

Initiation of Coverage

BUY

18 May 2020 – 5:30 PM

MARKET PRICE: **EUR2.98**

TARGET PRICE: **EUR6.0**

Industrials

Data

Shares Outstanding (m):	47.3
Market Cap. (EURm):	140.9
Enterprise Value (EURm):	223.4
Free Float (%):	14.98%
Av. Daily Trad. Vol. ('000):	281.7
Main Shareholder:	Civitillo V. 65.56%
Reuters/Bloomberg:	KAIT.MI SERI IM
52-Week Range (EUR)	1.35 3.89

Source: FactSet, UBI Banca estimates

Performance

	1m	3m	12m
Absolute	+13.3%	+13.5%	+75.5%
Rel. to FTSE IT	+17.0%	+45.1%	+94.6%

Source: FactSet



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A champion of the circular economy

We initiate coverage on SERI Industrial with a Buy and a TP, after a 30% discount, of EUR6.0 (100% upside). The company is a leading supplier of Lead-Acid and Li-ion batteries for a wide range of industrial applications. SERI Industrial is a perfect example of circular economy collecting and recycling exhausted batteries while re-using both lead and plastic (also sold in forms of granules or plastic components). The current business is promising but the game changer is the “Lithium project”: thanks to the re-industrialization of the former Whirlpool plant (mostly funded by public grants), SERI would be the only battery cell producer in Italy focusing on profitable and growing niches like storage, motive power and Naval/Military. This should allow the company to grow revenues at a 2019-22 CAGR of 25.7% while tripling its EBITDA. The equity story is relatively undiscovered and as the company progressively delivers on its financials, multiples should re-rate accordingly.

- > **A well-known player in the battery market.** SERI Industrial is the typical Italian entrepreneurial company playing in the international arena. It leverages on a solid reputation in the storage, stationary and industrial traction battery markets among large OEMs, public entities, government owned companies, telecom operators and electricity distributors like Enel, Fincantieri, Exide, Trenitalia, Toyota Handling Material Jungheinrich, Magneti Marelli, OM STILL.
- > **Focusing on profitable niches, in growing markets.** The company is exposed to a wide variety of markets both on the OE and the AM channel, thus showing a good level of revenues diversification. Specifically, the value of the Li-ion batteries segment should grow at a 2015-30 CAGR of 18% driven by EVs, Energy storage and motive power. The Lead-acid segment instead is seen growing at a 5% CAGR. SERI Industrial strategy is to focus on profitable niches that require tailored and high performing products. The company will differentiate by a) continue investing in R&D to develop proprietary technologies; b) showing particular attention to ESG factors; c) having a high level of vertical integration (including lithium supply thanks to a JV in Argentina).
- > **The “Lithium project” and the EBA.** SERI Industrial built the only plant in Italy able to produce battery cells, with a 300MWh capacity that could be saturated with projects in hand. 67% of the EUR55 million investment was funded with government grants and, with the EUR505 million awarded in the context of the European Battery Alliance (thanks to its recognized expertise), management is stepping up Teverola in recycling and cell/module production.
- > **Breakneck growth with sound long-term returns.** While 2019-20 was a period of heavy investments (and impacted by COVID-19 too) the 41.7% Adj. EBITDA 2019-22 CAGR (with a 77% average cash conversion) and the 15.6% ROACE (2022) don't seem reflected in the share price. Buy, TP EUR6.0.
- > **Risks:** execution risk, automotive exposure, short financial market track record.

Financials

	2019A	2020E	2021E	2022E
Total Revenues (EURm)	156.5	156.5	238.3	303.7
EBITDA Adj (EURm)	22.1	26.7	42.2	62.7
EBITDA Adj margin (%)	14.1%	17.1%	17.7%	20.6%
EBIT Adj (EURm)	10.4	1.9	27.3	47.9
EPS (EUR)	0.03	-0.04	0.31	0.64
CFPS (EUR)	0.29	0.12	0.44	0.77
DPS (EUR)	0.00	0.00	0.00	0.00

Source: Company Data, UBI Banca Estimates

Ratios (priced on 15 May 2020)

	2019A*	2020E	2021E	2022E
P/E (x)	54.1	nm	9.7	4.7
P/CF (x)	6.0	24.7	6.7	3.8
P/BV (x)	0.7	1.2	1.1	0.9
Dividend Yield (%)	0.0%	0.0%	0.0%	0.0%
EV/EBITDA Adj (x)	6.9	8.4	5.1	3.1
Debt/Equity (x)	0.6	0.7	0.6	0.3
Debt/EBITDA Adj (x)	3.1	3.1	1.8	0.9

Source: Company data, UBI Banca Estimates

*Based on 2019 avg. price

Key Financials

(EURm)	2019A	2020E	2021E	2022E
Total Revenues	156.5	156.5	238.3	303.7
EBITDA Adj	22.1	26.7	42.2	62.7
EBIT Adj	10.4	1.9	27.3	47.9
NOPAT	5.6	2.0	20.4	35.1
Free Cash Flow	2.6	-5.0	8.1	18.9
Net Capital Employed	189.2	200.8	207.2	218.5
Shareholders' Equity	120.1	118.3	132.8	163.0
Net Financial Position	69.0	82.5	74.4	55.4

Source: Company data, UBI Banca estimates

Key Profitability Drivers

	2019A	2020E	2021E	2022E
Net Debt/EBITDA Adj (x)	3.1	3.1	1.8	0.9
Net Debt/Equity (x)	0.6	0.7	0.6	0.3
Interest Coverage (x)	5.6	5.9	9.1	16.4
Free Cash Flow Yield (%)	3.1%	-3.5%	5.8%	13.4%
ROE (%)	1.5%	-1.5%	10.9%	18.5%
ROI pre-tax (%)	3.5%	0.9%	13.2%	21.9%
ROCE post-tax (%)	2.8%	1.3%	9.2%	15.6%

Source: Company data, UBI Banca estimates, 2019 Debt includes IFRS 16 impact

Key Valuation Ratios

	2019A *	2020E	2021E	2022E
P/E (x)	54.1	NM	9.7	4.7
P/BV (x)	0.7	1.2	1.1	0.9
P/CF (x)	6.0	24.7	6.7	3.8
Dividend Yield (%)	0.0%	0.0%	0.0%	0.0%
EV/Sales (x)	1.0	1.4	0.9	0.6
EV/EBITDA Adj (x)	6.9	8.4	5.1	3.1
EV/EBIT Adj (x)	14.6	119.5	7.9	4.1
EV/CE (x)	0.8	1.1	1.0	0.9

Source: Company data, UBI Banca estimates

* Based on 2019 average price

Key Value Drivers

(%)	2019A	2020E	2021E	2022E
Payout	0.0%	0.0%	0.0%	0.0%
NWC/Sales	25.8%	37.2%	30.7%	29.7%
Capex/Sales	38.7%	8.8%	2.0%	3.0%

Source: Company data, UBI Banca estimates

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EXECUTIVE SUMMARY

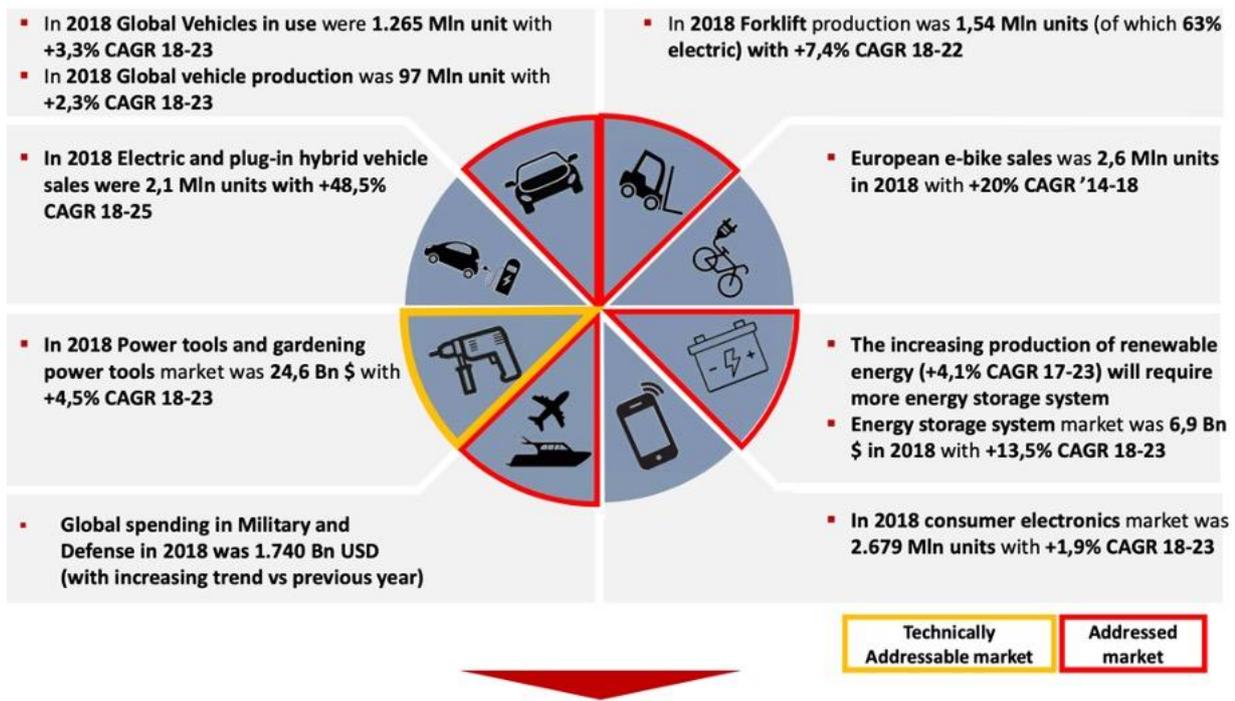
The typical Italian entrepreneurial small company...

SERI Industrial is an Italian entrepreneurial company founded and managed by the Civitillo family and based in Caserta (Italy). The company is active in (1) the manufacturing and recycling of lead-acid and li-ion electric batteries (2) the production of plastic granules (regenerated from scraps) and plastic components for various markets (batteries, automotive, building, infrastructure and naval).

Since its foundation in 1999, the company has grown thanks to a mix of new initiatives and M&A (where it has an excellent track record with over 7 deals carried out).

Seri revenues are well diversified both by channel (AM should represent around 65/70% of total) and by end markets:

Figure 1 – Trends for batteries main end-markets



All markets underlying demand for batteries have experienced a positive trend in the past five years and show a positive outlook

Source: Euromonitor, EV-volumes.com, Globaldata, World Industrial Truck Statistics, Market Watch, Confindustria, ANCEMA

Top ten customers represent around 34% of FY2019 revenues.

...Which plays in the worldwide arena

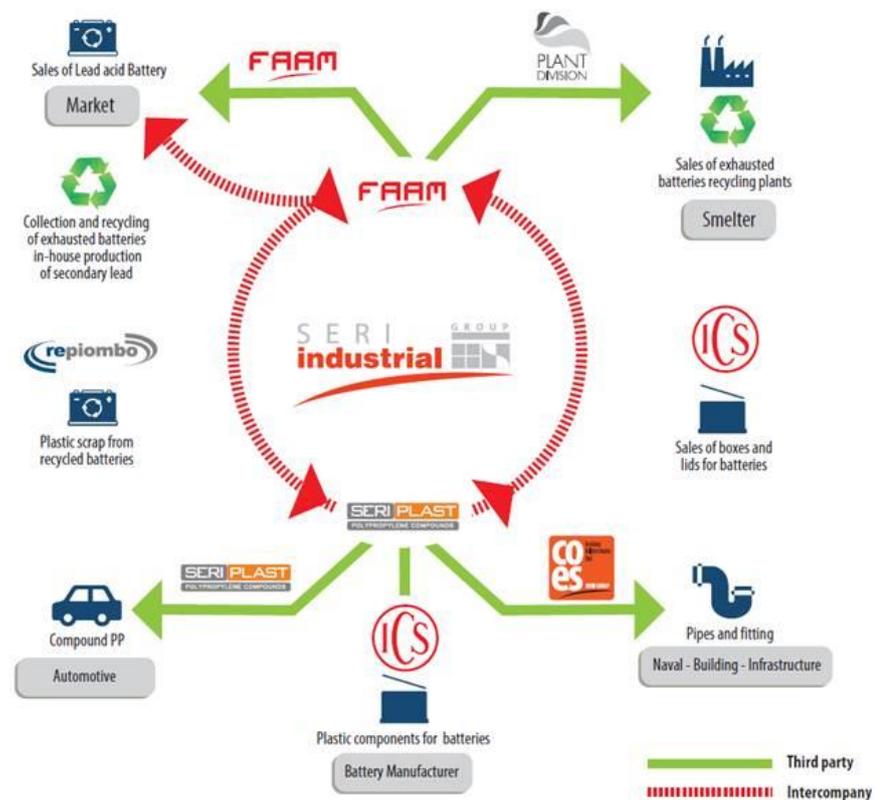
With an industrial footprint that ranges from France to Poland to China and customers of the caliber of Exide, CNH, FCA (indirectly), Magneti Marelli AM, Fincantieri, OM STILL, Merlo, Toyota Handling Material and Jungheinrich we can define SERI Industrial an international company.

A further recognition of its technical expertise in the field, came when SERI Industrial was awarded EUR505 million (basically the entire amount awarded to Italy) in the context of the European Battery Alliance (an EU commission project to support the creation of a strategic supply chain to produce li-ion cells, currently sourced from Asian players). As far as we understand, the funds are non-repayable and will be provided upon the invoice.

A perfect example of circular economy...

The company has gradually turned into a fully integrated producer: beginning from the realization of plants for the recycling of exhausted batteries, the activities first extended to the production of semi-finished products (using plastic regenerated from old accumulators) and then to the realization of the finished product with the acquisition of FAAM in 2013, to finally reach the lead recovery, the raw material from which everything starts.

Figure 2 – Seri Industrial - Circular economy business



Source: Company data

...Now at a turning point

Management, through its **“Lithium project”** plans to replicate the circular economy business developed for the lead-acid batteries to the li-ion accumulators. The project, made possible by funding (EUR37.7 million) provided by the Italian Government’s Ministry of Economic Development and the European Commission, revolves around the requalification of the ex-Whirlpool site (located in Teverola – Italy) into the first Italian giga factory (3 GWh capacity).

In the first phase, close to completion (now in the commissioning phase) and involving EUR55.4 million investments, SERI plans to produce soft pouch batteries (generation 1 and, eventually, 2) targeting “niche” applications like motive power (i.e. forklifts, ground movement machines, light traction, telehandlers, etc.), ESS, Public transport, Naval and Defence.

In the second phase (to be completed by 2026 and involving EUR505 million of investment from public grants) SERI plans to produce generation 3 and 4 batteries applicable mostly to electric vehicles (where, with Teverola 1, Seri has no presence) and to a lesser extent storage (where, instead, Teverola 1 is focused). Phase 2 includes also developments on the recycling side with a capacity of 50 tons per day of exhausted batteries (in the pilot test).

Those funds are non-repayable and will be provided upon the invoice (i.e. companies will have to fund the initial investment with purposed credit lines self-repaid once public grants will flow-in).

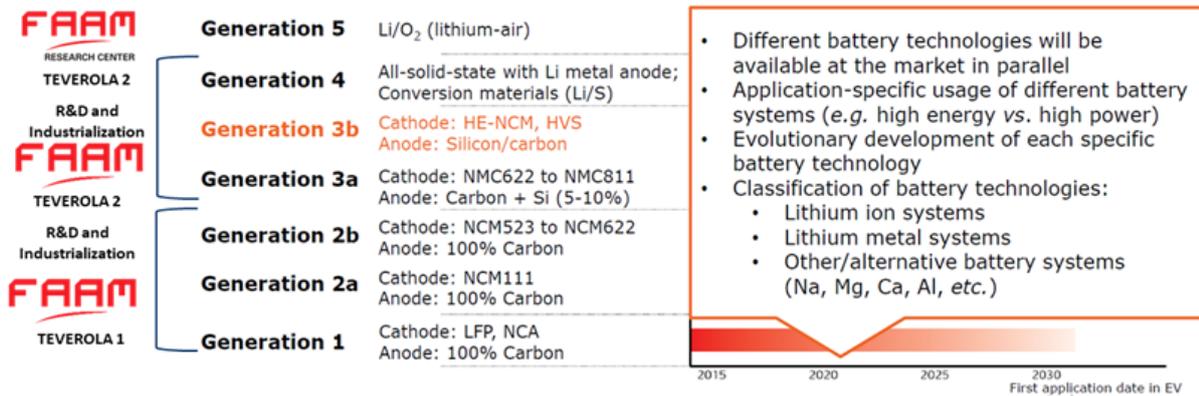
Technology: the main Italian Lithium-ion and post-Lithium developer

SERI was able to develop (also thanks to the acquisition of Lithops from a spinoff originally part of the Turin Polytechnic) a cost-competitive process to synthesize Lithium Iron Phosphate (LFP) which has several advantages:

- No heavy metals involved (thus reducing the environmental impact);
- A high thermal stability (one of the biggest issues on batteries);
- The most promising material for high power applications;
- Low production costs (30% lower for raw materials alone).

Furthermore, the company, also thanks to its involvement in the European Battery Alliance, is studying Li-ion cells beyond the current state of the art and the industrialization of technologies for batteries re-cycling and batteries second-life:

Figure 3 – SERI Industrial – Technology roadmap



Source: Company data

Strategy: focus on niches where tailored product, technology-rich are required

The battery market has been dominated by Asian players with scale difficult to match on mass-market applications. SERI will focus instead on niches that require tailored, high performing batteries and to customers/markets where the ESG is a factor in purchasing decisions (i.e. re-cycling and second life). The fact that 80% of a cell cost is represented by raw materials leaves us with two main strategic implications:

- Low-cost countries don't have a sustainable competitive advantage which, instead, is represented by investing in R&D;
- Securing key raw materials supply is imperative, and SERI did exactly that when it entered a JV with an Argentinian lithium mine.

In its first stage (i.e. "Teverola 1") the company would focus on energy storage and niches of the motive power market:

Figure 4 – Targeted applications



Source: Company data

Specific projects for submarines, military vehicles and buses are already under analysis.

At a further stage (i.e. “Teverola 2”, in the context of the EBA and thanks to the EUR505 million non-refundable funding received) the company, on top of developing a system for re-cycle and second life could also enter the automotive mass market for batteries.

As far as the plastic components business is concerned, the strategy is predicated on the idea that a) lightweights’ materials should grow significantly in the automotive space; b) regenerated plastic components should grow significantly due to ESG and cost savings themes. On top of that, the recent acquisition of COES should allow SERI to grow in the promising market of plastic components for infrastructure/building/industrial. SERI has a very high level of spare capacity and aims to increase its weight in OE also thanks to its AM presence, historically a more resilient and profitable channel.

