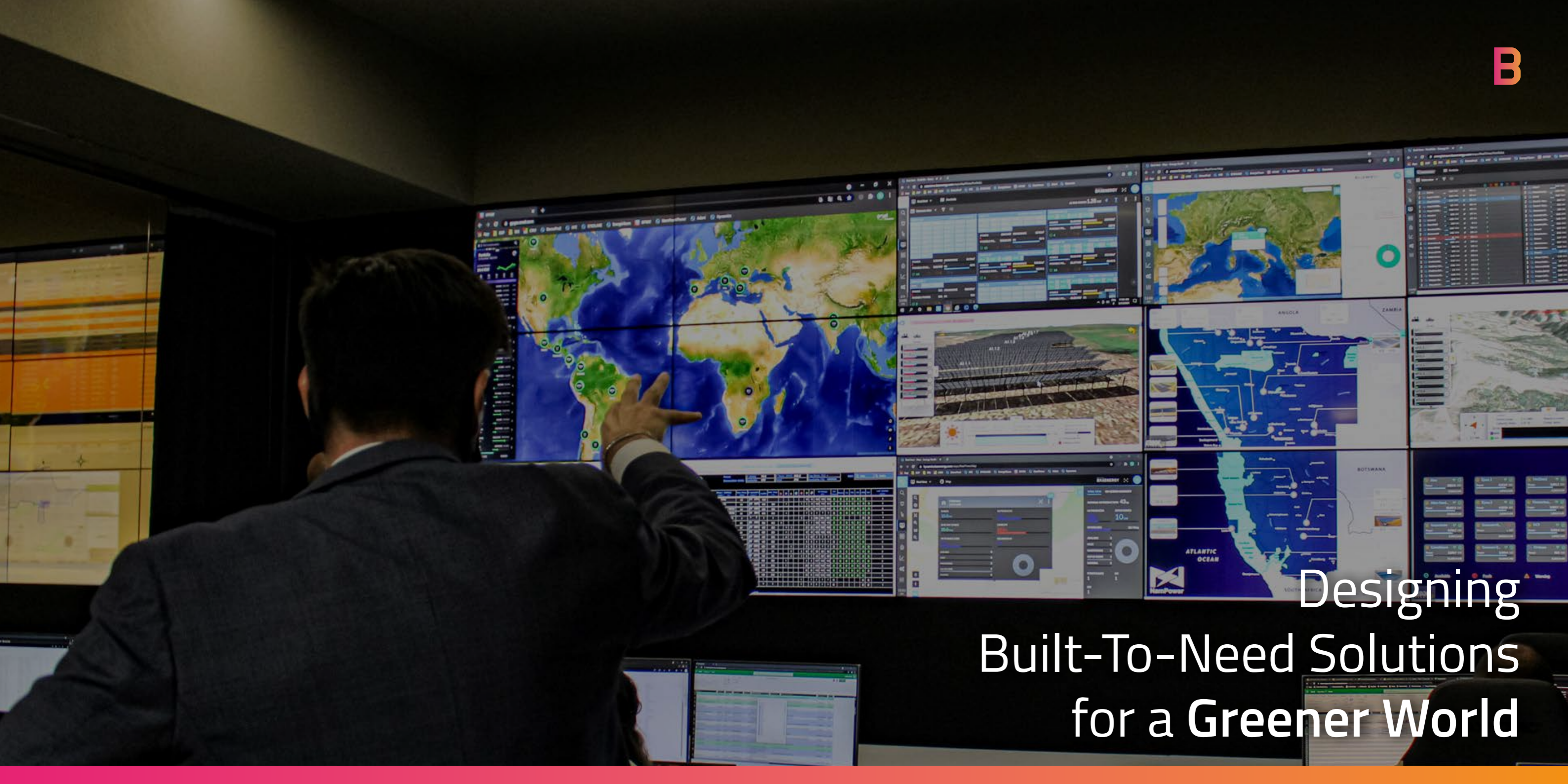**BAXENERGY**

Software Solutions
for Energy and Beyond

Designing
Built-To-Need Solutions
for a **Greener World**

We **Are**

B

We are a group of passionate thinkers with the common goal of contributing to building a greener World by using our creativity, passion for innovation and rock-solid software.

We have built the best Renewable Energy Management System (REMS) in the market utilized by utilities, independent power producers and service providers.

Our team combines extensive domain expertise with the latest cutting-edge technologies to deliver turn-key solutions to visualize, analyze and optimize power plants' operations across multiple technologies (wind, solar, hydro etc…) and manufacturers.

MISSION

We want to make renewable energy easier, more efficient, affordable, and secure, contributing to build a greener World for present and future generations.

VISION

Our vision is a future shaped by renewable energy, where BaxEnergy will play a key role by offering innovative best-in-class software solutions.

Software Solutions for Energy and Beyond

Founded in 2010, BaxEnergy is a multinational company with 80 people operating out of the Free Mind Foundry, an international cooperation hub located in South Italy.

The company's product platform is used by Executives, O&M Managers and Field Technicians and integrates with a variety of external power forecasting, energy trading and price prediction systems.

