

## **Company**

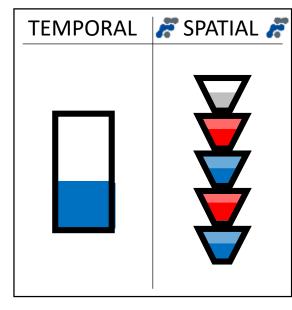
- Founded in 2013
- End-to-end materials solutions
- From lab to commercial-scale
- Scaling a platform technology
- Sub-nano surface control
- Enhancing materials in many markets to improve product performance
- 2019 VW Investment

SURFACE COATINGS ONTO

SURFACE COATINGS ONTO POWDERS, SUB-NANO

## **Technology**

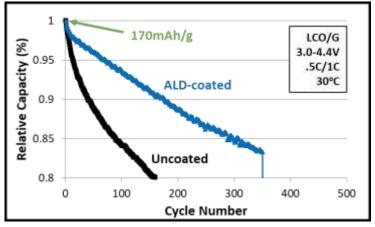
- Atomic Layer Deposition (ALD)
  - Elegant but historicallyVERY high cost
- Paradigm-shift to new high throughput "spatial" method for low cost ALD
- Comprehensive IP portfolio across methods, markets, and coating types



www.volkswagenag.com/en/news/2019/01/Volkswagen\_invests\_in\_US\_start-up\_Forge\_Nano

## **ALD for Batteries**

- Higher energy density, longer life, improved safety, faster charging
- Projected lower pack costs even with added process



Cathodes: LCO, NMC, NCA, LMNO, LMO Anodes: Graphite's, Si's, Li-metal Other: Solid-state, Li-S, Zn, Pb, Na, Mg

## **Business Model**

- R&D Services We'll design your coating
- Tolling We'll coat your material (mg to kton)
- Tooling We'll sell you a tool (Lab to Commercial)
- Licensing We'll provide access to IP

