



# Investor Presentation

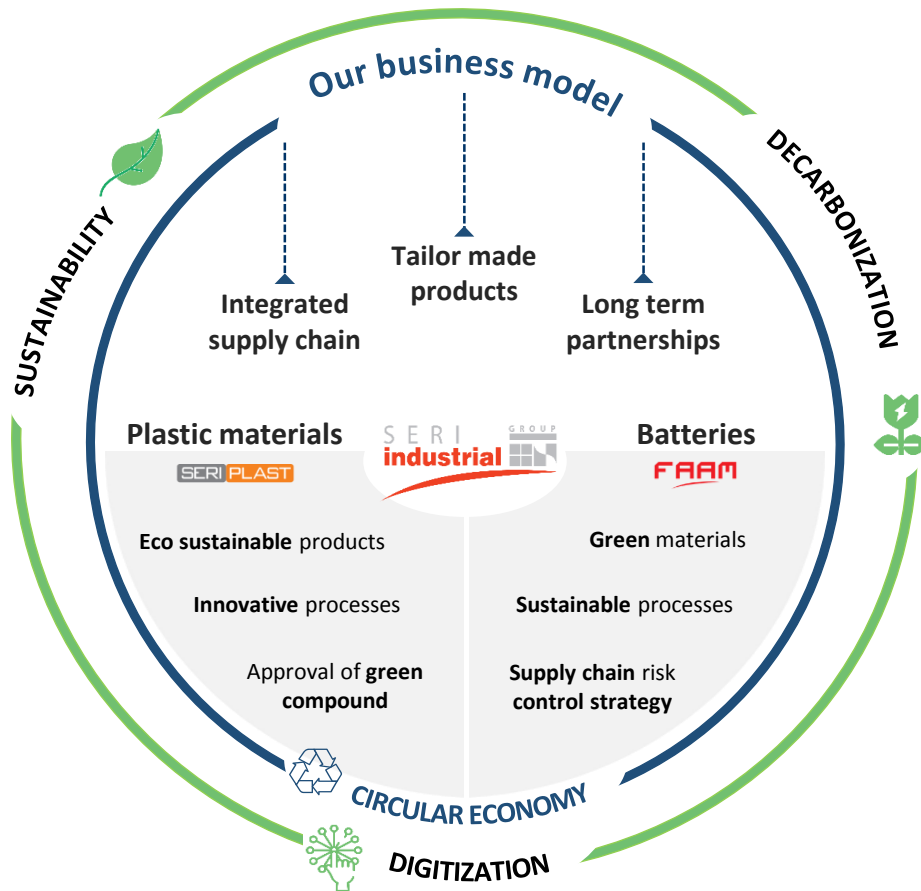




# Mission & Vision

## Vision

A new way of thinking the economy, with **sustainable processes and products** and supporting the **transition** of the paradigm from a linear model (take, transform and throw) to a full **circular economy model**



## Mission

Seri Industrial is pursuing strategic goals **to accelerate the energy and ecological transition** in line with the Paris Agreement and recent European and Italian initiatives





# Market forecast

## Li-Ion Battery Market



**9,000 GWh  
2030**

The global Li-ion battery market is **estimated to grow to about 9,000 GWh by 2030**. More specifically, the global market for **ESS applications**, a segment of particular importance to the Group, **grows by +29% CAGR 2022-2030** in terms of volume<sup>1</sup>.



## Lead acid Battery Market



**494 GWh  
2030**

The global market is estimated to reach **\$47 billion by 2030**, for volumes of 494 GWh, of which about **\$18 billion** is related to **ESS, UPS, Telecom, Forklift, Other Motive** - the Group's core segments - Power tools, E-Bikes and other applications<sup>2</sup>.

## Automotive Plastics Market



**+11%  
CAGR<sub>2021-2027</sub>**

The **global plastic compounds market** is estimated to reach \$104.09 billion by 2028 <sup>3</sup>. The increase will mainly be driven by the growing use of **PP compounds in the automotive industry**. Specifically, the plastics market in this industry is estimated to grow by 11% CAGR 2021-2027 <sup>4</sup>.



## Sustainable Packaging Market



**+7,5%  
CAGR<sub>2023-2030</sub>**

The **global sustainable packaging market** is a fast-growing segment, with **turnover of \$409.2 billion by 2030**, up from around \$229.5 billion in 2021<sup>5</sup>.

## Plastic Pipes Market



**+6,5% CAGR<sub>2022-2028</sub>**

The **global plastic pipes market** is estimated to reach \$83 billion in 2028 <sup>6</sup>.

<sup>1</sup> Global battery demand to surge by 2030", Rystad Energy Battery

<sup>2</sup> The Rechargeable Battery Market and Main Trends 2020-2030 – Threats, challenges and opportunities", Avicenne Energy, June 2022

<sup>3</sup> Global Plastic Compounding Market Outlook 2022, Valuables Reports, January 2022

<sup>4</sup> Global Automotive Plastics Market Report 2021-2027, Global Market Insights, February 2022

<sup>5</sup> Green Packaging Market Size is projected to reach USD 409.2 Billion by 2030, growing at a CAGR of 7.5%", Straits Research, October 2022

<sup>6</sup> Global Plastic Pipes Market Growth, Share, Size, Trends and Forecast (2022-2028), ReAnIn, June 2022



# Market forecast – Batteries

FAAM

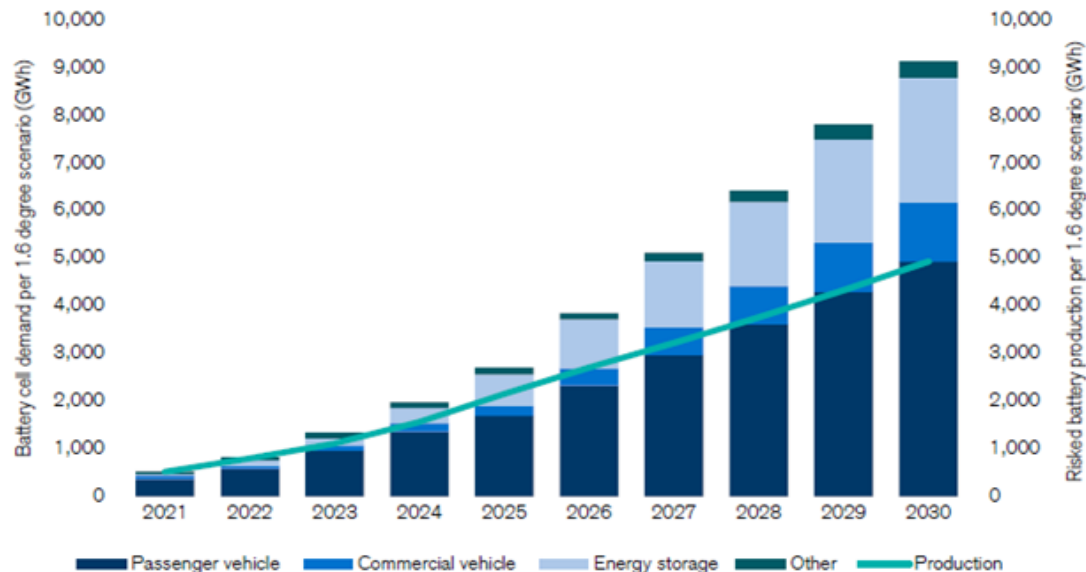
## Li-Ion Battery Market

+36% CAGR<sub>2021-2030</sub>

The global Li-ion battery market is **estimated to grow to about 9,000 GWh by 2030<sup>1</sup>**, compared to around 580 GWh in 2021 (+36% CAGR 2021-2030).

### Global Li-ion batteries cell demand GWh, base case

(GWh per year of new batteries)



More specifically, the global passenger vehicle and **energy storage applications market** account for the largest increase in estimated demand.

**ESS applications**, a segment of particular importance for the Group, **are estimated to reach around 2,500 GWh, equal to 29% of the total demand for lithium batteries by 2030**, compared to 139 GWh in 2021.

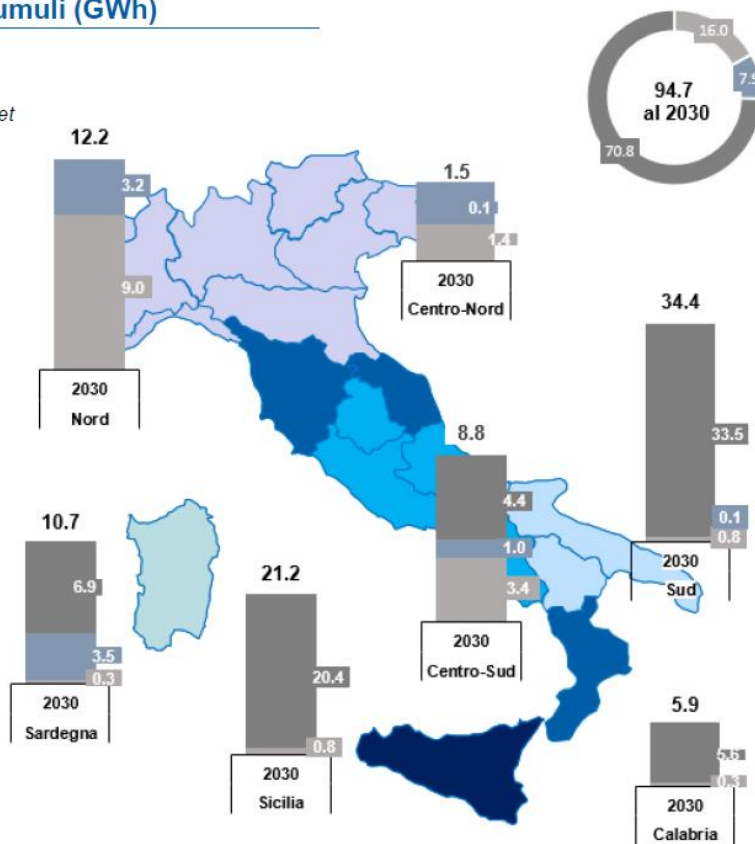
**Global demand for batteries is increasing**, driven largely by the imperative to **reduce climate change** through electrification of mobility and the broader energy transition

<sup>1</sup> Global battery demand to surge by 2030, Rystad Energy Battery



# Market forecast - Storage in Italy splitted by area

## Capacità installata accumuli (GWh)



ca. 80 GWh for big systems > 1 MWh

for small systems < 1 MWh



## FF55 Scenario

*The FF55 scenario predicts that almost 100 GWh of additional storage will be needed by 2030 to meet policy targets and curb overgeneration.*

- About 71 GWh utility scale;
- about 8 GWh capacity market;
- 16 GWh small scale (batteries associated with rooftop photovoltaics).



# Market forecast – Plastics Consumer demand

Many European initiatives and associations such as the **European Plastics Pact** and the **Circular Plastic Alliance**, bring together several actors from the industry, academics, and public authorities, to **accelerate the transition towards Circular Economy**. This is made possible by considering the whole plastic value chain, and notably by aiming at boosting the recycled plastic EU market.

## From linear economy model ...



Resource intake (*Take*)



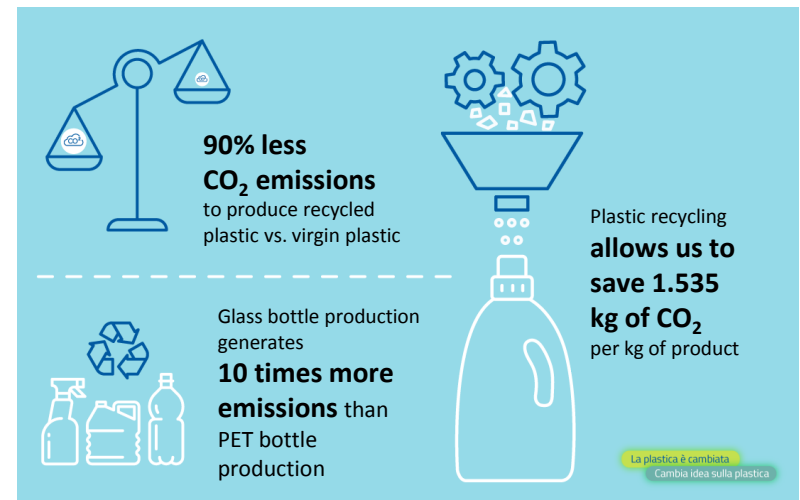
Consumption (*Make*)



Disposal (*Dispose*)

