



Paolo Romano
CEO and Co-founder

SynchroGuard

Breakthrough smart grid solution
to enable a net-zero energy future



About us

- **Smart grid** deep-tech company headquartered in Lausanne (CH), with IT subsidiary based in Milan
- **Synchrophasor**-based solutions to increase **distribution grids** observability, resiliency and efficiency
- **14** satisfied customers across the globe with repeating orders and over **180** SynchroSense devices installed in the field
- **Recently** closed a **9 million Series-A investment round** led by ABB Ventures and CDP Ventures

Customers
selection



Partners
selection



Our management team is a rare mix of relevant technical and industry expertise



Dr. Paolo Romano
CEO and Founder

Sales, Organization, Hiring
EPFL PhD, electronic engineer



Dr. Marco Pignati
CTO and Founder

Product dev., Customer service
EPFL PhD, electrical engineer



Dr. Lorenzo Zanni
COO and Founder

Operation, Finance, R&D
EPFL PhD, electrical engineer



Igor Dremelj
Chief Strategy Officer
Strategy, Go-to-market
Former VP @Landys+Gyr



Roberto Bernacchi
VP Sales & Business dev.
Former Global Product Manager
@ABB, Country Sales lead @SEL



18 headcounts
Experienced product development
& commercial team

An experienced Board of Directors



François Marti
Chairman
Ex COO @SGS,
Ex CEO @FCA Services



Luigi Traino
Investor's Director
Global Product Line Manager,
Digital Solutions @ABB



Marino Giocondi
Investor's Director
Senior Partner @CDP Venture
Capital, Serial entrepreneur

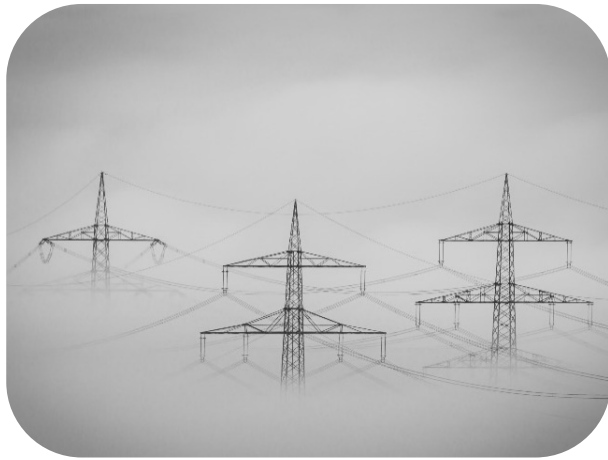


Axel Masucci
Investor's Observer
Partner @Club degli Investitori,
former Managing Director @EQT



Zaphiro solves the **top-3 challenges** of grid operators

Poor grid monitoring
endangers grid reliability

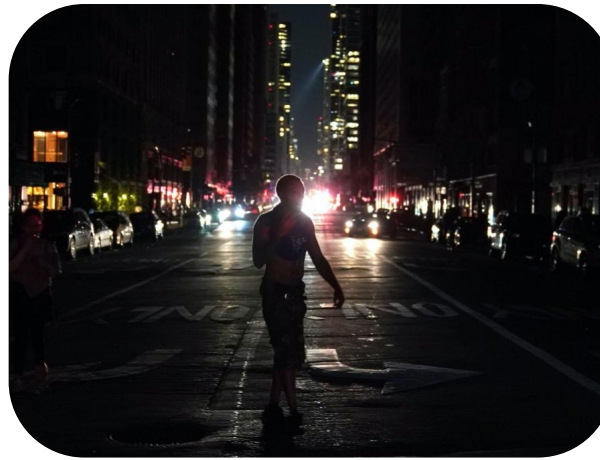


Status quo: only 5% of distribution grids is currently monitored, and decisions based on “gut feeling”



Zaphiro enables full grid visibility with 200X more data generated than conventional solutions

Blackouts still costs
billions to the society



Status quo: blackouts are still located using manual procedures that can take hours



Zaphiro reduces the duration and costs of power outages by up to 80% via agile fault management

