1 — **Emerging challenges in lead recycling**

2 — **Get ready for the lottery!**

3 — **Q&A**

1 **Emerging challenges in lead recycling**

GME
Gianni Mori Engineering

1 **Emerging challenges in lead recycling**

LITHIUM − +

Emerging challenges overview

Rapid growth in almost every industry
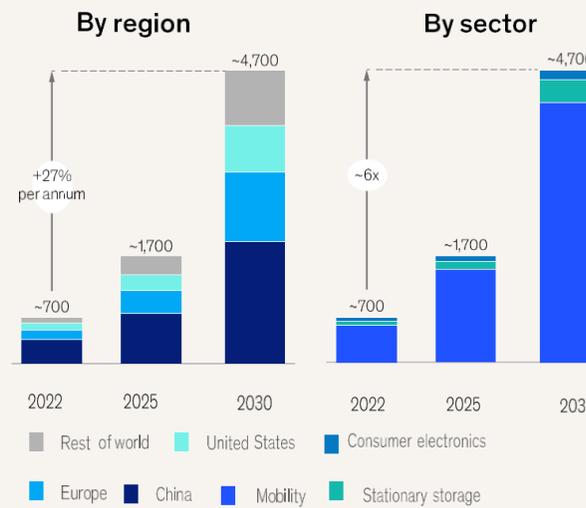
Global Demand expected to increase

LITHIUM

- Europe's "Fit for 55" program
- US Inflation Reduction Act
- 2035 ban of internal combustion engine (ICE)
- India's Faster Adoption and Manufacture of Hybrid and Electric Vehicles Scheme.
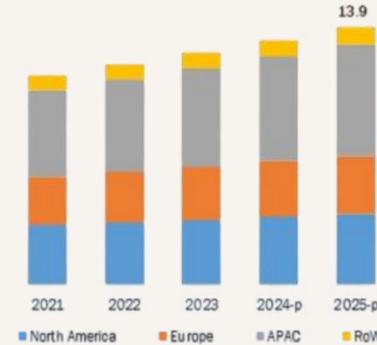
AGM

- Fuel efficiency requirements to 55 mpg by 2025
- Hybrid and non-hybrid models
- Start & Stop technology as key element for new emission reduction targets

LITHIUM +33%

Global Li-ion battery cell demand,
GWh, Base case

| By region | By sector |

+27% per annum

~700 ~1,700 ~4,700

~6x

~700 ~1,700 ~4,700

2022 2025 2030   2022 2025 2030

Rest of world | United States | Consumer electronics
Europe | China | Mobility | Stationary storage

¹Including passenger cars, commercial vehicles, two-to-three wheelers, off-highway vehicles, and aviation.
Source: McKinsey Battery Insights Demand Model
McKinsey & Company

AGM +5%

Global AGM battery cell demand,
USD Mil, Base case

13.9

2021 2022 2023 2024-p 2025-p

North America | Europe | APAC | RoW

Source: Industry Expert, Secondary Research, and MarketsandMarkets Analysis

Risk for ULAB Recycling

LITHIUM

Unregulated management of its collection and separation

↓

Mix with ULAB scrap

⚠️

AGM

Waterproof layer able to retain and absorb Pb Paste

↓

Reduced recovery of Pb Lead Creates problems for machinery efficiency

7/8/2014 2:19:09 AM
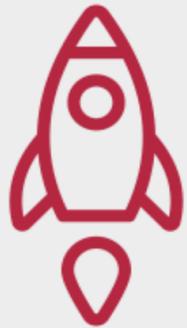
Introducing LITHIUM GUARD

LITHIUM GUARD AI VISION INTEGRATION

PERFORMANT

Maximum precision
to detect down to a
2 cm dimension in
every shape kind

TECHNOLOGICAL

Visual AI Traceability
with an ultra detecting
speed up to
6 m/sec = 60 TPH
of scrap

FLEXIBLE

Plug&play solution
24/7 operativity

AI Dashboard to monitor
and optimize the input flow
with trend/cost analysis and
definition

COST-EFFECTIVE

Rent solution
starting from
30k € / year = FTE

AI VISION EVOLUTION
AI LINE MONITORING

Unit 1 - Lithium Guard
Lithium battery detection
+ input flow analysis

Unit 2 - Sorting
Monitoring of sorting rate to
maximize plant efficiency and yield

