

META™



TORCHLIGHT™
E · N · E · R · G · Y

VIRTUAL
ROTH
Conference
MARCH 15-17 © 2021
— 33rd Annual —

Forward-Looking Statements



CERTAIN STATEMENTS IN THIS PRESENTATION CONCERNING THE PROPOSED TRANSACTION, INCLUDING ANY STATEMENTS REGARDING THE EXPECTED TIMETABLE FOR COMPLETING THE PROPOSED TRANSACTION, THE RESULTS, EFFECTS, AND BENEFITS OF THE PROPOSED TRANSACTION, FUTURE OPPORTUNITIES FOR THE COMBINED COMPANY, FUTURE FINANCIAL PERFORMANCE AND CONDITION, GUIDANCE AND ANY OTHER STATEMENTS REGARDING THE FUTURE EXPECTATIONS, BELIEFS, PLANS, OBJECTIVES, FINANCIAL CONDITIONS, ASSUMPTIONS OR FUTURE EVENTS OR PERFORMANCE OF TORCHLIGHT ENERGY RESOURCES, INC. ("TORCHLIGHT") OR METAMATERIAL INC. ("META") THAT ARE NOT HISTORICAL FACTS ARE "FORWARD-LOOKING" STATEMENTS BASED ON ASSUMPTIONS CURRENTLY BELIEVED TO BE VALID. FORWARD-LOOKING STATEMENTS ARE ALL STATEMENTS OTHER THAN STATEMENTS OF HISTORICAL FACTS. THE WORDS "ANTICIPATE," "BELIEVE," "ENSURE," "EXPECT," "IF," "INTEND," "ESTIMATE," "PROBABLE," "PROJECT," "FORECASTS," "PREDICT," "OUTLOOK," "AIM," "WILL," "COULD," "SHOULD," "WOULD," "POTENTIAL," "MAY," "MIGHT," "ANTICIPATE," "LIKELY" "PLAN," "POSITIONED," "STRATEGY," AND SIMILAR EXPRESSIONS OR OTHER WORDS OF SIMILAR MEANING, AND THE NEGATIVES THEREOF, ARE INTENDED TO IDENTIFY FORWARD-LOOKING STATEMENTS. SPECIFIC FORWARD-LOOKING STATEMENTS INCLUDE STATEMENTS REGARDING TORCHLIGHT'S AND META'S PLANS AND EXPECTATIONS WITH RESPECT TO THE PROPOSED TRANSACTION AND THE ANTICIPATED IMPACT OF THE PROPOSED TRANSACTION ON THE COMBINED COMPANY'S RESULTS OF OPERATIONS, FINANCIAL POSITION, GROWTH OPPORTUNITIES AND COMPETITIVE POSITION., AND THE 2021 CAPITAL EXPENDITURES OF META THE FORWARD-LOOKING STATEMENTS ARE INTENDED TO BE SUBJECT TO THE SAFE HARBOR PROVIDED BY SECTION 27A OF THE SECURITIES ACT OF 1933, SECTION 21E OF THE SECURITIES EXCHANGE ACT OF 1934 AND THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995.

THESE FORWARD-LOOKING STATEMENTS INVOLVE SIGNIFICANT RISKS AND UNCERTAINTIES THAT COULD CAUSE ACTUAL RESULTS TO DIFFER MATERIALLY FROM THOSE ANTICIPATED, INCLUDING, BUT NOT LIMITED TO, THE POSSIBILITY THAT STOCKHOLDERS OF TORCHLIGHT MAY NOT APPROVE THE ISSUANCE OF NEW SHARES OF TORCHLIGHT COMMON STOCK IN THE TRANSACTION OR OTHER PROPOSALS THAT ARE A CONDITION TO THE TRANSACTION OR THAT THE STOCKHOLDERS OF TORCHLIGHT AND META MAY NOT APPROVE THE ARRANGEMENT AGREEMENT; THE RISK THAT A CONDITION TO CLOSING OF THE PROPOSED TRANSACTION MAY NOT BE SATISFIED, THAT EITHER PARTY MAY TERMINATE THE ARRANGEMENT AGREEMENT OR THAT THE CLOSING OF THE PROPOSED TRANSACTION MIGHT BE DELAYED OR NOT OCCUR AT ALL; POTENTIAL ADVERSE REACTIONS OR CHANGES TO BUSINESS OR EMPLOYEE RELATIONSHIPS, INCLUDING THOSE RESULTING FROM THE ANNOUNCEMENT OR COMPLETION OF THE TRANSACTION; THE DIVERSION OF MANAGEMENT TIME ON TRANSACTION-RELATED ISSUES; THE ULTIMATE TIMING, OUTCOME AND RESULTS OF INTEGRATING THE OPERATIONS OF TORCHLIGHT AND META; THE EFFECTS OF THE BUSINESS COMBINATION OF TORCHLIGHT AND META, INCLUDING THE COMBINED COMPANY'S FUTURE FINANCIAL CONDITION, RESULTS OF OPERATIONS, STRATEGY AND PLANS; CHANGES IN CAPITAL MARKETS AND THE ABILITY OF THE COMBINED COMPANY TO FINANCE OPERATIONS IN THE MANNER EXPECTED; THE FACT THAT ANY DIVIDEND PAYMENTS WILL BE AT THE DISCRETION OF THE COMBINED COMPANY'S BOARD OF DIRECTORS AND MAY BE SUBJECT TO LEGAL, CONTRACTUAL OR OTHER RESTRICTIONS; THE EFFECTS OF COMMODITY PRICES; THE RISKS OF OIL AND GAS ACTIVITIES; AND THE FACT THAT OPERATING COSTS AND BUSINESS DISRUPTION MAY BE GREATER THAN EXPECTED FOLLOWING THE PUBLIC ANNOUNCEMENT OR CONSUMMATION OF THE PROPOSED TRANSACTION. EXPECTATIONS REGARDING BUSINESS OUTLOOK, INCLUDING CHANGES IN REVENUE, PRICING, CAPITAL EXPENDITURES, CASH FLOW GENERATION, STRATEGIES FOR OUR OPERATIONS, OIL AND NATURAL GAS MARKET CONDITIONS, LEGAL, ECONOMIC AND REGULATORY CONDITIONS, AND ENVIRONMENTAL MATTERS ARE ONLY FORECASTS REGARDING THESE MATTERS.

