For more than 45 years, MBRAUN offers special solutions for processing air-sensitive material and components under inert conditions.

In recent years, MBRAUN developed complementary products to complete the portfolio in the battery application.

High-speed electrolyte filling systems (ELFI) for pouch and prismatic cells, drying ovens, transport solutions and solvent removal systems enable to offer turnkey solutions, starting at R&D level, followed by pilot scale industrial research up to mass manufacturing, where tact time, reliability and reproducibility is the key for success.

With in-house designed vacuum coating equipment allowing the coating of lithium at high deposition rates, MBRAUN addresses the needs of the ASSB community, which is currently developing the next generation solid-state batteries.

In combination with a strong partner network, MBRAUN also offers complete solutions from research and development to manufacturing, consisting of its own knowledge and system solutions from its partners.

#### **ELECTROLYTE-FILLING**

For Pouch Cylindrical & Prismatic Cells









### **SLOT-DIE COATING**



## **VACUUM COATING**

# Deposition of:

- Electrodes (E.g. Li, Al, Cu, Si)
- Electrolytes (Oxides)





# LEADING MANUFACTURER FOR INERT GAS SYSTEM SOLUTIONS

made in Germany

Founded in 1976 as a manufacturer of gloveboxes, MBRAUN has expanded its activities to include solutions for thermal treatment, vacuum coating, operator protection, automated material handling and process tool integration.

With an installed base of more than 25,000 systems, MBRAUN is currently represented in more than 40 countries and relies on the expertise of more than 350 employees worldwide.



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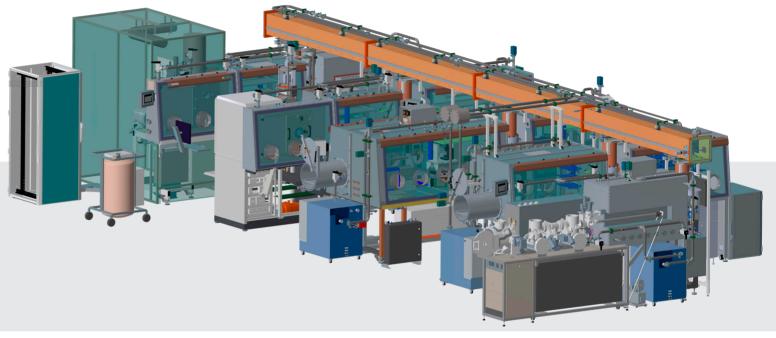
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# MINI-ENVIRONMENT FOR BATTERY CELL PRODUCTION

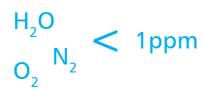
Li-ion (LIB) & Solid State (ASSB)

- No particles or impurities
- Safe and stable process conditions
- MBRAUN Process Tools
- Third-party equipment integration





MBRAUN's core technology improves cell production quality while reducing costs by enclosing only the process area. This allows significantly cleaner atmospheres and thus ideal conditions for research, development and commercial cell production.





**Drying Ovens** 



Vacuum Coating



**Wet Coating** 



Hot-Plate Curing



Laser cutting



Ultrasonic Welding



Electrode Stacking



Filling and Sealing



Climate Chamber - Cycling



Automation



Analytical Equipment



Particle Removal with Laminar Flow