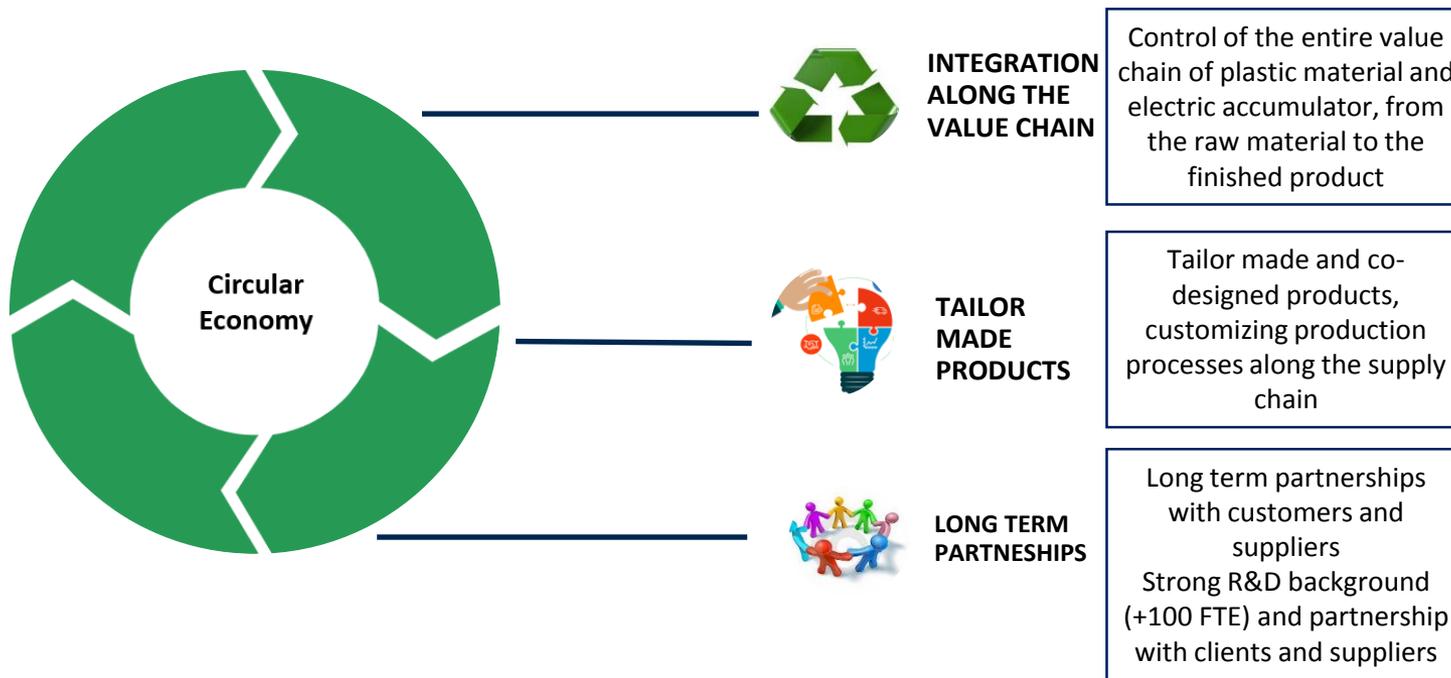


# Investor Presentation H1 Results Update

S E R I GROUP  
**industrial** 

# Mission

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



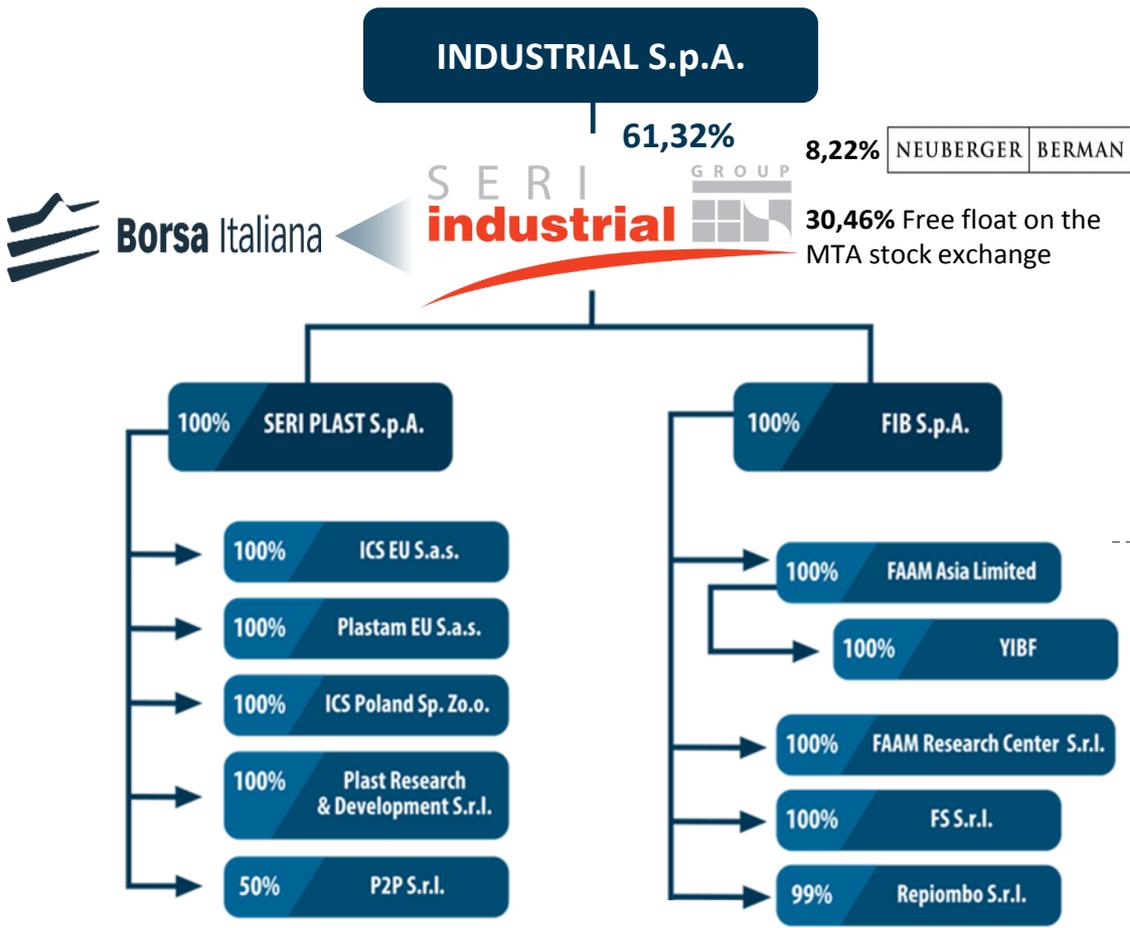
**FAAM** High performing lithium batteries with LFP and water based solutions

**SERI PLAST** High quality polymers from post consumer recycling  
POLYPROPYLENE COMPOUNDS



Supporting the global energetic and ecological transition to sustainability and decarbonization

# Group Structure



SBU	ACTIVITY
<b>SERI PLAST</b> 	<b>Production and recycling of plastic material</b> <ul style="list-style-type: none"> <li>Production of special compounds for the moulding of boxes and lids for electric accumulators</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> 	<b>Electric Accumulators</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

SERI establishment



Acquisition of Plastam and ICS – for the moulding of plastic components for batteries



IMI Fondi Chiusi SGR enters in the share capital of Seri

Exide Technologies French and Spanish plastic moulding activities acquisition



SERI Group acquires Teverola complex from Whirlpool Corporation to start up lithium cells production

Listing on the stock exchange



IPCEI Project investment

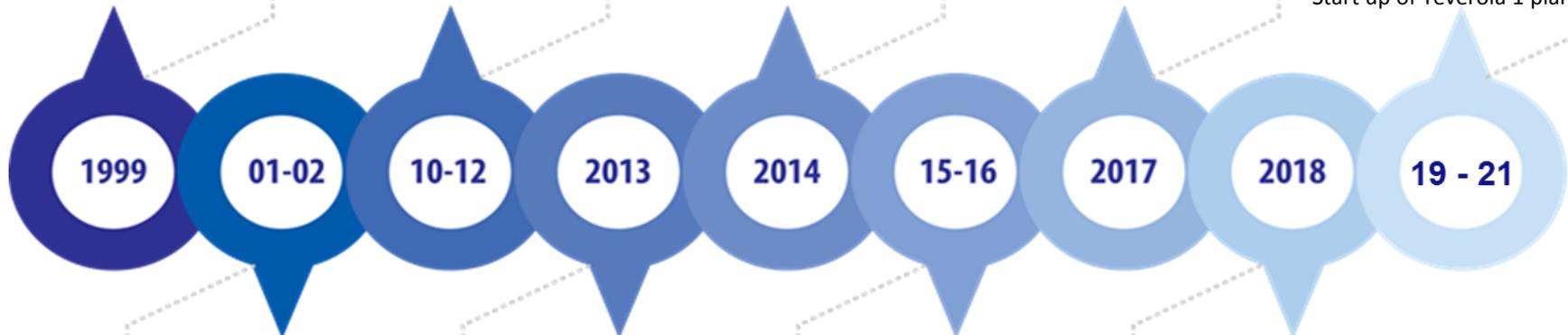
Start up of activities in Poland (plastic business unit)

