PATENTPULSE AI · DAILY PATENT ALPHA

Sample Brief: Energy storage

October 20, 2026 · 4 newly published USPTO applications, ranked by Signal Score

Real USPTO applications published in the last 60 days. Analysis is AI-generated opinion, not legal or investment advice.

AT A GLANCE

#2 **Crystallite ratio cathode for initial efficiency**

Watch competitor · SK ON CO., LTD.

#3 **In-situ annealing regenerates solid-state…**

Early-stage bet · William Marsh Rice…

#4 **Buffer Cover for Battery Winding End**

Watch competitor · CONTEMPORARY AMPEREX…

TOP PICK

#1 Humidity-treated cathode with adsorption limits

POSITIVE ELECTRODE ACTIVE MATERIAL FOR LITHIUM SECONDARY BATTERY, POSITIVE ELECTRODE FOR LITHIUM SECONDARY BATTERY, LITHIUM SECONDARY…

Watch competitor | **Energy** | **#1 of 100 screened in sample window**

Applicant: SUMITOMO METAL MINING Co., Ltd. • **Inventor:** Shingo TACHIBANA +1 • **Entity:** Regular Undiscounted • **CPC:** H01M 4/628, H01M 4/366, H01M 4/505 +4

Pub. No. US20260321657A1 • App. No. 19147820 • Filed 2025-07-14 • Published 2026-10-15



Specific adsorption and impurity ratios in claims 1 but no data or commercialization details

WHY THIS ONE STANDS OUT

The problem it solves: Suppress gas generation while achieving excellent rate performance in lithium secondary battery

What makes it hard to copy: Numerical limits on water adsorption hysteresis, BET area and lithium compound ratio

WHAT TO DO NEXT

1. Review full prosecution history for examples and cited art
2. Map the three numerical limits against commercial NMC materials

View USPTO publication (PDF) →

Source: USPTO Open Data Portal (published applications). Scores and analysis generated by Grok. Not legal or investment advice.

THE FULL RANKING

PatentPulse Signal Score (0–100): market pull 25% · acquisition interest 25% · defensibility 20% · innovation 15% · timing 15%, each scored by Grok from the application's abstract and independent claims. Honest absolute scale: a typical published application scores lower; 65+ is strong; 75+ is exceptional. Published applications are not granted patents; claims may change.



#2 Crystallite ratio cathode for initial efficiency

CATHODE ACTIVE MATERIAL FOR LITHIUM SECONDARY BATTERY AND LITHIUM SECONDARY BATTERY INCLUDING THE SAME

Watch competitor | Energy | #2 of 100 screened in sample window

Applicant: SK ON CO., LTD. • **Inventor:** Mi Jung NOH +2 • **Entity:** Regular Undiscounted • **CPC:** C01G 53/506, H01M 4/525, C01P2002/60 +6

Pub. No. US20260317196A1 • App. No. 19466527 • Filed 2026-02-02 • Published 2026-10-15



Narrow crystallite ratio on single-particle Ni-oxide; prior-

WHY THIS ONE STANDS OUT

The problem it solves: Improve initial efficiency via crystallite size ratio in single-particle lithium-nickel oxide.

Likely buyers & why: LG Energy Solution: may need to avoid or license the ratio if asserted; Samsung SDI: potential infringement risk in Ni-rich cathodes; Panasonic: similar single-particle cathode programs

What makes it hard to copy: Easy to copy by adjusting synthesis to hit different ratio or particle morphology.

WHAT TO DO NEXT

1. Search USPTO for family members and priority documents this week
2. Map the exact D(003) and D(104) ranges against top-cited Ni-cathode patents

Key risks: Continuation application may narrow further; Single independent claim vulnerable to invalidity attacks • **Alice/§101:** Low – claim is to a physical composition with measurable structural parameters

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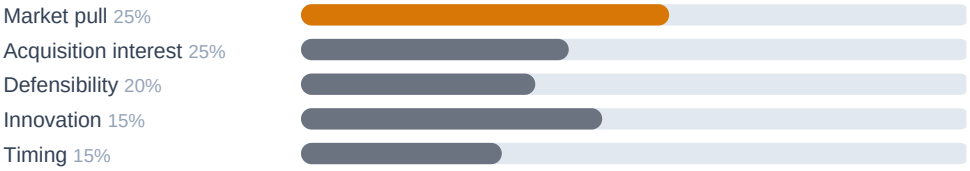
#3 In-situ annealing regenerates solid-state batteries

