



SMA SOLAR TECHNOLOGY AG

15th Capital Markets Day

May 11, 2023

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Agenda



- 1 Keynote "Energy System of tomorrow"
Prof. Dr. Claudia Kemfert
- 2 SMA's Strategy
Dr. Jürgen Reinert
- 3 Update from Business Segments
 - Home Solutions, *Jan van Laethem*
 - Commercial & Industrial Solutions, *Nick Morbach*
 - Large Scale & Project Solutions, *Florian Bechtold*
 - Special Topic: Power 2 Gas, *Burkhard Soehngen*
- 4 Why invest in SMA
Barbara Gregor
- 5 Q & A
- 6 Factory Tour: Production



SMA's Strategy

Presented by Dr. Jürgen Reinert, CEO

The scientific evidence is unequivocal

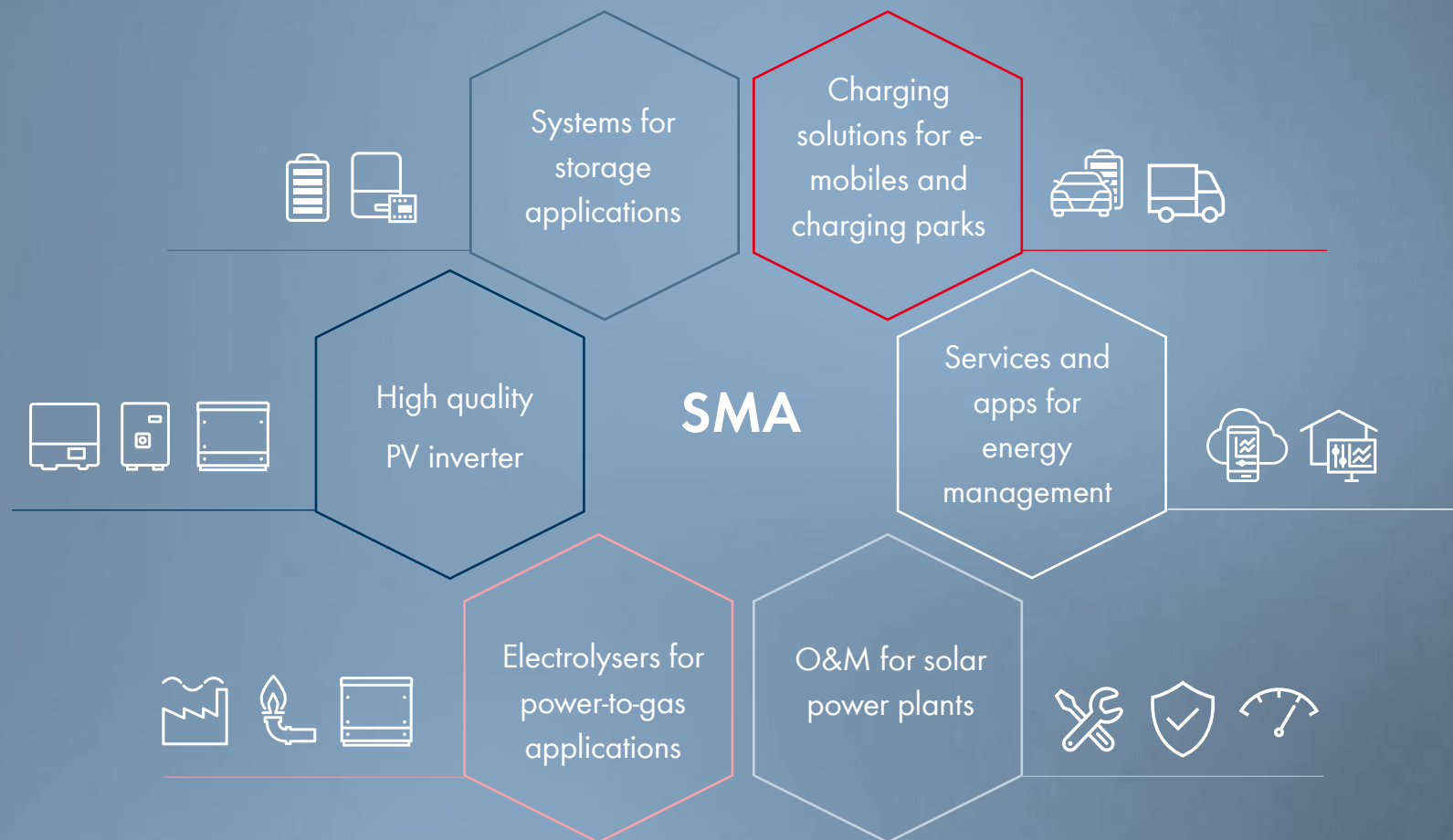
Climate change is a threat to human wellbeing and the health of the planet.

Any further delay in concerted global action will miss a brief and rapidly closing window to secure a livable future.

IPCC-Report 2023



The future belongs to renewable energies if we understand them in a connected and integrated way - like SMA does



SMA is an energy transition company

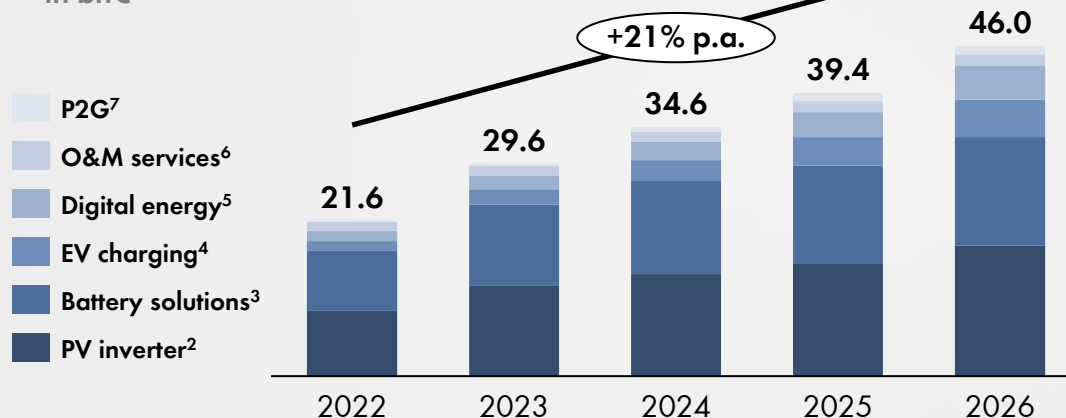
- Integrated systems and solutions for all segments from a single source
- Positioned in all relevant growth areas
- Sustainable in development, design and production
- High safety and quality standards

The global market for PV inverters and complementary energy solutions is expected to more than double by 2026

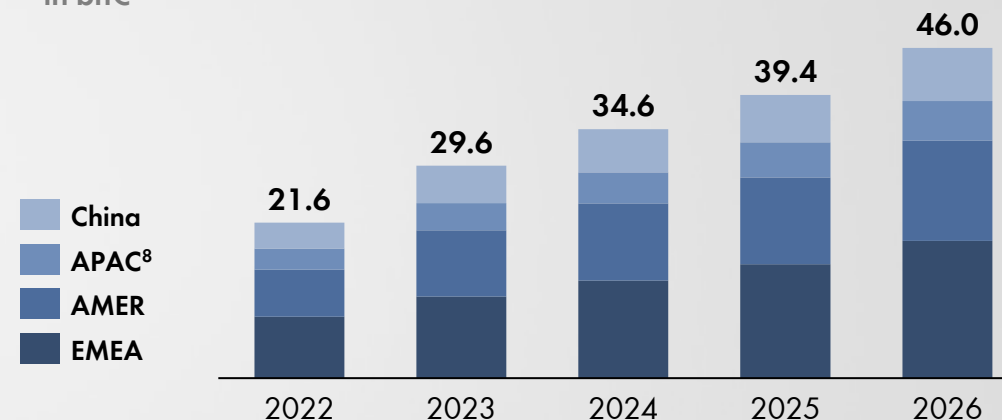


Market outlook by sector¹

SEGMENTS in bn€



REGIONS in bn€



- The accelerated decarbonization of the power and mobility sector is one of the major global trends within the next decades. This implies further growth of renewable energy sources like PV including the use of highly flexible battery energy storage solutions which will play a decisive role in the future power system.
- The electrification of the mobility sector is a key element on the global path to net zero emissions and offers big opportunities for the use of PV power.
- Especially the European Union ("REpowerEU") and the United States ("Inflation Reduction Act") are pushing this energy transition.
- Digital energy solutions create added value by enabling the smart connection of each components within the energy system.