Financials: a breakneck growth expected

Due to the launch of a transformational activity like the “Lithium project/Teverola 1”, our forecasts (which do not include the EBA/IPCEI program) may be deconstructed in the following way:

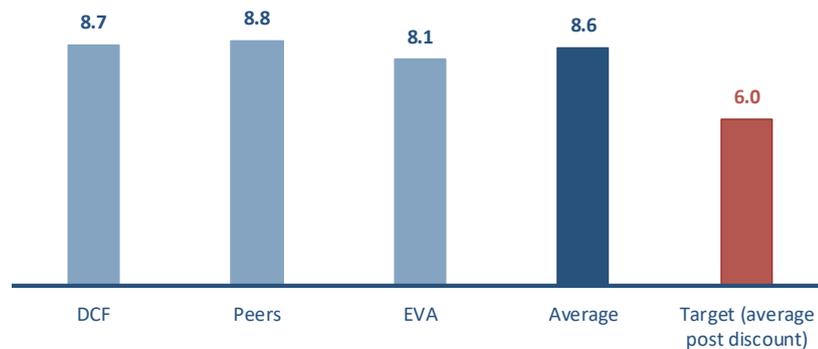
- The current business (i.e. the 2019 perimeter) should grow at a 2019-22 CAGR of 1.9%, after a tough 2020 due to the COVID-19 impact (which however, being mostly an AM business selling to “essential activities”, may be not as bad as feared);
- The new activity at Teverola 1, totally additional, should push group 2019-22 revenues CAGR to 25.7%;

The operating leverage and the high profitability of the Li-ion batteries should allow 2022 EBITDA to triple vs. 2019. EBIT will be impacted by the D&A growth and operating cash flow should break-even in 2020 and should turn positive from 2021.

Valuation and Investment case

SERI’s equity story should produce its full effects in the long run given that for some of the investments executed revenues should be at full speed in 2022, 2023 and 2027. So, we used two absolute valuation methods like a DCF and an EVA, that better suited to capture long-term growth opportunities, and double checked the result with a peer’s comparison. To the fair value thus obtained, we applied a 30% discount to reflect the low stock liquidity, the limited financial track record and the execution risk (namely Teverola). Once those risks will be absorbed we would reduce or eliminate this discount.

Figure 5 – Summary Valuation (EUR)



Source: UBI Banca estimates

We believe we used conservative assumptions both in the estimates and in the valuation exercise. Nonetheless, we arrived at a significant upside of 100% and a TP of EUR6.0.

SERI Industrial is:

- A relatively undiscovered equity story of a company venturing a fast-growing market (electric batteries);
- With a new approach (mastering the circular economy side);
- De-risking its development by leveraging on what it already knows (circular economy in the lead-acid batteries space).

Solid technological competences and fast-growing financials complete this appealing equity story.

Risks

The major risks that we envisage are:

- **Execution risk:** while we consider the strength of SERI’s reference markets extremely visible, the company has several projects on-going (Teverola I, IPCEI, talks of a new JV in Argentina, etc.). Delays on some of those projects (also due to factors out of management controls, COVID-19 a good example) may impact significantly our estimates. The begin of the production at Teverola is probably the most significant driver of change in our estimates;
- **Automotive exposure:** while marginal, we believe that exposure to the automotive sector is a significant swing factor. This could be enlarged assuming that investors may see this exposure bigger than what currently is;
- **Limited financial market track record:** management has only a limited track record on the financial markets (and some delays in execution which, although driven by “external factors”, still may have remained in investor’s minds).

COMPANY DESCRIPTION

SERI Industrial boasts extensive know-how in the storage, stationary and industrial traction battery markets and can leverage on its solid reputation among large OEMs, public entities/bodies, large government owned companies, telecom operators and electricity distribution companies. This thanks also to the considerable know-how the company has in the field of Lithium-ion batteries.

In detail, SERI Industrial is active in (1) the manufacturing of lead-acid and li-ion electric batteries; (2) the recovery of exhausted batteries; (3) the design and construction of plants for the recycling of batteries; (4) the production of plastic granules (regenerated from scraps) and plastic components for various markets (batteries, automotive, building, infrastructure and naval). Since its foundation in 1999, the company has grown thanks to a mix of new initiatives and M&A (where it has an excellent track record with over 7 deals carried out).

Business Units description

The Company activities (and the related financials) can be organized into two (three until 2018) extremely correlated, strategic business units supported by two R&D centers:

- 1) FIB, under the brand FAAM;
- 2) SERI Plast.

FAAM SBU

Operating under the FAAM brand, Fib is the company specialized in the design, production and sale of highly efficient lead acid and li-ion batteries for Motive Power, Storage, Starter and specialty applications. In 2019, this division generated around EUR61.8 million revenues, thus contributing for around 39% to the Group consolidated top line.

In the years to come, FAAM is going to be the business unit that will face the most significant changes, also in terms of financials, increasingly focusing on the li-ion battery segment, in which the company has historically been a leading player:

- ✓ In 2004, FAAM won the order for the supply of automotive li-ion batteries for the 2008 Beijing Olympic Game, thus beating the competition with larger Asian operators;
- ✓ In 2013 the company developed a prototype of an electric bus with the Turin based utility GTT;
- ✓ In 2014 the company began working to a project in Sicily called “Big Energy Storage System” together with ABB and Enel Green Power;
- ✓ In 2015, FAAM acquired the firm Lithops, a spin-off of the Turin Polytechnic with specific know-how on the accumulators’ chemical field, counting a group of 13 engineers and researchers who in 2010 had established the first laboratory in Europe to produce microscale lithium-ion cells.

This path ended up with the definition of the Lithium project: a two-step comprehensive plan centered around the new Teverola plant aiming to make SERI Industrial an international player in the electric battery field as well as a reference point in the Italian landscape:

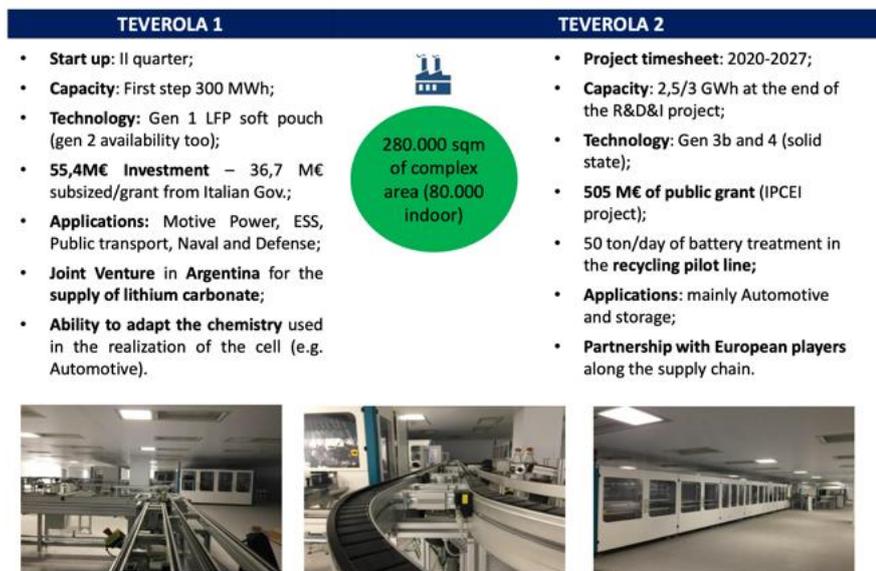
- 1) The first, short term phase of the lithium project started with the conversion of the former Whirlpool plant in Teverola (now leased to the company) into a 300 MWh facility (extendible with further capex) dedicated to the production of 40Ah soft pouch cells based on generation I technology, for industrial, storage, defence, naval and special applications (forklift). Overall, the conversion required an investment of around EUR55 million of which EUR17 million have been

provided as non-repayable loan by Invitalia, EUR20 million of subsidized financing, while the remaining EUR18 million ca. has been directly invested by SERI making use of the listing proceeds plus own resources. The production of these cells, we estimate, should start by the end of 2H20 and will be carried out by 75 employees coming from Whirlpool (15 of them hired in May-19, the remaining 60 will join once the plant becomes operational);

- 2) The second, long term phase of the project (covering the 2020 – 2026 period) has been made possible by a massive funding from the European Commission under the European Battery Alliance framework: the entire EUR505 million investment forecasted by SERI to implement the full project has been provided by the European Commission, corresponding to around 88% of the comprehensive funds granted to Italy (EUR505 million out of EUR570 million awarded to the country. The NPV of those figures is EUR427 million and EUR450 million respectively). These resources will be adopted to radically increase the capacity of the Teverola plant, inaugurating in this way the first giga factory in Italy. At full speed, this plant is expected to reach a 3GWh capacity and recycle around 50 ton (in the original pilot) of exhausted batteries per day, having the automotive and the storage as main target markets. The R&D phase of this second project is started recently and will be shortly followed by a first industrial deployment. As far as we know, those funds are non-repayable and will be provided upon the invoice (i.e. companies will have to fund the initial investment with debt).

Figure 7 – Teverola plant project summary

Teverola Plant – present and future



Source: Company data

To support the lithium project, back in 2017 SERI Industrial has signed a letter of intent with the state-owned company Jemse (Argentina) which controls the Jujuy mines, located in the “lithium triangle” between Argentina, Chile and Bolivia, where 85% of world lithium production is currently concentrated, to found a joint venture, Jujuly Lito SA.

The joint venture (40% SERI Industrial, 60% Jemse), signed in the presence of the Italian President Sergio Mattarella, establishes that SERI Industrial shares with the Argentinian company its know-how, while Jeme makes available 5% of the total annual production of

lithium carbonate (around 70,000 tons). This solution will grant SERI Industrial at least three main advantages:

- ✓ The company will no more depend on Chinese supplier for the raw material, but will make use of higher quality lithium carbonate coming from South America at a much more competitive price (extraction cost plus mark-up);
- ✓ The Group will be able to fully exploit the know-how gained in 2015 with the acquisition of Lithops, which developed a cost competitive process to synthesize lithium iron phosphate (LFP) from lithium carbonate featuring high electronic conductivity, ideal for ideal also for high power applications (heavy storage in first place);
- ✓ The project allowed SERI to establish a long-lasting relationship with the Government of Buenos Aires, fostering the development of new business opportunities in a region that has yet to experience the electric revolution (for instance, Argentina plans to make electric at least 5% of the automotive 2020 production).

In the long run an option could also be to begin a local production, through a new plant, that at first will be entirely dedicated to the production of lithium iron phosphate and will move towards cells and batteries production in the years to come.

Lastly, we stress that the FAAM division is also involved in (1) the design and construction of plants aimed at producing secondary lead and plastic material scraps from exhausted lead acid batteries and (2) the recovery and recycling of exhausted lead acid batteries; (3) After sales maintenance and support (FAAM Service) for lead and lithium batteries for both for industrial applications (traction and stationary) and automotive.

The design and construction of plants is performed by the SERI Plant division on a made-to-order basis. Such orders may involve the building of the entire plant, a specific section of the facility or the revamping of existing structures, fostered by the constant technology progress and the impelling environment requirements. Moreover, Seri Plant provides training and maintenance services (both ordinary and extraordinary) to customers. Currently, the subsidiary is mainly operating as general contractor in the building of the Teverola plant commissioned by Fib.

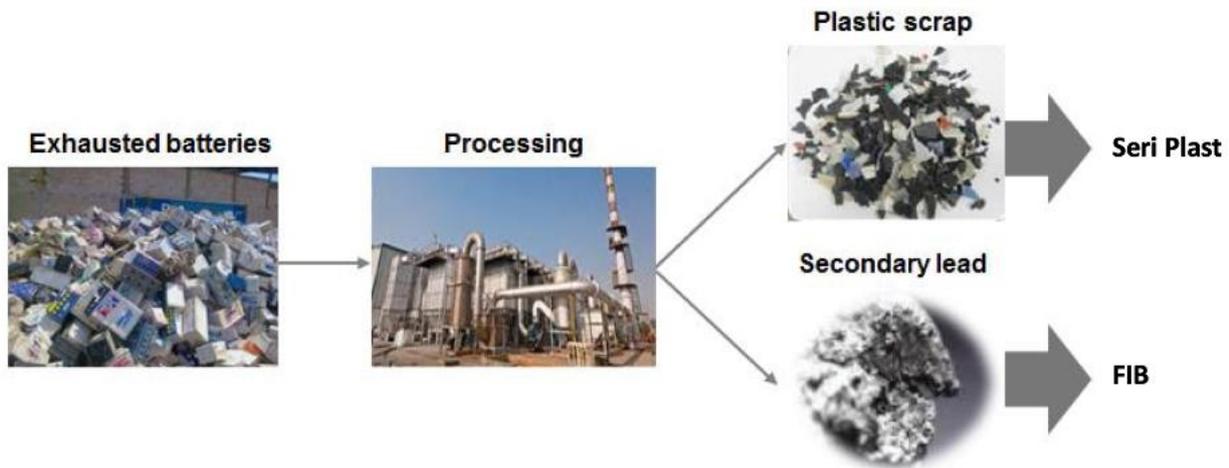
The smelting activity is instead carried out by Repiombo, since 2019 at the Calitri (AV) plant (3,000 sqm indoor and 10,000 sqm outdoor). The production process of this plant, whose main clients are represented by FAAM and Seri Plant, is not based on a traditional thermic reaction, but works with an innovative “cold” procedure, implying two main advantages:

- ✓ Around 4% reduction of lead material cost;
- ✓ Around 65% decrease of emissions and fusion dust particles.

We believe that such innovative solution may enable Seri Plant, which developed the full project, to obtain a higher visibility in the international landscape.

The after-sale activity is carried out overall national territory (8 customer service points) by a capillary network of professionals who replace exhausted lead batteries (motive power and starter). These batteries are sent to the Calitri plant for the recycling and recovery of lead (adopted for the new accumulators) and of plastic waste (then used by Seri Plast to produce the regenerated plastic components).

Figure 8 – Repiombo activities and main clients



Source: Company data

SERI Plast SBU

The business unit “SERI Plast” represents the largest division in terms of turnover (EUR95.1 million in 2019 or 61% of consolidated sales) and is active in (1) the production of compound from recycled materials and (2) the manufacturing of plastic components.

The main PP compounds produced are Serilene and Serifill: the former is designed for the manufacturing of boxes and lids for starter and traction batteries, while the latter is adopted for the molding of components in the automotive industry. Certified and homologated by several manufacturers and carmakers, these compounds are generated in a fully automated 26,000 sqm facility (6,000 indoor and 20,000 outdoor) with minimum environmental impact and then valorized by the molding division. From a geographical standpoint, the company mainly operates in the EMEA region.

Down the value chain, plastic material molding is carried out in seven plants across Italy, France and Poland and involves two main product categories:

- 1) Plastic components (boxes, lids and accessories) for battery manufacturers;
- 2) Plastic pipes and fittings for thermo-sanitary, naval, infrastructure and building applications.

The company enjoys significant barriers to entry determined by:

- ✓ More than 1,000 molds held;
- ✓ Product homologation provided by the final customers;
- ✓ Plants located close to main clients.

These strengths allow the firm to develop and preserve long lasting relationship with international top tier clients, among them we highlight Exide Technologies for the battery market and Fincantieri for pipes and fitting.

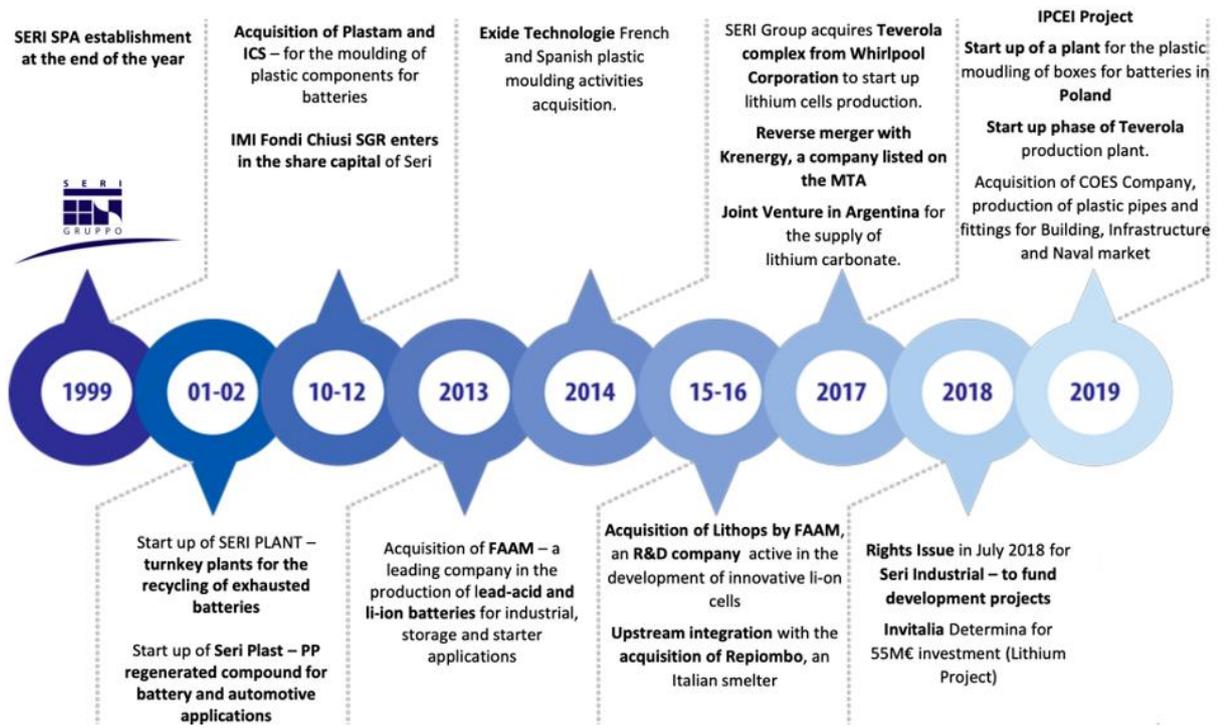
Company History

SERI Industrial is a relatively young Company as it was founded in 1999 by the Civitillo family which still today keeps the control. At that time, SERI Industrial was an industrial and engineering consulting firm, operating as general contractor in the technology plant industry (mainly plants for the recovery of exhausted batteries and for lead metallurgy) and in the real estate industry.

Since then, the Company grew over time by undertaking several projects (JV in Argentina, Lithium project related to the deep requalification of Teverola plant) and closing numerous M&A deals, becoming a fully integrated group in the lean-acid batteries value

chain (through the acquisition of Plastam, ICS, Exide Technologies and FAAM), and a significant player in the li-ion accumulators (thanks to the acquisition of FAAM and Lithops), focusing on market niches not yet covered by large international players.