Renewables and EVs
will cause grid collapse

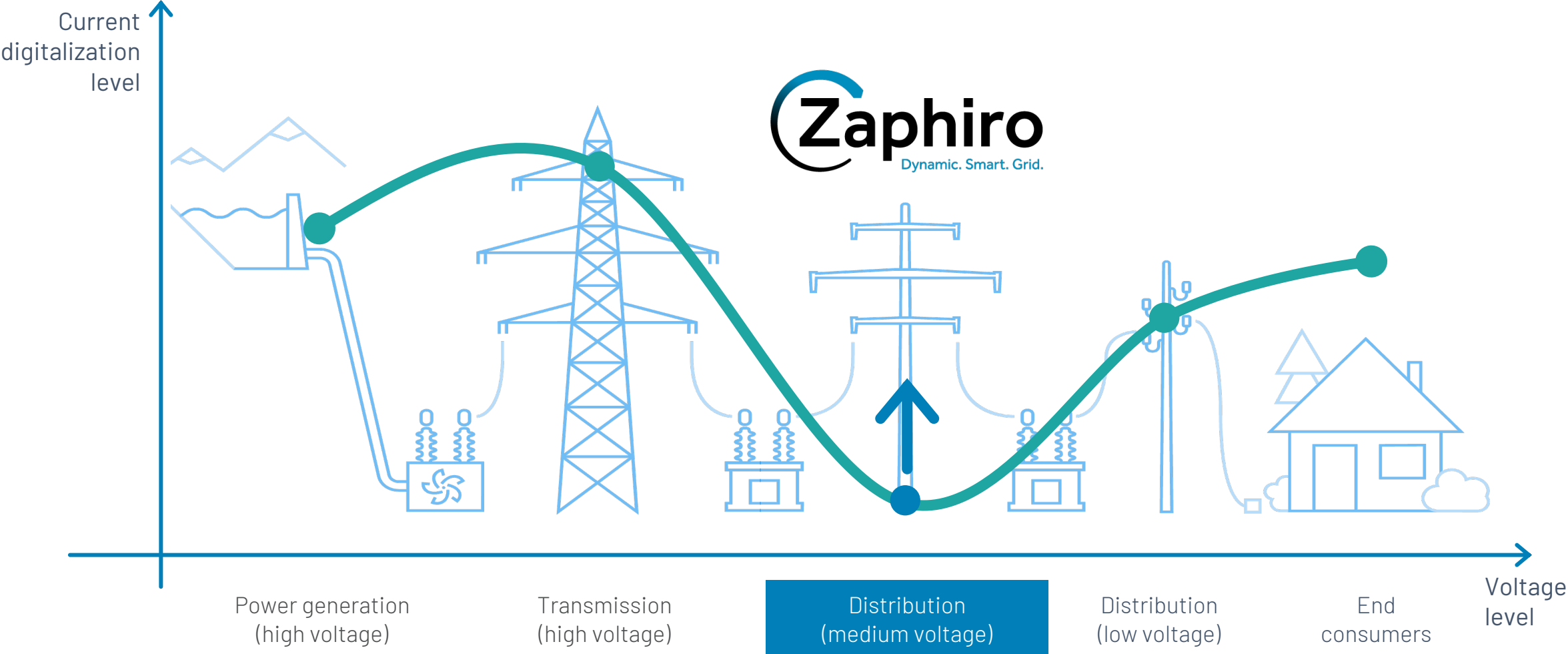


Status-quo: growth of renewable energy (CH goal: +260% by 2035) and EVs threatens grid stability



Zaphiro increases grid capacity by up to 300% for more renewables & EVs via control of energy flows

