The next phase of profitable growth at the heart of the energy transition

Capital Markets Day
Alfen N.V.

London | May 10, 2023
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Today’s speakers

- Marco Roeleveld  
  Chief Executive Officer
- Jeroen van Rossen  
  Chief Financial Officer
- Michelle Lesh  
  Chief Commercial Officer
# Agenda | Capital Markets Day

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<th></th>
<th>Activity</th>
<th>Time</th>
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<td>1</td>
<td>Group strategy</td>
<td>09:00 – 09:45</td>
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<tr>
<td>2</td>
<td>Q&amp;A</td>
<td>09:45 – 10:15</td>
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<td>3</td>
<td>Coffee break</td>
<td>10:15 – 10:30</td>
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<td>4</td>
<td>Business line deep-dives + Q&amp;A</td>
<td>10:30 – 12:25</td>
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<td>5</td>
<td>Closing remarks</td>
<td>12:25 – 12:30</td>
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<td>6</td>
<td>Informal lunch</td>
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Alfen at a glance
Alfen is at the heart of the energy transition...

Our vision

to build a connected, smart & sustainable energy system for future generations

Our mission

to boost the energy transition by developing, producing, integrating and connecting high-quality energy solutions. Our solutions are innovative, reliable, secure and smart
... with a unique business model of 3 business lines that build on 85+ years of electricity grid expertise

**EV charging equipment | Since 2008**
- In-house developed and produced smart chargers and maintenance offering
- Used at destinations at home, business (a.o. retail & workplaces) and public locations
- Alfen is a pure B2B player

**Smart grid solutions | Since 1937**
- In-house developed and produced range of substations for grid operators
- Microgrids (incl substations) to grid connect private grids for instance at PV farms, EV fast-charging stations, horticulture and industrial companies
- Provide service & maintenance on installed substations for private entities

**Energy storage systems | Since 2011**
- In-house developed and produced battery energy storage solutions
- Stationary and mobile batteries with integration layer of control software
- Provide long-term service & maintenance on installed systems
- Applicable for all battery use cases including energy trading, capacity markets, grid frequency control and peak shaving

Business lines have additional upside in integrated solutions
Our integrated solutions are a unique edge, where we combine technical capabilities from multiple business lines.

- **EPV windmill park**
  - Energy storage system
  - Smart grid solution
  - Innovative black-start functionality

- **Shell fast-charging with storage**
  - Peak shaving with energy storage
  - Grid stability with energy storage
  - Smart grid solution

- **Alfen’s new production facility**
  - Grid connection & power distribution
  - 200+ charge points incl fast-charging
  - Peak shaving with energy storage
Our value proposition | We bring high-quality and comprehensive grid solutions

We bring 85 years of grid perspective
• We solve our customers’ toughest problems by helping to set the right technical requirements
• We guide strategic dialogue with our customers to advise on the energy transition

We customise our solutions ("Power to Adapt")
• We offer a comprehensive solution portfolio
• We leverage our unique ability to provide integrated solutions
• We use modular building blocks to offer solutions in varying sizes

We develop reliable & innovative solutions
• We leverage our technical capabilities to integrate suitable components into reliable solutions
• We pursue innovation relentlessly to serve our customers with the forefront of technology

We build long-term customer partnerships
• We respect our customers’ business model and avoid channel conflicts
• We operate EBITDA positive, offering our customers security about our long-term business continuity
Why we are here today
In 2022, we achieved 3 out of 4 IPO objectives

We have proven we can deliver profitable growth.

Alfen set 4 financial objectives at the time of the IPO (2018) to achieve in the mid-term

<table>
<thead>
<tr>
<th>Financial objectives</th>
<th>Achieved value</th>
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<tbody>
<tr>
<td>&gt;40% topline CAGR</td>
<td>43% over 2017-2022</td>
</tr>
<tr>
<td>15 - 20% adjusted EBITDA margin</td>
<td>18% in 2022</td>
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<tr>
<td>&gt;50% international revenue</td>
<td>51% in 2022</td>
</tr>
<tr>
<td>CAPEX &lt;3% of sales</td>
<td>4.8% in 2022</td>
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</table>
It’s time for new objectives

Today Alfen presents its new medium-term financial objectives to achieve between 2025-2027

Revenue of >1B€

15 - 20% adjusted EBITDA margin

Qualitative objectives to achieve/maintain

I. Outperform the market in each of our business lines
II. Adopt SBTi-approved CO₂ targets
III. Maintain asset light business model
IV. Remain at technology forefront through innovation
V. Grow and educate our people
The energy transition is accelerating
Trends | The energy transition is a multi-decade, global trend with 3 fundamental opportunities

I. Increase share of renewables in electricity consumption

Global fuel mix of final electricity consumption

II. Decentralise electricity production

Decentralisation ratio of electricity production in Europe

III. Enable the electricity grid to cope with electrification

Example: EV share of total car sales in Europe

1. New Energy Outlook 2022 based on achievable Net Zero Scenario (BNEF) 2. BNEF, where decentralisation ratio is the ratio of residential decentralised solar PV and storage to total installed generation capacity. 3. Electric Vehicle Outlook 2022 based on Economic Transition Scenario (BNEF)
Regulation | The energy transition is a priority for the EU, reflected in stimulative policy towards 2030

EU regulatory packages bring clarity to markets on long-term trajectory towards 2030

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Objective</th>
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<tbody>
<tr>
<td>Fit for 55</td>
<td>Reduce net GHG by 2030 and achieve climate neutrality by 2050</td>
</tr>
<tr>
<td>REPowerEU</td>
<td>Achieve 42.5% renewable energy share by 2030</td>
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<tr>
<td>EU law¹</td>
<td>(ICE) car ban in Europe by 2035 (with exception for e-fuels)</td>
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<tr>
<td>AFIR²</td>
<td>Grow EV chargers at the same pace as EVs. Per BEV in a Member State, 1.3 kW power output must be provided by publicly accessible chargers by 2030</td>
</tr>
<tr>
<td>EU’s Sustainable and Smart Mobility Strategy</td>
<td>Achieve 30M electric passenger cars and vans by 2030 (implies 27% CAGR)</td>
</tr>
<tr>
<td>Energy Performance of Buildings Directive</td>
<td>Minimum number of charge points set by national legislation for non-residential buildings with &gt;20 parking spaces</td>
</tr>
<tr>
<td>Green Deal Industrial Plan</td>
<td>Four pillars: 1) Predictable and simplified regulatory environment 2) Speed up access to finance 3) Enhance skills 4) Trade and resilient supply chains</td>
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Alfen’s position in the energy transition
Alfen is perfectly positioned to support these 3 opportunities in the energy transition

I. Increase share of renewables in electricity consumption
   - Connect renewables to the electricity grid

II. Decentralise electricity production
   - Design and install microgrids at businesses locations

III. Enable the electricity grid to cope with electrification
   - Design & supply secondary substations for distribution grid

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Our innovative energy solutions

I. Connect renewables to the electricity grid
II. Design and install microgrids at businesses locations
III. Design & supply secondary substations for distribution grid

I. Focus on smart chargers to manage peak electricity demand from renewables
II. Exclusive focus on smart chargers to maximize charging using solar power
III. Exclusive focus on smart chargers to manage electricity demand

I. Design & install large scale energy storage systems on electricity generation sites
II. Design & install (Mobile) energy storage systems on electricity demand sites (enable energy shifting)
III. Design & install (Mobile) energy storage systems on demand sites for congestion management (peak shaving)
We are the only independent player active in all three business lines.