Start up of investments for post consumer plastics

Acquisition of **COES** business – plastic pipes and fittings

Joint Venture agreement with Unilever

Start up of Teverola 1 plant



Start up of SERI PLANT Division – turnkey plants for the recycling of exhausted batteries



Start up of PP compounds production from the recycling of exhausted batteries



Acquisition of FAAM – a leading company in the production of lead-acid and li-ion batteries for industrial, storage and starter applications



Acquisition of Lithops by FAAM, an R&D company active in the development of innovative li-on cells

Upstream integration with the acquisition of Repiombo, a smelter active in the recycling of exhausted batteries



Rights Issue in July 2018 for Seri Industrial – to fund development projects



Start up of investments for Teverola 1 (62 M€)

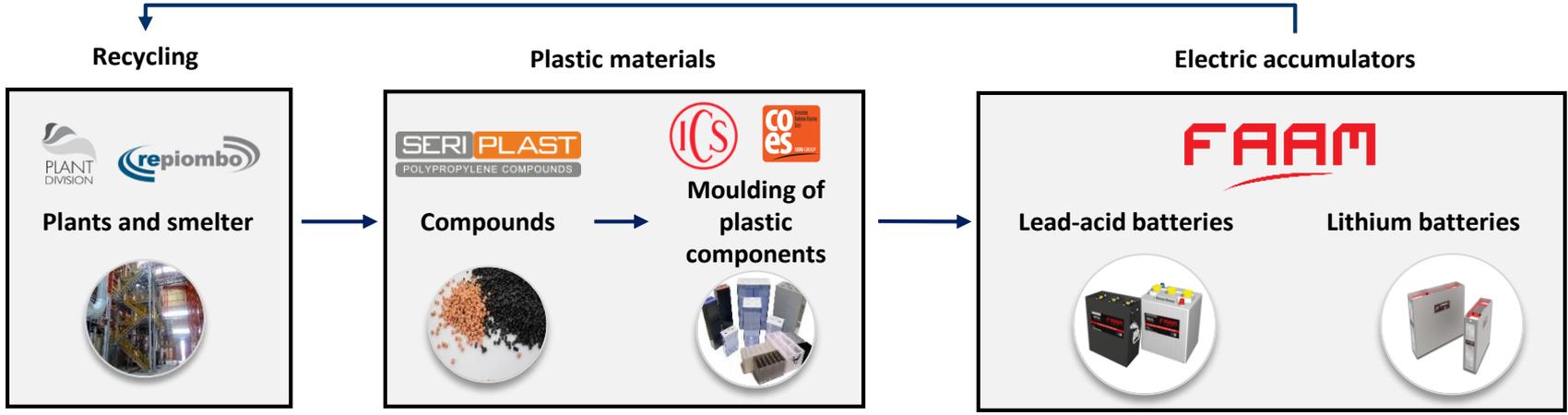
ESTABLISHMENT

M&A

CONSOLIDATION AND GROWTH

# Footprint

PRODUCT RANGE & CIRCULAR ECONOMY



14 Production sites

800 Employees

## Plastic Materials

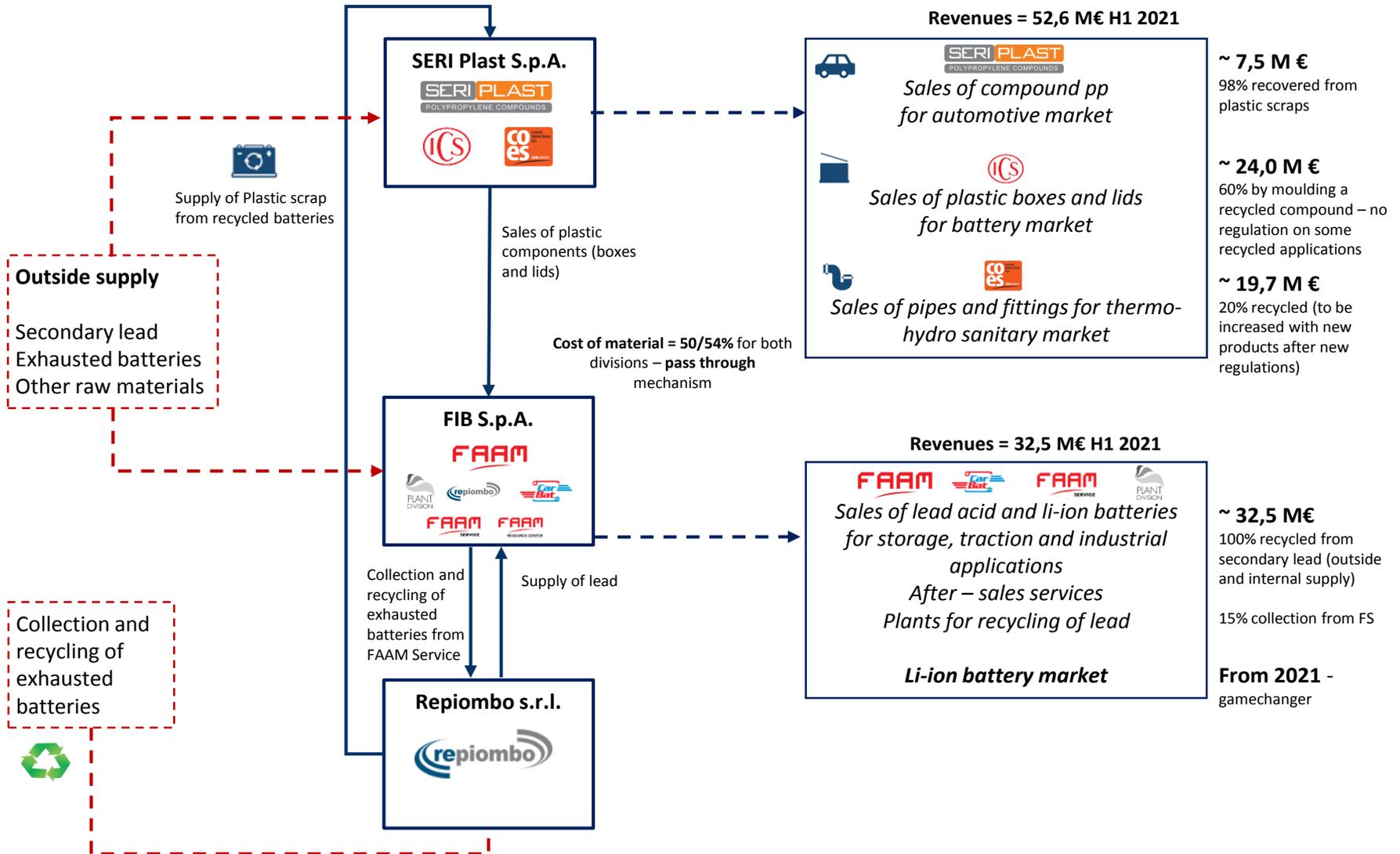
- Canonica d'Adda (BG)
- Pioltello (MI)
- Gubbio (PG)
- Alife (CE)
- Avellino (AV)
- Arras - FRANCE
- Peronne - FRANCE
- Warsaw - POLAND

## Electric Accumulators

- Manfredonia (FG)
- Monterubbiano (FM)
- Teverola (CE)
- Avellino (AV)
- Yixing - CHINA
- Calitri (AV)
- Alife (CE)