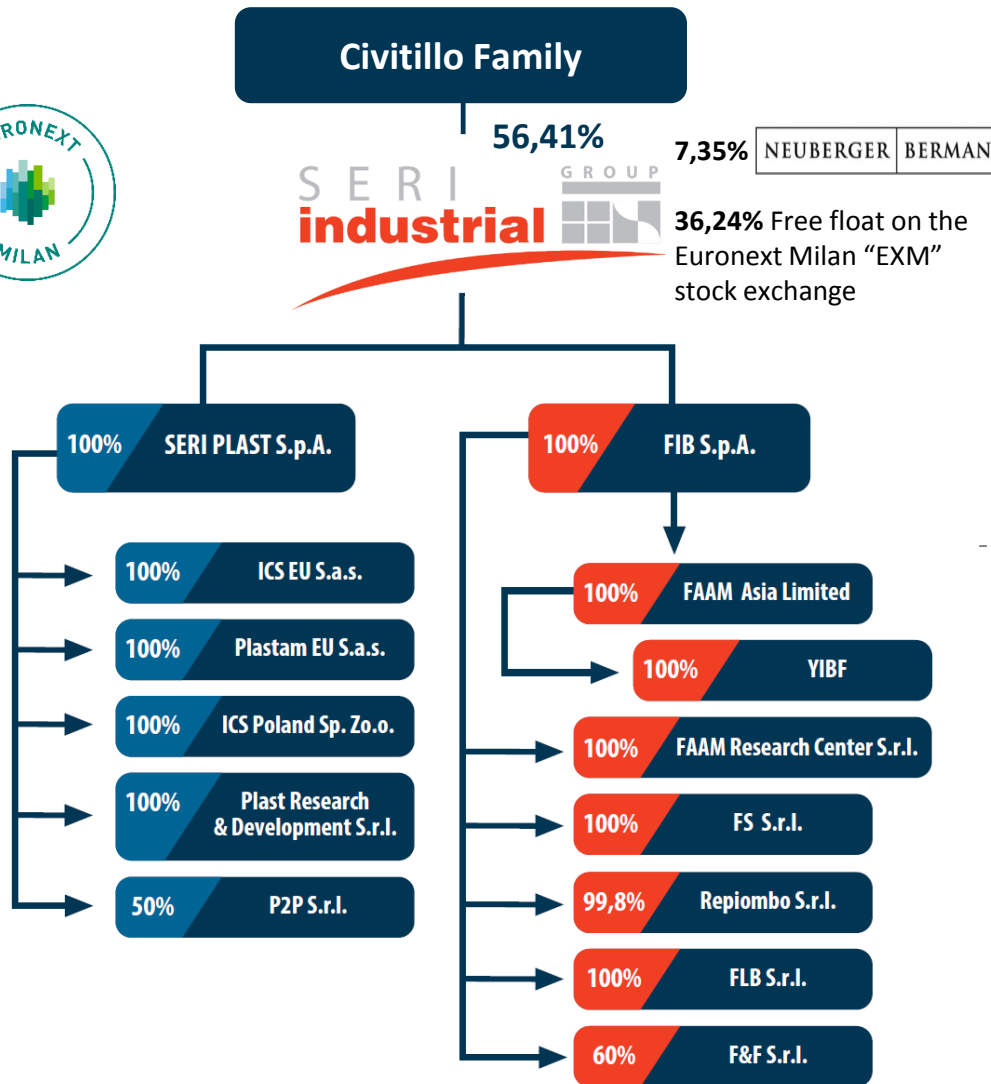


## ... to circular economy





# Group Structure

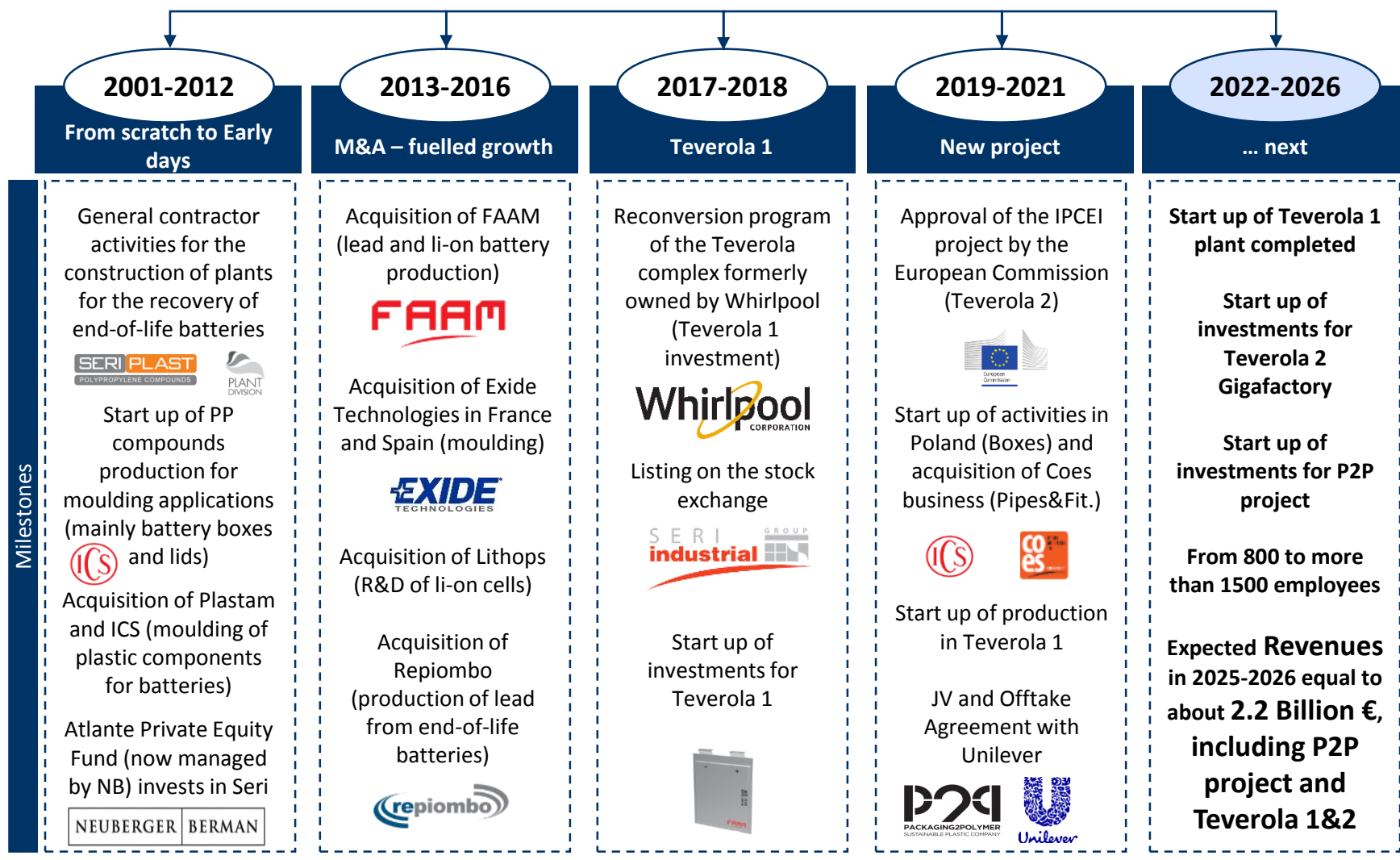


SBU	ACTIVITY
<b>SERI PLAST</b>  <b>SERI PLAST</b> POLYPROPYLENE COMPOUNDS  PACKAGING2POLYMER SUSTAINABLE PLASTIC COMPANY  COES SERI GROUP  PLAST RESEARCH & DEVELOPMENT	<b>Plastic Materials</b> <ul style="list-style-type: none"> <li>Production of special compounds for the moulding of boxes and lids for batteries</li> <li>Production of special compounds for the automotive and packaging</li> <li>Production of special compounds for the moulding and extrusion of pipes and fittings for the thermo-hydro sanitary market</li> </ul>
<b>FIB</b>       FAAM RESEARCH CENTER	<b>Batteries</b> <ul style="list-style-type: none"> <li>Production and recycling of lead-acid and li-ion batteries for motive power, storage, starter and special applications</li> <li>Design and construction of plants for the recycling of exhausted batteries</li> </ul>



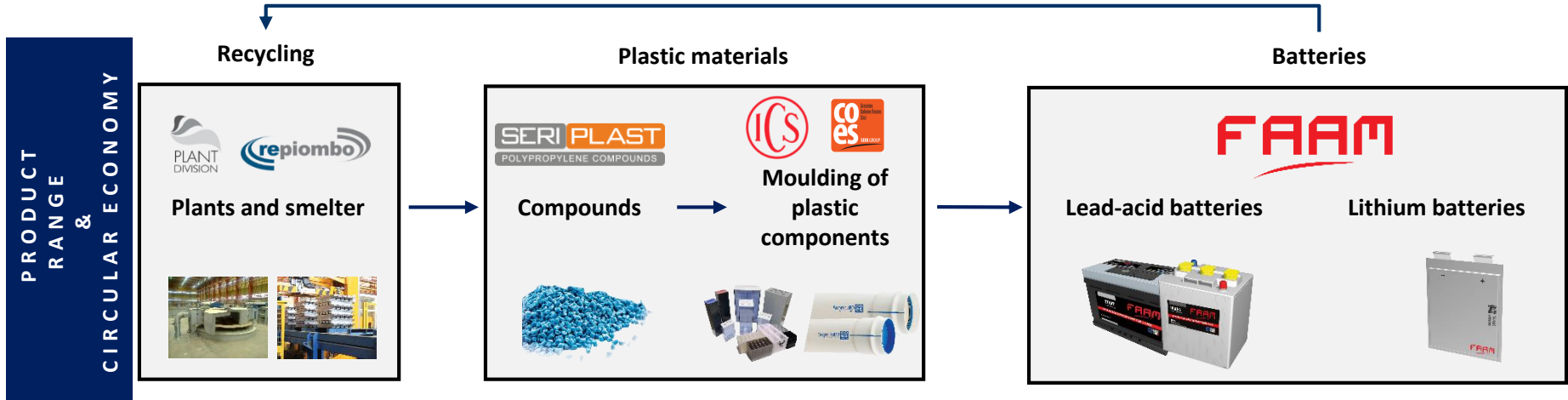
# Milestones

**1999:** Seri creation as engineering company





# Footprint



16 Production sites\*

800 People\*\*

## Plastic Materials

●	Canonica d'Adda (BG)	66 FTE
	Pioltello (MI)	101 FTE
	Gubbio (PG)	46 FTE
	Alife (CE)	18 FTE
	Arras (France)	17 FTE
	Peronne (France)	39 FTE
	Brwinow (Poland)	23 FTE

## Batteries

●	Monte Sant'Angelo (FG)	75 FTE
	Monterubbiano (FM)	60 FTE
	Teverola 1 (CE)	140 FTE
	Yixing (China)	52 FTE
	Calitri (AV)	9 FTE
	Alife (CE)	10 FTE



\* including 4 after-sales branches

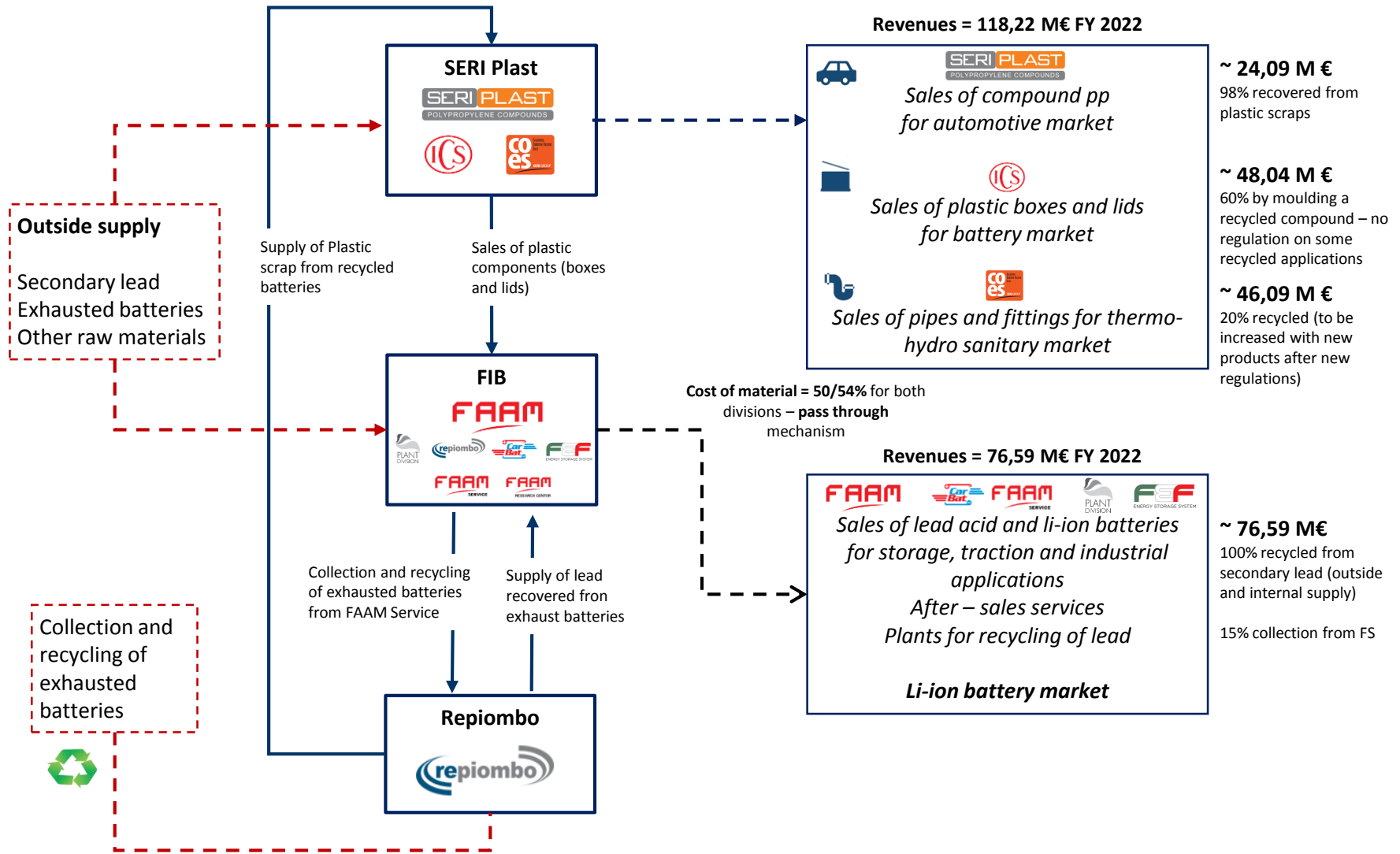
\*\*including FTEs in the HQ (San Potito Sannitico office), Board members of the Group's companies, and external staff