**Strategic suppliers & partners**
- Alfen sources standardised components from multiple manufacturers, selecting the most suitable components.
- Component suppliers are generally product-focused rather than end-to-end solutions.

**Competitors**
- Alfen is the only player active in all three business lines.
- Alfen is independent from supplier base.
- Alfen has no sales channel conflicts with customers.

**Customers**
- Customers include utilities, grid operators, resellers, traders, renewables EPC contractors and industrial clients.

**Select examples of our suppliers, competitors and customers**

**Smart grids**
- Siemens
- ABB
- Schneider
- GE

**Energy storage**
- CATL
- Samsung
- DNV GL
- BMW i

**EV charging**
- Ebox
- Mennenkes
- Ecotap
- Zaptec
- Keba
- BayWa.r.e.
- e-on
- Exel
- Deutsche Telekom
- Virta
We leverage many group synergies from our business lines

Commercial synergies
Strong individual business lines that build technical trust for cross-selling & integrated solutions

Leveraged support functions
Support functions are centralised. Synergies include expertise concentration and cost savings

Deeper R&D expertise
R&D organized by expertise (mechanical/software/civil engineering & power electronics)

Production flexibility
Opportunity to rotate production personnel when required by market circumstances

Combined purchasing power
Higher purchasing power possible due to category management across business lines
# Commercial synergy | Our segments buy from multiple business lines

<table>
<thead>
<tr>
<th>Segment</th>
<th>Cross-sell &amp; integrated solutions opportunities with customers</th>
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<tbody>
<tr>
<td>Grid operators</td>
<td>[ ]</td>
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<tr>
<td>Energy companies</td>
<td>[✓]</td>
</tr>
<tr>
<td>Wholesalers</td>
<td>[✓]</td>
</tr>
<tr>
<td>Chargepoint Operators &amp; Mobility Service Providers</td>
<td>[✓]</td>
</tr>
<tr>
<td>Industry, Greenhouses &amp; Fast Charging Operators</td>
<td>[✓]</td>
</tr>
<tr>
<td>Renewables project developers</td>
<td>[✓]</td>
</tr>
<tr>
<td>System integrators &amp; rental companies</td>
<td>[✓]</td>
</tr>
<tr>
<td>Temporary mobile energy solutions</td>
<td>[✓]</td>
</tr>
</tbody>
</table>

- **Grid operators**: [stader], [ENEXIS], [STEDIN], [ELLEVIO]
- **Energy companies**: [VATTENFALL], [E.on], [ENGIE], [Eneco], [EnBW]
- **Wholesalers**: [ESTG], [Rexel], [Ubra], [Technische Union], [solarclarity], [combi]
- **Chargepoint Operators & Mobility Service Providers**: [chargepoint], [Allego], [50five], [The Mobility House], [EDI], [VIRTA]
- **Industry, Greenhouses & Fast Charging Operators**: [van gelder], [bam], [BESIX], [IONITY], [Srove], [Coreline]
- **Renewables project developers**: [PFALZSOLAR], [CHNT], [Statkraft], [SemperPower], [hvc], [SVEA SOLAR]
- **System integrators & rental companies**: [AECOM], [EV Company], [panaeström], [fudura], [Joulez], [kenter]
- **Temporary mobile energy solutions**: [Greener], [aggreko], [Knechtsmond]
Our solutions come together in integrated solutions, as the energy transition unfolds due to grid constraints.

Examples of integrated solutions:

1. Charging plaza (EV charging with energy storage on site)
2. Microgrid at business location with energy storage on site, transformer substation and grid connection
3. Co-location of renewable generation with large scale energy storage
Customers appreciate our grid expertise, technical capabilities and flexibility

Smart grid solutions

‘Alfen has sound knowledge and is an electrical technical partner.’
Specialist in electrical total solutions

‘Quality, development and support are good. Alfen knows the Dutch market and it is the best choice in the Netherlands.’
German supplier of PV equipment

‘There is a great deal of knowledge within the company, so an appropriate technical solution can always be provided.’
Developer and EPC of solar PV projects

EV charging equipment

‘70 percent of the customers who call in reference to the budget model charger end up leaving with the Alfen solution purely because of the technical capabilities of the product.’
Contract manager, large international utility

‘It is easy to build a charger that can only communicate with your own platform, that is what many EV chargers do. This keeps the clients tied to that platform. Alfen manufactures charging infrastructure as a service and therefore design and develops its chargers to be able to communicate with any platform that follows the standards.’
COO, Full&fast

‘The on-site service that Alfen offers was a big benefit for us. The wider services around the charger will keep the costs down and lower the total costs of ownership.’
Product owner, Nordic EV CPO

‘In the Dutch and Belgian markets, Alfen is an established name. We can see that customers find it a stable solution. The quality and reliability of the products that Alfen can provide is very important to us.’
Vendor manager, other large international utility

Energy storage systems

‘When we started our company, we did market research and came to the conclusion that Alfen was the most reliable party for us because it could scale with our ambitions. Alfen distinguishes itself by providing high quality products and high production numbers in their manufacturing process that is top of the market.’
CEO, Greener

‘We work with Alfen because they have a lot of expertise. The know well how to deal with network companies and the requirements of the network operators.’
CEO, SemperPower

‘We negotiated with a few manufacturers, but we chose Alfen because of its customisation and flexibility. Alfen offers a good range of products and services. We needed a product for many use cases and Alfen was ready for it.’
Development manager, EPV
Alfen has a loyal customer base that has diversified since our IPO in 2018.

Loyal:
- % of top 50 customers within each business line that ordered in past 6 months:
  - 98%
  - 84%
  - 86%

Diversified:
- % of revenues attributed to top 5 customers:
  - Other: 48% (2018) vs. 75% (2022)
  - Top 5 customers: 52% (2018) vs. 25% (2022)

No customer accounted for more than 10% of revenue in 2022, making Alfen’s business model more robust.
Setting the stage for future growth
Alfen is exposed to a variety of growing markets across Europe and internationalises at high pace

Alfen has local sales presence in 13 European countries with its solutions installed in 30+ European countries

Growing international revenues beyond the NL
In € millions and as % of group revenues

Core market: EVC & ESS & SGS
Core market: EVC & ESS
Core market: EVC
EVC & ESS installed base
EVC installed base

EVC = EV Charging Equipment, ESS = Energy Storage Systems, SGS = Smart Grid Solutions
Focus remains on Europe, but new country monitoring in place to selectively pursue entry in the medium term.

- **01 Market size and maturity**
- **02 Government policy**
- **03 Product-market fit**

*Long list of new countries*

In scope of monitoring are parts of the Americas and Asia.

*Short list of new countries*

Countries for entry.
Our go-to-market strategy is scalable, product/market focused, and tuned to the complexity of the solution.

**Serve through partner channels:**
- **EV charging & Energy storage (mobile)**
  - Fragmented end customers
  - Lower solution complexity
  - Early in market life cycle

**Serve directly:**
- **Smart grid solutions & Energy storage (stationary)**
  - Concentrated end customers
  - Higher solution complexity
  - Consultative sales process
Our strong track record of attracting and retaining talent sets us up for continued growth

Why do employees choose Alfen? Why do they stay?