ADDITIONAL FACTORS THAT COULD CAUSE RESULTS TO DIFFER MATERIALLY FROM THOSE DESCRIBED ABOVE CAN BE FOUND IN TORCHLIGHT'S ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2019 AND IN ITS SUBSEQUENTLY FILED QUARTERLY REPORTS ON FORM 10-Q, EACH OF WHICH IS ON FILE WITH THE SECURITIES AND EXCHANGE COMMISSION ("SEC") AND AVAILABLE FROM TORCHLIGHT'S WEBSITE AT WWW.TORCHLIGHTENERGY.COM UNDER THE "INVESTOR RELATIONS" TAB, AND IN OTHER DOCUMENTS TORCHLIGHT FILES WITH THE SEC.

ALL FORWARD-LOOKING STATEMENTS SPEAK ONLY AS OF THE DATE THEY ARE MADE AND ARE BASED ON INFORMATION AVAILABLE AT THAT TIME. TORCHLIGHT DOES NOT ASSUME ANY OBLIGATION TO UPDATE FORWARD-LOOKING STATEMENTS TO REFLECT CIRCUMSTANCES OR EVENTS THAT OCCUR AFTER THE DATE THE FORWARD-LOOKING STATEMENTS WERE MADE OR TO REFLECT THE OCCURRENCE OF UNANTICIPATED EVENTS EXCEPT AS REQUIRED BY FEDERAL SECURITIES LAWS. AS FORWARD-LOOKING STATEMENTS INVOLVE SIGNIFICANT RISKS AND UNCERTAINTIES, CAUTION SHOULD BE EXERCISED AGAINST PLACING UNDUE RELIANCE ON SUCH STATEMENTS.

Additional Information



Additional Information and Where to Find It

Torchlight will prepare a definitive proxy statement (the “proxy statement”) concerning the proposed business combination transaction with Meta for Torchlight’s stockholders which will be filed with the SEC. The proxy statement will also be mailed to Torchlight’s stockholders. Torchlight urges investors, stockholders and other interested persons to read, when available, the proxy statement, as well as other documents filed with the Securities and Exchange Commission because these documents will contain important information about the proposed business combination transaction. Such persons can also read Torchlight’s Annual Report on Form 10-K for the fiscal year ended December 31, 2019, for a description of the security holdings of its officers and directors and their respective interests as security holders in the consummation of the transactions described herein. Torchlight’s proxy statement will be mailed to stockholders of Torchlight as of a record date to be established for voting on the transactions described in this report. Torchlight’s stockholders will also be able to obtain a copy of such documents, without charge, by directing a request to: John A. Brda, President of Torchlight Energy Resources, Inc., 5700 W. Plano Parkway, Suite 3600, Plano, Texas 75093; e-mail: john@torchlightenergy.com. These documents, once available, can also be obtained, without charge, at the SEC’s web site (<http://www.sec.gov>).

Participants in Solicitation

Torchlight and its directors, executive officers and other members of their management and employees, under SEC rules, may be deemed to be participants in the solicitation of proxies of Torchlight stockholders in connection with the proposed business combination. Investors and security holders may obtain more detailed information regarding the names, affiliations and interests of Torchlight’s directors in its Annual Report on Form 10-K for the fiscal year ended December 31, 2019, which was filed with the SEC. Information regarding the persons who may, under SEC rules, be deemed participants in the solicitation of proxies to Torchlight’s stockholders in connection with the proposed business combination will be set forth in the proxy statement for the proposed business combination when available. Information concerning the interests of Torchlight’s participants in the solicitation, which may, in some cases, be different than those of Torchlight’s equity holders generally, will be set forth in the proxy statement relating to the proposed business combination when it becomes available.

Transaction Overview



- Reverse takeover of Torchlight (a U.S.-listed public company) by META (a Canadian-listed public company), by way of a Plan of Arrangement.
- Torchlight's pre-Arrangement stockholders will own approximately 25.0% of the new combined company post-closing, and in exchange issue shares of its common stock to holders of META common shares, representing approximately 75.0% ownership in the combined company.
- Prior to the effective date of the closing of the Arrangement, Torchlight will declare and issue shares of Series A preferred stock to holders of Torchlight common stock representing 100% of the value of its existing oil and gas assets.
 - Shares of Series A preferred stock will be unregistered and not freely-tradable.
 - Preferred stockholders will have the right to receive a cash dividend (on a per preferred share basis) of any net proceeds received from the sale or disposition of oil and gas assets owned by Torchlight prior to the earlier of (i) December 31, 2021 or (ii) the date which is six months from the closing of the Arrangement.
 - During the sale period, the Company may spin off or sell any of the remaining oil and gas assets.
 - Further, the oil and gas assets will be held in wholly-owned subsidiaries.
- The current management team at META will operate the combined company post-closing.

Transaction Merits

- **Legacy Value + + | Pre-Arrangement**
Torchlight shareholders still maintain exposure to the oil and gas assets and will receive a pro rata share of any net proceeds generated from the sale or disposition of the assets, in addition to receiving 25% of the combined business with META.
- **New Vision | Transition to the value of patents and development of nanomaterials that have broad and current product applications in industries that include automotive, consumer electronics, communications, medical, energy, and aerospace and defense.**



The Transaction Opportunity

METATM

MASTERING LIGHT
DRIVING INNOVATION

Metamaterial, Inc.

www.metamaterial.com

CSE: [MMAT](#)

