Alfen

Capital Markets Day

London
29 October 2019

Disclaimer

This communication may include forward-looking statements. All statements other than statements of historical facts may be forward-looking statements. These forward-looking statements may be identified by the use of forward-looking terminology, including the terms such as guidance, expected, step up, announced, continued, incremental, on track, accelerating, ongoing, innovation, drives, growth, optimising, new, to develop, further, strengthening, implementing, well positioned, roll-out, expanding, improvements, promising, to offer, more, to be or, in each case, their negative or other variations or comparable terminology, or by discussions of strategy, plans, objectives, goals, future events or intentions. Forward-looking statements may and often do differ materially from actual results. Any forward-looking statements reflect Alfen N.V. (**Alfen**)'s current view with respect to future events and are subject to risks relating to future events and other risks, uncertainties and assumptions relating to Alfen's business, results of operations, financial position, liquidity, prospects, growth or strategies. Forward-looking statements reflect the current views of Alfen and assumptions based on information currently available to Alfen. Forward-looking statements speak only as of the date they are made, and Alfen does not assume any obligation to update such statements, except as required by law.

Alfen's revenue outlook estimates are management estimates resulting from Alfen's pursuit of its strategy. Alfen can provide no assurances that the estimated future revenues will be realised and the actual revenue for the financial year 2019 could differ materially. The expected revenues have also been determined based on assumptions and estimates that Alfen considered reasonable at the date these were made. These estimates and assumptions are inherently uncertain and reflect management's views which are also based on its historic success of being assigned projects, which may materially differ from the success rates for any future projects. These estimates and assumptions may change as a result of uncertainties related to the economic, financial or competitive environment and as a result of future business decisions of Alfen or its clients, such as cancellations or delays, as well as the occurrence of certain other events.

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Agenda

09:00	Registration and welcome
09:30	Group review • Strategy recap • YTD performance and outlook
10:30	Coffee break
11:00	Business line deep dives • Smart grid solutions • EV charging • Energy storage
12:30	Wrap-up
12:45	Lunch

Today’s presenters

Marco Roeleveld
CEO

Jeroen van Rossen
CFO

Richard Jongsma
CCO

Agenda

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Video

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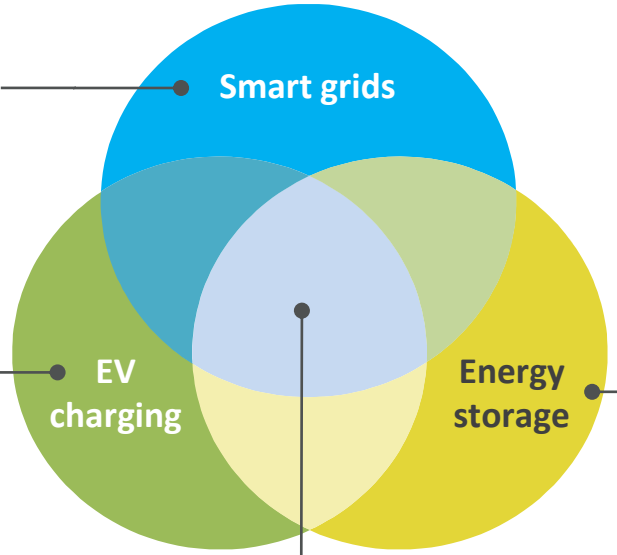
Unique integrated business model…

- Secondary substations for electricity distribution grids
- Microgrid projects
- Service & maintenance



- Battery-based energy storage systems
- Software for remote control and support
- Service & maintenance

- Home, business and public applications
- Load balancing and smart charging solutions
- Service & maintenance

- Fully integrated offering for projects across three business lines
- Cross-selling

In-house development of all products and systems with a strong innovation team

Open architecture: most suitable components for our products and systems

Technological capabilities to provide optimal solutions for our customers and adapt to rapidly changing markets

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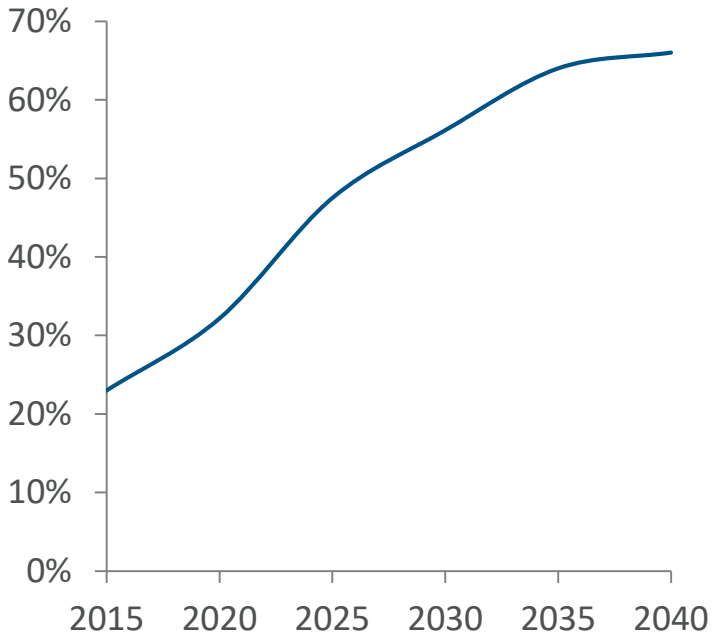
...supported by long-term growth trends

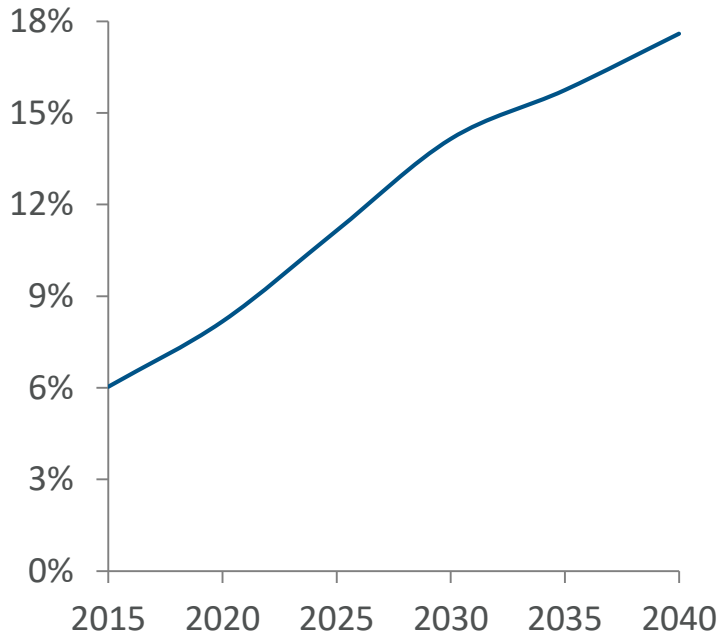
Increase in renewables

European wind and solar PV capacity as % of total generation capacity[1]



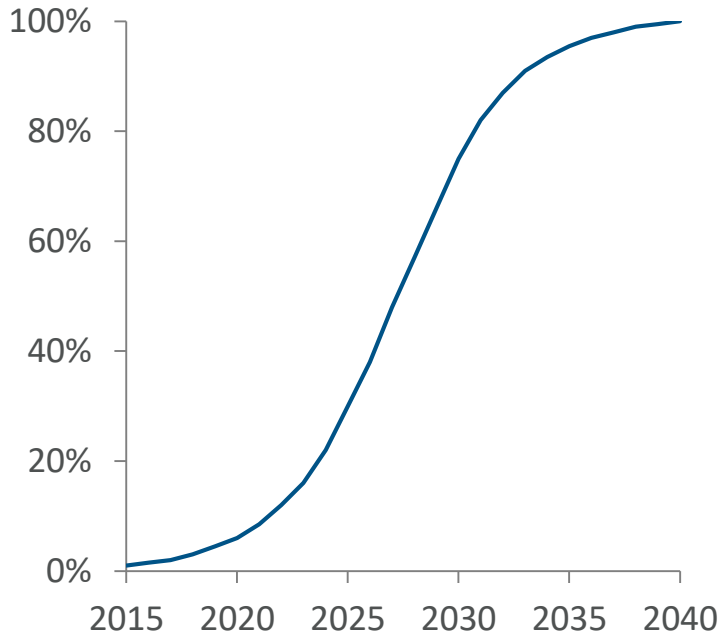
Decentralisation of energy

Decentralisation ratio of electricity production in Europe[1,2]



Growth of electric vehicles

Market share of EVs in Europe[3]



1. Source: Bloomberg New Energy Finance. 2. Decentralisation ratio is the ratio of residential decentralised solar PV and storage to total installed generation capacity.
3. Chart reflecting new light vehicle sales, source: DNV-GL Energy Transition Outlook.

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Our value proposition to the market

Strong technology & open architecture	• Alfen has the technological capabilities to provide optimal solutions for customers and adapt to market developments • Alfen selects the most suitable components for its products and systems
End-to-end solutions	• Seamless integration of products and systems in local customer situations • Proven concepts in each business line
Integrated offering	• Unique ability to provide integrated offering for projects across its three business lines • Strong cross-selling potential across business lines
Software capabilities	• Proprietary software solutions that facilitate customer or country specific configurations of standardised products and systems
Service orientation	• Continuous relationship which extends to servicing on installed base and understanding customers' needs for further solutions • Evidenced by high customer retention rates

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Alfen has a unique position as the only independent player active in all three business lines

Selected examples of suppliers, competitors and customers

	Component suppliers	ALFEN and competitors	Customers
	• Alfen sources standardised components from multiple manufacturers, selecting the most suitable components for its products and systems • Component suppliers are generally product focused rather than providing end-to-end solutions	• Alfen provides in-house developed and produced products and systems as well as integrated solutions, based on: – Standardised components – System design and integration – Software overlay • Alfen is the only player active in all three business lines, is independent from supplier base and has no disadvantages from sales channel conflicts with customers	• Catering to a mix of B2B and B2B2C clients • Customers include utilities, grid operators, resellers, traders, renewables EPC contractors and industrial clients
Smart grids	SIEMENS, EATON, GE, ABB, Schneider Electric	AKA, Schneider Electric, batenburg techniek, eps, Leclanché Energy Storage Solutions	alliander, Joulz, STEDIN, solarcentury, ENEXIS, fudura, IONITY, GOLDBECK
Energy storage	SAMSUNG, socomec, SIEMENS, Danfoss, BMW i	eps, Leclanché Energy Storage Solutions, TESLA, Younicos, FLUENCE	VATTENFALL, LIDL, BMW, SCHOLT ENERGY CONTROL, Eneco, Greener, ENGIE, GREEN CHOICE
EV charging	NEWAYS, VDL, ABB, FABORY	EVBOX, MENNEKES, ecotap, ABL, chargemaster, KEBA	JAGUAR, LAND ROVER, D'Ieteren, Deutsche Telekom, Opel, e·on, Eneco, swarco

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Growth strategy remains unchanged

Market growth	Benefitting from strong market growth trends and further grow market share
Internationalisation	Significant internationalisation opportunity, further strengthening position in existing countries and entering new countries
Service & maintenance	Expanding existing service offering and benefitting from increasing installed base
Cross-selling	Increasing cross-selling opportunities between Alfen's three business lines and offering of integrated solutions

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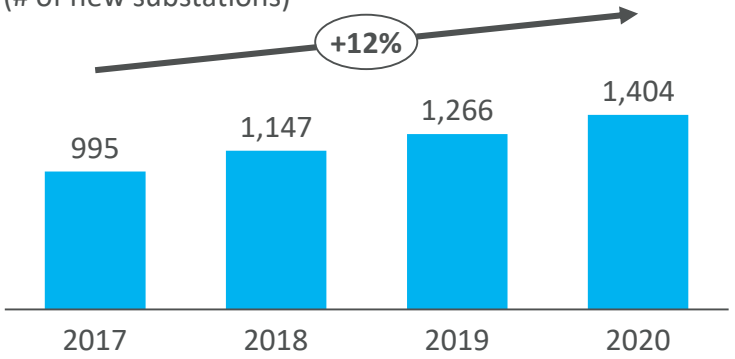
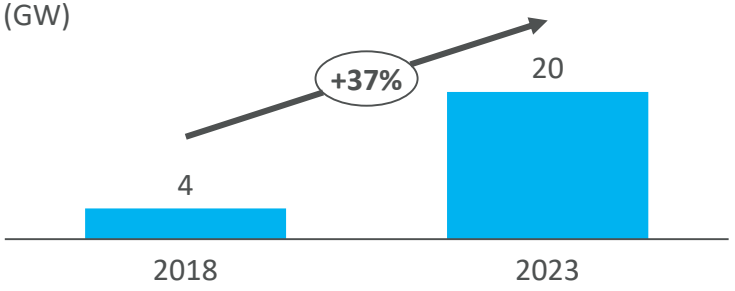
Benefitting from fast growing market segments

Smart grids

Substation investments Dutch top-3 DSOs[1]
(# of new substations)

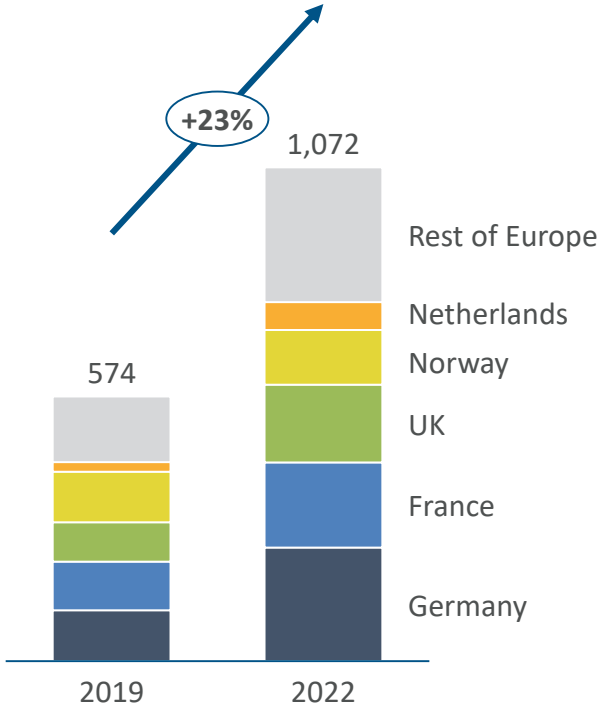


Dutch solar PV installed capacity[2]
(GW)



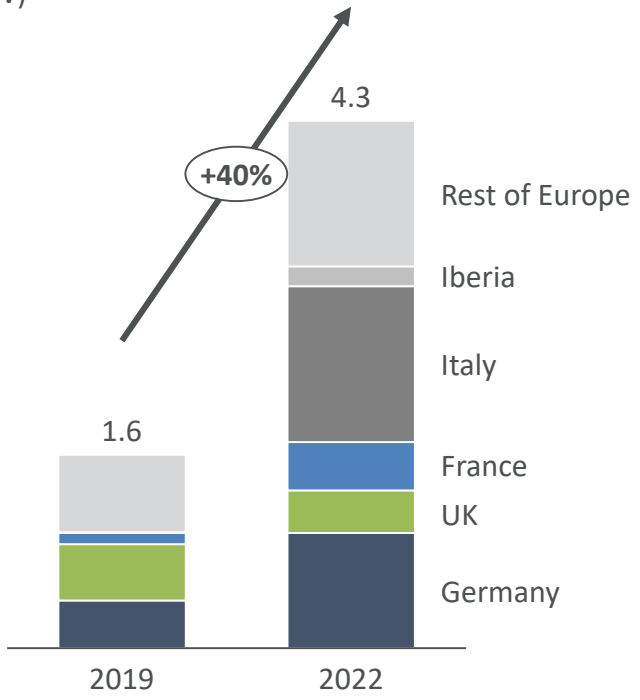
EV charging

Annual new charging points[3]
(# of charging points in millions)



Energy storage

Annual new energy storage capacity, excl. residential[4]
(GW)



1. Analysis based on Kwaliteits- en capaciteitsdocument Alliander, Enexis and Stedin as published by the DSOs. 2. SolarPower Europe 3. Navigant Research. 4. Bloomberg New Energy Finance

