



**AQUAMETALS**

NASDAQ: AQMS

# 2017 Q2 Earnings Call

August 9, 2017

## Safe Harbor

This document contains forward-looking statements concerning Aqua Metals, Inc., the lead-acid battery recycling industry, the intended benefits of its agreements with Johnson Controls and Interstate Batteries, the future of lead-acid battery recycling via traditional smelters, the Company's development of its commercial lead-acid battery recycling facilities and the quality, efficiency and profitability of Aqua Metals' proposed lead-acid battery recycling operations. Those forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause actual results to differ materially. Among those factors are: (1) the fact that Company has not yet ramped up its initial commercial recycling facility to full scale operation, thus subjecting the Company to all of the risks inherent in a start-up; (2) the uncertainties involved in any new commercial relationship and the risk that Aqua Metals will not receive the intended benefits of its agreements with Johnson Controls or Interstate Batteries; (3) risks related to Aqua Metals' ability to raise sufficient capital, as and when needed to expand its recycling facilities; (4) changes in the federal, state and foreign laws regulating the recycling of lead-acid batteries; (5) the Company's ability to protect its proprietary technology, trade secrets and know-how and (6) those other risks disclosed in the section "Risk Factors" included in the Annual Report on Form 10-K filed with the SEC on March 2, 2017. Aqua Metals cautions readers not to place undue reliance on any forward-looking statements. The Company does not undertake, and specifically disclaims any obligation, to update or revise such statements to reflect new circumstances or unanticipated events as they occur.

# Highlights

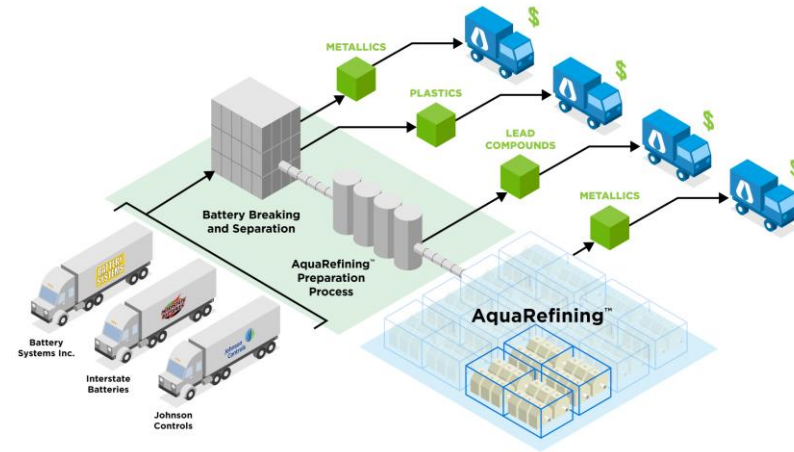
- Recognized our first revenue from AquaRefinery 1 (McCarran, NV)
- 4 AquaRefining modules operating
- Secured our first 2 international patents, Korea (10-1739414) and Australia (210435227)
- Acquired UK based Ebonex IPR Limited
- Appointed Mark Weinswig as CFO effective 8/10/17
- Hosted several analyst and investor visits to AquaRefinery 1
- Received several accolades including our second Platts Global Metals Award and the San Francisco Business Times Technology and Innovation Award.

# Agenda

- Operational update
- 48V vehicle batteries – a game changer for the lead industry?
- Business expansion
- Intellectual Property
- CFO Succession
- Financials
- Summary

# Operational update – preparing for roll-out

- Breaking and Separation: operational
  - Improvements installed and successful
  - More opportunities in front of us
- Aqua Preparation: operational
  - Upgrades installed and successful
  - More upgrades being evaluated
- Aqua Refining: Module 1 – 4 operational, Modules 5-16 in assembly
  - Modules 1-4 being used to validate operating parameters
  - Modules 5-16 planned to be running by year end
- Ingot production: being commissioned



# AquaRefinery 1: achieving continuous improvements



- Breaking and separation – adding science to the art
  - Leveraging battery recycling techniques with technologies & know-how from material handling and mining industries
  - Working to develop industry leading breaking and separation

# AquaRefinery 1: achieving continuous improvements



- Aqua Preparation – operating
  - Leveraging chemical industry technologies and best practices
  - Achieved a four fold reduction in electrolyte volume