METHODS AND SYSTEMS FOR REGENERATION OF SOLID-STATE BATTERIES

Early-stage bet | Energy | #3 of 100 screened in sample window

Applicant: William Marsh Rice University • **Inventor:** James M. TOUR +2 • **Entity:** Small • **CPC:** H01M 10/615, H01M 10/613, H01M 10/6571 +6

Pub. No. US20260321767A1 • App. No. 19191153 • Filed 2025-04-28 • Published 2026-10-15



Broad in-situ heating claims on solid electrolytes; no performance data or examples in record

WHY THIS ONE STANDS OUT

The problem it solves: Regeneration of used solid-state electrolyte batteries via in-situ heating and cooling.

Who would pay for it: Battery manufacturers or recyclers seeking lower replacement costs ()

Likely buyers & why: Toyota: may need license to avoid infringement on solid-state regeneration; Solid Power: solid electrolyte focus could trigger licensing or design changes

What makes it hard to copy: Easy to copy: claims require only generic heating and cooling without specific parameters.

WHAT TO DO NEXT

1. VC counsel review full file history for cited art and any office actions this week
2. Tech team search for prior art on rapid annealing of oxide solid electrolytes by Friday

Key risks: Claims likely to narrow substantially in prosecution; No data showing regeneration efficacy in record • **Alice/§101:** Medium – process claims may be seen as abstract without specific technical steps

View USPTO publication (PDF) →

Source: USPTO Open Data Portal (published applications). Scores and analysis generated by Grok. Not legal or investment advice.



#4 Buffer Cover for Battery Winding End

BATTERY CELL, BATTERY, AND ELECTRIC DEVICE

Watch competitor | Energy | #4 of 100 screened in sample window

Applicant: CONTEMPORARY AMPEREX TECHNOLOGY CO., LIMITED • **Inventor:** Yaqiang LANG +3 • **Entity:** Regular Undiscounted • **CPC:** H01M 50/586, H01M 10/0587, Y02P 70/50 +13

Pub. No. US20260321928A1 • App. No. 19690263 • Filed 2026-05-28 • Published 2026-10-15



Broad buffer claim on wound electrode end; no stated benefit or data in record.

WHY THIS ONE STANDS OUT

The problem it solves: Winding end of electrode assembly left uncovered by buffer member

Likely buyers & why: Other cell makers needing to cover winding ends to avoid CATL claims

What makes it hard to copy: Easy to copy or avoid; claim covers any buffer covering any portion of the end

WHAT TO DO NEXT

1. Patent counsel to map claim 1 against top 5 competitors' cell cross-sections this week
2. VC analyst to pull all CATL continuations filed same day and compare independent claims

Key risks: Claim likely to narrow in prosecution; No data showing advantage over prior wound cells • **Alice/§101:** Low – physical battery structure claim

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Pick to Act On: diligence plan

One-page plan for the top-ranked application in this brief.

What it claims	Lithium metal composite oxide satisfying (Vd0.5–Va0.5)/Va0.9≤0.90, Sm≤0.8 m2/g, and W2/W1≤1.40 plus humidification production method
For investors	Niche cathode processing tweak for gas and rate in lithium batteries
For IP counsel	Independent claim 1 parameters may be measurable for enforcement or FTO but easy to adjust around
Alice / §101 risk	Low – claims are to physical material properties and production steps

DILIGENCE CHECKLIST (3–5 DAYS)

1. Does the full file history show any examples meeting all three ratios simultaneously?
2. What prior art was cited against the adsorption formula?
3. Are the named inventors still at applicant?
4. What is the priority date, and how many independent claims are likely to survive Alice/Mayo analysis?
5. Are continuation or divisional applications pending?
6. What is the filing footprint beyond the USPTO (PCT, EP, CN, JP)?

KEY RISKS

- Continuation status may narrow claims
- No performance data in record
- Humidification step may be common

PLAYBOOK BY ROLE

VCs / founders: identify the assignee; if it is a startup, explore licensing or an early investment conversation.

IP counsel: pull the published claims and file wrapper; assess freedom-to-operate and continuation strategy.

Strategic buyers: add to the watchlist and track prosecution; claims may change before grant.

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