- Meaningful work at the heart of the energy transition
- Many opportunities for professional growth within a growing company
- Hands-on culture with a bias for action
- Increased media coverage since IPO has strengthened Alfen’s employer brand

23.6 employer Net Promoter Score (vs 5.5 of benchmark)¹

¹ Score based on employee survey in November 2022. eNPS score is calculated based on the question: “How likely is it that you would recommend Alfen as an employer to others?”. People that indicate 9 or 10 are promoters. People that indicate 7 or 8 are passives. People that indicate 1 until 6 are detractors. The eNPS is determined by subtracting the % of detractors from the % of promoters. The benchmark score was 5.5 in the Netherlands.
New production facility – operational in Q1 2024 – sets the next stage for our growth story
Increasing production capacity in Almere (NL) with purchase of additional facility per June 1, 2023

Existing industrial building at Damsluisweg 70, Almere (on same industrial premise as other Alfen buildings)

Significant floor space:
• 2350 m\(^2\) production
• 13000 m\(^2\) warehouse
• 1600 m\(^2\) offices

Lowers warehousing costs at other locations

Environmental permits in place for expanding the production of mobile Energy Storage Systems
Our production facilities, centrally located in Almere (NL), provide ample capacity for further growth

**Production capacity can breathe with demand through:**
- Add flexible labour
- Additional production lines
- More automation
- Operational excellence
- Additional/second shift

*Under construction | Hefbrugweg 79*
- 20,000 m² production hall + 4200 m² offices
- Expected delivery early 2024

*EV Charging | Hefbrugweg 85*
- 5300 m² production hall + 1500 m² offices
- ~15 flow production lines
- Some lines are semi-automated

*HQ & Smart grids | Hefbrugweg 28+ Vlotbrugweg 24*
- 3900 m² production hall + 2400 m² offices
- Flow production system with 3 lines
- SGS facilities in Belgium (~430 m² office space) and Finland (~4750 m² production and office space)

*Commercial functions | Bolderweg 2*
- 3000 m² office space (Mac3Park) for several Sales & Marketing functions among others

*Energy Storage | Hefbrugweg 6*
- 2350 m² production hall + 1000 m² offices
- 11000 m² outside area to assemble energy storage systems

Source: Google Maps
Walk the talk | Sustainability at the core of our business and delivering results

Our solutions have a positive sustainable impact on society

**Our vision**
- a “sustainable energy system”

**Our mission**
- “to boost the energy transition”

99% of revenue aligned with EU Taxonomy

We run our business with ESG at the forefront

**E**
- Decreased CO2 emissions by 28% (2019-2022) in scope 1 & 2 despite tripling revenues in this time period

**S**
- Alfen Academy educates new technical personnel (~60 students enrolled, awarded 150 diplomas since start)

**G**
- Expanded Supervisory Board with 4th member and will formalise an audit and remuneration/nomination committee in 2023

20.3 rating with Sustainalytics (top 12% in Electrical Equipment industry globally)

ESG examples below: more in Annual Report 2022
Strategic program in place to implement Corporate Sustainability Reporting Directive (CSRD)

24 material ESG topics determined for Alfen based on double materiality assessment (initial assessment)

**Environmental**
- E1-1 | Transition plan for climate change mitigation
- E1-2 | Policies related to climate change mitigation and adaptation
- E1-3 | Actions and resources in relation to climate change policies
- E1-4 | Targets related to climate change mitigation and adaptation
- E1-5 | Energy consumption and mix
- E1-6 | Gross Scopes 1, 2, 3 and Total GHG emissions
- E1-7 | GHG removals and GHG mitigation projects financed through carbon credits
- E1-8 | Internal carbon pricing
- E1-9 | Potential financial effects from physical and transition risks and potential climate-related opportunities

**Social**
- S1-1 | Policies related to own workforce
- S1-2 | Processes for engaging with own workers and workers’ representatives about impacts
- S1-3 | Processes to remediate negative impacts and channels for own workers to raise concerns
- S1-4 | Taking action on impacts on own workforce, and approaches to mitigating risks and pursuing opportunities related to own workforce, and effectiveness of those
- S1-5 | Targets related to managing negative impacts, advancing positive impacts, and managing risks and opportunities
- S1-6 | Characteristics of the undertaking’s employees
- S1-7 | Characteristics of non-employee workers in own workforce
- S1-8 | Collective bargaining coverage and social dialogue
- S1-9 | Diversity indicators
- S1-10 | Adequate wages
- S1-11 | Social protection
- S1-14 | Health and safety indicators
- S1-17 | Incidents, complaints, human rights and incidents

**Governance**
- G1-3 | Prevention and detection of corruption or bribery
- G1-4 | Confirmed incidents of corruption or bribery

Our next steps to implement CSRD

1. Setting clear sustainability goals and targets
2. Developing a plan of action
3. Communicating and reporting on sustainability efforts

Applicable as from financial year 2024

Note: Initial assessment is based on current EU Directive – to be implemented in national legislation.
Profitable growth
Market and solution expansion drives our topline growth

Market growth
- Benefit from strong market growth trends for smart grids, charge points and energy storage
- Aim to grow market share across geographies

Internationalisation
- Internationalise across Europe by expanding our local sales presence

Integrated solutions
- Leverage our unique position of having 3 energy transition-oriented business lines
- As the energy transition progresses, grid congestion increases the need for integrated solutions

Solution portfolio additions
- Expand our portfolio by selectively adding new solutions (e.g. walk-in substation)
Several programs in place to propel steep revenue growth and improve efficiency

Supplier Management
- Develop category strategies further
- Improve integral supplier capacity alignment to secure future supplies
- Drive competitive component pricing further

Customer Experience
- Develop customer-facing IT tools further (portals, applications, etc)
- Improve the customer journey
- Make service easier and faster through process automation and strategic cooperation with service partners

Operational Excellence
- Smart Grid Solutions: optimised lay-out of new production facility
- EV charging: implementation of manufacturing execution systems (MES)
- Focus on master data management

IT infrastructure & applications
- Build a secured (by design) & scalable IT infrastructure
- Build a digital platform for secured, scalable, rapid development and deployment of digital solutions
- Further automate business process steps, building interfaces with partners/customers
- Fortify information (cyber) security across Alfen’s digital ecosystem

Examples of programs
Mid-term financial objectives take into account varying growth rates and gross margins per business line

Market volume CAGR for 2022 – 2027 continue to be double digit for our markets\(^1\)

Gross margins vary by business line

It’s time for new objectives

Today Alfen presents its new medium-term financial objectives to achieve between 2025-2027

Revenue of $1B€

15 - 20% adjusted EBITDA margin

Qualitative objectives to achieve/maintain

I. Outperform the market in each of our business lines
II. Adopt SBTi-approved CO₂ targets
III. Maintain asset light business model
IV. Remain at technology forefront through innovation
V. Grow and educate our people
Our objectives are full of ambition given the broader market context

Market context for our revenue objective
In mid-term, our objective is to grow revenues to at least 1 billion EUR by 2025-2027, which is lower than the previous revenue objective of >40% CAGR because:

(1) Market for EV charging is maturing, hence growth rates of >100% are no longer realistic. This is a normal phenomenon in the adoption of new technologies (s-curve)

(2) To combine growth with profitability, we shift from market expansion in EV charging throughout Europe towards increasing market shares within existing markets. That is beneficial for profitability, but lowers the revenue growth rate.

Market context for our adjusted EBITDA margin objective
In mid-term, our objective is to maintain our profitability in the range of 15-20%, while:

(1) The business with the lowest gross margin (energy storage systems) is expected to grow the fastest (implying continued operational leverage throughout Alfen)

(2) Listed peers in both EV charging and Energy Storage are performing in the range -/- 60% to +6% EBITDA margin in 2022. Most peers are EBITDA negative
We continue to see leverage in coming years as a trend, but deleverage can also occur in certain quarters.

OPEX to revenues (%) shows downward trend from 2019 until 2022, but also quarters with deleverage.

