



**ENSURGE™**

# 2021 Full Year and Q4 Preliminary Report

23 February 2022

**Kevin Barber**

CEO



# Safe Harbor Statement

This report includes forward-looking statements covered by the Private Securities Litigation Reform Act of 1995. Because such statements deal with future events, they are subject to various risks and uncertainties and actual results for fiscal year 2021 and beyond could differ materially from the Company's current expectations. Forward-looking statements, including estimates of capacity, selling price and other material considerations, are identified by words such as "anticipates," "projects," "expects," "plans," "intends," "believes," "estimates," "targets," and other similar expressions that indicate trends and future events.

Factors that could cause the Company's results to differ materially from those expressed in forward-looking statements include, without limitation, variation in demand and acceptance of the Company's products and services, the frequency, magnitude and timing of raw-material-price changes, general business and economic conditions beyond the Company's control, timing of the completion and integration of acquisitions, the consequences of competitive factors in the marketplace including the ability to attract and retain customers, results of continuous improvement and other cost-containment strategies, and the Company's success in attracting and retaining key personnel. The Company undertakes no obligation to revise or update forward-looking statements as a result of new information, since these statements may no longer be accurate or timely.

Ensurge financial reports and presentations may be accessed online at <https://ensurge.com/investor-relations/>

# Superior replacement in billion-unit market

Beats coin/button cells on energy density, lifetime, form factor, safety

**Solid State Lithium batteries** huge investment theme  
Ensurge uniquely focused within micro battery markets

**Novel Architecture** based on proven R2R stainless steel manufacturing technology

**~\$100M EBITDA potential** in current factory footprint, based on mix

**Cash flow breakeven** at ~4M units per year with existing R2R line

**Fortune Global 500** wearables customer announced Q2'21  
**Two Global top tier** hearing aid customer announced Q3'21  
**~10 Tier 1 OEMs** awaiting samples

**Commercialization on track:**  
**Initial production ramp** begins 2022



# Significant Progress during 2021

## Technology progress

- Validated battery cell performance with R2R depositions on ultrathin 10-micron steel rolls
  - Enables unmatched energy densities while validating path to production scale with roll-based manufacturing
- Building stacked batteries utilizing cell-stacking equipment and roll-based unit-cells - Enables mAh class micro batteries

## Commercial progress

- Signed agreement with Fortune Global 500 company in wearables market
- Signed agreements with two global leaders in medical hearables market

## Leadership

- Appointed globally recognized energy storage innovator Dr. Shirley Meng to the Company's Technical Advisory Board
- Hired industry veterans Vijay Parmar as VP Sales & Marketing and Jay Tu as VP Operations

**Renamed to Ensurge Micropower ASA** – reflects our purpose to enable and energize innovation for our customers

## 2022 Focus

- Converting current and new customer agreements into ramping initial product revenue in Q4
- Broaden our customer activities across all target markets
- Qualification of our technology and products with customers
- Establish operational readiness for ramp of production deliveries, including incremental equipment capacity additions

# Full Year 21' and Q4 '21 financials

K \$ USD		Q4 21'	Q3 21'	Q2 21'	Q1 21'	Q4 20'
Ending Cash		\$6,853				\$5,790
Expenses	Payroll	\$1,941	\$2,359	\$1,148	\$1,062	\$1,543
	R&D	\$495	\$626	\$692	\$521	\$692
	Other	\$2,874	\$2,988	\$2,868	\$2,151	\$1,159
	Depreciation & Amortization	\$9	\$12	\$14	\$12	\$14
	<b>Total Operating Expenses</b>	<b>\$4,794</b>	<b>\$5,985</b>	<b>\$4,722</b>	<b>\$ 3,747</b>	<b>\$3,408</b>
Cash Adjustments	Interest on Utica Debt	\$447	\$483	\$562	\$596	\$510
	Utica Principal reductions <sup>1</sup>	\$864	\$2,380	-	-	\$246
	Less: Stock based compensation	\$1,381	(\$2,034)	(\$989)	(\$528)	(\$404)
	<b>Adjusted Cash Operating Expenses</b>	<b>\$4,724</b>	<b>\$6,814</b>	<b>\$4,295</b>	<b>\$3,815</b>	<b>\$3,760</b>
	Normalized Principal reductions	\$0	\$794	\$793	\$793	\$246
	<b>Normalized Adjusted Cash Oper. Expenses</b>	<b>\$4,724</b>	<b>\$5,228</b>	<b>\$5,088</b>	<b>\$4,608</b>	<b>\$3,760</b>
	Capital Expenditures	\$828	\$388	\$1,091	\$138	