# Circular Economy

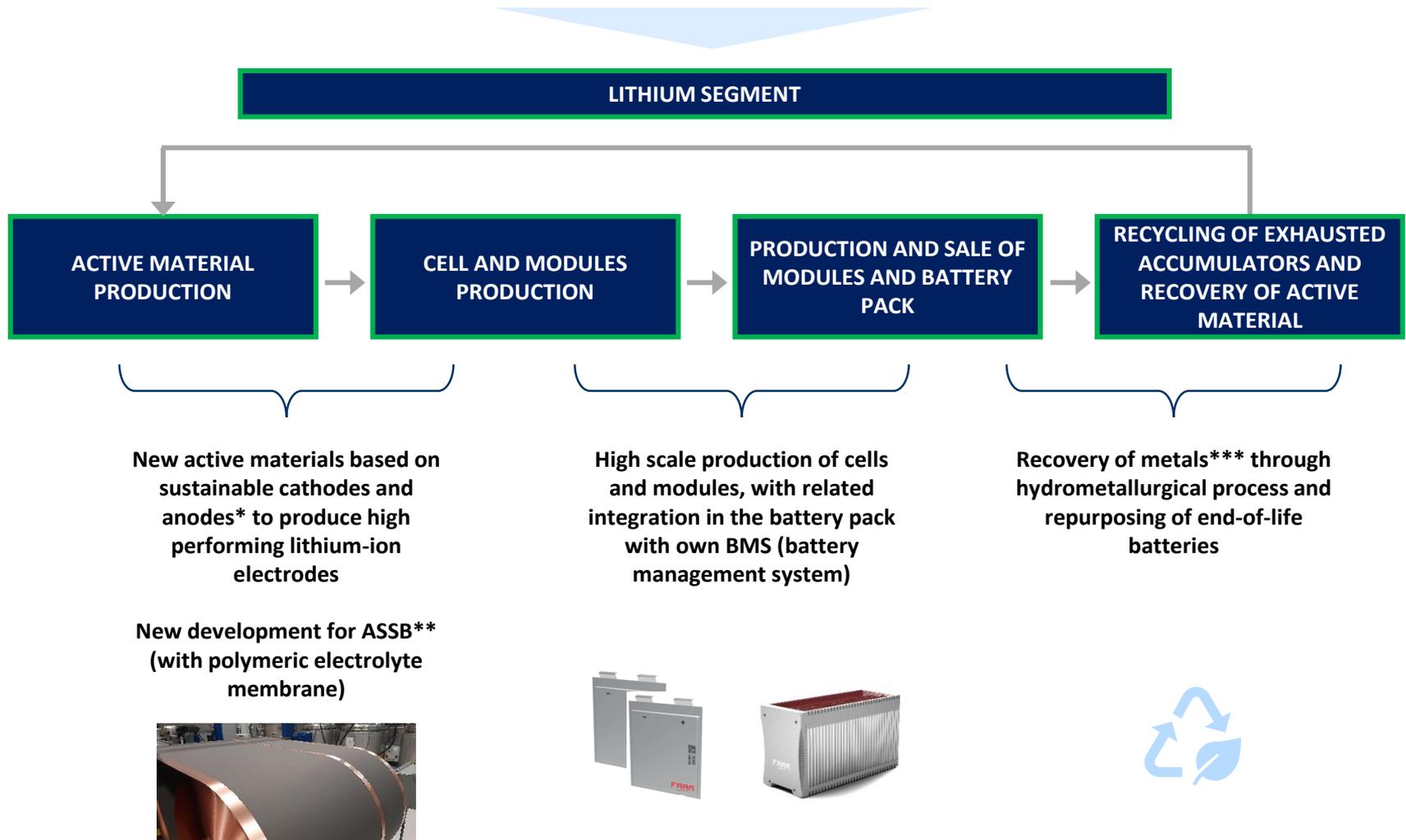


intercompany      Outside supply      Sales third parties

→      - - - - -      - - - - -

# Circular Economy in the Lithium

The goal is to replicate the successful vertical integration 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

# Lithium cluster and new projects

# Teverola Plant – present and future

## TEVEROLA 1 - present

**Capacity:** 330 MWh

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

**62 M€ of realized Investment**

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



**268.000 sqm  
of complex  
area (83.000  
indoor)**

## TEVEROLA 2 (IPCEI)

**Project timesheet:** 2021 – 2027

**Industrial Deployment:** 2021 -2023

**R&D:** 2021 - 2027

**Capacity:** 7-8 GWh

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

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

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

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



# IPCEI – A Mediterranean Gigafactory

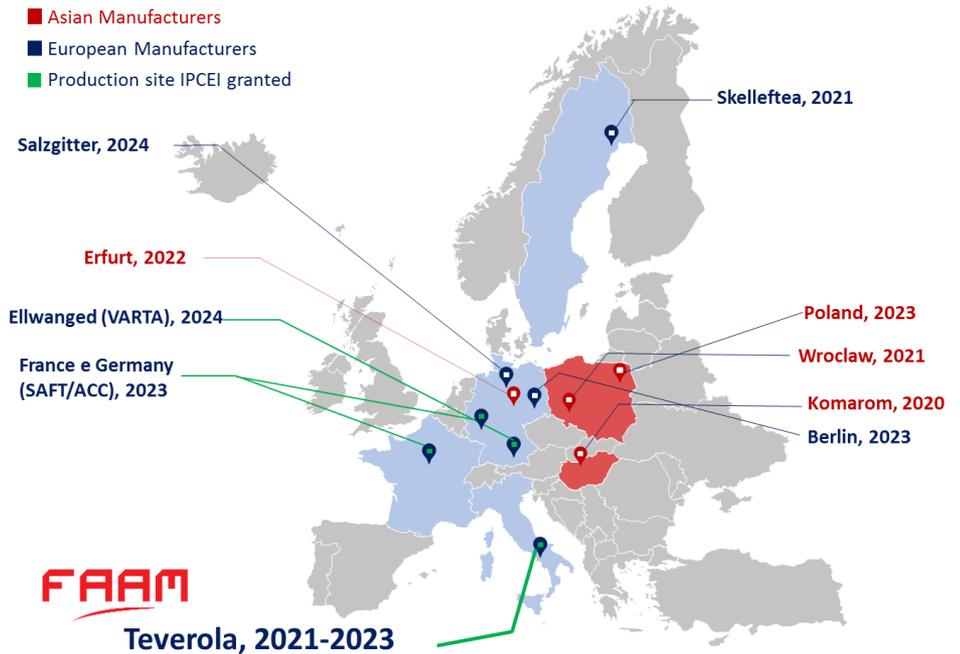
IMPORTANT PROJECTS OF COMMON EUROPEAN INTEREST



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
			Umicore

**GIGAFACTORIES**



The Interministerial Decree has been signed on April '21 and published in the Gazzetta Ufficiale on July '21

The intervention of the IPCEI Fund has been placed through a specific activation decree from MISE – published on August 2021

# Joint Venture with Unilever

## Key Highlights of the agreement

On 22 March 2021, the subsidiary Seri Plast has entered into a joint venture agreement with Unilever Europe B.V. including the following provisions:

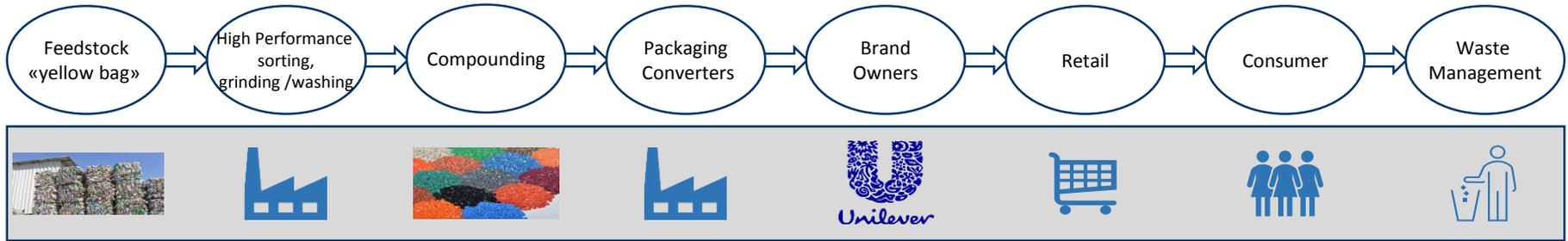
- the establishment of a **50/50 Newco** between Seri Plast and Unilever, established on May '21;
- the terms and conditions for **the purchase and industrial conversion of the Pozzilli Plant**, currently owned by Unilever, and the re-employment of the workers currently operating in the Site;
- the submission of a proposal for a development program for **an estimated investment of 75 M €**;
- the sharing of the **guidelines for the signing of shareholders' agreements** that will include the government of the management nominated by Seri Plast and the possibility for Seri Plast to increase its stake in the Newco;
- the commitment to sign a **contract for the supply of the Site's products from Newco to Unilever**.