Leverage areas and potential for further operational leverage:

- **Indirect labour costs**
  - E.g. support function personnel

- **Other OPEX**
  - E.g. marketing spend, IT spend, building costs

- **Direct labour costs**
  - E.g. production & warehousing personnel

Drivers in coming years (= opportunities for leverage):

- Grow volume, especially in EV charging and Energy Storage
- Improve productivity, e.g. automation and maturing business processes
- Organize for synergies, e.g. central support functions
Capital allocation strategy | FCF to be primarily spent on growing the business further

**Free cash flow (FCF):** Alfen continues its financial strategy of profitable growth in combination with an asset light business model. We balance growth with generating FCF. When supply chain pressures ease, our business model should result in FCF.

**Capital allocation:** Alfen will use FCF for growth; no dividend payout expected in the medium-term.

**Working capital:** At 31 December 2022, working capital amounted to €87.6m (versus €23.8m at 31 December 2021), mainly related to Alfen's successful measures to mitigate supply chain pressures with higher inventory levels. Working capital also increased due to strategic down payments for batteries, inverters, containers and electrical components. Working capital has not increased due to trade receivables & payables.

- EV charging: when supply chain normalizes, lower inventory levels expected
- Smart Grids Solution: at a representative level
- Energy Storage Solutions requires more working capital structurally, but 2022 step-up was relatively large. Going forward, more continuous flow in projects for TheBattery Elements expected.

**M&A:** Alfen continues its focus on organic growth, given the opportunities in our markets. Alfen does not exclude M&A when synergetic targets are identified, but will not actively pursue a buy-and-build strategy.
Key takeaways

**At the right place:** Alfen has a strong position at the heart of the energy transition, benefitting from fast-growing markets driven by the long-term decarbonization trend.

**Robust business model:** Alfen is diversified across 3 end-markets (grids, EV charging, storage), 30+ European countries and many different customers.

**Unique value proposition:** Alfen brings the total grid perspective and leverages its technical capabilities to offer reliable, innovative, end-to-end solutions.

**Proven executional track record:** Alfen’s experienced MT has a proven track record of delivering on plan with a long-term view. Our organization’s capabilities, production capacity and go to market strategy are set up for growth.

**Rigorous focus on profitable growth:** Alfen continues to focus on its financial strategy of profitable growth with operational leverage and continuation of our asset-light growth model.
# Agenda | Capital Markets Day

<table>
<thead>
<tr>
<th></th>
<th>Event</th>
<th>Time</th>
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<tbody>
<tr>
<td>1</td>
<td>Group strategy</td>
<td>09:00 – 09:45</td>
</tr>
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<td>10:15 – 10:30</td>
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<td>Business line deep-dives + Q&amp;A</td>
<td>10:30 – 12:25</td>
</tr>
<tr>
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<td>Closing remarks</td>
<td>12:25 – 12:30</td>
</tr>
<tr>
<td>6</td>
<td>Informal lunch</td>
<td></td>
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</tbody>
</table>
议程 | 资本市场日

1. 集团策略 | 09:00 – 09:45
2. Q&A | 09:45 – 10:15
3. 咖啡休息 | 10:15 – 10:30
4. 业务线深入探讨 + Q&A | 10:30 – 12:25
5. 结束语 | 12:25 – 12:30
6. 非正式午餐
# Agenda | Capital Markets Day

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<td>EV Charging Equipment + Q&amp;A</td>
<td>10:30 – 11:10</td>
</tr>
<tr>
<td>4.2</td>
<td>Smart Grid Solutions + Q&amp;A</td>
<td>11:10 – 11:40</td>
</tr>
<tr>
<td>4.3</td>
<td>Energy Storage Systems + Q&amp;A</td>
<td>11:40 – 12:10</td>
</tr>
<tr>
<td>4.4</td>
<td>Integrated Solutions + Q&amp;A</td>
<td>12:10 – 12:25</td>
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</tr>
</tbody>
</table>
Key areas of focus in this EV charging section

1. Market outlook & growth drivers
2. Alfen’s comprehensive solution portfolio
3. Go-to-market
4. Alfen’s strong position in the market
Independent market research expects strong double digit growth for charge points in Europe until end of this decade

EV charge points added per year to base in Europe in millions

<table>
<thead>
<tr>
<th>Year</th>
<th>Replacement</th>
<th>Italy</th>
<th>France</th>
<th>UK</th>
<th>Germany</th>
<th>Rest of Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>1.1</td>
<td>1.2</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2027</td>
<td>5.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Market growth drivers

- **Decarbonization**
  - Goal for individuals and businesses

- **Approaching cost parity with ICE**
  - EV less costly already in several use cases

- **Government incentives**
  - Subsidies and regulatory measures

- **Increased variety of EVs**
  - Car OEMs set higher ambitions and bring more affordable models to the market

Source: Bloomberg New Energy Finance (2022). Outlook assumes a replacement cycle of 12 years for retired charge points, kicking in per 2028.
Alfen focuses on destination charging; historically AC destination and per 2023 H2 also DC

**Market for Passenger EV charging equipment**

### Alfen focus (with illustrative use cases)

#### Destination charging

- **AC destination**
  - Power rating: 3 – 22 kW
  - Charging duration: 3 – 19 hours
  - Examples: Single home, Multi-family housing

- **DC destination**
  - Power rating: 24 – 60 kW
  - Charging duration: 1 – 3 hours
  - Examples: Supermarkets & DIY stores, Entertainment locations

#### Fast charging

- **DC Fast charging**
  - Power rating: 60 – 150 kW
  - Charging duration: 20 – 60 min
  - Examples: Fast food restaurants, Rest areas along highway

- **DC High Performance**
  - Power rating: 175 – 400 kW
  - Charging duration: 10 – 20 min
  - Examples: Rest areas along highway, Fuel retailers

---

**Estimated installed base of charge points in 2030**

- 35,000,000
- 800,000
- 400,000
- 200,000

---

**Source:** European EV Charging Infrastructure Masterplan (2022) by McKinsey and ACEA.
Based on known charging behavior for gasoline fueling, destination charging is expected to dominate vs fast charging.

<table>
<thead>
<tr>
<th>Gasoline customers</th>
<th>Share of market</th>
<th>Customer behavior</th>
<th>Analogy for EV charging customers</th>
<th>Implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td></td>
<td></td>
<td>Charge car when it is parked at destination (no time wasted) and at next fast-charging station on long-distance trips</td>
<td>Predominantly destination charging</td>
</tr>
<tr>
<td>Price</td>
<td></td>
<td></td>
<td>Search for lowest price per kWh destination charging, as price is substantially higher at fast charger</td>
<td>Favours destination charging</td>
</tr>
<tr>
<td>Loyalty program</td>
<td></td>
<td></td>
<td>Focus on earning and redeeming points on a charge with partner installers</td>
<td>Can be destination or fast charging</td>
</tr>
<tr>
<td>Quality</td>
<td></td>
<td></td>
<td>Pay extra/sacrifice time for green electricity</td>
<td>Can be destination or fast charging</td>
</tr>
</tbody>
</table>

**Conclusion**: Gasoline customer behavior fits best with destination charging. Market outlook: ~98% of chargers will be destination chargers.

Source: Citi Bank EV Charging Sector Update (March 2022)
Home segment is expected to remain dominant, but business and public will likely grow in relative size

Distribution of charge points by location segment in Europe

<table>
<thead>
<tr>
<th>Year</th>
<th>Home</th>
<th>Business</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>76%</td>
<td>19%</td>
<td>5%</td>
</tr>
<tr>
<td>2025</td>
<td>69%</td>
<td>6%</td>
<td>25%</td>
</tr>
<tr>
<td>2030</td>
<td>61%</td>
<td>6%</td>
<td>32%</td>
</tr>
</tbody>
</table>

**CAGR 2022 - 2027**
- Home: 14%
- Business: 27%
- Public: 24%

**Insights**

- **Home segment declines in relative share.** Decreasing share of new EV buyers have access to home charging. More EV drivers will live in shared multi-dwelling buildings (>50% of Europe’s population currently live in multi-dwelling buildings).