BaxEnergy's monitoring platform is being extended outside the space of renewable energy to cover monitoring of combined cycle power plants, and hydrogen production facilities.

What We **Do**

BaxEnergy provides software solutions for the visualization, analysis and optimization of cross-technology renewable energy power plants distributed all over the world.

The company combines an extensive domain expertise with the latest intelligent technology to develop Asset Performance Management (APM) systems and Renewable Energy Management Systems (REMS).

More recently, the company has developed technologies and products for energy trading, power forecasting, industrial battery storage management, as well as solutions for green hydrogen and green ammonia production.

B

How do we make it
Possible all over the world

We have been demonstrating a strong attitude for innovation, providing configurable and customizable technology to comply with specific national rules on power regulation, virtual power plants, and energy trading, keeping it always scalable and flexible.

Partnering with BaxEnergy means future-proofing your production, by integrating our open and intelligent technologies to better manage any kind of assets - anytime, anywhere.

With our solutions you will be able to forecast weather condition, power output and market price, balance peaks or drops in energy demand, optimize energy savings and maintenance costs, increase safety, and reduce cyber attacks' risks.
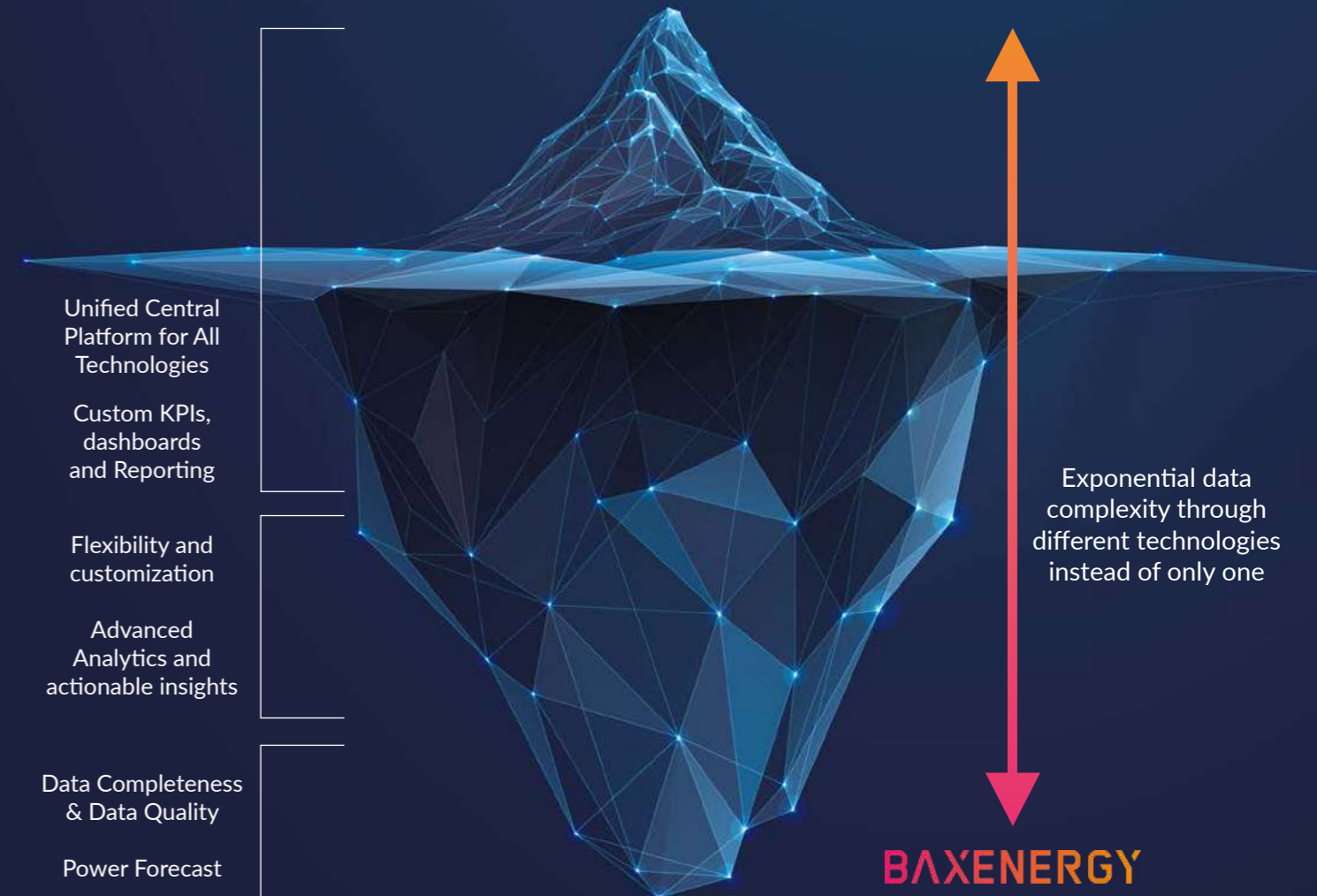
BaxEnergy Unique Value Proposition

