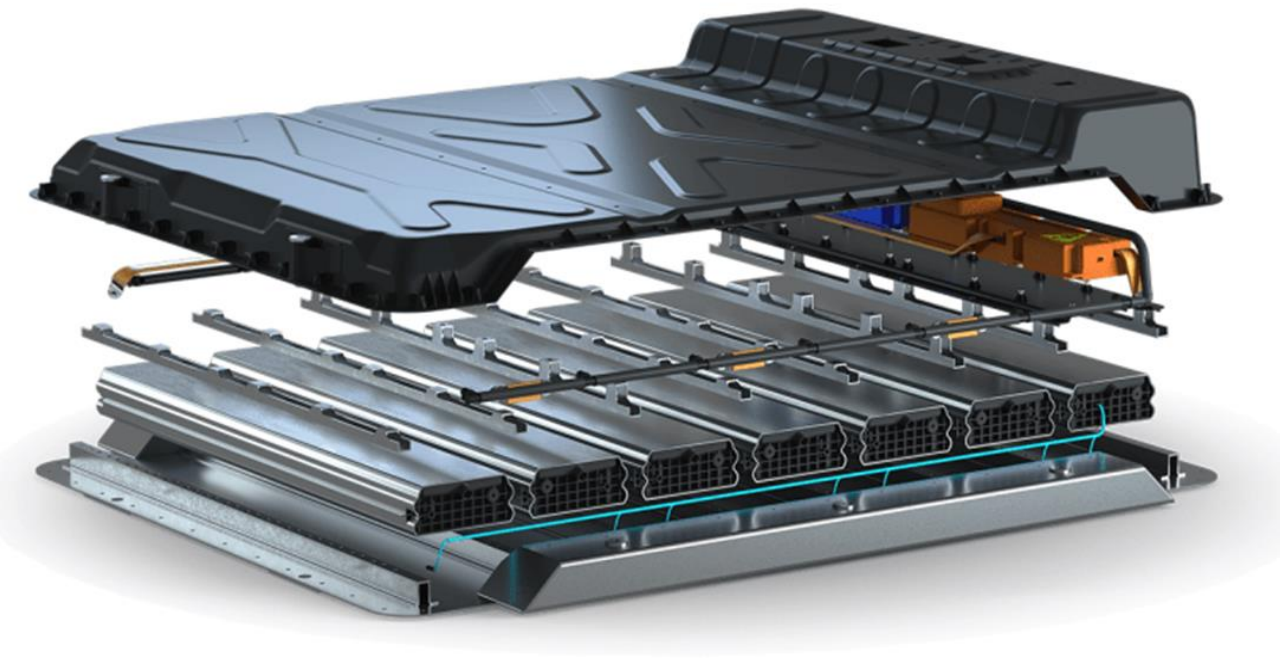


Capital Markets Day

April 25, 2024



OUR MISSION

At LION, we believe in a sustainable future. Through our commitment to battery pack development and research, we want to make the World a cleaner, more sustainable and energy-efficient place. We are convinced that progress and sustainability can co-exist when we work together towards a cleaner Planet.

OUR VALUES

Sustainability is the driving force behind our corporate culture. Sustainability is at the heart of our research and development activities and defines the way we interact with each other. The goal of all our activities is to create added value in a responsible manner. Sometimes it's a long road to get there, and it's difficult to live up to this commitment. But in the end, everyone will benefit – our employees, our customers, our suppliers and our Planet.

Alessio Basteri,
Chairman

INTRODUCTION OF SPEAKERS



Dr. Joachim Damasky is an accomplished automotive industry leader renowned for his visionary approach, strategic prowess, and expertise in driving innovation, sustainability, and collaborative partnerships across various high-profile roles in renowned organizations like Hella, Webasto, the VDA and BMW.



Sales Executive with +25 years of international expertise in the automotive and industrial sectors. With a career dedicated to customer-centricity, Michael has honed a deep understanding of client needs and market dynamics at OSRAM, OSRAM Continental and Plastic Omnium.



Michael Geppert is co-founder and Head of Engineering at LION Smart. After his diploma at TUM and the foundation years at LION Smart, in 2010 he moved to the company's joint venture with TÜV SÜD to help build up one of the then first and largest battery testing laboratories in Germany. Since 2018, Michael took leading roles in Engineering and customer integration of lithium-ion-batteries.



Dr. Eichhorn is a highly accomplished automotive engineer known for his extensive contributions to the automotive industry. With a career spanning several decades, he has played a pivotal role in shaping the future of automobiles and transportation systems in a wide range of areas, from vehicle safety and emissions control to advanced technologies such as electric and autonomous vehicles.



Our mission is to become the leading independent European battery pack manufacturer for bespoke applications



Our battery pack technology fulfils highest automotive EV standards of safety, quality and reliability



Serving the **fast-growing energy storage** and **leisure and commercial electric vehicles** sectors



Strategic focus on **small to medium sized batches** by flexible and modular **battery pack design and assembling**, protected by high barriers to entry



Secured **stable supply of state-of-the-art battery cells** with leading global cell **supplier SVOLT**



Cost-efficient and OEM-tested manufacturing set-up with high degree of automation and capacity to produce 45,000 battery packs p.a.



Sustainability and **clean energy transition** are the **core drivers of our business model**

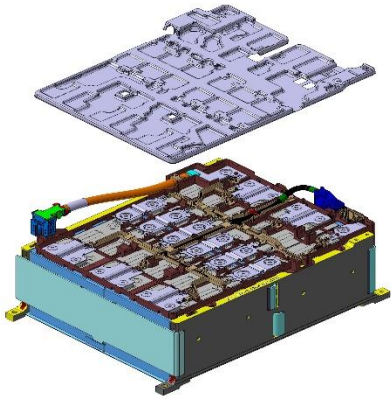


Attractive financial profile, with limited capex requirements and double-digit growth outlook

OUR PRODUCT PORTFOLIO

FROM EXISTING PORTFOLIO AND COMPETENCE ...

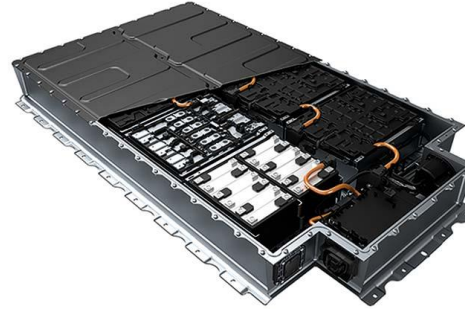
1. Modules



2. BMS



3. Standardized Packs



4. Immersion Cooled



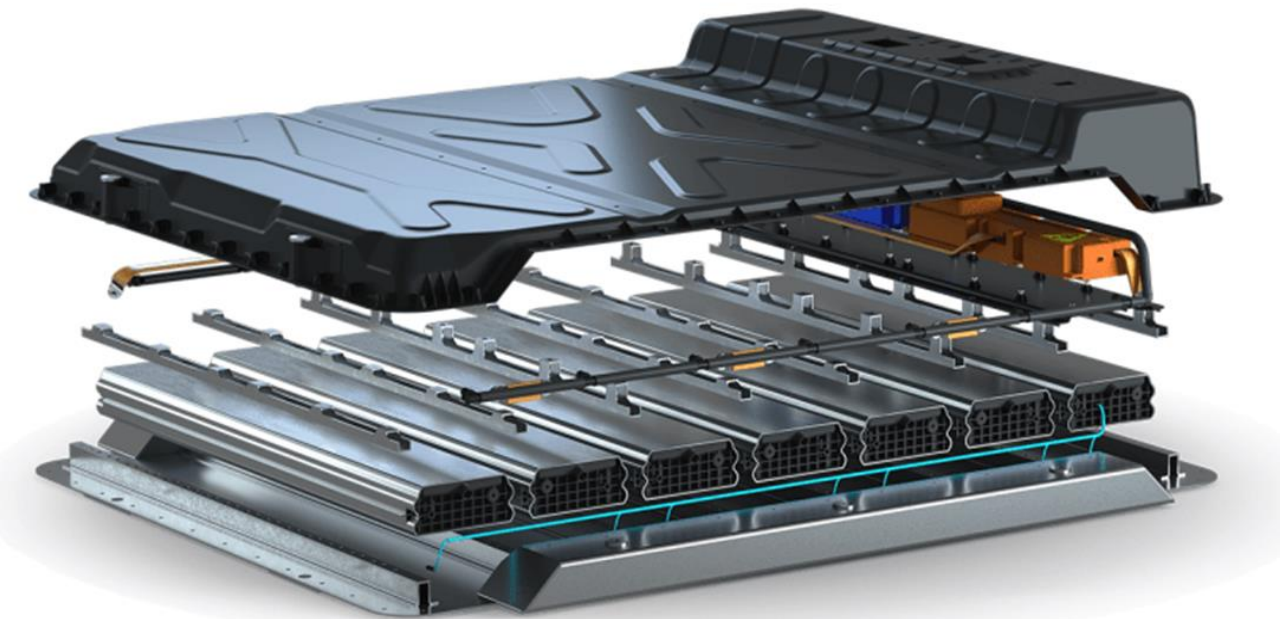
... TO HIGH POWER INNOVATIONS.

