

DIGITAL INDUSTRIES SOFTWARE

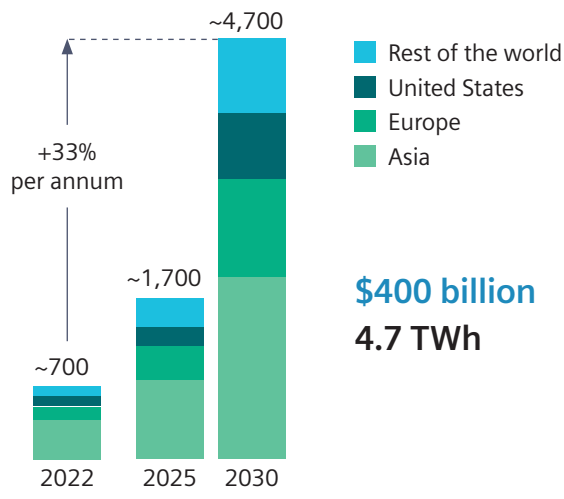
# Battery smart manufacturing production excellence

Digital transformation is now a competitive necessity

Market trends are disrupting the battery manufacturing industry.



The battery manufacturing industry is expected to grow exponentially through the year 2030.



**+90** **2030**  
New factories planned

\$400 billion  
4.7 TWh

Source: McKinsey & Company

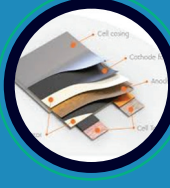
Yet just 10 to 15 battery cell suppliers are enough to supply the global market.\*

Excess capacity and the race for innovation will increase competitive pressure, driving the need for manufacturing efficiency.



**From pilot line to mass production**

Digitally plan and validate production setup to identify problem areas and mitigate risks.



**Rapidly evolving technology**

Increase efficiency during the ramp-up phase by improving the reliability of quality assurance and validation testing.



**Yield losses due to high scrap rate**

Increase product quality and reduce scrap with end-to-end traceability, closed-loop quality and effective order management.

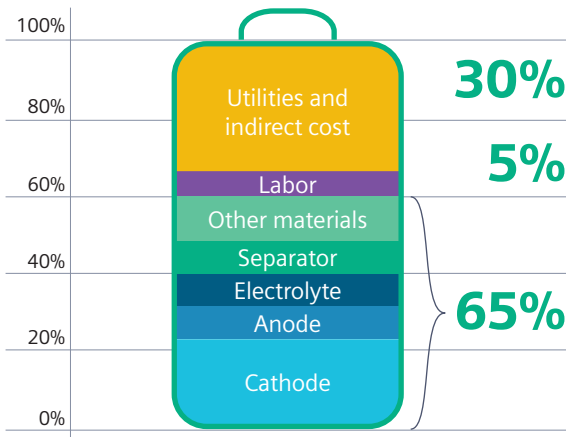


**New standards and regulations**

Be ready to excel in complying with regulations and customer requirements.

\*Source: McKinsey & Company, "Capturing the battery value-chain opportunity," January 2022.

Manufacturing excellence is required to ramp up capacity quickly while keeping control over cost and quality – creating economies of scale with sustainable and compliant operations.



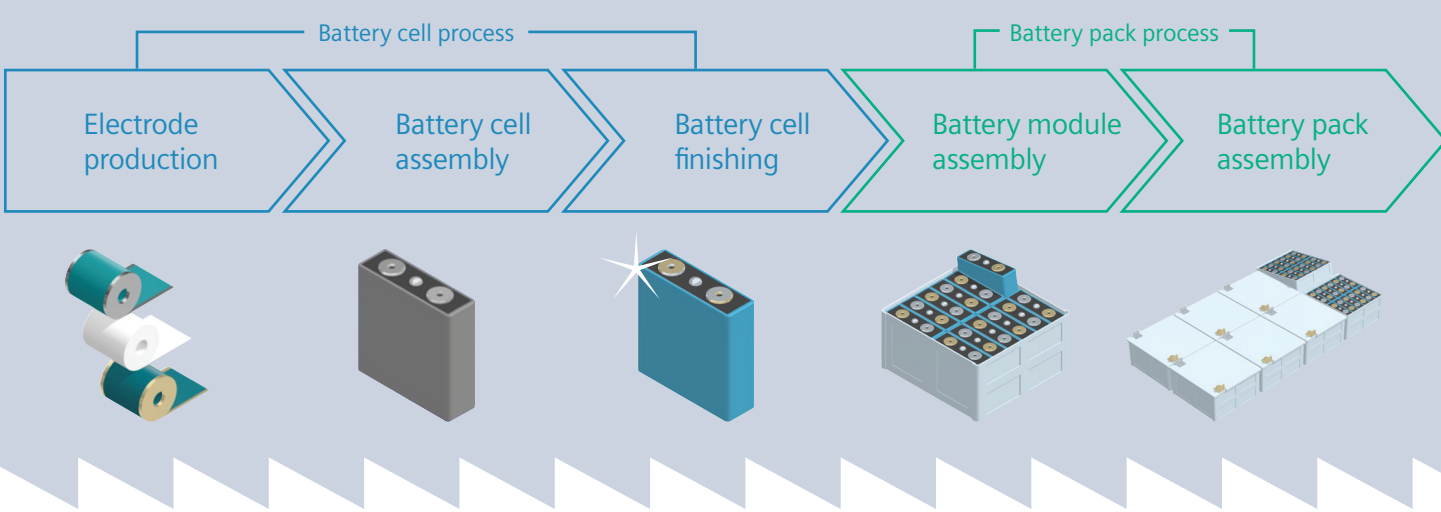
Manufacturing operations drive over half the value chain