Forward Looking Statements

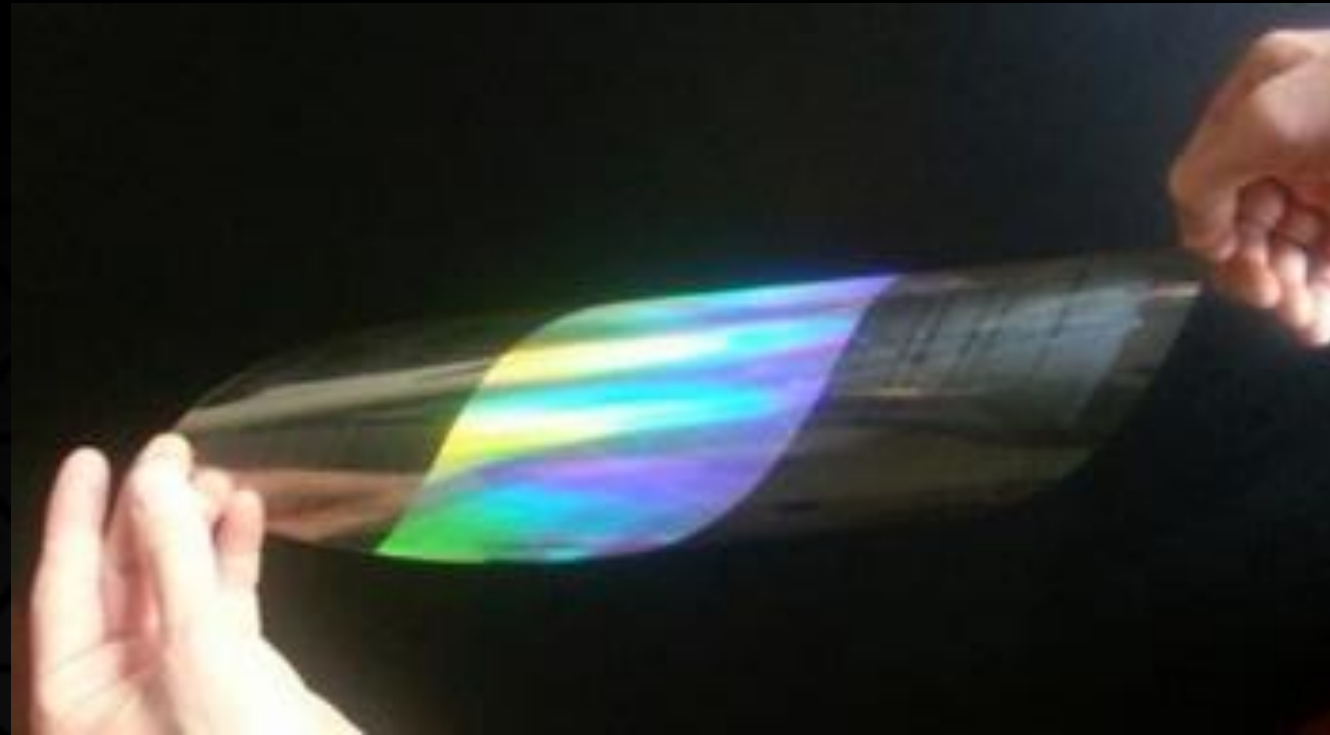


This Presentation includes forward-looking information within the meaning of Canadian securities laws and within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, regarding Metamaterial and its business, which may include, but are not limited to, statements with respect to the terms and anticipated timing of the proposed transaction with Torchlight Energy Resources Inc., the intention to raise equity capital, the potential continued listing of Torchlight on the NASDAQ exchange and the benefits thereof, the approval of the Transaction by the shareholders of Torchlight and Metamaterial, the business strategies, product development and operational activities of Metamaterial. Often but not always, forward-looking information can be identified by the use of words such as “expect”, “intends”, “anticipated”, “believes” or variations (including negative variations) of such words and phrases, or state that certain actions, events or results “may”, “could”, “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 Metamaterial and are based on assumptions and subject to risks and uncertainties. Although the management of Metamaterial 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 companies, including risks regarding the ability of the parties to close the

proposed transaction with Torchlight Energy Resources Inc., the ability of the parties to raise necessary equity capital, approval of the transaction and continued listing by the NASDAQ exchange, approval of the Canadian Securities Exchange, receipt of shareholder approval and required third party and regulatory consents, the potential benefits of the transaction to Metamaterial shareholders, risks related to the research and development projects of the Company, risks related to the market potential of the Company’s products, risks related to the investment priorities and manufacturing plans of the Company, risks related to the scalability of the Company’s production ability, risks related to the technology industry, market strategic and operational activities, and management’s ability to manage and to operate the business. Although Metamaterial 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 Metamaterial 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.

Solutions for everyday life

META™



META delivers **breakthrough performance**, across a range of applications and industries, by designing, developing and manufacturing **sustainable, highly-functional materials**.

The Birth of the Digital Age

META™

Almost every great advancement in technology can be attributed to a **breakthrough in material science**:
stone age => bronze age => iron age => => => silicon age

Electronics THEN...



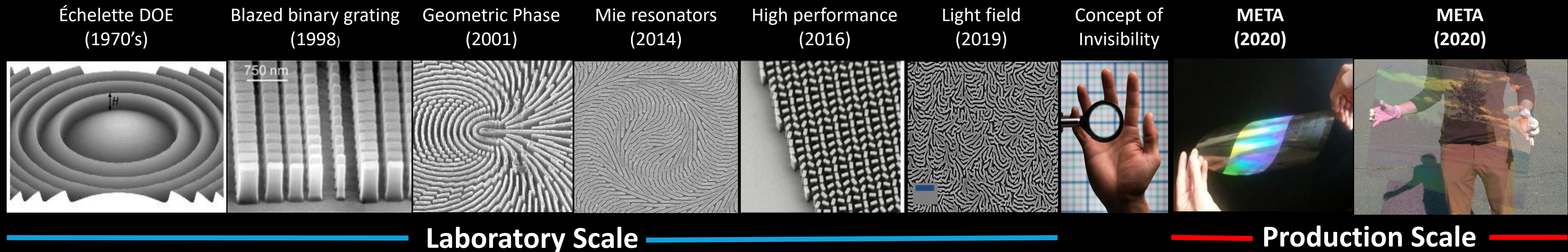
Electronics NOW...



In 1956, the **Nobel Prize in Physics** was awarded jointly to Shockley, Bardeen and Brattain for their development of the **transistor**, driven by the discovery of semiconducting materials and the means to manipulate their properties

Enabling the 21st Century “Age of Invisible Materials”

META™



What are Metamaterials?

- **Metamaterials** control on demand **unique functional properties** in absorption, emission, sensing, transmission, and guiding of light, sound, energy, and heat, as well as friction, strength, and electric energy
- Metamaterials are typically created by patterning **composite and nanomaterials** (e.g. metals, dielectrics etc.)
- Until recently, development has taken place only at the **laboratory scale** on **very small substrates**

The META Advantage

- **SPEED** - META uses **AI software** to design a library of patterns for different applications, it typically develops new custom solutions **within hours vs months**
- **SCALE** - META is one of the first companies to develop **proprietary roll-to-roll production equipment** to produce large area, high volume **nanocomposites**
- **COST** - Increasing the roll-to-roll web width and line speed should drive costs down to a **few \$/m²**