## Business Model – a circular economy factory



- Innovative plant with a **production capacity of 130k tons/year** of plastic material from the recovery of post-consumer packaging;
- Sharing of the business plan with Unilever with a **price target for the products of 1/1,1 €/kg**

## Context of reference



### 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.

PCR  
Production

	SERI Plast	Market*
Closed-loop high performance mechanical recycling	100%	25%
Low value mechanical recycling	0%	75%

\*Bain & Company, 2019  
% of the recycling production

Pre sortig/baling

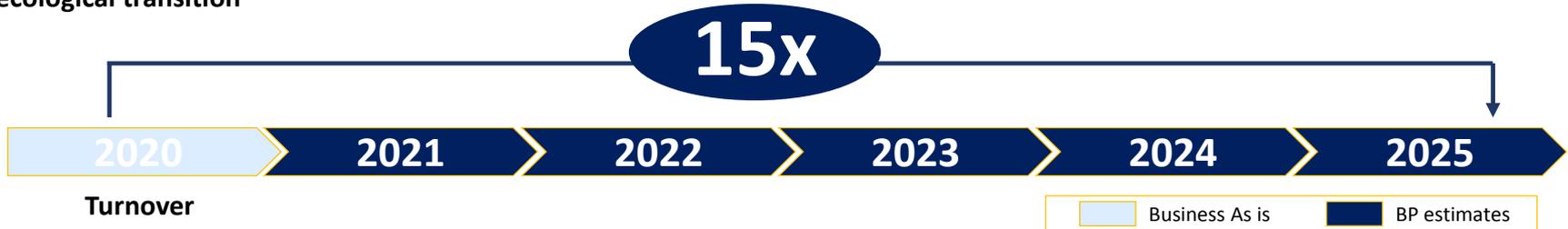


45% of the collected waste (with still 50% good material) is shipped to Energy plants, incinerators, cement factories

Investment to be completed by the end of 2023  
Mass production in 2024

# Update on the 2021-2025 Business Plan

SERI has approved the Consolidated 2021-2025 Business Plan on 22 July 2021 – a key plan for the European energetic and ecological transition



## AS IS & Teverola1

- **Teverola 1** - Sell at least the **50% of the production capacity during 2021** based on commercial contracts under definition
- **Teverola 1** - Revenue estimates are based on an average-selling price of **Euro 400/KWh for the battery pack**
- AS IS (lead-acid batteries and plastics) expected equal to the ante-Covid 2020 forecast (growing compared to 2019)
- **Teverola 1** - From **2022** sale of 100% of the production capacity (**300 MWh or 330MWh/year considering 300 days of work**)



## IPCEI Project

- Maximum **production capacity of 7-8 GWh**
- The average selling price of the battery pack is between **180-220 per Euro/kWh**
- Mass production at full capacity is expected within **the H1 2024**



## Unilever Agreement – Key ratios

- Sale of all the production capacity installed (**130k tons /year**).
- **Expected Investment of 75 M €** of which 75% with grants and subsidized loans
- Investments will further **benefit from a tax credit** for disadvantaged areas and for industry 4.0, **estimated at about 15% of the cost**
- Timing: by the end of 2023 - 18/24 months from the removal of plants by Unilever
- Target price estimated between **1-1.1 Euro/ kg**



Unilever Agreement is **not included** in the Consolidated 2021-2025 Business Plan forecasts



# Main financials H1 Overview

# Key Financials – H1 2021 vs 2020

Key economics and financials - €/mln	30/06/2021	30/06/2020
<b>Consolidated Revenues</b>	<b>84,433</b>	<b>57,985</b>
EBITDA	8,391	0,167
<b>EBITDA Adjusted</b>	<b>8,193</b>	<b>0,643</b>
EBIT	(1,376)	(5,856)
<b>EBIT adjusted</b>	<b>(0,885)</b>	<b>(4,509)</b>
Net consolidated income (loss)	(4,136)	(7,648)
Net consolidated income (loss) adjusted	<b>(3,609)</b>	<b>(5,895)</b>
Operating cash flow	7,947	12,373

Key indicators	30/06/2021	31/12/2020
Investment activities	14,927	9,506
Total Assets	312,433	311,316
Net Consolidated Equity	109,989	113,962
Net Debt	104,205	95,967
<b>Net Debt adjusted</b>	<b>80,408</b>	<b>76,963</b>

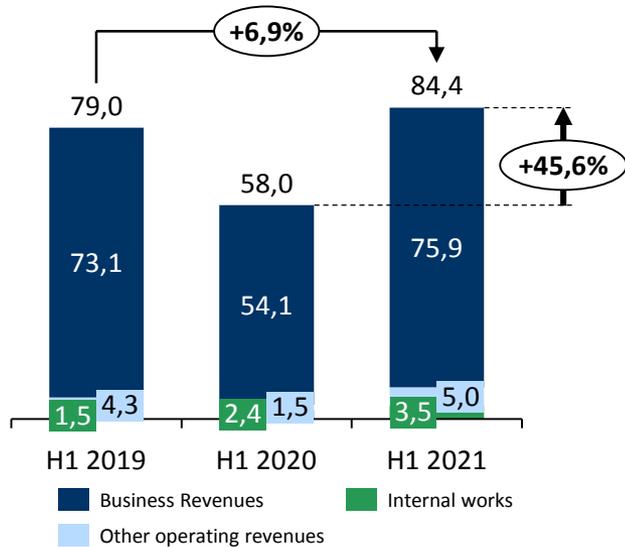


Consolidated revenues equal to Euro **84,433 thousand**, with an increase of **+45,6%** compared to the same period in 2020 (Euro **57,985 thousand**) and of **+6,9%** compared to H1 2019 before the Covid-19 emergency

**Ebitda** equal to 8,391 thousand, with a strong increase compared to **2020** and **+6,6%** compared to **2019**

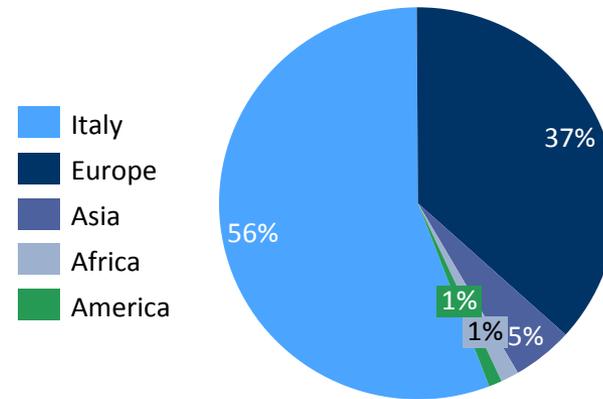
# Growth of Revenues - H1 2019/2020 compared to H1 2021

## Reported Consolidated Revenues

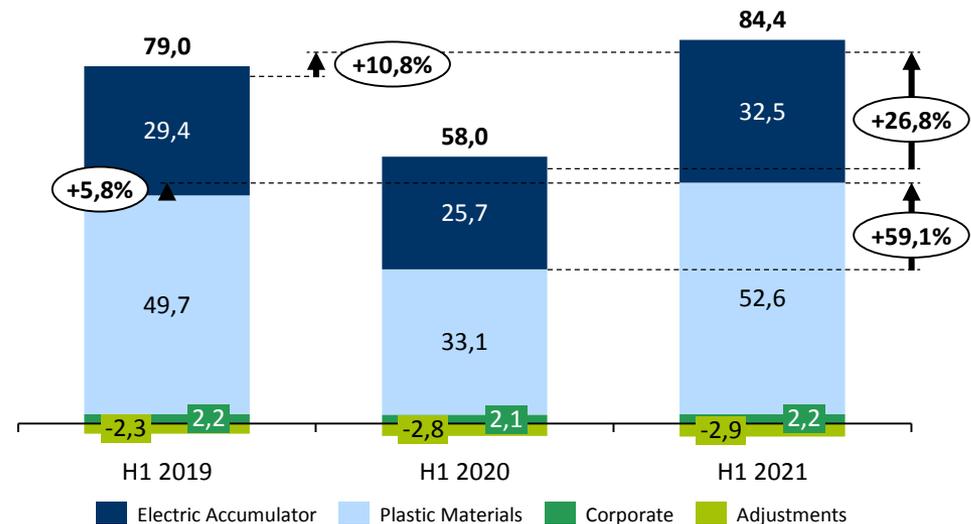


- The Group has registered **Revenues** for Euro **84,4 Mln** , with a **+45,6%** growth compared to the same period in 2020 (**Euro 58,0 Mln**). The growth is equal to **+6,9%**, comparing to the same period of 2019, prior to the emergency from Covid-19 (**Euro 79,0 Mln** ).
- **Plastic Material Business Unit** has registered **+59,1%** compared to the same period in 2020 (+ Euro 19,542 Mln) and **+5,8%** compared to 2019
- **Electric Accumulator** has registered **+26,8%** Growth compared to the same period in 2020 (+ Euro 6,884 Mln) and **+10,5%** compared to 2019