- **Consequently, business and public segment will grow in relative share.** Business will grow in particular, as cars are parked at businesses during the daytime when solar power installations generate most electricity.

**Case in point:** France has regulation per July 2023 that parking lots with >80 spaces must have >50% of its lots covered in solar canopies by 2028. This incentivises increased adoption of EV charge points to leverage produced electricity.

Source: Promotion of e-mobility through buildings policy – European Commission (2022); BloombergNEF (2022)
Our offering | Alfen EV charging offers state-of-the-art chargers for the home, business and public segment

<table>
<thead>
<tr>
<th>Home segment</th>
<th>Business segment</th>
<th>Public segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eve Single S-line (AC)</td>
<td>DC charger</td>
<td>Eve Double PG-line (AC)</td>
</tr>
<tr>
<td>3.7-11 kW</td>
<td></td>
<td>11-22 kW</td>
</tr>
<tr>
<td>Eve Single Pro-line (AC)</td>
<td></td>
<td>Twin (AC)</td>
</tr>
<tr>
<td>3.7-22 kW</td>
<td><strong>Coming H2 2023</strong></td>
<td>11-22 kW</td>
</tr>
<tr>
<td>Eve Double Pro-line (AC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.7-22 kW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Also used in business segment. 2. Also used in home segment
**Important innovation coming soon**

DC destination charger with strong commercial & technical fit with existing portfolio

**Rationale for solution extension with the destination DC charger**

- Alfen is a one-stop shop for its B2B partners in destination charging
- At locations where EV drivers reside for 0.5 – 2 hours, a higher power rating than AC provides value to end users and our B2B partners. Examples: supermarkets & shopping malls & visitor parking at offices
- DC is an important technology in longer term for vehicle to home/building/grid applications

**Current status**

- Installed chargers with selected customers for technical validation phase before broader market introduction
- Available to the market in H2 2023

**Developed a 30 kW DC solution that fits well within our portfolio**

<table>
<thead>
<tr>
<th>Feature</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart charging</td>
<td></td>
</tr>
<tr>
<td>Plug &amp; Charge</td>
<td></td>
</tr>
<tr>
<td>Compact housing</td>
<td></td>
</tr>
<tr>
<td>Interoperability</td>
<td></td>
</tr>
<tr>
<td>Easy to install</td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td></td>
</tr>
</tbody>
</table>
Innovation philosophy | Smart charging is necessary to limit the grid investments needed for EV adoption

The charger is an extension of the grid, not just an accessory for the car

Recent innovations
- Implemented the ISO 15118 standard end-to-end
- Eichrecht-compliant charger
- Integration of OCCP 2.0.1
- Matured our platform for future feature development
- Internationalised Dynamic Load Balancing functionality, e.g. direct communication with smart meter in France
- Solar charging
Alfen software | Ensure an interoperable system that is equipped with the latest standards

EV charging system
One physical in-house developed system by Alfen

Outside the EV charger
Complex ecosystem of hardware and applications that charger needs to interact with smoothly

Our USPs on software
Leading in standard implementation: help shape new standards for smart charging and/or implement fast, e.g. OCPP & ISO15118

Interoperable systems: ensure that our charger can be connected to the broadest variety of external systems in this complex ecosystem

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Among others a modem, display, printed circuit board assembly, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Platform</td>
<td>Software to make the devices and applications work, e.g. software update, device drivers, communication infrastructure</td>
</tr>
<tr>
<td>Application services</td>
<td>Software to control external interfaces to the charger</td>
</tr>
</tbody>
</table>

- **External hardware**
  - Smart meter\(^1\)
  - EV\(^2\)
  - NFC\(^3\) tag
  - Other chargers
  - Payment systems

- **Auxiliary applications**
  - EMS\(^4\)
  - Field service app
  - Back-office management system\(^5\)
  - Customer app

---

Our USPs | Alfen distinguishes itself in the EV charging market with its solution offering and commercial offering

SOLUTION APPROACH

- Solutions for full breadth of destination charging
- Smart charging: charger as a platform
- Reliable: proven track-record since 2008
- Innovative: front-runner in new technology
- Scalable ecosystem (backward feature compatibility)

COMMERCIAL OFFERING

- More than EV charging: the grid perspective
- Pan-European presence
- Independent player (no channel conflict)
- Agility: quickly scaling with market
- Business continuity & long-term view
As a pure systems specialist, Alfen has a neutral position in the value chain and can partner with a wide range of players.

**Charging infrastructure value chain**

- **Utility**
- **Wholesaler**
- **Installer**
- **CPO**
- **MSP**

**Energy supply**
- Electricity generation, storing, managing
- Electricity retailing

**Equipment supply**
- Develop hardware
- Develop software
- Production
- Sell AC and DC chargers

**Distribution**
- Sell a broad range of products to a reseller (not the end customer)

**Installation & field services**
- Preparation of sites
- Installation
- Service once in operation

**Ownership & operations**
- Invest in sites
- Invest in assets
- Source electricity from utilities
- Sell to end users at a markup
- Monitor charger status
- Coordinate maintenance

**E-mobility services**
- Charging & other mobility services to end users (app or charge-card bases)
- Software back-end (back-office management)

Alfen: Remote service & maintenance in-house and on-site through field service partner network

1. Charge Point Operator
2. Mobility Service Provider
We have 3 distinct chains in our go-to-market approach

**Route to market**

1. **B2B partner**
   - Direct Alfen customer, e.g. CPO, utility, wholesaler or system integrator.

2. **Customer of B2B partner**
   - Provide added-value to end user relative to B2B partner, e.g. installer or municipality.

3. **End user**
   - Use the charge point to charge a car, e.g. homeowner.

Alfen has a B2B model, but we account for the distinctive customer journey of each of these 3 chains as a charge point OEM.
Smart charging has barriers to entry that make rapid price declines unlikely

Three main factors keep the market away from commoditisation in coming years

1. **Fragmented market** with country-specific solution requirements

2. **Rapid innovation** for smart chargers on multiple fronts in connected ecosystem

3. **Dynamic regulatory environment** with evolving standards & policies towards smart charging

Europe’s regulatory framework points towards smart charging

**European Union**

- Alternative Fuels Infrastructure Regulation (AFIR) proposal: new publicly-accessible charging stations need to be digitally connected and capable of smart charging
- Renewable Energy Directive III: all private charging infrastructure needs to support smart charging

**United Kingdom**

- Smart Charge Points Regulations (per 30 June 2022): all EV chargers for home or business must support smart functionality, e.g. connectivity, off-peak charging and phased charging times

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1. Next to these examples, other (market/regulatory) requirements that points towards smart charging covers the smart meter connection, payment methods, payment transparency, vehicle-to-grid communication and calibration of measurement (Eichrecht in Germany).
Case study | DATS 24 and Alfen work together to elevate the Belgian EV charging infrastructure

Quick intro

Customer | Colruyt Group via subsidiary DATS 24
Year | 2022
Country | Belgium

Challenge

- DATS 24 needs a partner for rolling out its EV charging operations to provide infrastructure across Colruyt Group supermarkets, homes of EV driving staff and office locations
- By 2021, DATS 24 had already installed 330 Alfen charge points (type Eve Double Pro-line) at supermarkets across the country, and they tripled this capacity in 2022

Solution

- For its supermarkets, DATS 24 chose the Eve Double Pro-line
- DATS 24 uses Alfen’s advanced and in-house developed Smart Charging Network for charging plazas. Customers can connect up to 100 charge points in a smart and flexible way (easy expansion of plaza possible over time)
- Alfen’s Smart Charging Network operates as a ‘social’ charging network, without any hierarchy with so called ‘controllers’ and ‘workers’. This means all charging stations align their charging speed among each other to maximally leverage grid capacity without blackouts
- The charging stations remain individually approachable and controllable. This way the customer remains in control over the network

More information on this reference can be found here: https://alfen.com/references/dats-24-and-alfen-work-together-elevate-belgian-ev-charging-infrastructure
Building on 15 years of innovation in EV charging and strong growth in recent years, substantial market share realised.