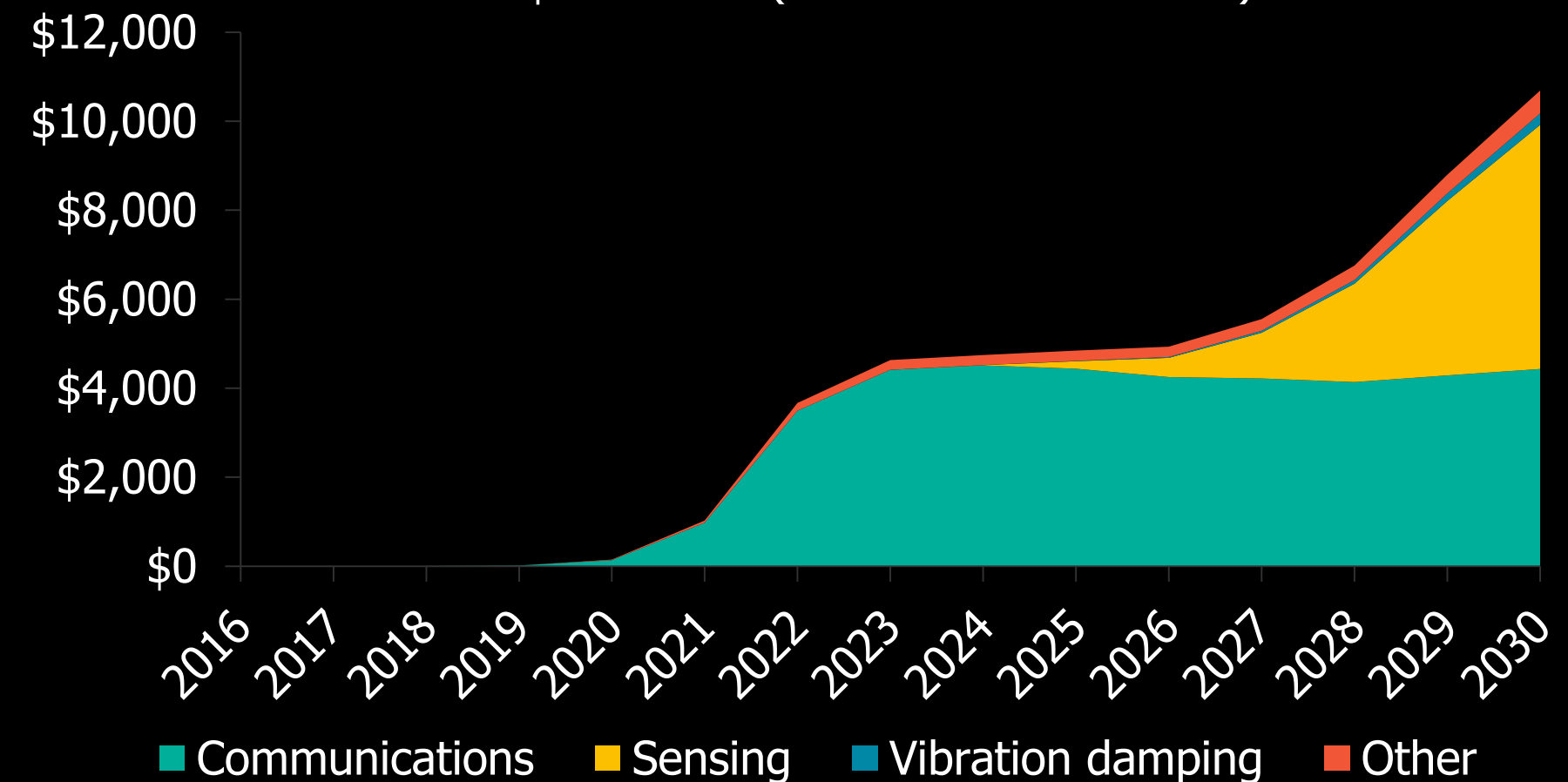
Market Opportunity Driven by Several Megatrends



- **5G infrastructure:**
rollout requires new materials for transparent antennas and reflectors
- **Vehicle Electrification:**
seismic shift toward EV, ADAS (advanced driver assistance systems) and autonomous vehicles
- **Combined >\$3T in Other Verticals:**
Advanced Materials, IoT, Medical, Energy, Aerospace and Automotive markets
- **Scarcity, Control of Raw Materials:**
supply of rare earths and materials such as ITO (Indium Tin Oxide) highly concentrated in Asia
- **Metamaterial Device Market:**
expected to grow to \$10.7B SAM by 2030

Metamaterials Market Forecast

US\$ Millions (Source: LUX Research)



META Transparent Window Film Transforms Outdoor 5G Coverage

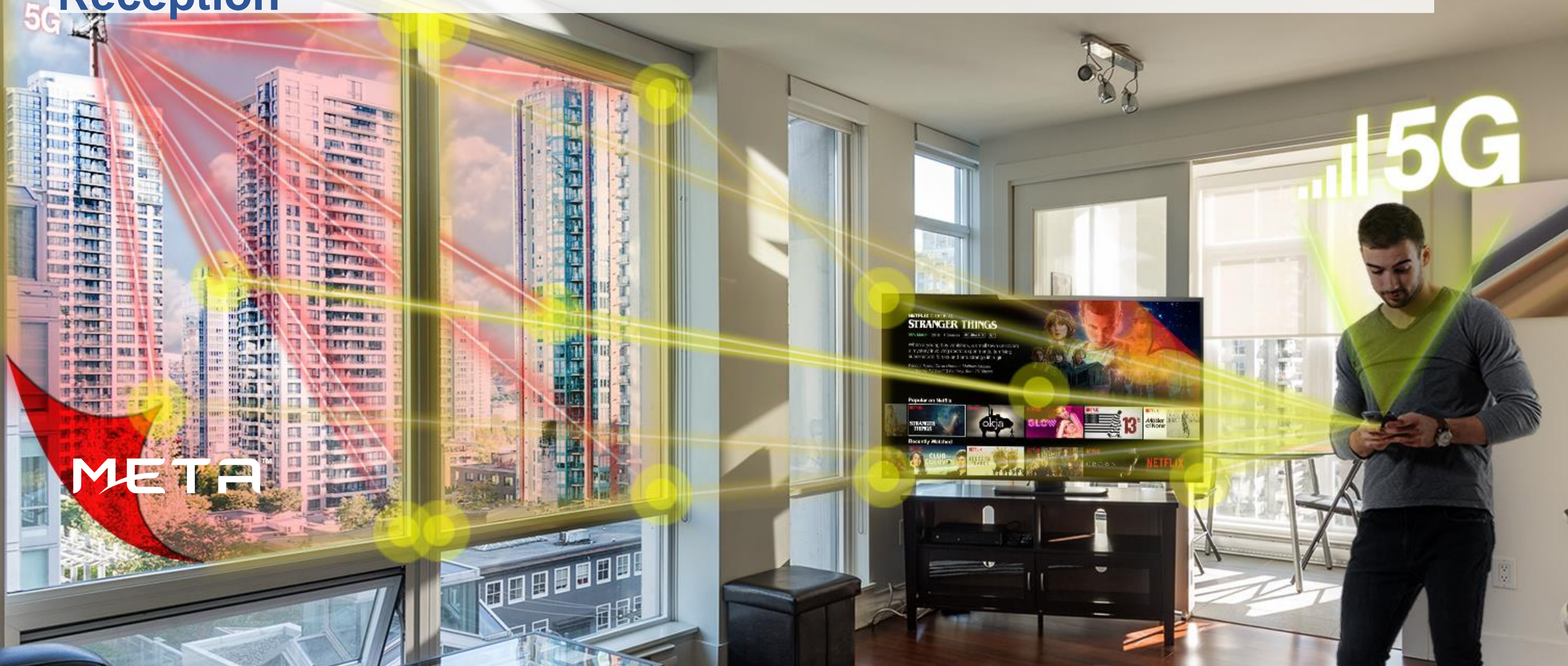


PROBLEM - Highest-speed 5G signals need line of sight, requiring placement of many small cells