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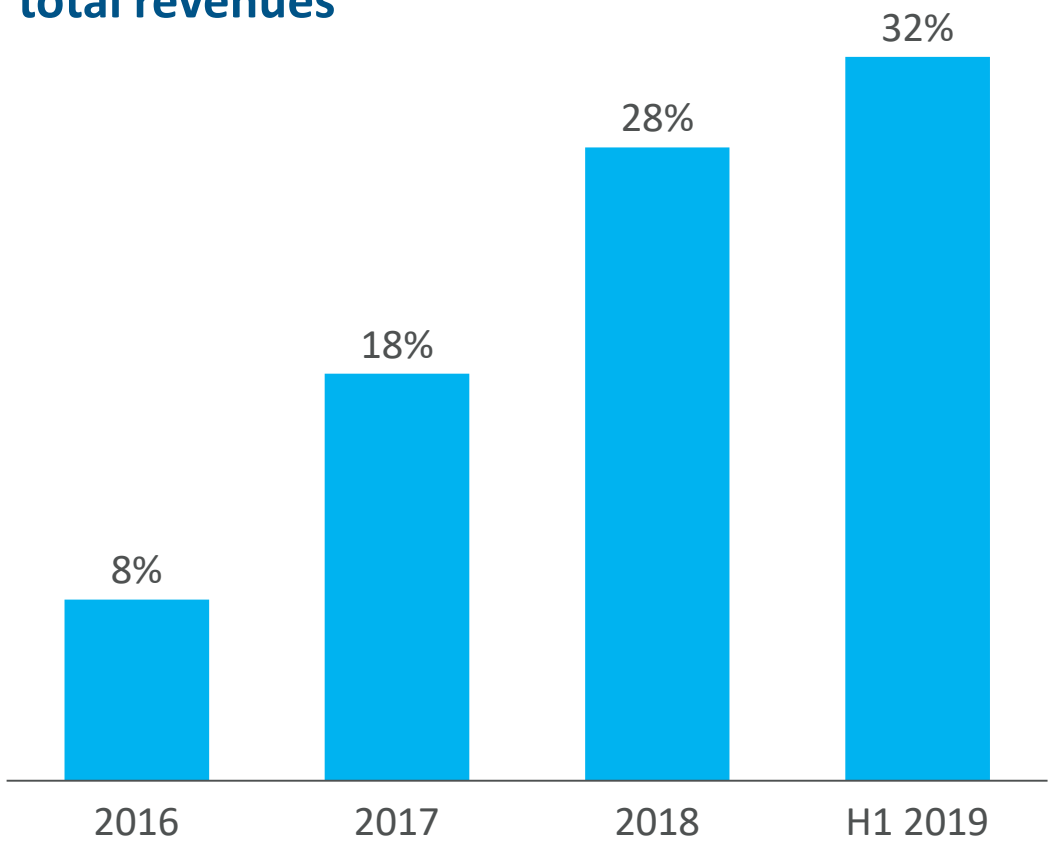
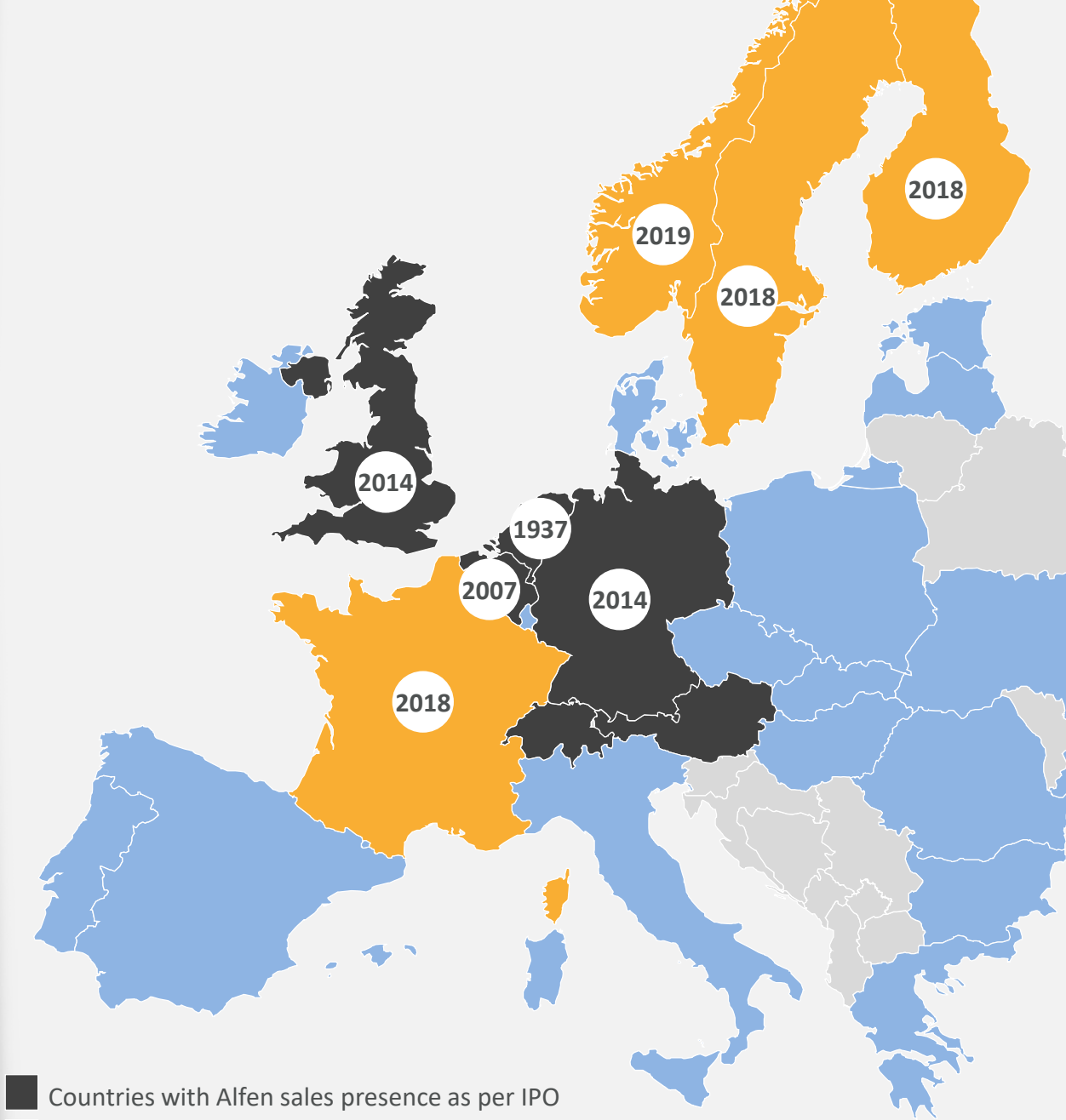
Expanding footprint

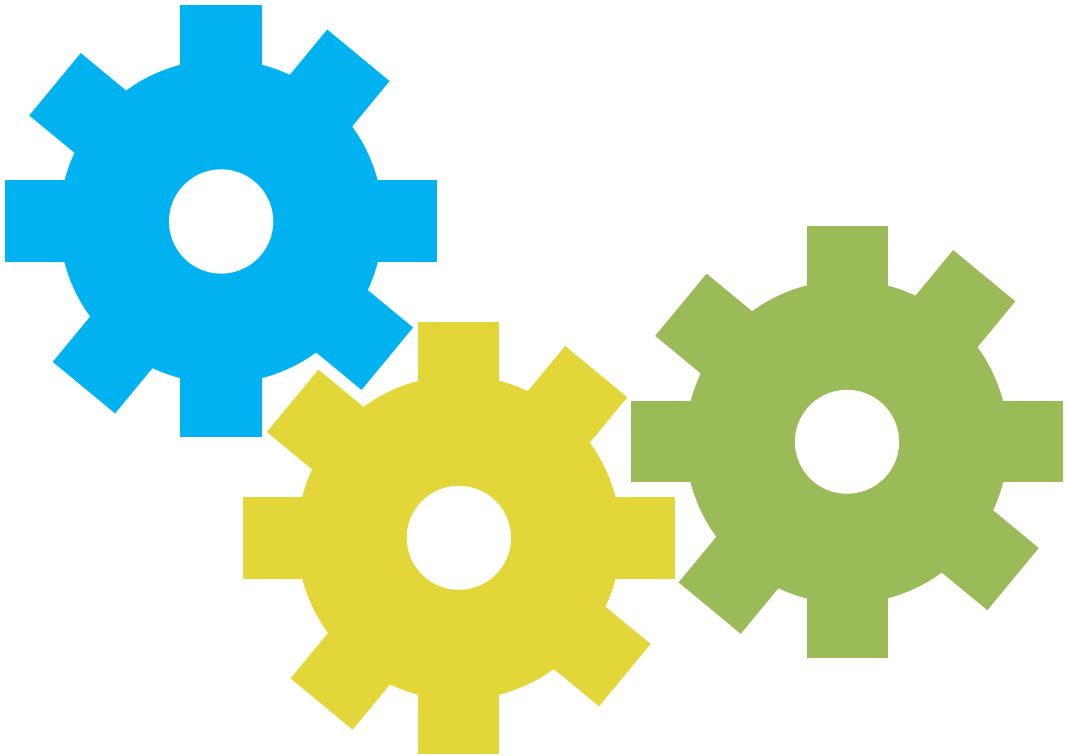
Alfen international revenues as % of total revenues





Focus on expanding recurring revenues from service

Smart grid solutions
- Benefitting from increasing installed base of microgrid projects
- New service propositions for solar PV farms as well as for transformer substations connected to (fast) EV charging hubs



EV charging equipment
- Benefitting from increasing installed base of EV chargers
- International service partners to support customers in Belgium, Finland, France, Germany, Italy, Norway, Portugal, Spain, Sweden and UK

Energy storage systems
- Standardised service offering as part of new storage projects
- Remote service, control and performance monitoring through ‘TheBattery Connect’

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Increasingly benefitting from cross-sell – *some examples*

VATTENFALL	2017: EV charging contract	2017: 3 MW Alexia storage 2019: 12 MW Haringvliet storage	2018: 5.7 MWp solar PV farm in Eemshaven
fluvius.	2017+: Public charging in Belgium (through Allego)	2018: Storage project at distribution centre	2019: Qualified for grid automation
ENEXIS NETBEHEER	>20 years: delivery of secondary substations	2011: pilot energy storage in a microgrid	2019: 98 chargers in smart charging network at Enexis HQ
allego	2015: EV charging contract NL (and subsequently other countries)	2018: Framework agreement for the supply of substations	2018/2019: 2 mobile energy storage systems
STEDIN.NET	>20 years: history of supplying grid products	2018: energy storage project at The Hague football stadium	2018: EV chargers for electrifying Stedin's car fleet

Smart grids EV charging Energy storage

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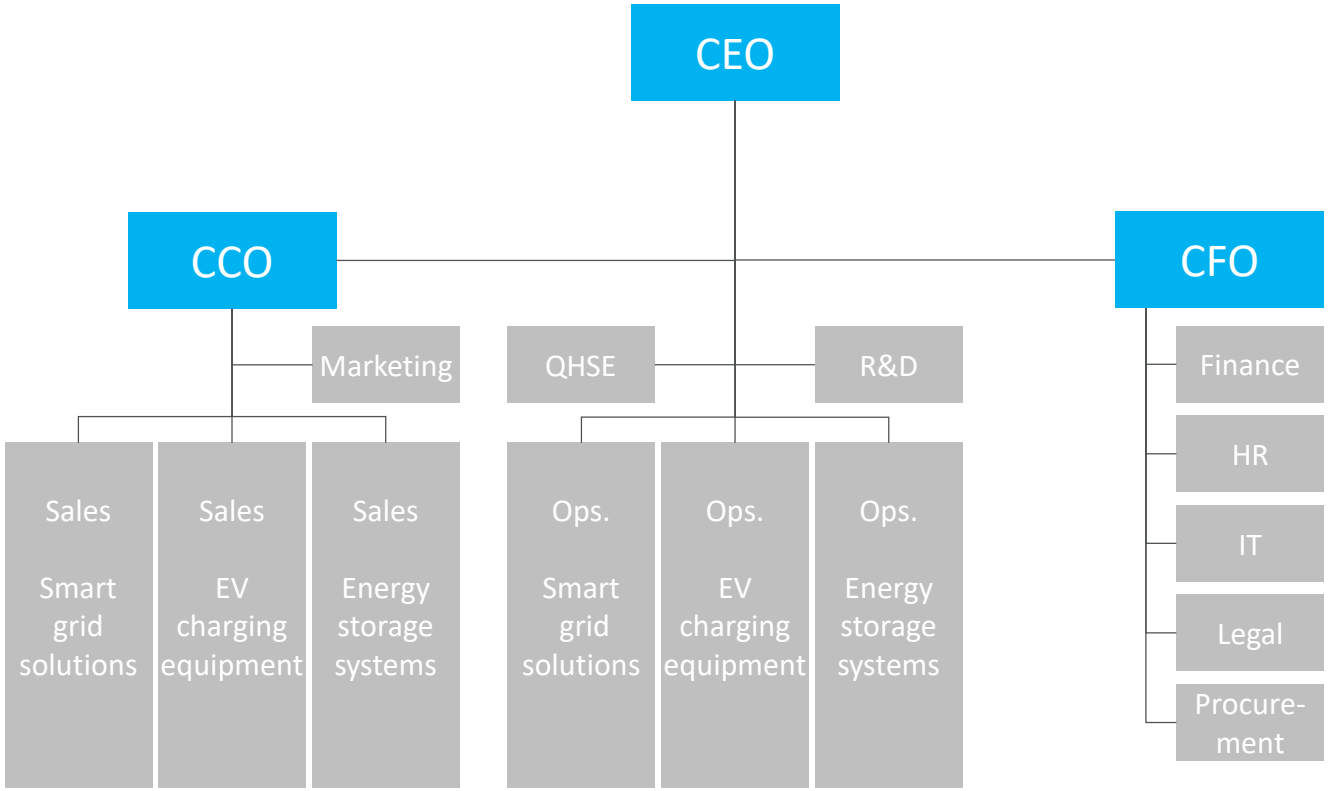
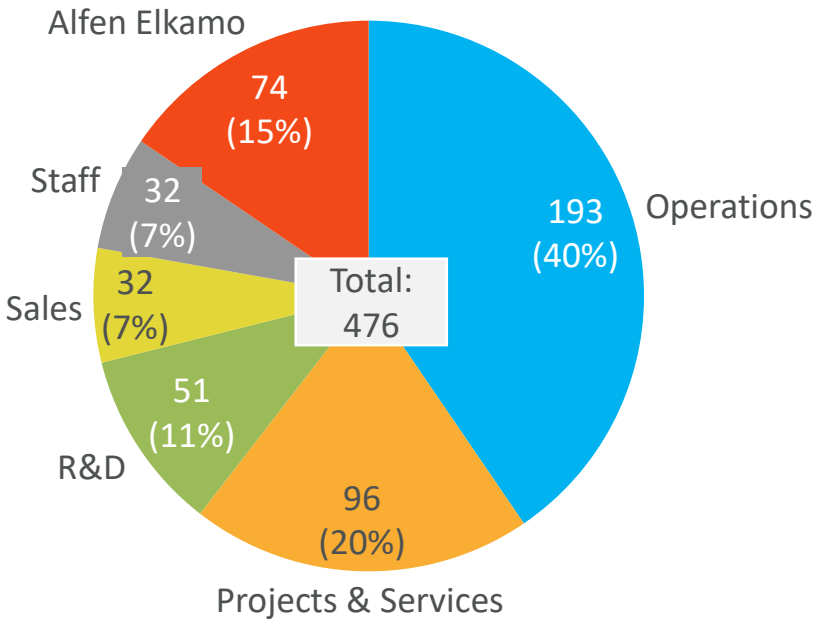
Organisation well prepared to capture growth

Simplified organisational structure



FTEs per department

As per 30 September 2019



Several initiatives in place to support steep growth

Examples of programs facilitating steep growth path

Supplier diversification

- Adding additional suppliers for critical parts and components

Supplier improvements

- Intensified dialogue
- Forecasting tools
- Tracking and monitoring systems

Customer ordering

- Integrated planning tools
- Webshop ordering
- Interfaces with clients' systems

Service efficiency

- Reducing number of service tickets and handling time
- Automating service response
- Remote service

Platform upgrades

- Increasing processing capacity
- Facilitating upgrades and adding flexibility

Strong basis for growth

- Solid organization with extensive sales network
- State-of-the-art product portfolio with unique proposition in the market
- Strong basis of clients and partners facilitating further growth

