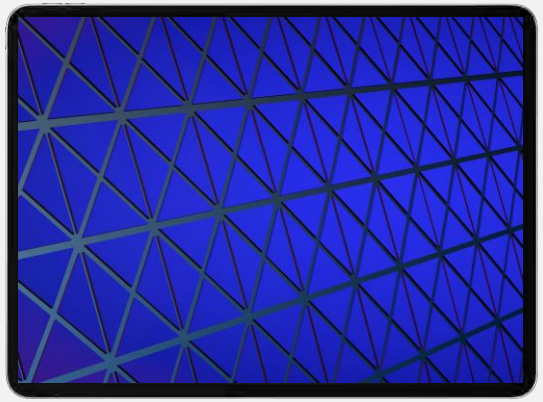

META®
Go Beyond.

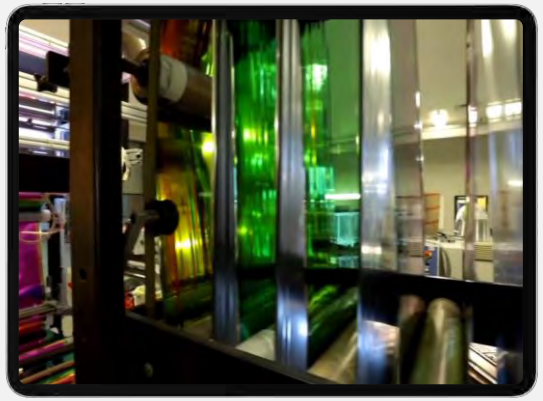
FORWARD LOOKING STATEMENTS

This presentation includes forward-looking information or statements within the meaning of Canadian securities laws and within the meaning of Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995, regarding the Company, which may include, but are not limited to, statements with respect to the ability of the Company to continue to meet the Nasdaq requirements to maintain a Nasdaq listing, the business strategies, product development, expansion plans and operational activities of the Company. Often but not always, forward-looking information can be identified by the use of words such as “pursuing”, “potential”, “predicts”, “projects”, “seeks”, “plans”, “expect”, “intends”, “anticipated”, “believes” or variations (including negative variations) of such words and phrases, or statements that certain actions, events or results “may”, “could”, “should”, “would” or “will” be taken, occur or be achieved. Such statements are based on the current expectations and views of future events of the management of the Company and are based on assumptions and subject to risks and uncertainties. Although the management of the Company believes that the assumptions underlying these statements are reasonable, they may prove to be incorrect. The forward-looking events and circumstances discussed in this release may not occur and could differ materially as a result of known and unknown risk factors and uncertainties affecting the Company, the capabilities of our facilities and the expansion thereof, research and development projects of the Company, the total available market and market potential of the products of the Company, the market position of the Company, the need to raise more capital and the ability to do so, the scalability of the Company’s production ability, capacity for new customer engagements, material selection programs timeframes, the ability to reduce production costs, enhance metamaterials manufacturing capabilities and extend market reach into new applications and industries, the ability to accelerate commercialization plans, the possibility of new customer contracts, the continued engagement of our employees, the technology industry, market strategic and operational activities, and management’s ability to manage and to operate the business. More details about these and other risks that may impact the Company’s businesses are described under the heading “Forward-Looking Information” and under the heading “Risk Factors” in the Company’s Form 10-K filed with the SEC on March 23, 2023, in the Company’s Form 10-K/A filed with the SEC on March 24, 2023, in the Company’s Form 10-Q filed with the SEC on August 8, 2023, and in subsequent filings made by Meta Materials with the SEC, which are available on SEC’s website at www.sec.gov. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. Accordingly, readers should not place undue reliance on any forward-looking statements or information. No forward-looking statement can be guaranteed. Except as required by applicable securities laws, forward-looking statements speak only as of the date on which they are made and the Company does not undertake any obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events, or otherwise, except to the extent required by law.

ADVANCED MATERIALS AND NANOTECHNOLOGY COMPANY

FOUNDED: 2011
PATENTS: 500+
NASDAQ LISTED: 2021
(FIRST METAMATERIAL COMPANY)





1

100 + YEARS COLLECTIVE METAMATERIAL EMPLOYEE EXPERIENCE

Metamaterials offer multiple-functions with fully tailored properties in sensing, transmission, control of light, sound, energy, heat, as well as friction, strength, and electric energy compared to traditional materials and coatings