Figure 9 – SERI Industrial milestones



Source: Company data

Figure 10 – SERI Industrial revenues evolution (EURm)



Source: Company data (*2019 total revenues are EUR156.5 million)

In the meantime, the Company underwent some significant changes:

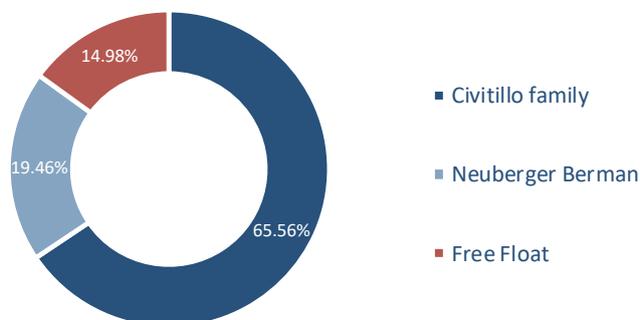
- In 2012, the PE fund called “Fondo Atlante”, currently managed by Neuberger Bergman, entered in the share capital. Fondo Atlante currently holds 19.6%;
- In 2017, SERI Industrial carried out a reverse merger into K.R. Energy, a natural shell listed holding company originally investing on renewable energy assets. Despite this solution granted a low-cost fast track for the listing, the distress

financial situation of KRE had negative consequences on the new entity which are still evident today: The Company is currently in CONSOB black list and had to change its Board of Statutory Auditors in 2019. Moreover, in 2017 the current Board of Directors took a liability action against the previous board, which is still ongoing;

- We underline that such issues, coupled with the sale of several K.R. Energy’s assets, required a considerable amount of time and attention from the management, who will now be totally committed to the completion of the projects on site. At the end of the process the proceeds amounted to c.a. EUR14 million;
- In 2018, Neuberger Berman acquired the investments of Fondo Atlante from Banca IMI following a replacement agreement between the parties. Consequently, a 19.5% stake of the capital of SERI industrial is still controlled by NB;
- In the same year, the Company subscribed a right issue to fund the Lithium project centered around the total requalification of the ex-Whirlpool Teverola plant.

The major shareholder is the Civitillo family. The Board of directors is composed by 7 members of which 3 independent (including the Chair). For more details on the governance please see the “ESG picture” in the appendix.

Figure 11 – SERI Industrial shareholder structure



Source: Consob

THE BATTERY SECTOR LANDSCAPE

Since our latest report on “Future Mobility” something relevant happened in the field of electric batteries: the EU approved a EUR3.2 billion investments on the electric battery technology. The aim is to avoid the dependence on the current supplier’s base (exclusively Asian) but also to develop an eco-system that is coherent with the EU values in terms of sustainability, work conditions, employment and financial profitability.

On top of that, since our latest “Future Mobility” was published, we learnt that:

- The recycling technology exists but it must be industrialized;
- The raw materials used inside batteries can be improved with the aim of reducing costs and improve the sustainability;
- Batteries costs continue to go down while performances are improving;
- On top of recycling, a business models for the batteries “second life” must be implemented.

The European Battery Alliance: EUR3.2 billion set aside by governments to finance the development

Launched in 2017 in order to create a competitive manufacturing value chain in Europe with sustainable battery cells and prevent a technological dependence on main competitors, the European Battery Alliance (EBA) accelerated its Battery Strategic Plan in Dec-19 by approving a comprehensive EUR3.2 billion project funding to support the development of innovative and sustainable technologies for lithium-ion batteries (liquid electrolyte and solid state) that last longer, have shorter charging times, are safer and more environmentally friendly than those currently available. As far as we know, those funds are non-repayable and will be provided upon the invoice (i.e. companies will have to fund the initial investment with their capital/debt).

The project, whose completion is planned for 2031, is expected to unlock an additional EUR5 billion in private investments. In detail, the project will involve 17 direct participants from seven Member States:

- Belgium should receive EUR80 million ca;
- Finland was granted EUR30 million ca;
- France will obtain EUR960 million ca;
- Germany will get EUR 1.25 billion ca;
- Italy was granted EUR570 million (o/w around EUR505 million destined to FAAM);
- Poland should receive EUR240 million ca;
- Sweden will get the remaining EUR50 million ca.

The direct participants will closely cooperate with each other and with over 70 external partners, such as SMEs and public research organizations across Europe.

Nonetheless, significant share of additional profits made by the participants will be shared with taxpayers through a claw-back mechanism. In other words, if the projects turn out to be successful, generating extra net revenues beyond projections, the companies will return part of the taxpayer money received to the respective Member States.

The project participants will focus their work on four areas:

- 1) **Raw and advanced materials:** The project aims to sustainable innovative processes allowing extraction, concentration, refining and purification of ores to generate high-purity raw materials. With respect to advanced materials (such as cathodes, anodes and electrolytes), the project aims to enhance existing materials or create new ones, to be used in innovative battery cells;
- 2) **Cells and modules:** The project aim to develop innovative cells and modules designed to meet the safety, and performance required for both automotive and non-automotive applications (e.g. stationary energy storage, power tools, etc.);
- 3) **Battery systems:** The project aims to innovative battery systems including battery management software and algorithms as well as innovative test methods;
- 4) **Repurposing, recycling and refining:** The project aims to design safe and

innovative processes for collection, dismantling, repurposing, recycling and refining of recycled materials.

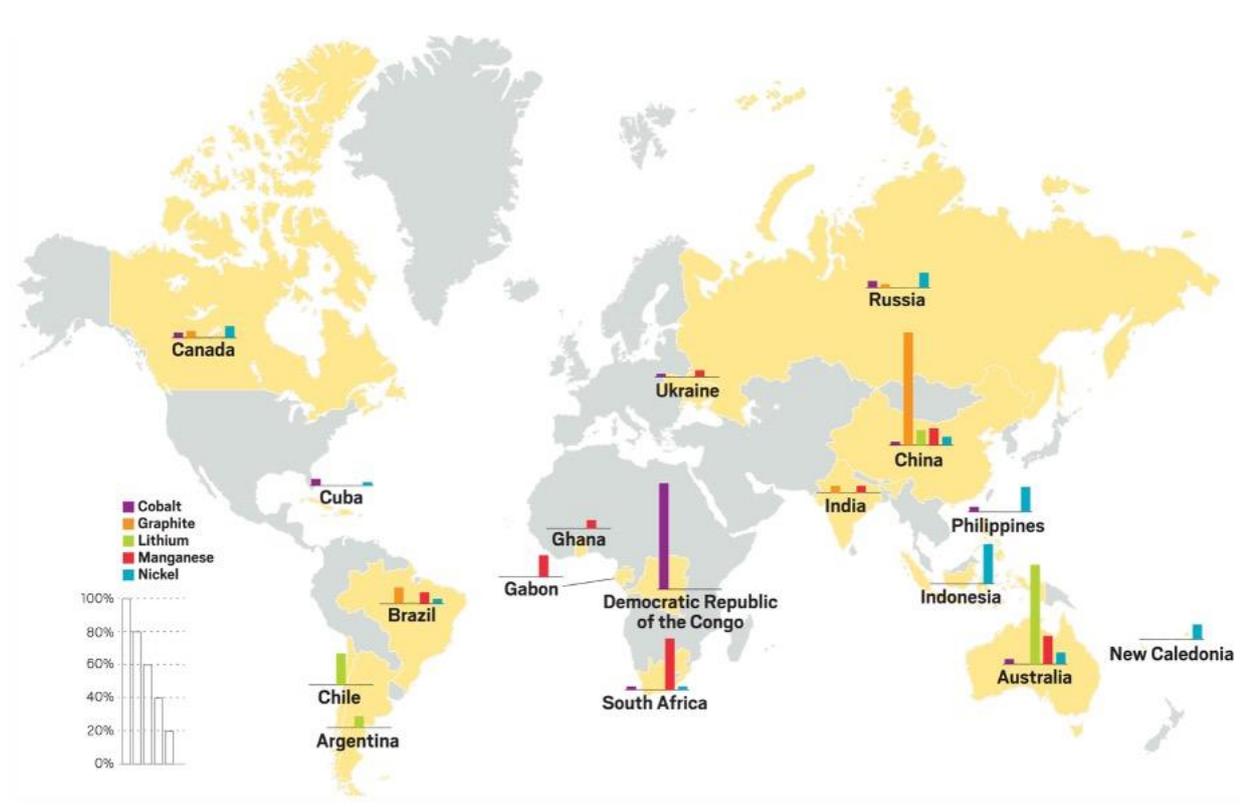
Figure 12 – IPCEI direct participants breakdown by country and area covered

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

Source: European Commission

Such investment is aimed at overcoming the current EU dependence on battery cell imports, which could expose industry to high costs and risks in the supply chain and undermine the automotive industry’s ability to compete with foreign competitors, notably if there is a shortage in the light of the forecasted increase in demand.

Figure 13 – Global sourcing of Li-ion’s key minerals



Source: US Geological Survey, Mineral Commodity Summaries 2019

This dependency is not only limited to battery cell production; access to the essential battery raw materials (lithium, nickel, cobalt, manganese and graphite) is also a major challenge for Europe’s security of supply as they are only available from a small number of countries.

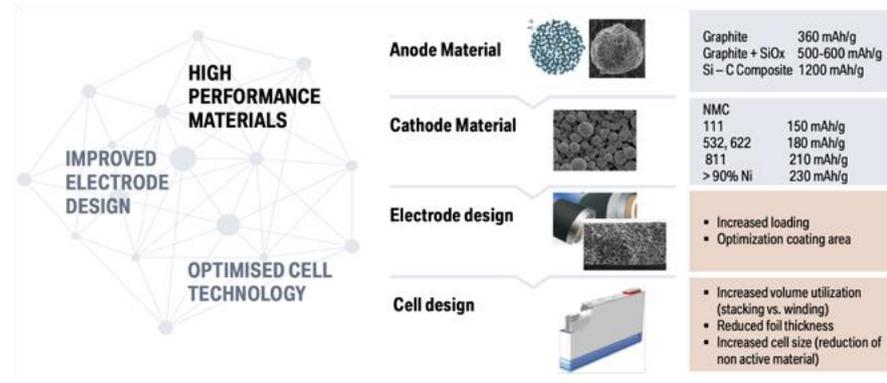
Battery-grade refining and processing facilities for almost all these materials are also currently concentrated in China, which consequently dominates the lithium-ion battery supply chain. The same applies to value chains of other key materials in electric vehicles, particularly to rare earths for high-energy density permanent magnets, which today are key to producing electric motors with the highest power densities.

In some cases, access to these raw materials may be at risk because of political instability, which could lead to access being disrupted (including exposure to high taxes and duties on exports) or being hindered by the prevalent use of unethical and unsustainable mining practices.

What can be done to improve batteries performance...and their ESG side

We just saw that one of the aims of the EBA is to improve the study the raw and the advanced materials to improve the performances. We learnt that energy density increases are mostly obtained through raw materials improvements. The next slide shows that new anode and cathode materials, a different design of the electrode and of the cell are all factors that could materially improve batteries performances:

Figure 14 – The four drivers of potential improvement in batteries performances



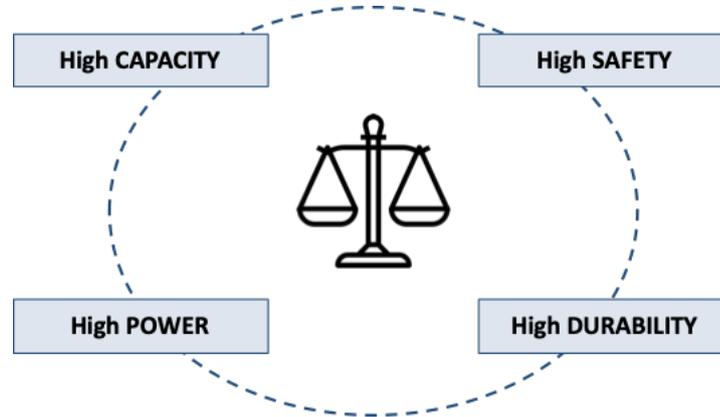
Source: BMW – Battery Cell Technology

The major issue in many cases is the cost:

- Anode: SiOx is possible and Si-C is in final development. But the issue seems to be the cost;
- Cathode: 811 is close to being marketed while >90% Ni is in final development;
- Components like the “Separators”, the “Binders” and the “Electrolytes” needs further developments (enhance thermal stability, reduce energy release under extreme conditions, improve electrical/mechanical properties);
- Production processes (coating, pressing, slitting) needs to be developed too, in conjunction with materials.

Obviously, there is a balance between the different features/performances of a battery and R&D should try to find the perfect balance between them. Next graph shows how in many cases the drivers are opposite: higher safety usually means lower power and higher capacity a lower durability. Finding the right balance and stretching the overall performances is the task of batteries manufacturers like SERI:

Figure 15 – Batteries features usually work in opposite ways



Source: Mitsubishi, Batteries 2012 – Nice

One other thing that still involves the raw materials is the ESG side of the batteries sourcing, production and usage (or recycling, which is the other side of the “usage coin”). The clear majority (if not the totality) of the raw materials used to produce batteries are sourced:

- In countries where human rights, corruption, child-labor and work-safety procedures are, to say the least, un-compliant with western world standards;
- Where the environmental protection is low and, aside from that, the extraction process per-se impacts rivers and sensible eco-systems;
- Where the climate-change impact (emissions, land-usage, water and chemicals and radio-activity) are out of monitoring. In other words, we say that EVs are climate-good but in the equation, we do not consider the entire value-chain.

Figure 16 – Battery supply chain – A recap of the key ESG challenges



Source: BMW – Sustainable supply chain management & raw material sourcing

However, we believe that this is going to change at least for European producers (at which speed we don't know, but it is already changing). Actions that should modify the current scenario are:

- Changing the weight of the raw materials within a battery: R&D efforts have been made to reduce the weight of materials sourced in troubled countries (i.e. Cobalt in Congo) in favor of other materials (for instance Lithium);

- Sourcing the materials from less troubled countries (for instance BMW is trying to source its Cobalt from Morocco/Australia);
 - Increase the usage of recycled materials (today, we believe, close to zero);
- Support the local communities in the troubled countries (by sustaining artisanal mining for instance. Or by launching educational/recreational initiatives and financing them).

State of the art of lithium battery factories worldwide

The number of lithium ion battery mega factories in the pipeline has reached 115, according to Benchmark Minerals’ Lithium ion Battery Mega factory December 2019 Assessment.

Europe has surged ahead in planned lithium ion battery capacity for its EV industry in a year which saw global historical highs for pipeline gains to 2029.

Europe’s planned lithium ion battery capacity increase was led by new plants in Germany including CATL in Erfurt, Farasis in Saxony-Anhalt, Northvolt and Volkswagen Group (VW) in Salzgitter, and most recently, Tesla’s Gigafactory 4 in Berlin.

Combined, these battery mega factories increased Germany’s pipeline capacity over the next decade by 432% to 133GWh and Europe’s to 348GWh.

This marked the emergence of a mass EV battery production blueprint being built on the continent.

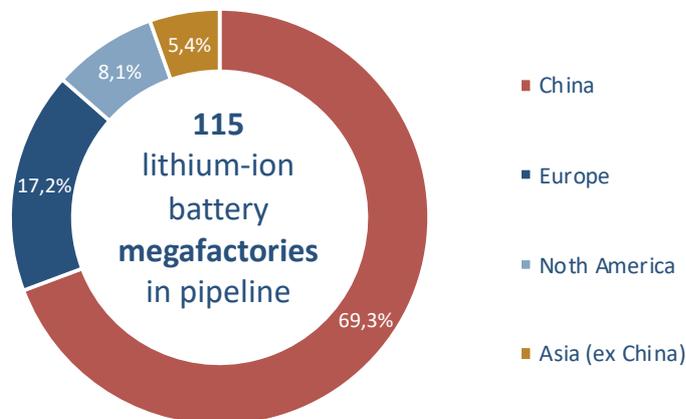
Despite China’s growth rate being less impressive, the world’s leading EV and battery manufacturer added a huge 564GWh of pipeline capacity in 2019 to a global total of 2068.3GWh or the equivalent of 40m EVs by 2028.

China accounted for 69% of this total capacity while Europe increased its share to 17% yet North America lagged at 8%, despite new plants from Korean manufacturer, SK Innovation, Chinese producer, Farasis, and expected expansions at Tesla and LG Chem.

This means China is now home to 88 of 115 lithium ion battery mega factories in the pipeline to 2029.

Summing up, while China remains the powerhouse, there is little doubt that the global trend of 2019 is Europe stepping up its role in the global battery arms race (in the next graph the evolution up to 2029).

Figure 17 – World lithium ion battery capacity in 2029



Source: Benchmark Minerals

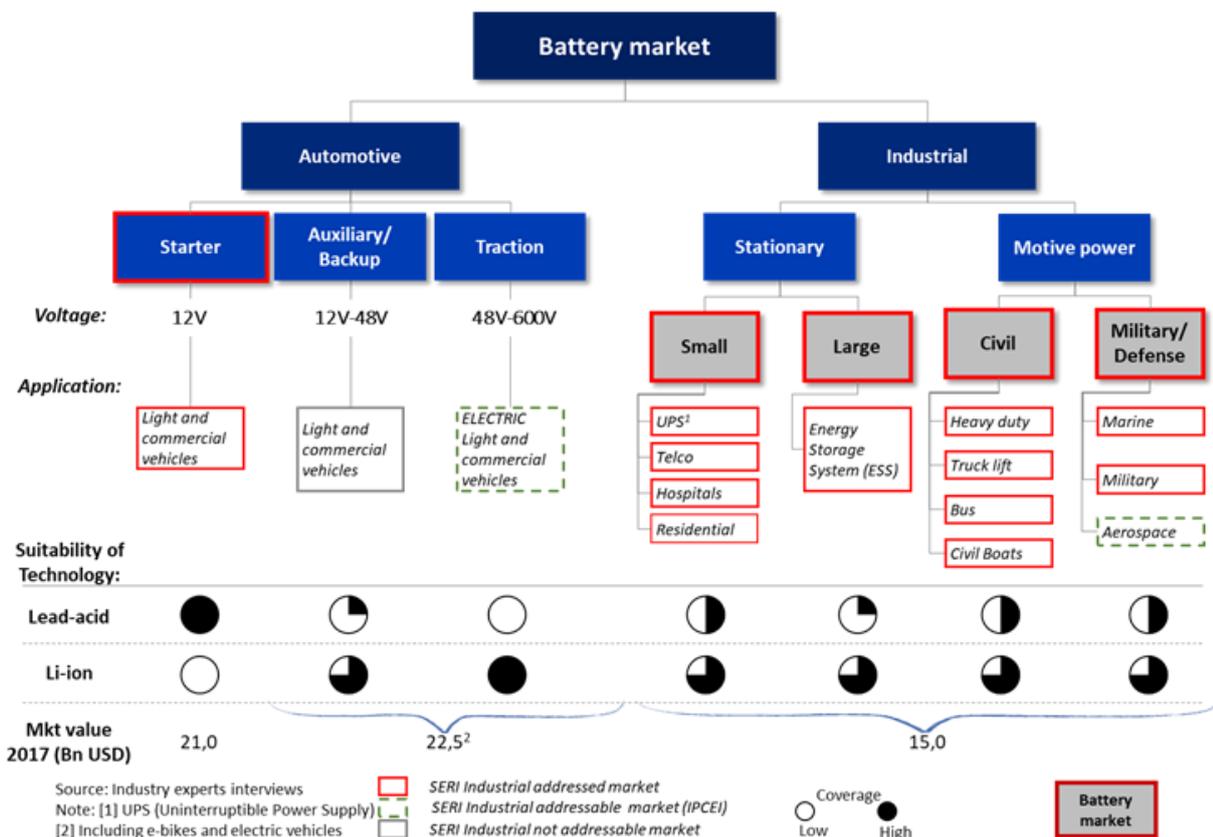
THE BATTERY MARKET

The worldwide market includes several kinds of segments and batteries are used for a variety of applications. It is key to understand in which segments and for which applications SERI products are (or will be) used.