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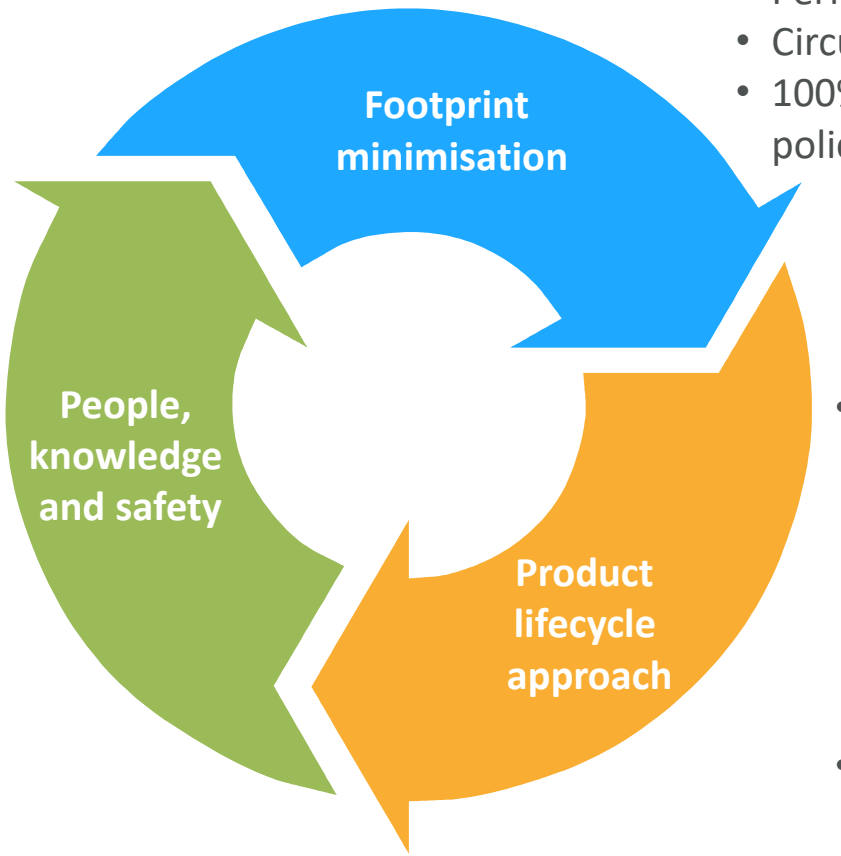
We have a long history of working with a broad range of CSR themes …

CSR strategy

Selected examples

- Full insights in CO2 footprint and focus on reduction
- Certified at level 4 (of a 5-level scale) of the CO2 Performance Ladder
- Circularity of substations
- 100% green electricity, rooftop solar, active EV policy, offices with energy label A



- In-house Academy awarded best Dutch program out of 230,000 registered corporate education programs

- Use of Product Lifecycle Tool applying circularity as cornerstone of its design processes:
  - Sustainable design
  - Fair materials
  - Good working conditions
  - Supply chain cooperation
  - Re-use and recycling
- Supplier code of conduct

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… which we will align with the UN Sustainable Development Goals as per 2020

Alignment with UN Sustainable Development Goals (SDGs)

Today

2020+

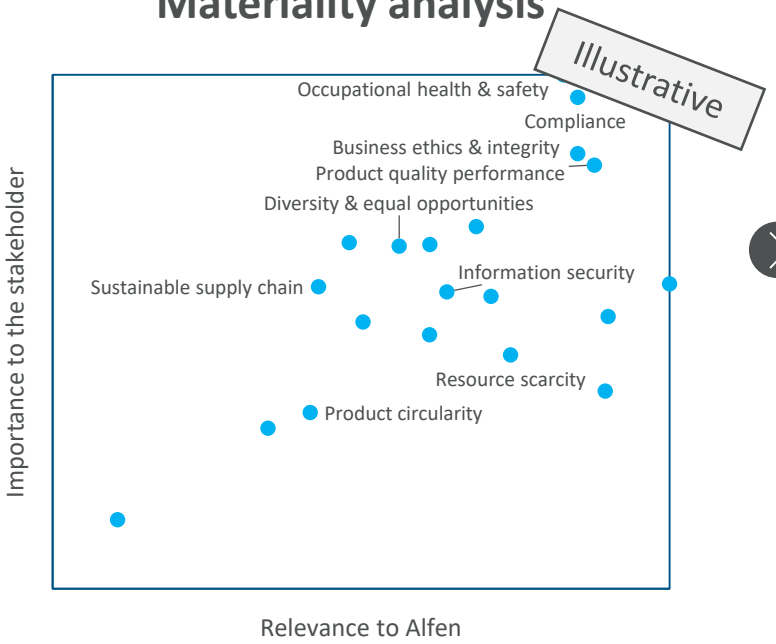
1

Stakeholder survey

- Employees
- Customers
- Suppliers
- Partners
- Shareholders
- (Local) governments
- Community

2

Materiality analysis



3

Mapping with SDGs

4

Implementation

- Monitoring
- Reporting
- Communicating

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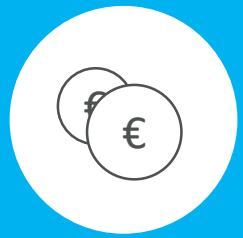
Four strategic objectives

Medium term IPO objectives maintained

40% topline CAGR

Mid to high teens adj. EBITDA margin



CAPEX <3% of sales

>50% international revenue

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Presence at trade fairs in 2019

Alfen booth

Visibility on resellers' booths

Important wins in 2019

Smart grids		EV charging		Energy storage	
solarcentury	Selected to supply 54 substations for 110 MWp Vlagtwedde solar farm, which will be the largest in the Netherlands	JOJU SOLAR	Framework agreement with JoJu Solar in the UK to supply smart chargers to its customers, particularly local authorities in the south of England	fortum	Framework agreement for substations (via Alfen Elkamo) and storage systems. 1st order for 1MW storage system for back-up power and FCR in Finland
Jämtkraft	Preferred supplier of secondary substations to 19 Swedish grid companies for 3 years, with 2 optional years	Deutsche Telekom	Framework agreement with Comfortcharge, group company of Deutsche Telekom	VATTENFALL	12 MW energy storage project connected to Vattenfall's wind- and solar PV project in Haringvliet, the Netherlands
PFALZ SOLAR Pfalzwerke Group	Selected to realise microgrid for 35 MWp Zuyderzon solar park in Almere, the Netherlands	Eneco	Selected to supply 1,000 chargers to public parking garages in Rotterdam	SOLARIGO	1 MW stationary energy storage solution providing grid balancing services for Finland's largest solar PV farm

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Highlights of 2019

Smart grids

- Strong **growth** driven by continued grid investments, a strong market environment for projects in the solar PV sector and increasing revenues from service
- Further **diversification** of customer base
- Start-up of **additional production line** that enables higher outputs, more flexibility and increased efficiency
- **Upgraded 'Alfen Connect' grid automation platform** to improve adaptiveness and flexibility to changing market conditions as a result of the energy transition

EV charging

- Strong **growth** driven by a growing market for EVs, increasing volumes under framework agreements that have been set-up over the past years, new client wins and further internationalisation
- Further **strengthening of international sales force** in Norway, Germany and the UK
- Start-up of **additional production line** that enables higher outputs, more flexibility and increased efficiency
- Various **new product introductions** (e.g. Eichrecht conformity) **and innovations** (e.g. active load balancing) preparing the company for further growth

Energy storage

- Further **broadening of client base** (that includes Engie, Eneco, Fortum, Greenchoice) and **repeat orders** from e.g. Vattenfall and BMW
- Various **product innovations**, further positioning Alfen ahead of its competition, amongst which:
  - Second generation mobile storage solution for festivals and events
  - High density stationary storage, accommodating higher power and capacities in similar-sized containers
- **Roll-out of support for new storage applications**, further strengthening Alfen's position as one of the few players with experience across all major storage applications

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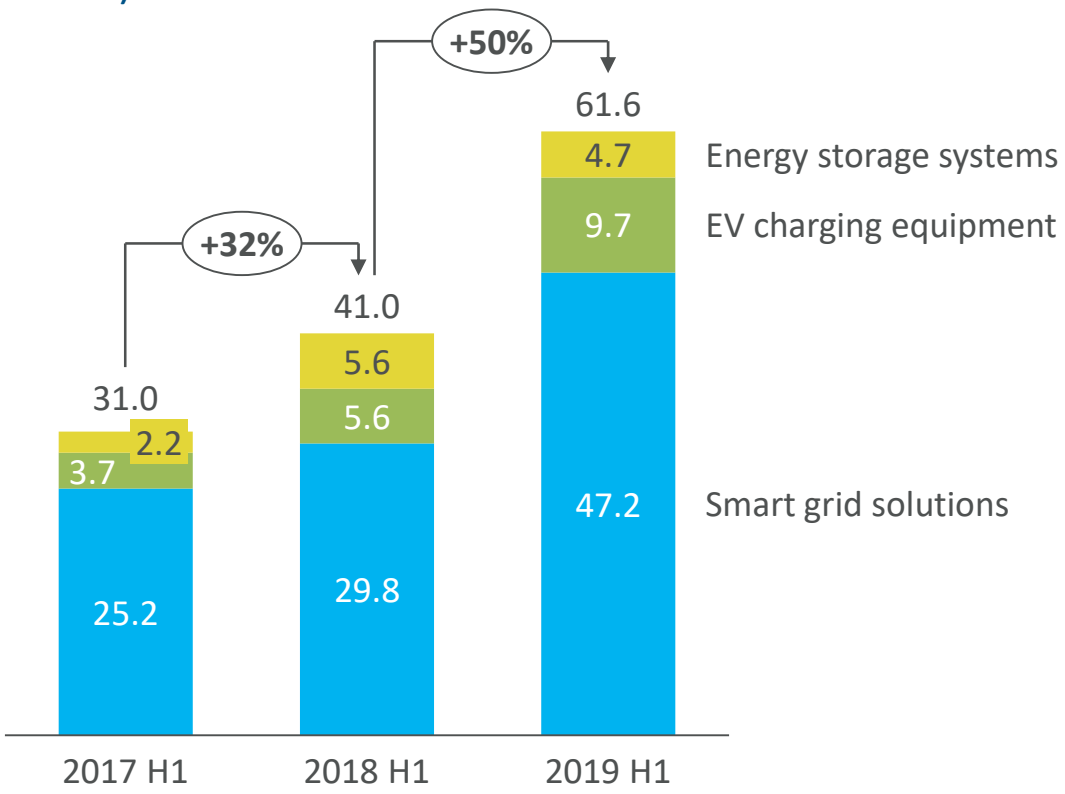
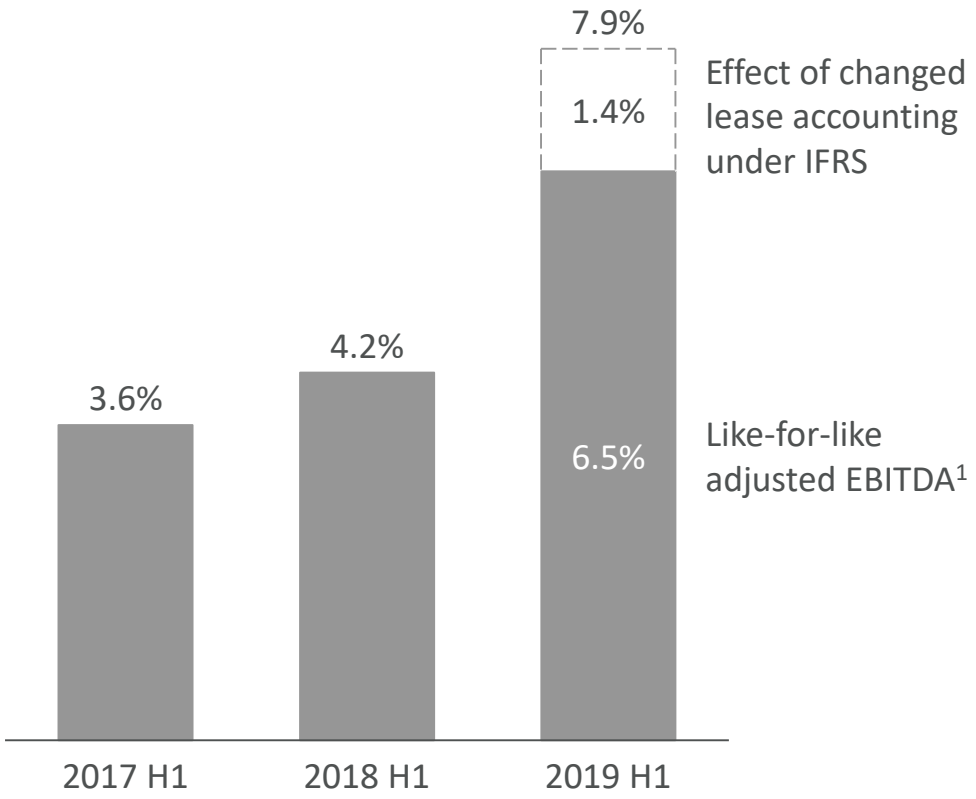
2019 H1: well on-track

HY revenues and other income
(€ million)



Adjusted EBITDA %

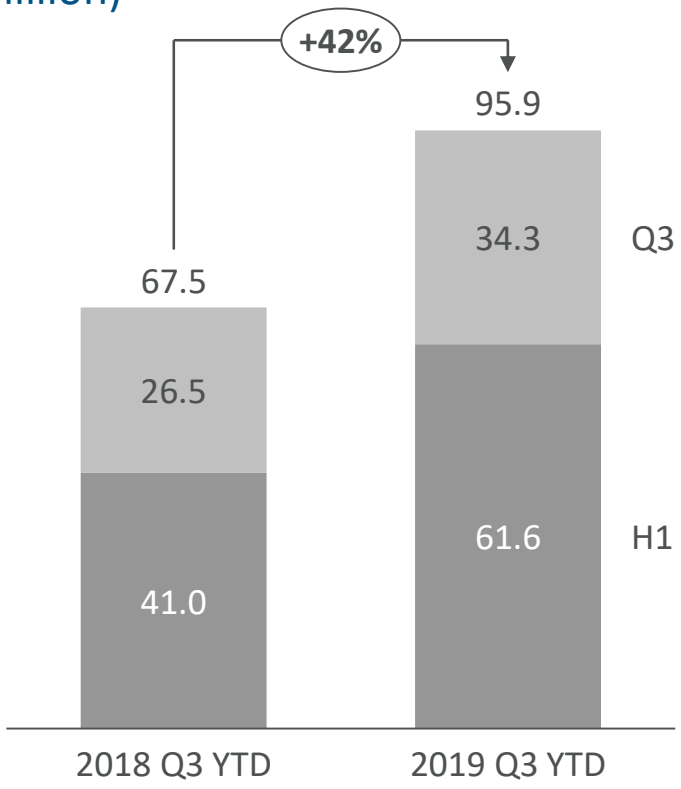


1. Excluding the effect of changes in IFRS lease accounting

2019 Q3: profitable growth continues (1/2)

YTD revenues and other income

(€ million)



Comments on Q3 performance

- **Q3 2019 revenues of €34.3m**, a growth of 29% versus Q3 2018 (as compared to organic revenue growth in H1 2019 of 29%)
- Q3 2019 revenues in the **Smart grids** business line of €26.8m (20% y-o-y growth) and in the **EV charging** business line of €6.6m (117% y-o-y growth). Both business lines benefitting from strong market growth and further strengthening of Alfen's position. Start-up of additional production lines enables higher outputs, more flexibility and increased efficiency
- Q3 2019 revenues in the **Energy storage** business line of €1.0m (-/-17% y-o-y growth). Energy storage is still behind 2018 (caused by challenging business cases across the nascent market resulting in delayed decision making at Alfen's clients), but gaining momentum and benefitting from recent orders from, amongst others, Vattenfall, Solarigo and Fortum (partly executed in 2020)

Note: financial data unaudited

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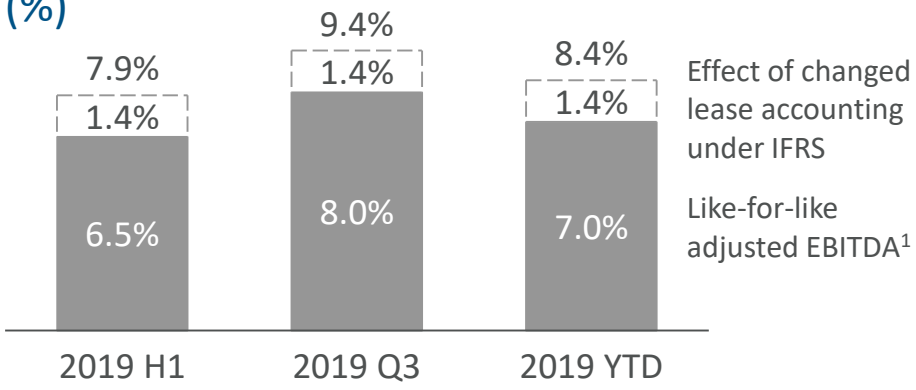
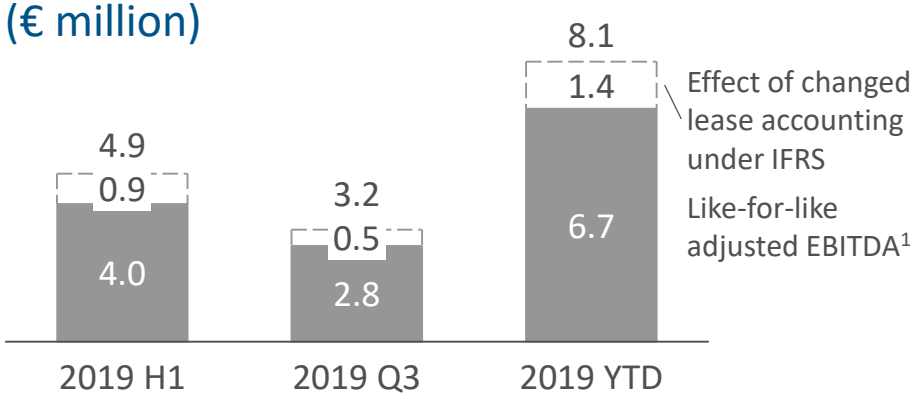
2019 Q3: profitable growth continues (2/2)

Adjusted EBITDA
(%)



Adjusted EBITDA
(€ million)



Comments on Q3 performance

- **Gross margin** in Q3 2019 of 35.1% versus 30.8% in Q3 2018 (36.1% in H1 2019), a result of Alfen's strong market position, leverage from increased scale, a shift towards increasingly complex solutions and favourable product mix effects
- **FTEs**: 476 at 30 September 2019 versus 457 at 30 June 2019, 410 at 31 December 2018 and 381 at 30 September 2018
- **Adjusted EBITDA** in Q3 of 9.4% of revenues (€3.2m), further up from 7.9% (€4.9m) in the first half-year of 2019. Like-for-like adjusted EBITDA[1] in Q3 of 8.0% of revenues (€2.8m), further up from 6.5% (€4.0m) in the first half-year of 2019

Note: financial data unaudited. 1. Excluding the effect of changes in IFRS lease accounting.