Revenue growth in M€ for 2013 - 2022

2008
started in EV charging

500,000+
charge points shipped until 2022

12-14%
Market share in Europe in 2022

1. Market share is based on estimated about the total European market for charge points based on Bloomberg New Energy Finance (2022) and Guidehouse (2022).
Key takeaways on EV Charging

- **EV charge point market continues to grow fast** in this decade
- **Smart charging market** expected to sell at a premium due to fragmentation, innovation, new regulation and stringent quality control
- **Alfen expects to outperform the market** with its existing pan-European presence, solution innovation roadmap and go-to-market strategy
- **Alfen has a unique position** in the market place with its smart, reliable and innovative chargers in tandem with a strong business model
- **Alfen has a strong track-record** of delivering volume growth, developing innovations and winning new customers
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2. Q&A 09:45 – 10:15
3. Coffee break 10:15 – 10:30
4. Business line deep-dives + Q&A 10:30 – 12:25
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5. Closing remarks 12:25 – 12:30
6. Informal lunch
Key areas of focus in this Smart Grids Solution section

1. Market outlook & growth drivers
2. Alfen’s comprehensive solution portfolio
3. Alfen’s strong position in the market
Substation market is a long-term growth market with an expected volume growth of 10-15%.

Outlook for installed substations per year

From 2022 to 2030, we need to add 20,000+ substations to the base (~1000 substations added in 2022)

From 2021 to 2024, we will grow from ~550 to ~600 substations added to the base

Added fast charging stations in Europe to grow from ~32k in 2022 to ~64k in 2027

Implied CAGR

25%¹

12%¹

3%

Market growth drivers

Rising electricity demand
Strengthen distribution grid to cope with higher peak loads

Replacement cycle
Need to replace or refurbish aging asset base of substations

Roll-out of wind and solar capacity
Renewables need to be grid connected

Capacity constrained grid
Microgrids and grid intelligence needed to cope with local electricity production and bi-directional flows

Source: Company statements, annual reports and investment plans. 1. Assuming same growth percentage year-on-year between 2022 and 2029.
Dutch government opens route to fund grid operators if needed

- In November 2022, the Dutch government shared a framework agreement with the parliament, in which the Dutch state can inject capital into grid operators and become a shareholder.

- The agreement is under approval with Supervisory Boards, Workers’ Councils and the shareholders of the grid operators (provinces and municipalities).

- The first application will take place at Stedin. The Dutch government reserved funds for a capital injection of 500M euro into Stedin last September.
Dutch grid operator market is concentrated; Alfen has significant share in framework agreements

Distribution System Operators (DSO) are publicly owned by municipalities and provinces.

Core operators:
Three DSOs represent 95% of market

<table>
<thead>
<tr>
<th>#</th>
<th>Operator</th>
<th>Awarded</th>
<th>Duration</th>
<th>Alfen share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Liander</td>
<td>2022</td>
<td>4 years + 4 x 1 year</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>Enexis</td>
<td>2020</td>
<td>4 years + 2 x 2 years</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Stedin</td>
<td>Award pending</td>
<td>4 years + 2 x 2 years</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>Rendo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Coteq</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Westland Infra</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Electrification is driving growth in all market segments

Grid operators
- Continue to strengthen and renew the distribution grid to manage increased load from more EVs, heat pumps and electric production in businesses
- Roll-out increases gradually: paced by transmission grid upgrades, funding, supply chain and technical personnel availability

Renewables
- Solar project developers have significant rollout pipeline in coming years
- Trend: Grid congestion leads to SGS+ESS integrated solutions opportunities

Fast charging operators
- Strong growth: first rest areas at highway; now also DIY stores and supermarkets

Industry & installers
- Customer demand is growing, driven by solar panel installations, charging plaza introductions and changes to all-electric energy systems
- Trend: integrated projects with energy balancing and neutral behind the meter

Horticulture / greenhouses
- Dutch government aims to accelerate sustainable horticulture
- Sustainability through heat pumps, geothermal heat and floating solar on water basins
Electrification is driving growth in the need for substations

**Drivers of electrification**

1. Electrification of transport, e.g. EVs
2. Electrification of heating, e.g. heatpumps
3. Electrification of industrial processes
4. Decentralised renewables
5. Technological advancement, e.g. data centers and servers
6. Population growth, e.g. new houses
7. Economic growth, e.g. new factories
Alfen has a comprehensive solution portfolio for the smart grids market

1. **Substations**
   that can be tailored towards customer requirements. Product lines: Compact (Diabolo, Pacto, Peperbus), Walk-in (Altro series) and In-building (Entrado) secondary transformer substation.

2. **Microgrid projects**
solutions for medium and high voltage grids in the private domain, including engineering and installation services for sub-stations, grid connections and infield cabling.

3. **Switchgear**
solutions for LV and MV, e.g. Sicuro generators switches and connection boxes.

4. **Grid automation**
   Alfen Connect is a device that allows remote monitoring and control of substations. It provides real-time management functionality such as data visualisation, alarms and fire detection.

5. **Service & maintenance**
   pro-active and reactive, for substations. Partly done remotely when Alfen Connect is installed. Multiple year contracts with yearly check-up and on-call service included.
Our wide variety of substations and special products & services enables serving specific customer needs

Non-walk in substations

Walk in substations

Special Products and Services
We perform all activities in the value chain, except operating the substation

**Engineer**
- Engineer standardised & customised stations and microgrid solutions

**Manufacture & assemble**
- Source components such as transformers and MV switchgear, and manufacture LV switchgear in-house
- Source prefabricated concrete housing, made according to Alfen design
- Assemble components in substations

**Install**
- Build in-field concrete foundation and subsequently install substation
- Connect in-field cables to the station
- Possibly install inter-station cable infrastructure and establish grid connection

**Commission**
- Commission and start-up substation or entire microgrid

**Operate**
- Operate the assets (out of scope)

**Service**
- Perform recurring visual inspections and potentially execute maintenance scope
Alfen’s core markets are the Netherlands, Belgium, Finland and Sweden

Core markets

- Netherlands
  - Served from production facility in the Netherlands
- Belgium
- Finland
  - Served from production facility in Finland (Alfen Elkamo)
- Sweden

Further internationalisation opportunity in smart grids is limited

- Differences country by country in the grid code and therefore in substation requirements
- High transport costs for shipment from production facility in the Netherlands or Finland due to weight and sizing of substation. Therefore, difficult to compete with local manufacturers
- Our internationalisation strategy for smart grid solutions: selectively follow customer to other markets in Private Networks segment
Our USPs | Alfen distinguishes itself in the Smart Grid Solutions market with its solution approach and commercial offering

SOLUTION APPROACH

✔ Engineering to order: in-house expertise to design & develop smart grids

✔ Reliability: high quality substations (stringently in-house thermally tested)

