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PEM MEA improving marketability of FCEV

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Market share of fuel cell vehicles is still low, measures to boost sales are manifold. This talk focuses on research measures to bring about a significant reduction in stack cost and fuel consumption through improvement of fuel cell performance and development of new, lower cost catalyst coated membranes and gas diffusion layers and to meet a lifetime target of 20,000 hours.

- Bosch develops catalyst ink and membrane coating processes using low-cost materials as well as high performance materials optimizing performance and lifetime and targeting an overall stack cost minimum by balancing number of needed cells versus unit cell cost.
- A Bosch low-cost GDL approach aims to halve the scaled production cost forecast for 2030 of today's GDL with MPL without compromising cell performance.
- A deep understanding of MEA degradation enables Bosch to design an optimized stack operating strategy which maximises performance while mitigating degradation.
- A model-based lifetime prediction method enables lower cost and yet durable MEA designs

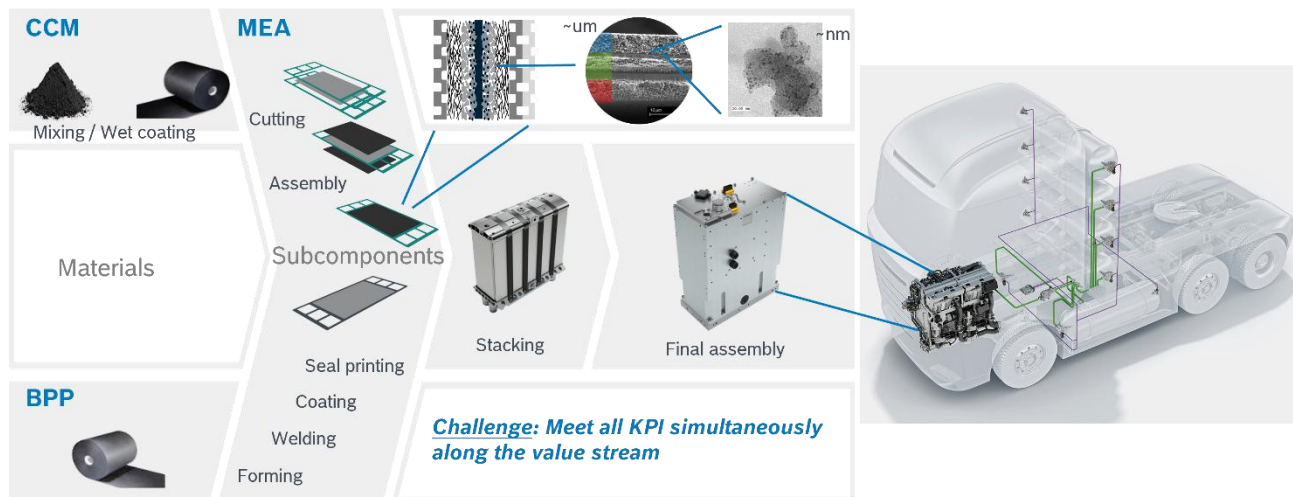


Figure 1: PEM fuel cell stack value chain

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