Our solution helps utilities digitalize medium-voltage distribution grids



SynchroGuard—Innovative grid monitoring & automation solution based on D-PMUs

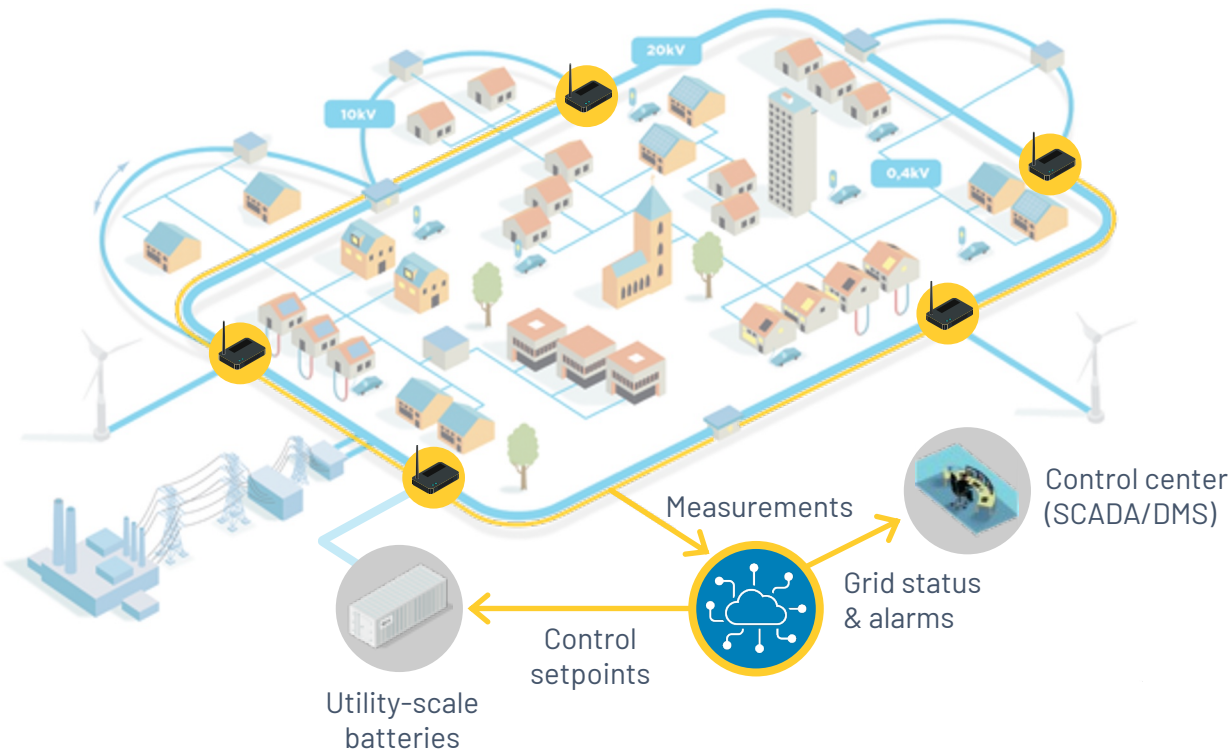


Hardware



Patented D-PMU (Distribution-Phasor Measurement Unit) **device:**

- Time-synchronized + high speed measurements
- Ideal for substation retrofitting



Software



Modular and scalable software platform:

- Full interoperability with 3rd party devices
- Empowered by patented algorithm



Real-time grid monitoring

- Full grid visibility with as little as 10% of measurement coverage



Accurate fault location

- Automated fault location to reduce the duration or even prevent blackouts



DER integration and control

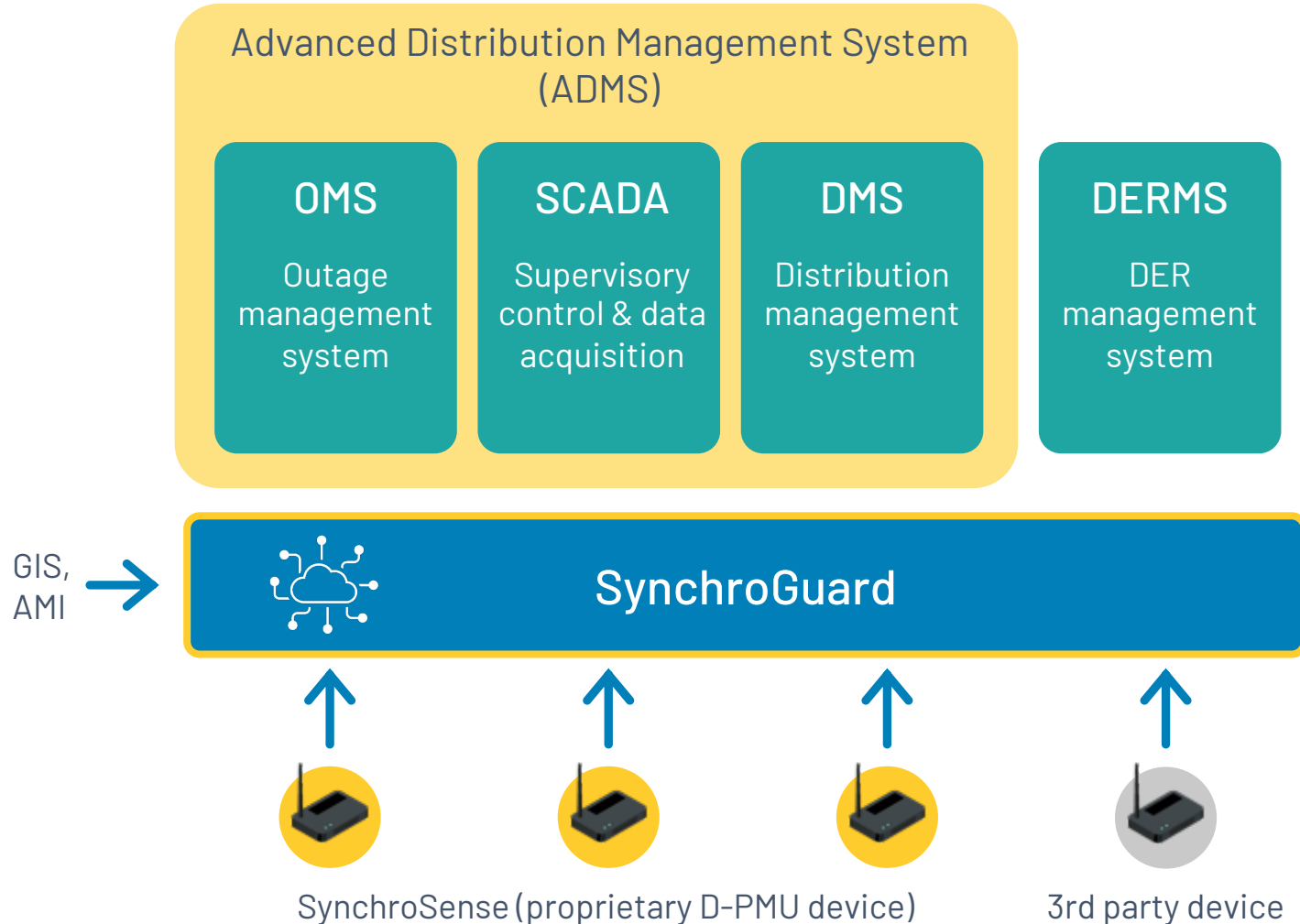
- Automatic control of energy flows to always guarantee grid stability



Offline grid analytics

- Advanced grid analytics for optimal grid planning and predictive maintenance

SynchroGuard, the **single source of truth** for advanced **grid management** applications



- SynchroGuard is a **“grid-intelligent” platform**, a distributed software middleware integrating **advanced grid applications** that expand the capabilities of existing SCADA/DMS system
- SynchroGuard continuously **collects, processes and stores real-time measurements** from our proprietary or 3rd party devices to extract value added data
- SynchroGuard **seamlessly integrates** with existing solutions deployed in utility control centres (e.g., SCADA, DMS, etc.) via **standard APIs** and a **multi-protocol communication gateway** to deliver 24/7 the right information at the right time

Our solution delivers **unique benefits** to grid operators



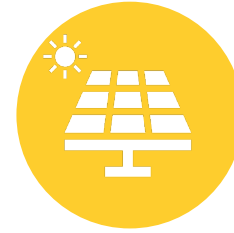
Full grid visibility with 10% nodes monitored