SOLUTION - META's passive transparent window film reflects signal to cover dead zones

MEGA TREND - Carriers are spending \$ Billions on Infrastructure

META Invisible Antenna to Enhance Indoor 5G and Digital TV Reception



PROBLEM - 5G signals don't penetrate glass, buildings, requiring installation of internal networks

SOLUTION - META's passive transparent window film passes through 5G and Digital TV signals

META Nano-heater to Protect Sensors - Transparent to RADAR and LIDAR Simultaneously

META™



PROBLEM - ADAS and Autonomous vehicles depend on an array of cameras and sensors to “see” and understand their surroundings

SOLUTION - META’s NanoWeb™ transparent conductive film provides deicing and defogging without blocking the camera/sensor functions

NanoWeb™: Transparent Sensors and 5G Antennas

META™

COMPETITIVE ADVANTAGES

- META's lithography capability enables fabrication of sensors & antennas completely **invisible** to the human eye
- META's touch sensors and transparent 5G antennas can be integrated into smartphone displays, on windows of vehicles or buildings and home appliances
- NanoWeb™ is **flexible** - unlike the incumbent ITO (Indium Tin Oxide) technology – enabling sensors on **foldable phones**
- META's antennas can operate from low to high frequencies (3G, 5G/6G and beyond) and provide communication systems for conventional, EV and autonomous vehicles



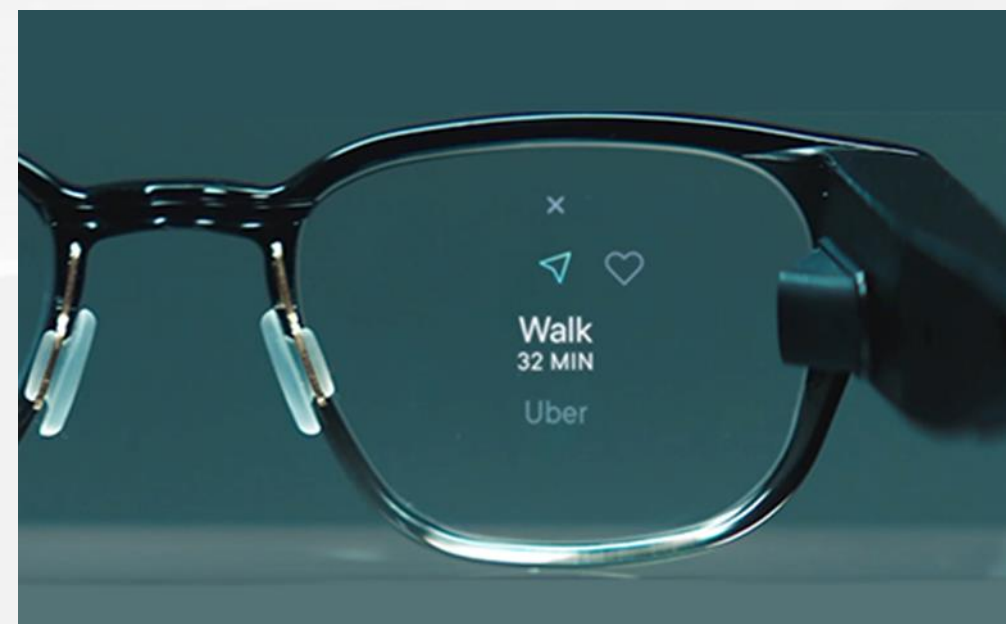
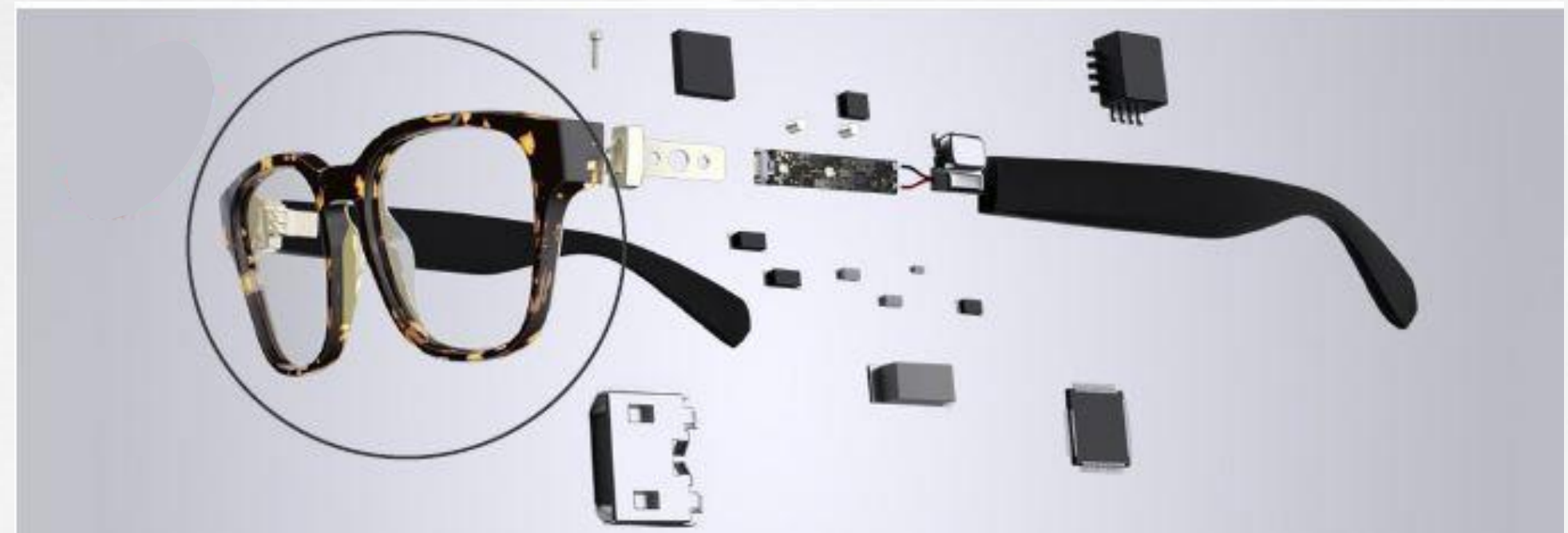
META Transparent 5G Antenna