# Our effort for the energetic transition



# Circular Economy



intercompany

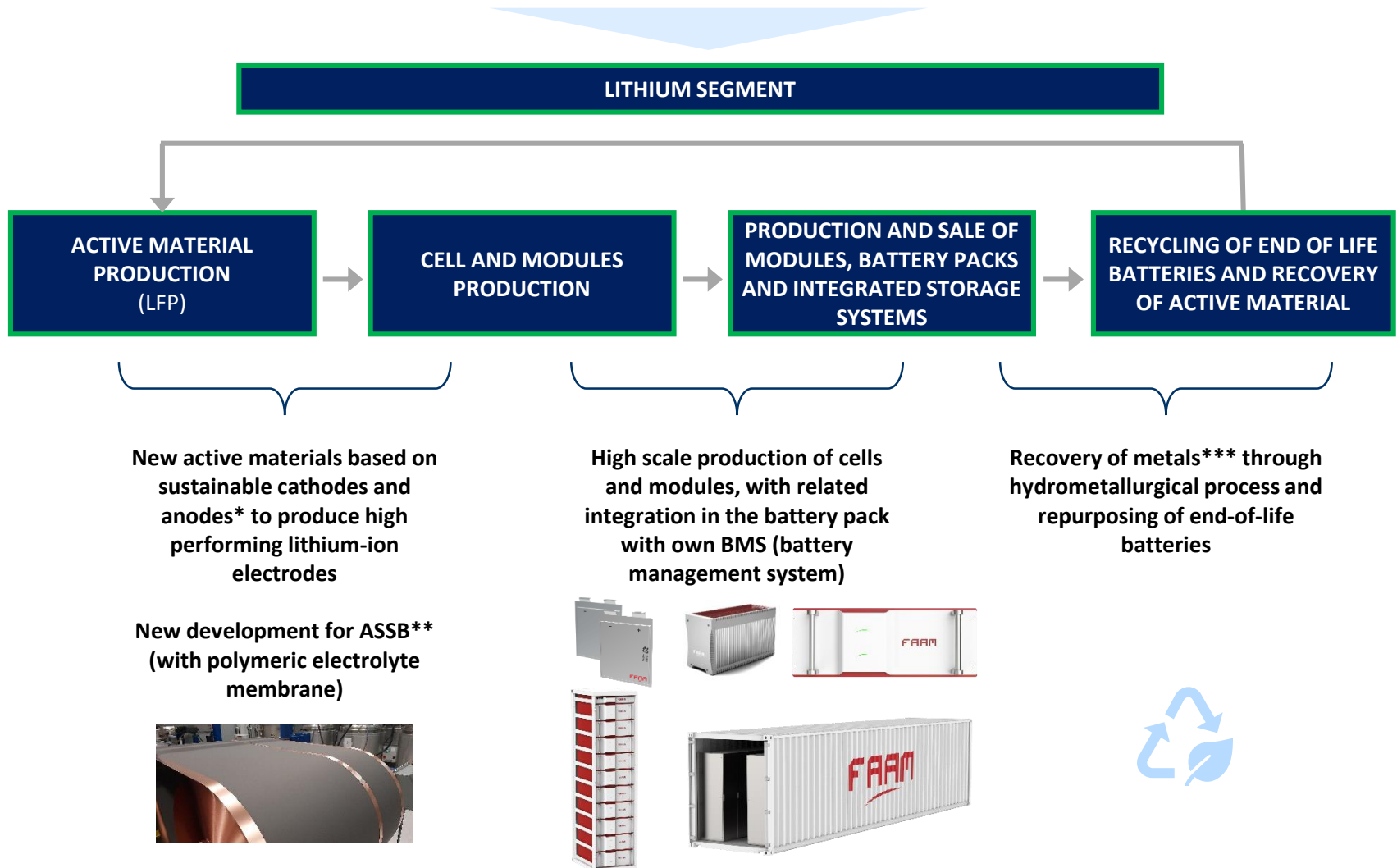
Outside supply

Sales third parties



# Vertical integration in the Lithium

The goal is to replicate the successful vertical integration achieved in the lead-acid/plastic



\* Mainly LMFP on cathode and Si/C on anode

\*\* All solid state batteries

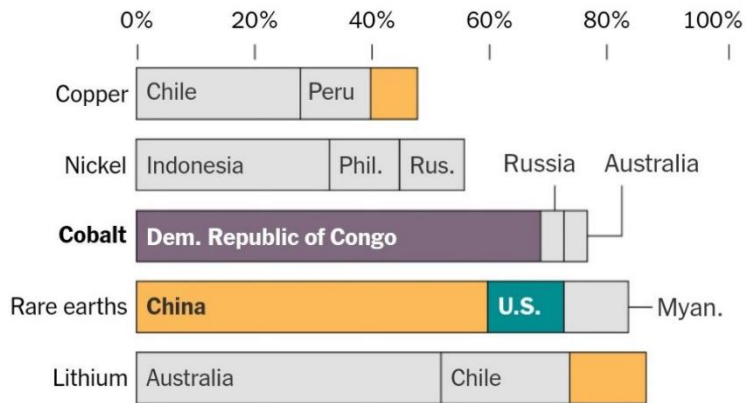
\*\*\* Target metals are Co, Ni, Mn, Al, Li, Cu, Fe



# Why Cobalt agnostic?

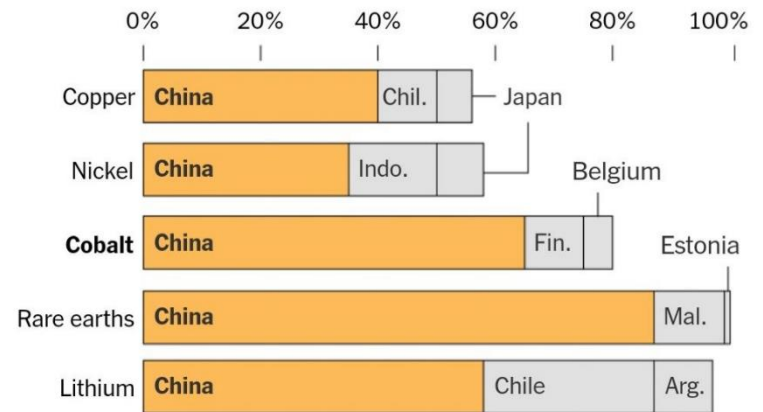
## Where Clean Energy Metals are produced\*

The production of key mineral resources is highly concentrated today. Chart show top three producers.

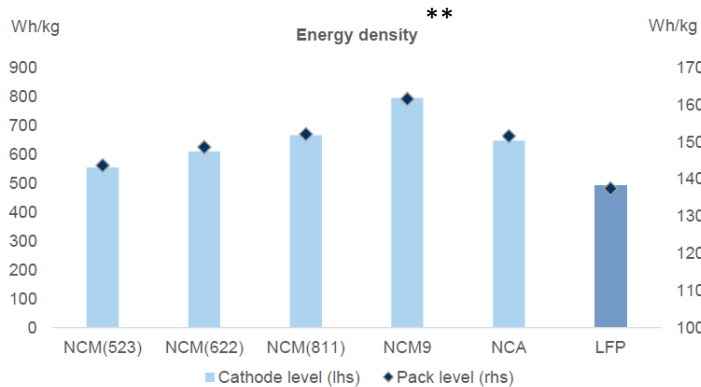


## And where they are processed\*

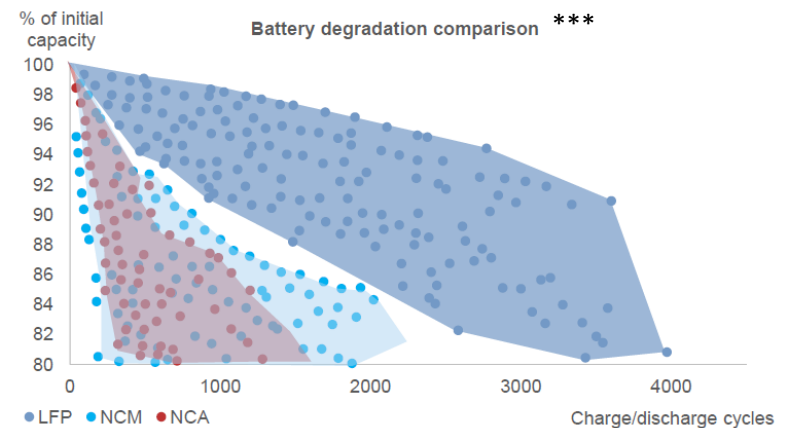
China dominates the refining and processing of key metals.



2022



LFP has a lower energy density than NMC...



...but degrades at a much lower speed

\*Source: International Agency – By The New York Times

\*\*Source: Company data, Wood Mackenzie, SNE Research, Goldman Sachs Global Investment Research

\*\*\*Source: Pregel et al. (2020)



# Why Water-based?

Already in **Teverola 1** we have adapted the electrode production to **water-based formulations** – using only water as a main solvent both for the cathode and anode, eliminating the necessity for solvent treatment

## Main advantages



No NMP emissions



Reduction of energy required and consequent CO<sub>2</sub> footprint reduction



Increasing of the safety



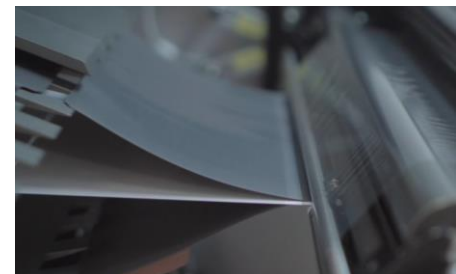
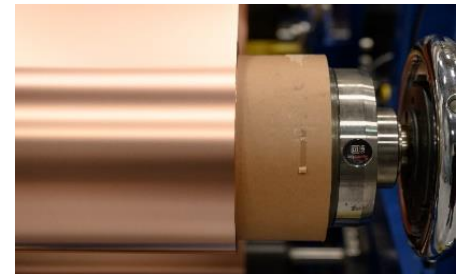
Differentiation of the product



Easier recycling

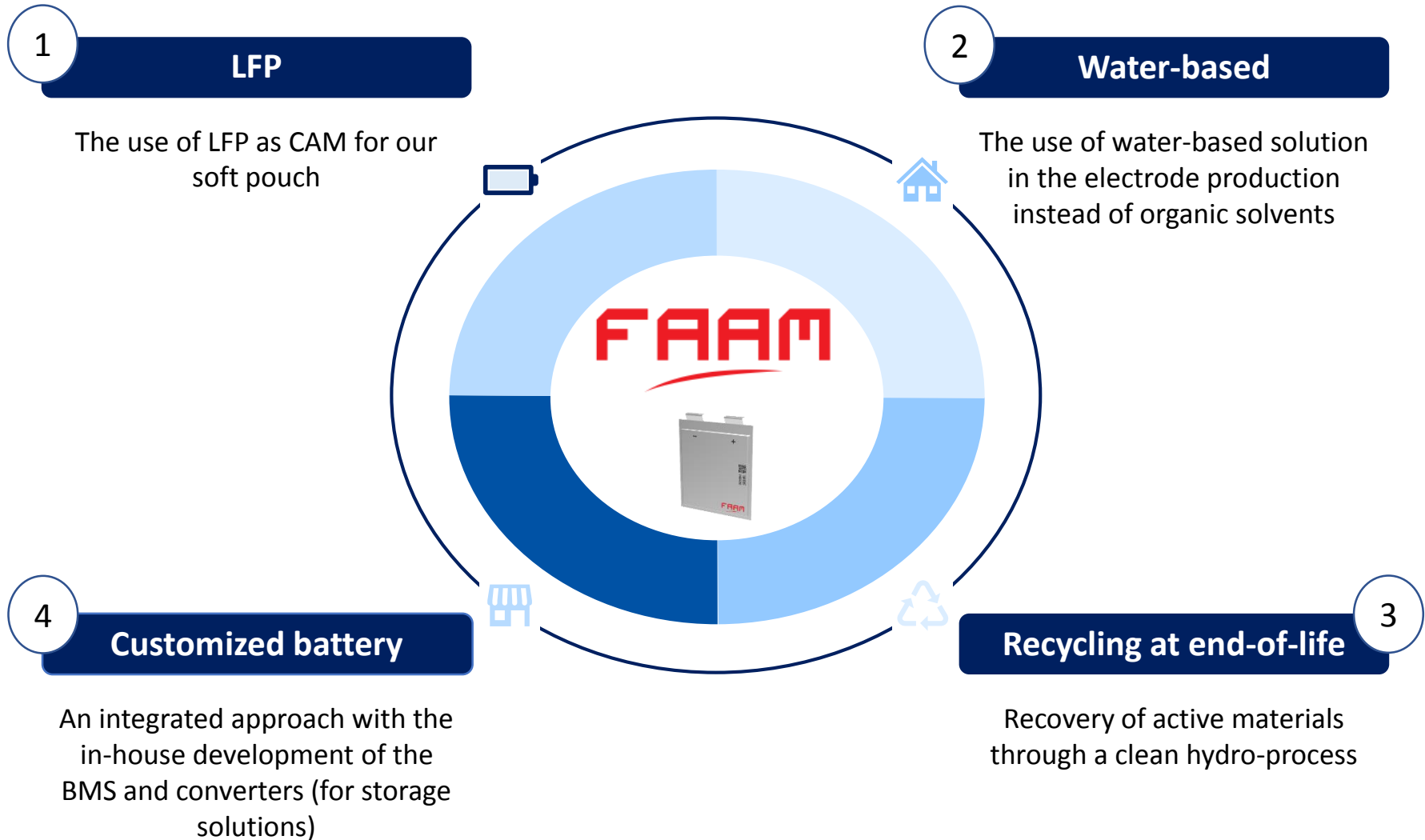


Regulatory anticipation (what will happen when all the Gigafactories in EU will start mass production with NMP-based li-on cells?)





# Our 4 pillars vision on lithium batteries





# Lithium cluster and new projects



# Teverola Project

## TEVEROLA 1

**330 MWh** installed capacity

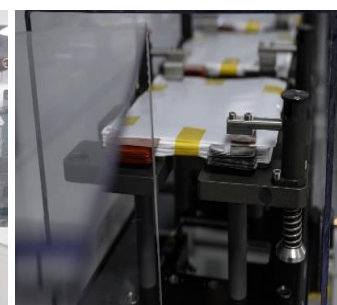


## TEVEROLA 2

**8,5 GWh** capacity



**Teverola is set to become the first gigafactory in Italy and South Europe**



### Teverola 1

**Present**

Capacity: **330 MWh**

Technology: LFP soft pouch (**50Ah**), high energy density applications with integrated BMS

**70 M€ of realized Capex**

**Applications:** Motive Power, ESS, Public transport, Naval and Defense

### Teverola 2

**Future**

**Project timesheet:** 2021 – 2027

**Industrial Deployment:** 2021 -2024

**R&D:** 2021 - 2027

Capacity: **8/8,5 GWh**

Technology: **Gen 3b and 4 (solid state)**

**505 M€ of investments** (Capex for 358.55 M€ and Opex for 147.29 M€, funded by grants)

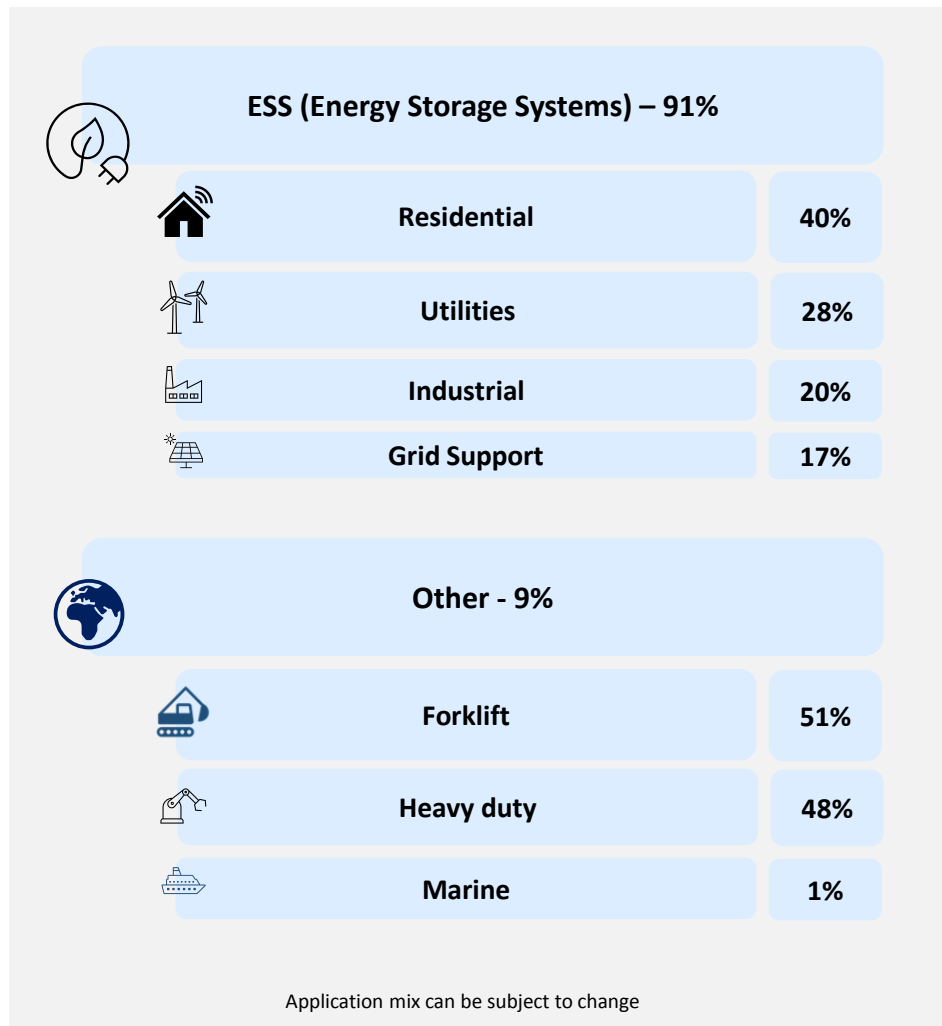
50 ton/day of battery treatment in the **recycling pilot line**