The battery market can be split between into two segments: non-rechargeable (roughly 15% of total in 2018, or USD 14 billion) and rechargeable batteries (USD 80 billion in 2018, according to Avicenne). The non-rechargeable spot is used for a variety of applications (like tv remotes, portable household appliances) and is where companies like Duracell operate. We will concentrate on the rechargeable market, which is where SERI operates, and is also the fastest growing one considering that includes applications like EVs or storage.

While usually associated with the automotive market the rechargeable battery market is used for a variety of applications with different cyclicalities:

Figure 18 – Rechargeable battery market



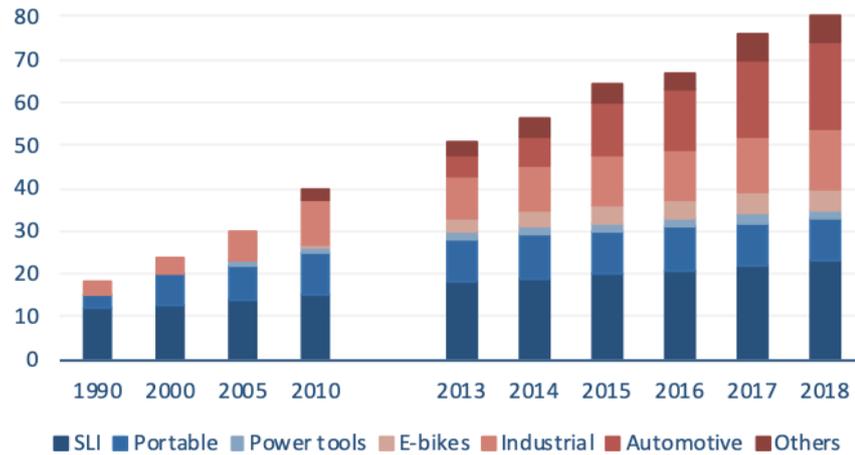
Source: Company data

Rechargeable battery: a market growing at a 2015-30 cagr of 18%

The worldwide rechargeable battery market, worth USD80 bn after a 9% 2010-18 CAGR-

The worldwide rechargeable battery market was worth USD80 billion in 2018 and, since 2010, it has grown at a 9% CAGR, as can be seen in the following graph. The graph shows also how the market is almost equally split, in terms of technologies, between “Lead Acid” and “Li-ion” batteries:

Figure 19 – Worldwide battery market breakdown by industry (EUR billion)



Source: Avicenne

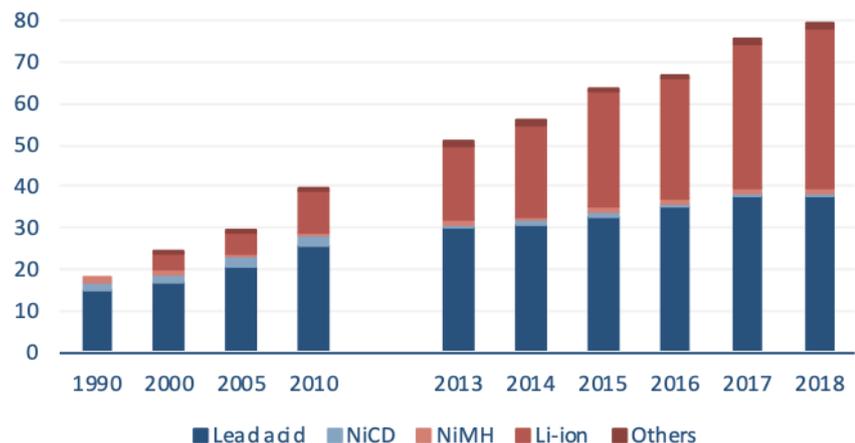
Lead Acid battery features, along with their low cost, make them attractive for use in motor vehicles to provide the high current required by starter motors. In fact, despite having a very low energy-to-weight ratio and a low energy-to-volume ratio, Lead-acid ability to supply high surge currents means that the cells have a relatively large power-to-weight ratio. They are inexpensive compared to newer technologies and therefore widely used even when surge current is not important and other designs could provide higher energy densities.

A lithium-ion battery or Li-ion battery (abbreviated as LIB) is a type of rechargeable battery commonly used for portable electronics and electric vehicles, with a growing popularity in military and aerospace applications.

These kinds of batteries have a high energy density, no memory effect and low self-discharge. However, sometimes they are associated to safety issues since they contain a flammable electrolyte that, if damaged or incorrectly charged, can lead to explosions and fires. SERI currently can produce both kind of batteries.

While Lead Acid remains to date the biggest market in terms of MWh, the growth of LIB batteries has been exponential and, given its higher prices, in value the market was equally split (in 2018) between Lead Acid and LIB:

Figure 20 – Worldwide battery market breakdown by battery type (USD billion)

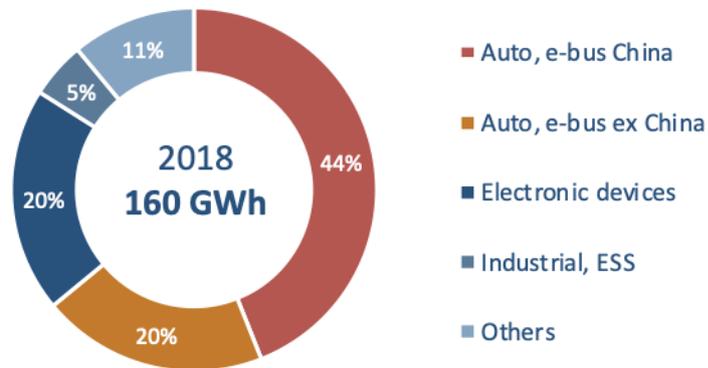


Source: Avicenne

In terms of applications, SLI (Start light and ignition batteries), Automotive and Industrials are the biggest components. Industrials means mostly Motive (of which forklifts represents 95%) and Stationary (telecom, UPS, Energy storage systems, Medical and others).

Crossing the two data (batteries market split by technology and application) it is possible to note how Lead Acid is mostly (75%) used for SLI while LIB is now used mostly for EVs (while in 2000 they were mostly used un portable devices):

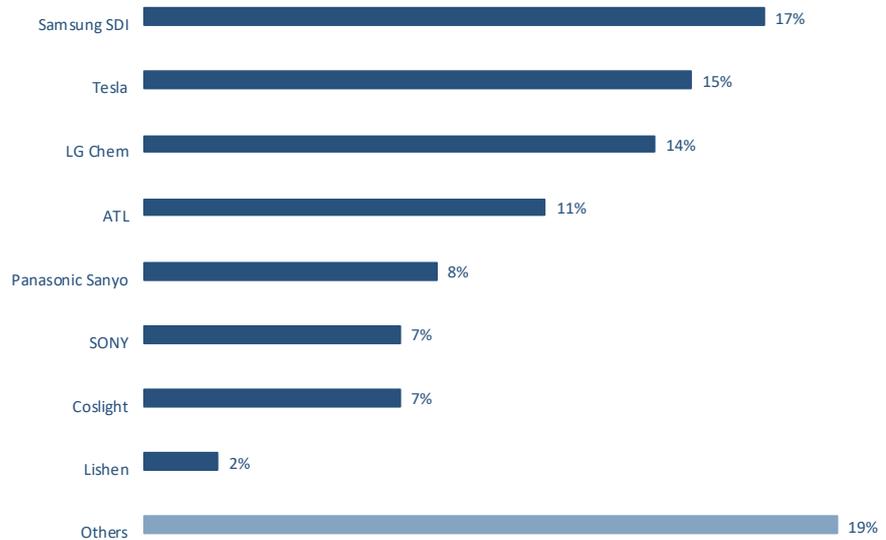
Figure 21 – Li-ion applications in 2018 by industry (%)



Source: Avicenne

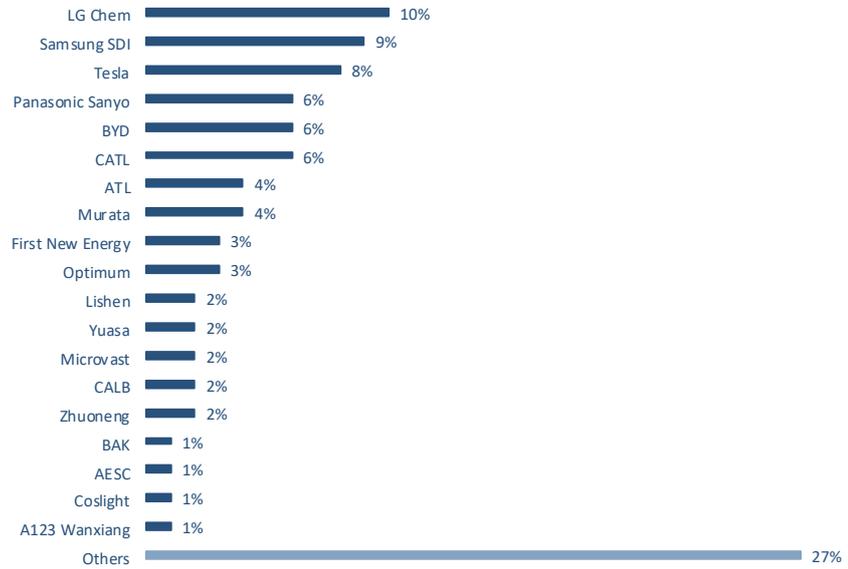
The LIB market, both in volume and value, was dominated by Asian players in 2018:

Figure 22 – 2018 worldwide Li-ion battery market breakdown by volume (%)



Source: Avicenne

Figure 23 – 2018 worldwide Li-ion battery market breakdown by value (%)

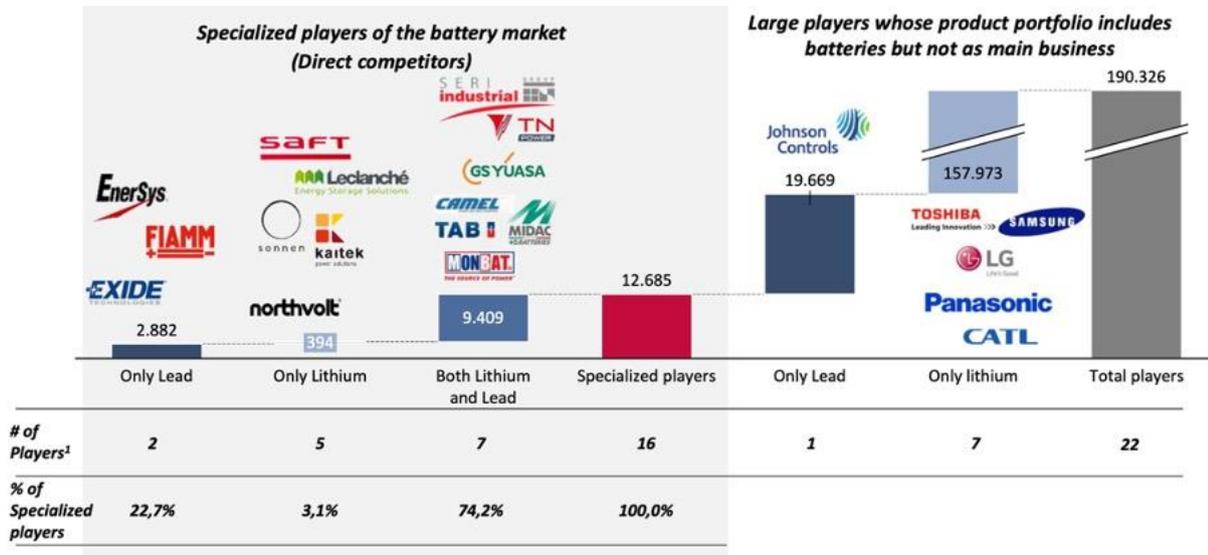


Source: Avicenne

As we discussed in the paragraph on the European Battery Alliance, the EU is trying to play a role in this market. For what concerns SERI we remind that the company was initially focused on niche application and, tank to its participation to the European Battery Alliance, is now also involved in the larger segments.

We do not consider larger Asian players, mostly focused on consumer electronics and mass market car batteries as direct competitors. Therefore, companies like Samsung, Panasonic, NEC, LG, Toshiba, CATL and Johnson Controls are not included into the competitor’s analysis. Exide, EnerSys and FIAMM are the main competitor on the Lead market with Exide mostly AM while FIAMM mostly automotive. TAB is a relevant competitor in Europe on industrial applications. Saft, Leclanchè and Northvolt competes on the Lithium market and Midac is present in both markets although it doesn’t produce cells but assembles its Lithium products (like Kaitech, another competitor on the Lithium market).

Figure 24 – Players’ buildup of revenues (EURm)



- Among the specialized players in the battery market, the majority of them have both lithium and lead technology in their portfolio (74,2%)
- On the other hand, among the diversified players the mostly used technology is lithium

Source: AIDA, Amadeus, Orbis, Bloomberg, Company data (data refers to latest financial statements)

Here follows a brief description of the main competitors of SERI Industrial at worldwide level:

Saft

Saft is a French wholly-owned subsidiary of Total specialized in the design, development and production of highly efficient battery solutions (22 patents filed in 2018 and EUR76 million invested in R&D in 2018), which makes them ideal for use in long-lasting applications where replacement is difficult and expensive.

Thanks to the tailor-made nature of its product range, Saft serves numerous market industries, ranging from Aerospace and Defence to Healthcare, from Telecom to Oil & Gas, from Transport to Utilities.

Saft has a presence in 18 countries, with 30 sales offices and 14 manufacturing sites, and counts more than 3,000 customers and 4,500 staff.

Varta AG

Varta AG is listed a German company that produces and markets micro batteries and energy storage solutions through the business segments “Micro batteries & Solutions” and “Household Batteries”.

The first segment focuses on the OEM business for micro batteries as well as on the lithium-ion battery pack business, in which the Group is recognized as innovation leader. The second segment comprises the battery business for end customers, including household batteries, rechargeable batteries, chargers, portable power (power banks) and lights as well as energy storage devices. The Company currently employs almost 4,000 people. With five production and manufacturing facilities in Europe and Asia, and distribution centers in Asia, Europe and the US, Varta AG’s operating subsidiaries are currently active in over 75 countries worldwide.

Exide Technologies

Exide Technologies is a US firm, one is one of the largest secondary recyclers in the world. The Company, which operates in more than 80 countries worldwide, provides battery solutions for three main industrial segments: 1) Transportation: production of batteries for automotive, marine, heavy duty and powersport applications; 2) GNB motive: manufacturing of battery and charging solutions for material handling, mining and railroad locomotive starting needs; 3) GNB network: energy storage solutions for telecom, UPS and utility systems.

EnerSys

EnerSys is a listed US firm which manufacture and distribute reserve power and motive power batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide.

Motive power batteries and chargers are utilized in electric forklift trucks and other commercial electric powered vehicles, while reserve power batteries are used in the telecommunication and utility industries, uninterruptible power supplies, and numerous applications requiring stored energy solutions including medical, aerospace and defense systems. Moreover, following the acquisition of Alpha, EnerSys expanded its portfolio to become the only fully integrated DC power and energy storage solution provider for broadband, telecom and energy storage systems. Outdoor equipment enclosure products are utilized in the telecommunication, cable, utility, transportation industries and by government and defense customers. EnerSys also provides aftermarket and customer support services to customers from over 100 countries.

Voltabox

Voltabox AG is a listed German company that operates in the battery systems segment with three business units: Voltapower, Voltaforce and Voltamotion:

- 1) Voltapower: the core business of Voltabox are advanced battery systems for industrial use. These systems are used in forklifts, mining vehicles, electric buses for public transport and automated guided vehicles;
- 2) Voltaforce: this BU develops and produces high-quality lithium-ion batteries for the mass market. Interesting niches in the mass market include starter batteries motorcycles and sports cars as well as monobloc batteries for industrial machines. Moreover, it also produces battery systems for 48-volt mild hybrid applications;
- 3) Voltamotion: this division works on electrical drive systems at the R&D center in Aachen with the aim of becoming a full-service provider for these systems.

Thanks to its two plants in Germany and Texas (US), the Company supplies customers across Europe and North America.

Leclanché

Leclanché is a Swiss fully vertically integrated energy storage solution provider. The Company operates through three main business segments. 1) e-transport solutions which provides energy storage solutions to the marine market, the rail sector and the commercial vehicles segment; 2) Stationary Solutions for developers, utilities and system operators who need energy storage to better manage electrical grids that are being pressured by the increased penetration of intermittent renewable energy sources and demands from electric transportation and decentralized generation; 3) Special Battery Systems that designs and manufactures specialized, custom made low-voltage battery systems for a wide range of applications (mainly portable systems, robotics, military and defence).

Northvolt

Northvolt is a Sweden firm involved in the production of standard and custom cells and battery systems. The Company is currently building one of the largest European Gigafactory for lithium-ion batteries in northern Sweden. The plant, which will be powered by 100% clean energy, will commence large-scale manufacturing in 2021 and annual capacity will ramp up to at least 32 GWh by 2024, with the potential to expand to 40 GWh in the future.

For the project, Northvolt raised about EUR900 million in capital in 2019, investors included automakers like Volkswagen and BMW and electrical engineering giants including Siemens and ABB. In May 2019 the European Investment Bank agreed to loan the company an additional EUR350 million, its largest-ever commitment in energy storage.

Midac

Midac is a typical SME Italian company focused on the production of high-quality batteries for automotive and motive power applications.

The Company relies heavily on research veered toward accumulating and exploiting energy to manufacture innovative batteries intended for diverse and emerging markets (telecommunications, renewable energy sources, emergency systems, boating and other special usage), capable of competing and being up to par with the competition of large international manufacturers.

Midac is also present in France, Germany, Netherlands, Sweden, Australia and United Kingdom with foreign branches.

Monbat

Monbat is a listed Bulgarian company operating through two main business units: the Lead-Acid batteries BU and the Li-Ion high-power solutions BU.

The first division follows a vertically integrated business model with operating production and recycling facilities in Bulgaria (Monbat AD and Start AD) and recycling plants in Romania, Serbia and Italy. This structure insulates the group from raw material price volatility and enables it to achieve higher operating margins compared to peers.