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Outlook

- For the full year of 2019, we reconfirm our **revenue outlook of €135m to €145m**

- For 2020 and beyond, we anticipate to **further benefit from the long-term trends around the energy transition**, as well as our strategy of internationalisation, cross-sell and expanding service

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Q&A

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Smart grid solutions' key offering consists of substations and microgrid projects

Substations
(products)

Microgrids
(projects)

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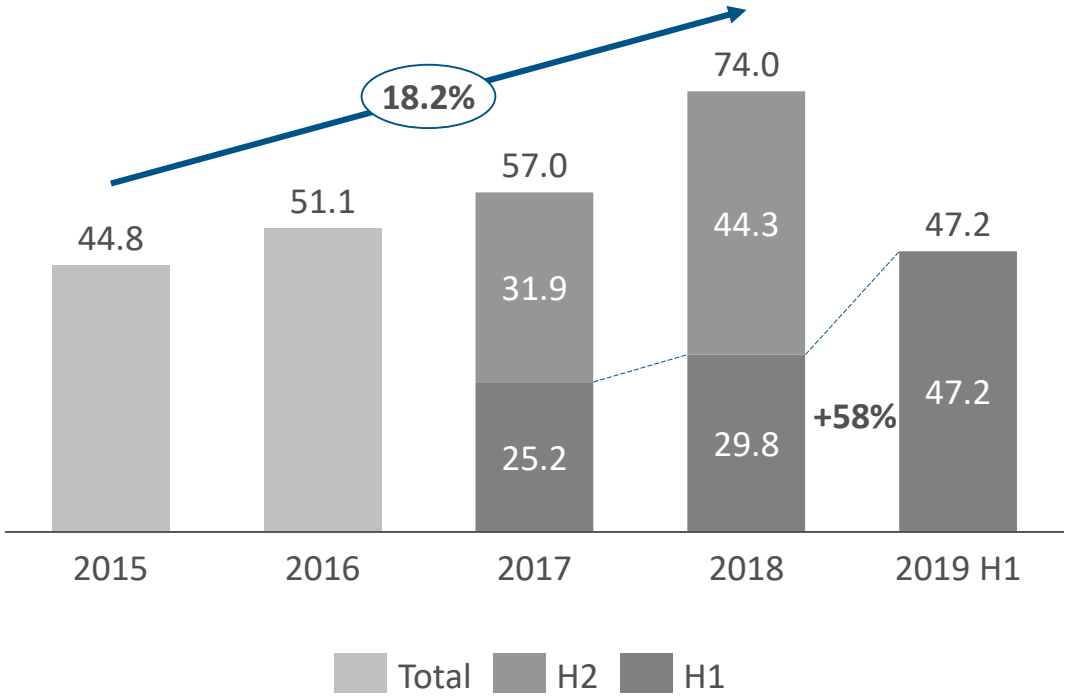
Alfen Smart grid solutions revenues have increased with 18% per year between 2015 and 2018

Alfen Smart grid solutions revenues

(€ million)



Comments

- >70% market share in the Netherlands
- Strong positions in Belgium (since 2007) and Finland through the acquisition of Elkamo in 2018 (contribution of €8.4 million in H2 2018 and €8.9 million in H1 2019)
- New country entry in Sweden (in H1 2019)
- Following our customers base internationally (primarily related to solar PV and grid connections for EV charging hubs)

Benefitting from long-term growth drivers resulting from the energy transition

Grid debottlenecking

- Electrification of energy demand (including shift from natural gas to electricity for heating/cooking as announced by the Dutch government)
- Increased peak loads from EVs and renewables
- Changing load distribution and reversal of power flows
- In Finland and Sweden, growth is further driven by the transition from overhead power lines to underground cabling to improve grid reliability

Enabling renewables roll-out

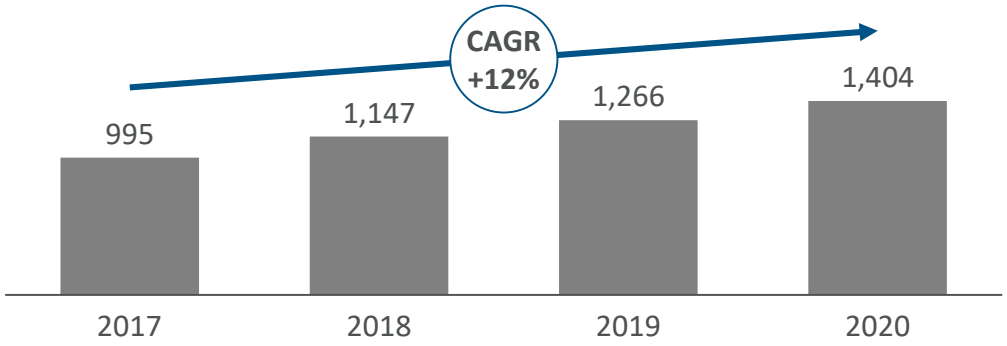
- Large scale roll-out of solar PV and wind farms
- Renewable energy projects require grid connections and local microgrids

Increased grid intelligence

- Changing electricity generation and consumption patterns require increased intelligence on multiple parts of the grid through grid automation

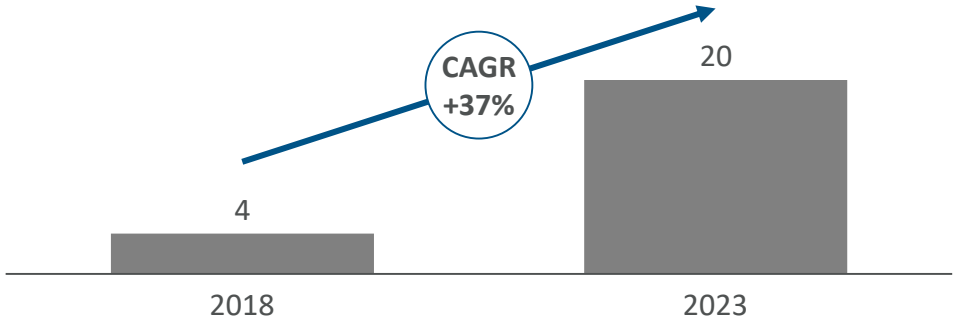
Market growth rates in the range of 10-40% per year

Substation investments Dutch top-3 DSOs[1]



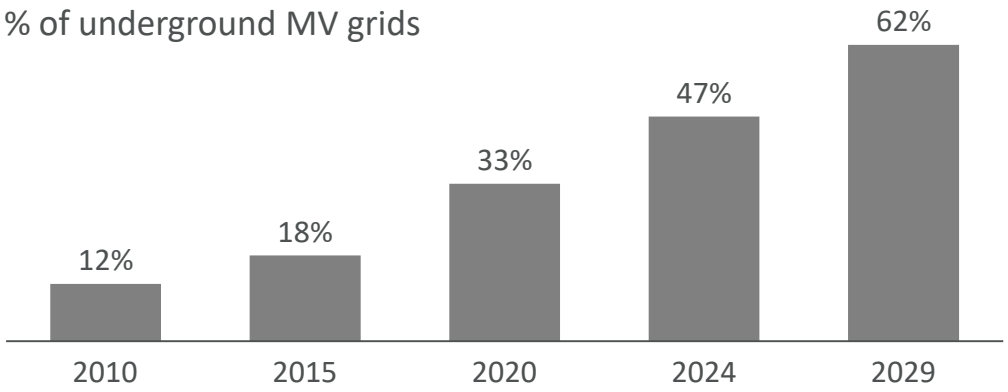
Dutch solar PV installed capacity[3]

GW



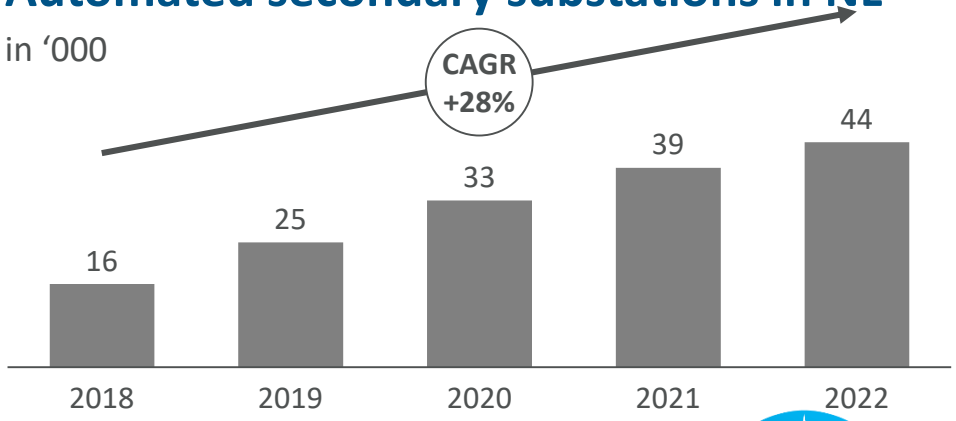
Grid upgrade program Finland[2]

% of underground MV grids



Automated secondary substations in NL[4]

in '000



1. Analysis based on Kwaliteits- en capaciteitsdocument Alliander, Enexis and Stedin; 2. Ministry of Economic Affairs and Employment Finland;
3. SolarPower Europe; 4. Navigant Research (ranging from LV monitoring only to full automation)

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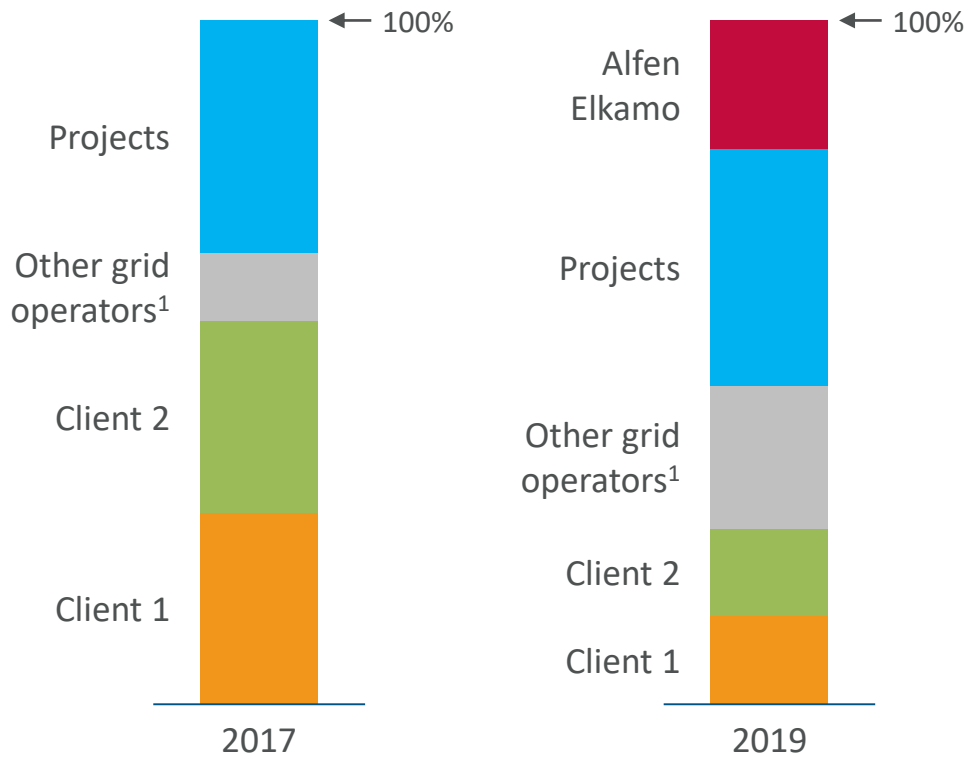
Client base of our Smart grid solutions business line is increasingly diversifying

Schematic revenue split Smart grid solutions



Comments

- 3 April 2018 ‘wet VET’ was adopted by the Dutch government, opening up the market for grid connection services
- Subsequently, grid operators (partially) spun-off their infra leasing daughter companies
- These new spin-offs are also broadening their offering to e.g. EV charging and energy storage, providing further cross-sell opportunities for Alfen
- In addition, Alfen has recently started serving several new clients and expanded its market share with other clients
- Finally, Alfen’s growing microgrid projects business (see next slide) and acquisition of Elkamo further diversified its revenue base

1. Including infra leasing companies

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Projects: Our microgrid projects business is benefitting from the large-scale roll-out of solar PV

Schematic overview of Alfen's solar PV microgrid projects

	2015	2016	2017	2018	2019 YTD
# of projects	2	2	8	11	13
Maximum project size	6 MWp	6 MWp	3 MWp	45 MWp	110 MWp
Selected clients	solarcentury	ecorus			
			unisun 联盛新能源		
				VATTENFALL	
				GOLDBECK	
					ecotec world
					GREENCELLS GROUP
					PFALZSOLAR

- More (repeat) projects
- Larger projects
- Broadening (international) client base

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Case study: Solarcentury

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Case study: Solarcentury

6 MWp solar farm on the island of Ameland

2016

1.2 MWp solar farm at recycling company Twence in Hengelo

2017

1.4 MWp solar farm at recycling company Twence in Hengelo

Joint project combining solar PV (by Solarcentury) and **2 MW** energy storage at a cacao factory in Nigeria

2018

17.5 MWp solar farm at recycling company Twence in Hengelo

2019

45 MWp solar farm at the location of zinc smelting company Nyrstar in Budel

110 MWp solar farm Vlagtwedde in Groningen

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Case study:
Multi-utility energy company ECW

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Case study:
Multi-utility energy company ECW

Multiple large-scale **greenhouses**, which Alfen supported with **microgrids** in various expansion phases

Grid connections for one of Europe's largest **geothermal** projects, transporting heat from 2,500 meters underground to the greenhouses

Greenhouses
Geothermal
Solar PV
Datacenters

Grid connection for a 2.6 MWp **floating solar PV** park for Better Energy Nederland and Entras

Service and maintenance for various installations in the ECW area

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Overview facilities Smart grid solutions