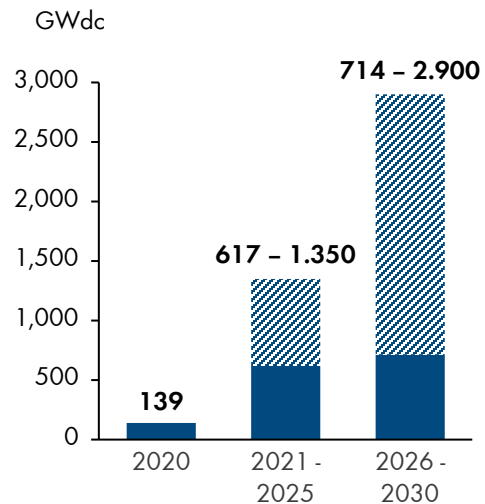
The background of the slide is a photograph showing a close-up of green grape leaves in the foreground, with solar panels visible in the background under a bright sky. A semi-transparent grey box is overlaid on the right side of the image, containing the title text.

Potential for Strategic Growth Areas

SMA relies on photovoltaics for more than 40 years



Global PV market growth
By scenario



Strong increase in global PV additions in the next few years

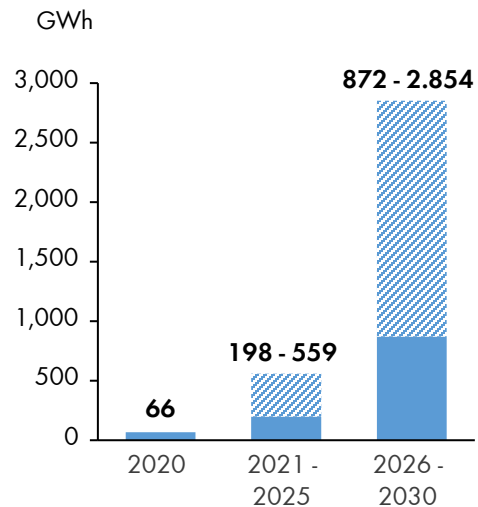
- Strong position in **all three segments**: Home, C&I and Large Scale
- SMA solar inverters with a total output of **over 120 GW are installed** in 190 countries worldwide. In the past 20 years, this output was sufficient to **avoid around 63 million tons** of CO₂e, which corresponds to avoided environmental damage of over 12 billion euros.
- In 2024, a new building is planned to double production capacity to a **total of 40 GW**.



Storage solutions are part of our offering



Global Storage market growth
By scenario



High share of renewables in the grid
requires storage systems

- **Storage solutions** are offered as part of the portfolio in all three segments
- In the Large Scale segment, storage solutions already account for around **60% of order intake YTD**
- Example: **Wartburg-storage** of Smart Power GmbH with 1500 V battery voltage, over 60 MW connected load and a capacity of 67 MWh



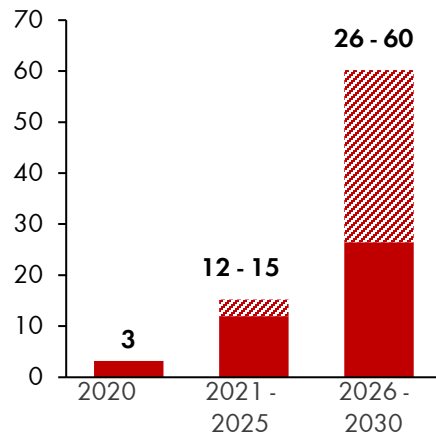
Charging solutions for electromobility as part of the portfolio



Global Market for e-cars

By scenario

New car registrations
Million pcs



The market for electric vehicles will multiply by 2030

- In the Home and C&I segments, **charging solutions** for electromobility are part of the offering (SMA EV-Charger and EV-Charger Business)
- Through the subsidiary **elaxon**, charging solutions are also offered as a holistic service (planning, installation, commissioning and maintenance)
- The subsidiary **conevea** offers the SaaS-solution conevea Charging and enables the management of complex charging infrastructures



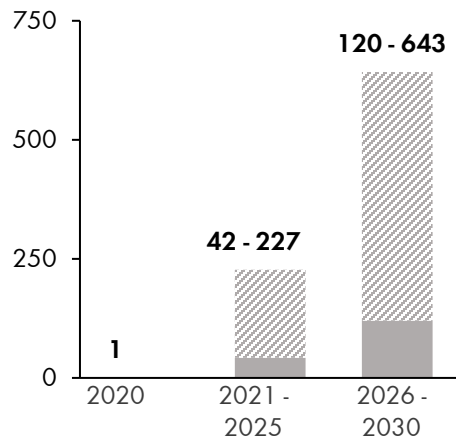
Hydrogen as the key to decarbonization



Global electrolyzer growth

By scenario

GWeI



Green hydrogen as the key to decarbonization

- In the business field of **green hydrogen generation**, projects with SMA system technology have gone into operation in the USA, Europe, Asia and Australia in recent years
- Already by 2022, the SMA subsidiary **Altenso** realized 50 projects with a total **output of more than 500MW**
- SMA is thus consistently **expanding its know-how** on electrolyzers



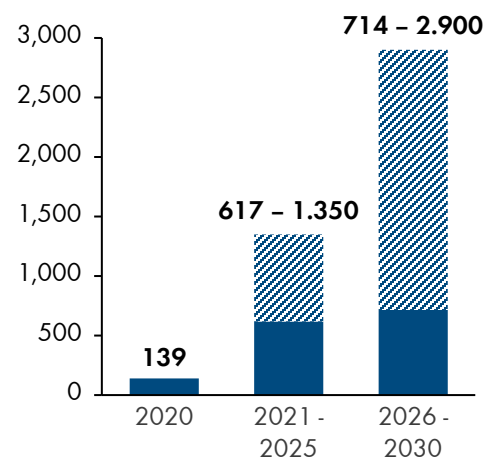
Great growth potential in established and new business fields



Global PV market growth

By scenario

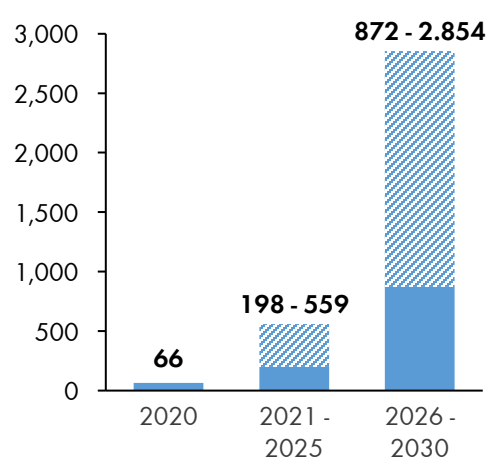
GWdc



Global Storage market growth

By scenario

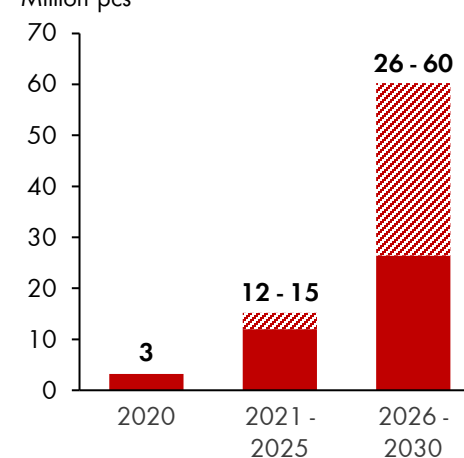
GWh



Global market for e-cars

By scenario

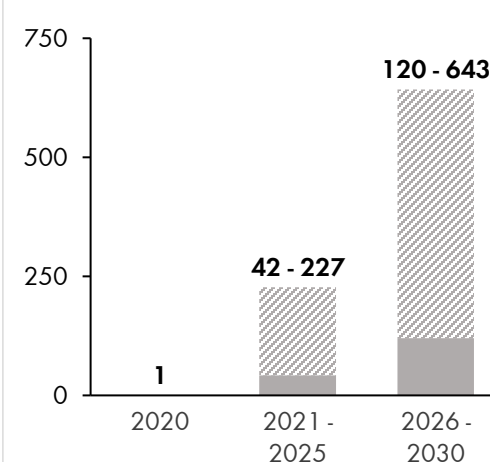
New car registrations
Million pcs



Global electrolyzer growth

By scenario

GWel



We are well on track with the implementation of our Strategy 2025
- and have positioned ourselves in all growth areas



Strategic objectives



Strategic fields of action per segment

	PV	Storage	Market-Integration	E-Mobility	Future Business
Home				EV-Charging	
Commercial & Industrial				EV-Charging	
Large Scale					P2G

■ Exploit ■ Growth □ No segment focus



Strategic Objective "Closer to the customer"

*We inspire our customers with a high level
of user-friendliness and solution-oriented cooperation*

We are reshaping SMA into a process- and segment-oriented organization where each segment has own P&L responsibility



Home Solutions



Commercial & Industrial Solutions



Large Scale & Project Solutions

We positioned SMA in a way to make the best possible use of opportunities for future market growth:

- The segment-based orientation leads to more customer centricity in the SMA offering
- In this way, we create the conditions for holistic, cross-sector solutions
- The clear focus on our business initiatives increases the speed of decision-making and implementation



Strategic Objective

“Shaping the future with innovation”

We use our technological expertise, experience and innovative strength to position SMA for the future in existing and new business fields.