Immersion means liquid cooling of the battery cells for high performance in charging and discharging.



1

SALES STRATEGY



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Alessio Basteri,
Chairman

EVOLUTION OF LION SMART

Where does LION come from? Where does LION go?



LION Smart started as a **battery consulting and testing company**, but rapidly became **battery pack integrator and manufacturer**.



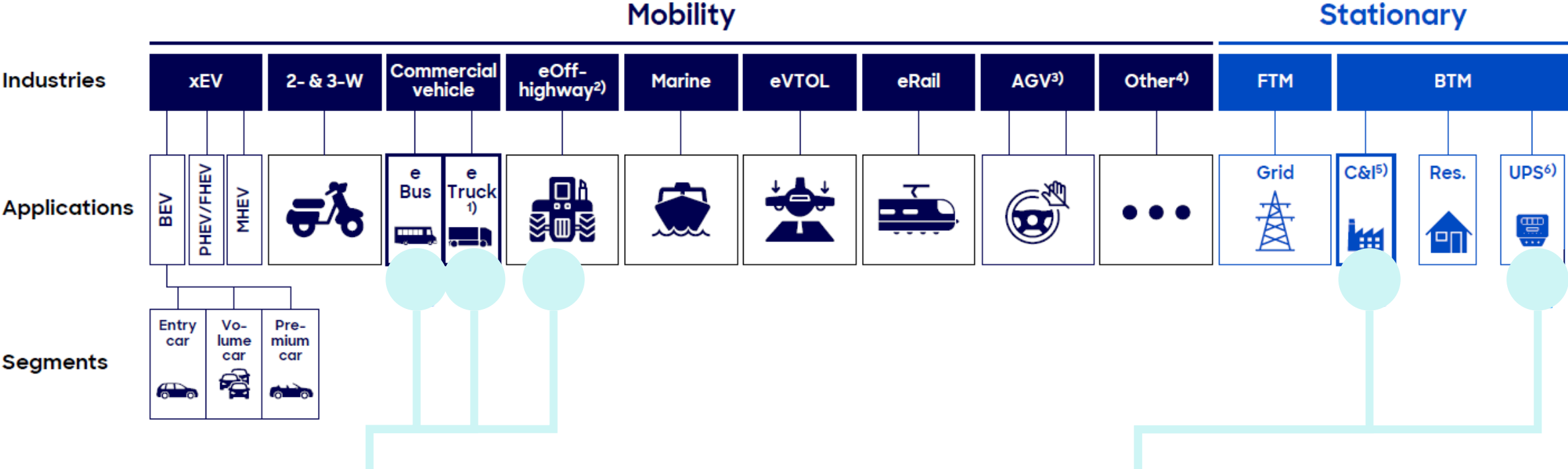
LION's value proposition:

- ✓ **State-of-the-art production facility:**
Fully-automated production operating at automotive standard with capacity of ~45k packs p.a.
- ✓ **Robust and on-road proven battery pack:**
Established on-road track record for safety, quality & reliability with automotive grade
- ✓ **One-stop-shop for battery pack design & integration:**
Coverage of the full value chain from designing to production and after-sales
- ✓ **Inhouse engineering & development competence:**
Technical capabilities incl. being one of the few players active in immersion cooling
- ✓ **Newest generation of cell technology from H2/24:**
Strong technical specs in cycle life, price (new LFP pack) & energy density (NMC+)



MARKETS AND CUSTOMERS

Mobility and Battery Energy Stationary Storage (I/II)



FOCUS MARKETS

Mobility

- E-Bus
- E-Truck
- E-Off highway
- Add. PHEV and BEV Super Sport Cars

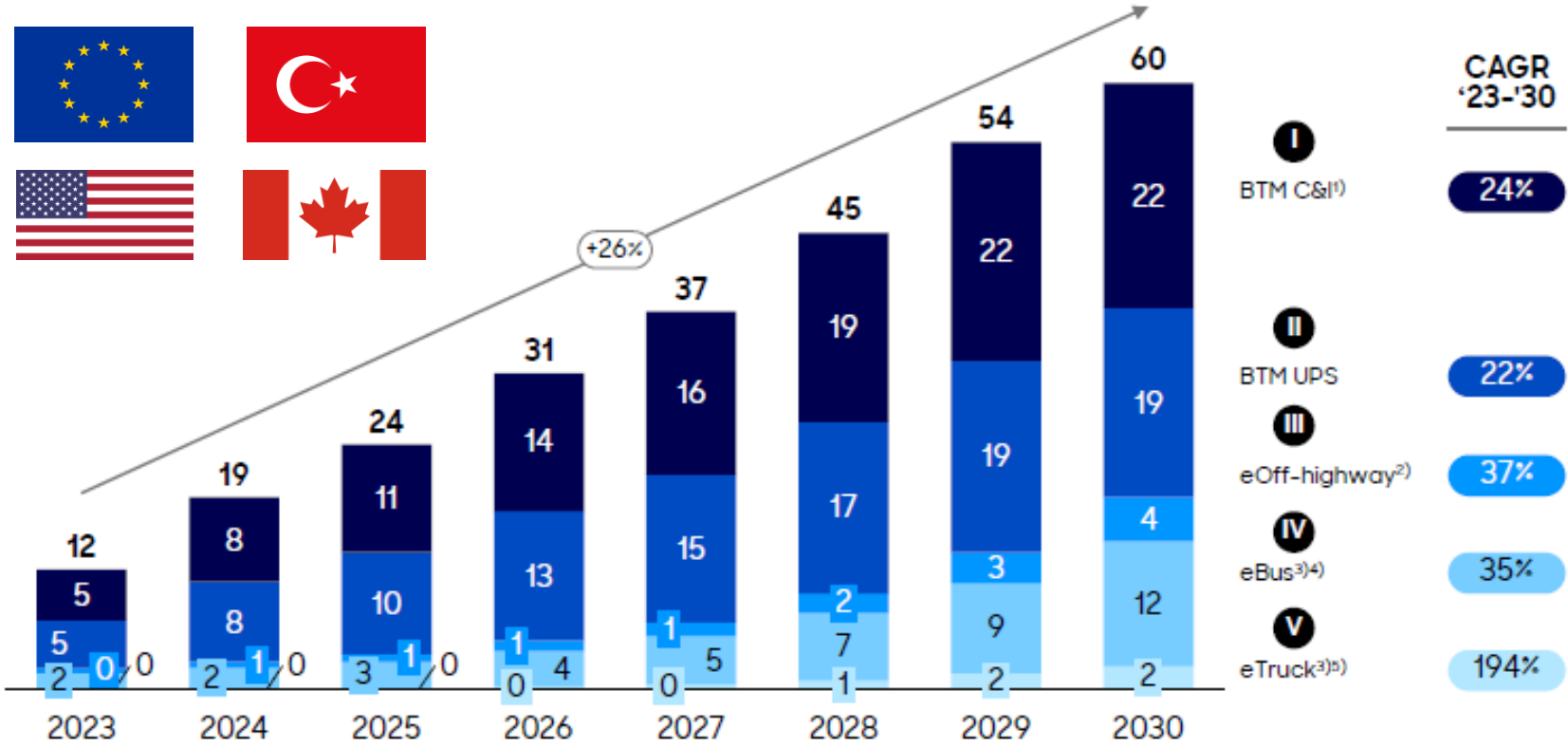
Storage

- C&I BTM
- UPS

MARKETS AND CUSTOMERS

Mobility and Battery Energy Stationary Storage (II/II)

Development of target end-markets, 2023-2030 [GWh]



