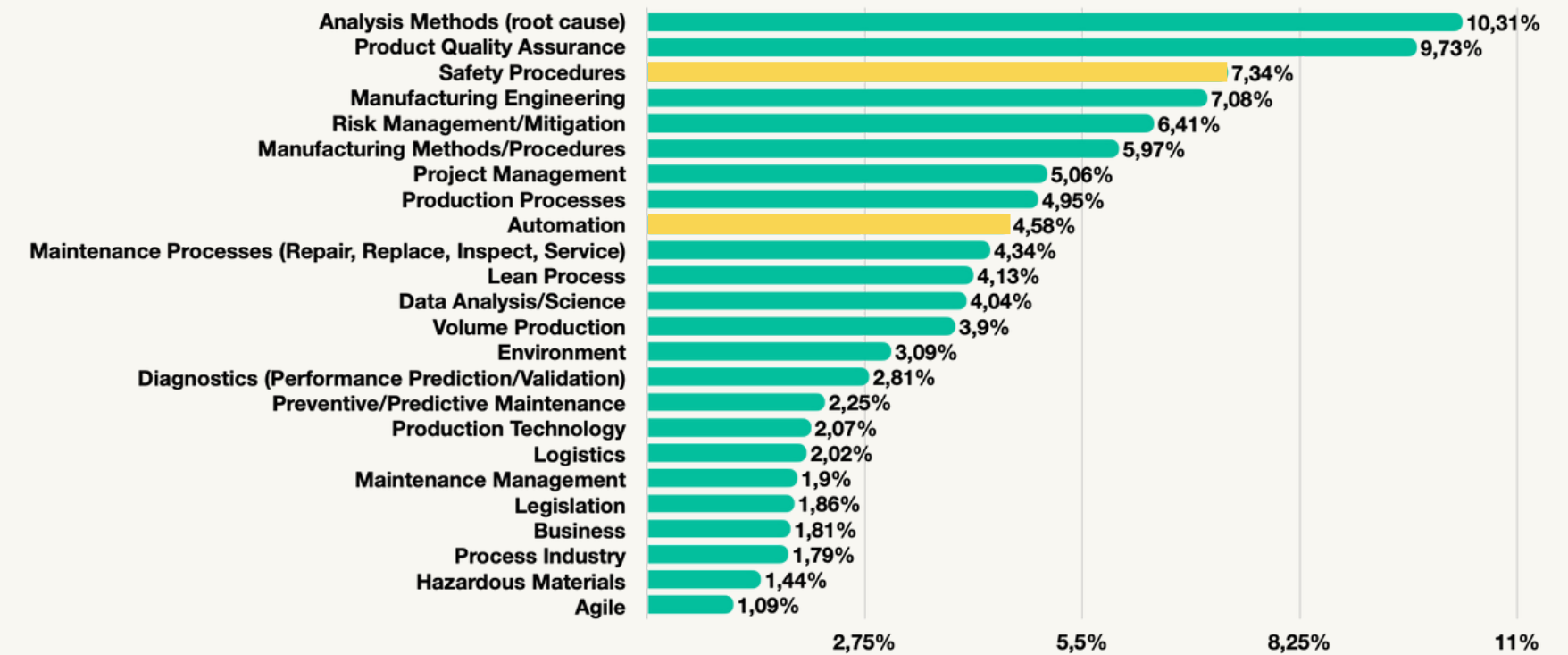
TARGET GROUPS: Prospecting and mining companies, refineries, and their white- and blue-collar workforce; branch organisations; and authorities involved in exploration permits and mining concessions.