- Full visibility on voltages and current/power flows with as little as 10% measurement coverage
- 200X more data generated in real-time for high-fidelity grid monitoring



Up to 80% reduction of blackout duration

- Accurate location of 4X more faults than competitors in <1 second
- Early prediction of faults to even prevent blackouts and enable predictive maintenance schemes



300% increase in grid capacity

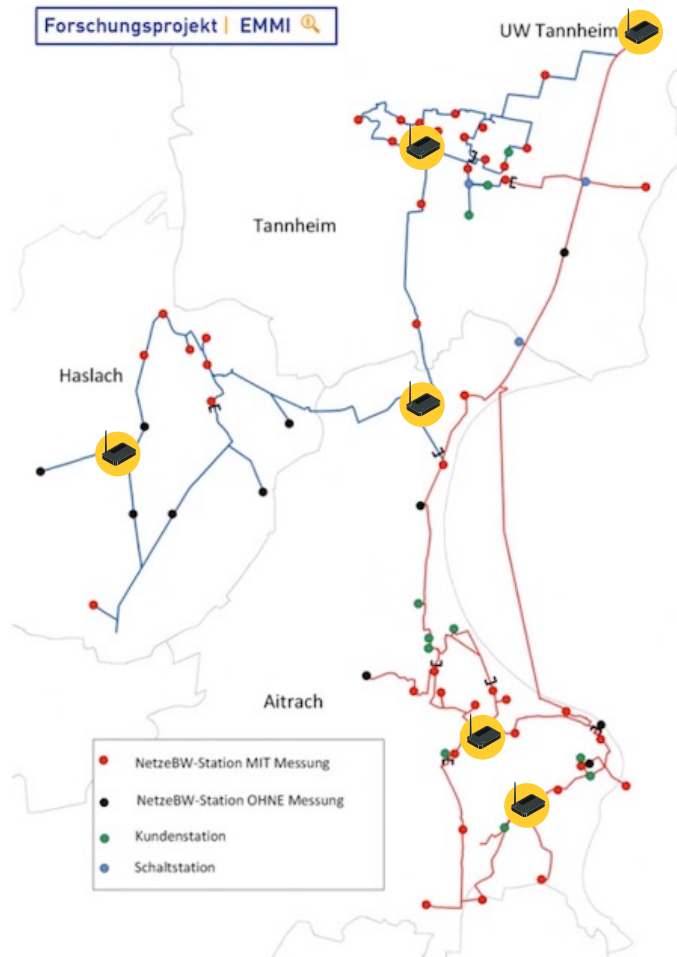
- Increased grid capacity without grid reinforcement to host more renewables and EVs
- Grid-aware control of DERs to always guarantee the respect of grid constraints



75% faster, 90% cheaper rollout

- 2 hours vs 1 day of installation per grid node
- Non-invasive clamp-on current sensors only (no additional voltage measurements required)

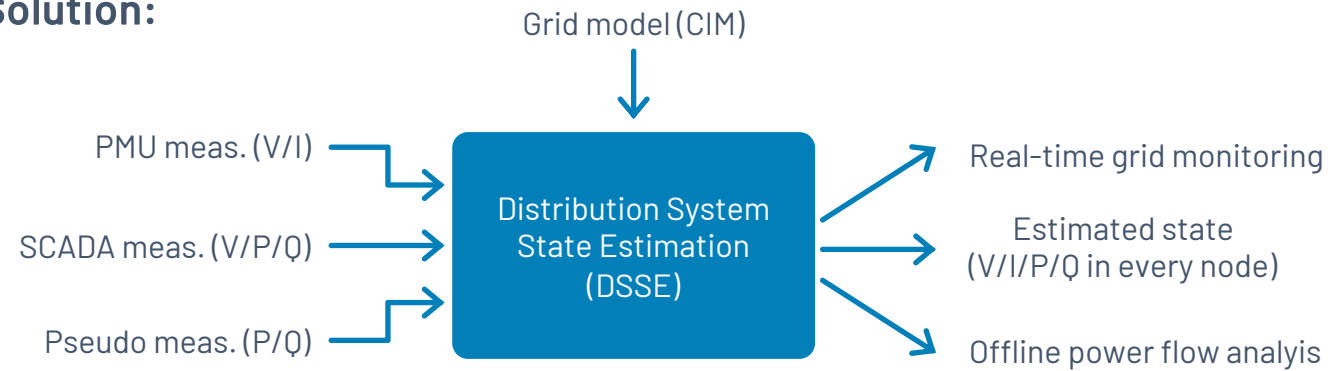
Case study #1: Providing full MV grid visibility in presence of high DER penetration



