

**a. Influential factors**

*Cell design:* Chemistry, form factor, formation protocol

*Cell quality:* Defects, conformance

*Module/pack design:* s/p configuration, thermal management, pack balancing

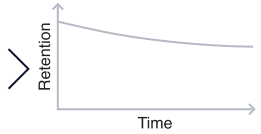
*Cell operating limits:* Charging limits, voltage limits

*End-user behavior:* (Dis)charging rates, usage per day

*External environment:* Temperature, vibrations, humidity

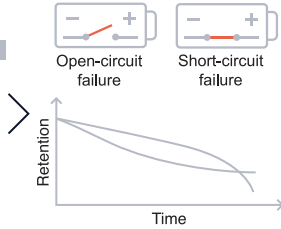
**b. Performance degradation**

Side reactions on the electrode particles      Active material loss



**c. Functional failure**

Insufficient electrode overhang      Tab weld failure      Metallic particle contaminants



**d. Safety event**

Short-circuit failure      Car crash      Casing or seal failure      Thermal event      Gassing      Leak