## Consolidated revenues by geography



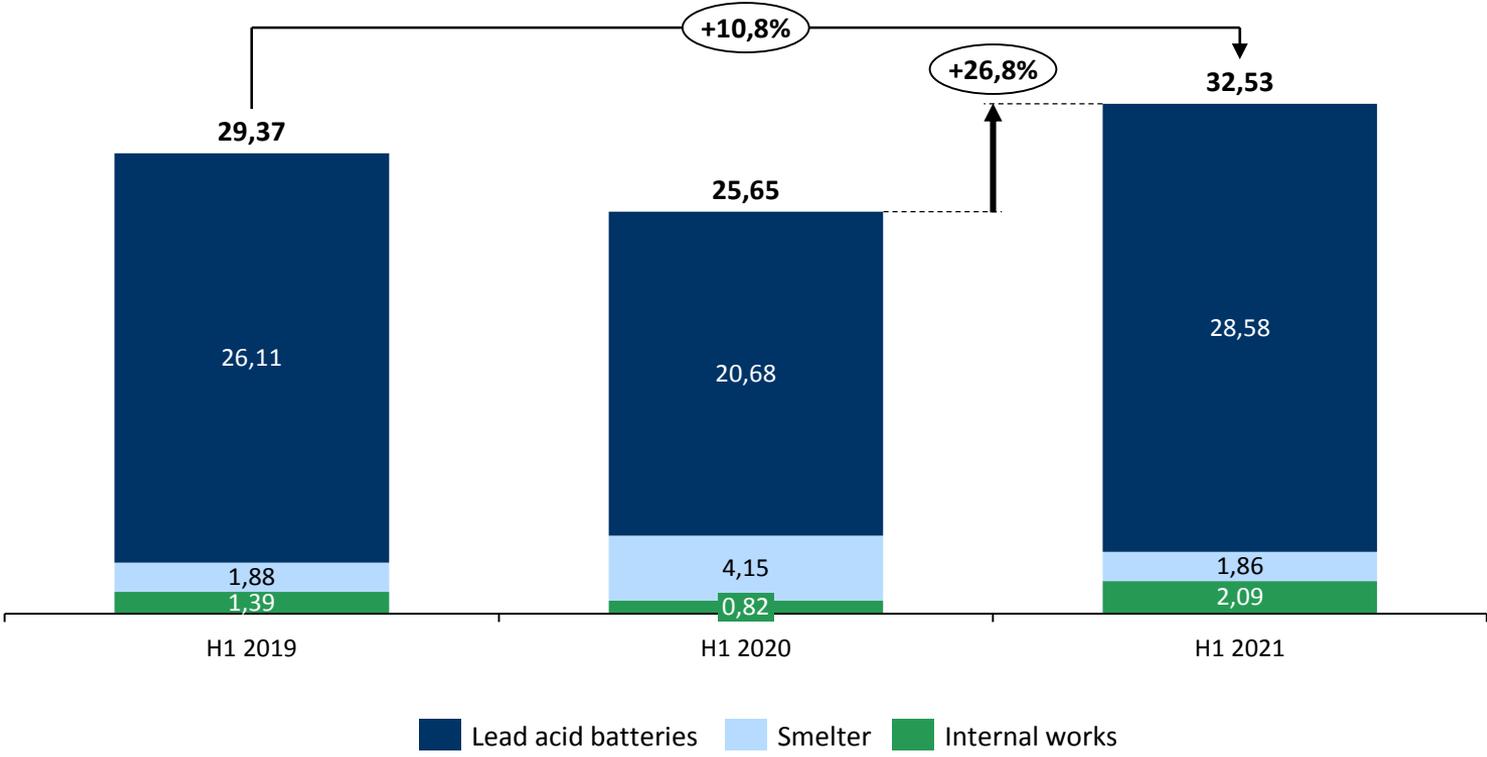
## Revenues breakdown H1 2019 – H1 2020 – H1 2021



# Electric Accumulators – Revenues comparison

## Electric Accumulator

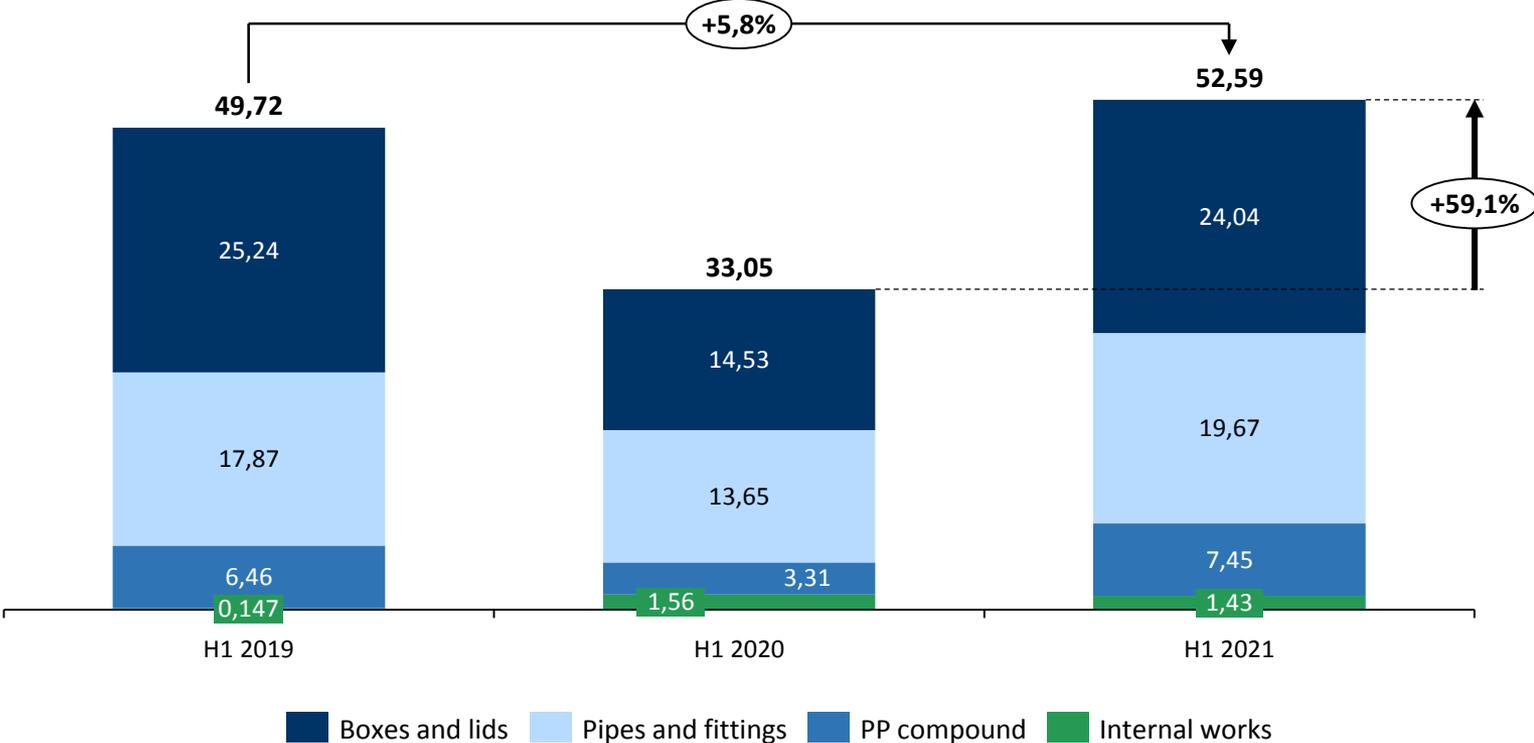
(€ mln)



# Plastic Material – Revenues comparison

## Plastic Materials

(€ mln)

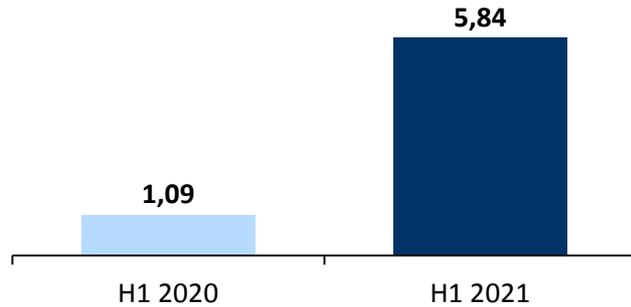


# EBITDA – Business Units

## EBITDA – Plastic Material

(€ mln)

SERI PLAST

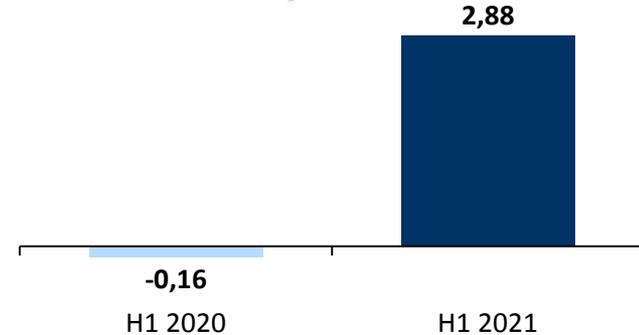


Increase in **Ebitda** of Euro 4,75 thousand (equal to **5,84 M €**)  
 A significant **increase in percentage margin\***, **11,1%**  
 compared to 3.3% in the previous year.