Easy integration of data and technologies

Prescriptive Analytics & Actionable Insights

Scalability and Flexibility

Composability and configurability

Standard Reporting

Unified Central Platform for All Technologies

Custom KPIs, dashboards and Reporting

Flexibility and customization

Advanced Analytics and actionable insights

Data Completeness & Data Quality

Power Forecast

Exponential data complexity through different technologies instead of only one

BAXENERGY

Monitoring **Worldwide**

B

In ten years, BaxEnergy has interconnected over **120 GW** of renewable energy

(wind, solar, hydro, geothermal, combined cycle, battery storage, hydrogen),

in more than **40 countries**, monitoring over **50,000** different generation units.
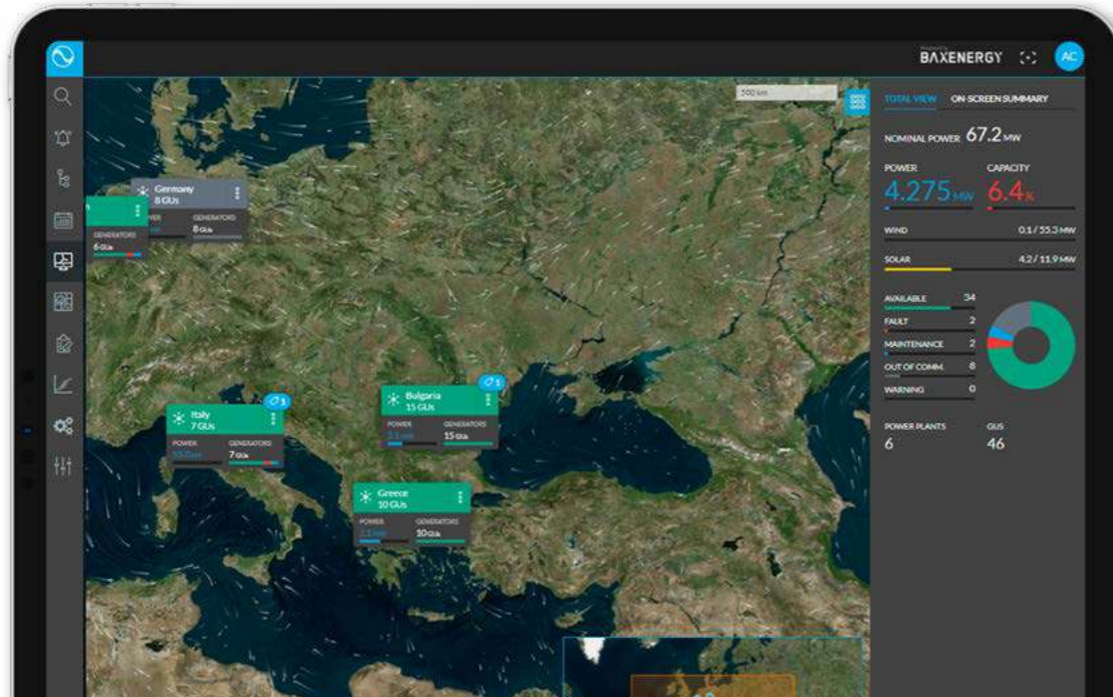
Why **Us**

Save between 1.5% and 4.5% of yearly annual production.

Leverage advanced AI algorithms to gain actionable insights for data-driven decision making.

De-risk investment with proven solutions and key references (120+ Gw since 2010).

Composable turn-key solution: start easy and customize later.

All – inclusive solution: we provide the expertise, the technology and the training you need.

Cyber resilient system by preparing for, responding to cyber threats, anticipating and preventing malicious attacks to critical infrastructures (24X7 ICT infrastructure monitoring & cyber defense services).