System Stabilization and Grid Forming



Advanced Chip Technologies like SiC and GaN



EV-Charging Park Management



Proximity of R&D and Operations leads to high quality products at competitive costs and guarantees highest sustainability



**System Stabilization and
Grid Forming**



**Advanced Chip Technologies
like SiC and GaN**



**Automated Production of
Magnetic Components**



EV-Charge Park Management



Strategic Objective

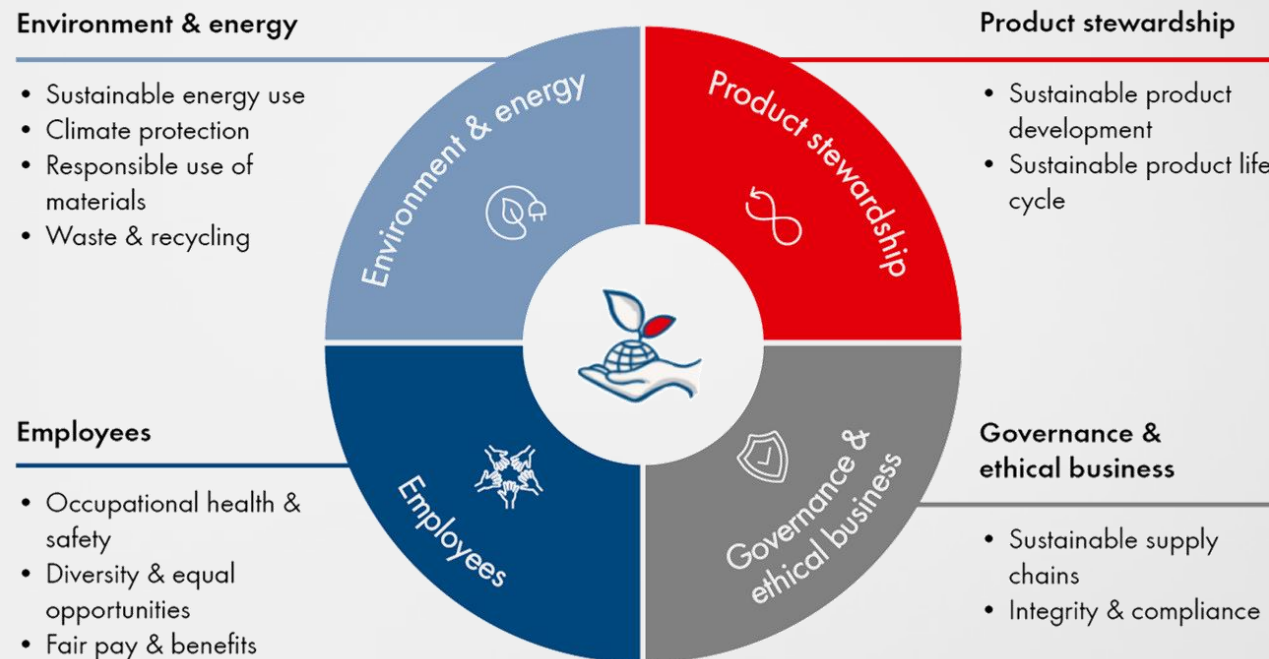
“Holistic sustainability”

We live sustainability in all areas of the company and take over a leading role in shaping a better future.

Strategic objective of holistic sustainability



Our sustainability management comprises four areas of action with ambitious goals in material aspects:

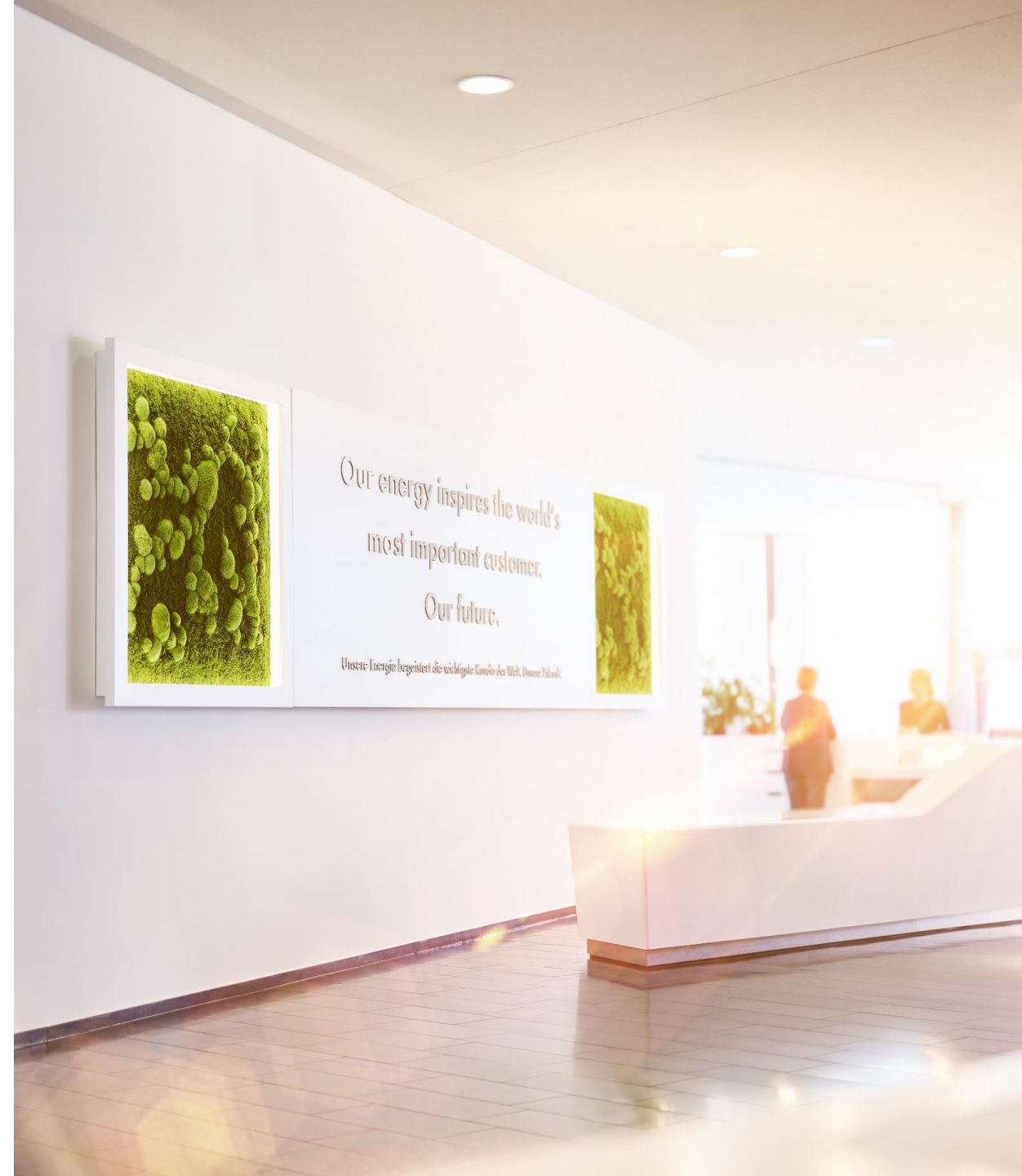


The strategic objective of “holistic sustainability” sets out the aspiration of integrating sustainability in all areas of the company and taking on a leading role in creating a better future with the SMA group.

Transparent and independently audited sustainability reporting

Our non-financial reporting meets the highest standards and regulatory requirements:

- Reporting with reference to the Global Reporting Initiative Standards (GRI 1: Foundation 2021)
- Comprehensive disclosures according to EU Taxonomy Regulation requirements on taxonomy-eligible and taxonomy-aligned economic activities
- External audit in accordance with ISAE 3000 rev with limited assurance by independent auditor



Independent experts confirm our sustainability performance



Finalist German Sustainability Award 2022



High ESG ratings and rankings



ESG Risk Rating: 20.1²



Climate Change 2022: B³
Supplier Engagement 2022: A³

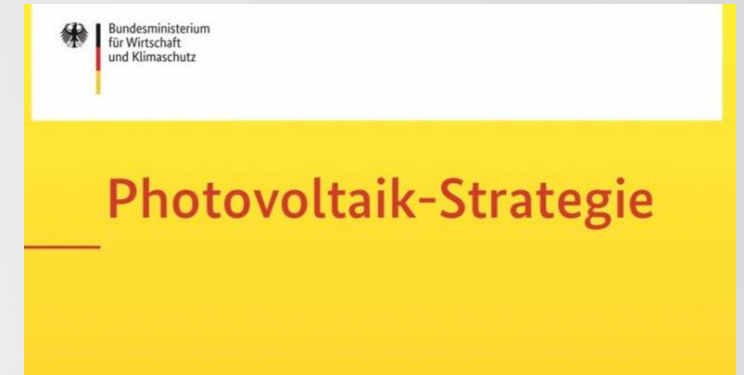
EcoVadis Gold Medal



1. Companies are categorized as Prime if they achieve/exceed the sustainability performance requirements (Primethreshold) defined by ISS ESG for a specific industry (absolute best-in-class approach) in the ISS ESG Corporate Rating. Prime companies are sustainability leaders in their industry and are better positioned to cope with material ESG challenges and risks, as well as to seize opportunities, than their Not Prime peers.
2. 0 to 100 points, the lower the better
3. Rating range A to D-

A strong political push for renewable energy

- locally and internationally





Update from Business Segments

Presented by Segment Lead

A modern, single-story house with a green roof and solar panels. The house has large windows and a carport. In the foreground, a man and a woman are standing near a car in the carport, and two children are playing in a small pond. The house is surrounded by trees and landscaping.