# AquaRefinery 1: achieving continuous improvements

- AquaRefining – significant advances made
  - Module design simplified with reduced components
  - Plating voltage and energy reduced
  - Operation simplified and more robust
  - Increased range of operating parameters
  - Working to develop simplified module installation





# 48V Automotive standard could revolutionize the battery industry

- What's happening
  - LAB industry responding with 48V “Bipolar” batteries
  - Extended cycle life and operation at partial state of charge – could be a game-changer for the battery industry
- Why it's important
  - Wide scale adoption of advanced 48V Bipolar LABs could make lead acid advantageous in many new applications and markets
  - Materials and manufacturing methods likely to change
- How Aqua Metals can benefit
  - Higher demand for “Four 9s” lead and a new market for “Five 9 lead”
  - Need for advanced materials, such as ultra-low-density lead and corrosion resistant substrates (grids)
  - Possible large scale changes to how LABs are manufactured



# Business expansion, recognizing existing opportunities and 48V

- Additional facilities
  - Proceeding as planned – additional 4-5 facilities of ~160T/day each
    - Expect to fund with project and/or debt financing
  - Production re-balanced to produce more AquaRefined lead and less grid alloy
  - Strong interest from brand sensitive LAB users to supply used batteries
  - Potential for additional Strategic Relationships to accelerate build-out
- Licensing
  - Retro-fit of AquaRefining to existing smelter operations looks attractive
  - Internal planning for JCI underway, joint meetings planned
  - Generating strong interest from other potential licensees
- Longer term
  - Potential markets for advanced materials and novel battery production equipment

# Intellectual Property

- IP Strategy focused on “Materials and Methods”
  - We are proving electrochemical battery recycling is viable
  - Protecting our breakthrough - 20 patents applied for in 20 countries
- First 2 patents granted - Korea (10-1739414) and Australia (210435227)
  - We chose the Korean Intellectual Property Office (KIPO) as the lead examining authority
  - KIPO examiner allowed key claims
    - Strong precedent for our other patent applications
- First acquisition – Ebonex IPR – gives us additional complementary IP
  - Ebonex™ ( $\text{Ti}_4\text{O}_7$ ) - highly corrosion resistant electrode material, with excellent adhesion to lead and lead compounds
    - Potential substrate for Bipolar LABs; evaluating for use in our AquaRefining modules
  - Designs, manufacturing processes and know-how for Bipolar LABs

## CFO Succession

- On July 31, we announced the hiring of Mark Weinswig as our new CFO, effective August 10
- Tom Murphy is retiring and during a transition period will remain a consultant to help with some existing projects
- Mark comes to Aqua Metals with significant experience working with technology manufacturing companies
- Mark brings an operational finance background and will be a key contributor to the organization as we ramp up our revenues

**We want to thank Tom for his numerous contributions and wish him the best in his retirement**

# Financials

	Quarter Ended 6/30/16	Six-Months Ended 6/30/17	Quarter Ended 06/30/16	Six-Months Ended 06/30/16
Operating Loss*	\$(8.0M)	\$(12.5M)	\$(2.8M)	\$(5.0M)
Net Loss	\$(8.4M)	\$(13.3M)	\$(2.9M)	\$(5.1M)
Loss Per Share	\$(0.42)	\$(0.69)	\$(0.20)	\$(0.35)
Cash @ 06/30/17	\$22.1M			
Cash @ 12/31/16	\$25.5M			
Capex Spend in 2 <sup>nd</sup> Quarter 2017	\$3.4M			
Capex Spend since inception to 06/30/17	\$44.0M			

*\*Operating loss for quarter and six-month ended 6/30/17 includes \$2.4M impairment charge relating to Ebonex IPR.*

## Key Takeaways

- Aqua Metals recognized its first revenue in Q2'17
- Our primary focus is to have 16 AquaRefinery modules running by year end and to be prepared for licensing activities
- The experience we have gained supports licensing roll-out with our current partners
- Strong interest from other potential licensees
- Achieved important IP precedents with first 2 patents
- Opportunities for additional strategic relationships to accelerate business development
- The move to 48V could bring upside opportunities for AquaRefined lead, and our development stage materials
- Positioned to leverage existing and future strategic partners