Alfen facilities Almere, the Netherlands

Smart grid solutions facilities

- Smart grid facilities with c. 3,000 m2 production area (and 1,300 m2 office area), including laboratories and testing facilities
- Offices fully upgraded in 2017. Additional warehousing, prototyping and pre-assembly facilities (800 m2) and parking space added in 2018/2019
- Since 2017: flow production system with two main production lines (one-shift basis)
- September 2019: gradual start-up of third production line to support a further scale-up, increase flexibility and drive further efficiencies
- Substation production volumes (excl. Alfen Elkamo):
  - H1 2019: 980 (H1 2018: 700)
  - Q3 2019: 639 (Q3 2018: 337)
- In addition, Alfen has Smart grid solutions offices in Belgium (c. 430 m2 office space) and Finland (c. 4,750 m2 production and office space)

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Focus on continuous innovation to maintain market leadership position

Recent innovations

- Dedicated 800 Volt substation to accommodate for newest solar PV applications
- Upgraded ‘Alfen Connect’ grid automation platform to improve adaptiveness and flexibility to changing market conditions
- Adjustments to substations to limit EMF (electromagnetic field) emissions and to further improve fire safety
- Upgraded web ordering tool for all major customers

Selected items on innovation roadmap

- Further standardisation based on modular building-blocks to accommodate for a growing and diversifying customer base
- Adjusted lay-out of substations to allow for easy integration of various smart energy devices in the future

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Summary of strategic focus

Smart grid solutions

Maintain strong market positions in the Netherlands, Belgium and Finland

Further grow internationally in Sweden and selectively in other countries (‘follow-our-customer’ approach)

Capture increasing share of service revenues from growing installed base

Continue focus on innovation to maintain technology leadership position


Q&A

Agenda

09:00 Registration and welcome

09:30 Group review

- Strategy recap
- YTD performance and outlook

10:30 Coffee break

11:00 Business line deep dives

- Smart grid solutions
- EV charging
- Energy storage

12:30 Wrap-up

12:45 Lunch

Alfen EV charging offers state-of-the-art chargers for the domestic, semi-public and public market

Eve Single S-line
3.7-7.4 kW

Eve Single Pro-line
3.7-22 kW

Eve Double Pro-line
3.7-22 kW

Eve Double PG-line
11-22 kW

Twin
11-22 kW

Domestic market

Semi-public market (offices, supermarkets, etc …)

Public market

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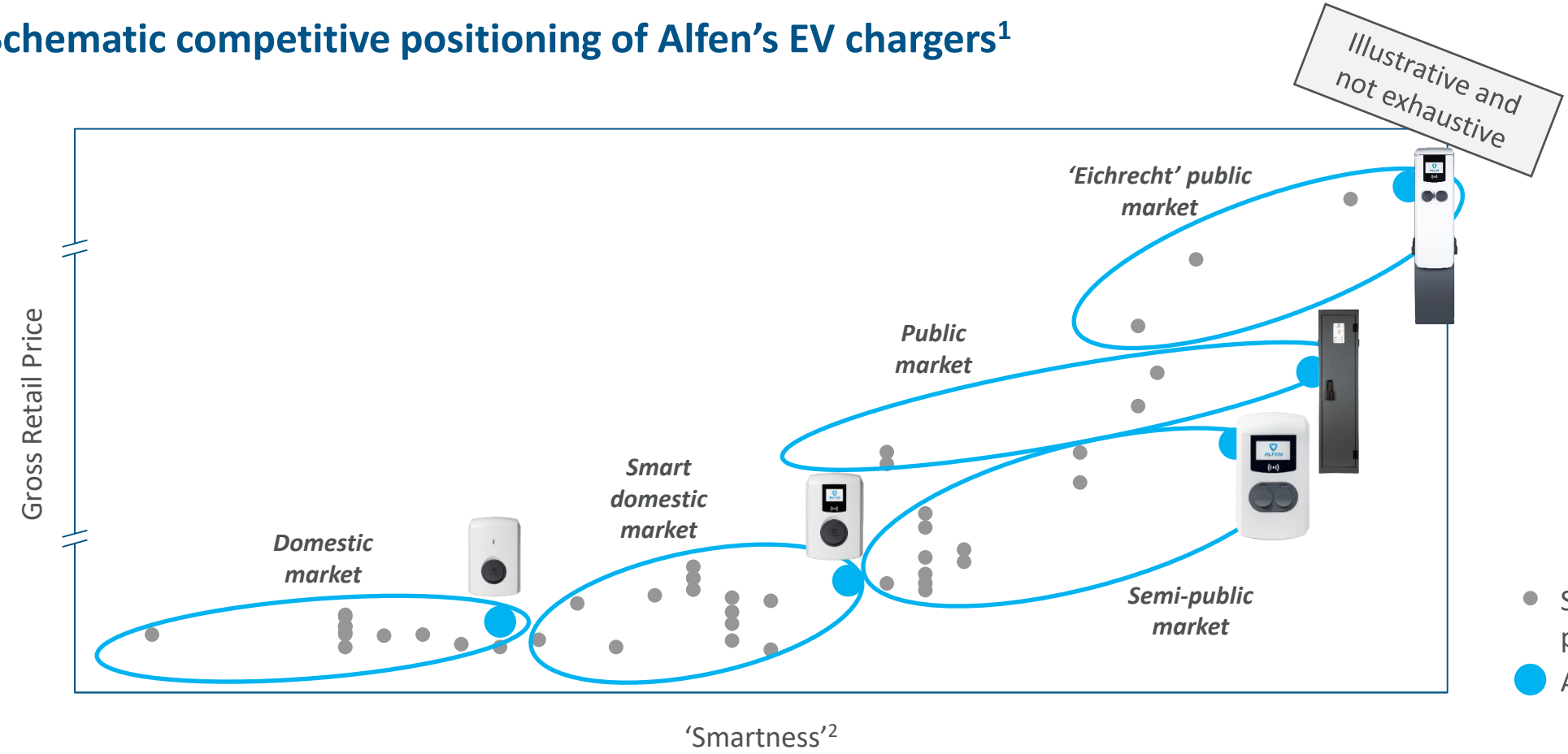
All products positioned at the technology forefront compared to competition

Schematic competitive positioning of Alfen's EV chargers[1]

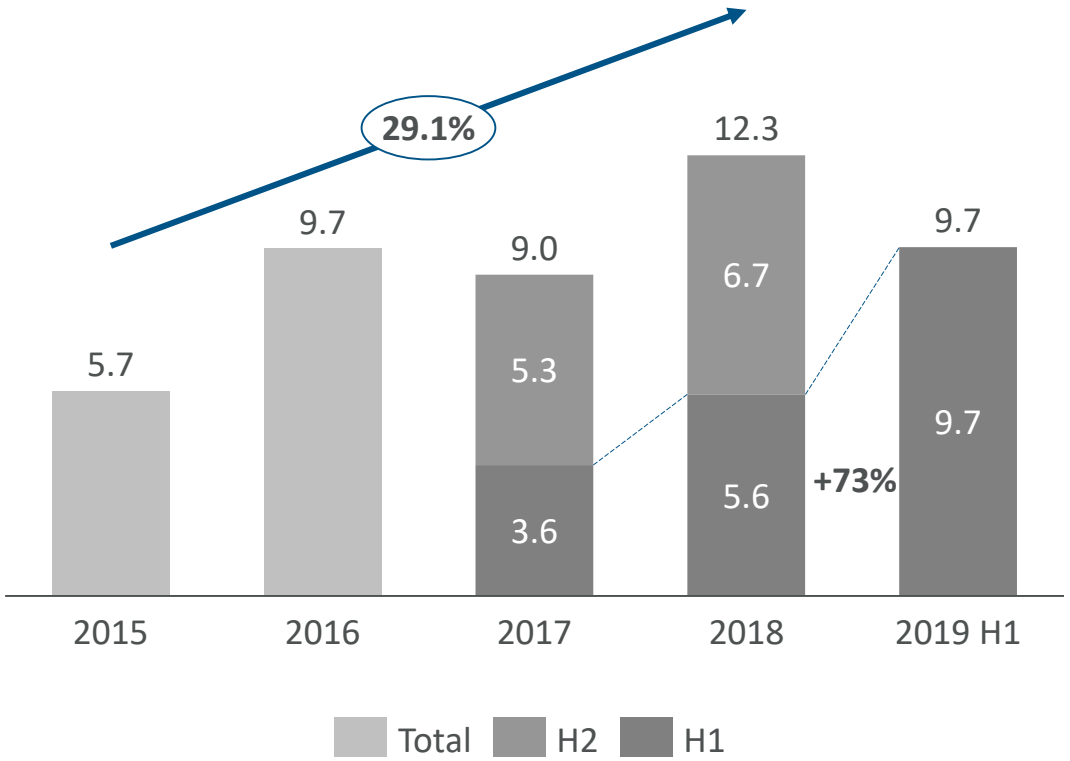


1. Based on management estimates and assumptions of competing products in different markets. 2. Measured by awarding points for smart features of EV chargers.

Alfen EV charging equipment revenues increased with 29% per year between 2015 and 2018 and are accelerating

Alfen EV charging equipment revenues

(€ million)



Comments

- Approx. 30% market share in the Netherlands
- Strong positions with own dedicated EV charging sales force in the Netherlands, Belgium, Germany, UK, France and Norway
- 2017 decline caused by a change in incentive schemes in the Netherlands that significantly reduced the number of EVs sold in 2017. Despite being affected, Alfen outperformed the market and increased its market share

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Growth supported by fundamental drivers and supported by various government incentives

Increasing consumer pull

- Both by companies as well as individuals
- Driven by, amongst others:
  - Environmental awareness
  - Mitigate global warming

Increasing supply of EVs

- Increase of affordable EVs with a longer range
- All major OEMS have announced targets for EV roll-out and are expected to shift to electric in the future

Improved TCO

- Improving cost competitiveness as innovation and technologies mature
- OPEX electric vehicles lower than traditional cars, combined with lowering prices, will shift the balance of TCO towards EVs in the next decade

Governmental incentives

- Recent examples include:
  - UK grant for EV charging equipment (OLEV) requiring all home chargers to use innovative ‘smart’ technology by July 2019, playing into Alfen’s favour
  - Dutch climate agreement report estimates 1.8m EV chargers by 2030, implying CAGR of approx. 25%

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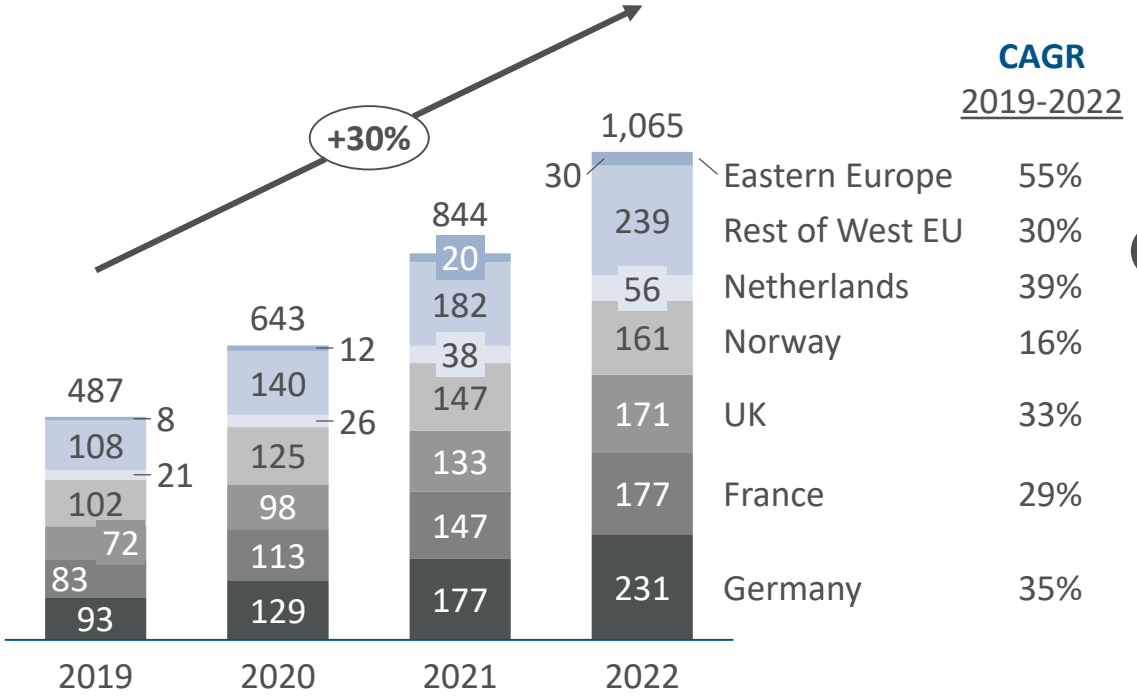
Market growth rates for EV charge points are around 23%, but varying substantially per country (up to 42%)

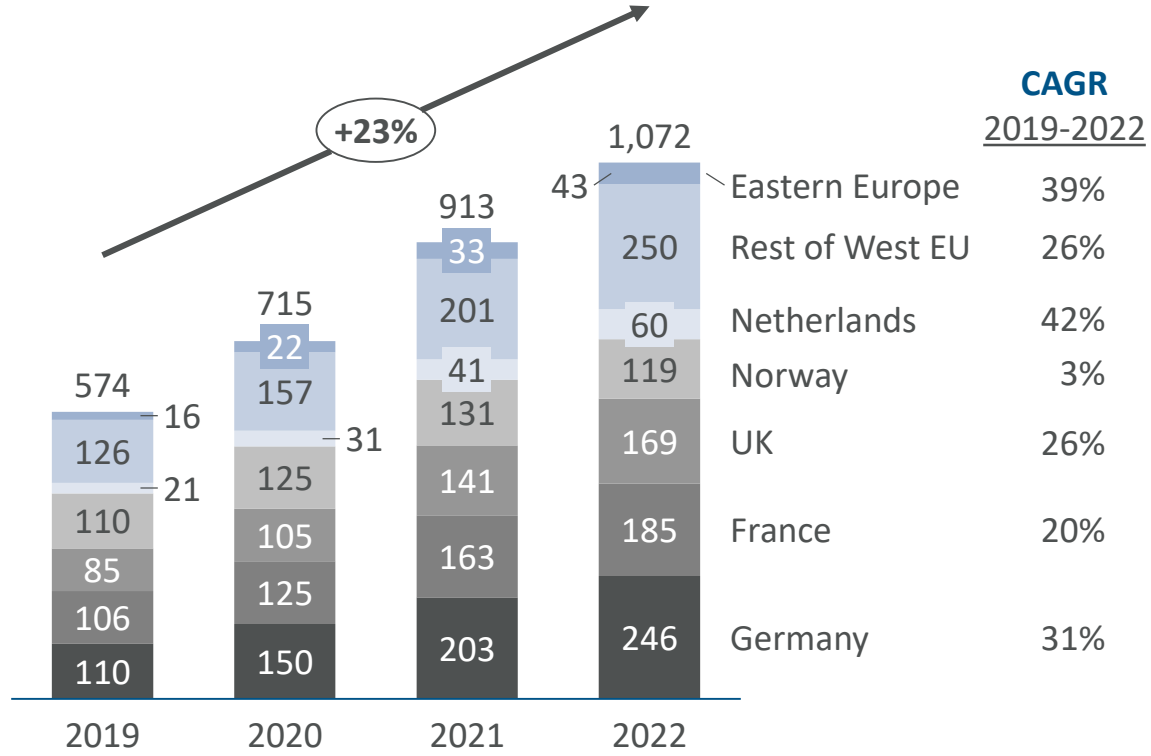
New EV sales in Europe

Light duty EV sales (in '000)



New EV charge points in Europe

New charge points in Europe (in '000)