2

CLEANROOMS AND PRODUCTION FACILITY

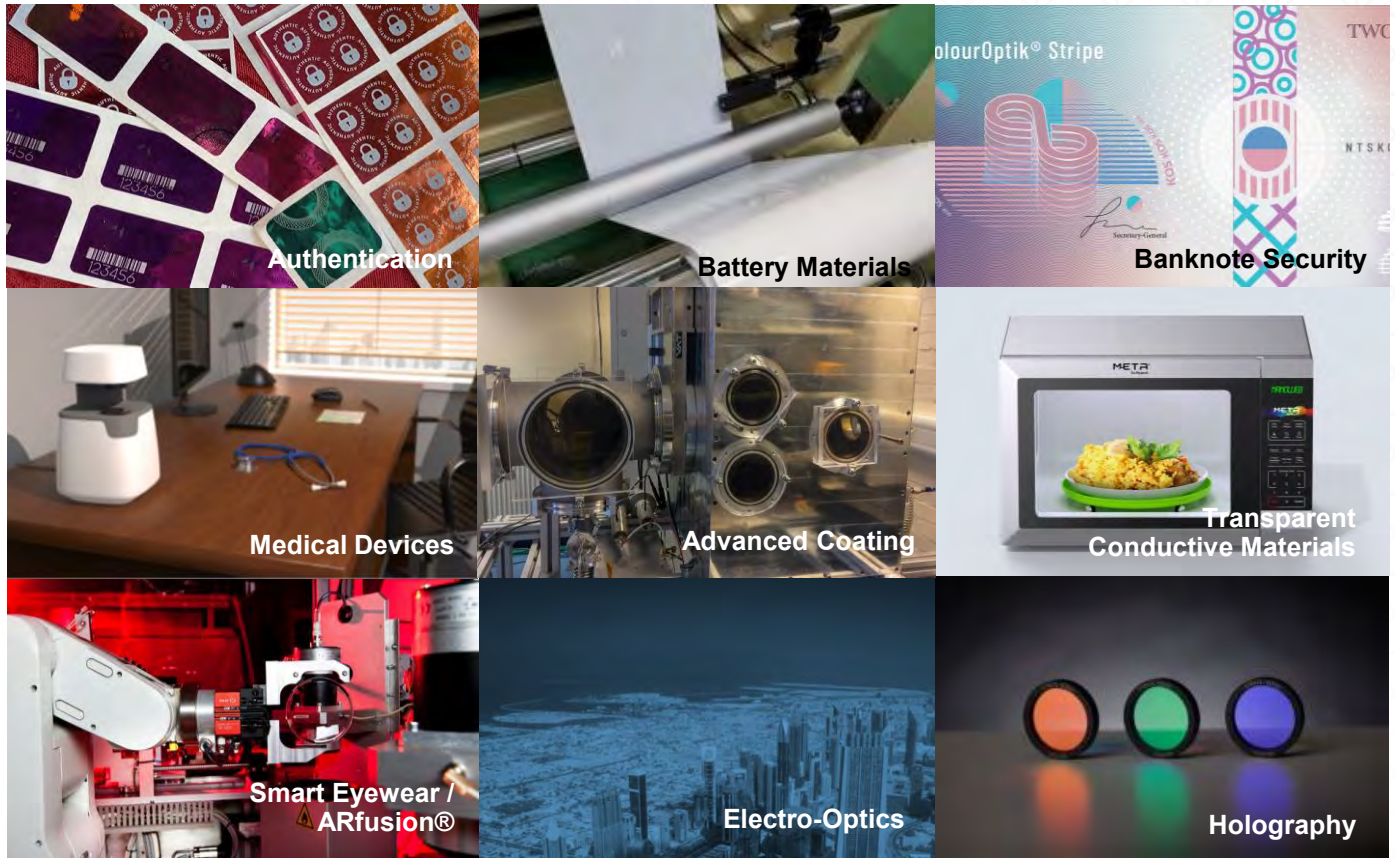
200,000 + Sq. ft. Global Facilities, High-Security, Cleanroom and Production

3

ROLL-TO-ROLL PRODUCTION

7.5+ Million m^2 Roll-to-Roll Production Capability

BROAD TECHNOLOGY PLATFORM CAPABILITES AND END MARKETS



528 Active Patent Documents

333 Issued Patents

134 Patent Families, of which

69 Patent Families with at least one issued patent

ADDRESSABLE MARKETS:

Aerospace & Defense, Augmented Reality. Automotive, Banknotes and Brand Protection, Batteries, Clean Energy, Communications, Consumer Electronics, Health & Wellness

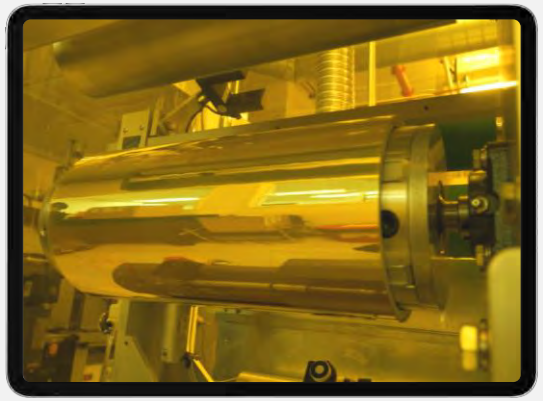
COMPETITIVE ADVANTAGE

SPEED

META uses in-house software-driven designs and a library of patterns for different applications, which beneficially delivers new custom solutions within hours vs months. META uses software driven simulation tools and a proprietary design platform

SCALE AND SUSTAINABILITY

META is one of the first companies to develop **proprietary roll-to-roll production** equipment to produce large area, high volume nanomaterials, without the use of scarce or rare-earth metals



COST

Increasing the roll-to-roll web width and line speed should drive costs down. Our nanomaterials are thinner and use less raw material than traditional alternatives

META
Go Beyond.