— 200 μm

metaFUSION™ Integrates AR with Prescription Lenses



- **metaFUSION™** integrates optical elements for AR (augmented reality) combined with lens casting technology developed by Interglass Technology AG
- META acquired assets & IP of Swiss lens manufacturer Interglass, 70+ patents, trademarks and trade secrets, proprietary software and designs
- High volume fully automated lens casting, workstations, tools, test equipment, and technical data
- Proprietary specialty materials/foils supply in cooperation with **Covestro AG**
- Just-in-time production of prescription lenses and embedded elements such as optical combiners, waveguides, and eye tracking sensors
- **Highly Sustainable Process:**
 - ⚡ Less energy (10 sec vs 50 hours curing time)
 - 💧 Zero water usage
 - ⚙️ Less material usage



\$1.5B
Augmented
Reality Eyewear
Market

Source: BCC Research

Medical Applications: Mid- to Long-Term (2-7yrs) Potential

Functional metamaterials for Health and Wellness market – Licensing/Project Financing opportunities

Image Enhancement

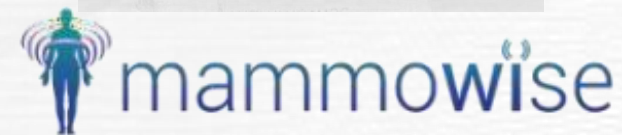


MRI Medical Imaging

MRI Imaging with metamaterial film

MARKET POTENTIAL*

\$2.0+B



Early-Stage Breast Cancer Screening

Radio-wave Imaging for breast screening with metamaterial film

MARKET POTENTIAL*

\$4.0+B

Sensor enhancement



Non-invasive Glucometer

Dual Sensor mm-wave technology with metamaterial film (www.gluco-wise.com)

MARKET POTENTIAL*

\$15.0+B



Molecular Biosensor

Daily use Bio-photonic sensor with sensitivity and performance enhanced using nanomaterial to meet rising demand for point of care testing.

MARKET POTENTIAL*

\$10.0+B

*Source: Internal META estimates

Solving Global Challenges Together With OEM Partners And Customers



Selected Target Co-Development Partners and Customers in Automotive, Medical, Aerospace & Defense, Consumer Electronics and Energy

Mazda **ThermoFisher SCIENTIFIC** **SAMSUNG** **Elbit Systems** **SEKISUI** **covestro**

PPG **AIRBUS** **SATAIR** **SONY** **SolAero TECHNOLOGIES**

AGC **PLASTIC OMNIUM** **DENSO** **enel Green Power** **LOCKHEED MARTIN** **Midea** **Caltech**

Panasonic **Transitions™** **BOEING®** **CORNES Technologies**

babcock™ **UKRI** **Innovate UK** **Atlantic Canada Opportunities Agency** **SUSTAINABLE DEVELOPMENT TECHNOLOGY CANADA**

UNITED STATES SPECIAL OPERATIONS COMMAND
AUSTRALIAN AIR FORCE ROYAL AUSTRALIAN AIR FORCE PER ARDUA AD ASTRA
ROYAL CANADIAN MOUNTED POLICE