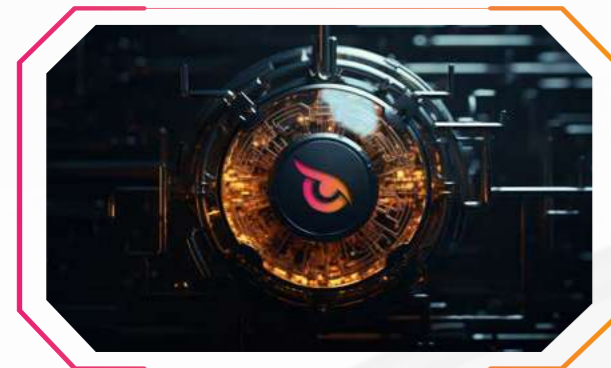Agnostic and independent system: no sharing of data with third parties (such as oems).
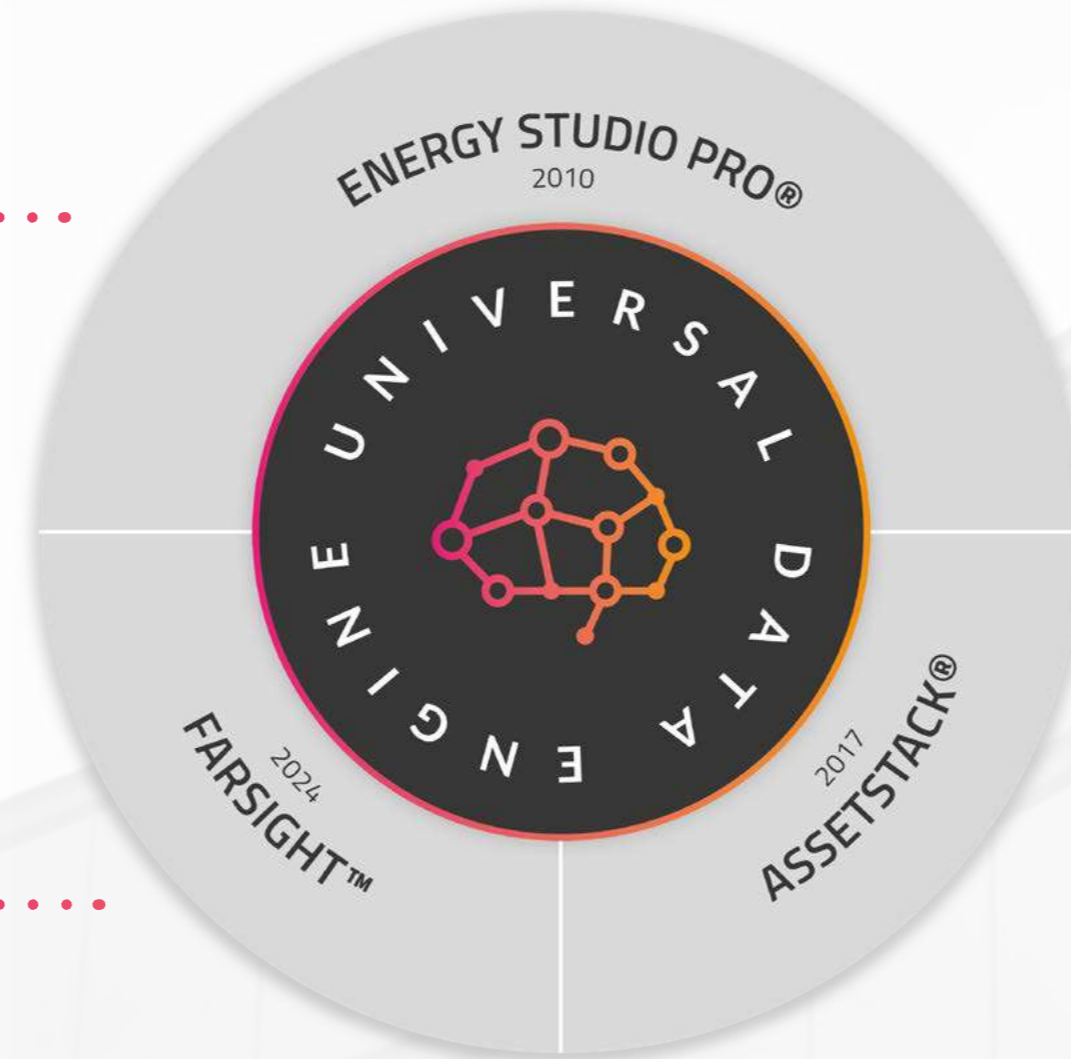
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Expandable **Architecture**

B

ASSET PERFORMANCE MANAGEMENT

AI & ACTIONABLE
INSIGHTS

ENERGY STUDIO PRO®
2010

UNIVERSAL DATA ENGINE

FARSIGHT™
2024

ASSETSTACK®
2017

OPERATIONS &
COLLABORATION PLATFORM

Energy Studio Pro®

One Platform for All Technologies

One platform for full life-cycle management of cross-technology power plants.

Intelligent software platform for the monitoring and remote control of cross-technology and cross-manufacturer renewable energy power plants.

Energy Studio Pro® allows you to get real-time and historical data from all assets, leveraging existing infrastructure and extending OEM capabilities with customized alarm rules, KPIs and reports.

ONE SYSTEM FOR ALL
Connects historical and real-time data across all technologies and manufacturers.

BIG DATA AND IOT READY
Handles large volumes of data from multiple remote sources and unifies them to a common object model.

OPEN & CONFIGURABLE
Highly customizable for the end user (ad hoc KPIs, alarms, reports) and highly interoperable with external systems (BI, AI, ERP) and feeds (weather, maps, protocols).

CLOUD & MOBILE READY
All data synchronized automatically and made available in real time within the dashboard, easily accessible via web browser, tablet or smartphone.

ESP – Platform Overview

B

OPEN

Connects historical and real-time data across all technologies and manufacturers

INTELLIGENT

Ad-hoc KPIs, Reports and Workflows interoperable with external system and data feeds

