



*Alliance for Batteries Technology, Training and Skills*

*2019-2023*

## **Maintenance Engineer in Battery Industry**



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## Maintenance Engineer in Battery Industry

A battery production maintenance engineer is responsible for the maintenance and repair of equipment and machinery used in the production of batteries. They work in battery manufacturing plants and are responsible for ensuring that the equipment is operating efficiently and effectively to produce high-quality batteries. They need to have a strong understanding of mechanical, electrical, and control systems engineering, as well as experience with maintenance, repair, and troubleshooting of production equipment. They also need to be familiar with safety protocols, regulations, and industry standards related to battery production.

They are responsible for performing regular inspections and preventative maintenance on the equipment, identifying and resolving issues that arise during production, and making necessary repairs or modifications to improve equipment performance. They also need to be able to work closely with other engineers, production staff, and management to ensure that the production schedule is met, and that the batteries produced meet the required quality standards. They may also be responsible for maintaining accurate records of maintenance and repair activities, and for training production staff in the proper use and maintenance of the equipment.

### ESCO Occupations - [ESCO - Occupations - European Commission \(europa.eu\)](https://ec.europa.eu/esco/)

ID	NAME	Concept URI
2141.8	maintenance and repair engineer	<a href="http://data.europa.eu/esco/occupation/615920c5-4f63-4eb3-8b60-afaaed3ab1ff">http://data.europa.eu/esco/occupation/615920c5-4f63-4eb3-8b60-afaaed3ab1ff</a>

### Context

<b>Minimum EQF</b>	5/6/7
<b>Value Chain</b>	Raw Materials and Processing Cell and Components Manufacturing Modules and Packs

	Battery Integration Operation, Repair, and Maintenance Second Life Recycling
<b>Departments</b>	Production and Maintenance
<b>Specialisations</b>	Other job roles that are more specialised but based on this Maintenance Engineer Maintenance Personnel Battery Maintenance Engineer

### Cross-sectoral Specific Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Project Management	K	<ul style="list-style-type: none"> <li>- Follow up on performance of reliability of the equipment</li> <li>- Make cost and spend analysis of the equipment</li> <li>- Evaluation of needed spare parts for the equipment</li> <li>- Application of scheduling and project management principles to maintenance programs</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Work with the operators to enable continuous operator maintenance</li> <li>- Perform risk analysis and issue permits</li> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Take proper and fast action when having failures and deviations affecting the production</li> </ul>	Expert	project management principles; project management
Equipment and Tools Handling	S	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment</li> <li>- Evaluation of needed spare parts for the equipment</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Execute predictive and preventive maintenance programs</li> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> </ul>	Expert	equipment and tools handling
Cost Estimates	S	<ul style="list-style-type: none"> <li>- Make cost and spend analysis of the equipment</li> </ul>	Practitioner	Cost management
Inspect Quality of Product / Sampling	S	<ul style="list-style-type: none"> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> </ul>	Expert	inspect quality of product

		<ul style="list-style-type: none"> <li>- perform corrective maintenance when needed</li> <li>- Desire to improve with focus on safety, quality, environment and production efficiency</li> </ul>		
Process Improvement	S	<ul style="list-style-type: none"> <li>- Desire to improve with focus on safety, quality, environment and production efficiency</li> <li>- Follow up on performance of reliability for the equipment</li> <li>- Application of scheduling and project management principles to maintenance programs</li> <li>- Take proper and fast action when having failures and deviations affecting the production</li> </ul>	Expert	identify process improvement
Remove Defective Product	S	<ul style="list-style-type: none"> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Take proper and fast action when having failures and deviations affecting the production.</li> <li>- Follow up on performance of reliability of the equipment</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Work proactively with the operators to enable continuous operator maintenance</li> </ul>	Expert	remove defective product
Risk Management	K	<ul style="list-style-type: none"> <li>- Perform risk analysis and issue permits</li> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Strive to improve with focus on safety, quality, environment and production efficiency</li> </ul>	Expert	risk management
Environment	K	<ul style="list-style-type: none"> <li>- Issue permits</li> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Strive to improve with focus on safety, quality, environment and production efficiency</li> </ul>	Expert	environmental legislation
Production Processes	K	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> <li>- Application of scheduling and project management principles to maintenance programs</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Take proper and fast action when having failures and deviations affecting the production</li> </ul>	Expert	production process
Maintenance Processes	K	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> </ul>	Expert	maintenance and repair