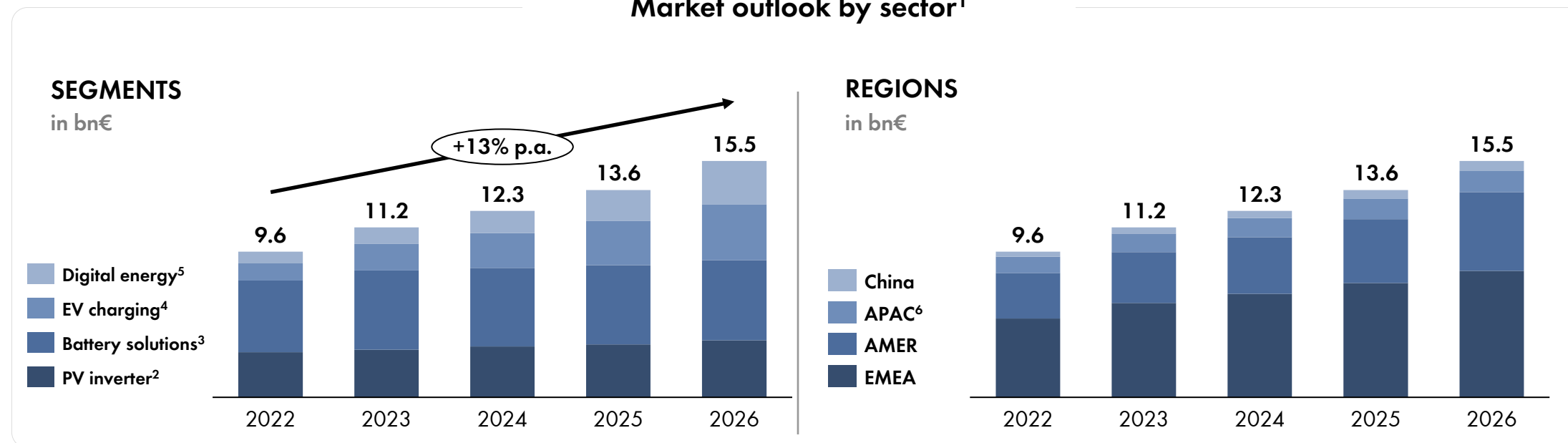
Home Solutions

Presented by Jan Van Laethem,
Executive Vice President Business Segment Home

Global market for Home solutions will grow by 13% per year with strong focus on Europe and North America

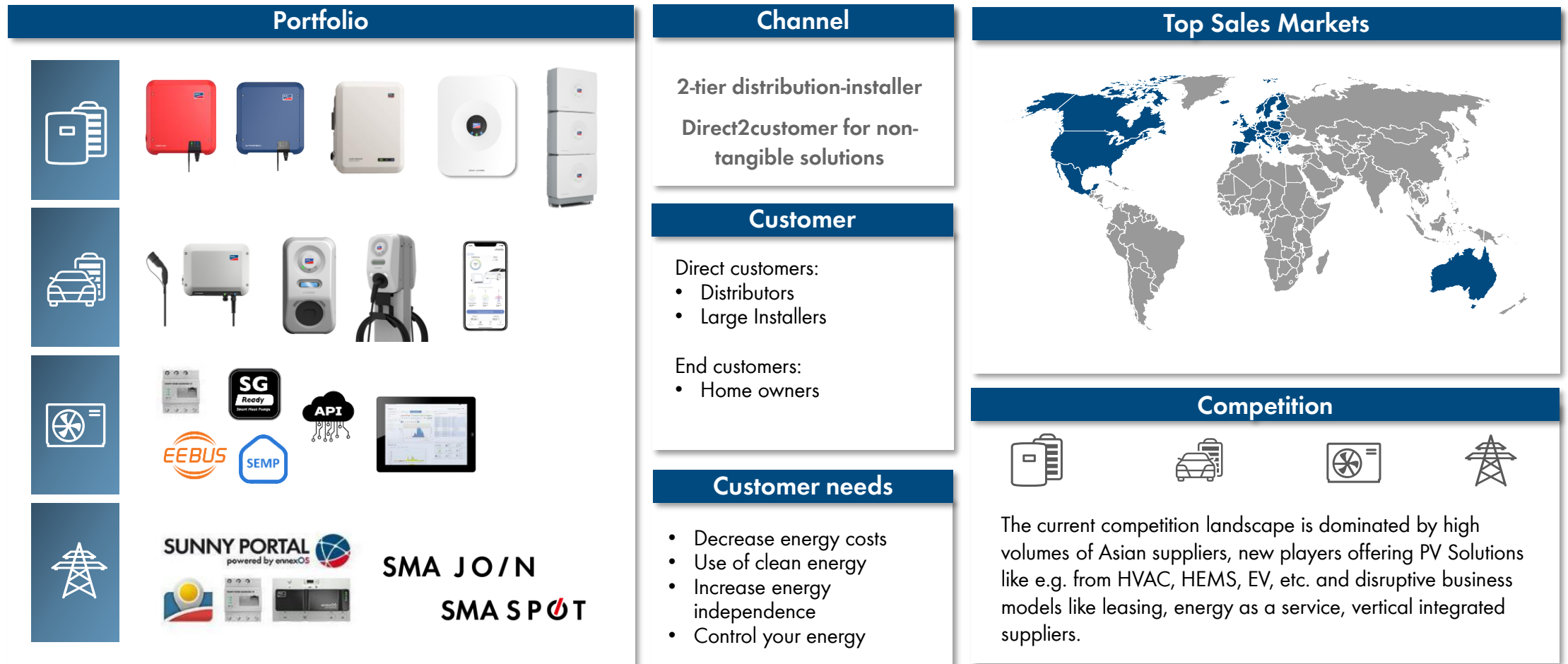


Market outlook by sector¹

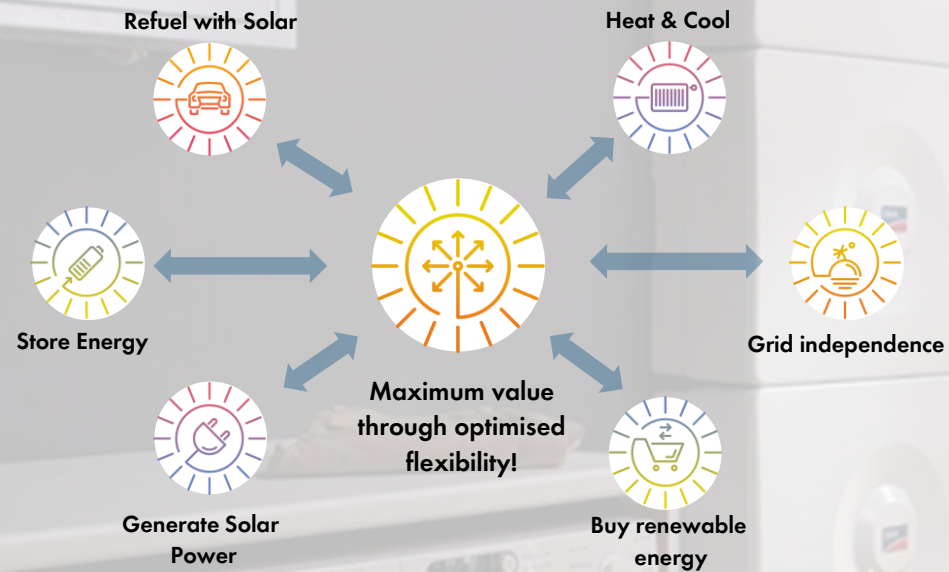


- The inverter remains in the center of each PV Home solution while the increasing demand for batteries, EV charger as well as digital energy management applications drive the Home segment especially in more matured markets like Germany, Italy and the United States.
- Europe and the United States are the top regions for Home applications accounting for more than 85% of the global market in 2026.

Home Solutions at a glance



Quick dive: Home Energy Management with SMA Solutions



Why SMA?

- Energy Management **pioneer** with **+40 years of experience**.
- **SMA hardware** combines with **Intelligent Energy Management & sector coupling** for maximum optimization.
- Max out your SMA Home Energy Solutions with **optimized flexibility, with integrated Storage**.