Advanced Materials Competitive Landscape

1 METAMATERIALS COMPANIES

Emerging, Disruptive performance, Low cost, High margins

2 CHEMICAL & SPECIALTY MATERIALS

Incumbent, Bulk materials, Incremental performance, Commoditized

3 CARBON NANOMATERIALS

Early stage, Difficult to scale, Low performance, Very expensive

4 SEMICONDUCTOR MATERIALS

Incumbent, Process slow and expensive to scale, Rare earth price exposure

5 ITO AND SPECIALTY COATINGS

Precious metal price exposure, Average performance

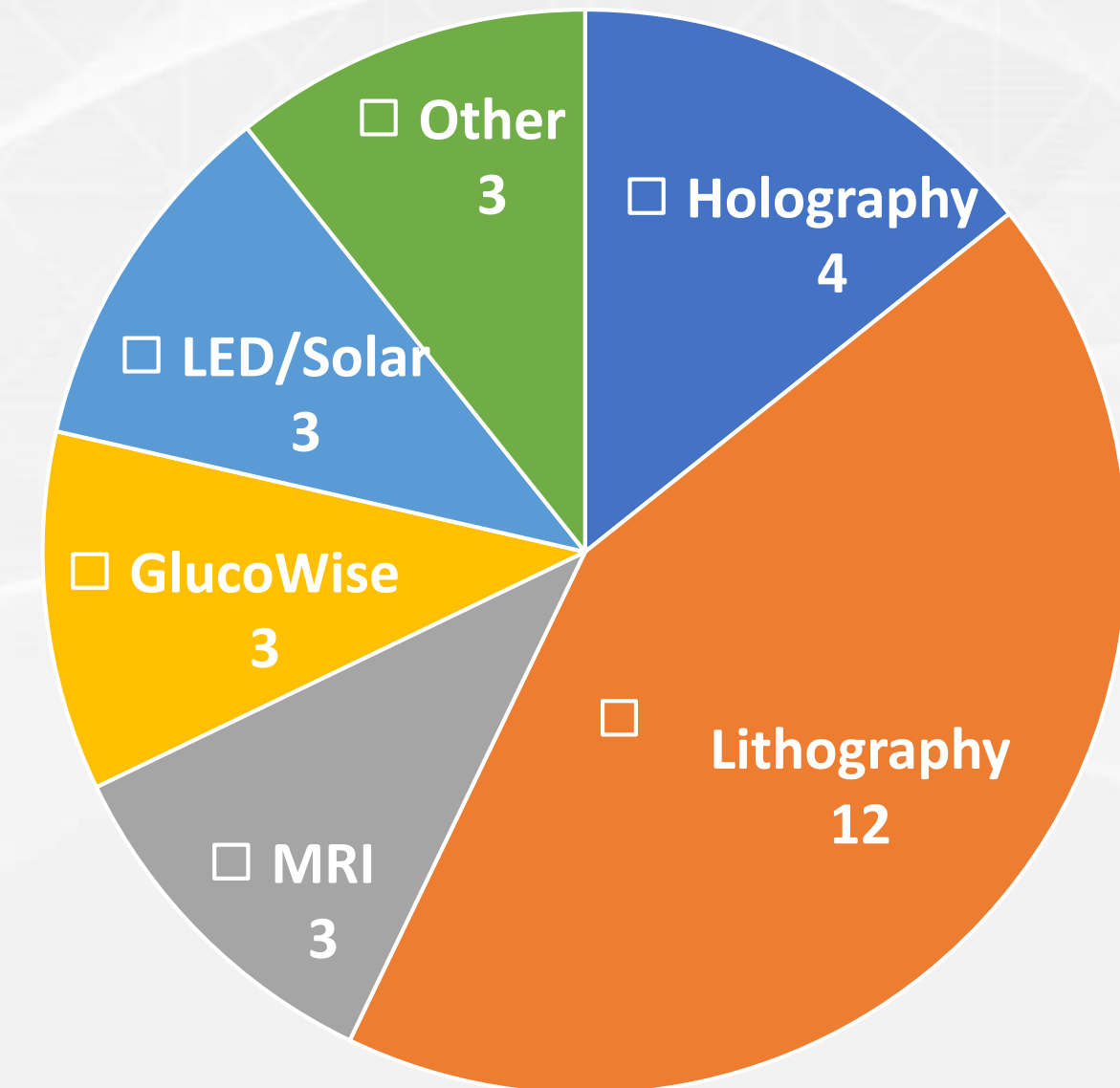
Existing META relationships

Source: LUX Research and Internal META estimates

Intellectual Property & Know-How

- META has 89 filed patents (54 granted) across 28 patent families (21 granted)
- 5 registered trademarks
- Proprietary, custom manufacturing processes and trade secrets, developed over 10 years with multi-million \$ investment
- Processes and methods were patented early, providing multi-year competitive advantage
- **NEW: Interglass acquisition added 70+ patents,** casting processes for high-quality plastic lenses, optical components based on UV curing acrylics

Patent Families Breakdown



Executive Team



George Palikaris, Ph. D.

President and CEO, Founder
12 years in leadership positions of high-tech startups. Goldman Sachs (10KSB), MIT Enterprise and EY awards for entrepreneurship, Stanford, Harvard, INSEAD Exec Ed. 50+ patents, 3 industry awards.



Kenneth Rice, MBA, JD, LL.M.

Chief Financial Officer & EVP
30+ years experience, public and private company CFO, in-house counsel, operations, and corporate development executive in technology and life sciences



Jonathan Waldern, Ph. D.

Chief Technology Officer
25 years experience in commercialization of holographic and lithographic/nanomaterials for photonic applications, inventor and visionary with 140+ patents



Gardner Wade

Chief Product Officer
20+ years in managing development engineering of high-definition optical eyewear for global brands in military, flight and performance sports applications



Themos Kallos, Ph. D.

Chief Science Officer, Co-Founder
10 years experience in applied physics, intellectual property development in metamaterial applications, 40+ filed patents and 50+ publications



Scott Richards

Chief Marketing Officer
20+ years in management consulting and marketing services, CEO, CMO, COO, strategic planning, and M&A, in Canada, the Caribbean, the UAE, and the U.S.

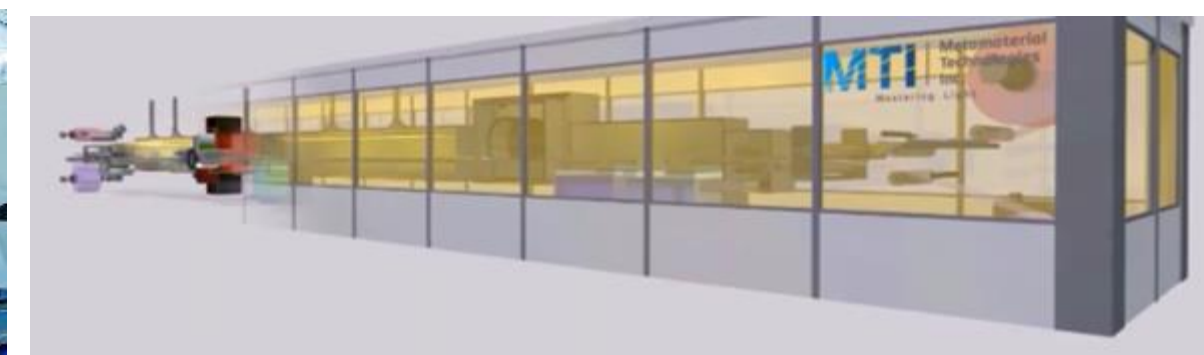
Investment Priorities 2021-2022



Initial roll-to-roll production equipment: operational year-end 2021 to mid-2022



Expansion equipment and clean room labs: operational 4Q21 to 2Q22



1. Acquire and launch Pilot Scale roll-to-roll functional film production capability, estimated \$10M CAPEX
2. Customer Center including META's pilot line, to license, train and sell duplicates internationally
3. Healthcare and Wellness applications led by current customer engagements, estimated spending \$3M
4. Applied R&D, increased headcount, estimated spending \$3M