**Applications:** Motive Power, Storage, Automotive, Public Transport, Naval and Defense



# Teverola 1 pipeline

## Pipeline of customers at full operation



\* Defense applications (submarines and tanks not included)






































# IPCEI Project

## Key Highlights

FAAM project has been approved for the production of **beyond the state-of-the-art li-ion cells** and **recycling of end-life li-ion batteries**



Commission approves €3.2 billion support by seven Member States for project of common European interest for **battery value chain**

Raw and advanced materials	Cells and modules	Battery systems	Repurposing, recycling and refining
BASF  	ACC  	BMW 	BASF  
Eneris 	BMW 	Endurance 	Endurance 
Keliber 	Endurance 	Enel X 	Elemental 
Nanocyl 	Eneris 	Eneris 	Eneris 
Solvay    	FAAM 	Kaitek 	FAAM 
Terrafame 	SEEL 	SEEL 	Fortum 
Umicore  	VARTA 		SEEL 
<b>GIGAFACTORIES</b>			Umicore  

- Member States: Belgium, Finland, France, Germany, Italy, Poland and Sweden
- Integrated project comprising 4 workstreams, covering the battery value chain
- 17 undertakings (some active in more than one Member State) will receive State aid
- Cumulated maximum State aid: EUR 3.2 billion

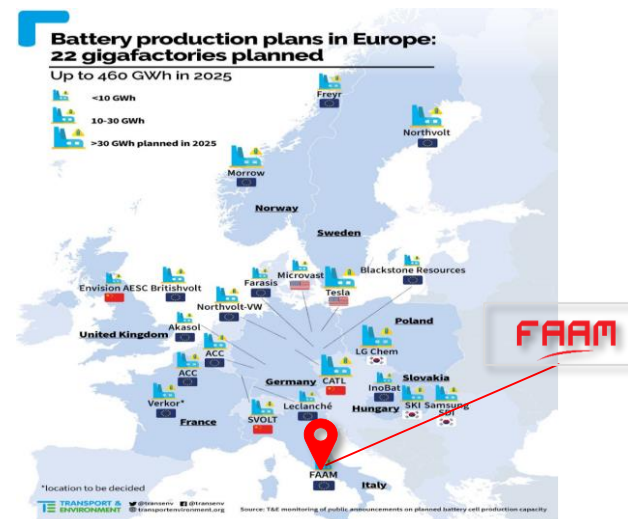
### A EUROPEAN BATTERY VALUE CHAIN



# Teverola 2 Project

## IMPORTANT PROJECTS OF COMMON EUROPEAN INTEREST

December 2019	Authorization Decision from the European Commission
April 2021	Inter-ministerial Decree defining the general criteria for the operation of the IPCEI Fund
July 2021	Activation Decree enabling the IPCEI Fund in support of the IPCEI Batteries 1
October 2021	Submission of the application for the grant <b>Concession decree in favour of FIB amounting</b>
March 2022	<b>€ 417,046,521.84 (communicated to be increased)</b>



### A Mediterranean Gigafactory

Teverola will become the **first technological cluster** to produce lithium batteries in Italy and among the first in Europe, with an **estimated production of about 8/8,5 Gwh/year**

**Building ready – no issue in the construction**

**FAAM**  
 265.000 sqm total  
 (82.000 sqm indoor)

### Next steps

Disbursement of grants to be made within the first semester of each year – first request may be arranged as a 20% advancement of the total amounts

Activation of a specific revolving credit facility to be opened by a pool of banks – to advance the amounts of the grant

Signing of the contract with the suppliers of equipment & machinery – talks are currently underway



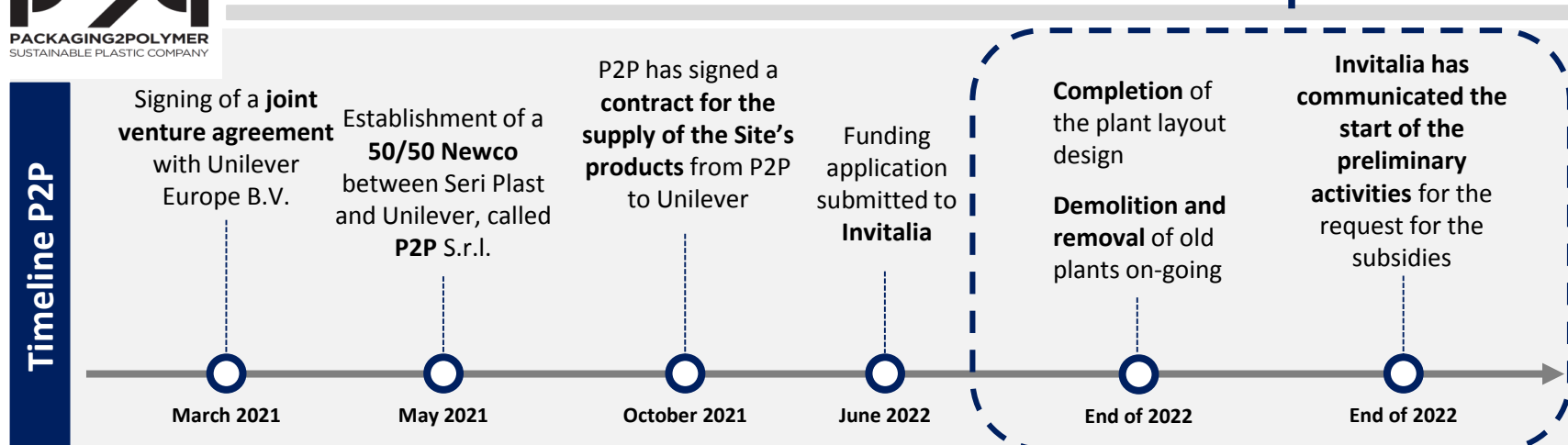
# Innovation on plastic materials



# JV and Off-take agreement with Unilever (1/2)



## New update



## Off-take Agreement

Term of the Agreement 5 years, renewable for a further 5 years, making a total of **10 years**

Unilever's commitment to purchase at least **65 k tons/year** of recycled plastic raw materials

Unilever expected revenues **€ 110 mln/year\*\***, € 1,1 billion in 10 years

**About € 109 million expected CAPEX** between production investment and R&D investment to be funded by subsidized loan of euro 43,7 million and non repayable grants for euro 38,4 million

\* The time period may be extended by a further 6 months.

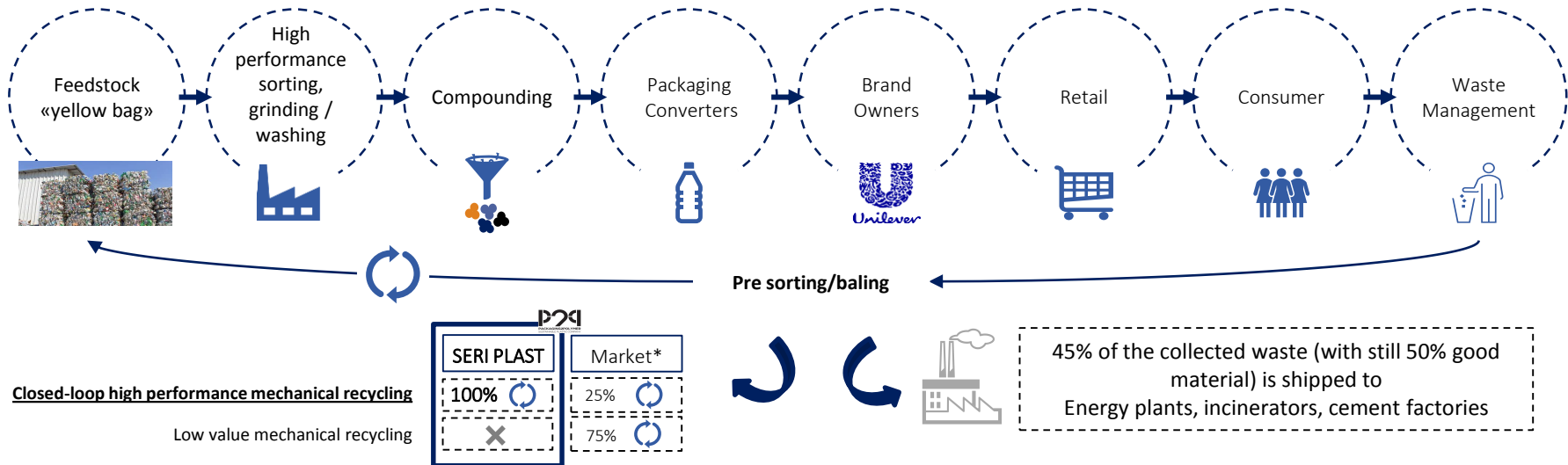
\*\*Based on actual prices of raw materials and on the pricing formula.



# JV and Off-take agreement with Unilever (2/2)



## POZZILLI PROJECT



### Mechanical recycling 130k ton/y capacity

- Advanced presorting process.
- Grinding/washing/decontamination (food grade targeting on PET/HDPE/PP) – 4 lines
- Compounding/colouring – 5 lines
- Odour removal – 2 lines

### Products

- rPP, rHDPE, rLDPE, rLLDPE, rPET
- Food Grade rPET

Technologies ready to produce also HDPE and PP food grades - when EU regulations will be ready to accept polymers from mechanical recycling into food packaging.

\*Bain & Company, 2019





# Seri Plast & P2P Procurement strategy

## Source of plastic waste



180k ton  
of plastic waste to be treated

Feedstock  
(input)

Mixed rigid  
plastic providers

Mixed rigid plastics from MSW  
(Municipal Solid Waste)  
Here there is the main  
innovation

«Own» collection infrastructure

Consortiums

Pre-sorted plastic packaging  
waste  
Italian and European collectors



As a next step, in line with the  
business model in the battery  
business, it could be an  
opportunity exploiting Unilever  
channels

\*And other consortiums



# The Business Plan

SERI Industrial has approved an update of the Consolidated 2022-2026 Business Plan on 22 June 2022

## Key Highlights of the Business plan

- **The business AS IS** (lead-acid batteries and plastic material) is included in the growth with a forecast based on commercial contracts and relationships with customers
- **Teverola 1** – the forecasts are confirming that the global lithium battery demand is linked to the installed (or announced) production capacity with a production deficit in Europe. **Production in the plant started in the last two months of 2022**

## IPCEI Project – Teverola 2

- **Production capacity of about 8GWh/year** - at fully operations
- The average selling price of the battery pack is expected at € 200/kWh, with an expected turnover at fully operation of about euro 1,5/1,6 billions



## Unilever Agreement – Key ratios

- Maximum production capacity of 130k ton/year with Unilever already committed to but the 50%
- Minimum guaranteed turnover of approximately Euro **110 million per year** (based on current raw material trend) only through the off taker signed with Unilever (for the 50% of production). Sales to be started in 2025 at full operations



## What's next?

- The Management will **update the 2023-2026 business plan in the next months** taking into account
  - i) The Teverola 1 plant status considering 1) the monthly production capacity at the end of first quarter of 2023 and the projection for the end of the year, and 2) the additional pricing increase (+37,5%) from 400 €/KWh of the original BP
  - ii) The Teverola 2 timing for the start-up



# Results FY 2022





# FY 2022 Highlights

€ 204,120 thousands

**TOTAL REVENUES**

€ 177,120 thousands in 2021

€ 17,732 thousands

**EBITDA**

€ 20,114 thousands in 2021

€ (4,089) thousands

**EBIT**

€ (881) thousands in 2021

€ (4,442) thousands

**CONSOLIDATED  
NET RESULT**

€ (1,494) thousands in 2021

€ 247,811 thousands

**NET INVESTED  
CAPITAL**

€ 218,951 thousands in 2021

€ 143,522 thousands

**CONSOLIDATED  
EQUITY**

€ 120,934 thousands in 2021

€ 79,018 thousands

**ADJUSTED  
NET DEBT**

€ 75,047 thousands in 2021

€ 17,839 thousands

**ADJUSTED INVESTMENT  
ACTIVITIES**

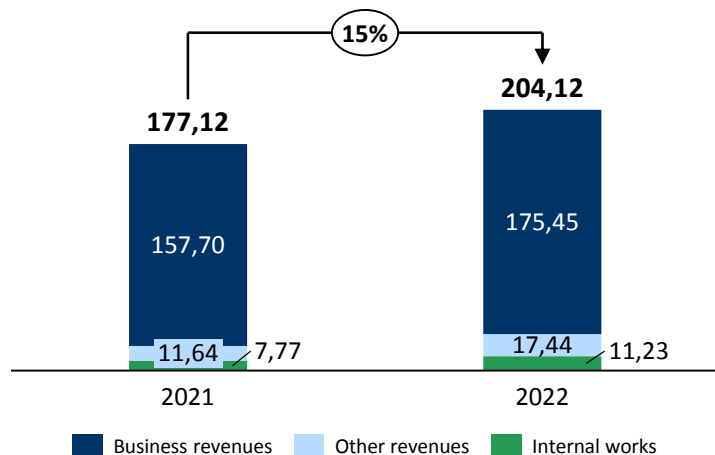
€ 15,814 thousands in 2021



# 2022 Key Financials – Total Revenues

## Key Financials 2021 - 2022 (€ Mln)

### Reported Consolidated Revenues



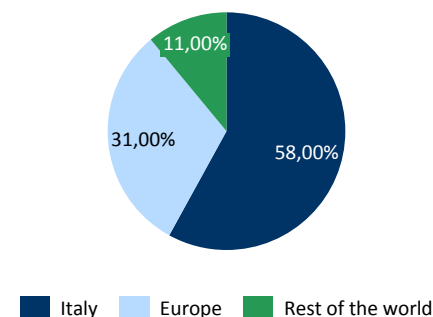
The Group has registered **Total Revenues** for € **204,12 Mln**, with a **+15%** growth compared to the same period in 2021 (€ **177,12 Mln**).