What's up next?

- **Energy Market Integration** to expand beyond the walls of your Home.
- SMA-branded **Home Storage solution** for one-stop-shop flexibility
- Smart and **solar-boosted EV Charging**

And on a final note...

SMA – the biggest PV plant in the world!

>3.500.000

Devices

1.100.000+

PV Systems

Installed Capacities

45.000.000kW_p+

>45TWh

Managed Energy

SUNNY PORTAL
powered by ennexOS



Commercial & Industrial Solutions

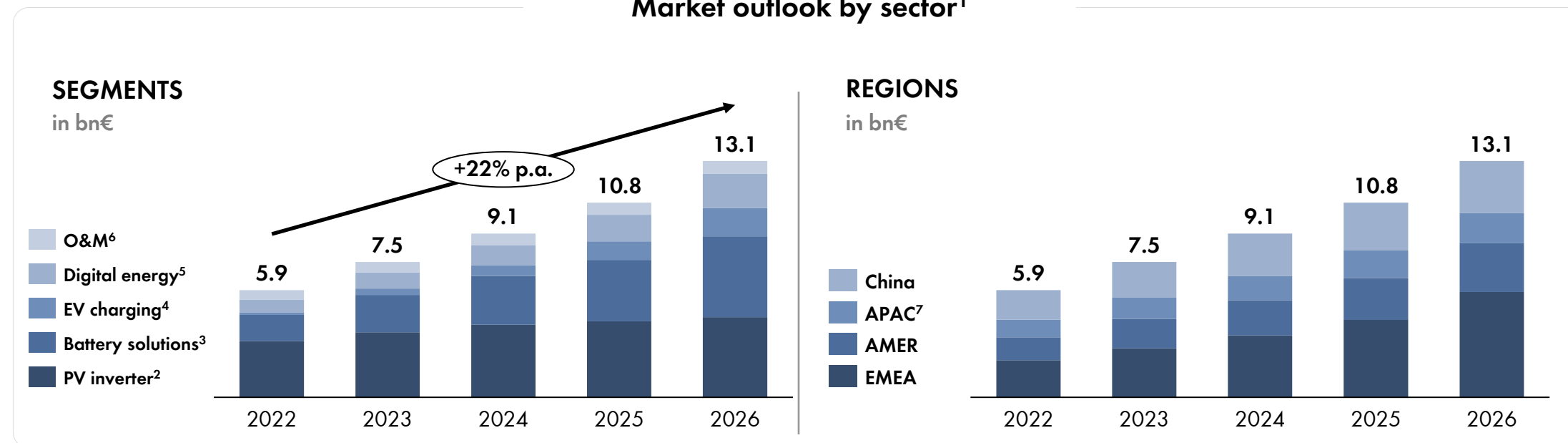
Presented by Nick Morbach,
Executive Vice President Business Segment C&I



The global market for C&I solutions will increase by 22% per year driven by battery solutions and high demand in Europe

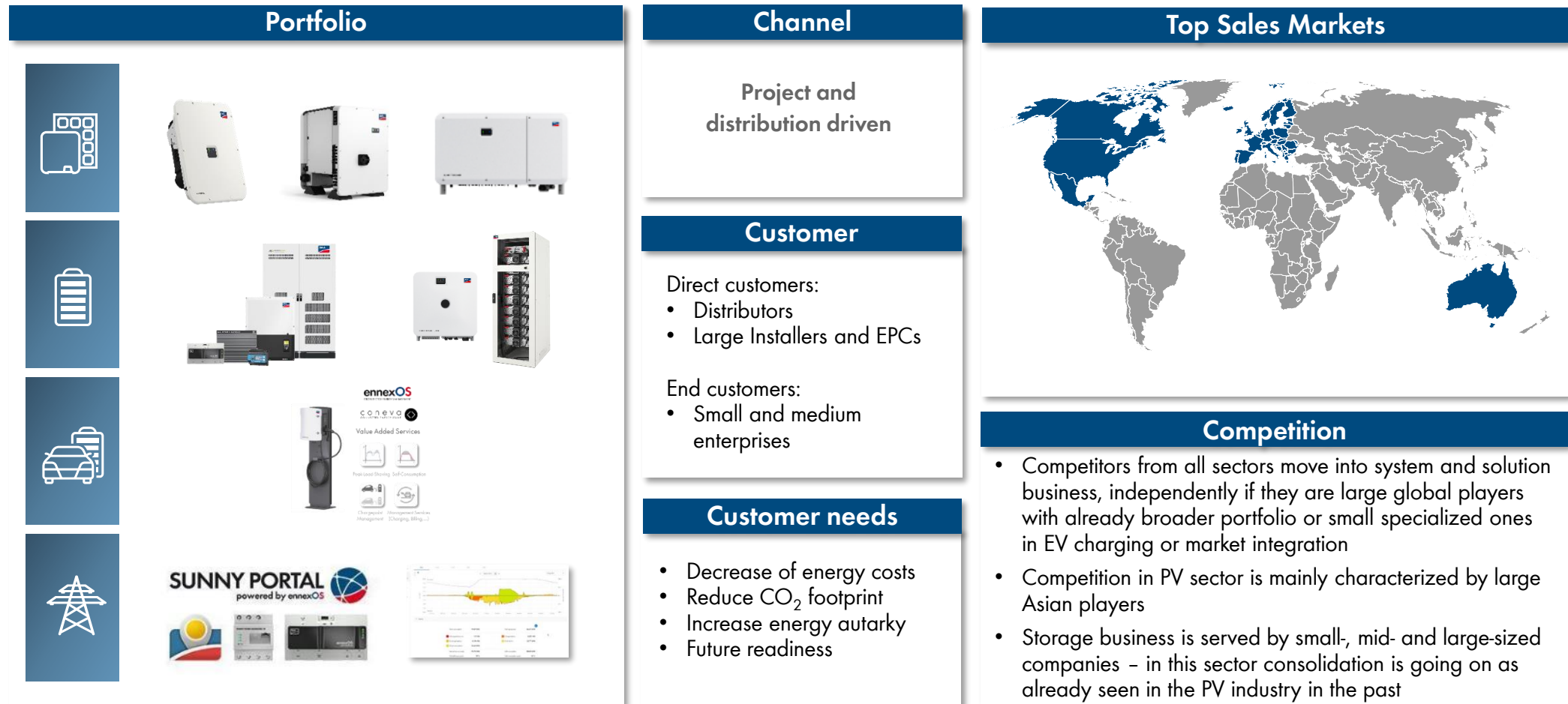


Market outlook by sector¹



- PV inverters serve as the backbone for decentralized smart energy solutions including storage, energy management and EV charging infrastructure. Such holistic energy solutions are gaining importance for many kinds of businesses like agriculture, food and non-food-retail, logistics or handicraft companies.
- Digital energy solutions are a key enabler for the smart connection and optimized use of PV generation, battery energy storage and EV charging operated by businesses as well as electricity providers & distributed grid operators.

C&I Solutions at a glance



Quick Dive: E-mobility



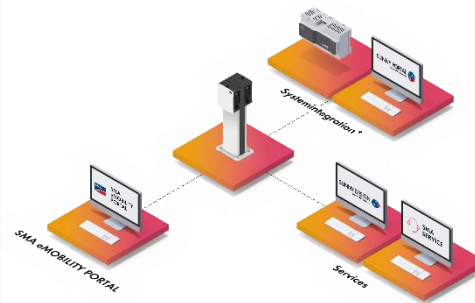
EV drives PV, PV drives EV –
Cross selling

Leverage existing sales
network and trusted partners

Transform SMA to enable
digital, customer-oriented
business models

One-stop-shop offering

SMA Commercial E-Mobility Solution



SMA EV Charger Business

„All-in-One-Solution“: robust and future proof charger

SMA eMobility Portal

Billing and visualization and charging sessions – enabling digital business models in the future


Seamless and flexible system integration

Competent layout support, onboarding service assisting installers and customers

Consulting and SMA-Service

Leveraging one-stop-shop approach in providing customers with fully integrated solution

SMA is the only company bringing E-mobility, PV and energy management in a holistic solution together

An aerial photograph of a vast solar farm installed in a rural landscape. The solar panels are arranged in neat, parallel rows across a green field. In the background, there are rolling hills, patchwork fields, and some farm buildings under a clear sky. A semi-transparent blue geometric overlay is present on the right side of the image.