		<ul style="list-style-type: none"> <li>- Application of scheduling and project management principles to maintenance programs</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> </ul>		
Equipment Maintenance	S	<ul style="list-style-type: none"> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Evaluation of needed spare parts for the equipment</li> <li>- Take proper and fast action when having failures and deviations affecting the production</li> </ul>	Expert	ensure equipment maintenance
Maintenance Management	K	<ul style="list-style-type: none"> <li>- Application of scheduling and project management principles to maintenance programs</li> </ul>	Expert	maintenance and repair
Product Quality Assurance	K	<ul style="list-style-type: none"> <li>- Always strive to improve with focus on safety, quality, environment and production efficiency</li> <li>- Strive to keep equipment and processes in best working order to ensure the production of quality products</li> </ul>	Expert	quality assurance methodologies
Safety Procedures	K	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> <li>- Perform risk analysis and issue permits according to corporate routines</li> <li>- Always strive to improve with focus on safety, quality, environment and production efficiency</li> <li>- Act in compliance with all security protocols</li> <li>- Ability to recognize safety concerns and maintain a safe work environment under NFPA 70e guidelines</li> </ul>	Expert	safety engineering
Preventive/Predictive Maintenance	K	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> <li>- Assessing required maintenance tools and skills required for efficient maintenance of equipment</li> <li>- Work proactively with the operators to enable continuous operator maintenance</li> </ul>	Expert	maintenance and repair

### Sector Specific Competence

Name	Type (S/K)	Description/Context	Level	ESCO
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### Soft Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Communication	K	<ul style="list-style-type: none"> <li>- Give positive and constructive corrective feedback to team</li> </ul>	Expert	communication

		<ul style="list-style-type: none"> <li>members and other shift teams</li> <li>- Work with the operators</li> <li>- Establishing a good culture</li> <li>- Assess and report</li> </ul>		<ul style="list-style-type: none"> <li>problem solving &amp; troubleshoot</li> <li>teamwork principles</li> </ul>
Problem Solving/Troubleshooting	S	<ul style="list-style-type: none"> <li>- Execution of preventative maintenance as well as being reactive to perform corrective maintenance when needed</li> <li>- Work towards the root cause and solve the problem</li> <li>- Apply preventative maintenance testing techniques</li> </ul>	Expert	
Teamwork	K	<ul style="list-style-type: none"> <li>- Work with operators to enable continuous operator maintenance</li> <li>- Establish a good culture where all work together to provide the best solutions to employees, customers, suppliers, owners</li> <li>- Giving positive and constructive corrective feedback</li> </ul>	Expert	

### General Transversal Competence

Name	Type (S/K)	Description/Context	Level	ESCO
Swedish	K	<ul style="list-style-type: none"> <li>- Working in an international and multicultural environment</li> </ul>	Practitioner	Swedish
English	K	<ul style="list-style-type: none"> <li>- Working in an international and multicultural environment</li> </ul>	Practitioner	English
Reporting	S	<ul style="list-style-type: none"> <li>- Application of scheduling and project management principles to maintenance programs</li> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Work with operators to enable continuous operator maintenance</li> </ul>	Expert	follow reporting procedures
Health and Safety Standards	K	<ul style="list-style-type: none"> <li>- Assessing and reporting safety hazards associated with maintenance of equipment</li> <li>- Strive to improve with focus on safety, quality, environment and production efficiency</li> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> <li>- Perform risk analysis</li> <li>- Act in compliance with all security protocols</li> <li>- Ability to recognize safety concerns and maintain a safe work environment under NFPA 70e guidelines</li> </ul>	Expert	health and safety in the workplace
Planning/Scheduling	S	<ul style="list-style-type: none"> <li>- Developing and optimizing the maintenance for the equipment in terms of reliability, cost and safety</li> <li>- Make cost and spend analysis of the equipment</li> <li>- Application of scheduling and project management</li> </ul>	Expert	perform planning

		principles to maintenance programs		
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**Academic Competence (can be taken from University programme)**

Name	Type (S/K)	Description/Context	Level	ESCO
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