1 – Utica principal "catch-up" payment in Q3 21'

# Enter digital health market thru customer agreement

Agreement includes delivery of production microbatteries in 2022

With a leader and innovator in the digital health market

- Ensurge to deliver customized microbatteries starting in the fourth quarter of 2022
- Ensurge is receiving several milestone-based payments for the customization

Proliferation of Digital Health & Remote Patient Monitoring solutions & services

- Driven by increasingly health-conscious population and the pandemic
- Expected to reach \$100B's over next few years

Digital Health Devices at the center of these solutions

- Unique and stringent power requirements
- Requiring unique battery attributes
  - Flexible form factors,
  - Fast charging,
  - High current draw,
  - In addition to higher energy density and charge cycles



# Enter industrial/IoT market thru customer agreement

Agreement includes delivery of custom battery optimized for customer application

- With a Fortune 500 company in manufacturing capital equipment
  - Ensurge to delivery customized microbatteries optimized for customer's application
  - Ensurge is receiving several milestone-based payments for the customization
- IoT and industrial applications represent a significant opportunity
  - Proliferation of connected sensors
  - Strong movement towards rechargeable batteries in combination with energy harvesting
- Ensurge solid state microbatteries driving the transformation
  - Unique attributes and value propositions match customer requirements
  - Wide temperature range, long shelf life, fast charging, high current draw besides higher density, charge cycles and safety



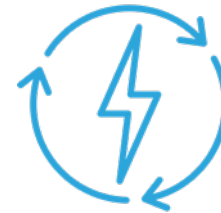
# superior solution for existing billion-unit market

Ensurge™ uniquely focused on solid state micro batteries



## Addressing micro battery market requirements

- Small, thin & flexible form factors
- Higher energy densities
- Long lifetime & reliability
- Safe



## Solid micro batteries superior to lithium-ion

## Leveraging proprietary IP & unique technology platform



# microbatteries – our market focus

Established and growing markets



## Initial focus

Premium pricing  
Focused market, direct sales to OEMs  
Customization potential

## Subsequent expansion

Broader customer base  
Leverage partnerships  
Standard products

# hearables market

## True Wireless



2024: 540 MU (1.08B batteries)



40-70 mAh

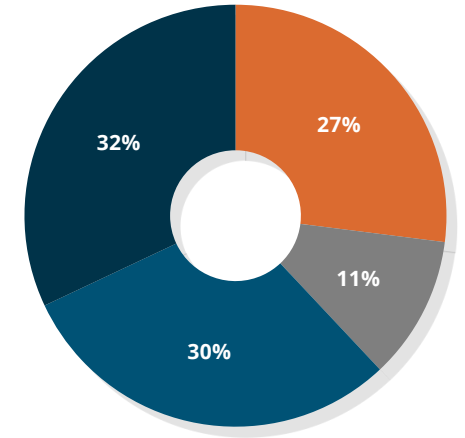


All rechargeable



Big trends

- Health
- Convergence with hearing aid



■ Apple ■ Samsung ■ Tier2 ■ Other

**Ensurge value propositions**

- Smaller size
- Longer lifetime

## Hearing Aids



2024: 23MU



15-25 mAh

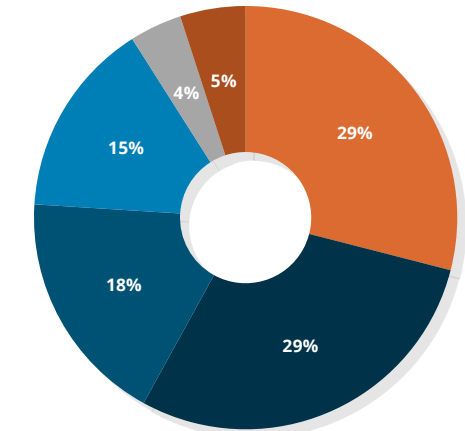
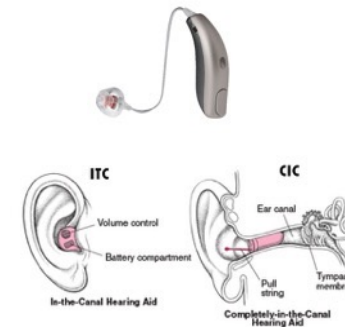