## EBITDA – Electric Accumulator

(€ mln)

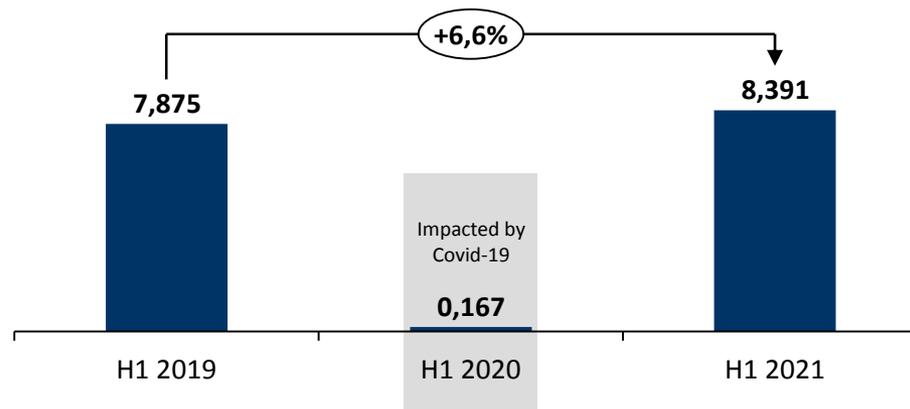
FAAM



Increase in **Ebitda equal to Euro 2,88 thousand**  
 A significant **increase in margin percentage\***, equal to **8,8%**  
 compared to the previous year, related to Covid-19  
 Emergency.

## EBITDA – Consolidated business

(€ mln)

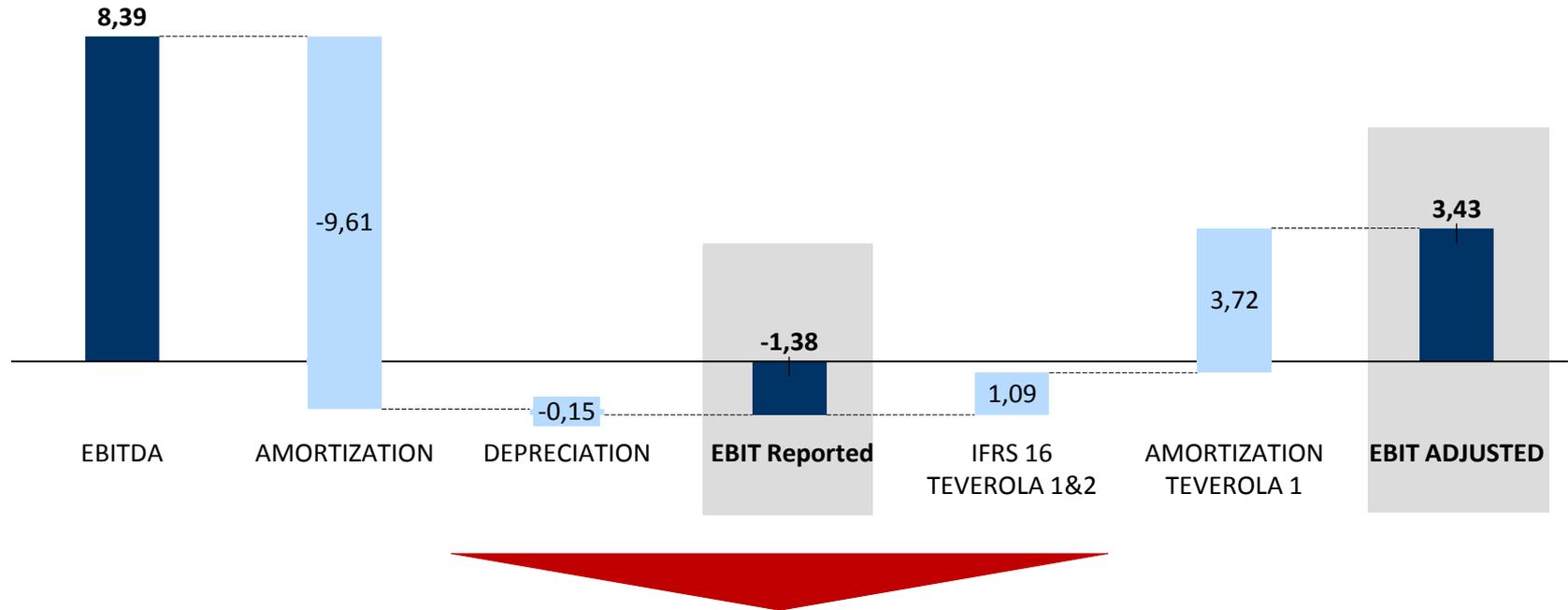


\*(Ebitda/total revenues)

# Ebit for the as is business

## Ebit trend in the As is (lead acid batteries and plastic material)

(€ mln)

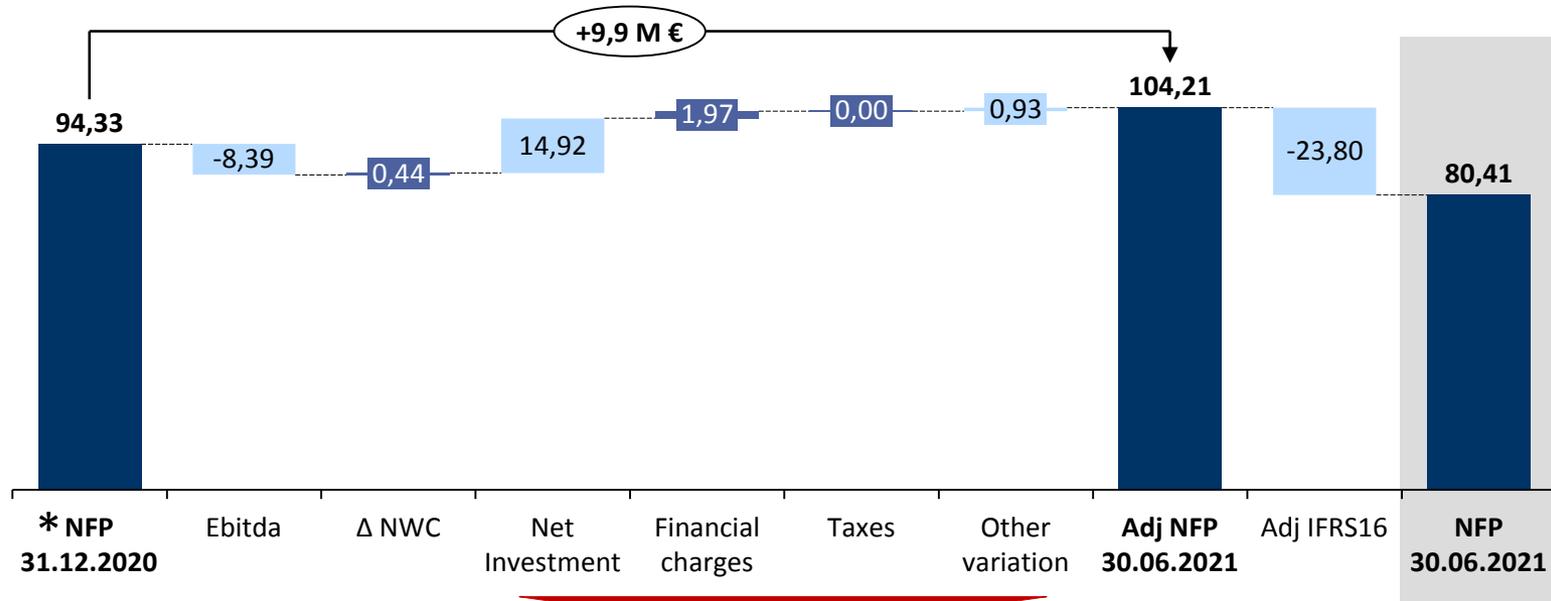


The overall amortization costs for Euro 9,61 Mln are including the amortization of Teverola 1 plant (in the H1 2021 still not registering revenues) and the IFRS 16 application for Teverola 1 and Teverola 2 plants

The Ebit adjusted for the AS IS business is positive for Euro 3,43 Mln

# Bridge Net financial position

(€ mln)



(-) means cash in

The **Net Financial Position** at the end of the period is equal to Euro **104,21 M €** and includes leases arising from the application of IFRS 16, for a total amount of Euro 23,80 thousand.

IFRS 16 equal to Euro 23,8 Mln. During H1 2021 there is an Increase of €7,462 thousand, of which €7,288 Mln related to the lease of the Teverola 2 production site.