**Plastic Materials** has registered **+16%** growth compared to the same period in 2021

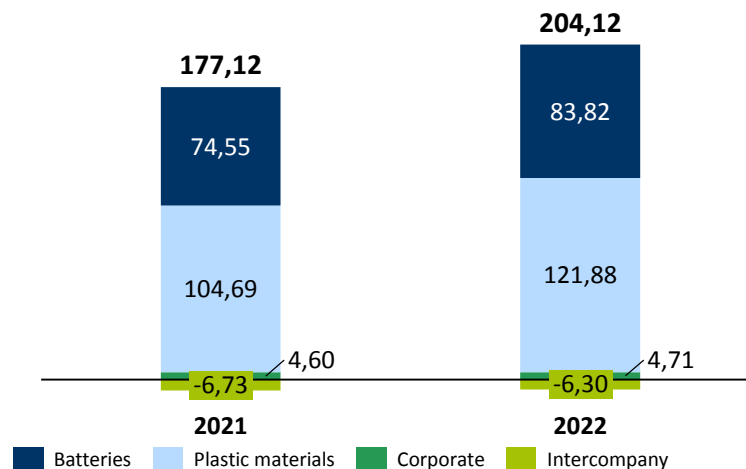
**Batteries** has registered **12%** growth compared to the same period in 2021

## Revenues breakdown

### Consolidated revenues by geography

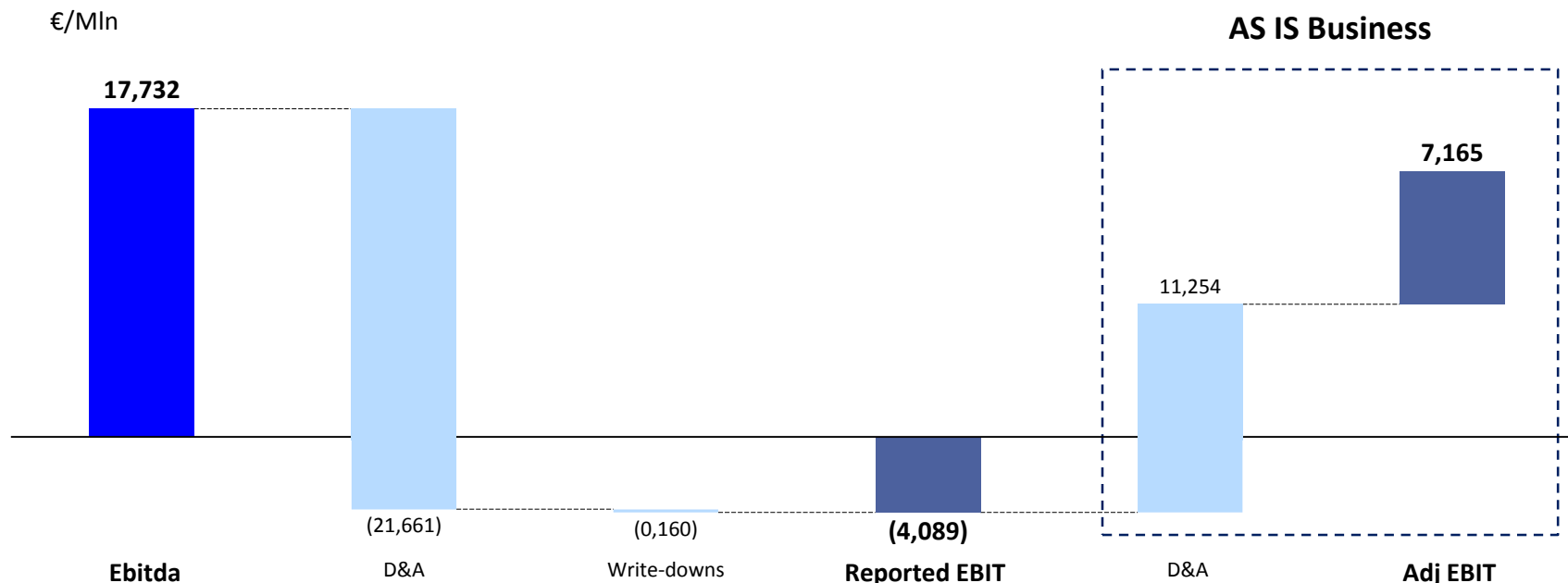


### Revenues breakdown





# 2022 Key Financials – From EBITDA to Adj EBIT

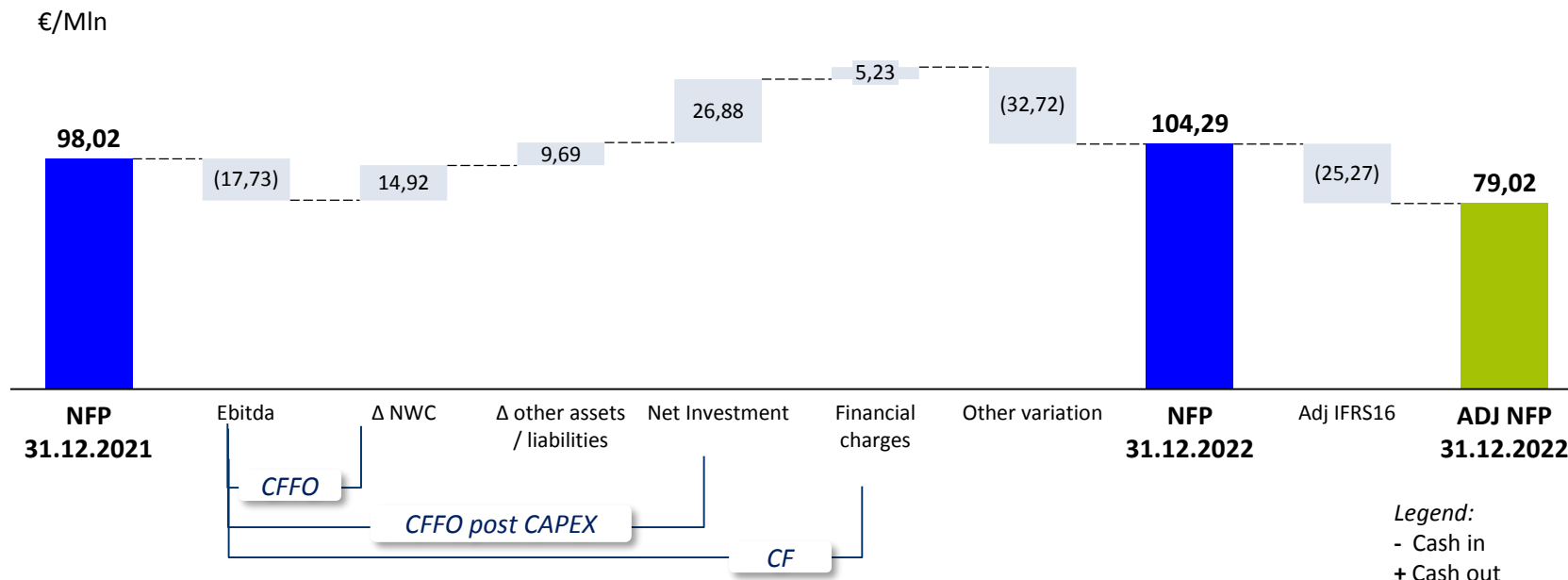


EBIT is equal to negative euro 4,089 thousand, after depreciation and amortization of euro 21,821 thousand

**The D&A are related to euro 11,254 thousand** for the investment made and on-going in Teverola 1 and 2, **of which euro 8,857 thousand related to amortizations on realized investments and euro 2,397 thousand related to the rights of use** concerning the lease of the Teverola 1 (euro 1,030 thousand) and Teverola 2 (euro 1,367 thousand) properties



# 2022 Key Financials – Bridge NFP



The **Adj Net Financial Position** is equal to **euro 79,02 Mln in 2022** with a slight increase compared to 2021

The **increase recorded** in the period is mainly related to the increase in **Net Working Capital**, due in particular to the increase in inventories for euro 12,147 thousand, as well as the **adjusted investment activity for euro 17,84 thousand** and the exercise of Warrant Uno 2017-2022 (for about euro 25 Mln)

The **Net Financial Position** at the end of the period is equal to **euro 104,32 Mln** and it is including € 25,27 Mln of IFRS 16 effects related to the Right of Use for lease contracts

**Cash and cash equivalents are equal to 24,817 Mln as of 31 December 2022**



# 2022 Key ESG data

## FY ESG 2022 HIGHLIGHTS



### 2022 Turnover

Taxonomy activity eligible

**73%**



### 2022 CapEx

Taxonomy activity eligible

**74%**



### 2022 OpEx

Taxonomy activity eligible

**48%**

## 2022 vs 2021



### ENVIRONMENTAL

- **-10%** Energy consumption;
- **-499 t(CO<sub>2</sub>)e** Scope 1 emissions
- **-16%** Emissions intensity



### SOCIAL

- **800** people
- **29%** of new hires younger than 30
- **47%** women in Headquarter
- **-48%** total injuries recorded



### GOVERNANCE

- **40%** women in the Board of Directors
- **New Policies adoption\***
- Establishment of the **Control, Risk and Sustainability Committee**

*\* on Anti-corruption, Human Rights, Procurement, HSE, Suppliers' Code of Ethics*



# Business update

## Relevant events – Teverola 1 and Teverola 2

### Teverola 1

- During the last two months of 2022, the Group **completed the start-up of the Teverola 1 lithium cell and battery production plant**, which was delayed compared to management's forecasts due to the upgrading and improvement of production processes required for product innovation (battery with LFP CAM in water-based formulation)
- The plant is **currently operating at a monthly capacity of approximately 30% of the theoretical capacity** (about 28 MWh/month) **and is expected to gradually increase** to the maximum installed capacity within the third quarter of the current year
- The **market demand for lithium batteries is confirmed huge** and, we see average **selling prices that are up to 37.5% compared to the previous BP assumption (2022-2026)**

### Teverola 2

- **Initial investments of euro 3,8 Mln have been made and contracts for the supply of plant and machinery are on-going** (we defined the new plant technology, the identification of the supplier and tech partners)
- The Ministry of Economic Development has announced a further **increase in the grant for investment** in research and development up to 100% of the total expenditure envisaged in the investment programme approved by the European Commission.



# Appendix – Business units







# Towards the transition

## DID YOU KNOW IT?

*By 2025 solid waste generation will increase by 70% compared to 2010 levels*

*32% of all plastic packaging made ends up in nature every year*

*Continuing current practices there will be more plastic than fish in the ocean by 2050*

## WHAT ARE THE REACTIONS?

*Consumer demand for responsible plastic use options*


*Legislative push for new plastic waste strategies*

*Market pull from large brand owners and beverage companies*

**TRANSITION**



# A growing regulatory pressure

		Description	Target & measures
2018 CIRCULAR ECONOMY PACKAGE	<b>Waste Framework Directive</b>	<ul style="list-style-type: none"><li>Rules on how waste should be managed in the EU. It provides general principles for doing so, such as the Waste Hierarchy, Polluter Pays Principle and Extended Producer Responsibility.</li></ul>	<ul style="list-style-type: none"><li>A common EU target for recycling 60% of municipal waste by 2030</li><li>A common EU target for recycling 70% of all packaging waste by 2030</li></ul>
	<b>Packaging and Packaging Waste Directive</b>	<ul style="list-style-type: none"><li>Rules on the production, marketing, use, recycling and refilling of containers of liquids for human consumption and on the disposal of used containers;</li><li>2015 revision includes lightweight plastic carrier bags.</li></ul>	<ul style="list-style-type: none"><li>A common EU target for recycling 55% of all plastics by 2030</li><li>A binding landfill target to reduce landfill to maximum of 10% of municipal waste by 2030</li></ul>
	<b>Waste Electrical and Electronic Equipment (WEEE) Directive</b>	<ul style="list-style-type: none"><li>Collection, recycling and recovery targets for all types of electrical goods</li><li>10 categories: Large household appliances, Small household appliances, IT and telco equipment, Consumer equipment, Lighting equipment, Electrical and electronic tools, Toys, Leisure and sports equipment, Medical devices, Monitoring and control instruments, Automatic dispensers</li></ul>	<ul style="list-style-type: none"><li>Minimum requirements are established for extended producer responsibility schemes</li></ul>
	<b>Landfill Directive</b>	<ul style="list-style-type: none"><li>The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste</li><li>In particular: impact on surface water, groundwater, soil, air, and on human health by introducing stringent technical requirements for waste and landfills.</li></ul>	<ul style="list-style-type: none"><li>Simplified and improved definitions and harmonized calculation methods for recycling rates</li><li>Concrete measures to promote reuse and stimulate industrial symbiosis</li></ul>
	<b>End of Life Vehicle (ELV) Directive</b>	<ul style="list-style-type: none"><li>Aims at reduction of waste arising from end-of-life vehicles</li><li>The scope of the directive is limited to passenger cars and light commercial vehicles</li></ul>	<ul style="list-style-type: none"><li>Economic incentives for producers to put greener products on the market and support recovery and recycling schemes</li></ul>

Source: European Commission



# Recovery of plastic scrap and production of compounds

## Footprint & Operations



Alife, Caserta, Italy



**Alife:** 6.000 sm  
(indoor);  
20.000 sm (outdoor)



**Employees:** 18 FTE

## Background

In the Alife plant, Seri Plast is producing special plastic compounds from primary polymers and from the recycling of scraps (mainly exhausted batteries but also post consumer packaging at end of life). Compounds are mainly produced for battery manufacturers (Serilene product) and for Automotive (Serifill). New applications are going to be introduced for packaging applications (also through P2P initiative). The company has developed various innovative “recipes” homologated by main carmakers

**Market:** EMEA – end market on worldwide base

**Main Clients:** Tier-1 suppliers in automotive industry; brand owners

## Main drivers

- Development of solutions for the recovery of mixed plastics from end-of-life packaging
- Consolidation in the Automotive market through new homologations of “green compounds”
- Organo Sheet R&D activity

## Circular economy

The raw material comes, for the most part, from the waste plastic recovered from exhausted batteries (partially from virgin material).