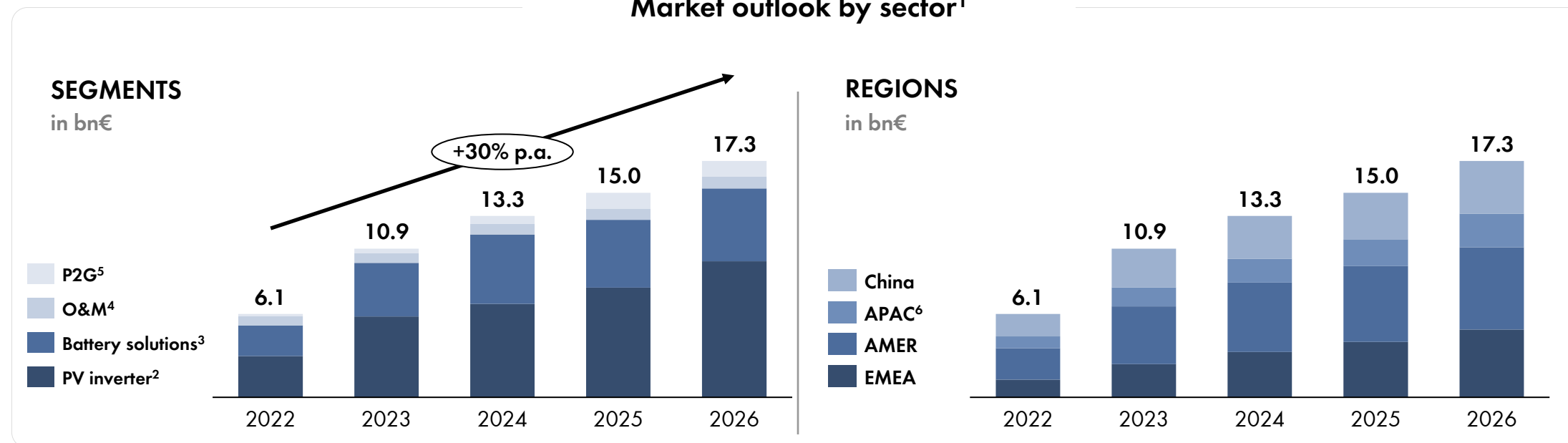
Large Scale & Project Solutions

Presented by Florian Bechtold,
Executive Vice President Business Segment Large Scale

Global market for Large-Scale solutions is expected to grow by 30% per year driven by high demand for PV and battery inverters

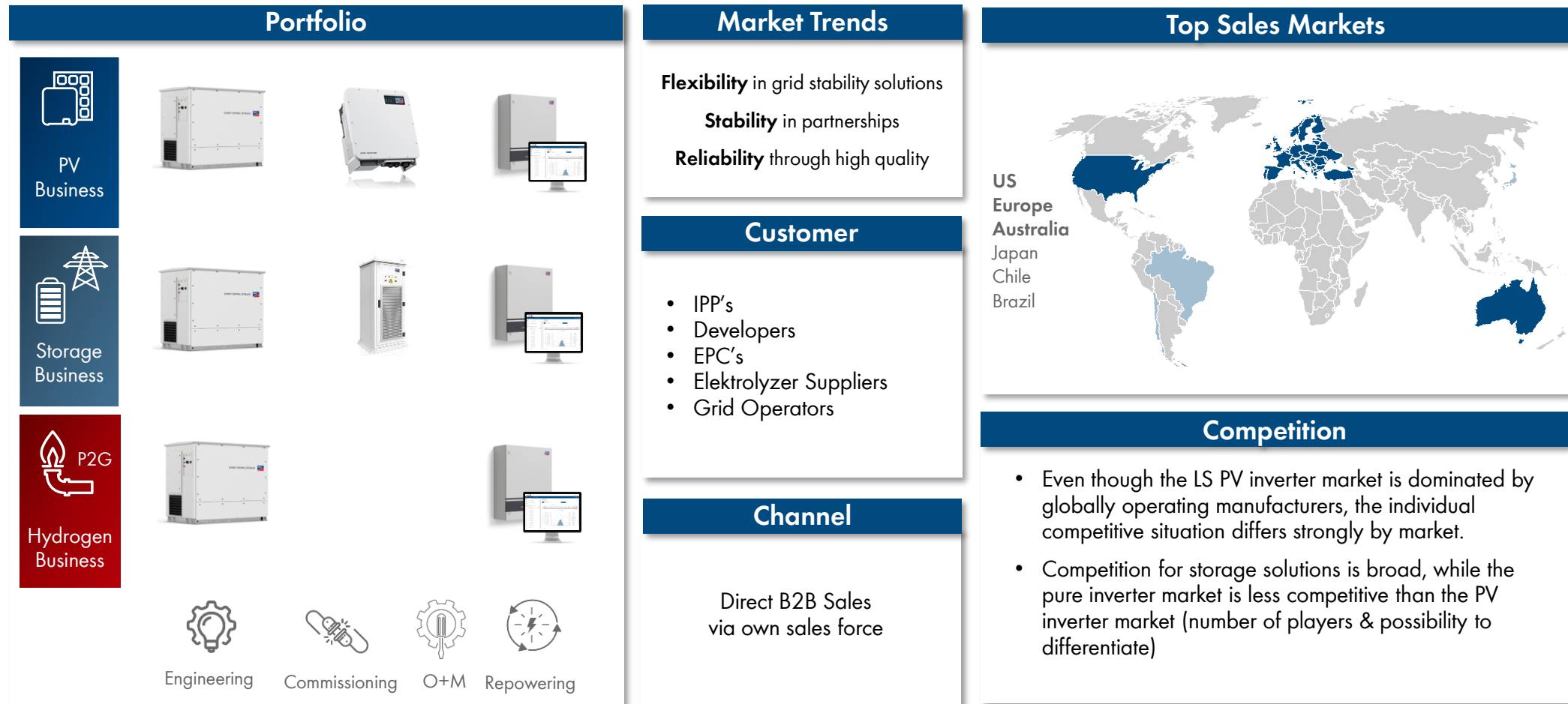


Market outlook by sector¹



- Driven by ambitious decarbonization policies, the Large-Scale segment will benefit from high demand for PV and battery inverter solutions in the next years. The major markets are the United States, Europe and Australia.
- In the United States, the Inflation Reduction Act provides significant incentives for Large-Scale solar plants as well as battery storage installations.

Large Scale Business at a glance



Construction of new Gigawatt Factory.

We will increase our production capacity for future growth.



- Manufacturing of systems primarily for the large-scale PV power plant segment
- Doubling of production capacity from approx. 21 GW to about 40 GW by 2025
- Further possibility to scale

- Site area: approx. 46,000 qm
- Production area: approx. 16,250 qm
- Creation of more than 200 jobs by 2025
- Sustainable building with DGNB-Gold certification

- Increase depth of value creation
- Optimization of the supply chain
- Optimization of cash-cycle
- Increase of flexibility in production



SMA's Hydrogen Business

Presented by Burkhard Söhngen,
Managing Director SMA Altenso



SMA's hydrogen journey



Early Technology Development

Workshops to develop the future hydrogen strategy



Growth Phase #1

Execution of major lighthouse projects for various hydrogen applications; established customer relations with major industry players; target >> 1 GW of executed projects