Cash in from warrant exercise (**3,851,944 euros**) **not included in the net financial position as of June 30, 2021**

\* Excluded IAS 20 adj equal to Euro 1,636 thousand

# Consolidated P&L

€ / mln	H1 2021	2020
Revenues from customers (Turnover)	75.876	54.108
Other Operating Revenues	5.039	1.497
Internal works	3.518	2.380
<b>Total revenues, other operating income and internal works</b>	<b>84.433</b>	<b>57.985</b>
<b>Operating Costs</b>	<b>76.042</b>	<b>57.817</b>
<b>EBITDA</b>	<b>8.391</b>	<b>168</b>
Amortization	9.614	5.668
Depreciation	153	356
<b>EBIT</b>	<b>(1.376)</b>	<b>(5.856)</b>
Financial Income	305	314
Financial Charges	2.069	1.818
Income (charges) from equity investments	4	0
<b>EBT</b>	<b>(3.136)</b>	<b>(7.360)</b>
Taxes	1.000	288
<b>Net Consolidated Results</b>	<b>(4.136)</b>	<b>(7.648)</b>
<b>Third parties Results</b>	<b>245</b>	<b>(237)</b>
<b>Group Net Result</b>	<b>(4.381)</b>	<b>(7.411)</b>

# Consolidated BS

	€ / mln	H1 2021	2020
Current Assets		124.055	127.540
Fixed assets		188.378	183.776
Assets at disposal		-	-
<b>ASSET</b>		<b>312.433</b>	<b>311.316</b>
Current Liabilities		109.854	107.107
Fixed liabilities		92.590	90.247
Liabilities at disposal		-	-
<b>Group Net Equity</b>		<b>109.372</b>	<b>113.595</b>
Third parties Net Equity		617	367
Consolidated Net Equity		109.989	113.962
<b>LIABILITIES + NET EQUITY</b>		<b>312.433</b>	<b>311.316</b>

# Plastic material – P&L

Euro / 000	Plastics materials	Plastics materials	Variation
	30.06.2021	30.06.2020	
Business revenues	49.769	30.787	18.982
Other operating revenues	1.392	704	688
Internal works	1.430	1.559	-128
<b>Total revenues, other operating income and internal works</b>	<b>52.591</b>	<b>33.049</b>	<b>19.542</b>
<b>Operating costs</b>	<b>46.751</b>	<b>31.964</b>	<b>14.787</b>
<b>EBITDA</b>	<b>5.840</b>	<b>1.086</b>	<b>4.754</b>
Amortization	3.285	3.013	272
Depreciation	14	152	-138
<b>EBIT</b>	<b>2.541</b>	<b>-2.079</b>	<b>4.620</b>
Financial income	15	4	11
Financial charges	953	606	347
<b>Income (Loss) before taxes</b>	<b>1.603</b>	<b>-2.681</b>	<b>4.284</b>
Taxes	545	37	508
<b>Net Income (Loss)</b>	<b>1.058</b>	<b>-2.718</b>	<b>3.776</b>

# Electric accumulators – P&L

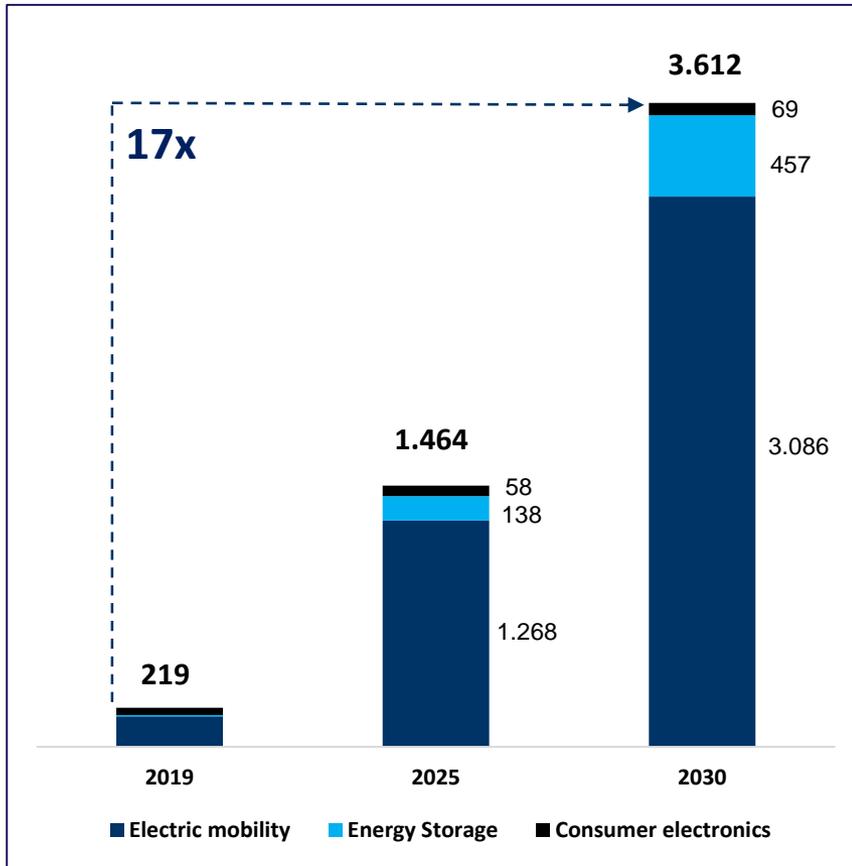
Euro / 000	Electric accumulators	Electric accumulators	Variation
	30.06.2021	30.06.2020	
Business revenues	26.729	23.966	2.763
Other operating revenues	3.715	863	2.852
Internal works	2.088	821	1.267
<b>Total revenues, other operating income and internal works</b>	<b>32.532</b>	<b>25.649</b>	<b>6.883</b>
<b>Operating costs</b>	<b>29.655</b>	<b>25.808</b>	<b>3.847</b>
<b>EBITDA</b>	<b>2.877</b>	<b>-158</b>	<b>3.035</b>
Amortization	6.240	2.569	3.671
Depreciation	139	103	36
<b>EBIT</b>	<b>-3.502</b>	<b>-2.830</b>	<b>-672</b>
Financial income	278	251	27
Financial charges	1.149	1.286	-137
<b>Income (Loss) before taxes</b>	<b>-4.373</b>	<b>-3.865</b>	<b>-508</b>
Taxes	452	270	182
<b>Net Income (Loss)</b>	<b>-4.825</b>	<b>-4.135</b>	<b>-690</b>

# Consolidated NFP

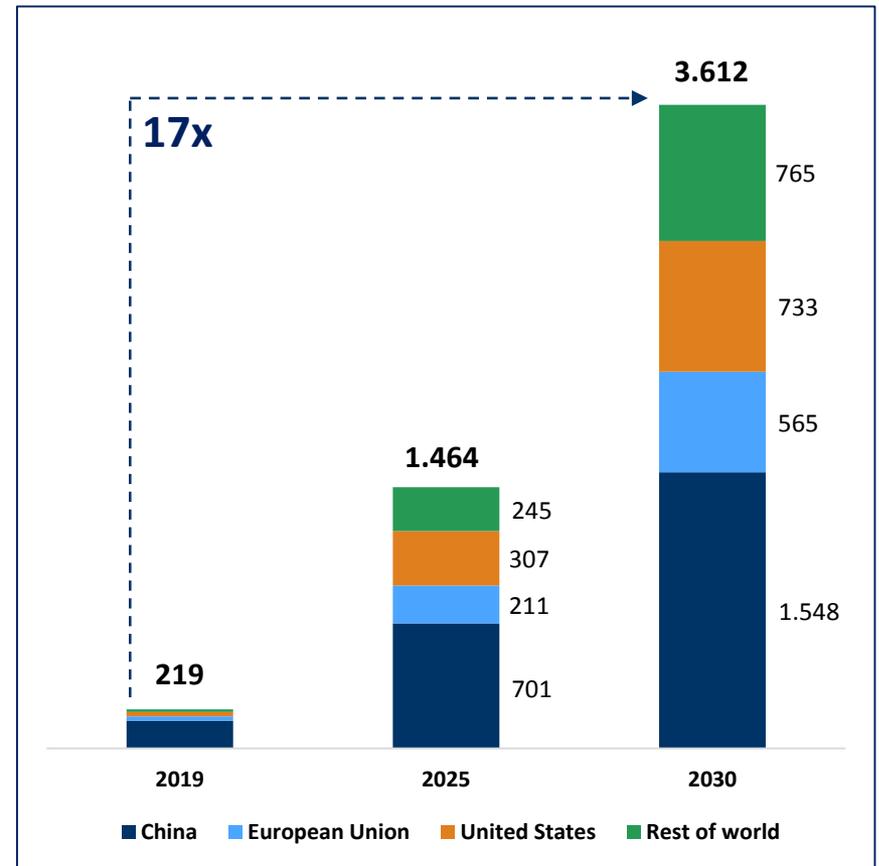
	NFP - NET FINANCIAL POSITION		30-jun-21	31-dec-20	Variation	Variation %
A) Cash			2.547	7.830	-5.283	-67%
B) Cash and cash equivalents			2.342	2.289	53	2%
C) Other short-term financial assets			512	500	12	2%
<b>D) Total Liquidity C = (A + B + C)</b>			<b>5.401</b>	<b>10.619</b>	<b>-5.218</b>	<b>-49%</b>
E) Short-term financial debt (including debt instruments, but excluding the short-term portion of long-term financial debt)			38.126	35.503	2.623	7%
F) Current portion of long-term financial debt			8.369	10.301	-1.932	-19%
<b>G) Short-term financial Debt G = (E + F)</b>			<b>46.495</b>	<b>45.804</b>	<b>691</b>	<b>2%</b>
<b>H) Short-term Net Debt H = (G - D)</b>			<b>41.094</b>	<b>35.185</b>	<b>5.909</b>	<b>17%</b>
I) Long-term financial debt (excluding short-term part and debt instruments)			32.100	32.400	-300	-1%
K) Account and other long-term debts			31.011	28.382	2.629	9%
<b>L) Long-term financial position L = (I + K)</b>			<b>63.111</b>	<b>60.782</b>	<b>2.329</b>	<b>4%</b>
<b>M) Total Net Financial Position (H+L)</b>			<b>104.205</b>	<b>95.967</b>	<b>8.238</b>	<b>9%</b>
N) IFRS 16 Adjustment			23.797	19.004	4.793	25%
<b>O) Net Adjusted Financial Position O = (M - N)</b>			<b>80.408</b>	<b>76.963</b>	<b>3.445</b>	<b>4%</b>