Scalable Revenue and Business Model

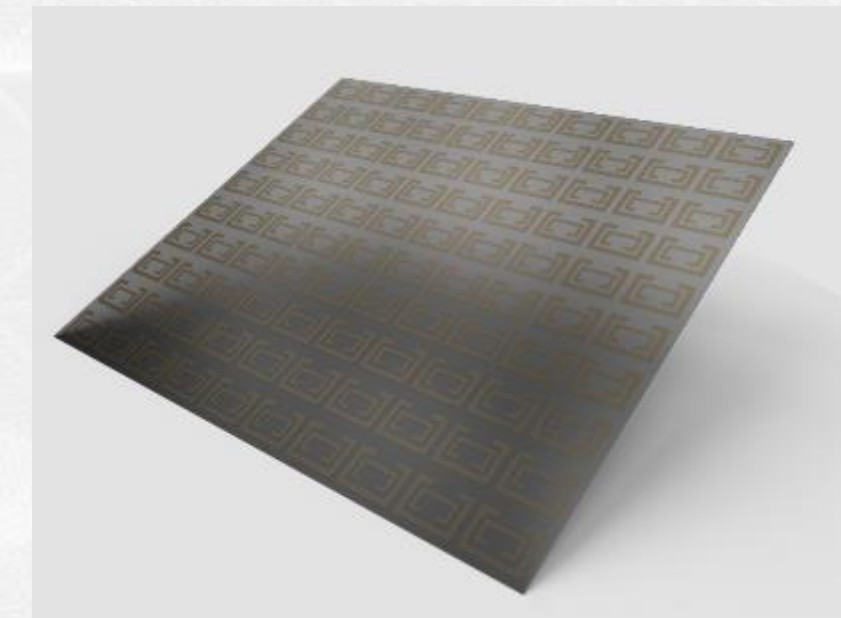
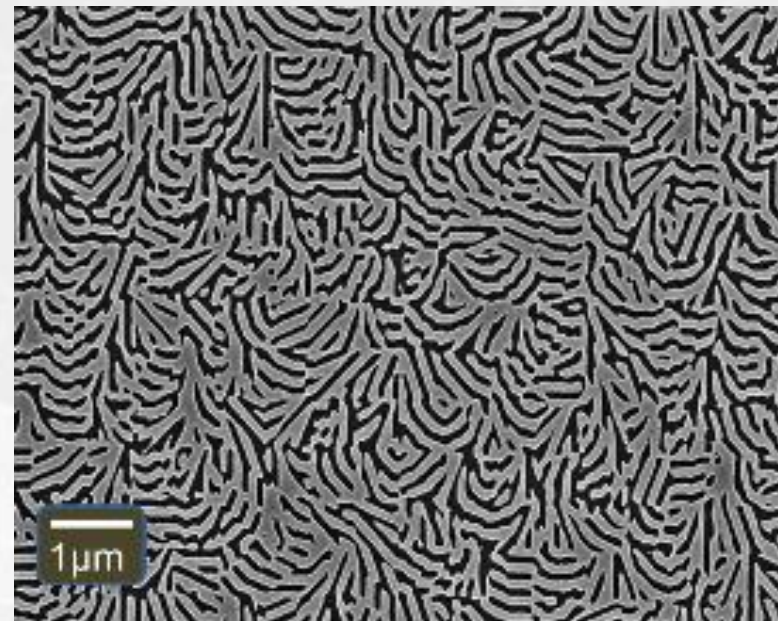


Design, Test Samples

Wafer Scale Validation

R2R Licensed Pilot Line

Multiple Revenue Streams



Design Verification

- Produce samples to customer spec
- Test samples
- Scope proposal for Phase 2 NRE (Funded R&D)

Performance Validation

- Complete Phase 2 NRE
- Produce Beta lot for customer use
- Pilot scale production contract and scope

Production at Scale

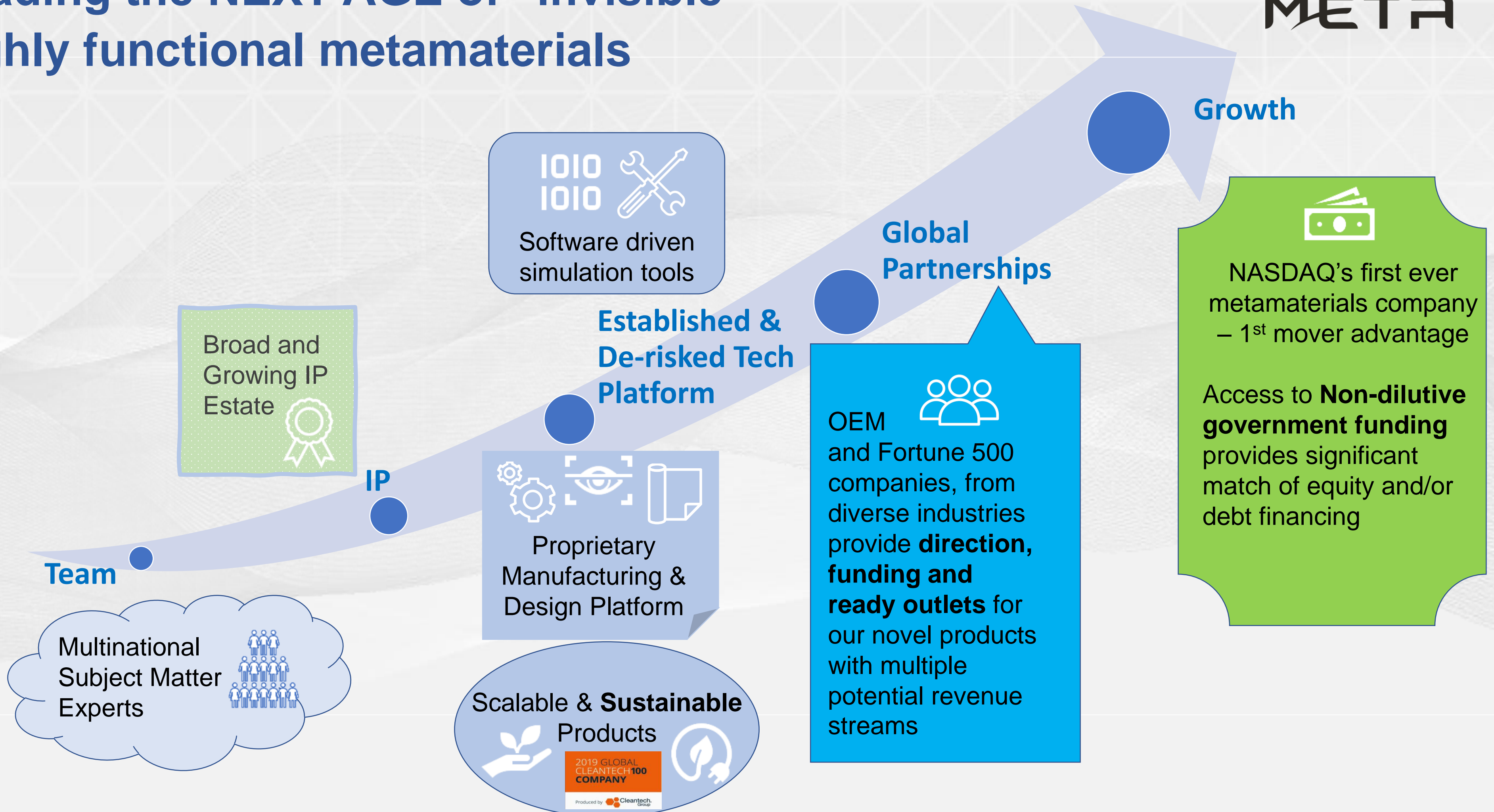
- Cost model validation with customer
- Produce pilot scale lot for customer use
- Commercial scale license and material supply agreement

Revenue Streams

1. License Fee
2. Master-Supply
3. Royalties
4. Equipment Supply
5. Raw Material Supply Agreement
6. Service NRE contract (META owns IP)

Leading the NEXT AGE of “invisible” highly functional metamaterials

META™



THANK YOU

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Investor Relations

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