FLEXIBLE

Higly customizable user interface with Alarms, SCADA and Remote Control

SECURE

24/7 ICT infrastructure Monitoring & Cyber Defense Services

ESP – Platform Overview

B
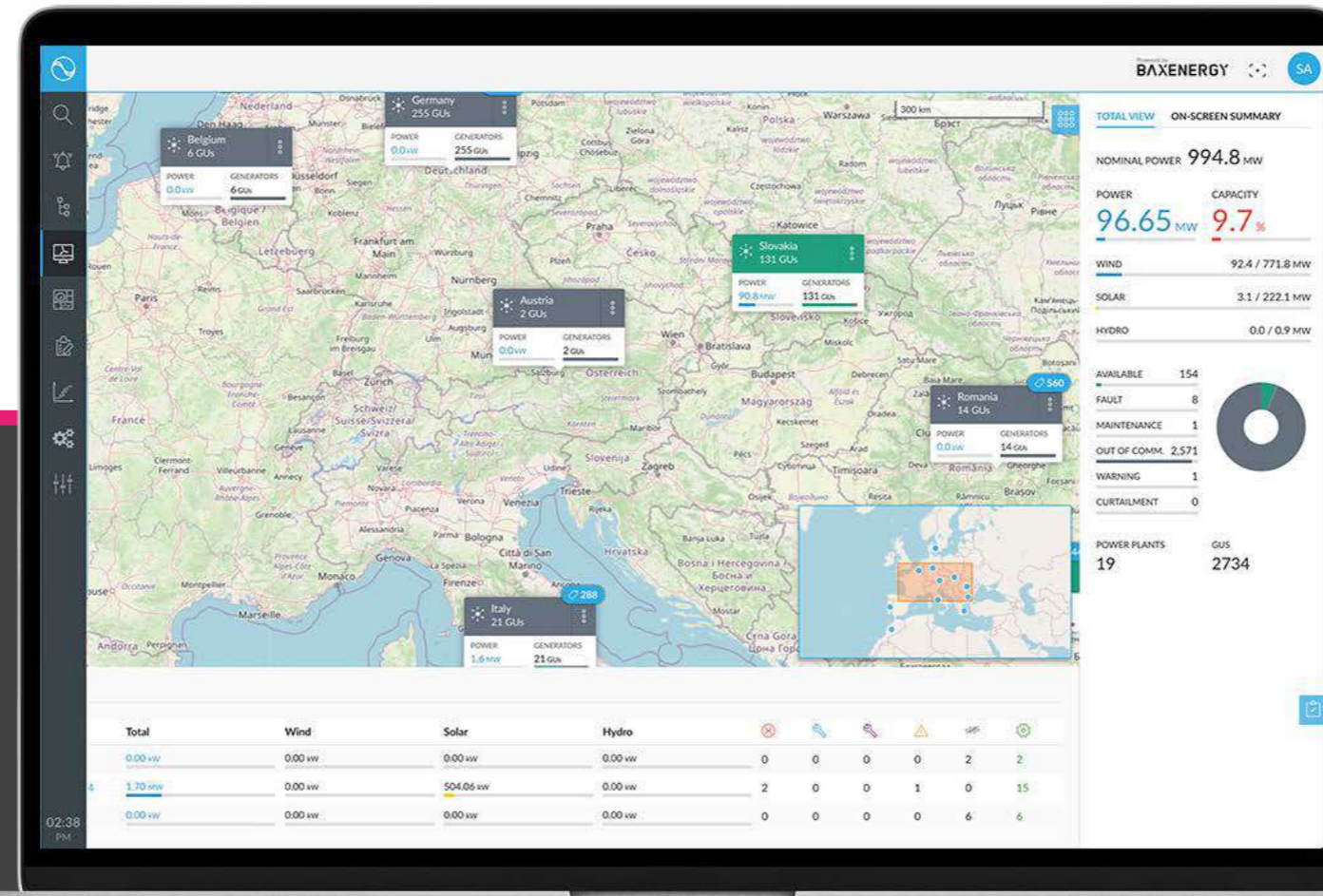
OPTIMIZE

ASSET PERFORMANCE

SECURE

ANALIZE

CUSTOMIZED KPIs

VISUALIZE

ASSET STATUS

Remote Operation Centers

ASSET MANAGEMENT

Work Order Management
Maintenance Scheduling
Access Control
HR Management
Expirations Management
H&S Procedures

Executive Dashboards,
Reporting & KPIs

UNIVERSAL DATA ENGINE

AGGREGATE

COLLECTED DATA
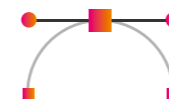
FLEXIBLE

INTELLIGENT

OPEN

CONNECT

ANY DEVICE ANYWHERE

WIND   SOLAR   HYDRO   GEO   COMBINE CYCLE   LIQUID HYDROGEN   BATTERY STORAGE

ESP – Key Benefits

B

One system for all renewable &
conventional technologies, and
for all OEMs

Diagnose production
losses and recapture lost yield

Add more data feeds and connect to
corporate systems via
APIs and SDKs

Collect and access
data for the entire
lifetime of the assets

Be independent from
OEM, EPC contractors
and service providers

Scale up from few hundreds
MW to thousand powerplants

Build customized alarm rules
and extend OEM capabilities

Key ROI measurable
and under control all the time

Get Real-time & Historical
data from all assets leveraging
existing infrastructure