Problems/Challenges:

- 46% renewable power share in Germany (2020)
- Lack of knowledge of voltage profiles, current/power flows and grid equipment stress in presence of high DER (Distributed Energy Resources) penetration

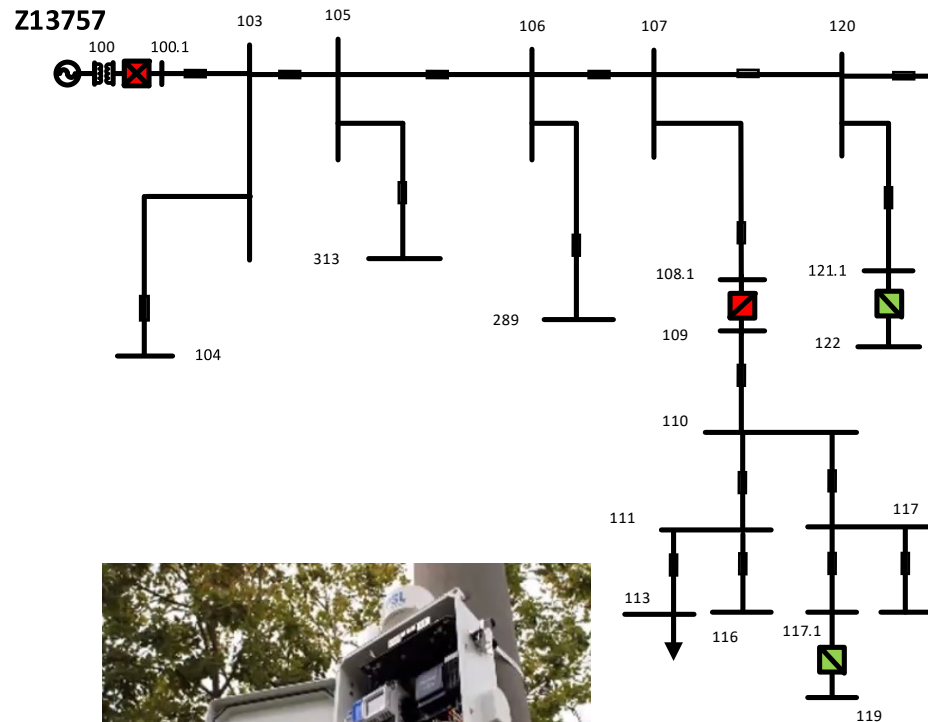
Solution:



Benefits:

- Full grid visibility in real-time with only 10% measurement coverage
- 70% lower integration effort compared to other monitoring solutions

Case study #2: Improving outage management in North America via synchronized measurements



Problems/Challenges:

- The cost of sustained power interruptions in US has approached USD 45 Billion per year

Solution:

- Centralized outage management based on PMUs
 - Synchronized faulted area identification: 100% reliability independently of fault type
 - Enhanced fault distance calculation within faulted area: <50m typical accuracy
 - Location of single/multi-phase faults, high-impedance or intermittent faults with currents as low as few Amperes
- Direct integration with 3rd party PMU devices

Benefits:

- Up to 80% reduction of duration and costs of blackouts via automated fault location and service restoration
- Outage/wildfire prevention via intermittent fault location

Case study #3: A real-scale laboratory for grid applications development and validation*