After cleaning the pollutants and grinding the waste material, it is treated with additives and extruded.



# Moulding of plastic material

## Footprint & Operations



**Canonica d'Adda:** 24.000 sm (indoor), 41.000 sm (outdoor) **Employees :** 66 FTE



**Peronne:** 9.000 sm (indoor), 60.000 sm (outdoor) **Employees:** 39 FTE



**Arras:** 15.000 sm (indoor), 60.000 sm (outdoor) **Employees :** 17 FTE



**Brwinow:** 6.000 sm; **Employees:** 23 FTE



**Pioltello:** 22.000 sm (indoor), 80.000 sm (outdoor) **Employees:** 101 FTE



**Gubbio:** 19.000 sm (indoor), 50.000 sm (outdoor) **Employees:** 46 FTE

## Background

Through **ICS** and **COES/GDS** brands, the company is a leader in the **molding of plastic material market**.

The company operates through two business units:



**Plastic components (boxes, lids and accessories)** for automotive, industrial and storage battery manufacturers;



**Plastic pipes and fittings** for thermo-sanitary market (Naval, infrastructure and building applications).

**Market:** Global

**Main clients:**

- **Battery market:** Exide Technologies, other international customers, FIB as intercompany
- **Pipes and fittings:** retail market at national and international level, Fincantieri for shipping applications

## Key highlights



More than 1000 molds owned by the Company and homologated by final customers



COES product portfolio is highly integrated



Synergies in using the compound based on recycled raw materials



Plants located close to the main clients

## Main drivers

- Increase the boxes and lids market share in Central/Eastern Europe thanks to the new plant in Poland – new plants in Europe coming soon
- Increase of recycled plastics applications in both business units
- Ecobonus in Italy as a new opportunity for Pipes and Fittings sector



# Fabrics and Organo Sheet production

## Tools and materials



**Canonica Plant:** fiber glass/kevlar/carbon fabrics manufacturing

**Teverola Plant:** organo sheet line – laminated sheets with continuous glass, carbon, aramid or hybrid fibers

2 FTE



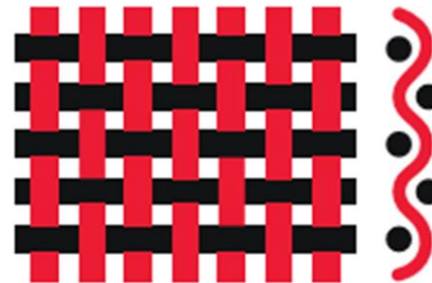
## Product

The organo-sheet product is an innovative solution for the **Metal Replacement**

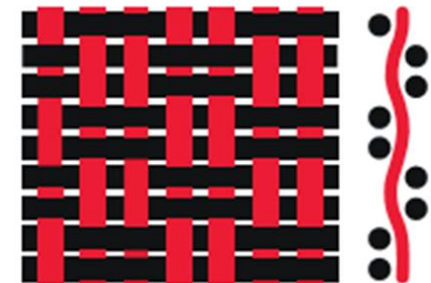
- Semi-finished sheets, the material is impregnated and consolidated
- Semifinished sheets – can be thermoformed and over injected
- Thickness of the sheet from 0,5 mm to 3 mm
- Fabrics with fiber orientation 0/90 degrees, bioriented fabrics
- Fabrics or strip with 0-degree fiber orientation, one-way
- Isotropic non-woven fabrics made from randomly arranged fibers called mat

## Most used fabrics

Tela



Batavia





# Media Coverage

teleborsa

Azioni Milano A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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NOTIZIE QUOTAZIONI RUBRICHE AGENDA VIDEO ANALISI TECNICA STRUMENTI

Home Page / Notizie / Seri Industrial, controllata P2P sigla contratto con Unilever

## Seri Industrial, controllata P2P sigla contratto con Unilever

Durata 5 anni, rinnovabile per ulteriori 5 anni

commenta altre news

Finanza - 29 ottobre 2021 - 16.43

0

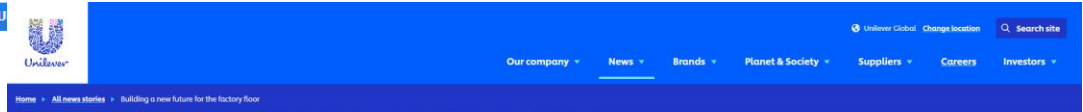


(Teleborsa) - P2P, controllata di **Seri Industrial**, ha sottoscritto con **Unilever** un **Framework Offtake Agreement**, in esecuzione di quanto convenuto con la sottoscrizione della Joint Venture del 22 marzo 2021, che **prevede**: l'impegno di Unilever ad acquistare almeno 65 mila tonnellate/anno di materie prime plastiche riciclate (i "Prodotti") ad un prezzo già

convenuto, con un pricing formula indicizzato all'andamento delle materie prime; tale impegno minimo garantisce la saturazione del 50% della capacità produttiva massima teorica che si intende installare, pari a 130 mila tonnellate/anno; l'avvio della produzione di massa entro 24 mesi, estendibile di ulteriori 6 mesi, su richiesta della Società, dalla data trasferimento di proprietà, in favore della Società e senza alcun onere, dello stabilimento di Pozzilli (il "Sito"); una durata dell'**Accordo di 5 anni, a partire dall'avvio della produzione di massa, rinnovabile per ulteriori 5 anni**, e dunque per complessivi 10 anni, se saranno soddisfatte le seguenti condizioni: (i) esecuzione del piano di reimpiego del personale di Unilever attualmente operativo nel Sito; (ii) conferma della capacità della Società di fornire i Prodotti in termini qualitativi e quantitativi; (iii) mantenimento di un pricing formula indicizzato all'andamento delle

The project is fully in line with the continuous progress to a Circular Economy model in line with the European Green Deal and with the goal of reducing products' carbon footprint

See also: [www.unilever.com](http://www.unilever.com)



## Building a new future for the factory floor

Published: 14/04/2021 Average read time: 8 minutes

In 2020, our homecare factory in Pozzilli, Italy was set for closure. Now it is destined for sustainable success as a state-of-the-art plastic recycling centre based on a zero-waste, no redundancies ambition.

## Polimerica

Attualità e notizie dal mondo della plastica

HOT TOPIC | Speciale IC2022 | direttiva imballaggi | Economo | CCNL gomma plastica | Piovani | plastics tax | Bemvic | TMP | PEF

Schede aziende | cerca | area riservata

HOME | FINANZA E MERCATI | TECNOLOGIE | MATERIE PRIME | AMBIENTE | RICERCA E FORMAZIONE | APPUNTAMENTI | VIDEO | BLOG

In questa sezione: Riciclo • Bioplastiche • Legislazione



### In Prima Pagina

Nuovo impianto ACEA per la selezione di rifiuti plastici

CSPC sceglie nuovamente Spherizone

I costruttori di macchine si rivolgono a Lusa

## Chiesto finanziamento per la riconversione di Pozzilli

Procede il progetto per la creazione nel sito di Unilever di un impianto per il riciclo di plastiche miste provenienti dalla raccolta differenziata di imballaggi post-consumo.

28 giugno 2022 08:31



Seri Industrial ha aggiornato il **piano industriale 2022-2026**, che contempla anche la riconversione del sito Unilever di Pozzilli (IS) al **riciclo di materie plastiche eterogenee** da imballaggi post-consumo, in base a un





# What others brand owner doing



Other potential costumers

**LUSH**



**Henkel Tweet:** Did you know that using #RecycledPlastic emits 90% less #CO2 in comparison to the production of new plastic? Facing the challenge of #PlasticWaste, we are committed to use plastic responsibly within a #CircularEconomy! ♻️



**Nestle Tweet:** To reduce single-use packaging, we're offering cat litter in a refillable jug! ♻️ Tidy Cats LightWeight Free&Clean cat litter is available via @LoopStore\_US. When finished with the litter, packaging is collected, cleaned and reused.



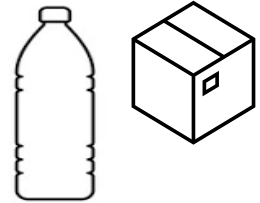
**Ferrarelle web site:** #sostenibilidavvero Our bottles contain plastic that is entirely recycled by us. We take 20k tonnes of plastic out of the environment every year, far more than we produce. We are the only ones to have an entire range made from 100% recycled PET plastic. Every bottle you find in the supermarket has AT LEAST 50% R-PET.



By 2025:

- **100% re-usable/recyclable/compostable** plastics
- **Halving** amount of **used virgin** plastics
- Increase amount of **post-consumer** recycled **plastics** to 25% of total

**100 %**  
recovered



**San Pellegrino web site:** All packaging materials used are 100% recyclable. The Group is increasing the use of recycled plastic in its bottles with the aim of using, on average, at least 50% recycled PET by 2025. The company has been working on lightening packaging for some time and was the first in Italy to make bottles from 100% recycled plastic. For 2030, it has set itself an even more ambitious goal: to collect as many bottles as it produces.



**PROCTER&GAMBLE web site - D.Taylor - Executive Chairman of the Board:** We've asked ourselves, 'what if our brands could have a positive impact on the environment by promoting responsible supply and consumption – reducing, renewing and recycling water, energy and waste just by consuming our products?' It would be good for consumers, good for the planet and it would drive growth for P&G."



**PepsiCo Tweet:** We're accelerating our efforts on sustainable packaging to build a world where plastic never becomes waste. Today, we announced that we'll be using 100% rPET in our beverage bottles - by the end of 2021 in Germany & in Great Britain by the end of 2022



**H&M:** H&M Group signatory of the New Plastics Economy Global Commitment. "Our business to become 100% circular and renewable".





# Management Team P2P

P2P

## SERI INDUSTRIAL S.P.A.



Company listed on the EXM market of Borsa Italiana (ISIN: SERI IM)

Seri Industrial's mission is to accelerate the energy transition to sustainability and decarbonisation

## SERI PLAST S.P.A.



Company, owned 100% by Seri Industrial S.p.A., active in the processing and production of plastic materials for the (i) battery market, (ii) automotive and (iii) sanitary hydrothermal, civil and naval shipbuilding

## UNILEVER



International company operating in the Food & Refreshment, Home Care, Beauty & Personal Care markets reaching over 190 countries with more than 400 brands. With more than 149,000 employees worldwide, driven by a global purpose: to make sustainability a habit.

## MANAGEMENT TEAM



### VITTORIO CIVITILLO

*CEO in Seri Industrial S.p.A.*

*CEO in Seri Plast S.p.A.*

### ANDREA CIVITILLO

*Executive director in Seri Industrial S.p.A.*

*CEO in Seri Plast S.p.A.*

### PAOLO DI GIOVANNI

*Managing Director in Unilever Manufacturing Italy*







**FAAM**

PLANT  
DIVISION

repiombo

**FAAM**  
SERVICE

**FAAM**  
RESEARCH CENTER

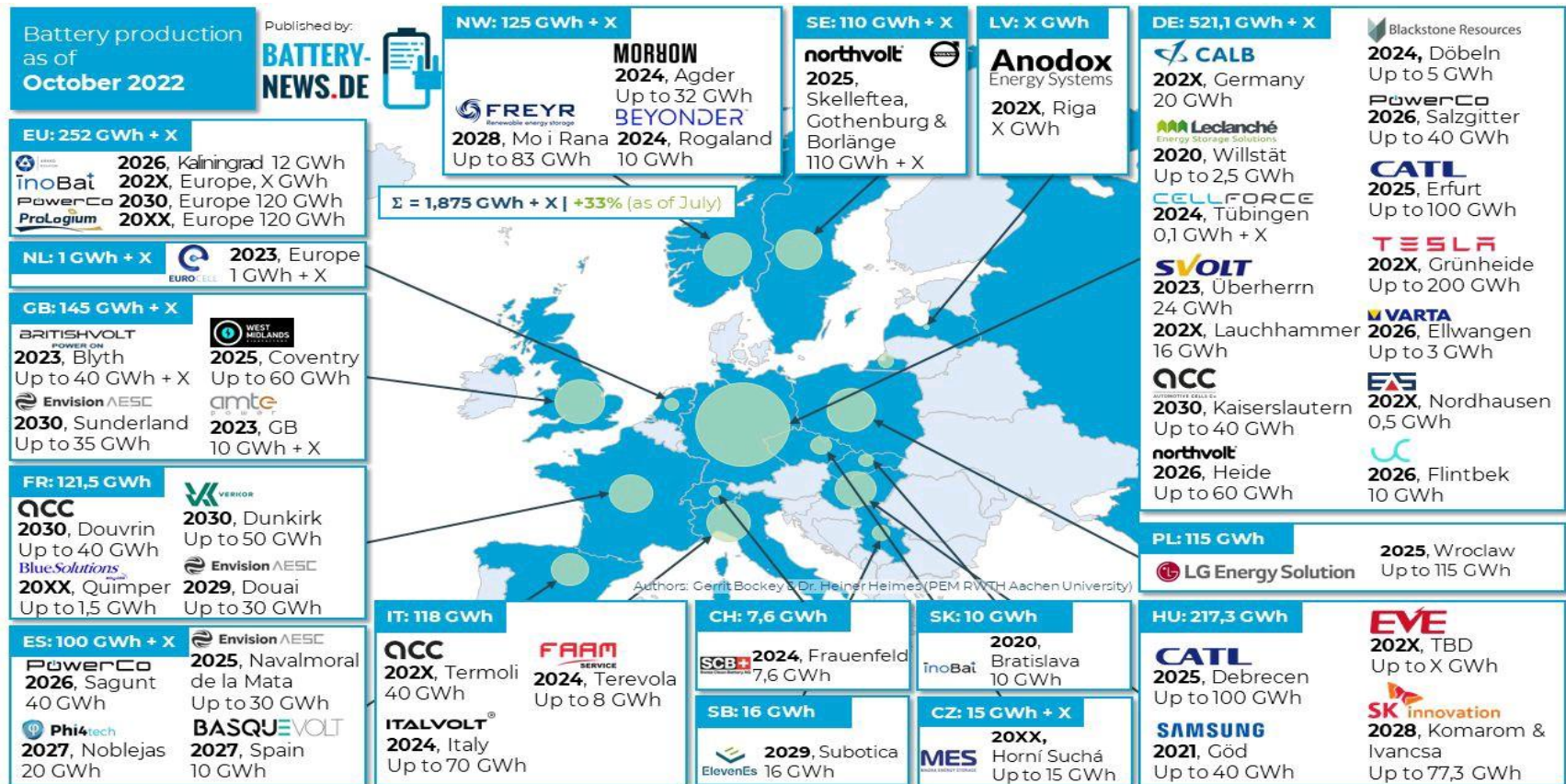
**Car  
Bat**

**FAAM**



# Towards the transition (1/2)

The **European Union** is aiming for 100% of new vehicle (passenger, buses, commercial) sales to be fully electric by 2035. To enhance this enormous transition lot of energy renewable is needed to supply clean energy, and the battery is the only way to stabilize the production of energy from renewables. This fast transformation will require >9TWh in **lithium-ion battery (LiB)** production to address a >\$900bn cumulative battery TAM by 2035, on estimates. There are several announcements by European-led 'gigafactories' (>1.5TWh in capacity) that could become operational in Europe by 2030.