Material costs account for 65%

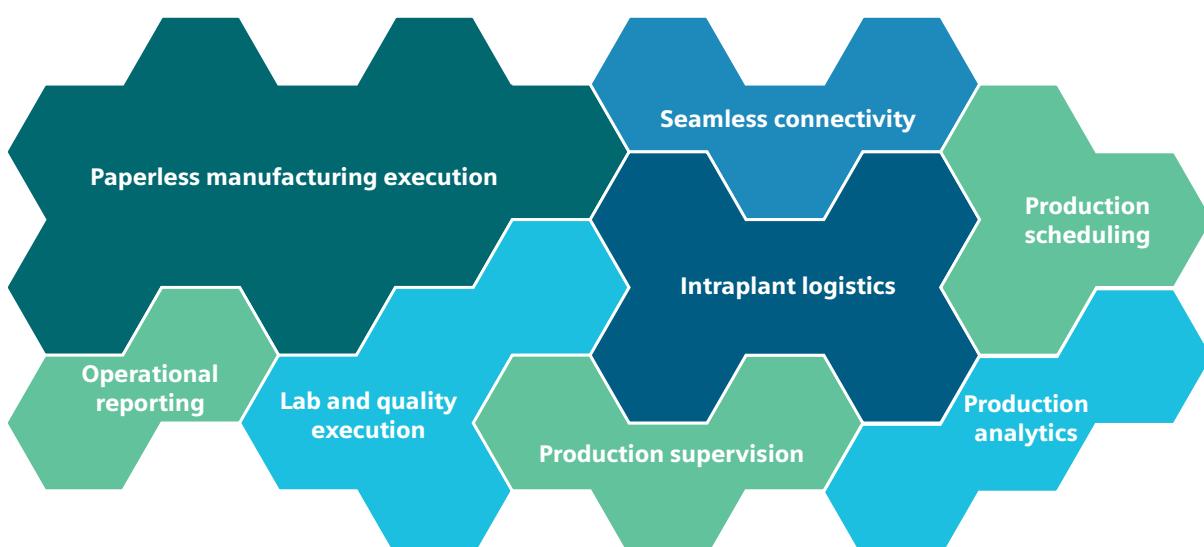
Scrap rate and quality issues are critical to competitiveness

Source: <https://cicenergigune.com/en/blog/critical-materials-battery-industry>

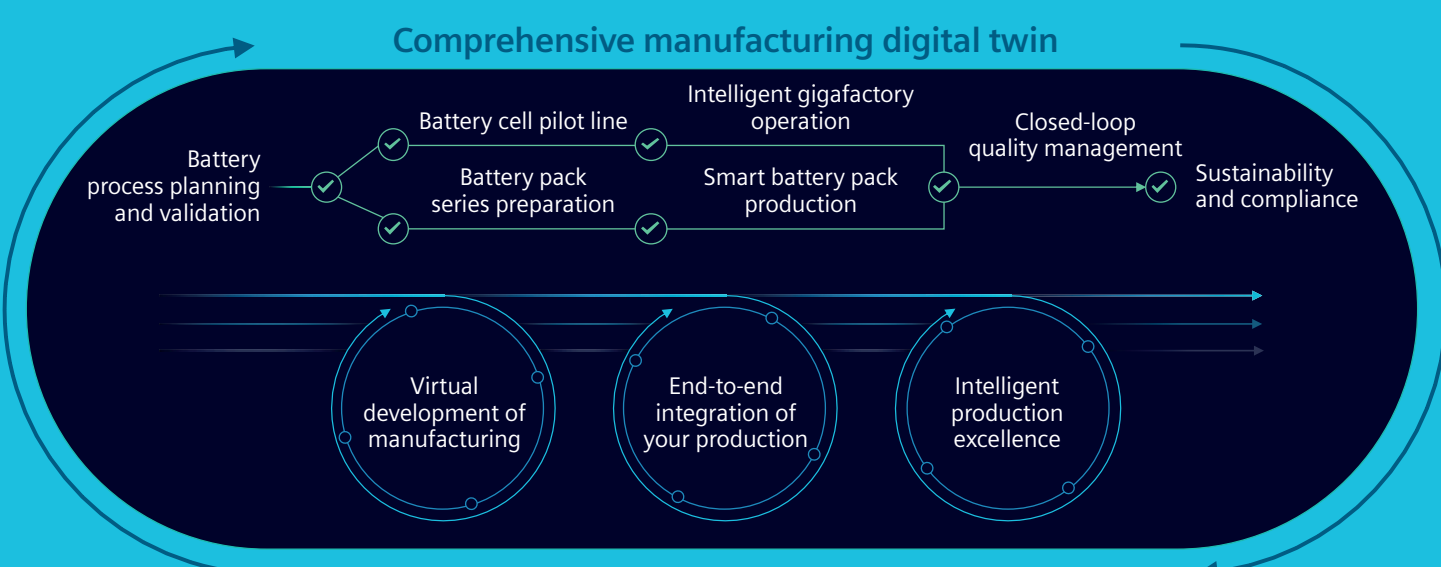
Siemens delivers digital transformation from product design to delivery, driving new levels of innovation, quality and efficiency.



The Siemens battery solution delivers operational excellence with a comprehensive, proven digital platform for manufacturing operations management (MOM).



Siemens is meeting the challenges of today's battery manufacturing industry, enabling rapid scale at high quality, reducing time to market and ensuring compliance with regulation and sustainability targets.



Are you ready to master manufacturing operations management with a proven **smart manufacturing solution** for batteries from Siemens?

Learn more at [siemens.com/opcenter](https://siemens.com/opcenter)