# Global battery for lithium-ion – Forecast

Global battery (Li-ion) by application, 2019-2030 (GWh)



Global battery (Li-ion) by region, 2019-2030 (GWh)

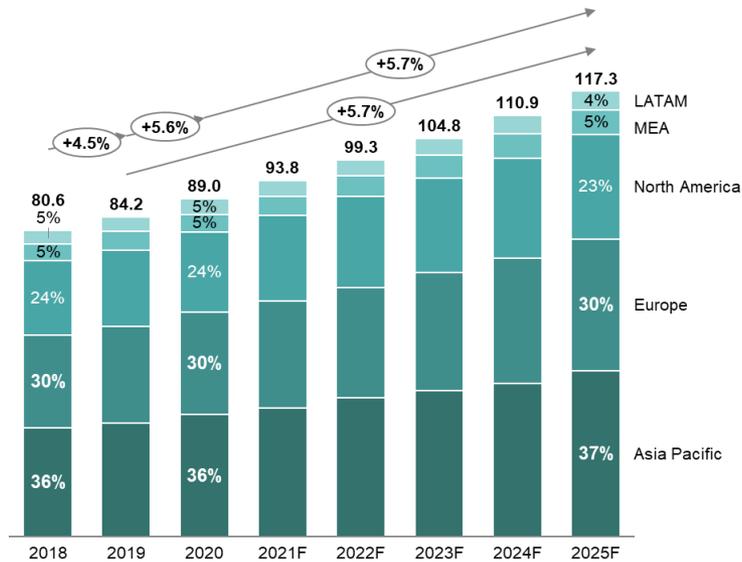


II Market shows a forecast with a positive outlook in **the li-ion technology**

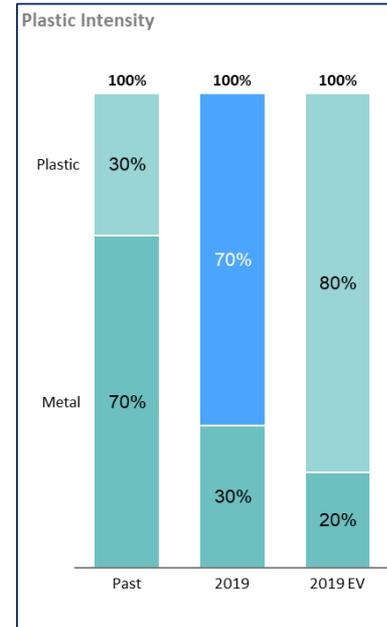
**The lithium-ion batteries** will grow to more than **3,500 gigawatt hours (GWh)** by 2030, from about 220 GWh in 2019.

# Global recycled plastic market forecast

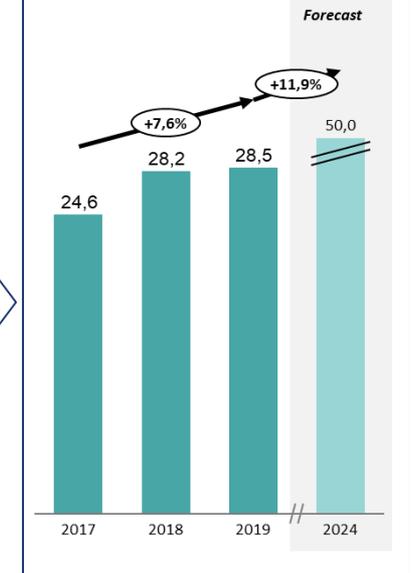
Sustainable Plastic Packaging Market by Region 2018-2025 (b USD)



Source: Euromonitor



Plastics for Automotive<sup>1</sup> market, 2017-24 (\$b)



Source: Global market insights

The sustainable plastic packaging market will grow with a +5,7% 20-24 CAGR

Main multinational corporation are increasing their commitments to new sustainable packaging solutions (also for the impact of the plastic tax in Europe)

Plastics for Automotive is expected to grow at a +11,9% CAGR 2019-2024

It is expected an increasing demand for lightweight materials linked to EVs

# Appendix – Business units



**SERI PLAST**  
POLYPROPYLENE COMPOUNDS

**PLAST RESEARCH**  
& DEVELOPMENT S.R.L.



# SERI PLAST

# Recovery of plastic scrap and production of compounds

## Footprint & Operations



Alife, Caserta, Italy



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



**Employees:** 16 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). Compounds are mainly produced for battery manufacturers (Serilene product) and for Automotive (Serifill)

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 – for the molding of automotive plastic components

## Main drivers

- Use of new plastic scraps from post consumer packaging applications
- Development Agreement with Invitalia
- 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 :** 60 FTE

 **Avellino:** 4.000 sm (indoor), 23.000 sm (outdoor) **Employees :** 16 FTE

 **Peronne:** 9.000 sm (indoor), 60.000 sm (outdoor) **Employees:** 42 FTE

 **Arras:** 15.000 sm (indoor), 60.000 sm (outdoor) **Employees :** 15 FTE

 **Pruszkow :** 6.000 sm; **Employees:** 21 FTE

 **Pioltello:** 22.000 sm (indoor), 60.000 sm (outdoor) **Employees:** 91 FTE

 **Gubbio:** 19.000 sm (indoor), 50.000 sm (outdoor) **Employees:** 45 FTE

## Background

Through **ICS and COES/GDS brands** the company is a leader in the **moulding 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 iC
- **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
- Increase of recycled plastics applications in both business units
- Ecobonus in Italy as new opportunity for Pipes and Fittings



**FAAM**

  
PLANT  
DIVISION

  
repiombo

**FAAM**  
SERVICE

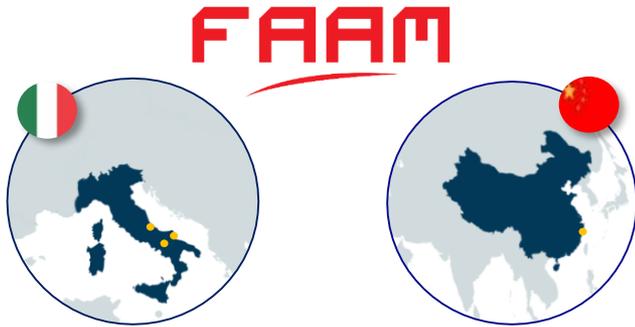
**FAAM**  
RESEARCH CENTER

  
Car  
Bat

**FAAM**

# Electric Accumulators (1/2)

## Footprint & Operations



**Monterubbiano:** 7.500 sm (indoor), 7.000 sm (outdoor); **Employees:** 81 FTE

**Monte Sant'Angelo:** 8.000 sm (indoor), 6.000 sm (outdoor); **Employees :** 67 FTE

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

**Teverola:** 38.000 sm (indoor), 112.000 sm (outdoor); **Employees:** 91 FTE

## Background

FAAM is specialized in the design, production and sale of **highly efficient lead acid** and **Li-ion batteries** 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, camion, motorcycles and specialties) for the Aftermarket; (iv) li-ion batteries

**Market:** Global

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

The Group is **fully integrated along the supply chain** and the only one able to offer the entire range of products: **lead acid and li-ion accumulators** (in-house production of cells)



## Main drivers

- Ramp up of Teverola 1 and first sales during the 2021
- Circular economy replication in the lithium (active material production and recycling)
- Increase of operations in the Chinese subsidiary
- Teverola 2 design – Gigafactory scale
- Increase OEM customers for the lead-acid battery business as a cross selling opportunity with the lithium

# Electric Accumulators (2/2)

## Subsidiaries

### FAAM Service



**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.

**Employees:** 43 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:** manages the FAAM’s R&D activities 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

# Plants and Smelter

## Footprint & Operations



Alife, Caserta, Italy  
Calitri, Avellino, Italy

**Alife:** 3.000 mq (indoor), 10.000 mq (outdoor);  
**Employees:** 13 FTE.

**Calitri:** 8.000 mq (indoor), 20.000 mq (outdoor);  
**Employees :** 8 FTE.

## Future projects

- Cross Selling of innovative plants based on the experience of Calitri plant (hydrometallurgical technology)
- 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 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)