# Towards the transition (2/2)

Cell maker announcements

Battery Producer	Location	Capacity	Customers	SOP
FREYR	Norway	29GWh	Honeywell, Nidec, Powin	2024
FREYR/Koch	USA	35GWh	Honeywell, Nidec, Powin	2025
ElevenEs	Serbia	TBD	TBD	2024
ONE	USA	25GWh	TBD	2024
CATL	Germany	35GWh	Mercedes, BMW	TBD
CATL	Hungary	100GWh	Mercedes, BMW	TBD
Gotion	USA	24GWh	VW	TBD
LG Energy Solutions	USA	5GWh	ESS	2023
ABF	USA	3GWh	TBD	TBD
FAAM	Italy	8GWh	ESS	TBD

Source: The Goldman Sachs Group, Inc., Global Investment Research, The Future of Batteries

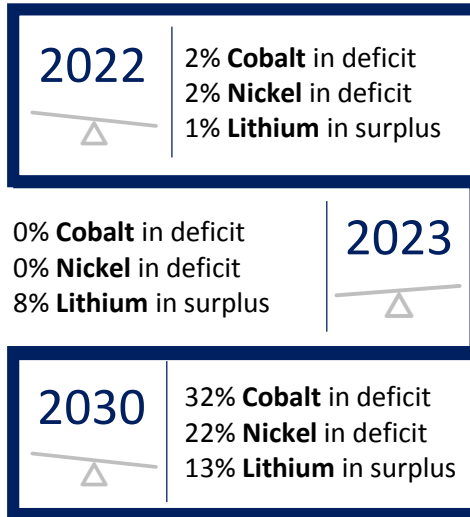
The production of minerals such as **lithium, cobalt and graphite will increase enormously** due to the growing demand for clean energy technologies such as **batteries**, wind turbines, solar panels or electric vehicles.

The growing demand for clean energy technologies such as batteries, wind turbines, solar panels or electric vehicles, the production of minerals such as **lithium, cobalt and graphite is expected to be enormous**.

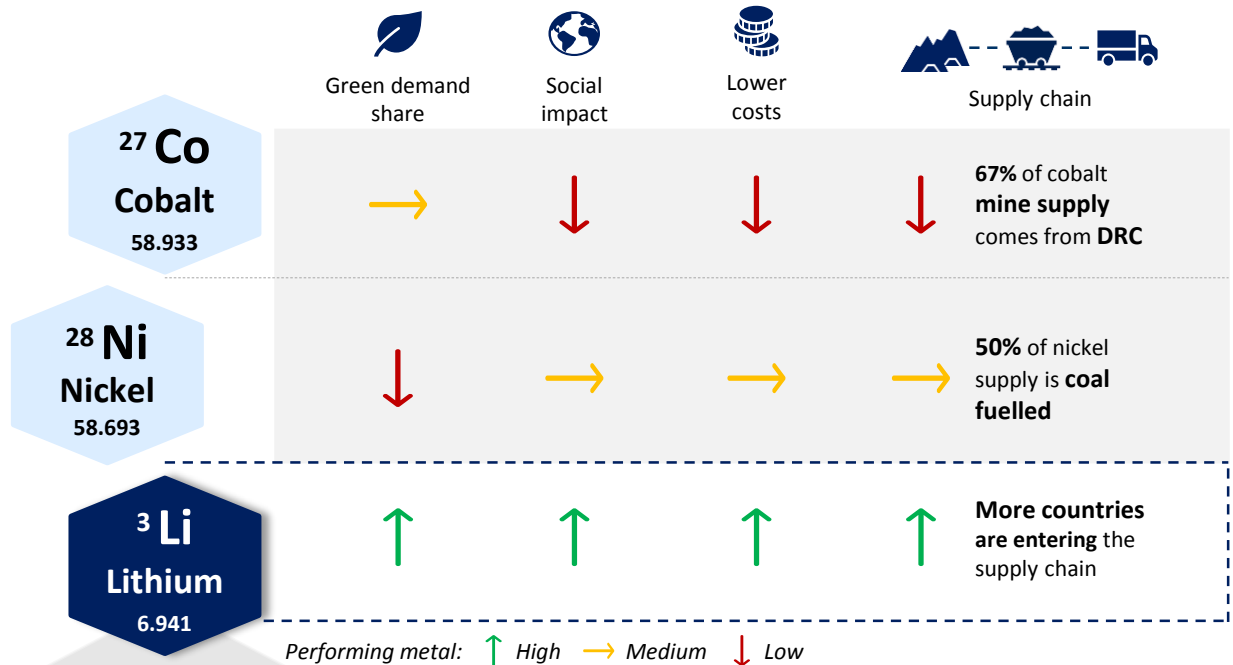


# Battery Metals in the Green Transition

## Key Trends



Even as recycling supply accounts for **18%** of cobalt, **15%** of lithium & **7%** of nickel demand by **2030**



## Lithium-Iron-Phosphate LFP Active Material

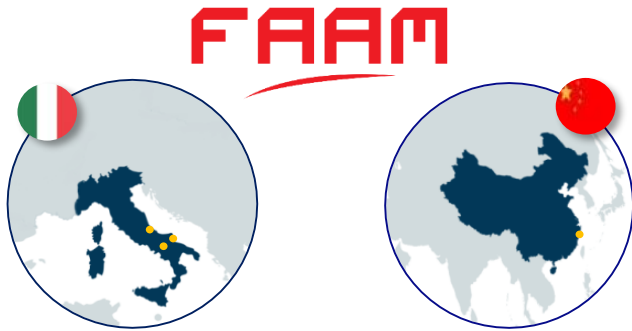
Smooth supply chain, higher safety, cost competitiveness and an increased attention to social responsibility **will increase LFP market share, in EVs and ESS applications.**

**Seri Industrial Group has chosen to focus on LFP active material**, developing a '**water-based**' production process with the aim of achieving a **green footprint**, reducing atmospheric emissions, increasing safety and flexibility in the battery recycling process.



# Batteries

## Footprint & Operations



**Monterubbiano:** 7.500 sm (indoor), 7.000 sm (outdoor); **Employees:** 60 FTE

**Monte Sant'Angelo:** 8.000 sm (indoor), 6.000 sm (outdoor); **Employees :** 75 FTE

**Yixing:** 9.000 sm (indoor), 4.000 sm (outdoor); **Employees :** 52 FTE

**Teverola 1:** 38.000 sm (indoor), 112.000 sm (outdoor); **Employees:** 140 FTE

## Background

**FAAM** is specialized in the design, production and sale of **highly efficient lead acid and Li-ion batteries (including cell production)** for Motive Power, Storage, Starter and specialty applications. The main goal is to guarantee customized solution with high performances.

The product portfolio includes: **(i)** traction batteries for Aftermarket and OE customers; **(ii)** storage batteries for UPS, Telco, energy producers, both for AM and OE; **(iii)** starter batteries (automotive, heavy duty, motorcycles and specialties) for the Aftermarket; **(iv)** li-ion batteries for storage (domestic and BESS), industrial traction (forklifts, material handling, ground movement machines, agricultural, and light traction), military, automotive (commercial vehicles and public transport), and naval



**Market:** Global

**Main clients:** the main market is the Motive Power/heavy duty (OEM and aftermarket), stationary, naval, military and starter.

## Main drivers

- Full speed of Teverola 1 in 2022
- Circular economy replication in the lithium (active material production and recycling)
- Increase of cell's performances currently produced in Teverola 1
- Teverola 2 Gigafactory start up of production
- Increase OEM customers for the lead-acid battery business as a cross selling opportunity with the lithium



# After sales and R&D

## After sales services



**FAAM Service:** service company providing after sales assistance throughout national/European level (and also collection of end of life batteries)

Brand **CARBAT**: B2C network supplying starter batteries to end users CARBAT is also an “on time” battery replacement provider to end users. **European coverage through distributors mainly in Benelux, France, Poland, Iberia, Nordics, UK , Maghreb, and Greece**

**Employees:** 32 FTE

**F A A M** C U S T O M E R S E R V I C E



## FAAM Research Center



### FAAM Research Center:

Teverola is the cluster and competence center for all the R&D activities In Monterubbiano there is a laboratory on lead-acid batteries and electronic components for lithium batteries (BMS and packs)

#### Some innovative projects:

- **FAR SEAS Project**, in collaboration with the Italian Navy (Marina Militare Italiana) for the development of a Li-ion battery technology (including a specific Battery Management System) for submarines
- **Military Vehicles Li-ion Battery Project**, in partnership with the Italian Ministry of Defense for the application of lithium technology on military vehicles
- **Public transport bus revamping**, based on the previous experience in the city of Turin together with GTT (public transport company) buses. FAAM operates a conversion of the old vehicles (equipped with lead-acid batteries), fueled with diesel, into a 100% electric vehicle using lithium batteries
- **Specific storage (ESS Large System)**, for the mass production of large storage systems, from 30 kWh up to 5 MWh
- **New chemistries for lithium-ion cells**, analysis on the performance for all the new materials scaled on the Turin labs and recovery of materials from recycling

29 Engineers in electrochemical, mechanical, electronic, and electrical engineering.

For Teverola 2 (IPCEI) expected more 120 R&D managers and technicians High level cooperation with a Chinese university (Changchun University) for cell development



# Plants and Smelter

## Footprint & Operations



**Alife:** 3.000 mq (indoor), 10.000 mq (outdoor);  
**Employees:** 10 FTE

**Calitri:** 8.000 mq (indoor), 20.000 mq (outdoor);  
**Employees :** 9 FTE

## Future projects

- New Innovative projects in the recovery of Slag Heaps
- R&D projects on lithium-ion battery recycling

### Calitri plant: strenghts

- FIB will reduce the material cost (lead cost)
- The plant will face an important reduction of the atmospheric emissions

## Background

FIB is also focused in the design and construction of innovative plants for the recycling of batteries and in the recovery of lead from exhausted batteries (smelter activity for the production of secondary lead).  
The production of secondary lead allows the upstream integration along the battery supply chain

The plant design activity has carried out a unique know-how on sustainable recycling of industrial scraps

**Market:** global

**Main clients:** other smelters and battery manufacturers; captive for FAAM

## TRACK RECORD PLANT ACTIVITY – ALIFE PLANT

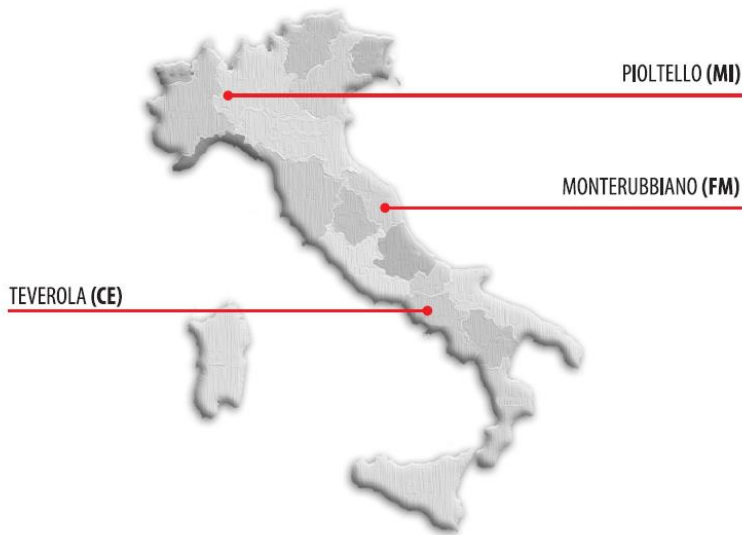


**40 plants realized  
worldwide**



# R&D

The mission of SERI is to be a key actor in the transition to sustainability and decarbonization, through a continuous R&D activity to meet Circular Economy and Sustainable goals at European and global level



## Plast Research & Development

### Main goals & projects

Innovation of plastic products (PP compound)

Focus on specialties in the plastic pipes market

Organo sheet



## FAAM Research Center

### Main goals & projects

Full involvement of the R&D team in development of the Teverola 2 lithium cell production plant

