

BroadBit Batteries Extends LMFP Benchmark: 2600 Full Cycles reached with over 80% Capacity Retention

Prototype 18650 LMFP cells retain >80% capacity after 2600 cycles at 100% DoD

Helsinki, Finland – September 23, 2026: BroadBit Batteries Oy today announced a further milestone in LMFP (Lithium Manganese Iron Phosphate) technology. Continued cycling of the same prototype 18650 cylindrical cells (LMFP cathode, graphite anode, proprietary ProLion™ 3M electrolyte) has now surpassed **2600 full charge-discharge cycles** while retaining more than **80% of initial capacity**.

In June 2026 the company reported 2000 cycles at 85% SOH. The cells have continued under the same demanding protocol and remain above 80% SOH at 2600 cycles. Every cycle used 100% depth of discharge.

This result further closes the historical cycle-life gap between LMFP and LFP and strengthens the case for LMFP as a drop-in, higher-energy alternative that is 20% lighter and 20% cheaper for the same pack energy, while remaining cobalt- and nickel-free and thermally safe.

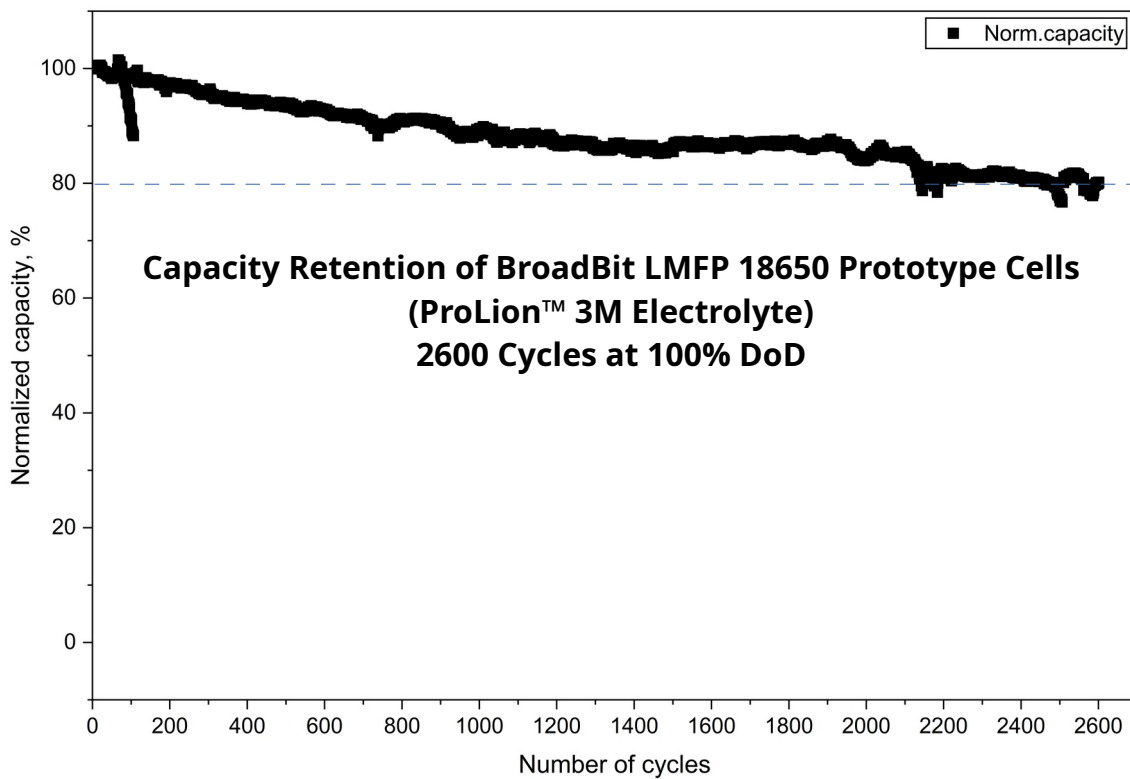
Testing of ProLion™ 3M LMFP performance was carried out at room temperature, under demanding real-world conditions:

- Charge: C/2 constant current to 4.25 V
- Discharge: 1C constant current to 2.75 V
- Room temperature
- 100% DoD every cycle

Power-capability checks performed earlier in the test (cycles 100–150) did not compromise subsequent longevity. The capacity-retention curve remains smooth and predictable.

“These additional cycles on the same prototype 18650 cells show that the June result was not a snapshot,” said CEO Dr. David P. Brown. “Under a full-DoD, 1C-discharge protocol, the cells remain above 80% capacity after 2,600 cycles in the cylindrical format pack designers actually have to qualify.”

Testing continues on additional cells, including elevated-temperature and varied-rate conditions. Detailed datasets are available to qualified partners.



Why the number is not trivial

Public LMFP data at this combination of format, voltage window and 100% DoD remain scarce. Independent programmes that have published comparable durability (for example ~1,500 cycles to ~80% SOH in pouch cells) set a useful reference point. Reaching 2600 cycles above 80% SOH in 18650 cells under the conditions above therefore remains a high bar for the chemistry, not a routine specification.

The result does not replace LFP where maximum cycle count is the only design goal, however it does strengthen the case for LMFP where energy density, pack mass, cost per kWh and compatibility with existing 4.2–4.25 V charging infrastructure are equally important.

Claims in the market should be compared on the same basis: cell format, C-rates, voltage limits, temperature, DoD and whether the data are measured on the same cells over time. BroadBit invites qualified partners to review the underlying datasets rather than treat headline cycle counts in isolation.



Why this matters

- Addresses the historic cycle-life gap that limited LMFP adoption
- Compatible with existing 4.2–4.25 V charging infrastructure
- Preserves LFP-class safety and material sustainability while targeting 20% lower pack mass and cost for the same energy

“ProLion™ 3M continues to set a practical benchmark for LMFP,” Brown added. “2600 full cycles above 80% SOH in 18650 cells under 1C discharge is a durability signal pack designers have wanted to see from this chemistry.”

About BroadBit Batteries Oy.

BroadBit Batteries Oy is a Finnish battery company developing advanced electrolytes (ProLion™ series) and next-generation lithium and sodium chemistries, including LMFP and sodium-salt systems. The company focuses on safer, longer-lasting and more affordable energy storage for automotive, renewable-energy and industrial applications.

For partnership, licensing or data-room access: <https://broadbit.com> or contact info@broadbit.com.