MARKETS AND CUSTOMERS

Total addressable market for LION in US/CA and Europe

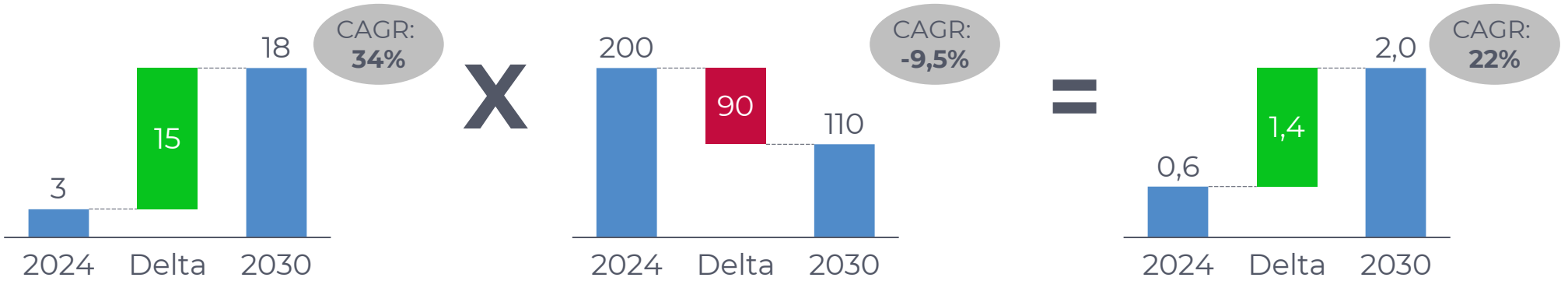
Expected market growth
[GWh]

Expected price decline
[€/kWh]

Total addressable market
[Bn € p.a.]

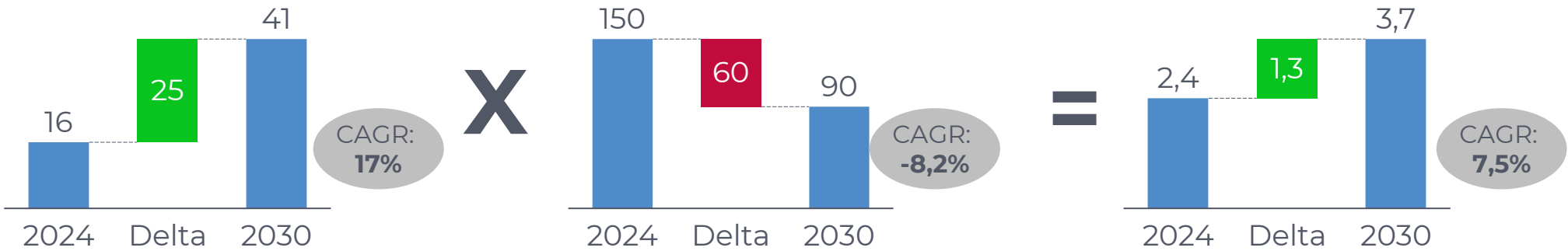
Mobility

- E-Bus
- E-Truck
- E-Off highway
- Excl. Super Sport Cars



Storage

- C&I BTM
- UPS



MARKETS AND CUSTOMERS

Deep Dives

Electric City Buses Europe

Electric Trucks US/CA

Stationary Storage

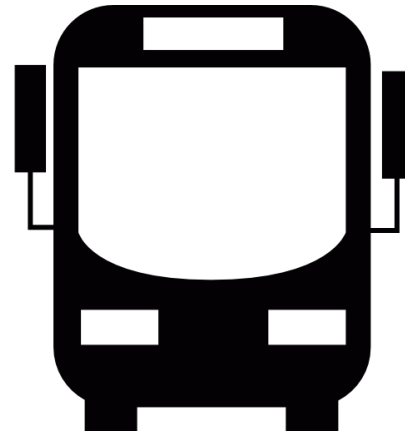
**Additional Market Potential –
immersion cooled battery**

DEEP DIVE – ELECTRIC CITY BUSES EUROPE

Overview

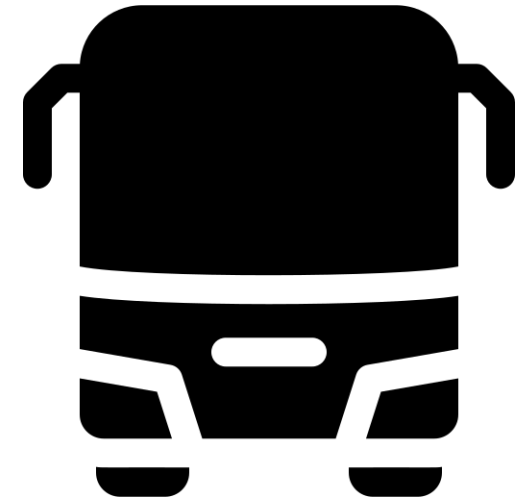


Mini Buses
>3,5t-8t



City Buses
>8t

Goal:
3-5 customers

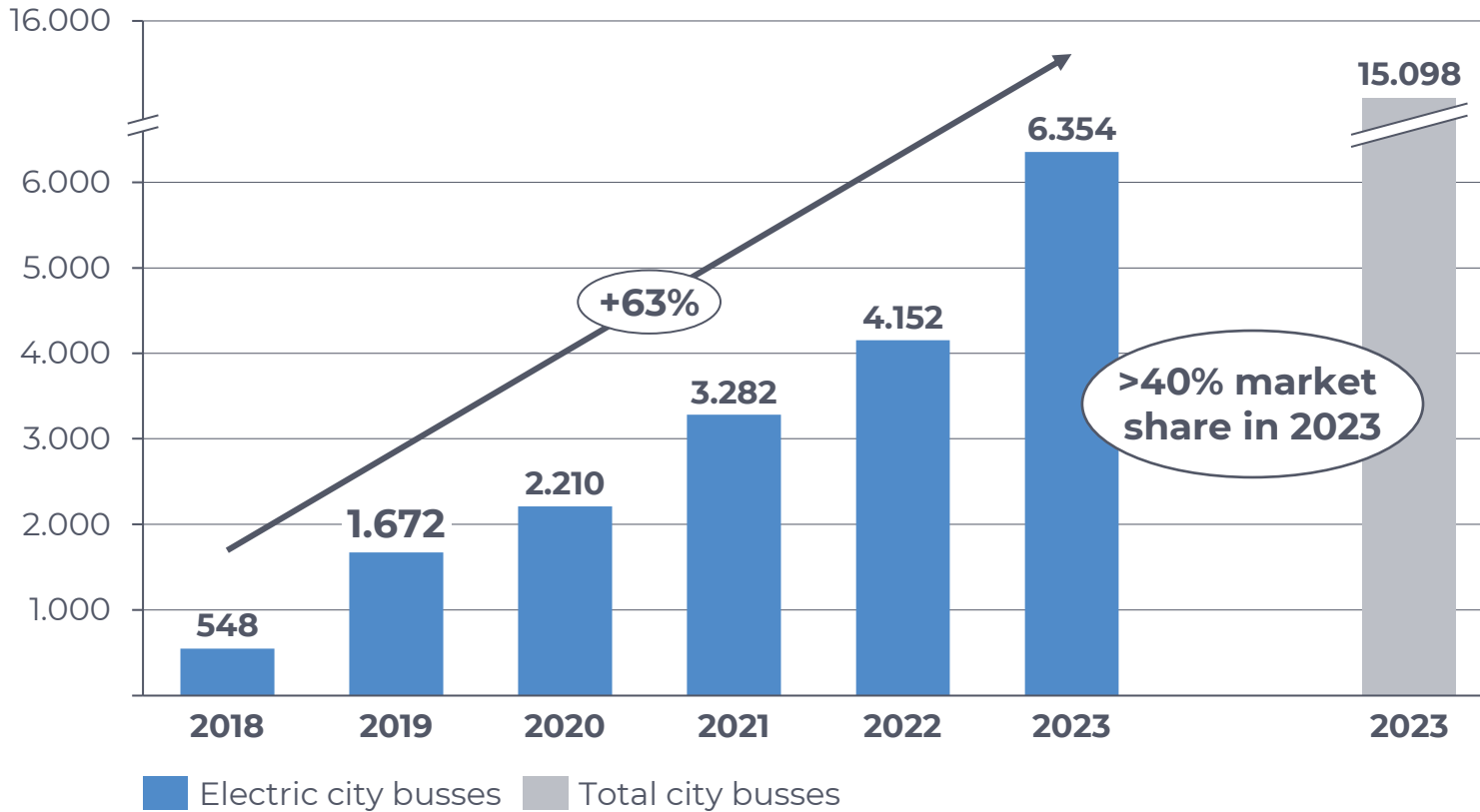


Intercity Buses /
Coaches

DEEP DIVE – ELECTRIC CITY BUSES EUROPE

Registrations numbers

City buses newly registered YoY



Comments

- Registrations of electric city buses are growing steadily over the last years @ >60% CAGR
- As total registration are stagnating at ~15k p.a., electric city buses conquer additional market share reaching >40% in 2023
- Additional growth is expected as public transport is pushed to become CO2 neutral, costs for batteries are lowered and new battery technologies enable greater reach
- Small and midsize buses are produced by makers which need an independent battery supplier with integration service

Source: Chatrou CME Solutions - Alternative Drivelines for City buses 2022 / 2023
GVW: > 8 t

DEEP DIVE – ELECTRIC CITY BUSES EUROPE

EU legislation



WHAT DOES THE FUTURE LOOK LIKE?