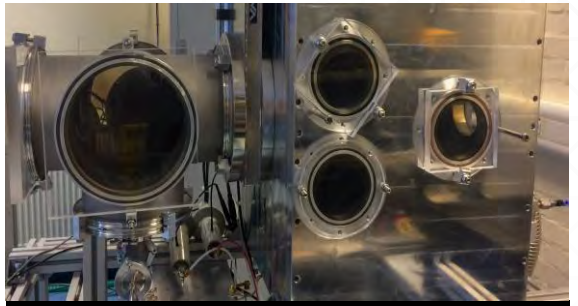
SUSTAINABILITY IS IN OUR DNA

METAMATERIALS DO MORE WITH LESS

Safer and more efficient
Electric Vehicles

Lux Research 2021 Innovator of the Year
Passive 5G Reflector Uses No Power

Less energy (10 sec vs 50 hours
curing time) and less material usage



60x more efficient than ALD
8x more efficient than Magnetron
Sputtering

Production Facility in Thurso, QC
99% Clean Renewable Hydroelectric Power

2019 GLOBAL CLEANTECH100 COMPANY
Produced by Cleantech Group

CANADA'S FASTEST-GROWING SUSTAINABLE COMPANIES
FUTURE 500
2022

WE SUPPORT
UN GLOBAL COMPACT

50 Technology Fast 50
2022 CANADA
CLEAN TECHNOLOGY WINNER
Deloitte.

VISION

TO MAKE ADVANCED MATERIALS AND NANOTECHNOLOGY AVAILABLE TO EVERYONE

MISSION

TO DELIVER BREAKTHROUGH PRODUCTS USING SUSTAINABLE SCIENCE

META®
Go Beyond.

META
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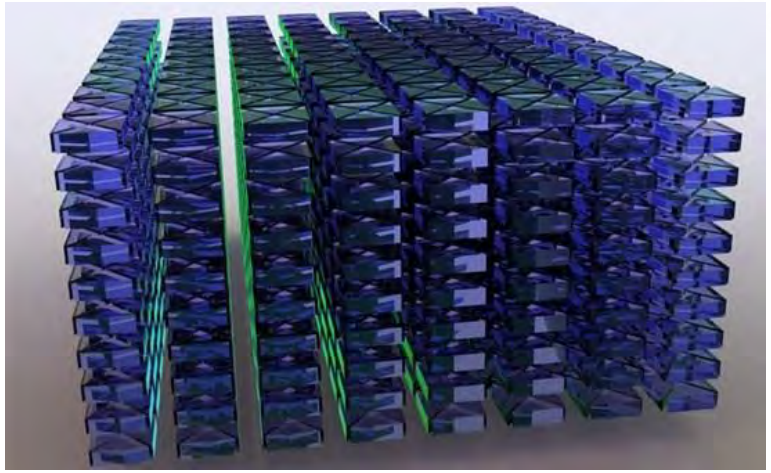
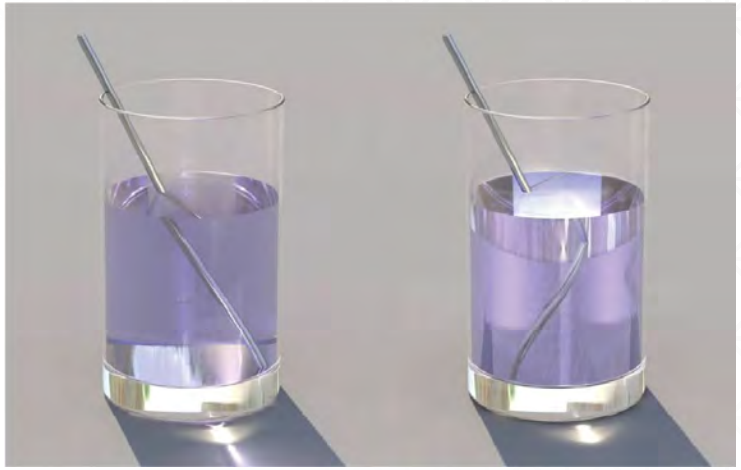
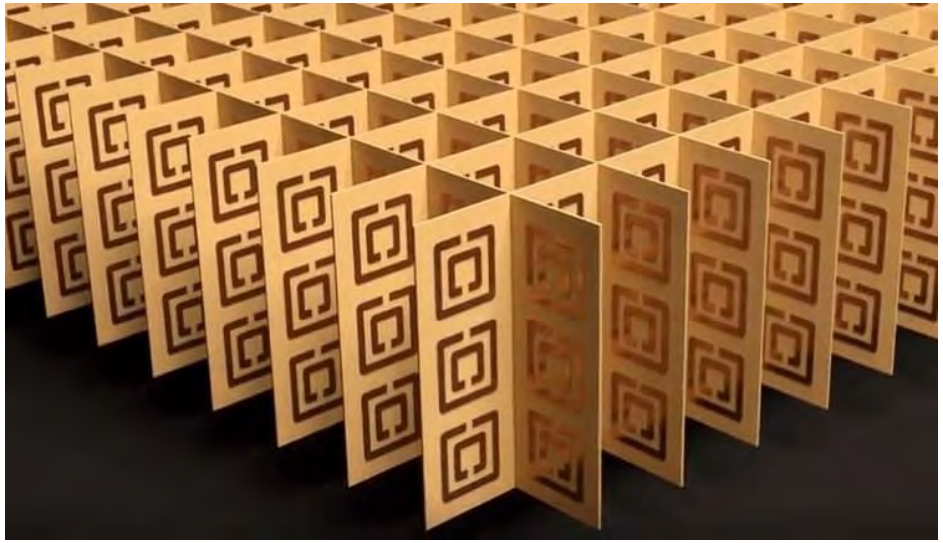
WHAT ARE METAMATERIALS?

