

nerve

TTTECH_



ZYNE & NERVE

Providing a secure, real-time platform
foundation for the energy ecosystem

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TTTECH ZYNE IS A JOINT VENTURE OF TTTECH AND VERBUND, AUSTRIA'S LEADING ELECTRICITY COMPANY. TTTECH ZYNE OFFERS, TOGETHER WITH NERVE, A SOLUTION FOR THE ENERGY ECOSYSTEM THAT BRIDGES THE GAP BETWEEN ENERGY SUPPLIERS AND INDUSTRIAL CUSTOMERS BY SECURELY CONNECTING ENERGY ASSETS AND SYSTEMS IN REAL TIME.

CHALLENGE

ZYNE is a solution for commercial and industrial companies and energy suppliers. It connects all relevant energy assets, systems, and partners securely, scalably, and in real time. In order to turn energy data and flexibility at customers' sites into a market-ready, secure, real-time capable asset, TTTECH Zyne needed a robust and future-proof platform foundation for its solution that provides:

- Highest cybersecurity standards and compliance with the Cyber Resilience Act (CRA) and NIS2, for use cases in critical (energy) infrastructure.
- An easy to use, scalable, and open (vendor-agnostic) platform architecture.
- Docker Container hosting and application lifecycle management, with the option for rollout, updates, and patches for a wide range of Dockers from the cloud.
- Flexible application definition after hardware rollout so that new applications can be installed on the existing hardware even after several years in the field.
- A platform that runs on standard industrial hardware and accommodates applications from multiple vendors, including legacy OT systems at industrial sites.
- Seamless connectivity between assets, commercial and industrial companies, energy suppliers, and the cloud, with the option to operate fully offline when site conditions demand it.
- Real-time capability for accurate, timely data exchange between field assets and cloud systems as prerequisite for active flexibility control.

SOLUTION

TTTECH Zyne chose Nerve, TTTECH Industrial's modular, IEC 62443-4-2 certified IIoT/edge computing platform, as the secure foundation for ZYNE. ZYNE consists of three core components:

ONSITE_

for local data acquisition and control at the customer's site. The required programs and applications are hosted on and orchestrated through Nerve.

INDUSTRIAL CLOUD_

for cross-site analysis and optimization at commercial and industrial companies

SUPPLIER CLOUD_

for the secure connection between companies and their energy suppliers

As Nerve runs on most industrial PCs, ZYNE can be rolled out consistently across highly heterogeneous customer environments - from a single commercial site to large, multi-site industrial portfolios - without compromising on a unified software experience. Nerve's architecture allows ZYNE to run its own data and control applications alongside customer-specific or legacy workloads in securely isolated containers, so existing automation and OT systems can remain in place while new market-facing services are layered on top.

Thanks to centralized logging, open interfaces (APIs), and the ability to operate either fully offline or connected to on-premises and third-party clouds, ZYNE has the flexibility to meet a wide range of customer architectures and regulatory contexts. ZYNE can thus accommodate a variety of use cases, from energy suppliers integrating flexibility into their portfolios, to commercial and industrial companies optimizing energy usage across sites, to EPC (engineering, procurement, and construction) contractors deploying turnkey solutions for industrial clients.

KEY BENEFITS

Nerve enables real-time data access and processing at the edge, secure software deployment, cloud-managed applications lifecycle management, and centralized management of industrial machines and provides a cybersecure basis for ZYNE.

The energy sector as critical infrastructure requires high safety and security standards. Nerve is certified according to the industrial cybersecurity standard IEC 62443-4-2. It is developed to and complies with the requirements of NIS2 and the CRA for critical infrastructure applications. Nerve provides full connectivity to on-prem or third-party clouds, but can also operate fully offline or locally, if required by customer or application.

Nerve is an open platform that allows companies to separately run and manage applications from different vendors, and to securely encapsulate legacy applications – a decisive enabler for brownfield industrial deployments.

Thanks to its open architecture, Nerve can scale flexibly, from individual edge devices to large, distributed deployments. It can run on any industrial PC, which ensures flexible deployment scenarios for a wide range of environments and use cases.

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We chose Nerve because it has been used in industrial environments for many years and meets stringent cybersecurity standards. Nerve is an ideal foundation for ZYNE because it combines real-time capabilities with openness and security-by-design. This allows us to offer our customers a solution that enables them to implement real-time insights, forecasts, secure over-the-air updates, and flexibility to unlock new potential and revenues from energy data.

MAXIMILIAN IRLBECK

Director Sales & Marketing, TTTECH Zyne



ABOUT TTTECH INDUSTRIAL

TTTECH Industrial combines transformative technologies with more than 20 years of hands-on experience in critical real-time systems, software, hardware, and safety engineering and supports machine builders and OEMs in making machines that are software-enabled, networkable, and updatable.

TTTECH Industrial serves the industrial and energy markets with its IIoT platform Nerve and customized safe and secure software and hardware engineering solutions. Nerve is a cloud-managed edge computing platform that enables real-time data access, secure software deployment, and centralized management of industrial machines. With its IEC 62443-4-2 certification, Nerve meets modern cybersecurity requirements and supports compliance with NIS2 and the Cyber Resilience Act (CRA).

TTTECH Industrial is part of TTTECH Group, a global group of high-tech companies with more than 1,100 employees and headquarters in Vienna, Austria.

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