Moving from primary to rechargeable



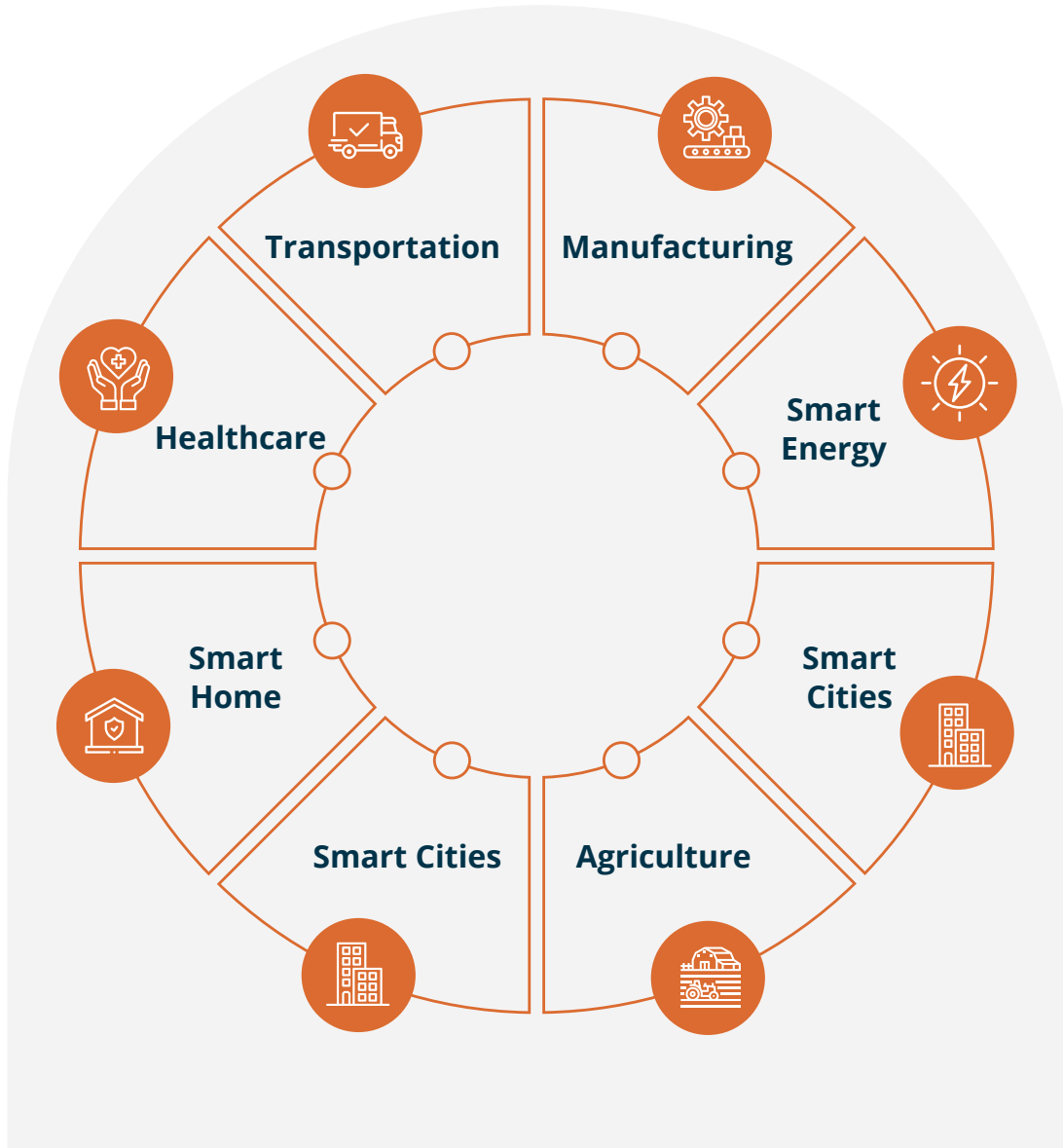
Big trends

- OTC in USA creates potential disruption
- Convergence with True Wireless



■ Sonova ■ Demant ■ WS A  
■ GN ■ Starkey ■ Other

# IoT connected sensors



## Market

240MU in 2024 with 1-50 mAh capacity  
Big trends: 5G, Energy harvesting



## Unique requirements

Industrial temperature range (-20-+85 °C)  
5-20 years of shelf and product life  
Slow discharge rate  
Charge cycles