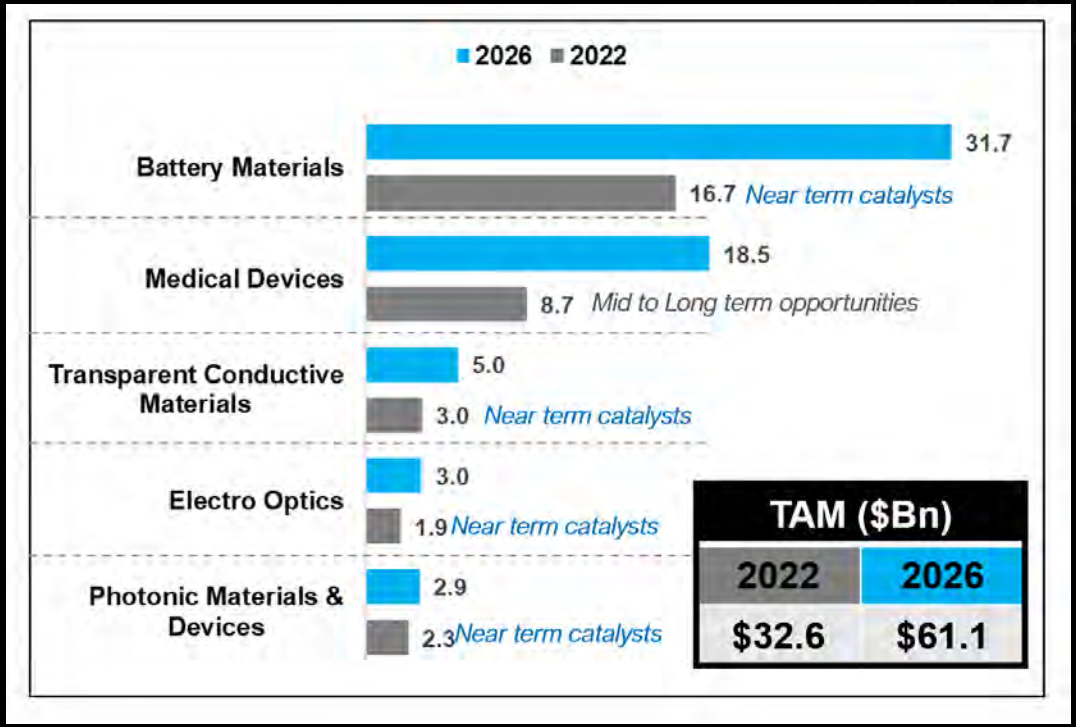


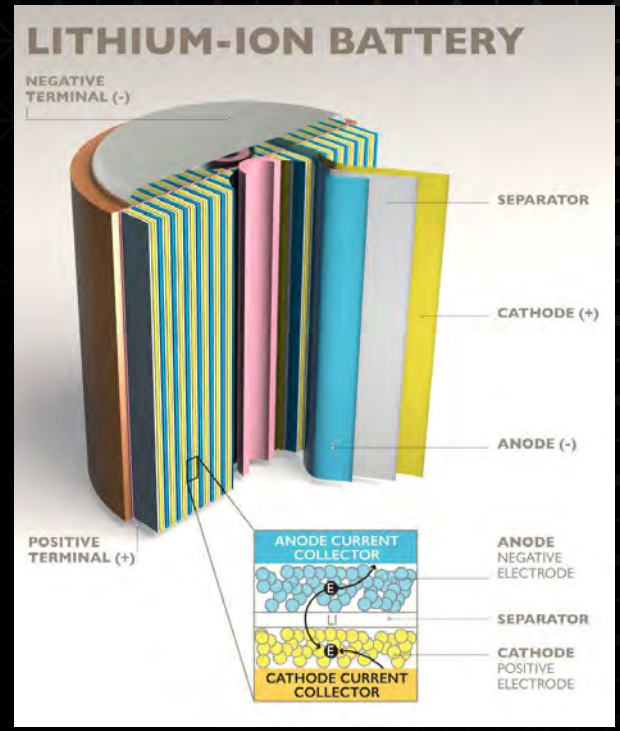




LARGE GROWING ADDRESSABLE TARGET MARKETS

2022-2026





Sources: Based on META's internal estimates using third-party sources and information such as IDTechEx, Statista, Verified Market Research, Yano Market Research, Lux Research.

2023 STRATEGIC AREAS OF FOCUS

1	2	3	4	5
Launch KolourOptik® Technology	Demonstrate VLEPSIS®	Broaden Battery Materials Relationships	Manufacturing Partner for NANOWEB®	Partner/Divest glucoWISE® and ARfusion®

COMMERCIALIZING TRANSPARENT CONDUCTIVE MATERIALS: NANOWEB

Applications:

- EMI Shielding for microwave ovens
- Transparent Heaters for ADAS sensors
- 5G Reflectors for network signal propagation

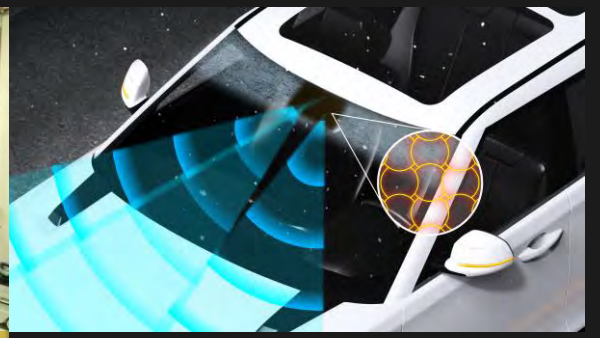
Production Status:

- Microwave: delivering test samples for full-size rectangular windows
- Transparent Heaters: sampling OEMs for camera/lidar and radar versions
- 5G Reflectors: samples meet/exceed specs, 60cm web-width needed for roll-out

Capacity Expansion:

- Outsourcing relationship for 60cm capacity
- PLASMAfusion® to improve line speed

R2R Production in Pleasanton, CA



Non-diffractive pattern for cameras/lidars

Transparent Heaters for ADAS Sensors

Polarized pattern for radars

TRANSPARENT CONDUCTIVE MATERIALS:
NANOWEB® - PARTNER

Capacity Expansion:

- Outsourcing relationship for 60cm capacity
- Qualified a global outsourcing partner in Japan
- PLASMAfusion® to improve line speed

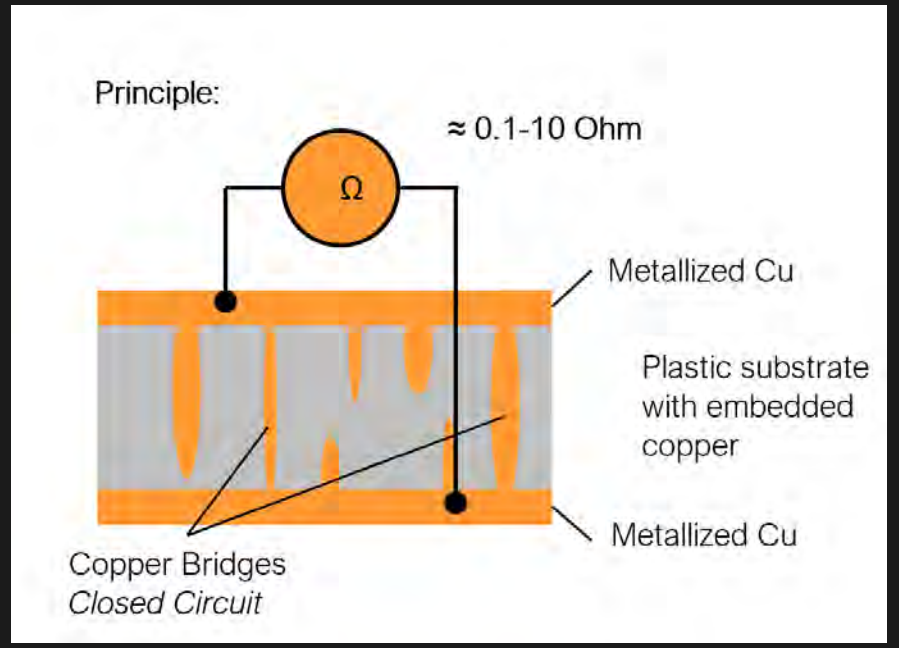
BATTERY MATERIALS:
NCORE™
METAL-POLYMER COMPOSITE CURRENT COLLECTOR

NCORE™ : Replaces traditional metallic foil current collectors with a metal-polymer composite (Cu and Al), offering **the world's 1st through-plastic-core conductivity.**

ULTRA-Lightweight and Thin
- Reduced weight (-85% for current collector, -5% at cell level)
- Increased energy and power densities

Added Safety
- Fuse-like protection from thermal runaway
- Chemistry agnostic

Scalable Manufacturing
- Roll-to-roll manufacturing using proprietary PLASMAfusion®
- Cost comparable to metallic foil



Under development and in collaboration with:

BATTERY MATERIALS:
NPORE®

ALL-CERAMIC BATTERY SEPARATORS

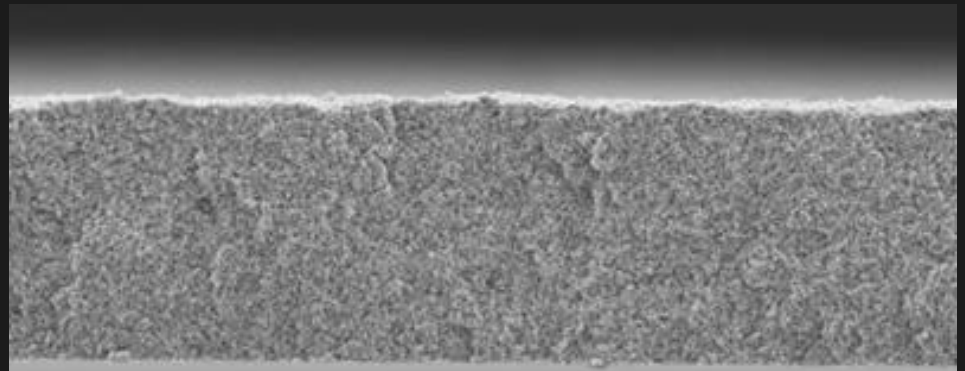
NPORE®: the **world's 1st flexible, free-standing ceramic** nanoporous membrane separator for LIBs.

Ultra Thermal Stability

- <1% heat shrinkage for increased battery safety
- 5x higher thermal conductivity compared to plastic separators
- Flame resistance

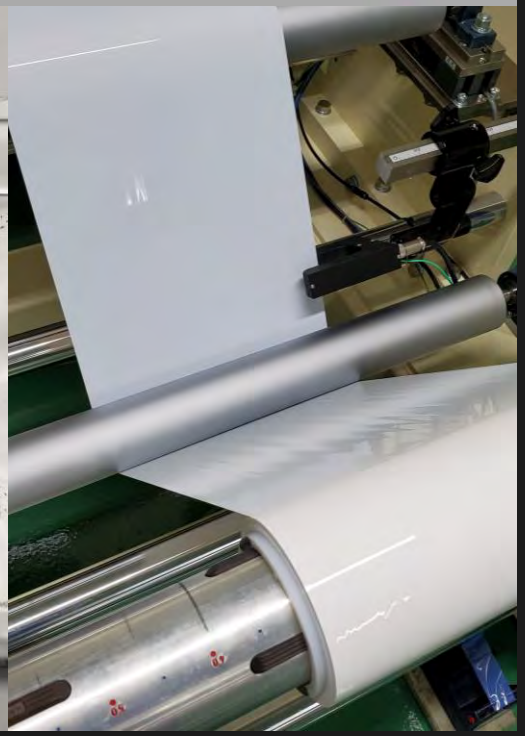
Excellent Electrochemical Performance

- Superior abuse resistance
- Rapid wet out with battery electrolytes
- 3x greater compression resistance compared to plastic separators
- Excellent electrolyte conductivity



Freestanding, ceramic, nanoporous separator eliminates the plastic layer

NPORE® separator prevents thermal runaway in a nail penetration test

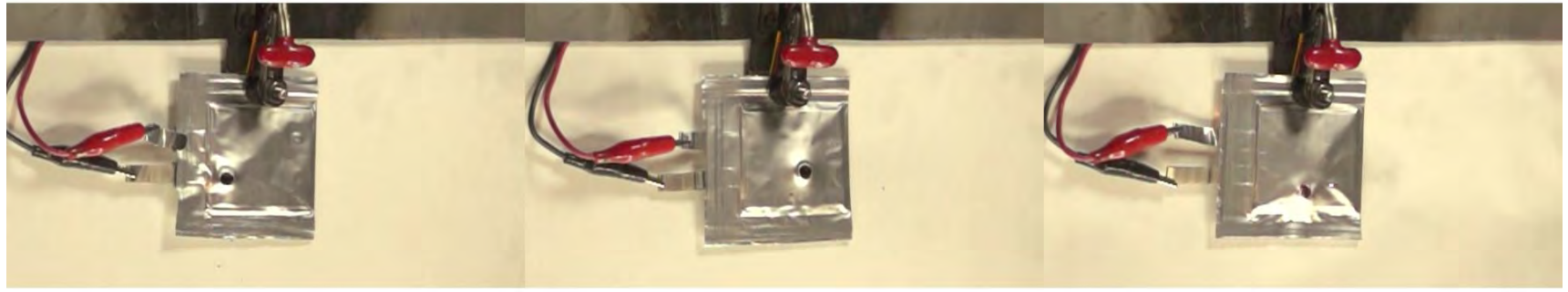


Demonstrated production scale at a high speed on a 1.5 m-wide line

NPORE® BALLISTIC SAFETY TEST VIDEO

STANDARD 2.8AMP LITHIUM-ION CELLS

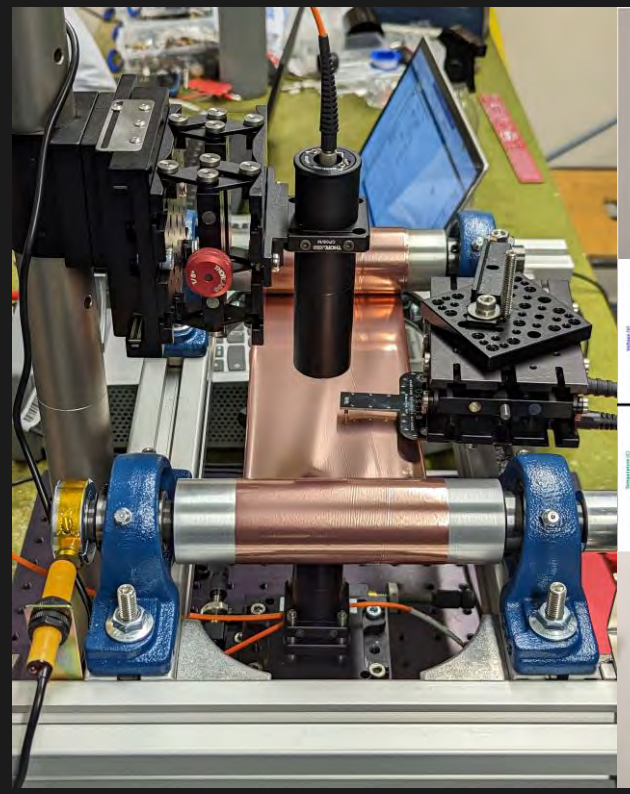
2.8AMP LITHIUM-ION CELLS WITH NPORE®



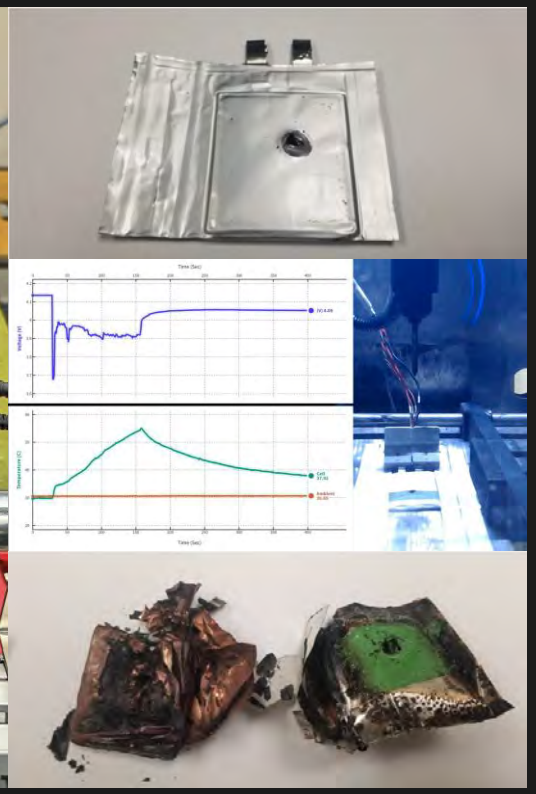
BATTERY MATERIALS:
NPORE® + NCORE™
SAFER, LIGHTER, MORE SUSTAINABLE BATTERIES

NCORE™:
- 10cm x 20meter-sample rolls on 6 µm PEN
- Optimizing/characterizing material properties
- Spot welding PoC with standard nickel strip
- Designing/sourcing pilot-scale R2R system
- Strong OEM interest, including more PLASMAfusion® deposition applications

NPORE®:
- JDA with global battery OEM; sampling many others
- Continuing Phase II SBIR project
- Testing with Coulometrics and iElectrolyte
- Outsourced pilot-scale production and prepping for volume with partner
- New lab in Billerica, MA



NCORE™ Characterization



NPORE® Safety Testing

PHOTONIC MATERIALS:
KOLOUROPTIK® AND LUMACHROME™
ANTI-COUNTERFEIT SECURITY FOILS

G10 Frame Agreement: Developing a unique security feature for a confidential G10 central bank, up to $41.5MM (5-yrs).

- **New Purchase Orders**: $5.2MM new orders in Sep 22/Feb 23. Orders under frame agreement currently total $14.4MM

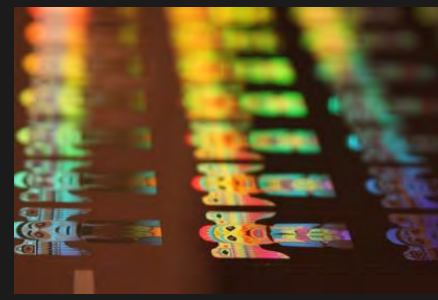
LumaChrome™: used as security feature on 7B+ banknotes, across 30+ denominations in the last 20+ years

KolourOptik® Stripe technology: testing and optimization in preparation for commercial launch.

- Pilot-line runs of 10,000 meters delivered (100,000 linear meters of Stripe)
- Customer trials underway, launch/commercial availability in 2023
- Successful industrial application on banknote paper
- Meets all industry durability and anti-harvesting requirements

Highly Successful Mexico Currency Conference: Design meetings with multiple potential central bank customers

Roll-to-Roll Nanoimprint Lithography Casting Line



Examples of Brand and Currency Security Features and Produced Roll Samples

ELECTRO-OPTIC DEVICES:

VLEPSIS®

WIDE AREA MOTION IMAGERY PLATFORM

Ground-breaking, multiple-gigapixel, turnkey wide area motion imagery system.

Capabilities:

- Covers up to 50 km^2 from a 5 km altitude
  >100 km^2 from a 7 km altitude
- Track and monitor hundreds of objects/locations simultaneously, in stunning detail and resolution
- Proprietary hardware and AI software enable analytical insights across a wide range of missions
- Revolutionary optical and processing design dramatically reduces size, weight, power and cost
- Live on-board video streaming and archival, rapid access by multiple ground station users

Public Safety, Disaster Recovery, Natural Resources, Smart Cities

Selected Financial Highlights - Q2:2023

Revenue:

- Q2:23 $2.0MM, vs. $3.3MM in Q2:22, and $1.4MM in Q1:23

Opex: $296.0MM vs. $22.1MM in Q2:22 and $19.2MM in Q1:23.

Excluding $282.2MM non-cash goodwill impairment and $2.8MM stock comp. adjustment, Q2:23 expenses were $16.6MM

Operating Loss: $15.3MM vs. $19.6MM ex. goodwill impairment and stock comp. adjustment

Net Loss: $293.6MM vs. $21.0MM

Per Share: (0.65) vs. (0.07), (0.03) ex. goodwill WAS 452.8MM

Cash and Equivalents: $14.5MM

L-T Debt: $3.7MM @ 0% interest, unsecured

Operating CF: ($10.4MM)

Net non-cash Income/Expenses: $282.1MM

- Goodwill impairment $282.2MM
- Depreciation and amortization: $3.4MM
- Stock-based compensation: ($2.8)MM

Working Capital: $1.2MM source of cash

Capital Expenditures: $4.8MM

Shelf Registration: $250MM, effective 11/18/22, $22.1MM net from April stock/warrant offering

ATM: up to $100MM, established 2/10/23

This information should be read in conjunction with the complete financial statements and the associated management discussion and analysis, available on the Investors section of our website at www.metamaterial.com, as well as on the SEC EDGAR website at www.sec.gov

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KEY TAKEAWAYS

1. META's IP portfolio is among the best in our industry
2. Much of the research and development is behind us yielding quality prototypes in most segments
3. Full scale production for revenue is our focus internally and with partners
4. We are re-organizing and focusing to reach our goals
5. We sincerely appreciate your support

Multinational Subject Matter Experts

Broad & Growing IP Estate

Software Driven Simulation Tools

Proprietary Production & Design Platform

Scalable & Sustainable Products

Global Partnerships with OEM & Fortune 500 Companies

The First Metamaterials Company on NASDAQ

Access to Non-dilutive Government Funding

META® Go Beyond.

THANK YOU

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