The second division is a new business stream: Monbat plans to revitalize the strengths of the recently acquired Gaia and EAS Germany, fused into one strong business model.

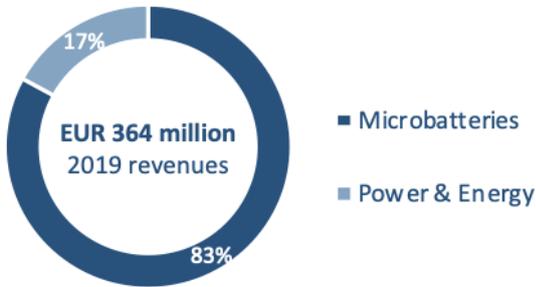
With worldwide presence in over 60 countries and more than 20 different applications and industries, Monbat is among the strongest economic groups of its Country.

FIAMM

FIAMM Energy Technology is a multinational company engaged in the manufacturing and distribution of energy storing accumulators for vehicles and industrial applications established following the separation of the automotive and industrial lead battery business unit from the FIAMM Group.

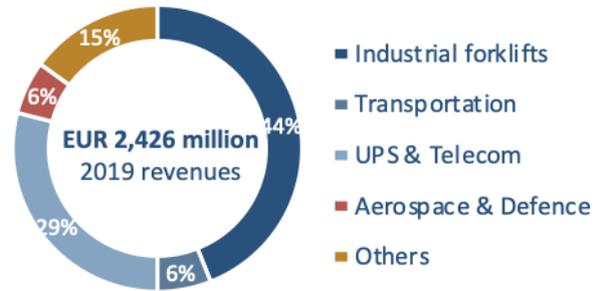
To be closer to the needs of customers, FIAMM has about 20 commercial and technical branches (in Italy, Germany, UK, Slovakia, France, USA, Spain, Japan, Singapore, Korea, Malaysia, China and Australia to name a few) and a wide network of importers and distributors and operates with a staff of one thousand employees.

Figure 25 – Varta revenues breakdown by segment (%)



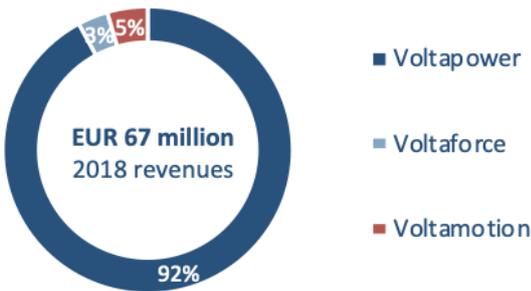
Source: Last available annual report

Figure 26 – EnerSys revenues breakdown by segment (%)



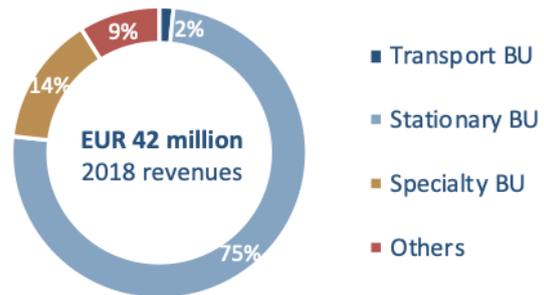
Source: Last available annual report

Figure 27 – Voltabox revenues breakdown by segment (%)



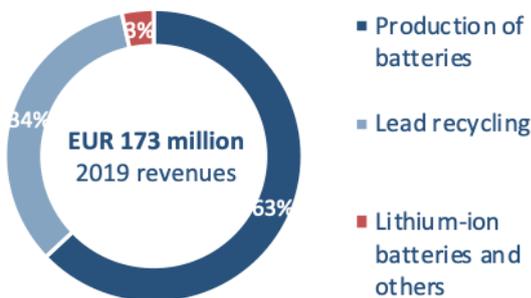
Source: Last available annual report

Figure 28 – Leclanché revenues breakdown by segment (%)



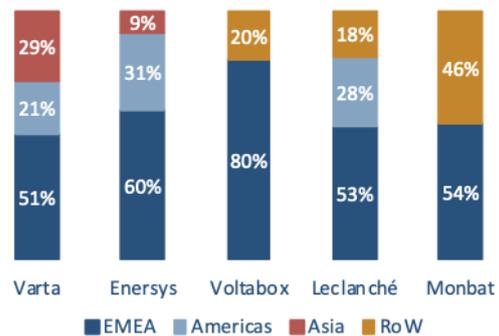
Source: Last available annual report

Figure 29 – Monbat revenues breakdown by segment (%)



Source: Last available annual report

Figure 30 – Competitors revenues breakdown by geography (%)



Source: Last available annual report

Figure 31 – Competitive landscape

Player	Technology		Application			
	Lead	Lithium	Starter	Traction	Stationary	Motive Power
SERI Industrial	X	X	X	X	X	X
Saft		X		X	X	X
Varta	X		X	X	X	X
Exide Technologies	X		X		X	X
EnerSys	X		X		X	X
Voltabox		X	X	X		
Leclanché		X			X	X
Northvolt		X				
Midac*	X	X	X	X	X	X
Monbat*	X	X	X	X	X	X
FIAMM	X				X	X

Source: Company data

* These players do not produce modules/cells but they acquire modules/cells from third parties

Growth forecasts: 18% CAGR for 2015-30 for LIB, 5% for Lead Acid batteries

Our market estimates were mostly based on Avicenne expectations (“The rechargeable battery market and main trends – 2018/2030”) and were discussed also with the company. As a result, we expect:

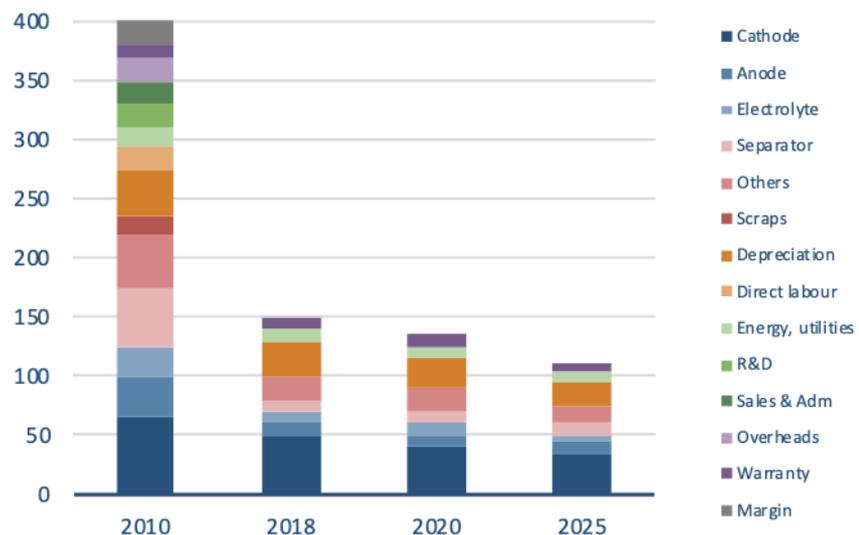
- a 26% CAGR for the period 2015-30 in volumes (i.e. MWh) for Li-ion batteries for automotive applications;
- a 18% CAGR still for 2015-30 in value (assuming the above-mentioned price decline);
- a 18% 2015-30 CAGR, in volumes for Industrial and ESS applications;

Those estimates were based on the following assumptions:

- Cells average cost (40 Ah pouch, designed for an EV and with NMC622 cathode) will almost reach the famous USD100 per KWh (which is seen as the cost-parity with a petrol engine);
- 25 million EV/PHEV/HEV cars will be sold, yearly, in 2025 (in-line with our own forecasts).

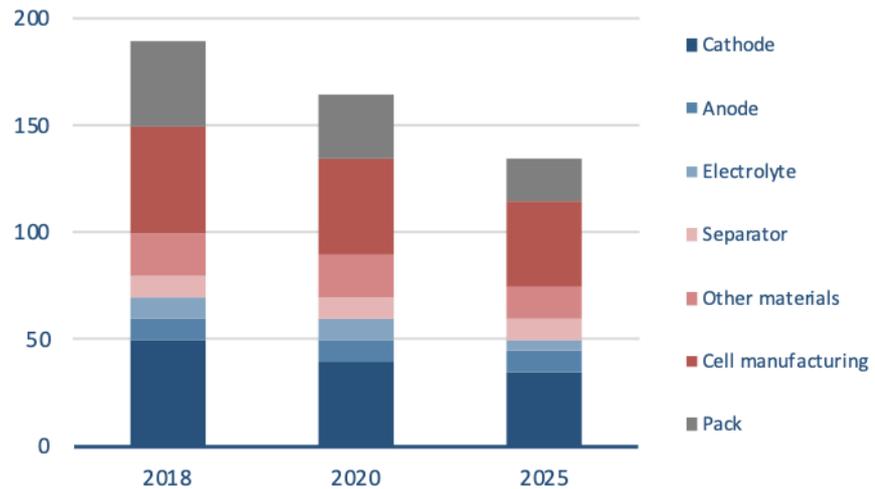
The reduction in the battery costs which has already taken place is impressive, as can be seen in the next graph, but more needs to be done to reach the parity with petrol:

Figure 32 – LIB cell average cost (USD/kWh)



Source: Avicenne

Figure 33 – LIB cell average cost (USD/kWh)



Source: Avicenne

The time-to-market of new technologies has been historically long in the sector (it takes anywhere between 10 and 20 years to commercialize a new material). So, most of the cost reduction expected by 2025 should come from cell manufacturing and pack costs (and, in turn, triggered by volume-driven and process-driven efficiencies). This is evident in the right-hand side of the previous graph.

LIB should represent little more than 50% of the market, in volume, by 2025 but Lead Acid (which still should be worth around 40% of the entire rechargeable battery market by 2025, and that represents a good part of SERI Industrial revenues) is expected to grow at a 2015-30 CAGR of 5%.

Focus on the Industrial and Storage segments

While market estimates on batteries used for Energy storage are included in the overall market estimates described in the previous paragraph (within the “Industrial” segment), we believe it is worth to make a specific focus, considering that this segment is particularly relevant for SERI Industrial.

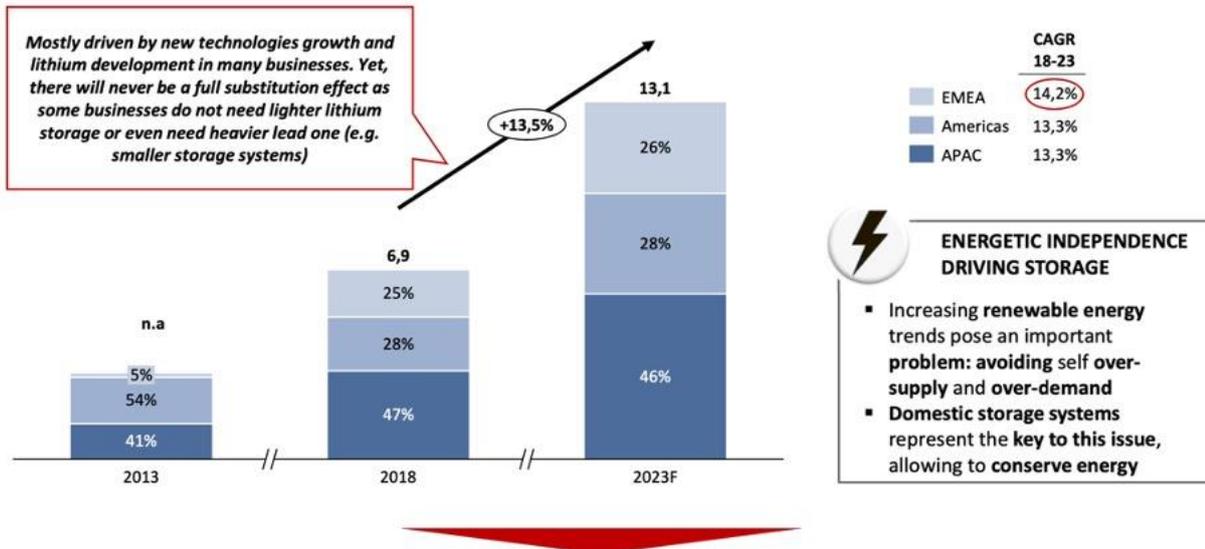
First of all, why Energy Storage (ES) is growing in terms of importance? For industrial companies any outage or voltage event could damage operations. However, on the other side of the chain, grid operators are transitioning to renewable energies which are “variable” in terms of base loads (i.e. Energy supply). Therefore, two are the solutions available: 1) grid operators can use battery storage to store energy to use in periods of downtime; 2) they can opt to deploy fossil fuel to fill the gap.

Due to costs and regulators pressure, the first option is gaining importance, and drives the huge demand for storage batteries.

Entering the battery storage market is a need also for oil companies which are protecting their down side by growing into renewable Energy, in particular.

Those are the reasons why we expect a 18% 2015-30 CAGR for Industrial/ESS applications and a 2018-23 CAGR of 13.5% (14.2% in Europe, SERI reference market):

Figure 34 – 2013-2023 global market of energy storage system (USD billion)



Global market of energy storage system is expected to growth strongly in the future (+13,5% CAGR 18-23) driven by an increasing need to store self-produced energy

Source: World Industrial Truck Statistics, Market Watch

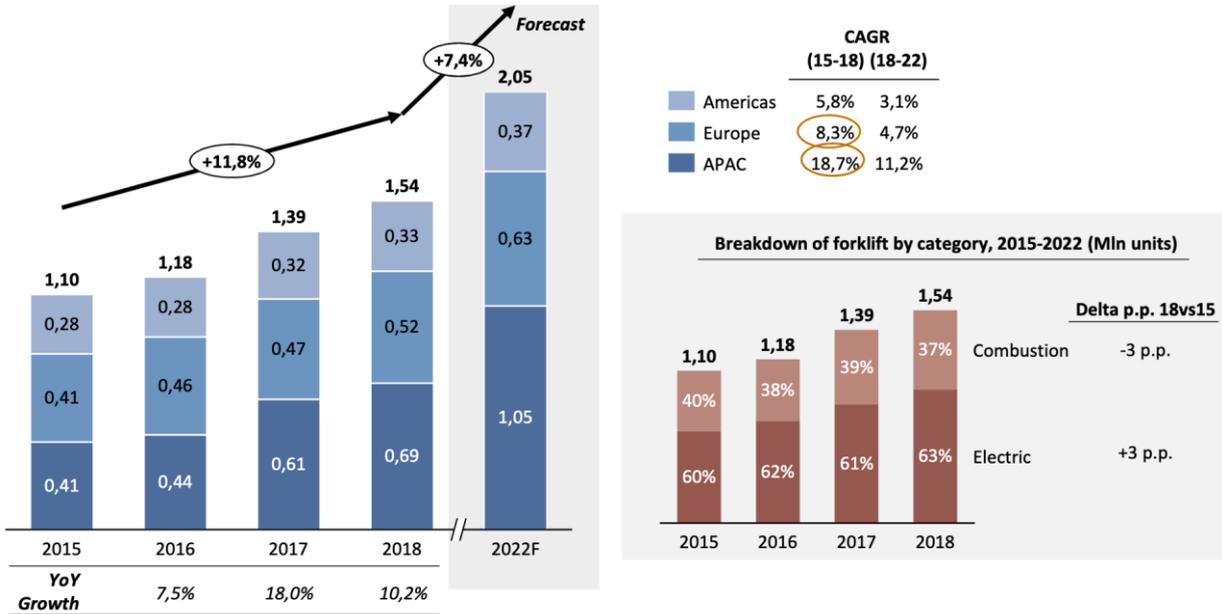
As far as the industrial segment is concerned, it is composed by several subsegments that have long term growth rates (Military/defence seen growing 1.2% in 2018-23, recreational boats 5.2%, gardening & power tools 4.5% to name a few).

SERI is particularly exposed to the forklift segment where it serves companies like Toyota Handling Material and Jungheinrich that together have around 40% of the worldwide market.

Forklift and other ground movement machines' production (as can be seen in the following graph) is expected to grow at a 7.4% CAGR in the period 2018-22 however we point out that:

- The penetration of electric forklifts is outgrowing combustion forklifts;
- Every forklift has more than one battery and the trend are to increase the voltage per battery.

Figure 35 – 2015-2022 global production of forklifts (million units)



Source: World Industrial Truck Statistics, Market Watch

In the graph above we can see how Europe and APAC in particular (where SERI customers have most of their revenues) should grow more than the overall market.

STRATEGY: FOCUSING ON PROFITABLE NICHES

The overall chargeable battery market, as we saw, is huge (EUR80 billion in 2018) so it could seem attractive. However, Asian players have the control of it and reached sizes difficult to match for a company like SERI.

The position obtained by Asian players is a consequence of China began investing in EVs long time ago, probably understanding that it would never have matched the European technological levels in ICEs, devolving therefore its focus on the future technology.

Recently, Europe decided to join the battle and launched a relevant initiative (the European Battery Alliance) which aims to develop its own approach to electric batteries. This approach adds the sustainability issue on top of the technological and profitability ones and should reduce the risk of sourcing from a single region.

SERI is a relevant part of this project (the most relevant Italian company in terms of funds granted), and it will focus mostly on cells, raw materials R&D (new chemistry for li-ion cells) and recycling technologies (based on its know-how in lead-batteries re cycling).

We don't rule out that SERI, at a later stage, would be involved in premium cars batteries but, now, management is (correctly, in our view) focused on niches where tailored products with higher margins are the key selling point.

We called them niches because volumes are relatively limited when compared to the broader rechargeable battery market. However, we are still talking about sizeable segments worth, in total, USD27 billion in 2018 when we exclude from the total EUR80 billion EVs, portable electronics and ignition starters.

Management therefore plan to focus on:

- **Energy Storage Systems** - Both small and large systems (worth around USD1.3 billion in 2018 and expected to grow at 15% CAGR). On large systems SERI is developing storage from 30Kwh to 1MWh;
- **Motive Power** – Both heavy and light traction (worth around USD4.5 billion in 2018 and expected to grow at a 7% CAGR). Within this segment public transportation should be a key area of growth: the company is developing a system to convert old diesel vehicles into 100% electric-powered ones (LIB);
- **Naval and Military** – It is no secret that SERI is working with the Italian Navy to the "FAR SEAS" project to develop Li-ion batteries for sub marines. On top of that, in partnership with the Ministry of Defence and IVECO, SERI is studying how to apply lithium technology to military vehicles.

Considering the 300MWh, motive power may absorb, in management estimates, 50% of the production capacity while Energy storage another 30%. The eventual assignments of contracts in the naval/military and/or public transport would require additional capacity already planned. In this respect it is worth noting how a single battery for a submarine requires a 50MWh capacity.

The segments where SERI is focusing requires usually batteries with very high performances, think only for a moment to submarines propelled exclusively by LIB.