Green Deal

- **By 2030**, there will be at least 100 climate-neutral cities in Europe.

- Scheduled collective travel under 500 km should be carbon neutral **by 2030** within the EU.

- All large and medium-sized cities put in place their own sustainable urban mobility plans **by 2030**.

Based factsheet of the European Commission on sustainability & smart mobility strategy, 9.12.2020

DEEP DIVE – ELECTRIC CITY BUSES EUROPE

City bus manufacturers

Manufacturers



Voice of our customers

- “You are my NMC* supplier” - sourcing manager of leading bus manufacturer
- “You are the leading independent supplier for small e-buses and e-trucks” – head sales of global bus and truck manufacturer

*) NMC: Lithium-ion battery with nickel-manganese-cobalt cathode

DEEP DIVE – ELECTRIC CITY BUSES EUROPE

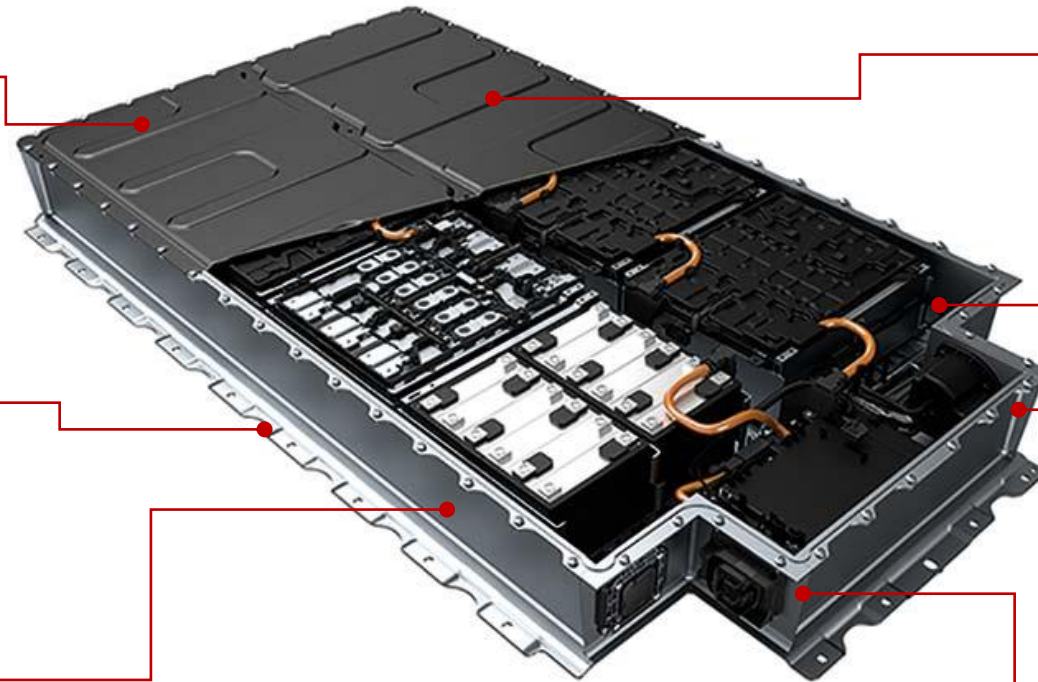
LION Smart current product offering

NMC BATTERY PACK (42KWH)

Peak discharge 148 kW (3,5C) and continuous charging @50kW (ca. 40 min for 80%)

Multiple battery packs (up to 12) per vehicle via Gateway (ISO26262)

Voltage 400V & 800V



Road proven technology with approx. 1Bn km driven p.a.

Warranty on capacity up to 10 years

Automotive BMS: SOC, SOH, Power Prediction etc.

Mechanical, cooling, communication and electrical integration support



MARKETS AND CUSTOMERS

Deep Dives

Electric City Buses Europe

Electric Trucks US/CA

Stationary Storage

**Additional Market Potential –
immersion cooled battery**

DEEP DIVE – ELECTRIC TRUCKS US/CA

Overview

Current development focus



Work trucks / light duty class 2



Medium duty class 3-6



Heavy duty class 7-8

DEEP DIVE – ELECTRIC TRUCKS US/CA

Market dynamics

Market overview

2023: 450 k chassis
without box sold (class 2-6)



Vehicle chassis manufacturer



and more

BEV market

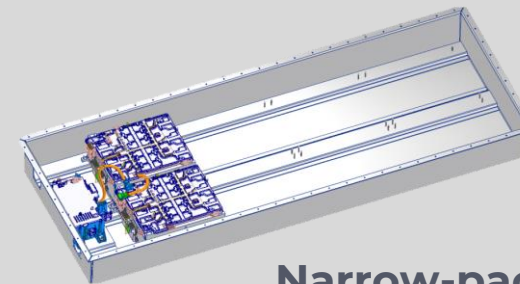
EV niche market,
but high CAGR expected to continue

2022: 1000 chassis



2023: 3000 chassis

LION smart product



In development

Narrow-pack NMC design
to fit between the rails

Source: NTEA break out session during
WTW2024

MARKETS AND CUSTOMERS

Deep Dives

Electric City Buses Europe

Electric Trucks US/CA

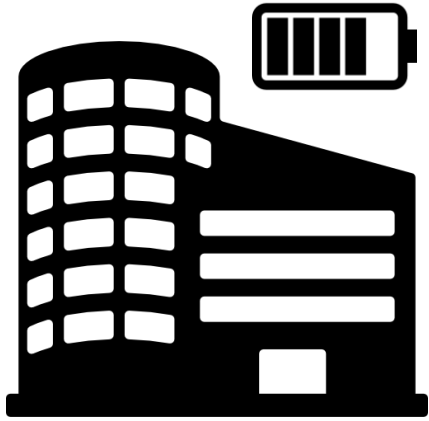
Stationary Storage

**Additional Market Potential –
immersion cooled battery**

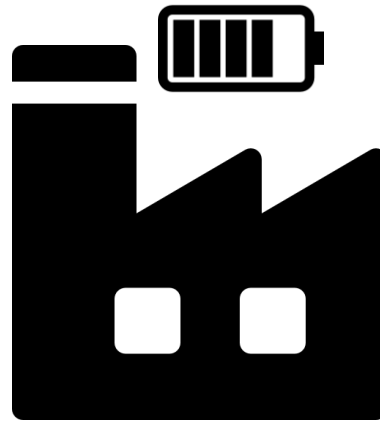
DEEP DIVE - STATIONARY STORAGE

Overview „UPS / C&I“

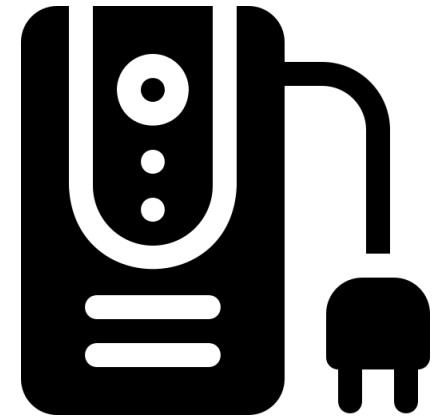
Current focus



Commercial energy storage
(behind the meter)



Industry energy storage
(behind the meter)



Uninterruptible power supply

STORAGE MARKET

Typical Target Opportunity in US/CA

Exemplary opportunity

“Canopy with battery storage”

Design/In Window: 12 weeks



Success Factors



Competitive pricing
(150EUR/kWh)



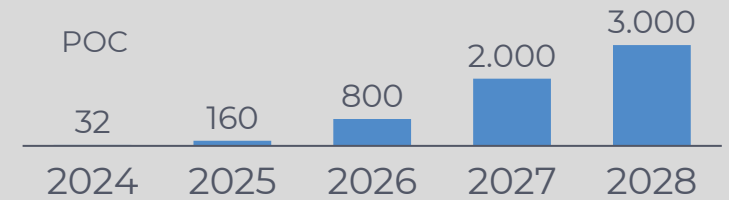
Made or assembled in America (IRA/BAA compliant) in the future