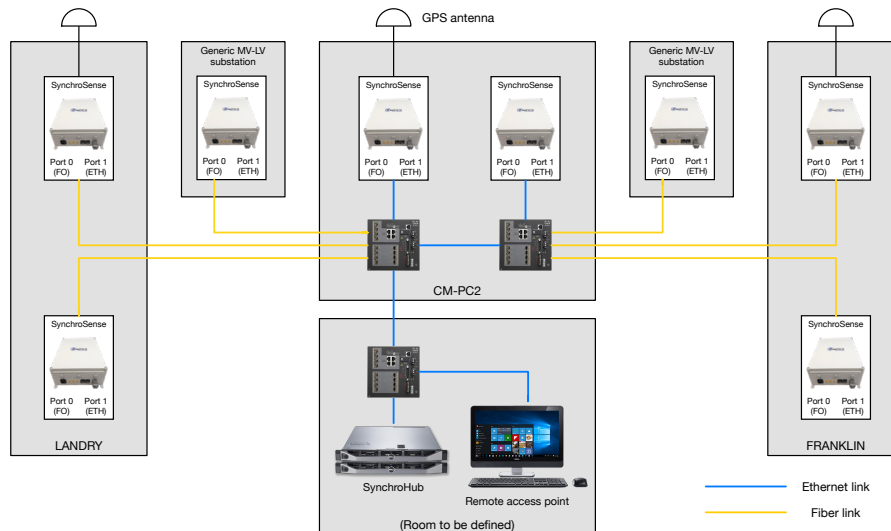


Problems/Challenges:

- Highly congested micro-grid, with increasing number of “special” loads (30 MW) and PV generation (2.5 MW)
- Lack of pervasive PQ monitoring

Solution:

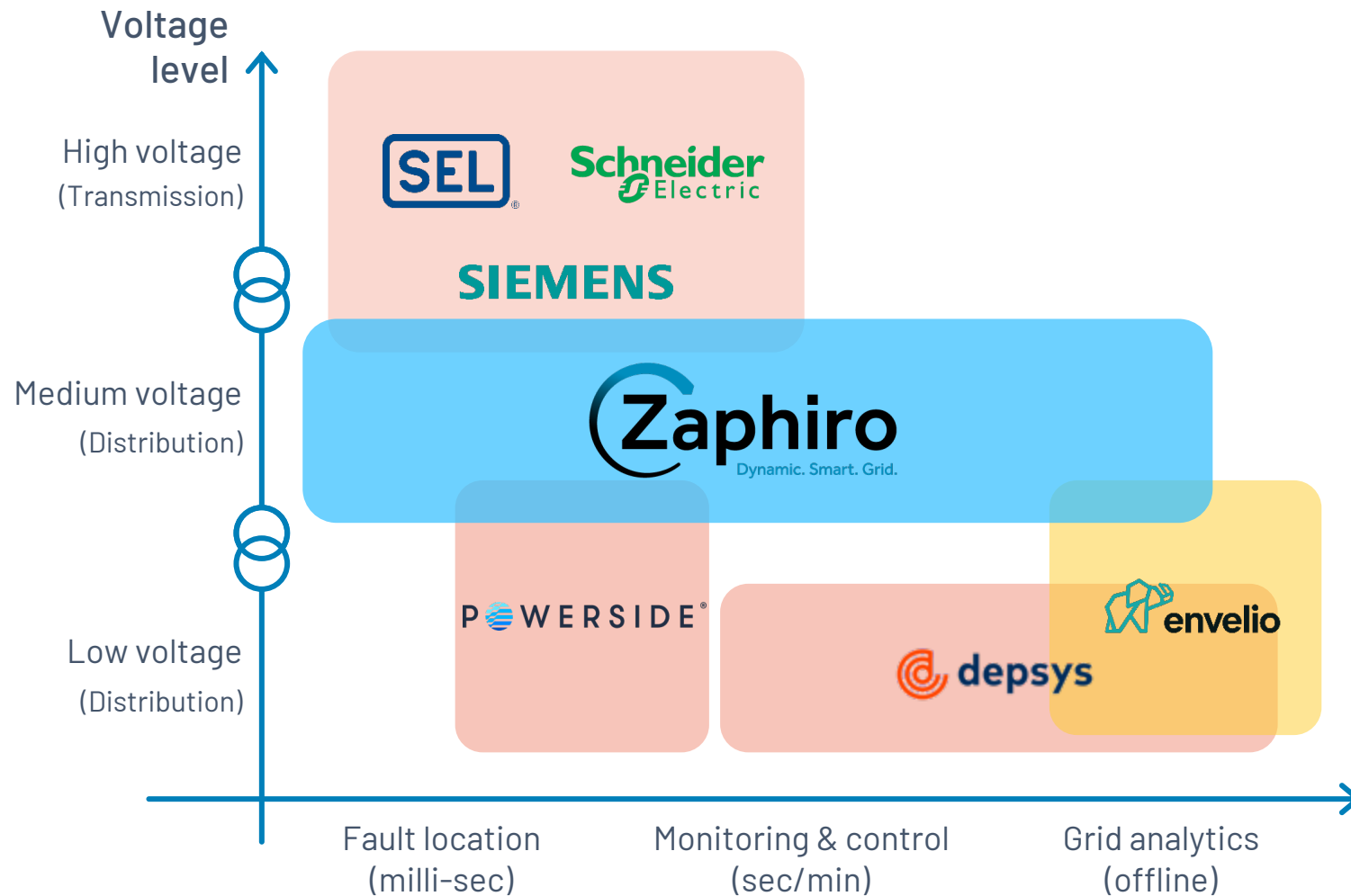
- Pervasive grid monitoring via PMUs (100% coverage)
- Use of existing fiber network for both time-synchronization via PTP and real-time data communication
- Data sharing platform for EPFL researchers



