

## Workshop »Coatings for Energy Technologies«

### Roll-to-roll ALD Coatings for Battery Cell Interfaces

Dr. Andrew Cook

*Beneq Oy, Espoo, Finland*

[andrew.cook@beneq.com](mailto:andrew.cook@beneq.com)

Atomic layer deposition (ALD) is an enabling technology, which has been shown to improve battery performance, through the introduction of thin film coatings to modify interface surfaces on cathodes, anodes and separators. ALD can help to improve thermal stability, stabilise SEI layer, suppress dendrite, inhibit transition metal dissolution, and increase interfacial contact between layers, all of which are current issues facing lithium-ion battery technology. This presentation will demonstrate how Beneq uses ALD technology to solve these issues and show how this can be scaled to production levels within a Gigafactory environment.

ALD is an advanced coating technique, which has been studied for more than 10 years for uses in battery applications on small scale batch systems. ALD coatings have been applied to cathode, anode, and separator materials to modify the surface interfaces, and improve battery performance. This presentation will describe the current R2R ALD system, Beneq has developed for high-throughput production.