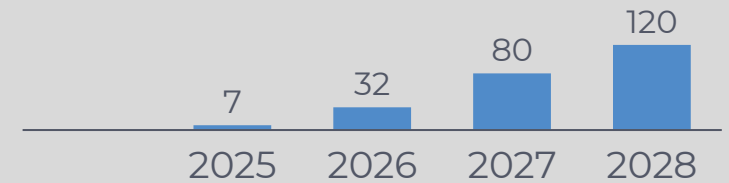
Find a “right sized” **cooling system** that works with our battery

Business Case

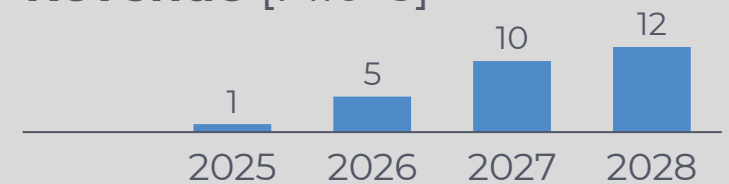
Battery packs [#]



Battery capacity [MWh]



Revenue [Mio €]



MARKETS AND CUSTOMERS

Deep Dives

Electric City Buses Europe

Electric Trucks US/CA

Stationary Storage

**Additional Market Potential –
immersion cooled battery**

ADDITIONAL MARKET POTENTIAL – IMMERSION COOLED BATTERY

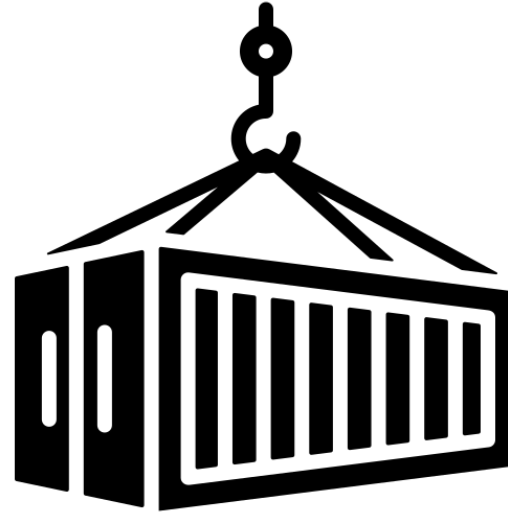
Overview future markets

Current
development focus

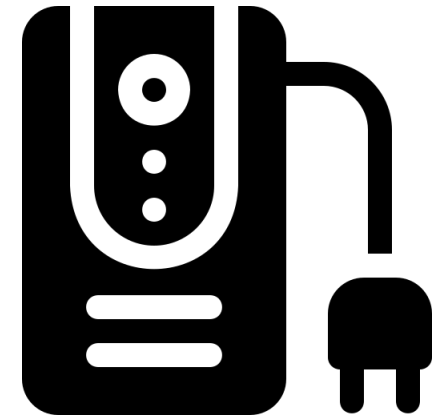


Electric/hybrid sports cars

1st series RFQ expected end 2024



**Logistics with
high discharge/charge**

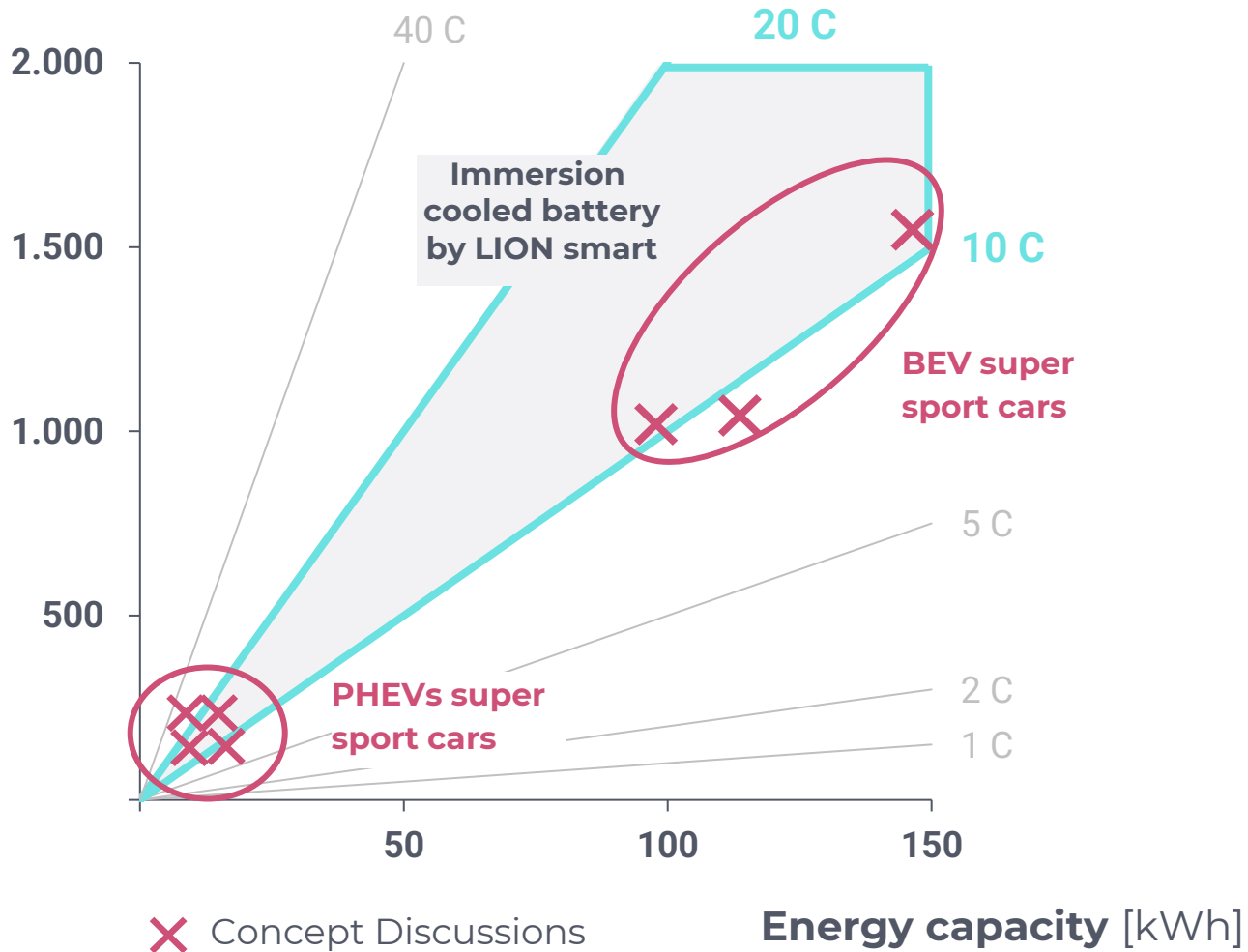


**Uninterruptible
power supply**

MOBILITY DEEP DIVE – IMMERSION COOLED BATTERY

In development

Power [kW]



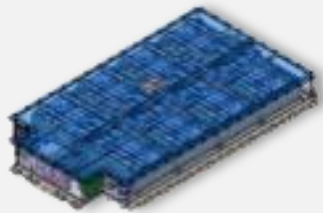
- Immersion cooling reveals full power potentials of high energy NMC battery technology
- Due to high C-rates powerful discharge and charge applications can be realized using only small and light weight batteries
- The optimized cooling solution promises high cycle times
- Propagation stop by immersion cooling of each cell.

