
INVESTMENT RESEARCH · FACTSHEET

Factsheet — Parallel Chemistry Development

Nano One Materials compared with Tesla — with a note on LG and Sumitomo

Subject: Timing of LFP and multi-chemistry positioning

Actors: Nano One (NANO/NNOMF), Tesla, LG, Sumitomo Metal Mining

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1 · Nano One and Tesla — parallel battery chemistry

Both actors anticipated the China-driven shift toward lithium iron phosphate (LFP) early, but at different layers of the value chain and with a telling offset in timing. Nano One is a pure process and technology licensor (cathode synthesis, One-Pot/M2CAM); Tesla is a cell offtaker and increasingly its own cell and cathode maker.

1.1 · LFP positioning timeline

Actor	First LFP positioning	Role / layer	Multi-chemistry
Nano One	Synthesis patent 25 Jul 2017 (Talebi route)	Process licensor — cathode synthesis (One-Pot/M2CAM)	LFP + high-nickel NMC + LNMO since ~2016/17
Tesla	Operational 2020 (China Standard Range); Q3-2021 deck (Oct 2021); Master Plan 3 (05 Apr 2023)	Cell offtaker & maker; own cathode-process patents only 2024/25	Chemistry-segmented demand matrix (LFP / Mid-Ni / LMFP / High-Ni)

Key observation: Nano One held the LFP synthesis IP roughly three to four years before Tesla used LFP operationally (2020) or announced it strategically (Oct 2021). On public strategic positioning, however, Tesla was ahead. The IP existed before the demand was publicly articulated.

1.2 · Master Plan 3 — the chemistry matrix (05 Apr 2023)

Tesla's third master plan does not position the company mono-chemically on LFP but on an application-segmented chemistry mix: Standard Range vehicles and stationary storage use LFP (bottom); mid segments Mid-Nickel, manganese or LMFP; Long Range vehicles and short-haul aircraft High-Nickel (top). Each application is assigned the cheapest sufficient chemistry.

ANALYTICAL ASSESSMENT — Structural fit

Nano One's One-Pot, as a chemistry-agnostic platform, is the production-side counterpart to Tesla's demand matrix: the same chemistry range (LFP, LMFP/manganese, high-nickel NMC) that Master Plan 3 systematised as future demand in 2023 was embedded in Nano One's patent and research portfolio from 2016/17. CEO Blondal framed the logic in 2024 almost identically to Tesla: no single winner chemistry, but a »continuum« of application-specific materials.

THESIS · SPECULATION — Limits of the connection

The convergence is fully explained by the shared underlying insight (different applications need different cost/density trade-offs) that matured industry-wide over 2016–2023. A direct Nano-One–Tesla link is NOT established. The unnamed »global automotive OEM« cited in Nano One releases (Feb/Dec 2023) fits the Master Plan 3 matrix closely.

1.3 · Jeff Dahn / Tesla — complementary layer

The Tesla-funded Dahn group (Dalhousie) intensified its visible LFP work only in 2023–2025 — but at the cell level (lifetime, state-of-charge windows, iron dissolution into graphite), not cathode synthesis. The joint »blended cathode« patent (WO2024/229047, LFP with a little nickel) and Tesla's LFP process patent (WO2025015194) date to 2024/25. This layer is complementary to Nano One's synthesis approach, not overlapping.

2 · Note — development of LG and Sumitomo

LG and Sumitomo follow the same pattern as Tesla and Nano One — convergence on a multi-chemistry matrix driven by the LFP cost shift — each from its own starting point.

2.1 · LG — from NMC defender to multi-chemistry supplier

LG stayed loyal to NMC longest. First public LFP signal: LGES at Smarter E (May 2022, NMC→LFP transition). LG Chem systematised the multi-chemistry strategy in May 2023: high-nickel (up to 95 % Ni, single-crystal) plus explicitly cost-efficient high-voltage mid-nickel, LFP and manganese-rich; later the LAP hybrid (LMFP+NCMA). LG covers its LFP ambition via Chinese partners (Huayou/Morocco, Lopal/Indonesia), not via its own synthesis IP.

