

Seminar Agenda

Scandic Hotel Asker, August 25th

08:00 – 08:30 Registration & Coffee

08:30 – 08:45 Hans H. Schive Presentation

08:45 – 09:15 - Module 1: Battery Characteristics

This session introduces a historical prospective of batteries, detailed battery definitions and features (electrical, mechanical, standards, etc.). Module 1 lays the foundation for the attendants to share a common “battery language” and provides all the background needed for upcoming modules.

09:15 – 09:45 Module 2: Primary cells & Batteries

This session reviews and compares primary battery chemistries (Alkaline Manganese Dioxide, Zinc Carbon, Zinc Chloride, Silver Zinc, Nickel Oxyhydroxide, Lithium Iron Disulfide, Lithium Iodine, Lithium Manganese Dioxide, Lithium Carbon Monofluoride, Lithium Sulfur Dioxide, Lithium Thionyl Chloride, Lithium Sulfuryl Chloride, Lithium Bromine Chloride and High Power Organic Lithium).

09:45 – 10:15 Module 3: Rechargeable cells & batteries

This session reviews and compares rechargeable batteries chemistries (Nickel Cadmium, Nickel Metal Hydride, Rechargeable Alkaline, Lithium Ion and Lithium Polymer).

10:15 – 10:30 Coffee Break

10:30 - 11:30 Module 4: Lithium Rechargeable Cells Manufacturing Process

- This session reviews manufacturing process techniques for conventional and pouch cells.
- Manufacture Qualification, risks, test, analysis, certifications and critical parameters for audits. Combination of SDLS and SCHIVE.

11:30 – 12:15 Module 5: Battery Charging

- This session reviews battery chargers, charging techniques per battery chemistry, charging problems and solutions. Battery lifetime optimization
- Customer case (Mascot / Schive).

12:15 – 13:15 Lunch Break

13:15 – 14:00 Module 6: Battery Design Process & Optimization

This session introduces battery design processes (cell and raw materials selection, cell level testing, battery design documents, battery electrical, mechanical and safety design and final verification tests (electrical, mechanical, safety). Combination of SLDE and Schive

14:00 – 15:45 Module 7: Battery Safety & Battery Disposal

This session introduces the safety risks along the battery cycle life and provides safety guidelines for safety event elimination. This module also addresses the procedures involved in handling safety events, including first aid. Latest disposal requirements and updates in Europe and the US.

15:45 – 16:15 Module 8: Battery testing systems

- This session introduces battery testing techniques, available systems and their features.
- Testing parameters and (SCHIVE)

16:15 – 17:00 Module 13: Energy Storage for on-and off grids.

- General
- Experiences from the Norwegian market and challenges related to intelligence and control vs reliability and efficiency of the systems (SCHIVE)