TECHNOLOGY TRANSITION

Battery Roadmap (I/II)

Today

- 1 Battery Pack Design for all markets
- In Series Production (taken over from BMW)
- Samsung SDI cells
- Nominal energy 42.2kWh
- Cycle life 2500



From Q4 2024 onwards

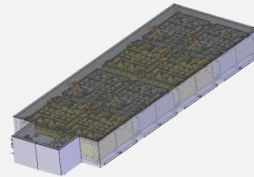
- Battery design optimized for individual markets
- Utilization of existing production line
- Multiple cell manufacturer qualified
- Broaden set of battery product families with energy range
- Samples available from Q4/2024 onwards

LION Smart Storage family



- ✓ LFP technology
- ✓ 8000+ cycle life

LION Smart Mobility family



- ✓ NMC technology
- ✓ Major energy density improvement

LION Smart Module family



- ✓ NMC/LFP on module level available

LION Smart Light Battery



- ✓ Highest Power output per energy stored

TECHNOLOGY TRANSITION

Battery Roadmap (II/II)

Plan



KEY INITIATIVES 2024

- Sales team built up done in June
- Sales sprints per market
- Relaunch Client Website
- Restart LinkedIn Communication
- Booths at two major trade fairs
- 7 times more expo and conferences visits than last year
- Update product portfolio
- Product introduction communication

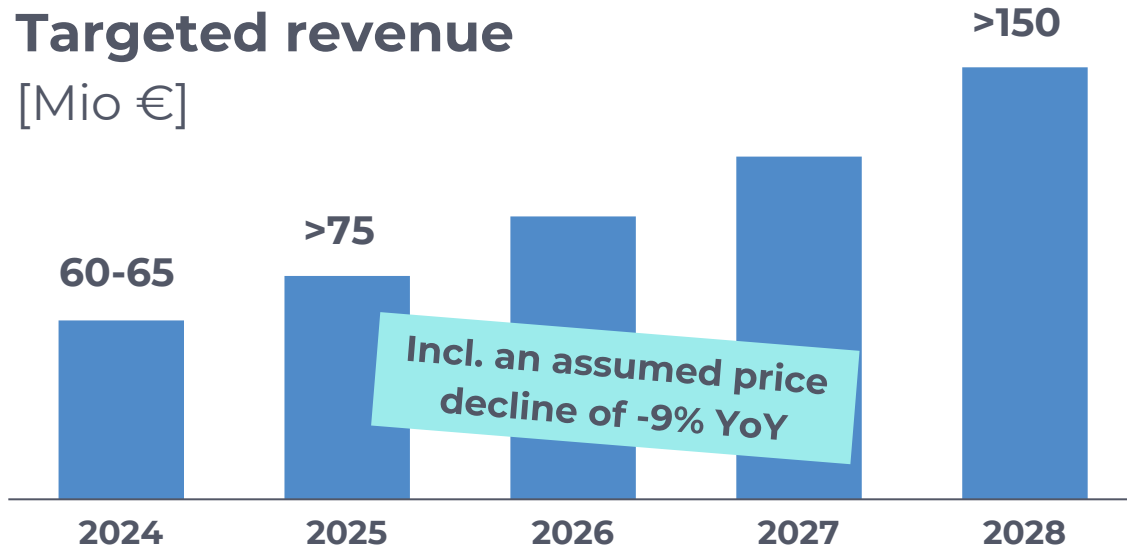


SALES TARGETS

2024-2028

Targeted revenue

[Mio €]



The addressable market is assumed to grow with 26% on energy capacity level [GWh]

A price decline of -9% YoY is assumed

With a CAGR of 25% we are targeting to win additional market share

In 2030 we strive for 10% market share

The last 3 years we transitioned from a pack-reseller to a producer with a competitive product portfolio.

We are successfully broadening our customer base to become more resilient to market uncertainties.

Steady target growth over a broad customer base and market and see upside potential with a “big” new customer win.

PERSONAL OUTRO

What keeps me awake at night

(„Threads to our business“)

Over Capacity at European Automotive OEM and are pushing obsolete modules into the market.

China is flooding the market with “products”. We can easily be replaced by other pack suppliers.

Our customers are “back-wards”-integrating.

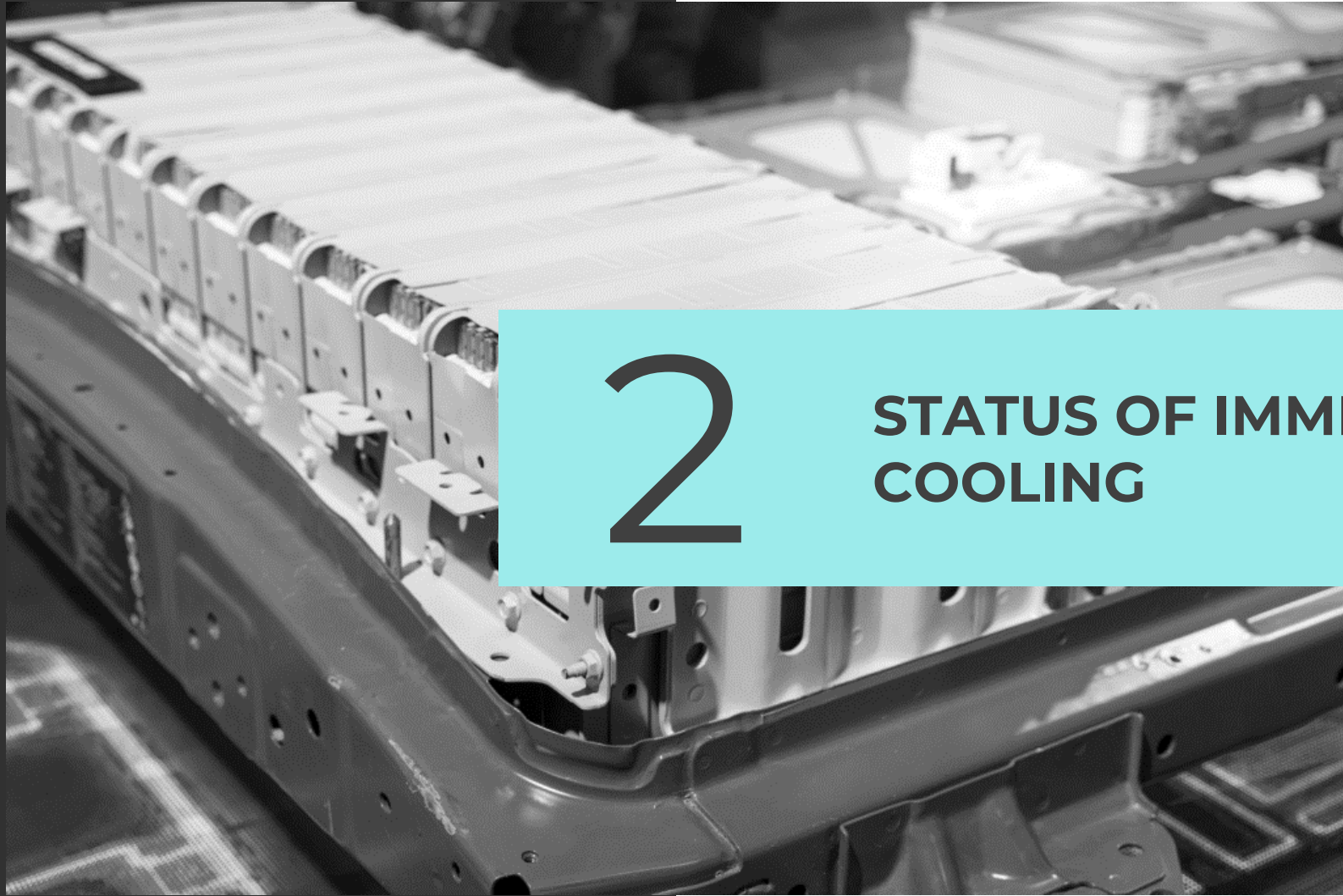
What lets me sleep again

(„Answer to the threads“)

We can participate the cell-price-decline as we do not produce cells and produces on very high quality and can therefore not be replaced easily.

We increase our customer intimacy, identify their pain-points and provide “solutions”. We focus on attractive niches and offer optimized products and service.

We leverage 16 years of battery engineering, state-of-the-art production and provide best-in-class service support.