2.2 · Sumitomo (SMM) — NCA pioneer with an LFP acquisition

SMM is Japan's largest NCA supplier (for Panasonic→Tesla) and entered LFP by acquisition: it took over Sumitomo Osaka Cement's LFP business (contract 22 Feb 2022, completion 01 May 2022), including the Vietnam plant (operating since 2012) and a nanoparticle synthesis route matured since the 1980s, together with its research team. In October 2022 SMM set up a dedicated LFP project department.

CONFIRMED — The 2022 twin acquisitions

Almost in parallel, both relevant actors acquired an existing LFP plant running since 2012 together with its legacy team: SMM the Vietnam plant from Sumitomo Osaka Cement (contract 22 Feb 2022), Nano One the Candiac plant from Johnson Matthey (announced 25 May 2022, closed 01 Nov 2022, C\$10.25M, 2,400 tpa), including Denis Geoffroy, the Phostech veteran who helped build Candiac. Note: Sumitomo Osaka Cement (seller) and Sumitomo Metal Mining (buyer) are different companies within the Sumitomo group.

ANALYTICAL ASSESSMENT — Why simultaneous?

The simultaneity is striking but not coincidental in the sense of collusion: the same logic, triggered at the same time by the same market signal. In 2021/22 incumbents divested their legacy LFP businesses (Johnson Matthey left battery materials entirely; Sumitomo Osaka Cement exited its LFP segment). Both buyers used that window for an existing plant as a springboard rather than greenfield. This makes SMM and Nano One structural mirror images and explains their coming together in September 2023.

3 · Sumitomo's position toward Nano One

Sumitomo Metal Mining is Nano One's only firmly named collaboration partner and thus the evidentiary anchor of the licensing thesis. With NCA (nickel-rich, top segment) and the acquired LFP business (bottom segment), SMM covers the same multi-chemistry range as the other actors.

3.1 · Documented milestones

Date	Event	Content
22 Feb 2022	LFP acquisition	SMM takes over Sumitomo Osaka Cement's LFP business incl. Vietnam plant (completion 01 May 2022)
Oct 2022	Organisation	SMM establishes a dedicated LFP project department
Sep/Oct 2023	Investment	Strategic C\$16.9M stake in Nano One + collaboration agreement (LFP and nickel-rich NMC)
Sep 2025	Deepening	»High degree of confidence« in One-Pot after trials, IP review, economic modelling; expansion to target customers

CONFIRMED — Capacity frame

Per Nano One's September 2023 release, SMM intends to expand its CAM capacity (nickel-CAM and LFP aggregated) from about 60,000 tpa to 180,000 tpa by 2030. The location and technology for the LFP share of that expansion are not publicly fixed.

3.2 · SMMV thesis (Vietnam plant) — refined

There is no evidence for a specific conversion of the Vietnam plant to One-Pot; SMM consistently treats Vietnam as a know-how and customer bridge, and the One-Pot process trials run in Japan per the September 2025 release. The more defensible reading is therefore: SMM acquired LFP know-how in 2022 as a learning base and is evaluating One-Pot as a scalable route for its quantified capacity expansion — location open.

THESIS · SPECULATION — Anchor and counter-argument

Anchor of the licensing thesis: SMM invested in 2023 and deepened in 2025 after IP review — suggesting the in-house SOC route alone is not deemed sufficient. Honest counter-argument: SMM already owns a working in-house LFP synthesis in the SOC nanoparticle route optimised over 40+ years; One-Pot must prove its advantage (per Worley ~30/30/80 on capex/opex/energy) against THAT incumbent route, not only against Chinese standard LFP. If One-Pot does deliver that advantage, however, the path is globally clear for very broad application of the technology.

Sources (primary, public): Nano One and SMM press releases (2017, 2022, 2023, 2025); Sumitomo Osaka Cement / SMM business-transfer notice (22 Feb 2022); Tesla Master Plan Part 3 (05 Apr 2023) and Q3-2021 investor deck; LG Chem / LGES releases (2022, 2023); patent documents US 2017/0170479, WO2024/229047, WO2025015194. Interpretations and probability assessments are labelled as analytical assessment or thesis/speculation and are not statements of fact.