So, which strategy suits best and what are the key competitive factors to be successful in those market segments? In our view the following features position SERI strategically well in the segments in which it operates (or that it plans to enter):

- **ESG** – European players and large companies more in general would require batteries which are more compliant that current Asian products in terms of environmental and social. SERI can boast its proven track record in re cycling of lead acid batteries and already has an aftermarket network;
- **R&D excellence** - Because the batteries we are talking about are complex products and require operating under extreme conditions (again think about the submarine batteries) investing in R&D and maximizing the return of those

investments should be key. SERI was able to develop (also thanks to the acquisition of Lithops from the Turin Polytechnic) a cost-competitive process to synthesize Lithium Iron Phosphate (LFP) which has several advantages and has its own BMS. The R&D theme is also related to the point on ESG: reducing the metal content in batteries and diverting as much as possible from non-ESG raw materials like Cobalt will be key to secure orders from specific customers (government owned companies, large corporations that want to score well in ESG ratings, etc.). On the R&D point, Asian don't have a competitive advantage, given that 80% of the cost of a battery is raw material so labor costs on total is relatively low;

- **Securing raw material supply** – Given the expected growth of the electric batteries and considering that SERI and its customers will always represent a small volume when compared to the mass market products (and therefore risk to be marginal when securing supply, above all in case of moments of shortage), securing the key raw materials supply would be an advantage. SERI, thanks to its JV in Argentina, can source all the Lithium it needs.

While electric batteries took the center stage, the company has space to develop and improve its Lead-Acid batteries business and its plastic components business. In particular:

As far as the development in the Lead-Acid field is concerned we stress:

- The continues development of the B2C business, through the CARBAT brand, and the development of the services business (through FAAM Services) would improve SERI positioning in the profitable aftermarket channel. This channel is proved to be very resilient in the past thanks to the fact that it is based on the circulating vehicles park. Also, in the future the automotive AM is expected to grow:

Figure 36 – Cars: Global Miles Driven (billion)



Source: Pirelli

- Despite the AM is a more interesting channel, thanks to growing volumes, the company could be now in the position to develop a little bit more the OE channel in the traction/motive power segments, being selective so to protect profitability

On the plastic components (ICS) the company has unutilized production capacity so searching for growth would also improve profitability. In particular:

- The use of plastic in the automotive market is set to grow, mostly due to the search for lightweight materials aiming at reducing emissions. In this context the 2018-23 CAGR of plastic applications for automotive was expected at +10.9% (before COVID-19 impacts);
- The building & construction plastic market is expected to grow at a 2018-25 CAGR of 2.6% and SERI Industrial, through the acquisition of COES, is now

exposed to this market also thanks to its un-utilized capacity;

- The continuous ramp-up of the Polish plant (in an area where competitors are not that present, in a segment where transportation costs represent a significant share of total costs) and of the development of COES in Middle-East and Asia should support the revenues growth;
- Recycled plastic compounds for the automotive sector is another relevant source of growth in our view. Both the need from automakers to save money and the increased recycling percentages requested by regulations are the driver of this demand.

Finally, in our view the fact that SERI is vertically integrated and masters both lead acid and LIB technologies are advantages vs. some of its competitors.

SWOT ANALYSIS

STRENGTHS

- An entrepreneurial company with a global mindset (and production footprint);
- A perfect example of circular economy that could fit well in every ESG portfolio;
- Operating in a very promising market: the rechargeable battery one;
- Vertically integrated R&D and production: from active materials (lithium) to second-life battery re-usage/re-cycling;
- Revenues are quite differentiated by channel (mostly AM) and end market with a good mix of cyclical, anti-cyclical and a-cyclical sectors;
- A proven track record in innovation;
- Able to grow also through M&A (7 acquisitions completed since 1999);
- Supply of key raw material (Lithium and lead) secured (thanks to the JV in Argentina and the smelter, Repiombo);
- A solid management team able to deliver growing financial results;

WEAKNESSES

- Size: although SERI Industrial targets specific niches, the broader battery market sees much bigger players participating;
- The business is a capital-intensive one: while SERI Industrial was able to manage the issue also thanks to public grants, in the future capital requirements may be relevant (although investment per MWh would decline compared to the startup phase);
- Customer concentration risk: top 5 clients represent 25% of group revenues (higher than that on plastic, lower on accumulators. COES very fragmented). This risk could be reduced by the Lithium project which should diversify the customer base;
- The company has a limited track record with the financial markets;

OPPORTUNITIES

- The “Lithium project” should see the start of production in 2020 and could be a game-changer;
- The point above is amplified by the inclusion, as the main (and basically only) Italian company to the European Battery Alliance;
- Projects still under discussions may be sizeable both in terms of revenues and profitability (submarines, military vehicles and public transport);
- The group structure is complex, and management has been busy dealing with the former KRE. Now that it is more focused, we see space for more cost efficiencies;
- Incentives to the purchase of cars, ebikes and industrial equipments could spur the demand;
- While we included the R&D and capex related to the active material technology development, we didn’t put any revenues from it. This, in the context of a potential specific JV in Argentina, could be a source of upside.

THREATS

- The variety of on-going projects would require a significant amount of human capital;
- The variety and complexity of on-going projects poses execution risks;
- Technology evolution could pose risks if the company is not able to follow-anticipate it;
- Raw material price fluctuations: despite very high level of vertical integration, some raw materials used in LIB could be extremely volatile and price-transfer could happen with a time-lag;
- Risk of political/economic turmoil in Argentina could impact the local JV.

FINANCIALS – 2020 IMPACTED BY INVESTMENTS...AND BY COVID-19

SERI Industrial revenues grew massively from the EUR52.6 million posted in FY2012 as we shown already in the company description. Growth has been organic (where we include also new initiatives/businesses developed internally) and external. 2019 saw the launch of a new initiatives (Teverola I or the “Lithium project”) and an acquisition (COES). From 2020 the company should also start to invest in another initiative, the IPCEI program:

- **Teverola I (“Lithium project”)**: EUR55.4 million investments which was part of the EUR92.5 million spent in 2018 and 2019 in capex and R&D;
- **COES**: revenues were already consolidated in 2019 given that the business was already operated by SERI. The final purchase was signed in December 2019 at a price of EUR7.6 million which were recorded in the working capital (current liabilities) to be paid over the course of 2020-21 with bi-monthly installments;

From 2020 the company should also start to invest in another initiative, the IPCEI program:

- **The IPCEI program**: it should mean capex of EUR358 million and Opex of EUR147 million in the period 2020-26 with first revenues expected from 2023 (“3b” technology) and a further uptick in revenues from 2027 (“4” technology). The opex should be balanced by non-refundable incentives with therefore no net impact on the P&L. The capex will be funded through debt which will be repaid by, again, non-refundable government incentives. It will impact P&L through D&A on the increase in fixed assets.
- Our published estimates do not include the revenues of the IPCEI program, but we thought it would be useful to include indications on its magnitude. Considering the expect production capacity (2.5 GWh) we may assume the associated revenues to be in the EUR600/750 million region (although the profitability would be lower than the one we expect on the Lithium Project which is more oriented towards niches. IPCEI would target more mass market application that commands lower EUR/KWh rates). Needless to say, it would be a transformational project for SERI.

The company, in the 2019 results press releases, spoke about a 2019-21 Business Plan which however is not public and has to be updated to include the IPCEI program.

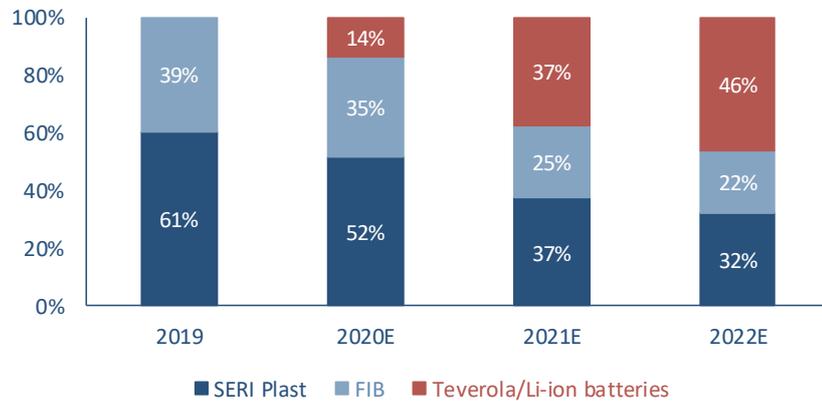
In 2019 the company implemented actions to simplify its corporate structure by merging several legal entities. This resulted into two Business units (from previous four). The benefits are lower structure costs and a leaner control chain. Due to the changes historical figures by business units are not comparable.

The company financials are reported in IAS/IFRS including IFRS 16. Therefore, our estimates use the same standards.

Income statement – deconstructing the forecasts

In the period 2017-19 revenues have grown at a 63.2% CAGR with most of the growth, we estimate, posted by FIB (the accumulators division). Two-thirds of the 2019 revenues were coming from plastic components, as can be seen in the next graph, but as Teverola ramp-ups its Li-ion batteries capacity, the weight of accumulators should grow and reach two-thirds of total revenues by 2022:

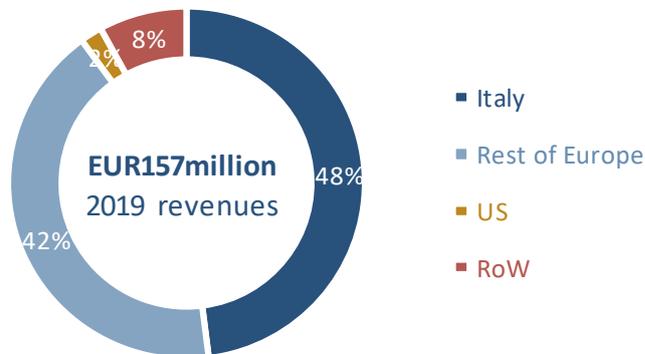
Figure 37 – Revenues breakdown by division



Source: Company data

Half of the 2019 revenues are done with Italian customers and another 40% to European customers:

Figure 38 – FY19 revenues breakdown by geography

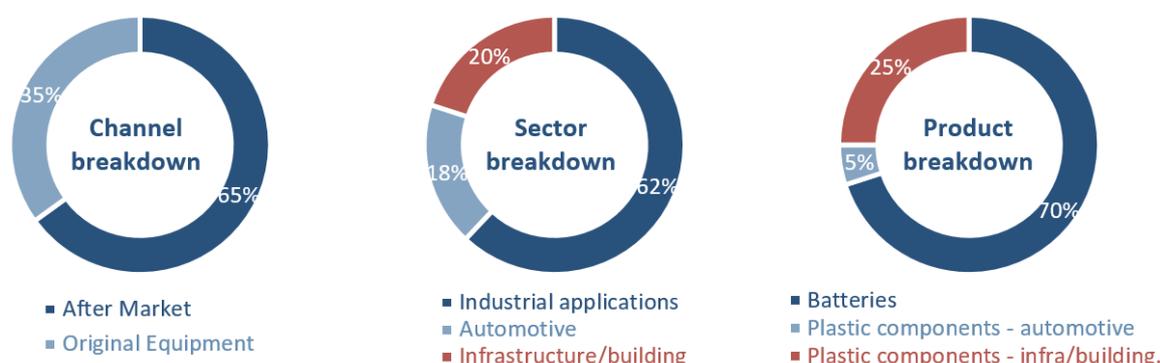


Source: Company data

In trying to assess the revenues breakdown as of 31 December 2019 by channel, products and by sector exposure we estimate that:

- **By products:** batteries are the most relevant product (being it accumulators or battery boxes) and we estimate it represents slightly more than 75% in 2019. Plastic-building material (COES) represents around 20% while the rest is plastic components for automotive;
- **By sector:** from the above bullet it is easy to understand that industrial applications should represent around 60-62% of total 2019 revenues, automotive around 18-20% and infrastructure/building around 20%;
- **By channel:** the majority of revenues are on the aftermarket (we estimate 65/70%). On accumulators this share is even higher (we estimate 70/75%) and a similar share could be recorded on plastic building components. On the products for the automotive market the split is more even;

Figure 39 – FY19 revenues breakdown by channel, sector and product



Source: Company data

Summing up our findings, we expect SERI revenues to grow at a 2019-22 CAGR of 25.7%.

The 2019 perimeter revenues, therefore based on the sector weight on revenues described in the above bullets, are expected to grow at a 2019-22 CAGR of 1.9% which is based on the Lead-acid batteries market growing at a 3%, the automotive plastic components market at a 1% CAGR and the plastic building material market at a 1% CAGR.

Another way of de-constructing our estimates assumes that the AM, usually more stable, should grow at a 3% pace while the OE channel at a 1.5% pace.

To the above mentioned 2019-22 revenues CAGR, which is based on the 2019 business perimeter, one should add the “Lithium project” revenues. On that front, we assumed that the production would start in 4Q '20 and that the ramp-up will be gradual over the course of 2021. Given that the customer base is mostly represented by utilities like Enel X, Enel Green Power, Edison and the likes (for ESS applications) and industrial companies like Merlo, Jungheinrich and the likes (for industrial applications) the selling price on average, we estimate, is around EUR500/KWh:

Figure 40 – Teverola estimates

	2020E	2021E	2022E	2023E
MWh	37.0	166.5	266.4	306.4
YoY growth		350.0%	60.0%	15.0%
Price (EUR/KWh)	550.0	539.0	528.2	517.7
YoY growth		-2.0%	-2.0%	-2.0%
Revenues	20.4	89.7	140.7	158.6
YoY growth		341.0%	56.8%	12.7%
EBITDA	5.1	22.4	39.4	42.8
EBITDA margin	25.0%	25.0%	28.0%	27.0%

Source: UBI Banca estimates

The major unknown right now is as to when the production will start and not if the demand is there.

The Gross margin of companies like Varta and CATL is above 30% and (and Varta produces both lead-acid and electric batteries). Furthermore, their electric batteries are more mass-market than the one to be produced at Teverola (price difference is huge,

EUR200/250 KWh for EVs and more than EUR500/550 KWh on niche applications, in our view). We would assume that Teverola I could easily reach the 30% EBITDA margin level considering also the low fix cost base (75 FTE in 2020 and, we assume, other fix costs for EUR2/3 millions). We therefore set a 28% EBITDA margin to be reached by 2022, when the facility should be at cruise speed.

Moving to the group figures, we expect Adj. EBITDA to grow at a 2019-22 CAGR of 41.7%, above the revenues growth rate and mostly driven by the operating leverage (we assumed a 40/60 split for fix vs. variable costs, operating leverage is therefore 47/48%). Negative pricing, typical of the sector, should be balanced by cost optimization efforts.

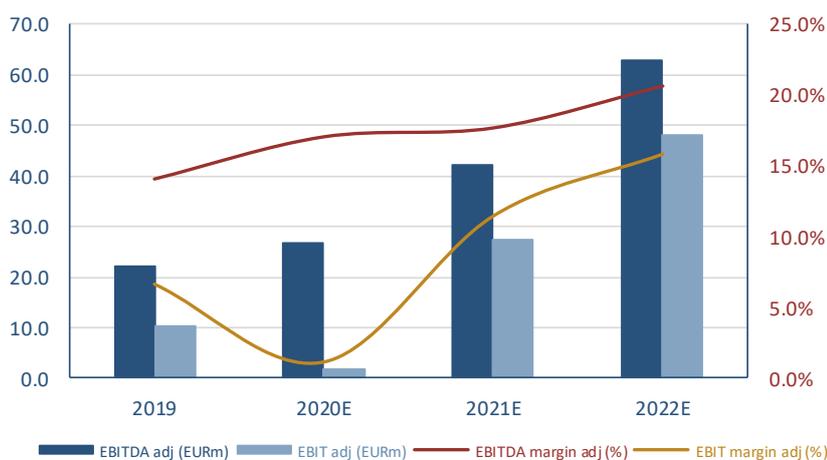
Slicing the costs by the main components we estimate:

- That the higher profitability at the accumulator BU is driven mostly by lower fix costs (and by a couple of percentage points of higher contribution margin). We expect this gap to enlarge once Teverola I will enter production;
- By the same token, D&A is higher for the accumulator BU (higher capital intensity) and should remain like that also in the future;
- Overall, we expect the company to maintain a stable gross and contribution margin while growing the EBITDA because of operating leverage. EBIT instead should grow at a lower speed due to the increase in D&A which is obviously capex-related. In particular, D&A in 2020 should spike (accelerated depreciation of some R&D expenses) and then normalize from 2021. This leads to breakeven at EBIT level this year.

Financial charges should remain broadly unchanged given that the majority of the capex is financed by non-refundable grants and the refundable part is financed at a very low rate. Some more credit lines to finance the working capital are the reason why financial charges hedges marginally up.

Adjusted Net Profit, considering an average tax rate of 36%, is seen posting an 81.8% 2019-22 CAGR. In the next table we present our P&L estimates:

Figure 41 – EBITDA adj. and EBIT adj. 19-22 forecasts



Source: Company data

It is worth mentioning that the 2019 figures for EBITDA and EBIT are adjusted for several one off mostly related to: a) a fire that took place in the Avellino plant; b) startup costs for Teverola; c) inventory write off due to the fire at Avellino; d) legal costs for a controversy with the CEO of the China based subsidiary. All in all, those items weighted for EUR2.67 million on EBITDA and EUR3.70 million at EBIT level (where the latter includes also EUR1 million D&A and rents linked to Teverola).

Our 2020 estimates incorporate a 19% fall in SERI Plast (plastic components) revenues and a 16% fall for the batteries division (before adding the revenues coming from Teverola I), to consider the impact of COVID-19. While visibility is low, we based our estimates on the indications given on the AM by Pirelli (-18% YoY expected in 2020) and Michelin (which said March was -21% YoY for car tires while only -4% for truck tires) and by the few spare parts distributors that provided a guidance (O'Reilly saying second-half of March saw a -13% YoY);

Deconstructing FY2020 estimates by quarter, COVID-19 has already impacted 1Q20, as can be seen in the next table. It is worth mentioning that SERI experienced no plant shutdown (the energy storage and the building components sold by COES are considered an essential activity and, to a lesser extent, also the aftermarket of components for industrial applications like tractors, trucks and forklifts were). During 1Q20 Electric accumulators performed well, considering the environment, and declined only 6% YoY (almost entirely due to the Chinese affiliate which was in lockdown already since February). Plastic components instead posted a -25% YoY mostly due to the automotive-related activities while "pipes & fitting" sales held better.

2Q20 should be the worst quarter of the year because, due to customers plant closures and lower equipment's utilization by end-users, revenues at SERI should decline high double-digit. In the 1Q20 press release the company mentioned that in May it witnessed a recovery in the activity. In April YTD accumulators, that lost 6% YoY in 1Q20, recorded a -11% YoY. Our 2Q20 estimates assume a negative double-digit figure in May and that a slightly positive one in June. Plastic components instead reported a -36% YoY in April YTD and our estimates assume heavy double-digit decline both in May and June.