Unit 3 – Real time fractions
Live feedback on the non-metallic
and metallic fractions quality

Unit 4 – Control
Analyse dimension, color and flow
rate of the outfeed polypropylene

Unit 5 - Prevision
Auto programmatic prevision
for Box replacement to reduce
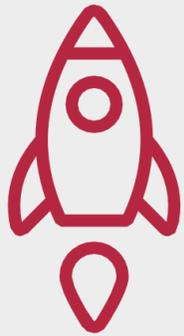manual labour and improve
time to recycle
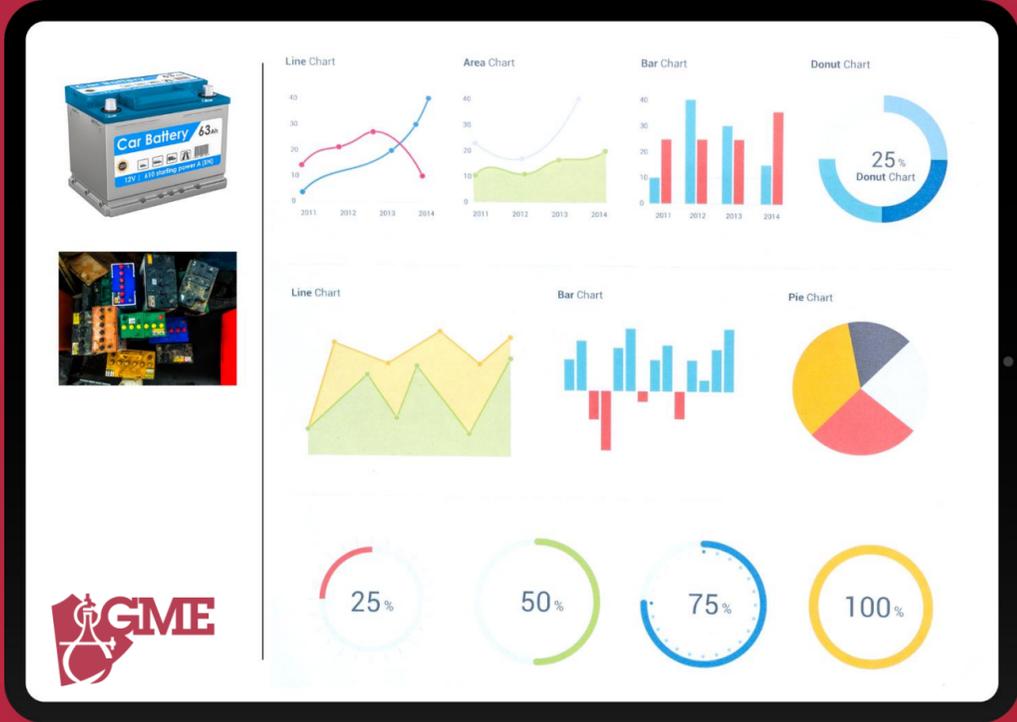
Introducing POWER WASH

POWER WASH

POWER WASH

PERFORMANT

High pressure separation process enhanced by the NEW GME honeycomb vibrating screen designed to extract the lead while transporting the AGM
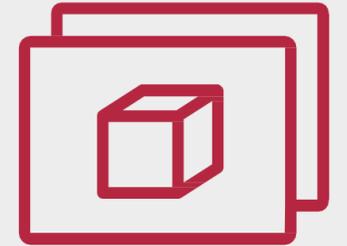
TECHNOLOGICAL

6,5 bar Ultra pressure system to fragment the Fiber ceramic into smaller pieces to get free from the metallic fractions and prevent the SWAB effect

FLEXIBLE

No need to preselect and extract from the Mix the AGM portion

DESIGN

Nozzles designed with a 48° Water Blade System fully in Stainless Steel

2

Get ready for the lottery!

GaME LOTTERY

INTERNATIONAL LEAD CONFERENCE Pb 2023

XXXXX

GaME LOTTERY

INTERNATIONAL LEAD CONFERENCE Pb 2023

3F8G2

GME

Gianni Mori Engineering

3 | **Q&A**

Thanks!!

Do you have any questions?
office@gme-recycling.com
+39 039 596 1249
www.gme-recycling.com

YOUR **RECYCLING** MANUFACTURER EXPERT