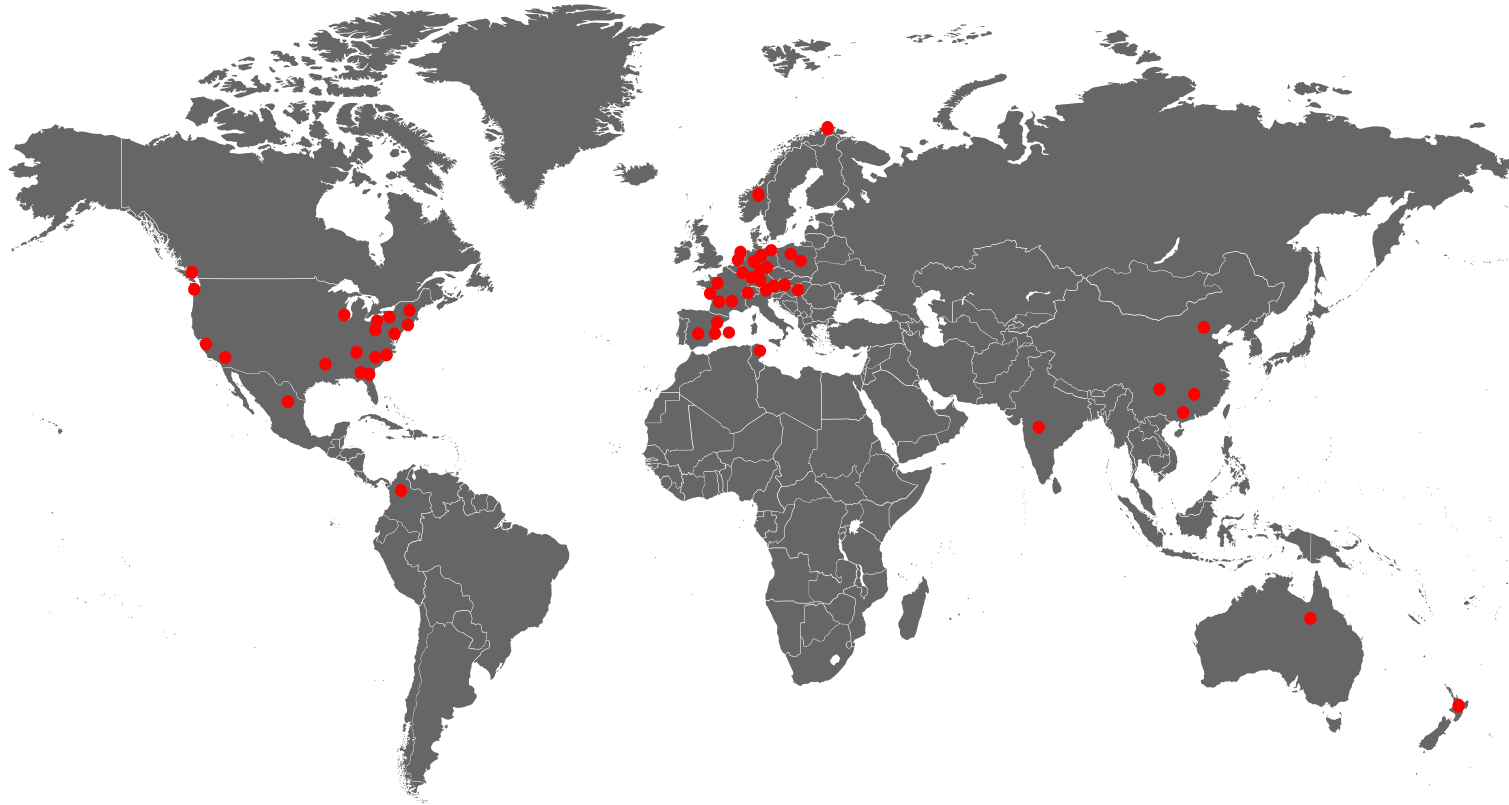
Growth Phase #3

Capitalize on massive industry growth as market leader with optimized level of value chain integration

MILESTONES

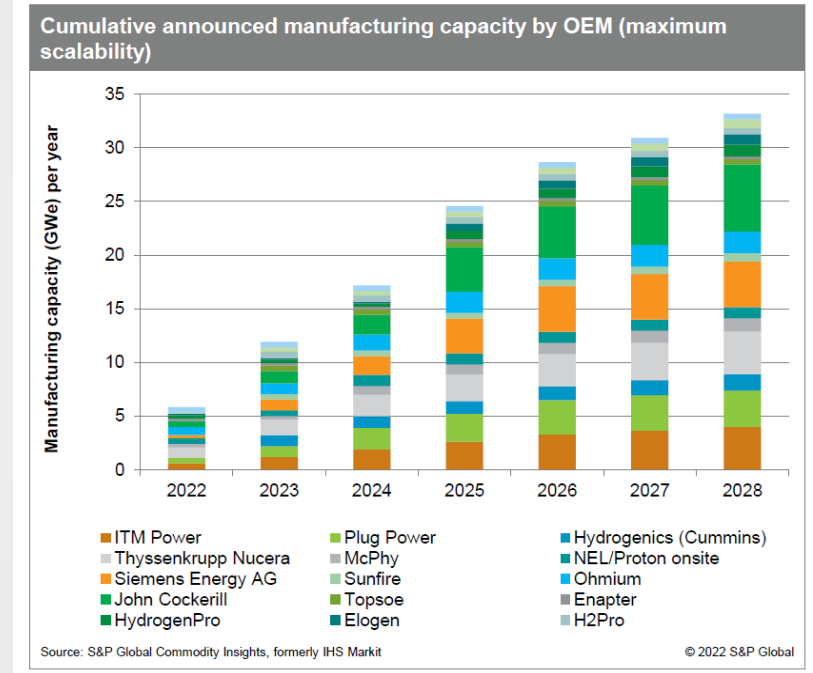
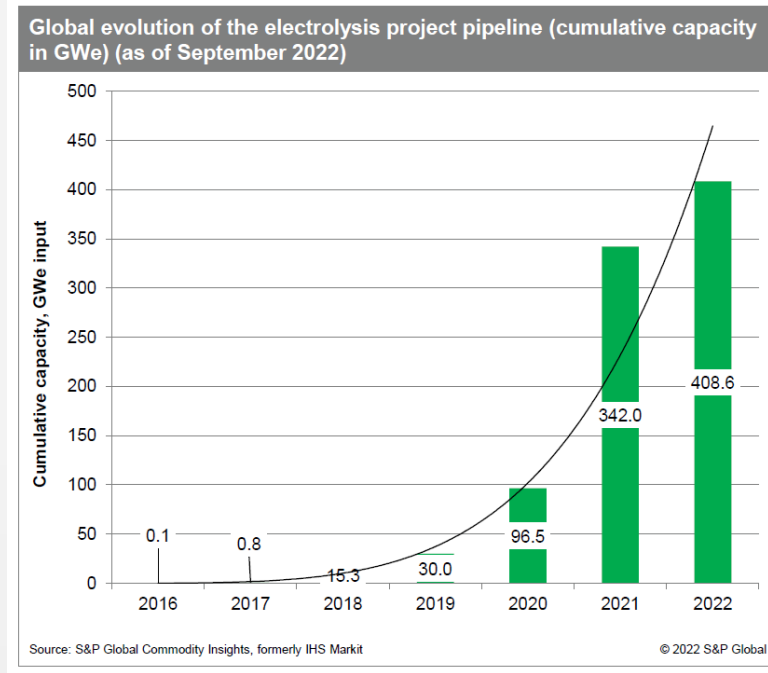
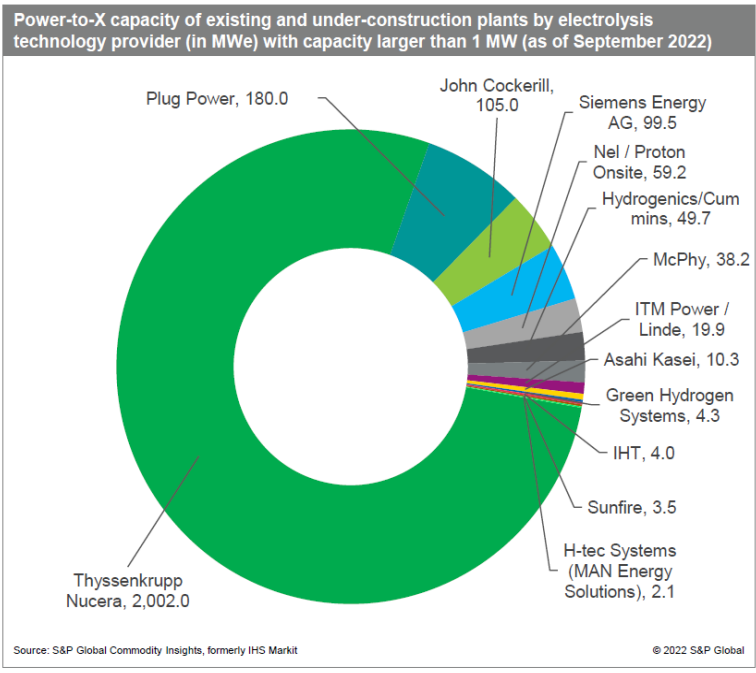


SMA's current Hydrogen Footprint: ~50 projects with >500MW



- 2021: Sales revenues in the high single digits
- 2022: Sales revenues in the lower double digits; order intake in the mid double digits; positive EBIT
- 2023: Sales revenues in the double digits expected
- Mid-term goal: Achieve sales revenues in the triple digits

Currently, a few electrolyzer manufacturers dominate the market



- Electrolyzer manufacturers currently our most important customer group
- Project announcements/pipelines increase massively and a race for GW factories has started
- SMA certainly market leader in IGBT Technology
- Overall SMA m/s currently expected @30-50%

USP #1: Plug & Play IGBT converter stations



20 foot container station



40 foot container station

SIMPLICITY

- Fully integrated 20' or 40' solution
→ easily transportable, easy to deploy
- IGBT: No need of harmonic filtering or power factor correction units
→ less CAPEX, less engineering, less installation effort; lower operational risk

COMPATIBILITY

- Compatible with most PEM, Alkaline and SOEC
- Compliant with international standards CE/UL
→ ready for international markets
- Compatible with most grid environments, significantly reducing risks

ROBUSTNESS

- Proven track record of > 38 GW in the market (PV&BESS)
→ reliability, bankability
- 25 years design life
- Different options for harsh conditions operation
→ to allow operation in most locations @optimized OPEX

SCALABILITY

- Standardized serial production with a production capability of 21 GW/a
→ ramp-up underway
- >20 International SMA service subsidiaries for commissioning and maintenance services
→ availability and maintenance

USP #2: Leverage on integration know-how & track record of complex projects



- Focus on realization of BESS, Hydrogen and (PV-)Hybrid projects on a global scale
- Strong execution track record of >600 MW BESS projects as integrator or EPC
- Early mover in hydrogen with ~50 projects >500MW
- Leading BESS system integrator / #8 globally; #1 Germany (IHS Markit 11/2021)
- One of the few – if not the only system integrator for BESS and hydrogen projects
- The combination of BESS/renewable generation/hydrogen production as complementary set-up for complex projects will increase significantly
- SMA at the forefront of such development as an expert and one-stop shop for complex project integration