Any data, any device,
any time, any place

Get advice from data
through out-of-the-box and
customizable reports

ESP – Key Features

B

REAL-TIME GIS

WIND SCADA

SOLAR SCADA

POWER CONTROL

CUSTOM ALARMS

ASSET PORTFOLIO VIEW

CUSTOM REPORTS

AVAILABILITY CALCULATION

EFFICIENCY CALCULATION

ON PREMISE AND ON CLOUD

WORKFLOW MANAGEMENT

ENERGY TRADING
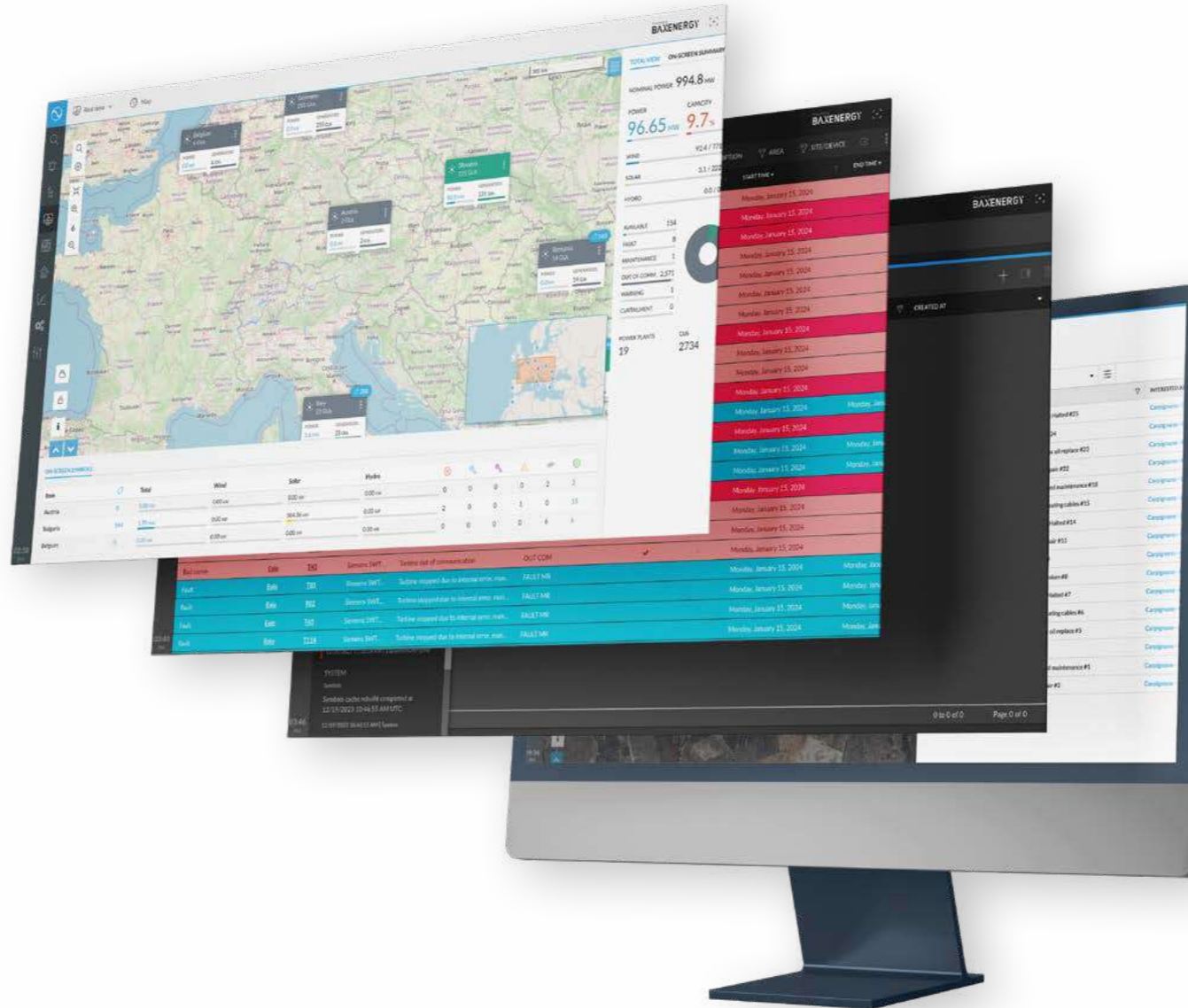
HYDRO SCADA

SUBSTATION SCADA

REAL TIME AND HISTORICAL DATA

CUSTOM DASHBOARDS

WIND ANALYSIS

INTEGRATION WITH THIRD PARTY SYSTEMS

POWER FORECAST

PREDICTIVE ANALYSIS

ASSETSTACK®
Your Company's Memory

Take care of your assets and they will reward you
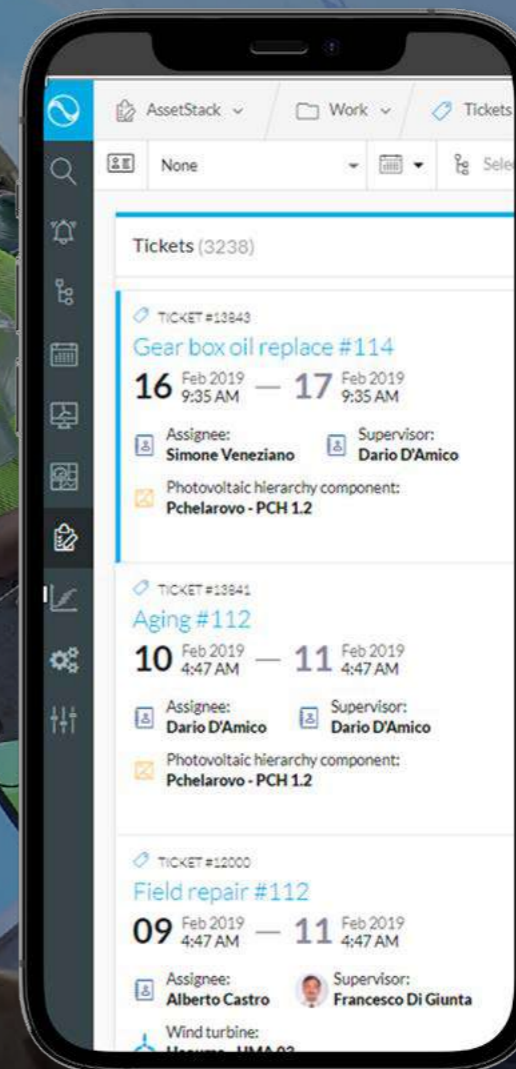
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Enterprise platform for the management of assets on the move

AssetStack® is the most complete cloud-based platform in the market that enables easy handling and storage of all power plants' lifecycle information, operations and activities in one unique place.

ASSETSTACK® - Key Benefit

B

CENTRALIZE ALL YOUR DIGITAL DATA IN ONE PLACE

Store and handle all your assets data, documentation, work orders and contracts in one platform.

BUILD COMPANY-WIDE KNOWLEDGE BASE

Create a single repository of all policies and procedures operated within the company.

ASSETSTACK® - Key Features

B

EXPIRATIONS MANAGEMENT
Manage warranties' expirations and meet on time legal duties and expiry dates

CONTRACTS & OBLIGATIONS
Manage on time contracts, supplier agreements, legal duties and deadlines

DATA REPOSITORY
Easily access, manage, and secure all crucial information in one place.

WAREHOUSE MANAGEMENT