Please note that, from 4Q20, we forecast Teverola I to be invoicing to customers (net of which 4Q20 revenues would grow in the high single-digit):

Figure 42 – FY20 quarterly estimates

	1Q19A	2Q19A	3Q19A	4Q19A	1Q20A	2Q20E	3Q20E	4Q20E
Total Revenues	38.5	52.2	19.6	46.2	30.9	34.3	17.3	69.8
YoY % change					-19.9%	-34.3%	-11.9%	51.1%

Source: Company data, UBI Banca estimates

The company disclosed full figures for the half and full year as in 1Q and 3Q it reports revenues only.

Balance Sheet – More capital employed, debt to decrease from 2021

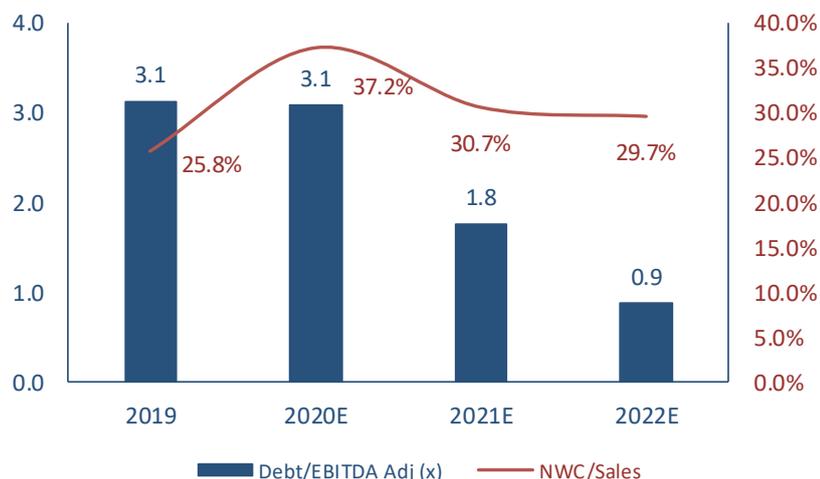
SERI ended 2019 with a EUR69 million net debt because of hefty capex (more than EUR100 million in 2018-29 combined). Since the major reason of those capex (Teverola I) should produce revenues only by the end of 2020, and hampered by COVID-19, net debt should increase also in 2020 to the EUR82.5 million tunes (around 3.1x EBITDA Adj).

Most of the credit lines are short-term, and they include also a EUR10 million financing which should be paid back by Invitalia directly to banks in the context of the incentives for Teverola I. This is not included in our estimates, meaning that, when Invitalia will paid down the credit lines SERI net debt will go down by a similar amount. We are also not including the eventual reimbursement from the insurance on the Avellino plant which had a fire last year and the residual disposal of the KRE portfolio. EUR2.0 million could be the benefit to the net debt position. Management has been public in saying it would like to switch some of the short-term financing into long-term and that it has undrawn (committed) credit lines to more than cover short term maturities.

The NWC/Sales instead should rise in 2020 due to the launch of Teverola (inventory build-up and receivables) and due to the disruption caused by COVID-19 to the supply chain. The acquisition of COES had an impact on NWC too which should be reabsorbed in the next 2 years. NWC/Sales should decrease in 2021 when Teverola will be at cruise speed and then stabilize thereafter.

The major trends relevant for a better understanding of the BS are summarized in the following graph

Figure 43 – Net Debt/EBITDA and NWC/Sales 19-22 projection



Source: Company data, UBI Banca estimates, 2019 debt includes IFRS16

Cash flow – Capex and NWC key variables to finance the breakneck growth

SERI booked relevant capex in 2017-19 to finance the development of Teverola I but also to support the growth of the current perimeter and to finance some acquisitions. In our estimates we assume still a tail of extraordinary capex in 2020 to complete the start-up of Teverola. Maintenance (or better, ordinary) capex should bottom in 2021 after the heavy investments of 2018-20 and then could mildly grow as the perimeter of the company enlarges.

As capex level normalizes the cash flow would turn positive, despite the NWC absorption due to the top line growth:

Figure 44 – Capex and FCF 19-22 projection



Source: Company data, UBI Banca estimates

We are not assuming any dividend in the forecast period although in 2022, with a Debt/EBITDA below 1x and a significant cash generation we don't rule out that management could decide to reinstate a dividend.

VALUATION AND INVESTMENT CASE

Our target price of EUR6.0 p.s. was obtained by applying a 30% discount to EUR8.6 p.s. which is the simple average of different valuation methods:

- A DCF and an EVA (which we consider the main criteria) which returned a fair value of EUR8.7 and EUR8.1 respectively;
- A peer comparison, although exact comparables are not easy to find, which returned a fair value of EUR8.8;

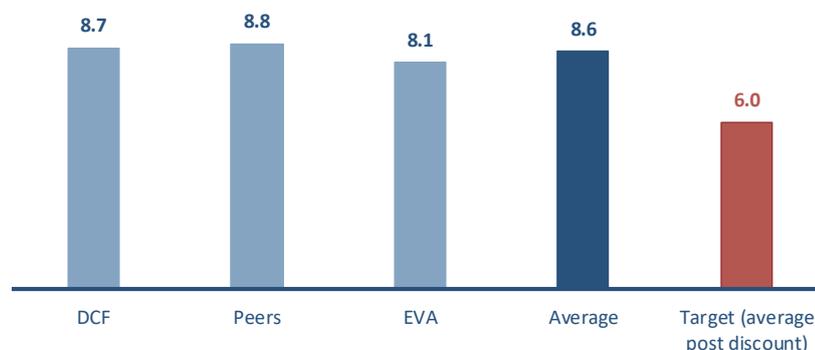
Upside to our TP may be given by:

- The IPCEI program: we would begin to increase *g* and normalized ROACE once all the bureaucratic items are defined with the Italian government and the investment begins;
- Scrapping incentives both for cars and industrial equipment's (trucks, construction, tractors, forklifts).
- Any bolt-on M&A activity aiming to enlarge the customer base or to widen SERI's core competencies.

Vice versa, downside to our rating/TP may come from:

- A delay in the ramp-up of Teverola I production;
- A worst-case scenario on COVID-19.

Figure 45 – Summary Valuation (EUR)



Source: UBI Banca estimates

We initiate the coverage with a BUY based on:

- The unicity of SERI Industrial in the European panorama: few companies are independent, listed and active in the battery value chain (i.e. from recycle to cell production with proprietary technology and raw materials);
- The upside to financials/valuation given by the revenues/EBITDA that should come from Teverola I;
- The benefits of the public grants/financing (i.e. production facilities with limited investments);
- The fact that the story is relatively undiscovered;
- The fact that the stock screens cheap both on absolute and relative valuation methods.

Peers comparison

Before entering into the comparison exercise, it is worth noticing that peers share prices have been broadly flat YTD (+3.7%) although with massive gaps between one and the other) while SERI posted a strong +81.7%, outperforming the broader index (FTSE Italia All-share down by 28% YoY).

In the peer's comparison valuation, we tried to capture the long-term prospects of SERI while, by sharp contrast, the heavy investments executed in 2019 and 2020 would penalize the short term. For this reason, on 2020, we considered only the EV/EBITDA based valuation as the company is breaking even at EBIT level (due to the heavy D&A) and, consequently, at bottom line levels. The peer's comparison returned a fair value of EUR8.8, as can be seen in the next table:

Figure 46 – Peers Valuation

(EURm, EUR, x)	2020E	2021E	2022E
EV/EBITDA - peers	16.8x	11.0x	9.5x
Adj. EBITDA	26.7	42.2	62.7
Implied EV	449	462	598
Debt/(Cash)	83	74	55
Pension liabilities + factoring	19	19	19
A - Equity Value	347	369	523
EV/EBIT - peers		16.9x	14.1x
Adj. EBIT		27.3	47.9
Implied EV		461	674
Debt/(Cash)		74	55
Pension liabilities + factoring		19	19
B - Equity Value		367	600
PE - Peers		23.2x	17.2x
Adj. Net Profit		14.5	30.2
C - Equity Value		336	521
Fair Value (average of A, B and C)	347	357	548
N.° of shares	47.3	47.3	47.3
Fair Value per share	7.3	7.6	11.6

Source: FactSet, UBI Banca estimates

As peers we selected a group of companies split into Tier I (which could be used as a guidance in terms of valuation) and Tier II which, although relevant in terms of major trends (i.e. future mobility technology), are not 100% comparable with SERI. Tier I include:

- **Varta AG:** mentioned in the paragraph describing the competition, Varta AG is a German company that produces and markets micro batteries and energy storage solutions through the business segments “Micro batteries & Solutions” and “Household Batteries”;
- **Energys:** mentioned as well in the paragraph describing the competition, EnerSys is a US firm which manufacture and distribute reserve power and motive power batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide;
- **Voltabox:** mentioned as well in the paragraph describing the competition, it is a German producer of battery systems for industrial use (forklifts, mining vehicles, electric buses for public transport and automated guided vehicles), high-quality lithium-ion batteries for the mass market (motorcycles and sports cars), electrical drive systems;

- **Umicore:** it produces automotive catalysts (for gasoline and diesel light and heavy-duty diesel applications, including on-road and non-on-road vehicles), materials (cobalt and specialty materials, electro-optic materials, electroplating, rechargeable battery materials and thin film), recycling (precious metals refining, jewelry and industrial metals);
- **GEM:** it does R&D and industrialization of recycling systems and recycled products. It focuses on used batteries, waste electrical and electronics, scrapped automobiles, and cobalt-nickel-tungsten rare metal waste. Its products include cobalt and nickel products, wood plastic composites, recycling, and plastic products;
- **Solar Edge:** it develops smart energy technology (photovoltaic inverters, power optimizers, photovoltaic monitoring, software tools, and electric vehicle chargers).

Tier II companies instead are:

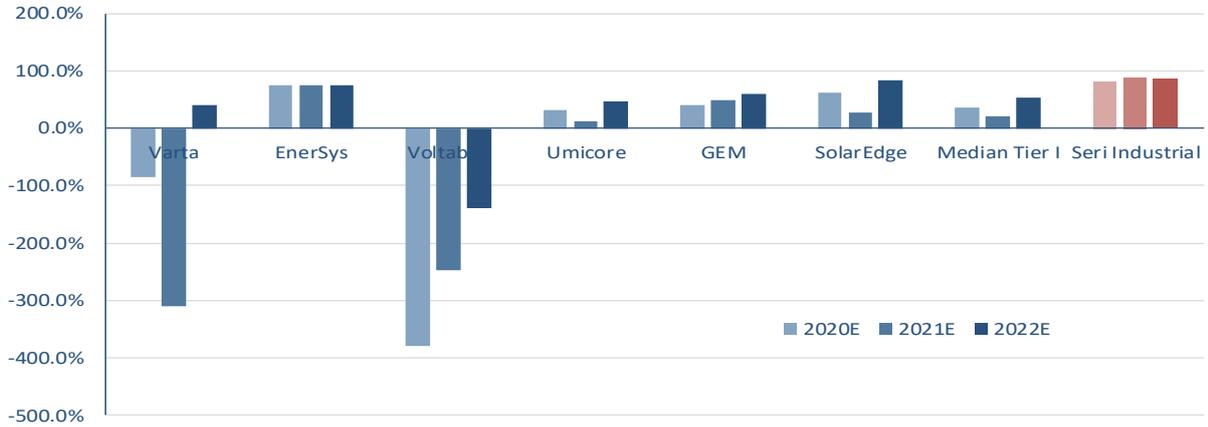
- **CATL:** very similar to SERI (R&D, production and sale of power battery systems, energy storage systems, and lithium battery materials) it is in the Tier II because of its size and because it is more mass-market than SERI is;
- **Ganfeng:** it is more in the materials part of the battery value chain (manufactures lithium chloride, lithium fluoride, lithium carbonate, lithium hydroxide and lithium magnesium alloy. Its products include lithium metal, battery grade, low sodium, catalyst grade, lithium fluoride, lithium rods, tablets, particles, battery grade lithium carbonate, lithium hydroxide, lithium chloride, anhydrous and battery grade lithium fluoride);
- **Hitachi Chemical Company:** it manufactures batteries but not only, and therefore has been excluded from the Tier I (on top of its market capitalization). It produces also functional materials (inorganics and polymers), electronic components, and automotive products (capacitors and diagnostic instruments);
- **Shenzhen Capchem Technology:** while it designs and produces lithium-ion batteries it is more involved in similar products like supercapacitors, aluminum electrolytic, nuclear power, photoelectric polymer materials, semiconductor chemical, chemical reagent, and cover discs;
- **Nari Technology:** the applications for which it is a good peer for SERI are “power utilization and demand-side management”, “power PMS/OMS and related ICT software and hardware integration”, “EV charging facilities supply and operation power dispatching automation”. It is also active in power grid security & stability analysis and control, power market operation system, and protection and automatic devices with a wide spectrum of applications.

Despite the tiering, all companies have financials and multiples which are not dissimilar one to the other. If we look in details at Tier I, financials of those companies are not dissimilar from SERI's, above all if we consider 2021 and 2022, when Teverola will be up and running. SERI Industrial shows:

- Higher cash conversion ratio (measured as EBITDA less capex on EBITDA) but lower FCF/EBITDA (consequence of the high NWC absorption due to the sales growth);
- Significantly higher Capex/Sales in 2019 and 2020 but significantly lower thereafter;
- ROCE becomes comparable only from 2022, when the asset base will be almost fully utilized, justifying why the EVA fair value is the lowest of the three valuation methods. In 2022 SERI's ROCE is significantly better than peers' one;
- Comparable EBITDA margin.

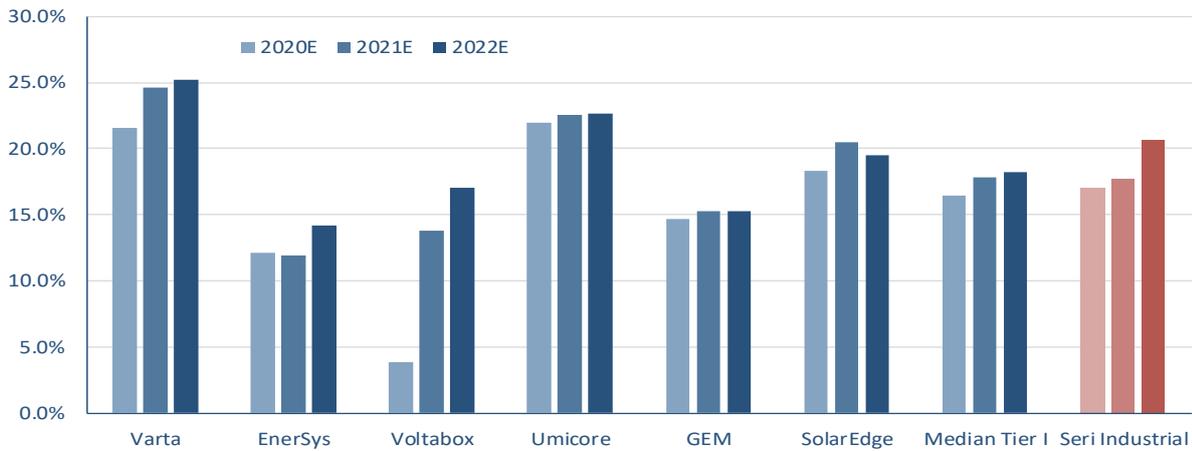
This is explained, in our view, by the quasi-startup nature of SERI as it is investing massively in a business which will provide meaningful returns in 2021-22.

Figure 47 – Tier I cash conversion ratio



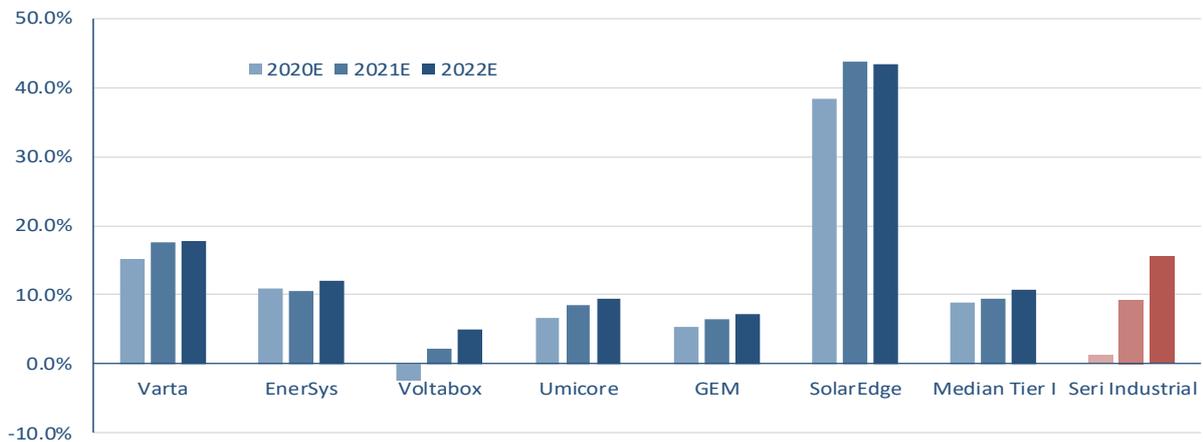
Source: FactSet, UBI Banca estimates

Figure 48 – Tier I EBITDA margin



Source: FactSet, UBI Banca estimates

Figure 49 – Tier I ROCE



Source: FactSet, UBI Banca estimates

A summary of the peer group multiples is evident in the next table:

Figure 50 – Peer group – Multiples (priced on 15 May 2020)