✔ End-to-end solution, including grid automation services and service & maintenance

✔ Product safety: High safety standard of all substations

COMMERCIAL OFFERING

✔ Cooperation as creative problem-solvers beyond smart grid solutions

✔ Ability to scale with customers: New production facility per Q1 2024

✔ Best-in-class account management: solution expertise, responsive, high willingness to cooperate

✔ (Digitally) integrated processes with customers/suppliers
Case study | Alfen transformer substations at the heart of an innovative local energy sharing community

Quick intro

Customer  Meer Fresh Products, Comeco
Year  2022 - 2023
Country  Belgium

Challenge

- Meer Fresh Products has had floating solar panels installed in the water basin for its tomato crop
- Energy demand for the tomato grower is lowest in summer, leading to a power surplus during that period. For the meat processor (Comeco), 500 meters away, the opposite is true
- Hence, Comeco’s interest in the solar power from the nearby tomato company

Solution

- Two transformer substations. In the stations, green energy from floating solar panel installations is transformed from 400V to 15kV
- Alfen also installs the electrical connection between the PV installations at Meer Fresh Products and the high-voltage installation at Comeco. This is done with high-voltage cables at 15 kV and the associated control cabling
- To support the companies, Alfen manages the communications and technical data exchange between the grid company and the customers

More information on this reference can be found here: https://alfen.com/references/alfen-transformer-substations-innovative-sharing-project-water-heat-and-green
Innovation philosophy | Innovate the substation to accelerate the energy transition

- **Make more compact**
  Increase power per m², reduce spatial footprint and improve integration in surroundings

- **Ease of installation**
  Shorten substation installation time in the field and required technical knowledge

- **Circularity**
  Increase use of recycled materials and ensure the recyclability at the substation’s end of life

- **Grid automation**
  Automate substation response on certain triggers, e.g. to avoid transformer overheating
Building on strong track-record of growth in recent years and a strong market share in the Netherlands

Revenue growth in M€ for 2017-2022

48,500+ substations shipped since ‘60s

~70% market share in NL in 2022\(^1\)

- Market leader in the Netherlands in private and grid operator market
- Strong DSO-approved offering in Belgian private sector. With Synergrid\(^2\)-approved walk-in station ready for expansion to grid operators (same approach in Finland & Sweden)
- Following our customers internationally (primarily related to solar PV and grid connections for EV charging hubs)

---

1. Alfen’s analysis based on its contractual share of the supply of the number of substations to each of the three largest Dutch DSOs (which jointly compromise approximately 95% of the Dutch market for mid-voltage substations), multiplied by the relevant market share of each of these DSOs by the number of mid-voltage substations. 2.Synergrid is the Belgium federation of electricity grid operators that safeguards safety, reliability and stability of the distribution grid.
Key takeaways on Smart Grid Solutions

- Market for substation and microgrids has a **long-term double digit growth perspective**, driven by electrification of our energy system.
- The market for substations and microgrids is **further stimulated by the step-up of government involvement** in funding, the roll-out of wind and solar energy and the replacement cycle of existing infrastructure.
- **Alfen expects to maintain its market leader position** in the Netherlands and strengthen its position in Belgium, Sweden and Finland with its DSO-approved offering and solution innovation roadmap.
- **Alfen has a strong track-record** of delivering volume growth, finding solutions to grid challenges and maintaining its market leader position.
- **Alfen has a unique position** in the marketplace with its high-quality solution offering, partnering approach to grid operators and the ability to innovate and scale.
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Key areas of focus in this Energy Storage Systems section

1. Market outlook & growth drivers
2. Alfen’s comprehensive solution portfolio
3. Alfen’s strong position in the market
Strong growth anticipated for energy storage in Europe

Added capacity to installed base in Europe (MWh)

- Europe other - East
- Europe other - North
- Europe other - South
- Europe other - West
- France
- Germany
- Iberia
- Italy
- United Kingdom

CAGR 86%

<table>
<thead>
<tr>
<th>Year</th>
<th>2020</th>
<th>2022</th>
<th>2024</th>
<th>2026</th>
<th>2028</th>
<th>2030</th>
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</thead>
<tbody>
<tr>
<td>Capacity (MWh)</td>
<td>686</td>
<td>1,265</td>
<td>2,377</td>
<td>3,786</td>
<td>5,677</td>
<td>11,046</td>
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</table>

CAGR 32%

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<tr>
<td>Capacity (MWh)</td>
<td>15,250</td>
<td>21,518</td>
<td>29,385</td>
<td>41,126</td>
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CAGR 55%

<table>
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<tr>
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Market growth drivers

- More intermittent electricity generation
  Wind and solar power generation requires storage buffer to offset unbalance between supply and demand.

- Increasing peak loads on site lead to electricity demand beyond grid connection capacity
  Electrification (e.g. more EVs) leads to higher peak demand. Peak shaving by batteries helps overcome grid connection constraints.

- Clean alternative requested for off-grid diesel gen sets
  Energy storage systems are clean and quiet alternative for diesel gen sets at events or in-city construction sites. Also applications in the off-shore and maritime sectors.

Source: Energy Storage Outlook 2023 H1 (BNEF). Utility & Commercial storage (excluding residential storage, excluding ‘other’).
Market regulations increasingly promote deploying battery energy storage systems, but more is needed

Favourable regulatory development in recent years

**Netherlands**
- Subsidy to make portfolio more sustainable
- Removed double energy transport fee
- More robust congestion management rules that allow batteries to play a role as a congestion service provider

**United Kingdom**
- Removed double energy transport fee
- Decreased lead time for permits
- Clear framework for grid stabilization services

**Germany**
- Subsidy for batteries in combination with solar fields

**Belgium**
- Capacity market created with awards made to energy storage projects
- Subsidy for batteries in combination with solar fields

... yet, more fundamental changes in electricity market design needed for mass-scale deployment of energy storage

A. **Decarbonise capacity remuneration mechanisms**, e.g. through carbon cap, contract length and remuneration level

B. **Unlock long-term revenue streams for energy storage**, e.g. through access to long-term Power Purchase Agreements (PPAs)

C. **Establish energy storage as a new energy system pillar** to end double taxation, discriminatory grid fees, and permitting barriers

Source: The Electricity Market Design Revision (2022) by EASE
Alfen offers energy storage solutions for commercial, industrial and utility scale applications

<table>
<thead>
<tr>
<th>Scale</th>
<th>Residential storage</th>
<th>Mobile storage</th>
<th>Utility scale storage</th>
</tr>
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<tbody>
<tr>
<td>0 – 0.1MWh</td>
<td>• Small scale storage behind the meter for residential applications such as storing solar energy&lt;br&gt;• Relatively straightforward products with limited opportunity for differentiation&lt;br&gt;• Market dominated by Tesla and other players with a consumer-focused model</td>
<td>• Medium scale storage for applications such as frequency control and peak shaving, as well as increased self-consumption and temporary power solutions.&lt;br&gt;• TheBattery Mobile is green alternative for diesel generators&lt;br&gt;• Batteries in a mobile 10 ft. container&lt;br&gt;• Tesla Power Wall</td>
<td>• Large scale storage with applications such as ancillary services &amp; energy trading&lt;br&gt;• Alfen uses modular design for &gt;1 MWh energy storage solutions with high energy density&lt;br&gt;• Highly scalable; into hundreds of MW(h)&lt;br&gt;• End-to-end solution incl. local grid embedding and network integration</td>
</tr>
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</table>
Alfen can capture the market further with its comprehensive solution portfolio.