New energy efficiency projects of lead-acid batteries

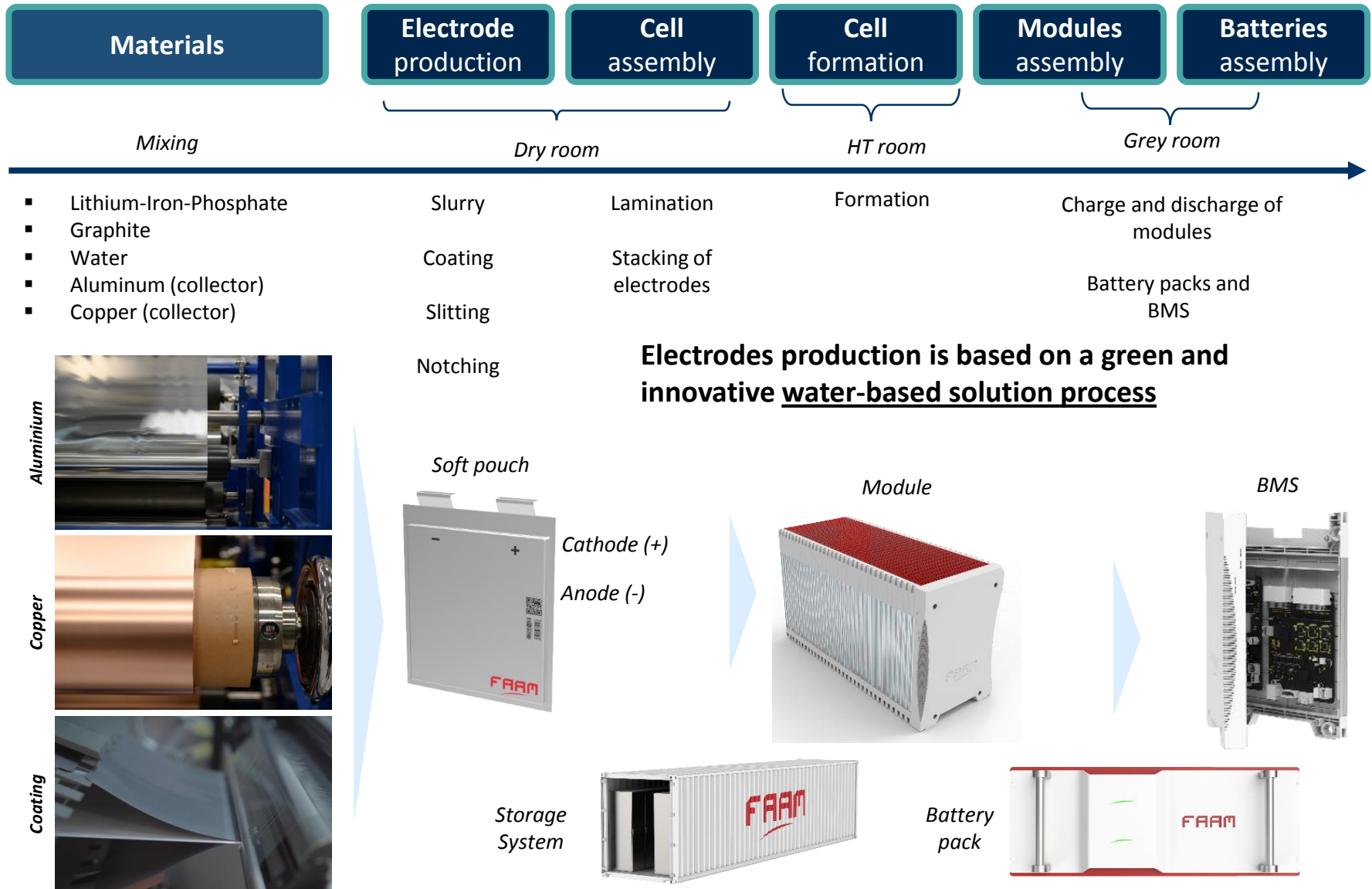
Li-ion batteries recycling projects

New chemistries

The other main goal is to realize tailor made products, based on customer specifications through a continuous R&D activity together with main stakeholders (clients, institutions, suppliers, universities and academic centres)



# Lithium battery manufacturing process in Teverola





# Energy Storage – Market segmentation



## RE/POWER INTEGRATION



- Energy Storage Systems (ESSs) can help in mitigating potential grid concerns and integrate renewable energy resources without affecting grid reliability.
  - New and existing plants
  - Both AC or DC coupled
- ESS to manage peaks and make flat generation from traditional power plant

## GRID SUPPORTS



- ESSs to provide services to the TSO, such as:
  - frequency regulation: maintain the balance of supply and demand and hence the frequency of power
  - voltage compensation: reactive power to the transmission system in similar ways to a capacitor
  - investment deferral: ESS used to meet increase capacity in Transmission & Distribution

## COMMERCIAL & INDUSTRIAL



- ESSs to provide benefits to the end users
  - Peak Shaving
  - Demand charge management
  - back-up power
- and utilities
  - meet capacity requirements
  - provide demand response

## APPLICATION DESCRIPTION



# Energy Storage – Market segmentation



## MINIGRIDS



- Involve small-scale electricity generation and associated ESSs which serves a limited number of consumers via a distribution grid that can operate in isolation from national electricity transmission networks

## RECHARGE



- ESSs to provide support for the deployment of electric vehicle charging stations to overcome the limits of network infrastructure.
  - Personal/Fleet Cars
  - Depot (Busses)
  - Port (Boats)

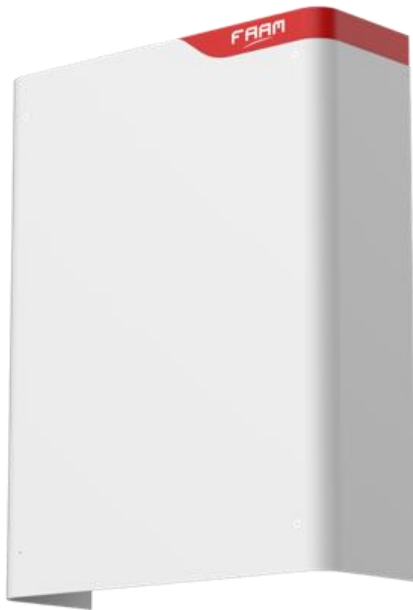
## OFF-GRID INDUSTRIAL



- Micro-scale energy generation with associated ESS to provide reliable power supply to strategic monitoring and metering plants.



# LiHOME



## RELIABLE PERFORMANCE

LiHome provides reliability for your home with its industry leading longevity.



## COMPACT SIZE

Allows you to place it anywhere you want, both indoors and outdoors.



## EXPANDABLE

LiHome can be increased at your need.



## SAFETY

The safety of Lihome is proven in ESS markets by FAAM tests.



# LiHOME Features

## Features

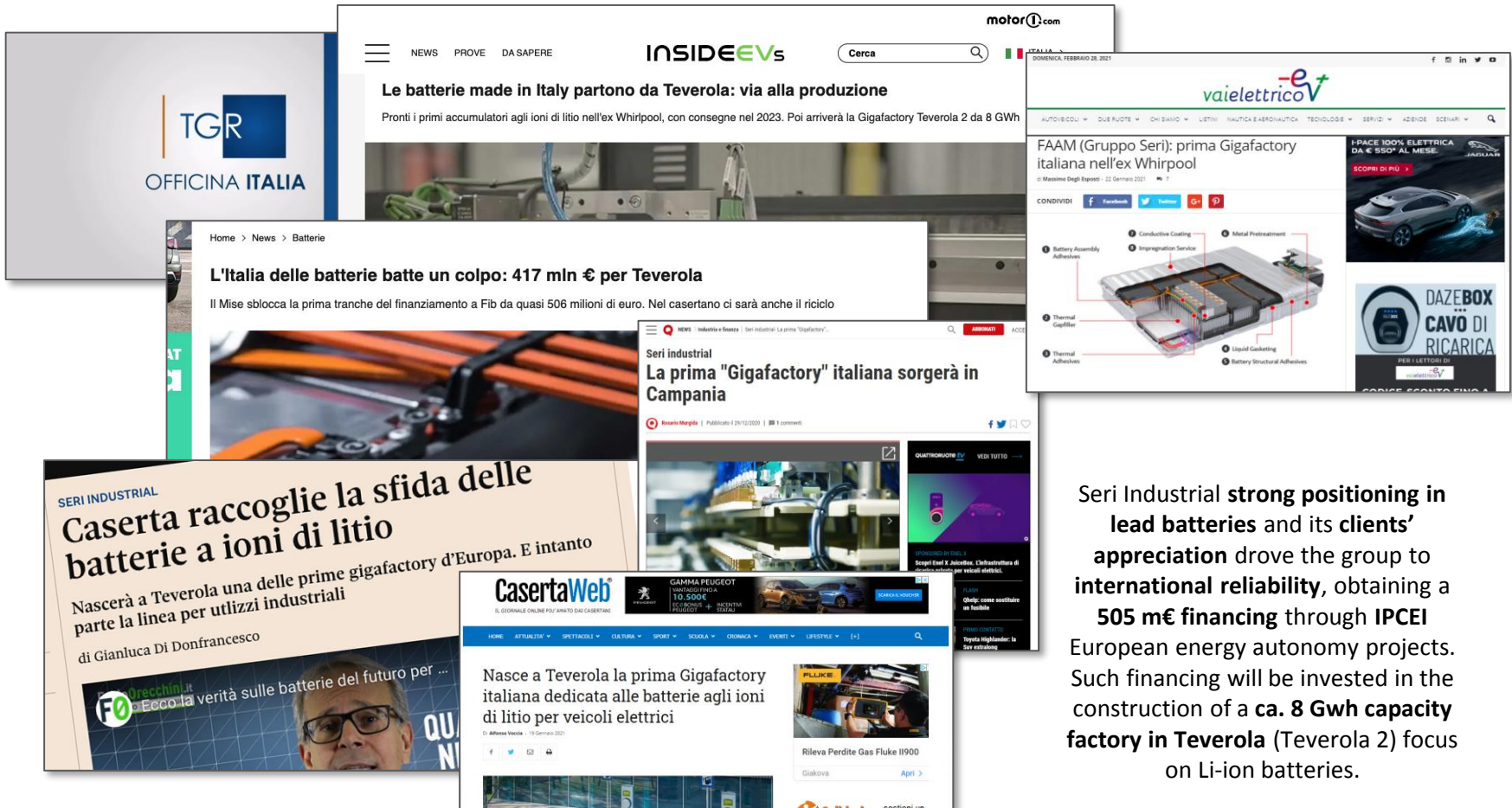
- Overvoltage
- Undervoltage
- Overtemperature
- RS-485 communication
- Wi-Fi communication by a proprietary App on both IOS or Android (at request)
- CAN Bus 2.0 communication for the BMS
- Pre-charging system
- High number of cycles (> 4000 cycles)
- Energy saving (efficiency > 98%)
- High energy density and power
- Zero emissions





# Media Coverage

SERI's experiences in lead batteries gave it a competitive advantage into being the player most qualified to build the first li-ion gigafactory in Italy.



Seri Industrial **strong positioning in lead batteries** and its clients' **appreciation** drove the group to **international reliability**, obtaining a **505 m€ financing** through **IPCEI** European energy autonomy projects. Such financing will be invested in the construction of a **ca. 8 Gwh capacity factory in Teverola** (Teverola 2) focus on Li-ion batteries.

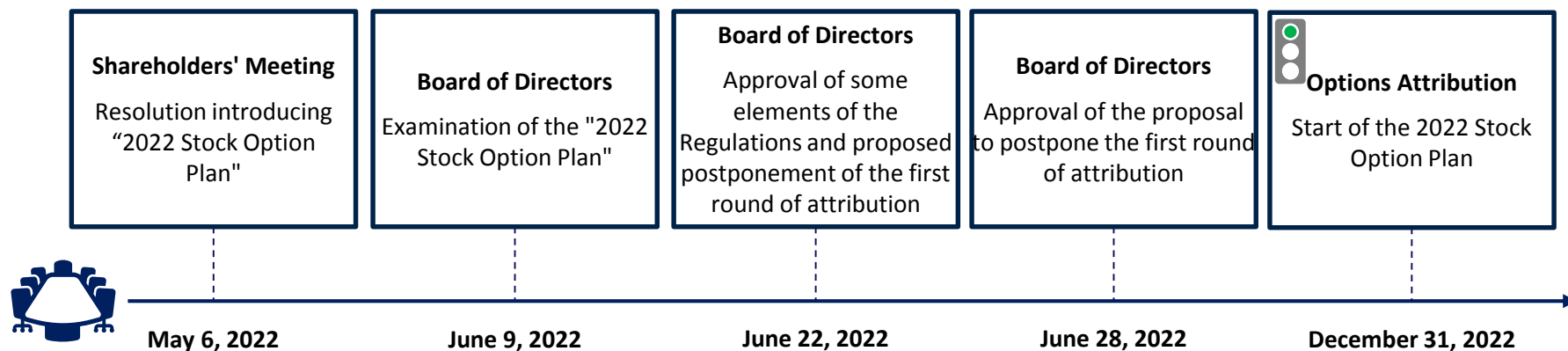
Source: Ilsole24ore, Insideevs, Rainews, Quattroruote, VaiElettrico, CasertaWeb



# Other events



# 2022 Stock Option Plan



2022 Stock Option Regulations	ESG TARGETS	
	PLASTIC RECYCLYNG	BATTERIES
<ul style="list-style-type: none"> <li>➤ <b>2 Option Attribution Cycles</b>, by: <ul style="list-style-type: none"> <li>• December 31, 2022<sup>1</sup></li> <li>• June 30, 2024</li> </ul> </li> <li>➤ <b>Vesting Period:</b> 5 Years</li> <li>➤ <b>Exercise Period:</b> 2 years from Vesting Period</li> <li>➤ <b>5 Exercise Windows for each Attribution Cycle</b></li> <li>➤ <b>Performance Targets:</b> <ul style="list-style-type: none"> <li>• <b>TSR</b> (<i>Total Shareholder Return</i>)<sup>2</sup></li> <li>• <b>ESG</b> (<i>Environmental, Social and Governance</i>)</li> </ul> </li> </ul>	<p><b>PLASTIC RECYCLYNG</b></p> <p>Use in the production cycle of a certain (and growing) percentage of recycled material in relation to total raw materials</p>	<p><b>BATTERIES</b></p> <p>Development of technologies to facilitate the recycling of spent lithium batteries in line with circular economy policies</p>

<sup>1</sup>As amended to the remuneration policy approved by the Board of Directors on June 28, 2022.

58 <sup>2</sup> Indicator that measures the total return of a stock as the sum of the components of capital gains and reinvested dividends.



# Exercise Warrant Uno Seri 2017-2022

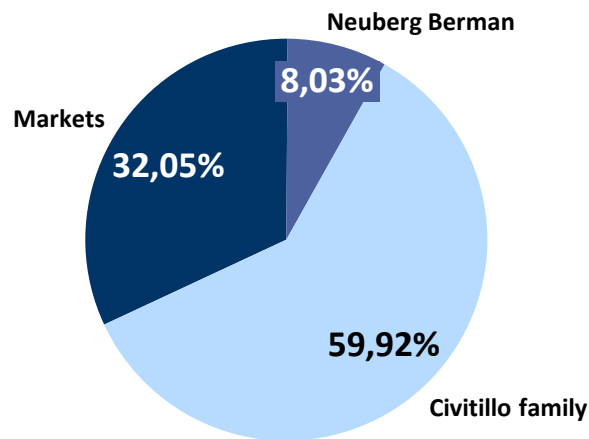
As of December 31, 2022, the twentieth and **last financial Period of Warrant Uno Seri 2017-2022 is ended**

**The cash-in** from the last period is **EUR 23 M**

**The share capital is equal to EUR 106.5 M**  
( vs EUR 97.3 M before the last period of conversion)

**Ordinary Shares 53.9 M**  
(vs 49.4 M before the last period of conversion).

**Pre-warrant exercise shareholder structure**



**Post warrant exercise shareholder structure**