Source: Navigant research

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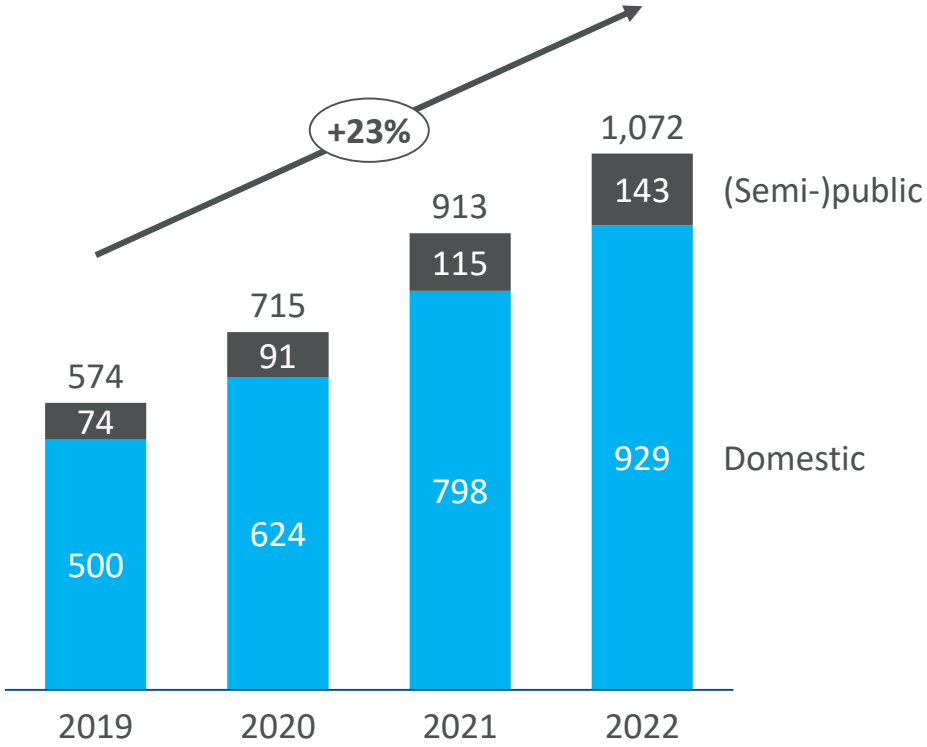
For the near future the domestic EV charging market is expected to remain dominant …

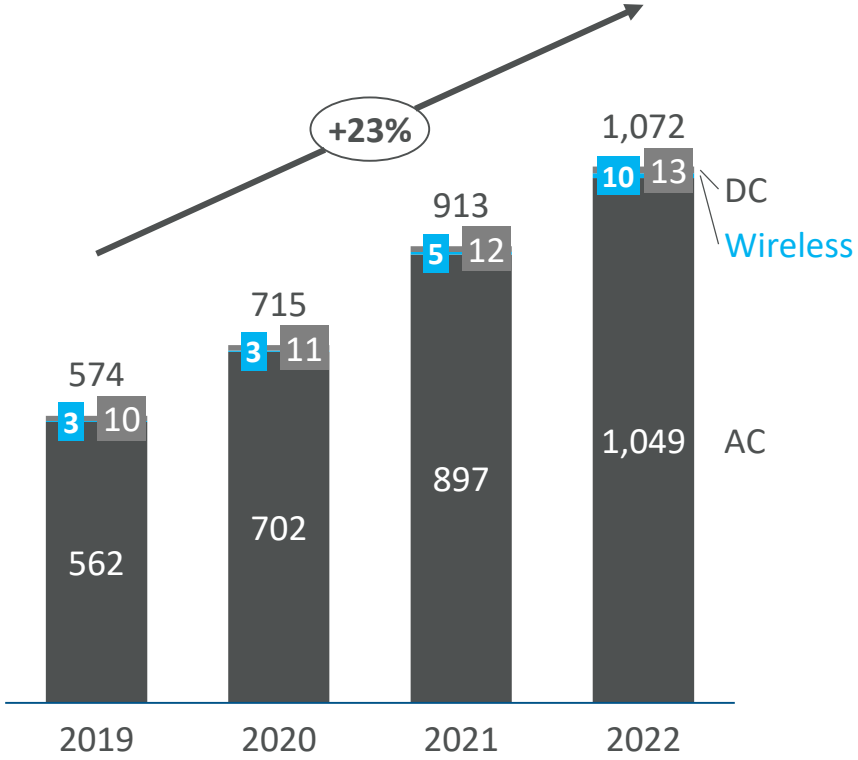
EV charge points by end-market

New charge points in Europe (in '000)



EV charge points by type

New charge points in Europe (in '000)



Source: Navigant research

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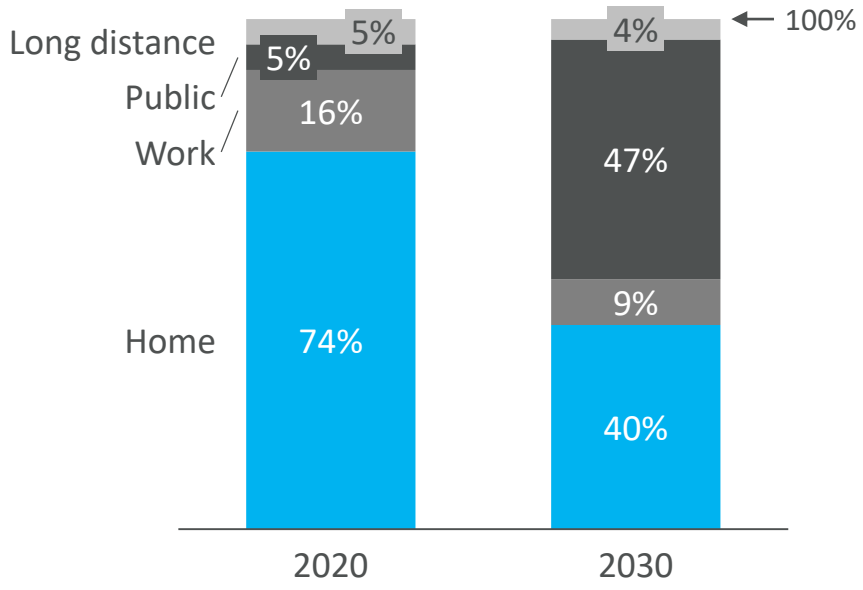
… though it is expected that public charging will constitute the largest market segment in 2030

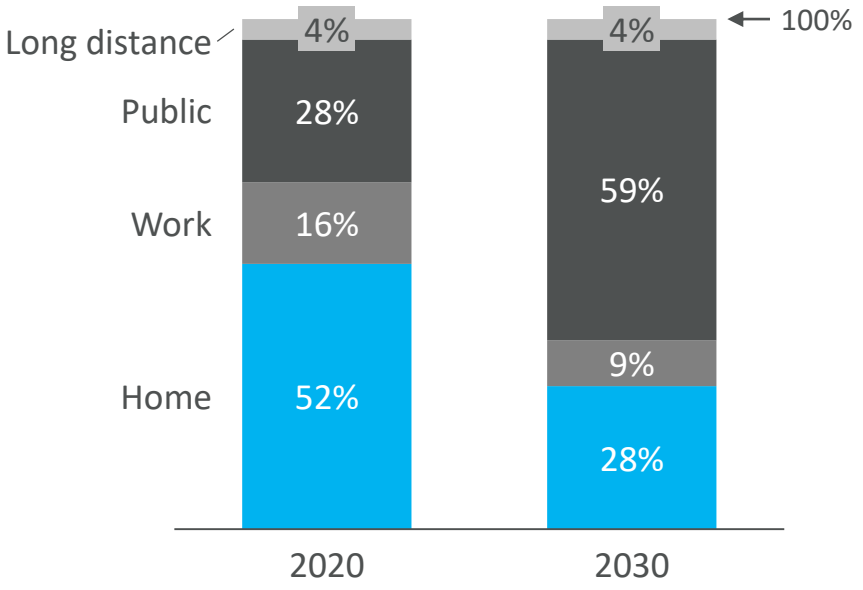
Home-centered scenario European Union

Energy demand (% of kWh)



Public-centered scenario European Union

Energy demand (% of kWh)



Source: McKinsey & Company

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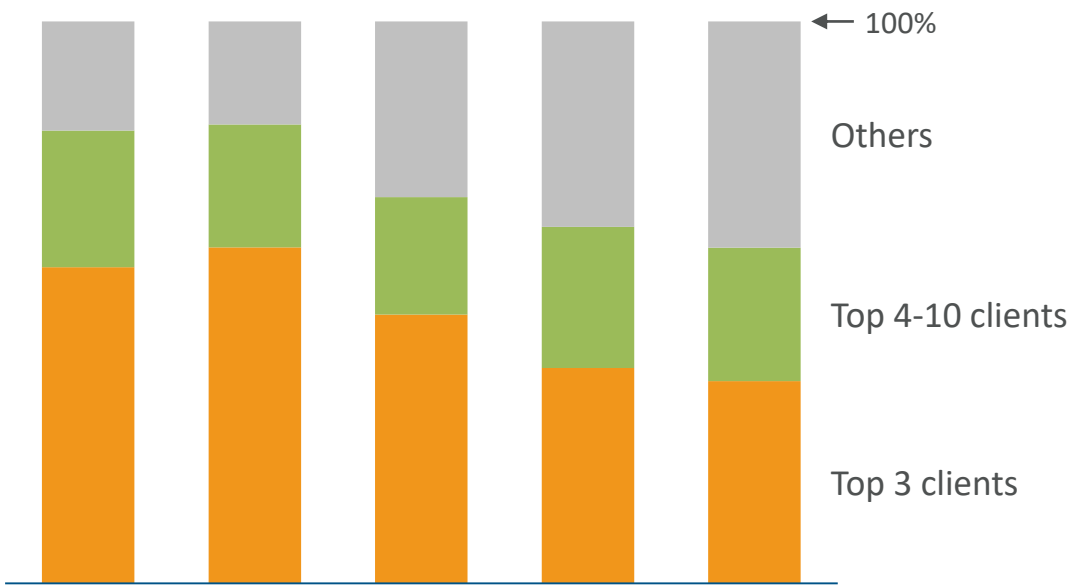
Client base is growing steadily and increasingly diversifying

Revenue split EV charging equipment



# of clients[1]

39	48	60	75	96

Commercial strategy

- Supporting existing clients in scaling up, broadening their (residential/commercial) end-customer base and expanding internationally

+

- Continuously adding new clients with the potential to become leading players of the future

1. Only taking into account clients with >€10k revenues in the year

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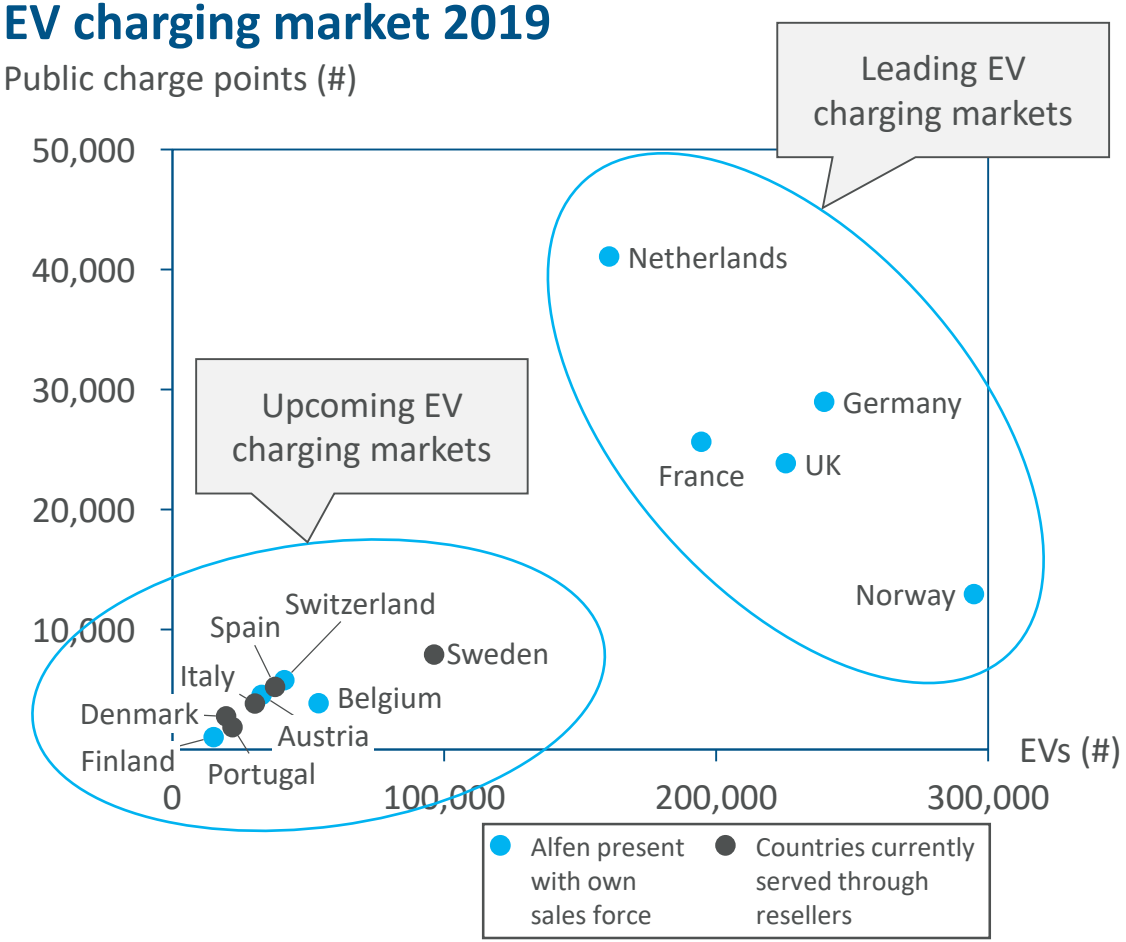
Our geographical footprint covers all relevant markets – continuous evaluation for further expansion

EV charging market 2019



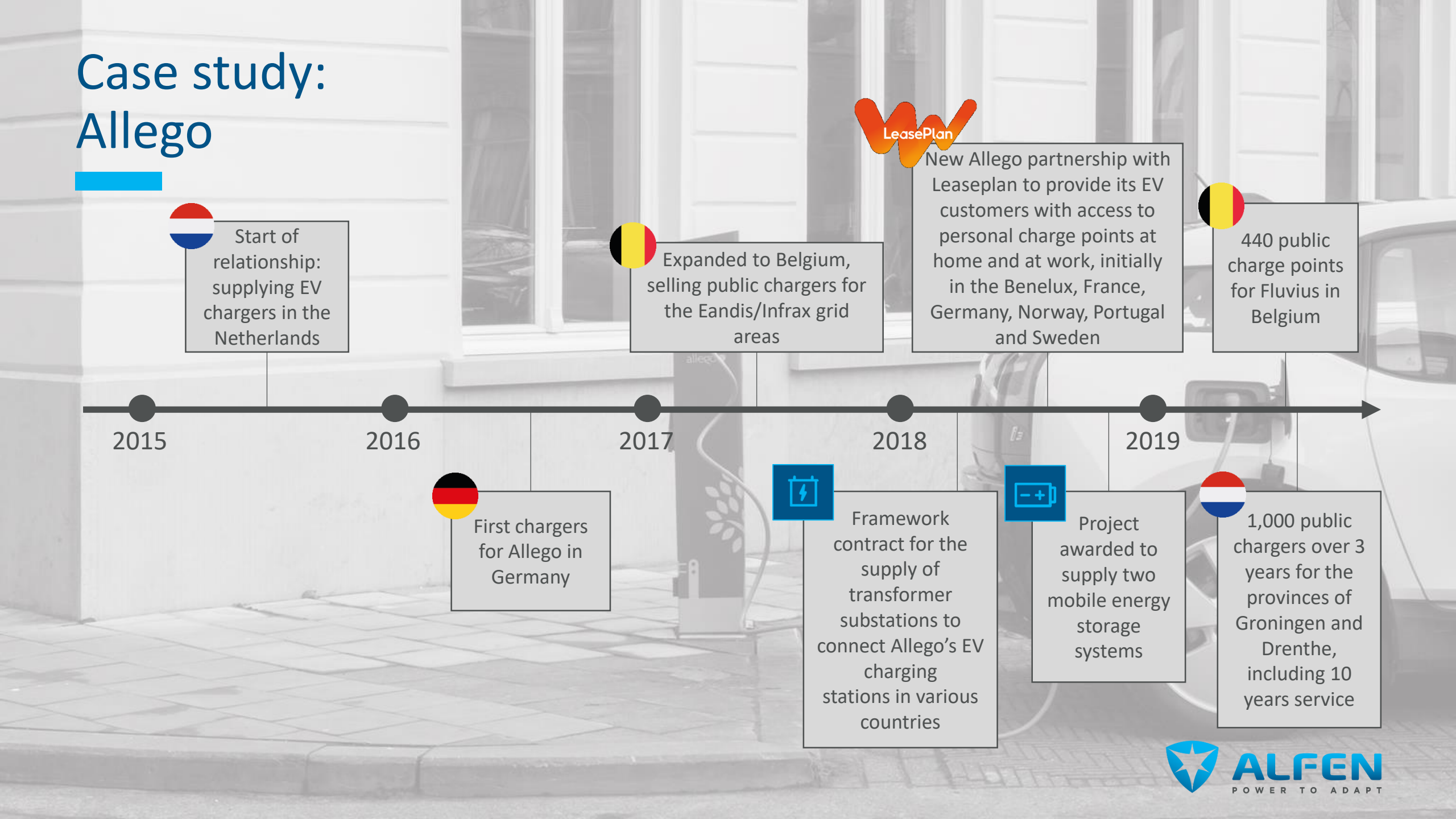
Note: Only European countries displayed with >10.000 EVs (PHEV + BEV)
Source: European Alternative Fuels Observatory