## Ensurge Value Proposition & GTM

Size, charge cycles, temp range  
Develop partnerships with energy harvesting, sensor and chip companies

# wearable applications



Applications that absolutely need Solid State Batteries to get off the ground



- Driven by:
- Form factors
  - Unique requirements
  - Longer charge cycles
  - Safety
  - Temperature range

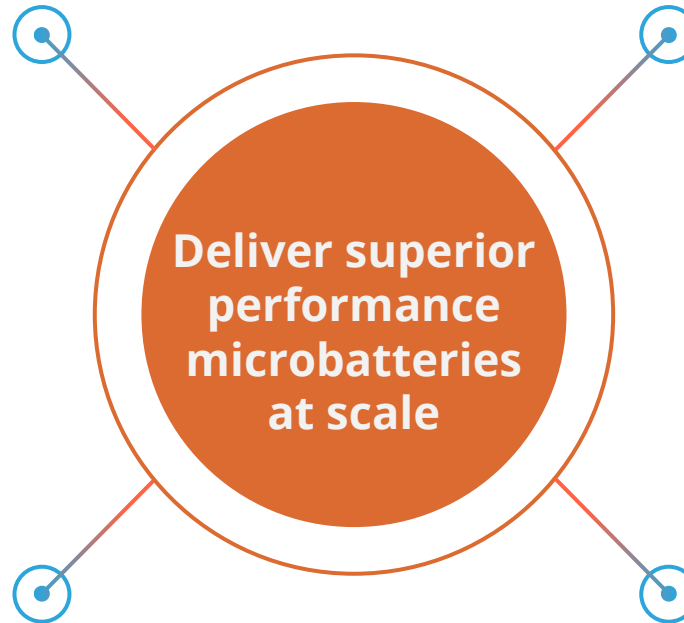
# novel architecture transforming microbatteries

## Established anode-less solid state chemistry

- Invented in 1990s
- Core longevity and safety advantages

## Proven ultrathin steel substrates

- Proprietary Ensurge development
- Maximizes volumetric energy density
- Reliably shipped millions of EAS units







## Innovative cell stacking & packaging

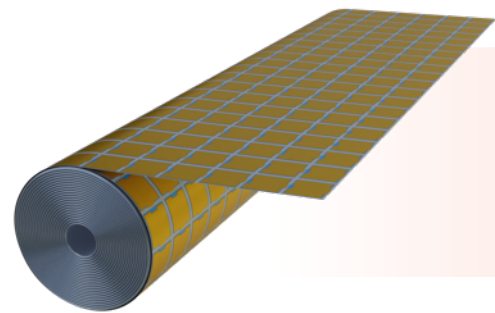
- Enables thinner form factors
- Enables form factor customization

## Installed ~\$40M scale-up R2R factory

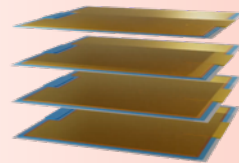
- Cost-effective path to high volume
- Supports technology roadmap

# Ensurge: performance and customizability, at scale

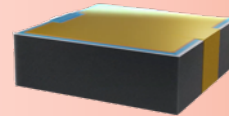
		energy density more battery life per unit volume	recharge cycles longer lasting hearables, wearables, sensors	charging speed improved user experience	safety no fire, explosion, heat risk	form factor enabling unique end products
	<b>Ensurge SSLB</b>	2x	2-3x	2x		rectangle ultra thin
	vs.					
	<b>Li-ion button cell</b>	1x	1x	1x		thick circle



Scale via roll-to-roll fabrication



precision stacking & encapsulation



Microbattery product platform

# summary

winning with steel, stacking and scale

## **Solid-state lithium rechargeable microbatteries**

- superior energy density, lifetime, safety vs. lithium-ion
- customizable form factors

## **Billion-unit, ten-billion \$ addressable market**

- hearables, wearables, sensors
- existing and emerging applications
- multiple customers announced

## **Barriers to entry**

- extensive IP
- thin film and roll-based manufacturing know-how

## **Existing, production-grade factory**

- \$40M equipment for high-capacity roll-to-roll mfg.

## **Profitable**

- EBITDA potential w/ existing facility ~\$100M







**Thank You**