**Stationary storage solutions**
- Modular design for >1 MWh energy storage solutions with high energy density
- Highly scalable; into hundreds of MW(h)
- Applications include ancillary services and energy trading
- End-to-end solution incl. local grid embedding and network integration

**Mobile storage solutions**
- TheBattery Mobile is green alternative for diesel generators
- Batteries in a mobile 10 ft. container
- Compact design supplies up to 422 kWh in energy capacity and up to 300 kVA in power
- System has an external connection socket and operating panel with power locks and an HMI to connect and operate the system safely and quickly. Power range: 250kW.

**TheBattery connect**
- Provides monitoring and control of TheBattery through Alfen Connect
- Provides real-time management functionality of the asset such as data visualisation, alarms and fire detection

**Service & maintenance**
Alfen offers service and maintenance in Europe for installations of TheBattery.
Innovation philosophy | 5 key components

- **Best-in-class quality and performance**
  We offer the best availability, efficiency and performance

- **Flexible assets**
  Customers can use our assets how they please and our systems can be easily expanded

- **Connected and smart**
  Our systems can be integrated in any back-office and can optimise our customers’ business models

- **Autonomous operations**
  Our systems can take decisions autonomously if needed, e.g. FCR, trading

- **Secure systems**
  Our systems are proven to be secure
Our USPs | Alfen distinguishes itself in the Energy Storage market with its solution approach and commercial offering

### SOLUTION APPROACH

- ✔ Excellent grid integration: extensive expertise with inverters, batteries, BMS and auxiliary grid solutions
- ✔ Technology-agnostic: Independent selection of component suppliers to ensure optimal solution
- ✔ Continuous insights and remote management (Alfen Connect)
- ✔ Plug-and-play firmware for robust integration with customers’ control systems

### COMMERCIAL OFFERING

- ✔ Consultative selling approach: support customer to set right technical requirements
- ✔ Competitive performance guarantees on availability & battery degradation
- ✔ End-to-end solution, a.o. project mgmt, substations, grid connection, remote monitoring & on-site service
- ✔ Business continuity & long-term view
Case study | Transforming a former landfill into versatile provincial solar park

Quick intro

Customer: Solarfields
Year: 2023
Country: The Netherlands, province of Zeeland

Challenge

Limited land available in the Netherlands for building new solar parks

Leading solar park developer Solarfields (now: “Novar”) needed creative plan to build on a former landfill

Solution needs to serve many purposes:
- Deliver reliable power to neighbouring municipality
- Sell excess electricity
- Help manage the area’s grid stability

Solution

Alfen closely coordinated with Solarfields to follow the unusual requirements associated with construction projects on landfill-designated property

Alfen installed a medium voltage station that connects the battery to the electricity grid

Alfen installed both the 5MW energy storage battery and voltage system within a month

Sufficient to power 500 homes Zeeland for a day

Our system can also quickly deliver into the grid when needed for grid stability purposes

More information on this reference can be found here: https://alfen.com/references/creative-partnership-between-solarfields-and-alfen-transforms-former-landfill
Alfen provides an end-to-end solution to its customer segments in many different European markets

Our activities in the value chain

1. **Engineer**
   - Engineer turnkey storage solutions
   - Determine what hardware is required
   - Build proprietary software to operate the system

2. **Manufacture components**
   - Complete the various hardware components such as invertor and PLC

3. **Assemble & integrate**
   - Assemble and integrate the building blocks into a full size storage system
   - Add the software layer
   - Test functionality and finalise the system, ready as turnkey solution

4. **Install**
   - Transport system to the client’s site
   - Install, connect and integrate TheBattery to local grid

5. **Operate**
   - Operate the system (out of scope)

6. **Service & maintenance**
   - Monitor the storage system remotely and provide service & support
   - Maintain TheBattery through regular checks

**Customer segments**

**For TheBattery Elements**
- Industry
- Energy companies
- Project developers
- Flexibility service providers

**For TheBattery Mobile**
- Rental

**Core markets**
- Netherlands
- Belgium
- Finland
- Sweden
- Germany
- United Kingdom
Building on strong increase in momentum in 2022, which is expected to continue in coming years

Revenue growth in M€ for 2017 - 2022

2011
- started in Energy Storage Systems

575 MWh+
- in execution / commissioned until Feb 2023

~7%
- Installed systems market share in Europe in 2022 (MWh)

CAGR +40%

1. Market share is based on estimate about the total European market for Commercial & Industrial and Utility-applications expressed in MWh installed in 2022 based on BNEF latest outlook (H1 2023). This excludes residential storage, as Alfven does not play in that space.
Working capital is managed through multiple payment milestones within one project.

Project cycle varies from 4 to 18 months, but on average ~10 months.

- **I**: At order
- **II**: Design acceptance
- **III**: Main equipment ready for shipment
- **IV**: Delivery of main equipment
- **V**: Mechanical completion
- **VI**: Site Acceptance Test
- **VII**: Final customer takeover
Key takeaways on Energy Storage Systems

- Market for energy storage is expected to grow at **50%+ CAGR until 2027**, primarily driven by addition of renewables.
- **Regulatory developments are likely to stimulate market growth** in Energy Storage.
- **Alfen has a unique position** in the marketplace with its smart grids background and technical ability to integrate the energy storage systems into the customer’s local grid. We innovate to stay at the forefront.
- **Alfen saw momentum pick up in 2022 and is confident in its position to ramp up strongly in coming years.**
- **Alfen manages its working capital in energy storage diligently** through multiple payment milestones with its customers throughout a project.
## Agenda | Capital Markets Day

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Alfen’s integrated solutions are an increasingly important competitive edge as the energy transition moves on.

- Integrated solutions will help manage increased grid congestion as the energy transition unfolds.
- For instance, energy storage + transformer substations can circumvent grid connection limitations in fast charging.

Why Alfen?
- A total grid perspective throughout all of our solutions.
- Unique position to offer competitive integrated solutions with 3 interlinked business lines.
Case study | Unique integrated solution at Solar Park De Dijken

- Batteries charged directly from solar park and store energy
- Energy Storage Trading Hub
- Charging plaza connects up to 22 mobile energy storage systems
- Manages grid infrastructure more efficiently
- Capacity to power 4,200 homes
Customer segments overlap across business lines, raising the potential for integrated solutions

<table>
<thead>
<tr>
<th>Segment</th>
<th>Cross-sell &amp; integrated solutions opportunities with customers</th>
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<tbody>
<tr>
<td>Grid operators</td>
<td>![Image]</td>
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<tr>
<td>Energy companies</td>
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<tr>
<td>Wholesalers</td>
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<td>Chargepoint Operators &amp; Mobility Service Providers</td>
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<tr>
<td>Industry, Greenhouses &amp; Fast Charging Operators</td>
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<td>Renewables project developers</td>
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<td>System integrators &amp; rental companies</td>
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<td>Temporary mobile energy solutions</td>
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Alfen group strategy

Closing remark

**At the right place:** Alfen has a strong position at the heart of the energy transition, benefitting from fast-growing markets driven by the long-term decarbonization trend.

**Robust business model:** Alfen is diversified across 3 end-markets (grids, EV charging, storage), 30+ European countries and many different customers.

**Unique value proposition:** Alfen brings the total grid perspective and leverages its technical capabilities to offer reliable, innovative, end-to-end solutions.

**Proven executional track record:** Alfen’s experienced MT has a proven track record of delivering on plan with a long-term view. Our organization’s capabilities, production capacity and go to market strategy are set up for growth.

**Rigorous focus on profitable growth:** Alfen continues to focus on its financial strategy of profitable growth with operational leverage and continuation of our asset-light growth model.
## Agenda | Capital Markets Day

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