Keep track of warehouse stocks and plan new supplies' orders based on recurring maintenance requirements

FARSIGHT

Predictive Platform for
Renewable Energy Management Systems

Farsight™ harnesses the power of AI and advanced analytics algorithms to generate actionable insights that help asset managers, utilities, IPPs and investment funds to accurately predict and measure production losses, quantifying their financial impact.

In the ever-evolving landscape of renewable energy, where progress isn't just a goal but a mandate, Farsight™ emerges as the transformative force that reshapes how asset managers, utilities, IPPs, and investment funds navigate the complexities of their operations.

That's Farsight™ in action. Real-time insights into asset health, proactive issue resolution, and strategic decision-making are the building blocks of this visionary software. Stay ahead, stay agile, and let Farsight™ be your guiding light.

Key Capabilities
How does it work?

B

Quantify production losses

Get a precise financial assessment of historical, present, and future losses associated with identified issues.

AI & Actionable Insights

Use the power of AI to get actionable insights on how to achieve unparalleled portfolio's performance and secure long-term profitability.

Stay alert and don't miss a bit

Gain quality data on assets' health to avoid expensive downtimes and perform a predictive maintenance.

Optimize your portfolio

Take actions at every level of the portfolio to optimize operations and reduce costs.

Unleash hidden revenue streams

Uncover untapped potential within your assets and explore new revenue streams with the insights generated by the platform.
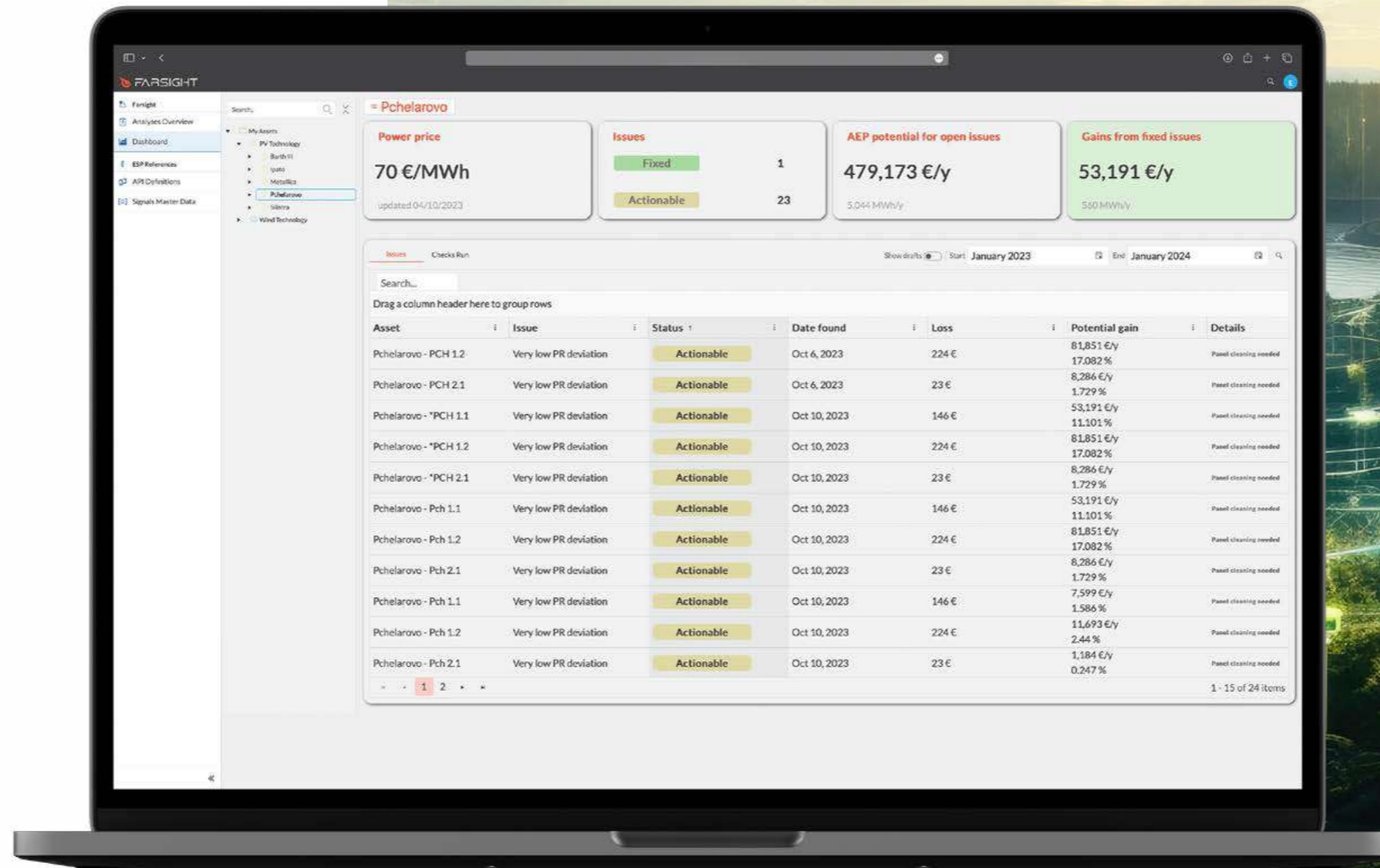
Monitor critical KPIs