Internationalisation strategy

- Originally set-up in the Netherlands, as the frontrunner in EVs
- Strategy of entering upcoming countries in an early stage (based on a continuous evaluation of countries' potential)
  - Establish partnerships with key EV charging operators
  - Set-up service network
  - If necessary, adjust product portfolio to country-specific norms (e.g. Eichrecht)
- Subsequently, benefit from market growth through established relationships and further expand presence

Case study: Allego

Case study: Allego



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Case study: Enexis

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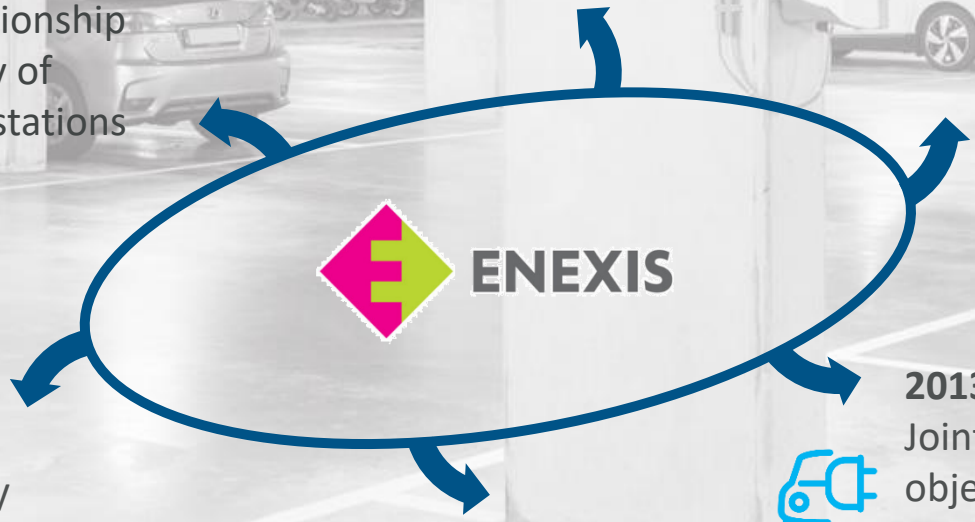
Case study: Enexis

2019: roll-out of 98 chargers in smart charging network at Enexis HQ parking garage

>20 years relationship for the delivery of secondary substations

2015: Pilot project for grid automation with c. 50 secondary substations



2007: Requested Alfen to develop one of the first EV charging points in Europe to research the potential impact of EVs on the distribution grid

2013: Smart Grid in Balance: Joint pilot project with the objective to avoid grid upgrades as a result of the large-scale roll-out of EVs

2011: pilot energy storage in a 200 kW microgrid with grid connection

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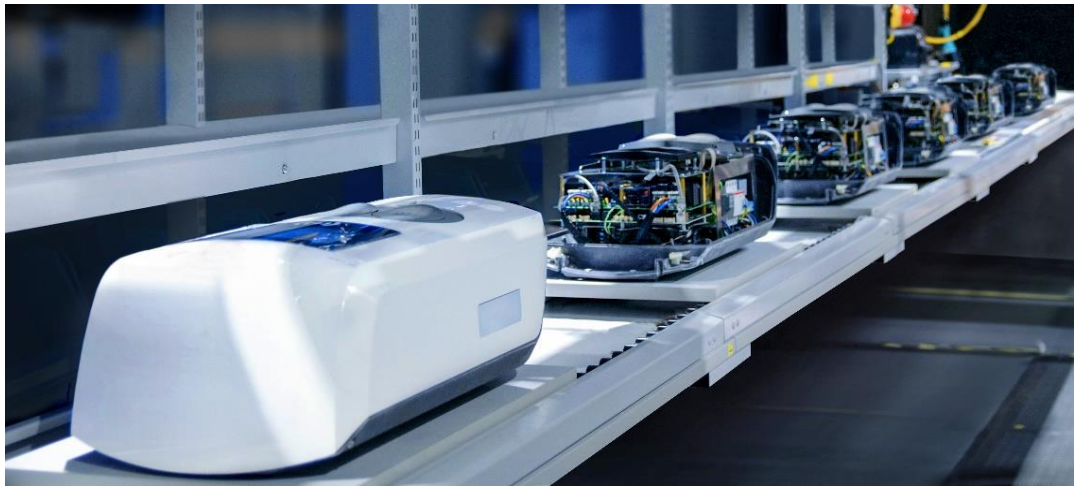
Overview facilities EV charging equipment

Alfen facilities Almere, the Netherlands



EV charging equipment facilities

- EV charging facilities with c. 1,000 m2 production area (and 900 m2 office area) acquired in 2016 with charge point assembly lines, warehousing and service and replacement components for EV charging equipment
- Since 2018: flow production system with two main production lines for the Eve Single and Eve Double products (one-shift basis) as well as a line for the Twin product line
- September 2019: start-up of additional production line to support a further scale-up, increase flexibility and drive further efficiencies
- Production volumes of EV charge points:
  - H1 2019: ~9,600 (H1 2018: ~5,500)
  - Q3 2019: ~6,900 (Q3 2018: ~3,000)

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Focus on continuous innovation to maintain market leadership position

Recent innovations

- Eichrecht compliant chargers for the German market and adjustments for compliance with the French market
- Enhanced active load balancing functionality which optimises the available grid capacity
- Connectivity with home management systems
- Completion of product rationalisation with the introduction of the Eve Single S-line for the domestic market

Selected items on innovation roadmap

- Release of newest communication protocol between charger and EV (Open Charge Point Protocol 2.0)
- Improved connectivity features to support app-based access and configuration
- Upgrade to facilitate direct payment functionality

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Summary of strategic focus

EV charging equipment

- Maintain and grow strong positions in home markets
- Continue expanding internationally
- Capture increasing share of service revenues from growing installed base
- Continue focus on innovation to maintain technology leadership position


Q&A

Agenda

09:00 Registration and welcome

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- Energy storage

12:30 Wrap-up

12:45 Lunch

Our energy storage system ‘TheBattery’ has two main product lines, supported by connectivity and service

Stationary storage systems

Mobile storage systems

Alfen Connect (remote monitoring and control)

Service and maintenance

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Focus is on systems ranging from 100 kW to 50 MW where Alfen has a strong competitive advantage

Range of storage applications

Bulk	Transmission system	Distribution system	Commercial / Industrial	Microgrid / Off-grid	Community / EV charging hubs	Residential
>50 MW	2 – 50 MW	100 kW – 10 MW	100 kW – 10 MW	100 kW – 10 MW	100 kW – 500 kW	<50 kW

Competitive advantage Alfen

- Established development team with **extensive experience** of inverters, batteries, management software and auxiliary grid solutions
- Fully **integrated end-to-end storage solution** including project management, substations, grid connection, remote monitoring and on-site service
- **Modular plug & play** building blocks, expandable over time to meet future demands and customisation
- **Independent selection of battery and component suppliers** to ensure the optimal solution for each situation
- **Continuous insights and remote management (Alfen Connect)** based on Alfen's extensive experience with EV charging communication

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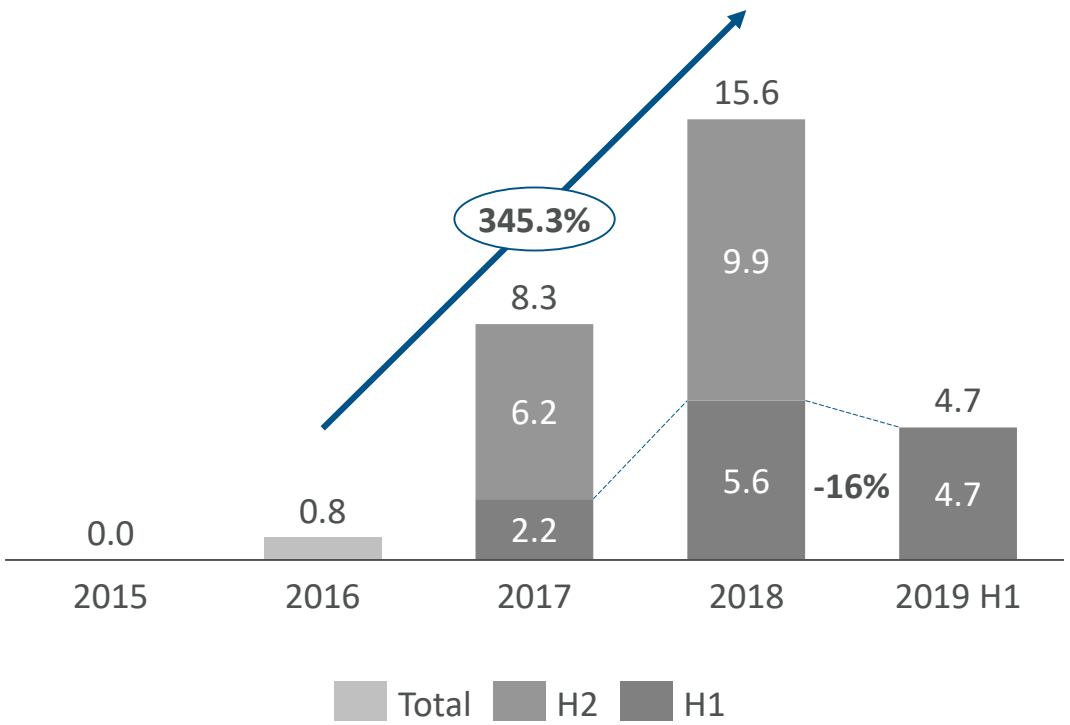
Alfen Energy storage systems revenues have increased rapidly between 2016 and 2018

Alfen Energy storage systems revenues

(€ million)



Comments

- Energy storage development started in 2011 - First commercial projects in 2016
- Strong growth in following years, in which Alfen build up a strong reputation as one of the few European players with a proven working battery storage concept in all major storage applications and a supplier for leading European utility companies
- Decline in H1 2019 caused by challenging business cases across the nascent market resulting in delayed decision making at Alfen's clients

2019: three key themes for Alfen

1 Continuation of commercial successes

- Further **broadening of client base** (which includes Engie, Eneco, Fortum, Greenchoice) and **repeat orders** from e.g. Vattenfall, BMW and Greener

2 Further solidifying technology leadership position

- Various **product innovations**, further positioning Alfen ahead of its competition, amongst which:
  - Second generation mobile storage solution for festivals and events
  - High density stationary storage, accommodating higher power and capacities in similar-sized containers

3 Maintaining frontrunner position with unique experience across all storage applications

- **Roll-out of support for new storage applications**, further strengthening Alfen's position as one of the few players with experience across all major storage applications

Well positioned to benefit from growing market

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Market growth is driven by the roll-out of renewables and EVs as well as a drive for a clean alternative for diesel

Increasing penetration of intermittent renewables

- Central (large wind and solar farms) and decentral (rooftop solar and local wind) renewable power generation requires generation smoothing and grid frequency regulation to offset unbalance between supply and demand

Increasing penetration of EVs

- The increasing amount of EVs leads to concentrated peak demand at e.g. central charging hubs, requiring load balancing and/or peak shaving

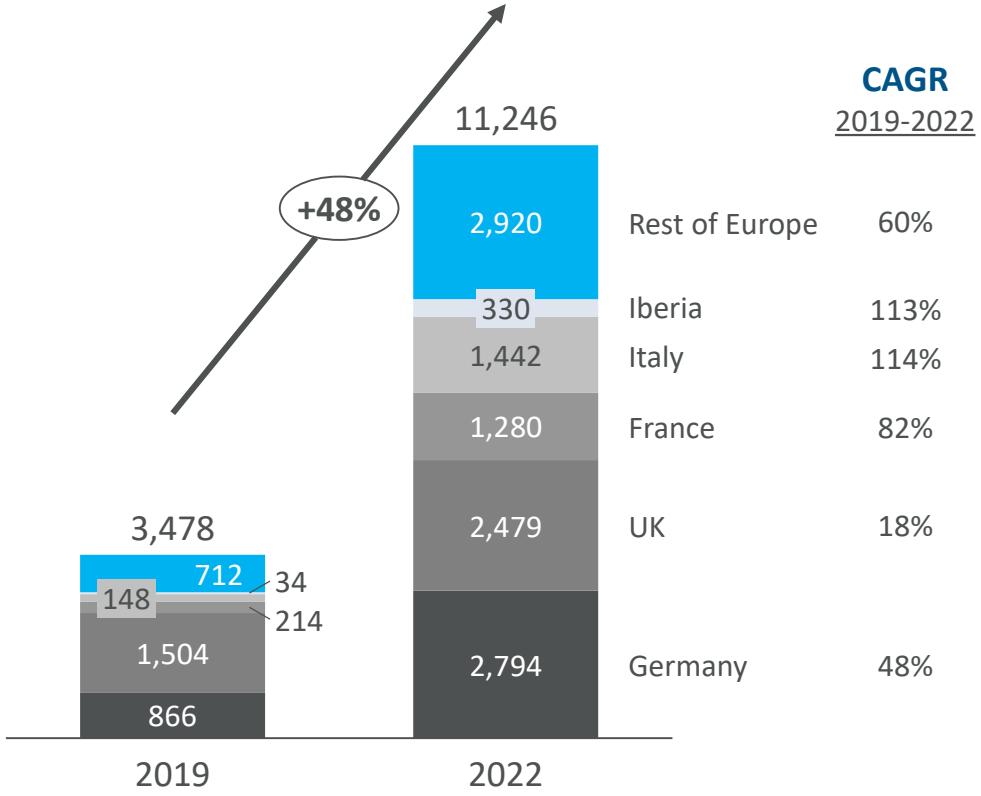
Clean alternative for off-grid diesel generators

- Clean and silent alternative for diesel at events or in-city construction sites
- Applications in the off-shore and maritime sectors, replacing the use of diesel
- Off-grid applications in rural areas or islands

Strong growth of energy storage capacity in Europe

Installed energy storage capacity

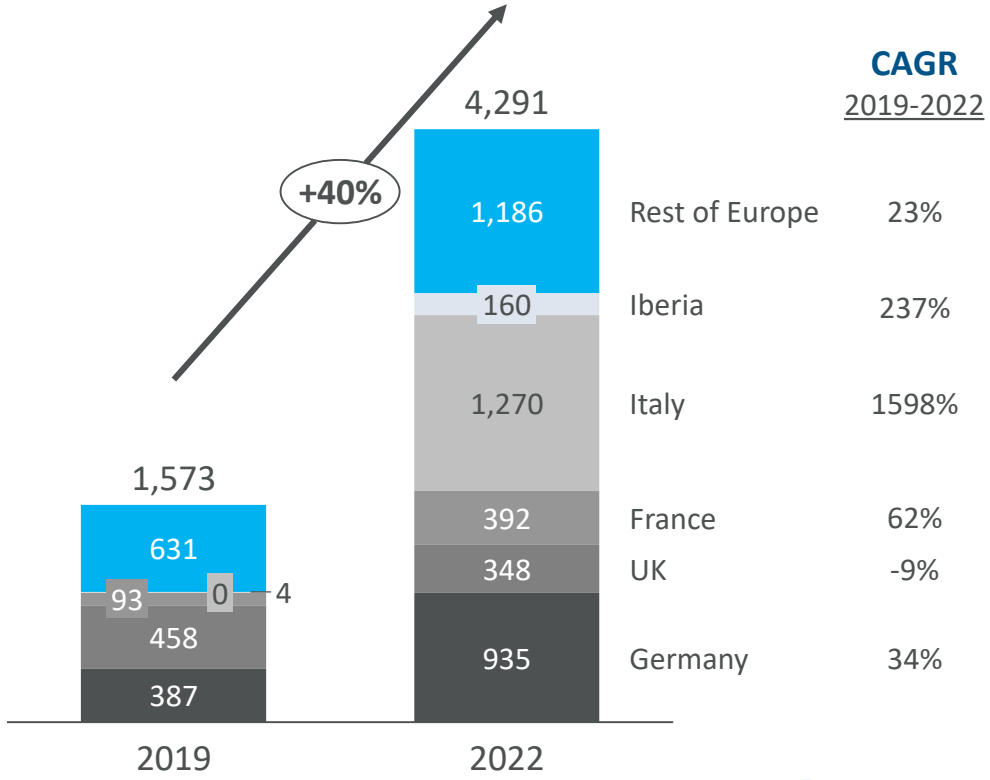
Storage capacity excluding residential (MW)