2

**STATUS OF IMMERSION
COOLING**

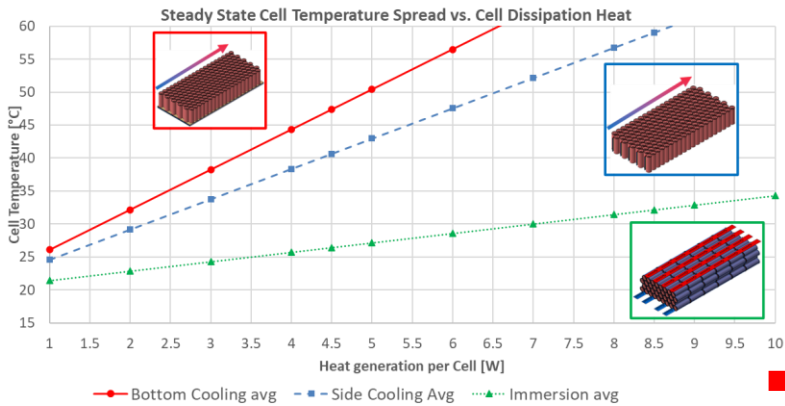
IMMERSION COOLING AT LION SMART

Experience of more than 5 years

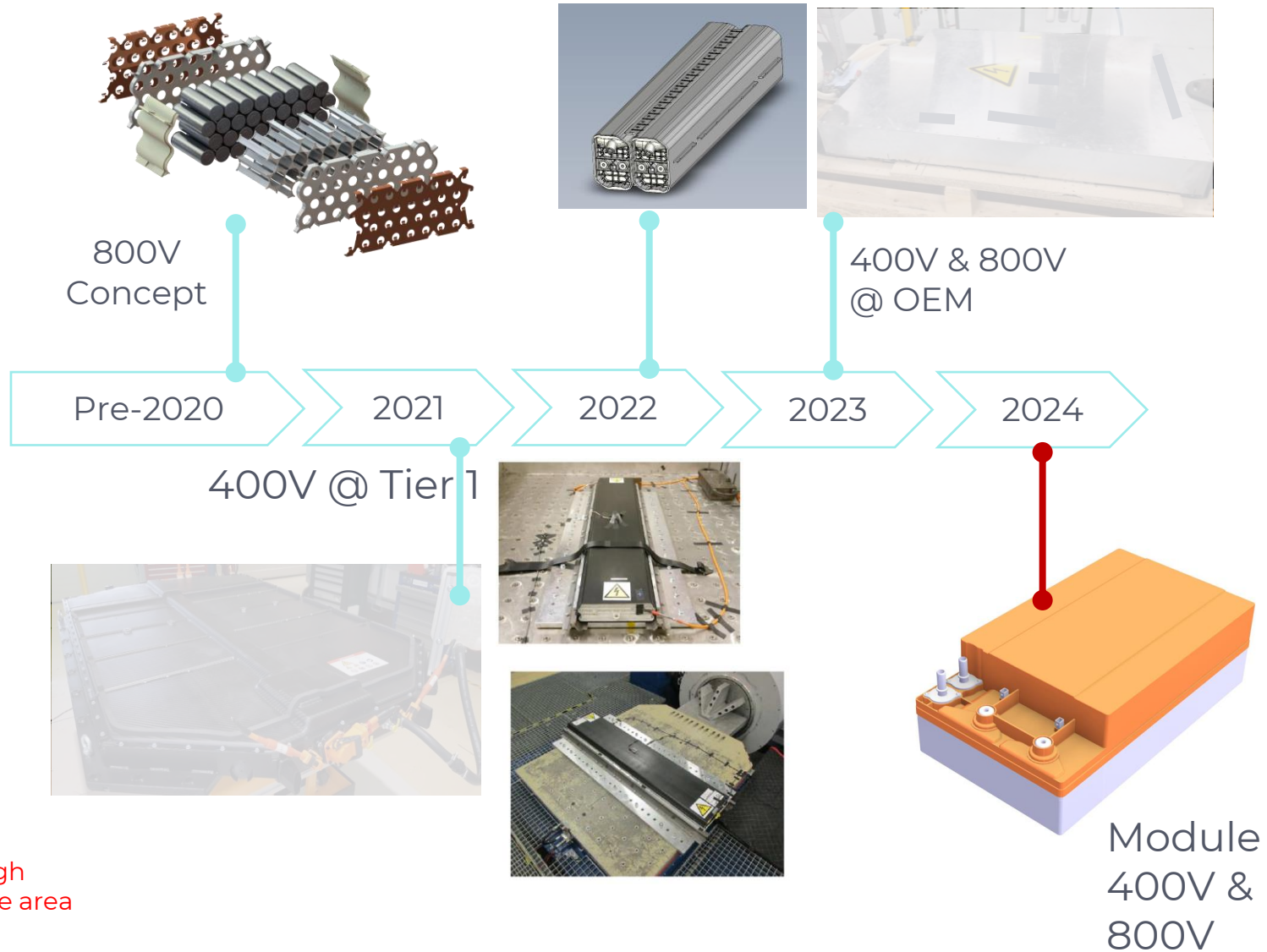
Immersion cooled batteries provide unmatched cooling performance, enabling highest continuous power output for high-performance applications

LION Smart built up extensive experience with immersion cooled batteries since 2020 and deployed immersion cooled batteries into Tier1 and OEM demonstrators.

Next step for LION Smart:
OEM Module

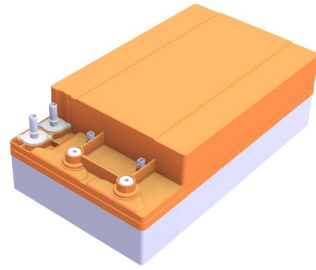


Ultra-high performance area

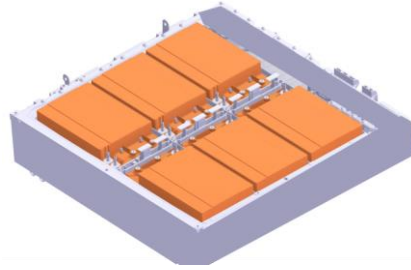


IMMERSION COOLING AT LION SMART

Module
400V & 800V for
ultra-high-
performance
applications



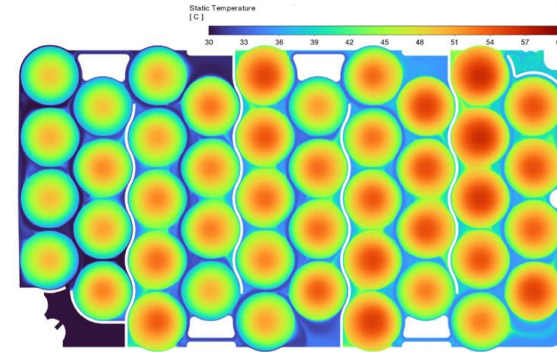
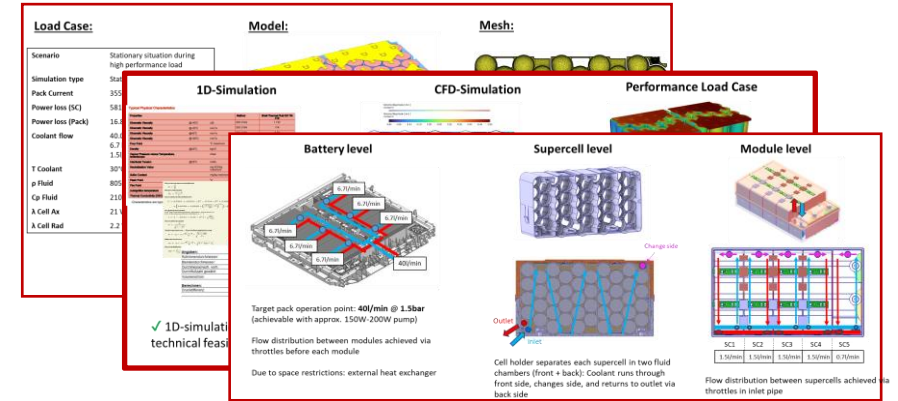
18S11P MODULE



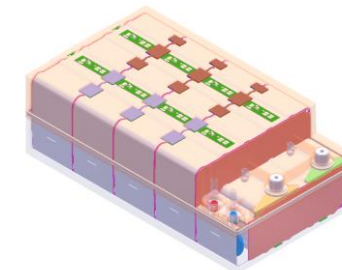
108S11P PACK

CELL CONFIGURATION	18S11P	108S11P
NOMINAL VOLTAGE (V)	64.8	388.8
NOMINAL CAPACITY (AH)	49.5	
NOMINAL ENERGY (KWH)	3.2	19.2
MAX. DISCHARGE POWER 10s (KW)	58	350
MAX. CHARGE POWER 10s (KW)	50	300
WEIGHT FILLED WITH OIL (KG)	< 19.5 kg	< 117kg (Modules only)

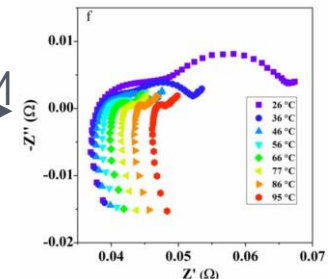
DESIGNED TO MEET HIGHEST POWER REQUIREMENTS. COMBINED WITH SOPHISTICATED DIAGNOSTICS