Company name	TIER	Price	Currency	Mkt Cap (bn)	EV/EBITDA			EV/EBIT			P/E			FCF Yield		
					2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E
Varta	I	83.9	EUR	3.4	20.5 x	14.4 x	12.1 x	26.8 x	18.9 x	16.0 x	35.2	27.8	22.8	-5.3%	0.9%	1.5%
EnerSys	I	51.3	USD	2.2	8.8 x	9.3 x	7.4 x	12.0 x	13.3 x	10.6 x	11.7	13.3	9.1	8.2%	3.4%	5.0%
Voltabox	I	4.2	EUR	0.1	25.0 x	6.3 x	6.0 x	NA	16.9 x	13.5 x	NA	31.0	15.5	15.4%	-10.4%	-2.0%
Umicore	I	36.6	EUR	9.0	15.4 x	12.4 x	11.1 x	23.8 x	18.5 x	16.5 x	33.6	24.3	20.9	-1.0%	0.4%	1.6%
GEM	I	0.6	CNR	2.4	11.7 x	9.7 x	8.8 x	21.0 x	16.6 x	14.1 x	21.3	16.3	14.3	-3.6%	-1.7%	2.8%
SolarEdge	I	111.3	USD	5.5	19.5 x	13.7 x	11.8 x	25.6 x	17.3 x	13.7 x	40.1	26.6	20.9	2.9%	4.0%	5.2%
Ganfeng Lithium	II	3.4	HKD	8.0	45.3 x	29.9 x	26.2 x	62.1 x	37.6 x	30.3 x	42.5	25.9	20.9	-0.8%	0.0%	0.7%
Cont. Amperex	II	18.9	CNR	41.8	28.4 x	22.2 x	17.2 x	48.0 x	36.7 x	28.4 x	62.2	48.5	38.1	0.0%	1.3%	2.9%
Hitachi Chemical	II	39.8	YEN	8.3	12.1 x	11.4 x	NA	27.8 x	25.1 x	NA	36.6	33.4	33.7	1.3%	1.3%	NA
Shenzhen Capchem	II	5.5	CNR	2.2	NA	NA	NA	NA	NA	NA	36.0	28.3	22.4	2.3%	2.3%	3.6%
NARI Technology	II	2.6	CNR	12.0	11.9 x	9.9 x	8.1 x	13.7 x	11.4 x	9.5 x	17.5	15.1	13.1	3.0%	5.1%	4.5%
Average – Tier I					16.8 x	11.0 x	9.5 x	21.9 x	16.9 x	14.1 x	28.4 x	23.2 x	17.2 x	2.8%	-0.6%	2.4%
Median – all peers					19.5 x	12.4 x	11.4 x	26.2 x	18.5 x	15.1 x	36.0 x	27.2 x	20.9 x	1.3%	1.3%	2.9%
Seri Industrial		2.98	EUR	0.14	8.4 x	5.1 x	3.1 x	119.5 x	7.9 x	4.1 x	-76.9 x	9.7 x	4.7 x	-3.5%	5.8%	13.4%
Premium/(Disc.) to Tier I					-50.2%	-53.4%	-67.2%	NM	-53.3%	-70.9%	NM	-58.1%	-72.9%	NM	NM	NM

Source: FactSet

Here below we report SERI's multiples at our target price, which in our view are fair considered the strong growth profile (i.e. the stock is more expensive on 2020 P/E and gets cheaper by 2021/22):

Figure 51 – PE at target price

(EUR, x)	2021	2022	2023
TP		6.0	
EPS	0.31	0.64	0.68
PE	19.6	9.4	8.8

Source: UBI Banca estimates

Discounted Cash Flow Valuation

We believe that a DCF valuation incorporates well the merits of the future returns on Teverola. The usual pitfalls of a DCF on a growing company are mitigated in this case by the combination of the tough 2020 (due to COVID19) with another “recession year” assumed in the first year of the non-explicit forecasts. We believe that this two-stage DCF captures well SERI's value. The DCF is based on:

- Explicit estimates until 2023;
- In 2024 we assume (another) recession (revenues down 5%) and then a recovery in 2025. EBIT margin is expected to decline by 200bps while capex declines YoY assuming some corrective actions by the management, NWC should release cash;
- Terminal value of 1.5%, applied to a “stabilized” year, thus not particularly

aggressive (EBIT margin assumed at 13.9%, capex in line with D&A, and neutral). This returns an exit EV/EBITDA multiple of 8.5x;

- A WACC of 6.8% deriving from:
 - A free risk rate of 3.0%, higher than the current market one;
 - An equity risk premium of 4.5%;
 - A beta of 1.0;
 - A sustainable D/E, implying a 2022 Debt/EBITDA of 1.0x (in line with peers' average).

In summary, here below we present the results of our DCF valuation:

Figure 52 – DCF Valuation

(EURm, %)	
PV of future cash flows	131
PV of terminal value	349
Enterprise Value	480
Net (Debt)/Cash 2019	69
Equity Value	411
Long Term growth rate	1.5%
No of shares	47
Equity Value per share	8.7

Source: UBI Banca estimates

Given that we were particularly conservative in our DCF assumptions, we looked at a sensitivity which returns much higher upside:

Figure 53 – DCF Sensitivity Analysis

(EUR, %)		Terminal growth rate		
		1.0%	1.5%	2.0%
WACC	6.3%	9.0	9.8	10.7
	6.6%	8.5	9.2	10.1
	6.8%	8.1	8.7	9.4
	7.1%	7.6	8.2	8.9
	7.3%	7.3	7.8	8.4

Source: UBI Banca estimates

EVA Valuation

We particularly like the EVA method because, on top of being an absolute valuation method, it considers the capital efficiency of a company and the level of utilization of its asset base. This is a difficult model to apply when a company is increasing massively its asset base but returns obviously come with a time lag (which is SERI's case). A way to go around that would be to use the expected ROACE rather than the current one (if we were to do that, SERI's fair value would be 19% higher than the one described in the next table).

The way we use the EVA theory to value companies is quite straightforward: we look at the post tax ROACE (or ROIC) and then compare it to the WACC. In SERI's case this ratio, we estimate, is 2.1. This means that for every euro employed in the company being it equity or debt than a EUR2.1 is obtained in return. Therefore, by applying this ratio to the overall capital employed a fair EV is obtained which returned a fair value of EUR8.1:

Figure 54 – EVA Valuation

(EURm, %)	
Average CE 21-23	218
Average EBIT (post tax) 21-23	27.4
Average ROACE	12.6%
WACC	
Risk free rate	3.0%
Beta	1.00
Market premium	4.5%
Cost of Equity	7.5%
Cost of debt	3.2%
% Debt on CE	35.0%
ROACE/WACC	2.1
Average CE	218
A - Implied EV	458
B - Net (Debt)/Cash – Average 21-23	54
C - Pension liabilities	19
Implied Equity value (A-B-C)	385
N° of shares	47
Piaggio equity value PS	8.1

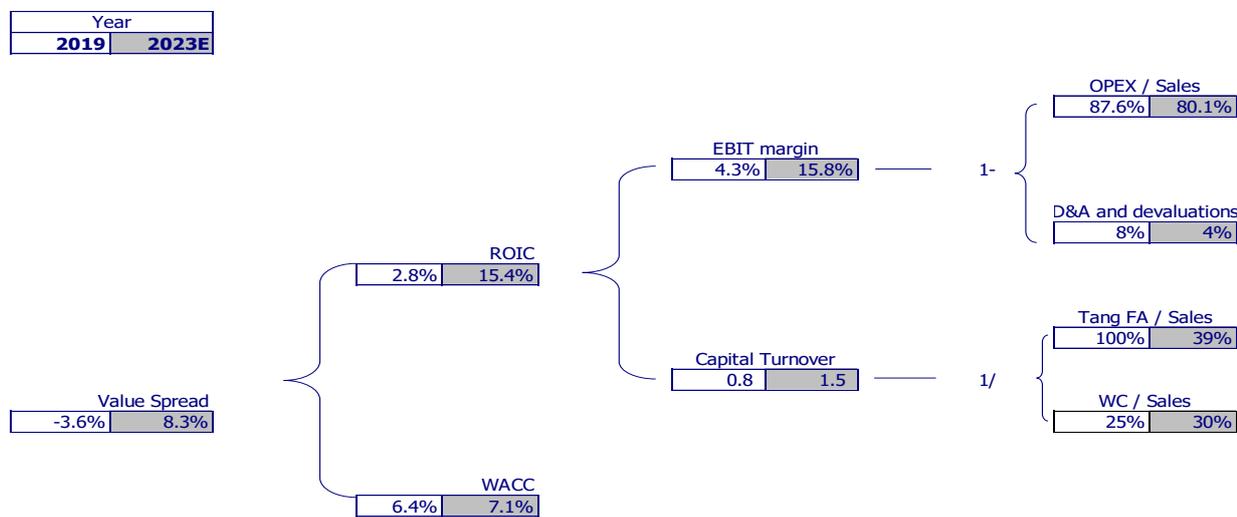
Source: UBI Banca estimates

SERI value spread (i.e. the difference between its ROIC and its cost of capital) turns from negative in 2019 to positive in 2023 because of the growth in the ROIC. This improvement is driven by:

- higher EBIT margins (both because D&A levels decline and opex structure is more coherent with the new sales levels)
- better capital turnover (despite NWC/Sales gets worse its fixed assets are used more intensively).

This is evident in the next graph:

Figure 55 – Value Tree



Source: Company data, UBI Banca estimates

GLOSSARY

Anode and cathode electrodes: For rechargeable cells, the term anode (or negative electrode) designates the electrode where oxidation is taking place during the discharge cycle; the other electrode is the cathode (or positive electrode). During the charge cycle, the positive electrode becomes the anode and the negative electrode becomes the cathode. For most lithium-ion cells, the lithium-oxide electrode is the positive electrode; for titanite lithium-ion cells (LTO), the lithium-oxide electrode is the negative electrode.

Battery versus cell: a cell is a basic electrochemical unit that contains the electrodes, separator, and electrolyte.

A battery or battery pack is a collection of cells or cell assemblies, with housing, electrical connections, and possibly electronics for control and protection.

ESS: Energy Storage System.

European Battery Alliance: an EU commission project to support the creation of a strategic supply chain to produce li-ion cells, currently sourced from Asian players.

Giga-factory: a plant able to produce at least 1,000MWh worth of Li-ion batteries.

Lead Acid battery: It consists of lead (Pb) plates attached to the negative terminal and lead dioxide (PbO₂) plates attached to the positive terminal. Its features, along with their low cost, make them attractive for use in motor vehicles to provide the high current required by starter motors. In fact, despite having a very low energy-to-weight ratio and a low energy-to-volume ratio, Lead-acid ability to supply high surge currents means that the cells have a relatively large power-to-weight ratio.

They are inexpensive compared to newer technologies and therefore widely used even when surge current is not important and other designs could provide higher energy densities.

Lithium-ion battery or Li-ion battery (abbreviated as LIB): is a type of rechargeable battery commonly used for portable electronics and electric vehicles, with a growing popularity in military and aerospace applications.

These kinds of batteries have a high energy density, no memory effect and low self-discharge. However, sometimes they are associated to safety issues since they contain a flammable electrolyte that, if damaged or incorrectly charged, can lead to explosions and fires.

Lithium iron phosphate battery or LFP battery (lithium ferro phosphate): is a type of lithium-ion battery using LiFePO₄ as the cathode material, and a graphitic carbon electrode with a metallic backing as the anode.

The specific capacity of LFP is higher than that of the related lithium cobalt oxide (LiCoO₂) chemistry, but its energy density is less due to its lower operating voltage. The main drawback of LFP is its low electrical conductivity. Therefore, all the LFP cathodes under consideration are actually LFP/C. Because of low cost, low toxicity, well-defined performance, long-term stability, etc. LFP is finding a number of roles in vehicle use, utility scale stationary applications, and backup power

SLI (Start Light and Ignition): Batteries used to start cars, trucks, moto, boats, etc.

Soft pouch cell: a flexible, container able to reduce weight and cost, as well as optimize packaging efficiency at the battery level.

Stationary batteries: are designed for standby or stationary applications. They are used as a backup battery in the event of a power outage.

ESG PICTURE

Corporate Governance

Does the company have a combined Chair/CEO?	No
Percentage of independent directors	42.9% (3 out of 7, including the Chairman)
Percentage of female directors	28.6% (2 out of 7)
Does the company have loyalty shares?	No
Does major shareholders (if any) have a “shareholders pact” in place?	No
Has the company adopted a “poison pill” or “change of control” clauses?	No
Potential dilution from stock options outstanding + not yet granted?	No
CEO remuneration detail (fixed salary)	EUR215 thousand
Chairman remuneration detail (fixed salary)	EUR140 thousand
Is the share price included in the MBO criteria?	No
Percentage of treasury shares	0.0%

Climate related risk

Has the company defined GHG-emissions targets?	Yes
How does the company assess climate-related risk?	
<p>Seri Industrial’s commitment to protect the environment manifests itself not only in the will and ability to market products composed of recycled materials, but also in its responsible management of resources.</p> <p>SERI Industrial has adopted since its foundation a circular economy business model, investing significant resources to accelerate the decarbonization process.</p> <p>All the Company’s plants boast appropriate environment authorizations (ISO 9001, ISO45001 and ISO 14001 among the others).</p>	

Social Responsibilities

Does the company publish a separated Sustainability report?	Yes
Does the company have a Chief SRI/CSR officer (or a committee)?	Yes, Mr. Orsini
Does the Chief SRI/CSR officer votes in any of the company’s committee?	Yes
Is the Investor Relation officer a different person from CFO (or other officers)?	Yes
Is the ESG strategy integrated in the Business Plan (or in the group strategy)?	Yes
Does the company have an ethical code?	Yes
How is the cybersecurity issue managed?	Standard practices

Income Statement

(EURm)	2019A	2020E	2021E	2022E
Total Revenues	156.5	156.5	238.3	303.7
EBITDA	19.4	26.7	42.2	62.7
EBITDA margin	12.4%	17.1%	17.7%	20.6%
EBIT	6.7	1.9	27.3	47.9
EBIT margin	4.3%	1.2%	11.4%	15.8%
Net financial income /expense	-3.4	-4.5	-4.6	-3.8
Associates & Others	0.0	0.0	0.0	0.0
Profit before taxes	3.3	-2.6	22.6	44.1
Taxes	-1.5	0.8	-8.1	-13.9
Minorities & discontinuing ops	-0.3	0.0	0.0	0.0
Net Income	1.5	-1.8	14.5	30.2

Source: Company data, UBI Banca estimates

Balance Sheet

(EURm)	2019A	2020E	2021E	2022E
Net working capital	39.0	55.4	72.0	89.0
Net Fixed assets	157.2	152.4	142.2	136.4
Funds	-7.0	-7.0	-7.0	-7.0
Capital employed	189.2	200.8	207.2	218.5
Shareholders' equity	118.4	116.6	131.0	161.3
Minorities	1.8	1.8	1.8	1.8
Shareholders' funds	120.1	118.3	132.8	163.0
Net financial debt/(cash)	69.0	82.5	74.4	55.4

Source: Company data, UBI Banca estimates

Cash Flow Statement

(EURm)	2019A	2020E	2021E	2022E
NFP Beginning of Period	41.6	69.0	82.5	74.4
EBITDA	19.4	26.7	42.2	62.7
Interest expenses	-3.4	-4.5	-4.7	-3.8
Cash taxes	-1.5	0.8	-8.1	-13.9
Change in Working Capital	2.3	-16.4	-16.6	-17.1
Other	-3.6	-7.0	0.0	0.0
Operating Cash Flow	13.2	-0.4	12.8	28.0
Net Capex	-58.5	-13.1	-4.7	-9.0
Other	17.9	0.0	0.0	0.0
Free Cash Flow	-27.4	-13.5	8.1	18.9
Dividends Paid	0.0	0.0	0.0	0.0
Other & Chg in Consolid. Area	0.0	0.0	0.0	0.0
Chg in Net Worth & capital Incr.	0.0	0.0	0.0	0.0
Change in NFP	-27.4	-13.5	8.1	18.9
NFP End of Period	69.0	82.5	74.4	55.4

Source: Company data, UBI Banca estimates

Financial Ratios

(%)	2019A	2020E	2021E	2022E
ROE	1.5%	-1.5%	10.9%	18.5%
ROI	3.5%	0.9%	13.2%	21.9%
Net Fin. Debt/Equity (x)	0.6	0.7	0.6	0.3
Net Fin. Debt/EBITDA Adj (x)	3.1	3.1	1.8	0.9
Interest Coverage (x)	5.6	5.9	9.1	16.4
NWC/Sales	25.8%	37.2%	30.7%	29.7%
Capex/Sales	38.7%	8.8%	2.0%	3.0%
Pay Out Ratio	0.0%	0.0%	0.0%	0.0%

Source: Company data, UBI Banca estimates,

Per Share Data

(EUR)	2019A	2020E	2021E	2022E
EPS	0.03	-0.04	0.31	0.64
DPS	0.00	0.00	0.00	0.00
Op. CFPS	0.28	-0.01	0.27	0.59
Free CFPS	0.06	-0.11	0.17	0.40
BVPS	2.54	2.50	2.81	3.45

Source: Company data, UBI Banca estimates

Stock Market Ratios

(x)	2019A *	2020E	2021E	2022E
P/E	54.1	-76.9	9.7	4.7
P/CF	6.0	24.7	6.7	3.8
P/BV	0.7	1.2	1.1	0.9
Dividend Yield (%)	0.0%	0.0%	0.0%	0.0%
Free Cash Flow Yield (%)	3.1%	-3.5%	5.8%	13.4%
EV (EURm)	152.3	223.4	215.3	196.4
EV/Sales	1.0	1.4	0.9	0.6
EV/EBITDA Adj	6.9	8.4	5.1	3.1
EV/EBIT Adj	14.6	119.5	7.9	4.1
EV/Capital Employed	0.8	1.1	1.0	0.9

Source: Company data, UBI Banca estimates

* Based on 2019 average price

Growth Rates

(%)	2019A	2020E	2021E	2022E
Growth Group Net Sales	17.3%	0.0%	52.3%	27.5%
Growth EBITDA Adj	44.4%	21.1%	57.8%	48.7%
Growth EBIT Adj	NM	-82.1%	NM	75.8%
Growth Net Profit	-65.8%	NM	NM	108.9%

Source: Company data, UBI Banca estimates

DISCLAIMER

Analyst Declaration

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- e. the remuneration of the analysts is not directly tied to transactions in services of investment firms or other type of transactions it or any legal person part of the same group performs, or to trading fees it or any legal person that is part of the same group receives;
- f. Massimo Vecchio is member of AIAF’s Directive Counsel.

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Disclosure of interests and conflicts of interests pursuant to Delegated Regulation 2016/958/EU

In relation to the Company, the following interest/conflict of interest have been found:

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- > UBI Banca may have long or short positions not exceeding the threshold of 0.5% of the total issued share capital of the issuer

On the basis of the checks carried out no other interest/conflict of interest arose.

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UBI Banca's analysts value the Company subject to their recommendations using several methods among which the most prevalent are: the Discounted Cash Flow method (DCF), the Economic Value Added method (EVA), the Multiple comparison method, the SOP method and the NAV method.

The analysts use the above valuation methods alternatively and/or jointly at their discretion. The assigned target price may differ from their fair value, as it also takes into account overall market/sector conditions, corporate/market events, and corporate specifics (i.e. holding discounts) reasonably considered to be possible drivers of the company's share price performance. These factors may also be assessed using the methodologies indicated above.

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UBI Banca's analysts use an "absolute" rating system, not related to market performance. The explanation of the rating system is listed below:

Buy: if the target price is 15% higher than the market price, over the next 12 months.

Hold: if the target price is 15% below or 15% above the market price, over the next 12 months.

Sell: if the target price is 15% lower than the market price, over the next 12 months.

No Rating: the investment rating and target price have been suspended as there is not sufficient fundamental basis for determining an investment rating or target. The previous investment rating and target price, if any, are no longer in effect. Alternatively, No Rating is assigned in certain circumstances when UBI Banca is acting in any advisory capacity in a strategic transaction involving the Company.

Target price: the market price that the analyst believes that the share may reach within a one-year time horizon.

Market price: closing price on the day before the issue date of the report, appearing on the first page.

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Equity rating dispersion in the past 12 months			
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78.4%	16.2%	2.7%	2.7%
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Buy	Hold	Sell	No Rating
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