Benefits:

- Up to 85% lower upfront investment compared to conventional grid monitoring solutions
- Unified data platform for research activities of EPFL laboratories in the energy domain

Disrupting the medium-voltage market with a superior technology (both in performance & scalability)



Competitive advantages:

Performance

- Highest quality grid data
- Full grid visibility
- Best-in-class fault location
- Grid-aware control of DERs

Scalability

- All-in-one solution
- Simplest installation
- Modular software architecture
- Seamless 3rd party systems integration

Scalable business model with 3 revenue streams

Revenue streams:



Software

Perpetual license
+ Annual maintenance fee



Services

Commissioning, grid studies, etc.



Hardware

One-off fees for PMU devices

Pilot project

Small-scale project (10 units) to test product and quantify benefits

Large-scale rollout

Example of a 500 units rollout (e.g., entire grid of Lausanne)

Project duration

1 year

5-10 years

Project value

~CHF 130K

~CHF 5.9M

Revenue streams

Software: 20%
Services: 18%
Hardware: 62%

Software: 50%
Services: 5%
Hardware: 45%

Gross margin

58%

75%

Existing customers



Scalable global go-to-market strategy

Target customers:

Distribution
System
Operators

Microgrid
Operators
(unregulated)

Vertically
integrated
utilities

TAM: CHF 35BN+ (2021)*
CAGR: 22%*

*Source: Fortune Business Insights

2021-2025

EU market base expansion

- Direct sales via centrally managed sales team based in the EU (initial focus on DACH and Italy)
- Building technical and commercial partnerships to enter new markets (the US and rest of the EU)
- Mix of inbound and outbound sales: events, webinars and campaigns

Main milestones:

- ✓ 2023: CHF 9M Series-A round
- ✓ 2025: Industrialized product and structured commercial team

2025-2027

EU & US business scaling

- Upselling larger projects to existing customers thanks to new scalable hardware/software product
- Scale-up business in new geographies (main focus on US) through partners, such as hardware manufacturers, SCADA vendors, consulting companies, etc.

Main milestones:

- ✓ 2025: Large-scale rollouts
- ✓ 2027: CHF 30M revenues and 65 staff



Unlock your grid potential!

Contact us:



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www.zaphiro.ch

They support us:



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Swiss Confederation

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