Elevate your understanding of assets' data and drive strategic decisions for unparalleled efficiency.

Strategically prioritize actions

Transform system underperformance and component health insights into a roadmap for success.

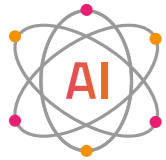## Enhance O&M cost-effectiveness

Optimize every maintenance effort and reduce costs without compromising on performance.

Fortify asset performance and health

Ensure a sustained, optimal performance curve and mitigate risks associated with component health.

Key **Features & Benefits**

Our **Advanced Analyses**

B

60+ AI ANALYSES

Use more than 60 predictive algorithms to get advanced analytics on your assets' status.

CRITICAL PROBLEMS IDENTIFICATION

Discover and monitor anomalies, preventing potentially severe assets' failures.

CUSTOM ALGORITHMS

Choose and activate all features you need over time thanks to an easy-to-integrate technology.
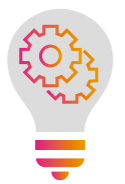
COMPOSABLE ARCHITECTURE

Create plug-and-play composable capabilities and reduce complexity.

STOP LOSING MONEY

Say goodbye to financial losses and embrace a future where every choice helps improve asset performance.

TAKE INSIGHT-DRIVEN DECISIONS

Utilize advanced analytics to focus on important problem-solving instead of manual operations.

OPTIMIZE OPERATIONAL WORKFLOWS

Strategically prioritizes actions based on the severity levels of detected issues.

INCREASE ROI

Maximize your gains by optimizing assets' performance throughout their lifecycle.

Performance Ratio comparison
String underperforming
Yaw Offset error
Power Curve - Performance Shortfall
Performance Shortfall (power curve calcolata)
Power Curve - Degradation
Power Curve - Outliers
Data Quality Index
Power Curve - Energy Loss
Operational discrepancy - Production
Operational discrepancy - Production
Operational discrepancy - PR
Inverter efficiency
Clipping Loss
Nominal Plant capacity analysis
Temperature gear box oil
Temperature Generator Drive End bearing
Temperature Generator Not Drive End bearing
Temperature Generator NDE-DE bearing
Temperature Generator Phase Winding
Energy Loss due to Fault

Energy Loss due to Preventive Maintenance
Energy Loss due to Corrective Maintenance
Energy Loss due to Anemometer fault
Energy Loss due to Rotor fault
Energy Loss due to Pitch fault
Energy Loss due to Yaw System fault
Energy Loss due to GearBox fault
Energy Loss due to Generator fault
Energy Loss due to Converter fault
Energy Loss due to Transformer fault
Energy Loss due to Grid connection fault
Energy Loss due to MainShaft fault
Energy Loss due to MainBearing fault
Energy Loss due to Cooling system fault
Energy Loss due to Hydraulic system fault
Energy Loss due to vibration
Energy Loss due to Icing
Energy Loss due to TSO grid failure
Energy Loss due to Curtailment
PV fuse broken
and more soon...

Be Part of a Bigger
Sustainability Story

BaxEnergy Italia S.r.l.
Acireale (CT) – Italy
Via Sclafani 40\B – 95024
(+39) 328 839 3977
info@baxenergy.com

BAXENERGY