	CAGR 2019-2022
Rest of Europe	60%
Iberia	113%
Italy	114%
France	82%
UK	18%
Germany	48%

Net annual energy storage capacity additions

Storage capacity excluding residential (MW)



	CAGR 2019-2022
Rest of Europe	23%
Iberia	237%
Italy	1598%
France	62%
UK	-9%
Germany	34%

Source: Bloomberg New Energy Finance

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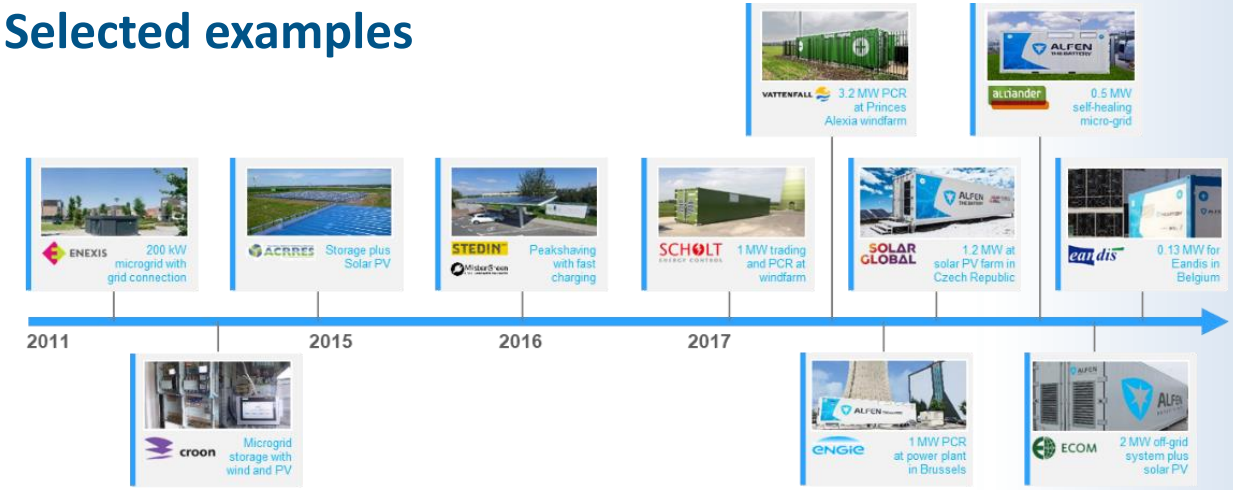
Alfen’s rapidly expanding project references

Selected examples



SCHOLT ENERGY CONTROL — 0.8 MW Integrated EV charging hub

BMW — 1.1 MW + 250 KW DC charger peakshaving

VATTENFALL — 12 MW FCR with hybrid solar/wind farm

Eneco — 2 MW PCR, Trading at Peleman Industries

Elaad nl — 138 kWh integrated storage solution EV charging test site

SOLARIGO — 1 MW storage system in Finland

Greener power solutions — 9 x 10FT systems for festivals and construction sites

bam — 200 kWh community battery

LIDL — 1.2 MW peakshaving and trading

BMW — BMW Korea 0.43 MW Peakshaving

GREEN CHOICE — 10MWh wind farm output energy smoothing

Ibogem — Self-consumption in Belgium

WEERT ENERGIE — 617 kWh first storage system for Dutch cooperative

TrønderEnergi — Peakshaving and off-grid in Norway

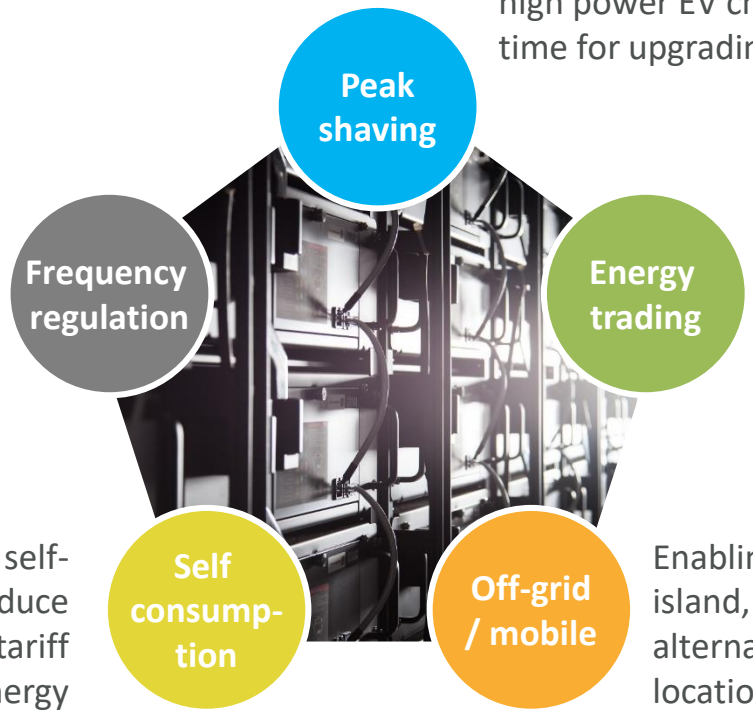
smappee — 2.5 MWh for self-consumption, loadbalancing and FCR

Five key applications - many business cases are built on a combination of applications

Examples of key applications

Facilitating peak demand from e.g. simultaneous high power EV charging, avoiding costs and lead-time for upgrading the power grid

Regulating supply and demand on a second-by-second basis to keep the frequency of the power grid within the required tolerance bounds (as fluctuations in frequency are increasing with the roll-out of renewables)



Arbitraging between electricity prices at different times, which can often be combined with other applications by value stacking

Adding storage to increase self-consumption of end-user solar PV, reduce reliance on the grid and optimising tariff structures for selling and buying energy

Enabling power supply to remote areas (rural, island, etc.) or providing a clean and silent alternative for diesel generators at temporary locations (events, construction sites, etc.)

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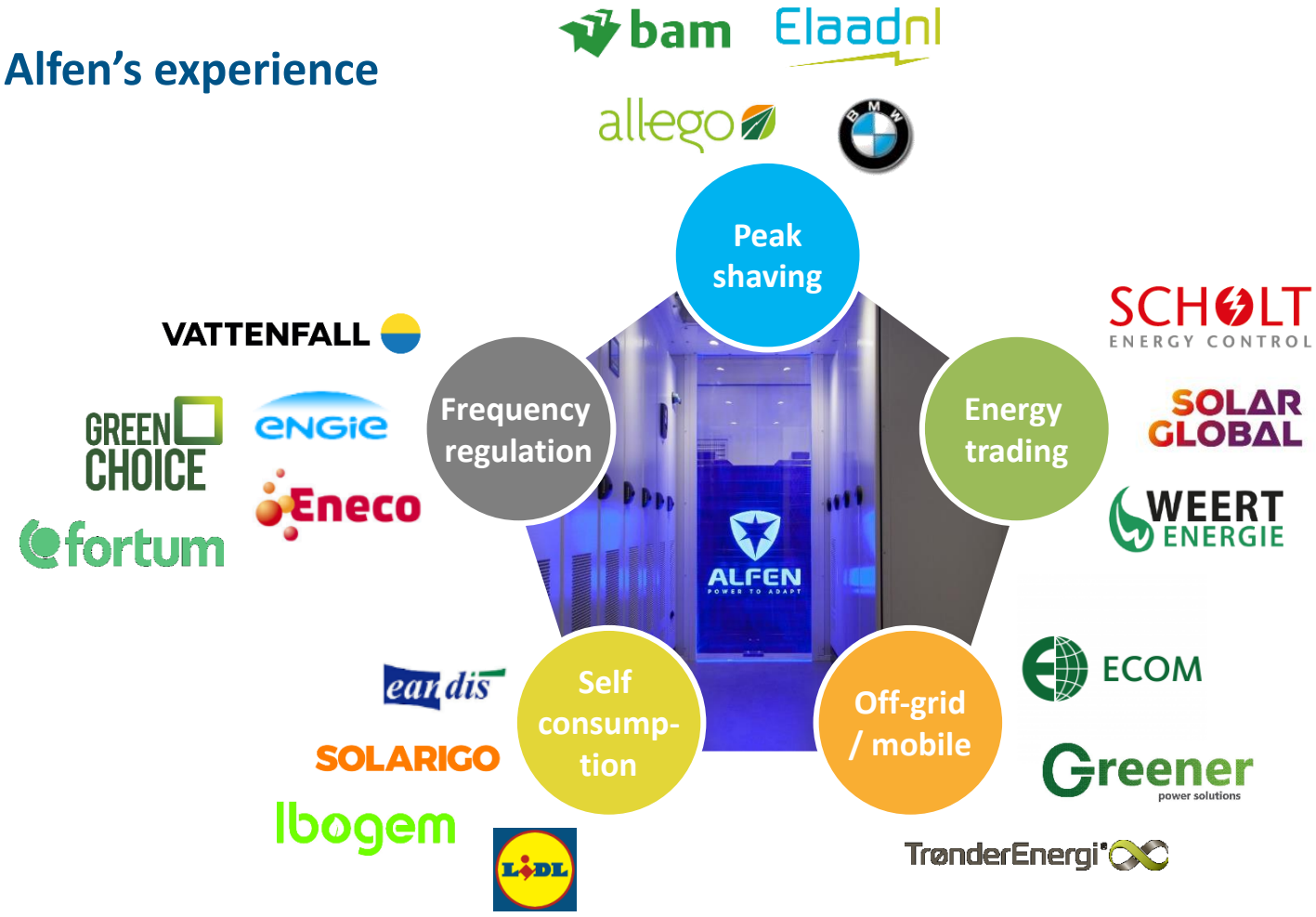
Alfen has unique experience across all major storage applications

Examples of Alfen's experience



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Case study: Greenchoice

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POWER TO ADAPT

Case study: Greenchoice

Key features

- Energy storage system of **10 MW (10 MWh) in 6 containerised battery energy storage units** with pre-integrated batteries, power conversion, acclimatisation, and a transformer compartment
- Connected to **Greenchoice's Hartel windfarm** in the harbor of Rotterdam, consisting of 8 wind turbines, delivering on average 68 GWh of energy
- Storage system deployed to **smooth the fluctuating energy output** of the wind farm and to **ensure stability of the power grid** as the amount of renewable energy further grows

USPs Alfen

- **Plug & play** solution based on pre-assembled building blocks that are fully produced and tested at Alfen's production facilities and minimise the time required on-site at the customer
- **Modular concept** that allows for future expansions, transportation of the system to another location or adaptions to new future business cases
- **Software modules** that seamlessly integrate with clients' systems
- **Grid integration** experience, enabling an end-to-end solution
- **Preparedness for the future** with scalable system set-up and sizable production facilities

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Case study: Greener

Case study: Greener

Addressing emerging market needs around clean mobile energy supply with new innovation in the market, combining various Alfen's expertises in a **10ft containerised mobile storage solution**:

- Off-grid
- Peak-shaving
- BMW batteries (certified for transportation)

2017

Spring 2018

Successful pilot providing clean energy to Awakenings Eastern Special festival in Amsterdam

Summer 2018

Initial roll-out at various festivals

AWAKENINGS · MILKSHAKE · WELCOME TO THE VILLAGE · ade amsterdam dance event · MADNES SURF SKATE MUZIEK FESTIVAL

Development of **second generation mobile storage solution** (Mobile 2.0): new software platform enabling more processing capacity and flexibility for future developments

Fall 2018/ Spring 2019

Spring/ Summer 2019

Scale-up and broader roll-out:

- Many festivals
- Internationalisation (e.g. UK Silverstone)
- Pilots with utilities (incl. Greenchoice and Alpiq)
- Testing new applications (grid take-over, maritime sector, construction sites)

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Overview facilities Energy storage systems

Alfen facilities Almere, the Netherlands

Energy storage systems facilities

- Since July 2018, new leased premises (c. 2,350 m2 production area, c. 920 m2 office space and c. 11,000 m2 outside area) for the assembly of energy storage systems
- Inside facilities include:
  - Production floor for the pre-assembly of Energy Storage Inverters and AC-cabinets
  - Large hall (with 16 metric tons crane) for the final assembly of (small) storage systems
- Outside area for:
  - Assembly of containerised storage systems
  - Conditioned storage of batteries
  - Full testing area including energy management and distribution system to test storage systems in various configurations before shipping to our clients

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Focus on continuous innovation to maintain market leadership position

Recent innovations

- Release of second generation mobile storage solution for festivals and events
- Release of high density stationary storage, accommodating higher power and capacities in similar-sized containers
- Energy management system enabling full integration with local assets (solar PV, factories, EV charging hubs)
- Introduced micro-processor control platform to enhance response times for the frequency regulation markets

Selected items on innovation roadmap

- Improved data monitoring and reporting functionalities
- Multi-container functionality allowing multiple mobile storage systems to operate jointly
- Further increase efficiency through ‘hot stand-by’ mode of selected building blocks (reducing self-consumption of energy)

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Summary of strategic focus

Energy storage systems

Scaling-up with existing (international) clients and adding new clients across Europe (rest of world with a ‘follow-our-customer’ approach)

Continuous innovation to maintain technology leadership position

Capture increasing share of recurring revenues from service and further monetise TheBattery Connect functionalities

Q&A


PELEMAN
Eneco
ALFEN
POWER TO ADAPT
NEXT
KRAFTWERKE
Hier werken we samen
aan de energietransitie

Agenda

09:00 Registration and welcome

09:30 Group review

- Strategy recap
- YTD performance and outlook

10:30 Coffee break

11:00 Business line deep dives

- Smart grid solutions
- EV charging
- Energy storage

12:30 Wrap-up

12:45 Lunch

Agenda

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Appendix - Income statement

In € '000	H1 2019	H1 2018
Revenue and other income	**61,571**	**41,019**
Smart grids	*47,162*	*29,768*
EV charging	*9,721*	*5,614*
Energy storage	*4,688*	*5,637*
Gross margin	**22,253**	**12,581**
as % of revenues	*36.1%*	*30.7%*
Personnel cost	13,343	7,799
Other operating cost	4,380	3,592
Impairment loss[1]	53	38
EBITDA	**4,477**	**1,152**
as % of revenues	*7.3%*	*2.8%*
Adjusted EBITDA	**4,850**	**1,713**
as % of revenues	*7.9%*	*4.2%*
Adjusted EBITDA (excl. IFRS lease adjustments)	**3,973**	**1,713**
as % of revenues	*6.5%*	*4.2%*
Adjusted net profit	**1,435**	**639**

Revenue growth driven by strong market growth, further bolstered by internationalisation, cross-selling and service

Margin increase as a result of Alfen's strong market position, leverage from increased scale, a shift towards increasingly complex solutions and favourable product mix effects

Increase in FTEs from 262 at 30 June 2018 (410 at 31 Dec 2018) to 457 at 30 June 2019, including 83 FTEs at Alfen Elkamo. Part of this FTE increase is explained by replacing external hires, that were attracted in H2 2018 to accommodate a step-up in the Smart grids industry supply chain and prepare for further growth

H1 2019 operating cost excludes €0.9m as a result of changed lease accounting under IFRS

Adjusted EBITDA (corrected for €0.9m effect of changed lease accounting under IFRS) up 132% versus H1 2018, driven by strong revenue growth and margin improvement

1. Compared to the H1 2018 report, adjusted for changed financial instrument accounting of IFRS 9

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Appendix - Balance sheet

In € '000	30 June 2019	1 Jan 2019[1]
Non-current assets	26,108	24,348
Current assets	47,301	38,846
Cash and cash equivalents	233	849
Total assets	**73,642**	**64,043**
Non-current liabilities	15,102	15,335
Current liabilities	38,483	33,849
Bank overdraft	11,774	7,924
Equity	8,283	6,935
Total equity and liabilities	**73,642**	**64,043**

Capex amounted to €3.2m as compared to €2.1m in the same period of 2018. Capex in H1 2019 includes investments in expanding production and warehousing as well as €2.0m of capitalised development costs which demonstrates the company's continued efforts to invest in innovations for the future

Working capital[2] increased to €8.8m (versus €5.0m at 1 January 2019[1]) due to pre-deliveries in the supply chain to cover the summer period, seasonality and increased stock levels reflecting further growth of the business

1. Unaudited, including IFRS16 adjustment for changed lease accounting (impact of €7.8m on total assets and liabilities)
2. Calculated as total current assets excluding cash and cash equivalents, minus total current liabilities excluding bank overdrafts

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