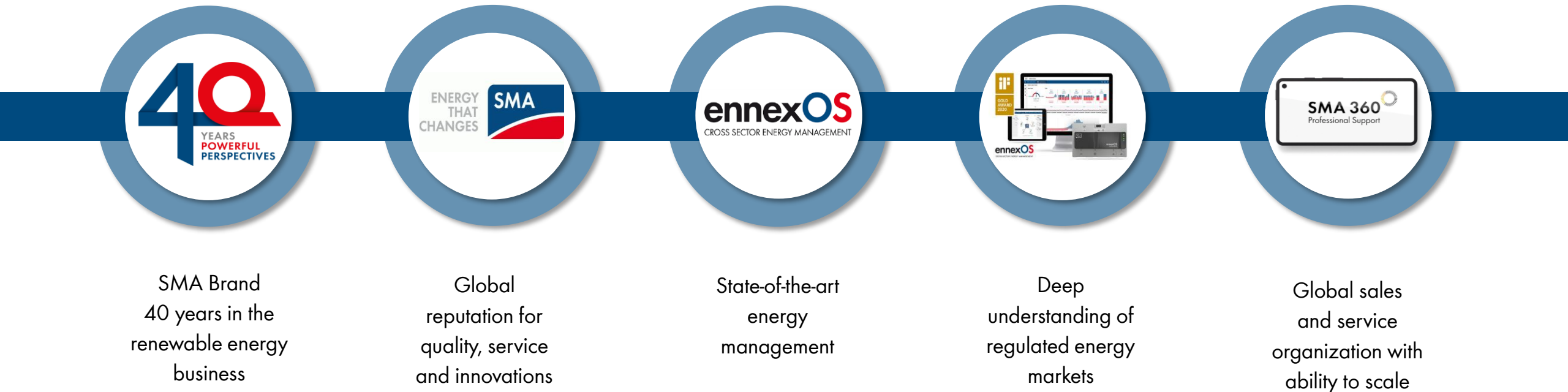
Why invest in SMA?

Presented by Barbara Gregor, CFO

We are bringing
the sunshine
to the MDAX

S
M D A X
A

What gives us the right to win and sets SMA apart from new entrants into the energy eco system



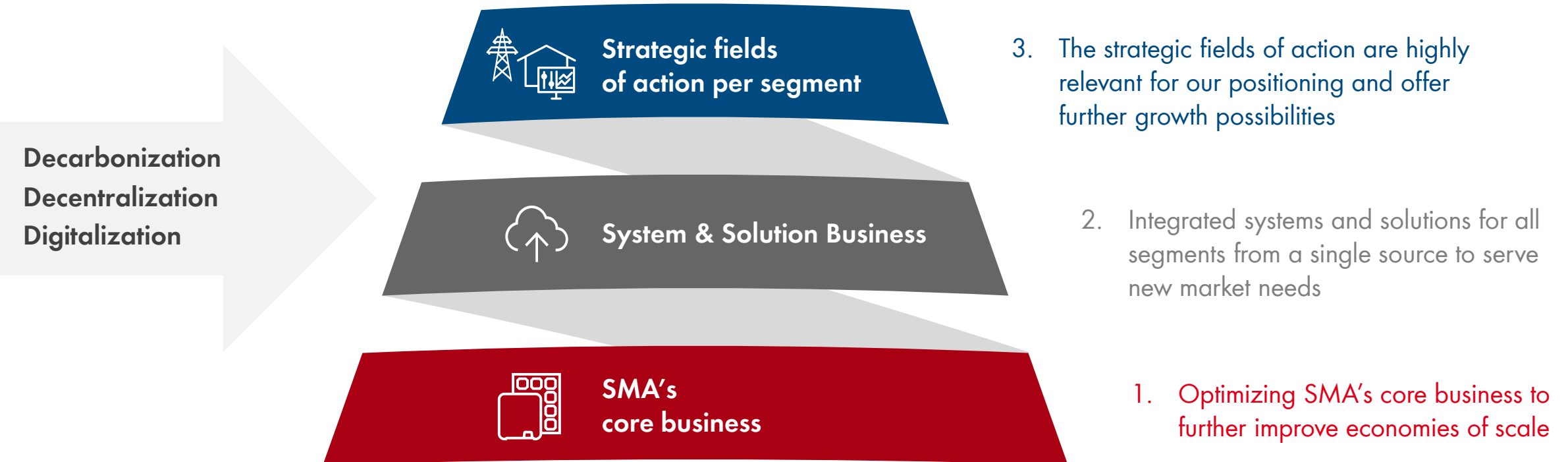


Strategic Objective

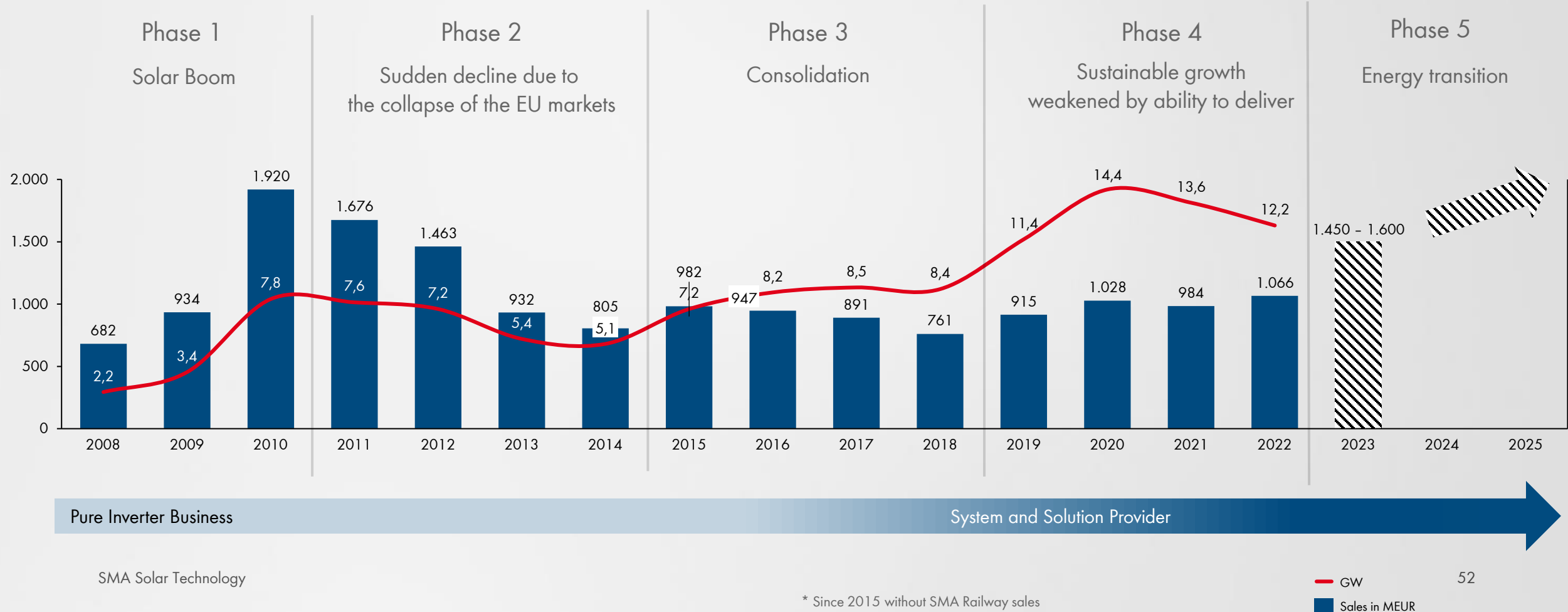
“Stability through profitability”

We are sustainably increasing our profitability through the further development of our core business and the targeted development of new business areas.

Drivers of profitability: Transition to a System and Solution provider



The PV industry has changed over the years - SMA is well positioned to take advantage and make the years to come a success



Why invest in SMA?



Financial stability



Clear focus



Comprehensive portfolio



Global reach



Sustainability

SMA is a truly sustainable and solid financed company with a clear focus, comprehensive portfolio and global reach in one of the most exciting industries of the future.

The background of the slide is a vibrant, sunlit photograph of a lake. In the foreground, two men stand on a wooden dock, looking towards the water. In the background, a person is captured mid-air, jumping into the lake, creating a large splash. The sun is high in the sky, casting a bright glow and creating lens flare effects. The water is dark, and the surrounding trees are lush and green.

Thank you!

SMA Solar Technology AG

Sonnenallee 1
34266 Niestetal, Germany

Tel. +49 561 9522 0

Fax +49 561 9522 1133

SMA.de

Investor.Relations@SMA.de