SKILLS, COMPETENCES & KNOWLEDGE NEEDS

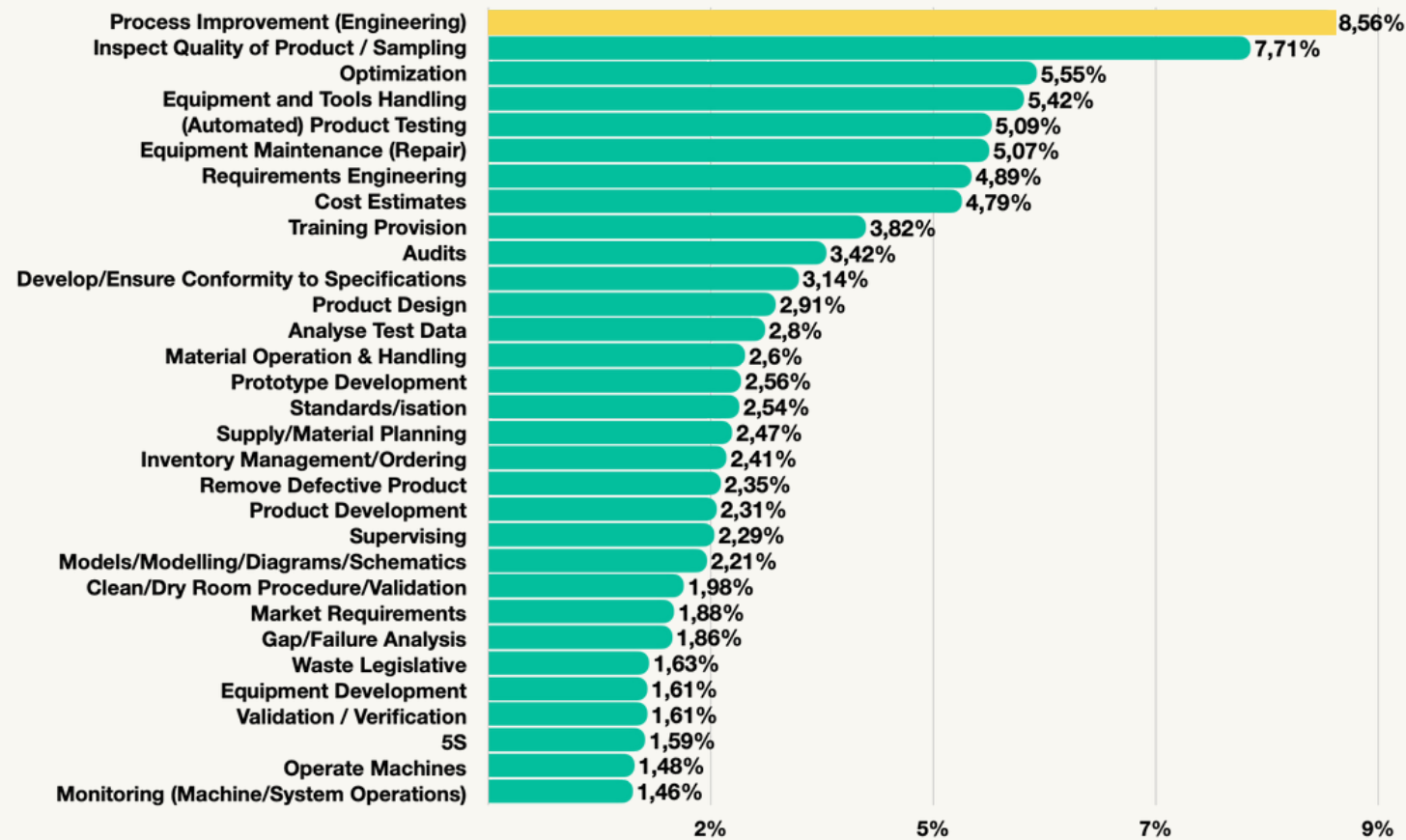
SECTOR SPECIFIC COMPETENCE



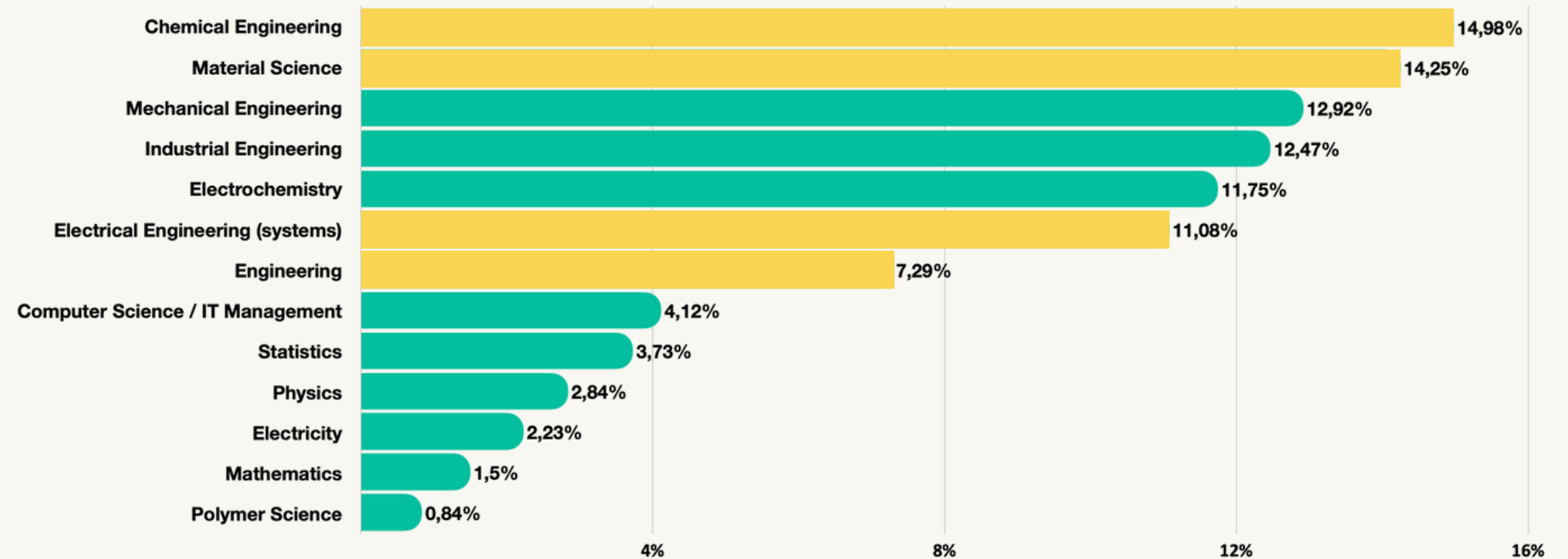
CROSS-SECTORAL SPECIFIC KNOWLEDGE



CROSS-SECTORAL SPECIFIC SKILLS



ACADEMIC COMPETENCE



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

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 MAINTENANCE ENGINEER
 RESEARCH & DEVELOPMENT BATTERY CHEMIST **PRODUCTION ENGINEER**
 SENIOR/STAFF BATTERY ENGINEER MANUFACTURING ENGINEER
 SENIOR AUTOMATION ENGINEER
 LEAN MANUFACTURING ENGINEER QUALITY ENGINEER BATTERY TECHNICAL LEAD
 BATTERY MATERIALS ENGINEER SENIOR CATHODE ENGINEER
 INDUSTRIAL 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



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](#)



JOIN THE ALBATTs STAKEHOLDERS GROUP



FOLLOW US:

