



George Palikaras, Ph.D.
President and CEO, Founder



Kenneth Rice, MBA, JD, LLM
COO & CFO

Meta Materials Inc. Q2 2022 Results

NASDAQ: MMAT
August 10, 2022



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 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 market potential of the products of the Company, the market position of the Company, 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 1, 2022, with an SEC filing date of March 2, 2022, in the Company’s Form 10-Q filed with the SEC on August 9, 2022, 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. Unless otherwise stated, all references to \$ herein are to US dollars.

Agenda

1. Introduction
2. Next Bridge Hydrocarbons – S-1 Filing
3. Expanding Technology Platform and Markets
4. Battery Materials – Enabling Cleaner, Safer Transportation
4. NPORE[®] Nanoporous Ceramic Separators
5. PLASMAfusion[™] Coated Copper Current Collectors
6. NANOWEB[®] Scale-Up and Application Developments
7. First U.S. Patent for glucoWISE[®]
8. Financial Summary
9. Q&A



Series A Preferred Shares Update – Next Bridge Hydrocarbons

Disposition of the Oil & Gas Assets now planned as a share **exchange**.

Next Bridge Hydrocarbons will become a separate company with a new management team, owned by the **Series A preferred stockholders**.

Registration Statement (Form S-1) filed on 7/15/22 must become **effective** to complete the exchange.

META incurred costs related to drilling to maintain leases and other administrative costs.

- 2021 **Promissory Note for up to \$15 million** at 8% interest, maturing March 31, 2023
- 2022 **Loan Agreement for up to \$5 million** at 8% interest, maturing March 31, 2023

Upon completion of the exchange:

Series A holders will exchange shares for Next Bridge common stock.

Costs associated with Oil & Gas operations will be carried by Next Bridge as debt to META.

Next Bridge is exploring options to secure additional short-term financing.

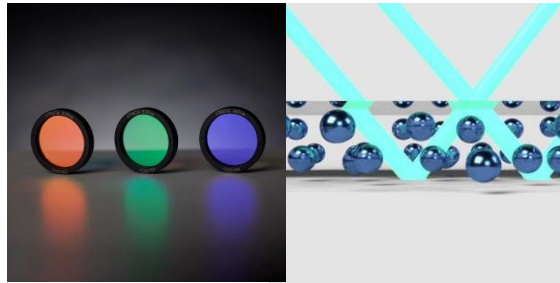
Financing may not be completed, and repayment of debt may not occur.

Investors should refer to additional “Risk Factors” in the Company’s and Next Bridge SEC filings.

Expanding Technology Platform Capabilities & End-Markets

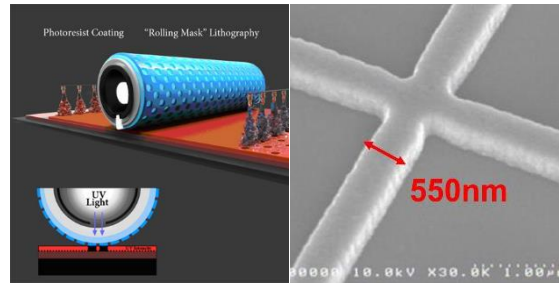
Markets:	Aerospace & Defense	Augmented Reality	Automotive	Banknotes and Brand Protection	Batteries	Clean Energy	Communications	Consumer Electronics	Health & Wellness
----------	---------------------	-------------------	------------	--------------------------------	-----------	--------------	----------------	----------------------	-------------------

HOLOGRAPHY



holoOPTIX® and metaAIR®

LITHOGRAPHY



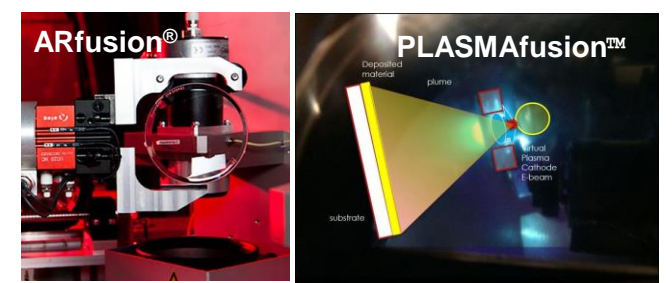
NANOWEB®

WIRELESS SENSING



glucoWISE®

PRECISION INTEGRATION



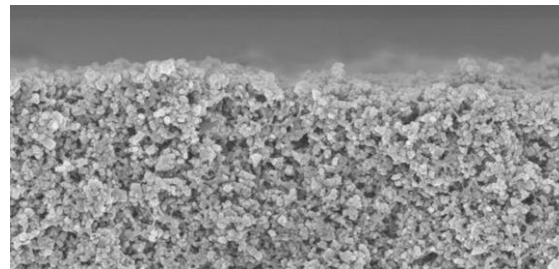
ARfusion® and PLASMAfusion™

NANO-OPTIC



KolourOptik®

NANO-CERAMIC



NPORE® and NANOPORE®

ELECTRO-OPTICAL & IR



VLEPSIS™

450 Active Patent Documents
288 Issued Patents
103 Patent Families, of which
62 Patent Families with at least one issued patent

Enhancing Performance and Safety for Electric Vehicles

EV Consumers Desire:

Increased Range, Fast Charging

Higher Energy Density and Charge Rates Demand:

Improved Material Performance, Stability and Safety

Wider EV Adoption Requires:

Better Material Utilization and Cost Reduction

META is developing **two new battery materials** and **manufacturing techniques** to address these challenges:

NPORE[®] nano-ceramic battery separators feature <1% heat shrinkage for **increased safety** and offer **superior electrochemical performance**.

PLASMAfusion[™] used to make thin coated copper current collectors, **reducing weight by 80%** and **inhibiting thermal runaway**.



Battery Separators: Essential for Safety and Stability

A porous membrane placed between the electrodes. Prevents contact between the anode and cathode while facilitating the transport of lithium ions.

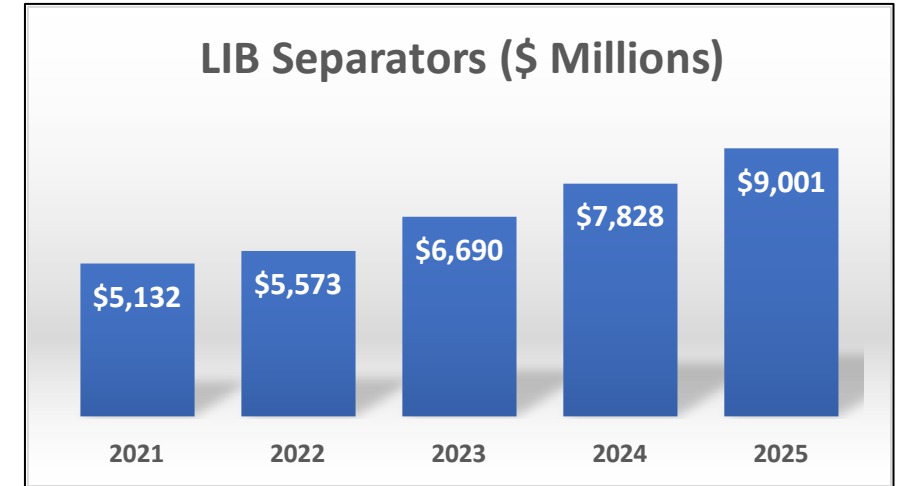
Safe battery separators must optimize porosity and ion transport, reduce the weight and thickness of inactive materials, while maintaining thermal/mechanical stability.

First generation separators are typically made by coating a plastic substrate on one or both sides with ceramic material.

Second Generation NPORE[®] nano-ceramic separators eliminate the use of plastic substrate and provide best in class dimensional stability with <1% heat shrinkage.

- Global market \$5.1B in 2021, \$9.0B in 2025 (Yano Research)
- Shipments 5.5B m² in 2021, 15.9B m² in 2025 (SNE Research)
- About 15 million m² per GWh of battery capacity (range 10-20)

Sources: Yano Research Institute Ltd., SNE Research



NPORE[®] Nanoporous Ceramic Separators

<1% *heat shrinkage for increased battery safety*

World's first flexible, free-standing ceramic nanoporous membrane separator for lithium-ion batteries.

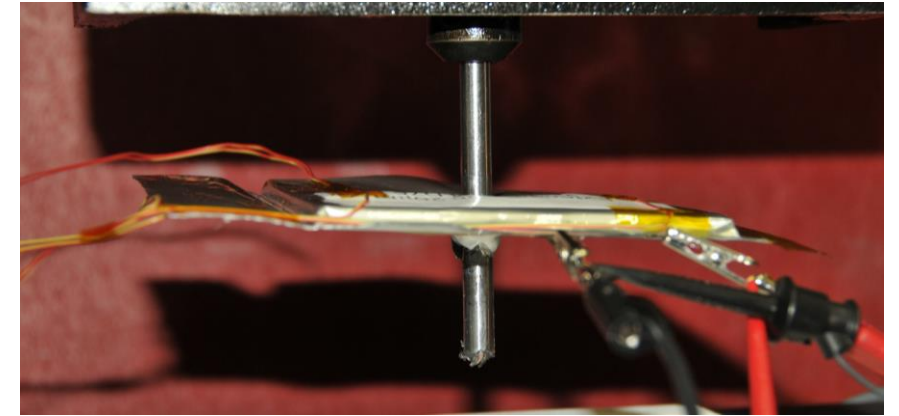
NPORE[®] features include:

Thermal Stability

- Best in class dimensional stability
- 5x higher thermal conductivity vs. plastic separators
- Flame resistant

Electrochemical Performance

- Superior abuse resistance
- Rapid wet out with battery electrolytes
- 3x greater compression resistance vs. plastic separators
- Excellent electrolyte conductivity
- Uniform and narrow pore size distribution



NPORE[®] prevents thermal runaway in nail penetration test

NPORE[®] vs. Polyolefin Control

Battery Separator Nail Penetration Test

3mm diameter nail
@ 2.5cm/sec speed

META[®]

Optodot Asset & IP Acquisition

A leading developer and licensor of nano-composite battery separators and infrared optical coating technologies

Extensive IP Portfolio: 107 issued and 26 pending patents
Two recently issued U.S. patents for NPORE® and NPORE® ECS

Benefits: R&D team with decades of experience in nanomaterials for batteries and IR coatings. Collaborations with leading OEMs, innovative start-ups, and U.S. government agencies. SBIR Phase II project led by Imperia Batteries (division of Physical Sciences Inc.)

Synergies: Products can be combined and coated with PLASMAfusion™ technology, capacity expansion in Thurso, QC. NANOPORE® membrane technology for ultrafiltration, medical metamaterial devices. Security marking for brand protection.

- R&D office in Devens, Massachusetts
- Testing and validation with Coulometrics
- Rapid scale-up via contract coating relationships



Coated Copper Current Collectors: Reduced Weight, Enhanced Safety

Copper foil is over 10% of the weight of a typical battery cell

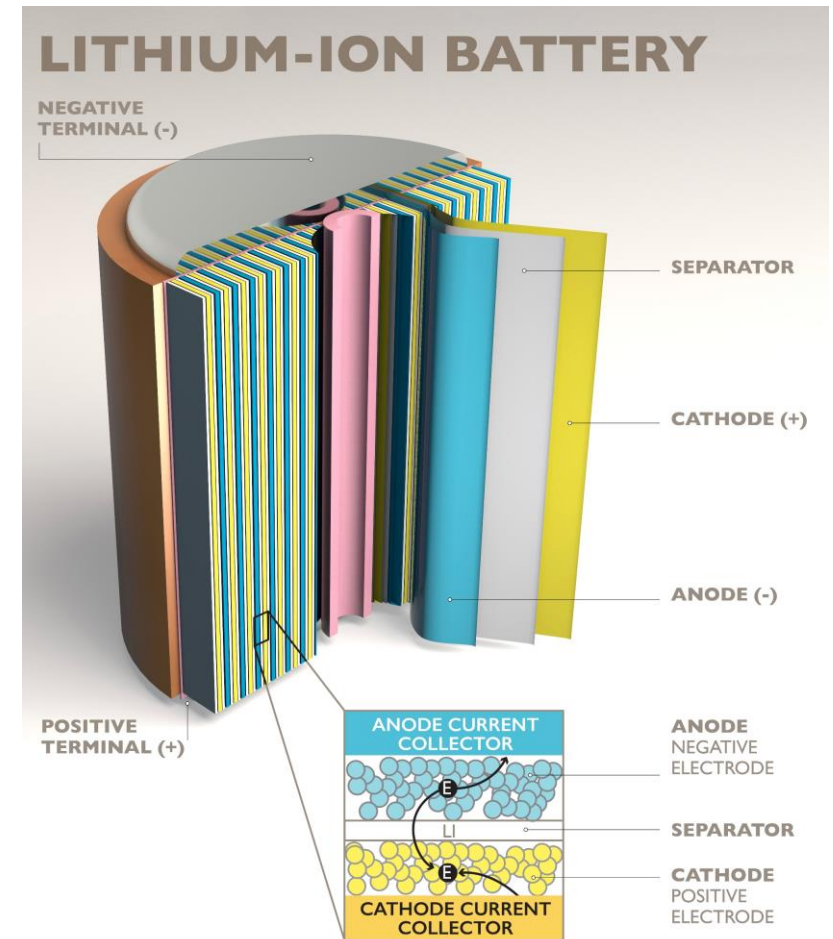
Aluminum (Al) and **Copper** (Cu) foils used for cathode/anode, respectively, account for ~15% of battery mass.

Cu is more than 3x heavier than Al, accounts for >10% of weight.

Plastic substrate acts as a fuse to impede thermal runaway

A PET/PEN plastic substrate coated with 150nm of Cu on each side promises the same functionality and cost as copper foil, while providing several benefits:

- Weight is reduced by ~80%, increasing energy and power density.
- In case of thermal runaway, the plastic melts, improving safety by retarding battery self-ignition.
- Lower copper content reduces the energy input to produce the battery and enhances recycling.



PLASMAfusion™

Patented high-speed coating technology,
any solid material on any substrate

Benefits: Low temperature, no solvents or toxic chemicals,
~60x more energy efficient than Plasma Laser Deposition and
8x more efficient than Magnetron Sputtering, with higher
adhesion, deposition rate and overall coating uniformity

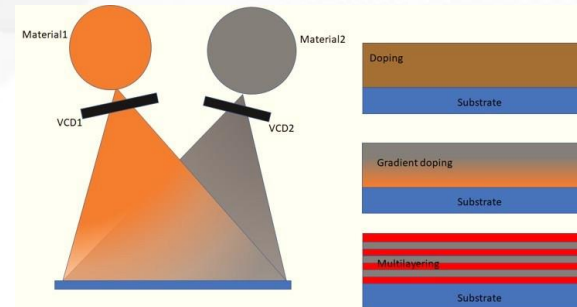
Possible Applications: Batteries (current collectors, solid-state
batteries), Semiconductors, Printed circuit boards,
Protective/optical coatings

Synergies: Large-scale metallization for NANOWEB® and
KolourOptik® films to accelerate line speed, leverage Capex,
reduce cost/square meter

- Closed on 4/1/22, stock for stock, \$20MM at \$1.86 per share
- R&D office in Rutherford Appleton Laboratories, Oxford, UK



PLASMAfusion™ lab-scale tool



Multi-layers, doping & gradients



Li-ion anode deposited on separator

NANOWEB® Scale-Up and Application Developments

First pilot-scale, 300mm, **RML®** roll-to-roll line being optimized at META's Pleasanton, CA facility.

Roll-to-roll **5G Reflector** film now **matches functional performance** of wafer-based samples. Further optimization in progress for cosmetic uniformity and increased line throughput.

Growing list of **automotive and Lidar sensor OEMs** seeking samples for deice/defog and EMI shielding.

Transparent microwave oven door with **NANOWEB® EMI shielding** equal to existing products. Demonstration ovens being built and shipped to OEMs for independent testing.

Higher volume and **larger area** NANOWEB® capacity with 600mm width to be installed in Thurso, QC facility in 2023.



First U.S. Patent for Non-Invasive Glucose Monitoring System

Foundational patent –

covers the films, various configurations of the system

glucoWISE® -

15 active patent documents, of which 5 are issued.

Metamaterial antireflective film –

enhances signal penetration through the skin.

Dual sensors – radio wave and optical, measure signals transmitted through the tissue.

Roadmap –

Table-top, portable, wearable devices



Selected Financial Highlights – Q2 FY:2022

Revenue: \$3.3MM, up 432% Y/Y vs. \$0.6MM in Q2:21, up 12% Q/Q vs. ~\$3.0MM in Q1:22

- Nano-Optic Security development contract with confidential central bank, \$2.2MM in new orders received in April
- Global currency demand continues to grow despite emergence of cryptocurrencies
- Roadmap: Win selection for first banknote with flagship customer, expand to other denominations, new business with others.

Opex: \$22.1MM vs. \$5.8MM

Other Expense: \$1.5MM vs. \$0.8MM

Net Loss: \$21.0MM vs. \$5.9MM

Per Share: (0.07) vs. (0.03)

Shares Outstanding: 360,810,014

Cash and Equivalents: \$55.3MM

L-T Debt: \$3.2MM @ 0% interest, unsecured

RDO: \$46.3MM net of issuance costs

Operating CF: (\$10.3MM) vs. (\$18.8MM) in Q1:22

Non-cash Expenses: \$7.1MM

- Stock-based compensation: \$3.6MM
- Depreciation and amortization: \$1.8MM
- Unrealized FX loss: \$1.0MM
- Non-cash interest expense, lease expense, and consulting expenses: \$0.6MM

Working Capital: \$3.8MM benefit

Capital Expenditures: \$7.2MM


Cash for Acquisition: \$3.5MM

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

Pioneering Metamaterials Production at Scale



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.

Investor Contact:

Mark Komonoski

Senior Vice President
Integrus Communications

T: 877-255-8483

E: ir@metamaterial.com

Media Inquiries:

Rob Stone

VP, Corporate Development
and Communications

Meta Materials Inc.

E: media@metamaterial.com