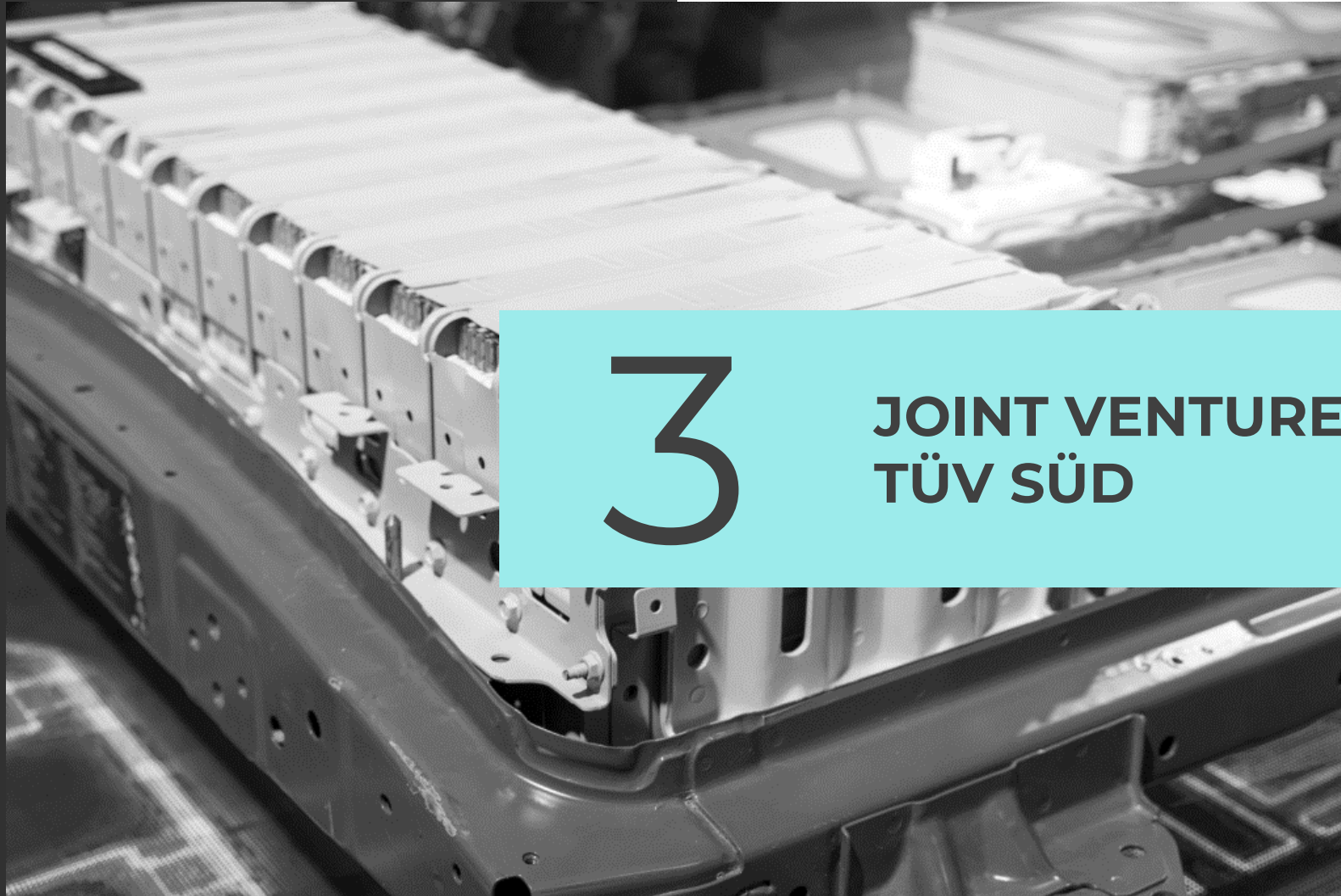


- **STAY < 60°C AT CONT. C-RATE > 7**
- **KEEP CELL TEMPERATURE EVEN WITH ΔT < 5K**



LSCM
EIS





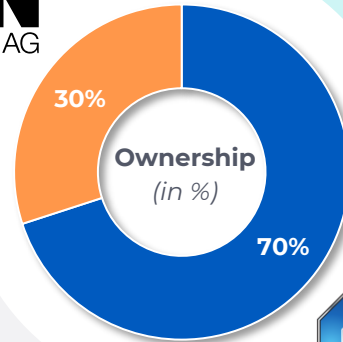
3

JOINT VENTURE WITH
TÜV SÜD

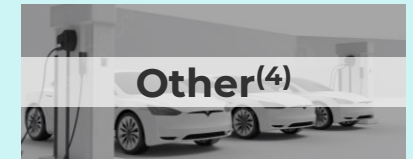
JOINT VENTURE WITH TÜV SÜD

Description

- In 2009 we created a **battery testing JV with TÜV Süd, to expand our presence in the battery testing services**
- Currently, we holding a 30% minority stake in the JV and thus been able to **build up extensive testing expertise**
- The **market for battery testing is rapidly growing** and the JV is **best positioning to kept this momentum**



Customer Groups



Services, Equipment and Capabilities

Testing



- Systems / packs
- Module
- Cells

Equipment



- Climate chambers & channels
- Environmental lane
- Abuse rooms
- Modular sled up to 200g

Scope



- Performance
- Environment
- Abuse
- Crash

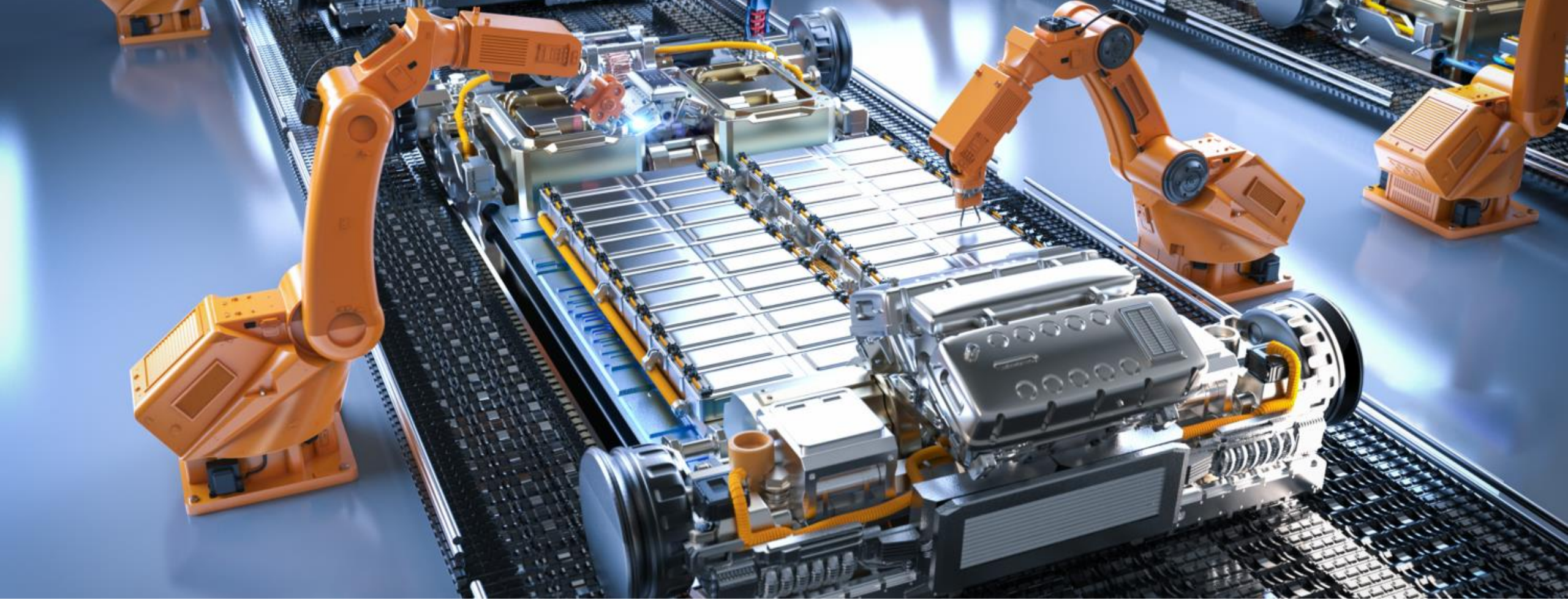


Financial Performance⁽⁵⁾ (€ m)



- The continuing **strong demand for sustainable drive systems** in the transport sector is the main driver of TÜV SÜD Battery Testing's business
- **Highly profitable testing business with EBITDA margins well above 25%**

Note(s): (1) Includes Tier-1-OEMs and engineering service providers; (2) Includes transportation and retail companies; (3) Includes robots, AGVs; (4) Includes medical, consumer and aerospace players (5) Not included in LION E-Mobility AG revenues



Thank you!