sixsq.
An Ekinops Company

Energy

Nuvla.io

Industry Overview

The energy sector is witnessing a major shift from fossil fuels to renewable sources of energy. These new sources, however, bring challenges in terms of the monitoring and managing of intermittent energy flows, as well as understanding user behaviour.

Effective monitoring of renewable energy output and the optimisation of grid management is crucial for the energy sector's transition. While addressing this shift, grid operators, utilities, energy providers, and point of consumption managers all face real time monitoring and analysis challenges that can be supported by edge computing.

Nuvla.io is SixSq's ecosystem that revolutionises the implementation of edge computing for energy. It is secure, easy-to-use, application-centric, hardware-agnostic, cloud-neutral and container-native.

Edge Computing in Energy

The importance of real time monitoring:

Edge computing is instrumental in improving real-time monitoring for the energy sector. By processing data closer to the source, it reduces latency and enables quicker decision-making.

This decentralised approach enhances the efficiency of power grids, building energy systems, EV charging stations, and more, providing faster insights for grid operators and consumption managers.

Edge computing plays a pivotal role in optimising the energy ecosystem by facilitating faster responses to dynamic conditions.

Managing power fluctuations:

SixSq with Nuvla.io supports the energy sector by offering a proactive solution to managing intermittent power production and fluctuations in energy flows.

By processing data locally, edge computing enables quicker decision-making, especially in situations where excess power on the grid needs to be addressed promptly.

Additionally, it supports entities in their efforts to smooth out power consumption peaks, providing a decentralised solution that encourages efficient and sustainable domestic power consumption practices.

Nuvla.io in Energy

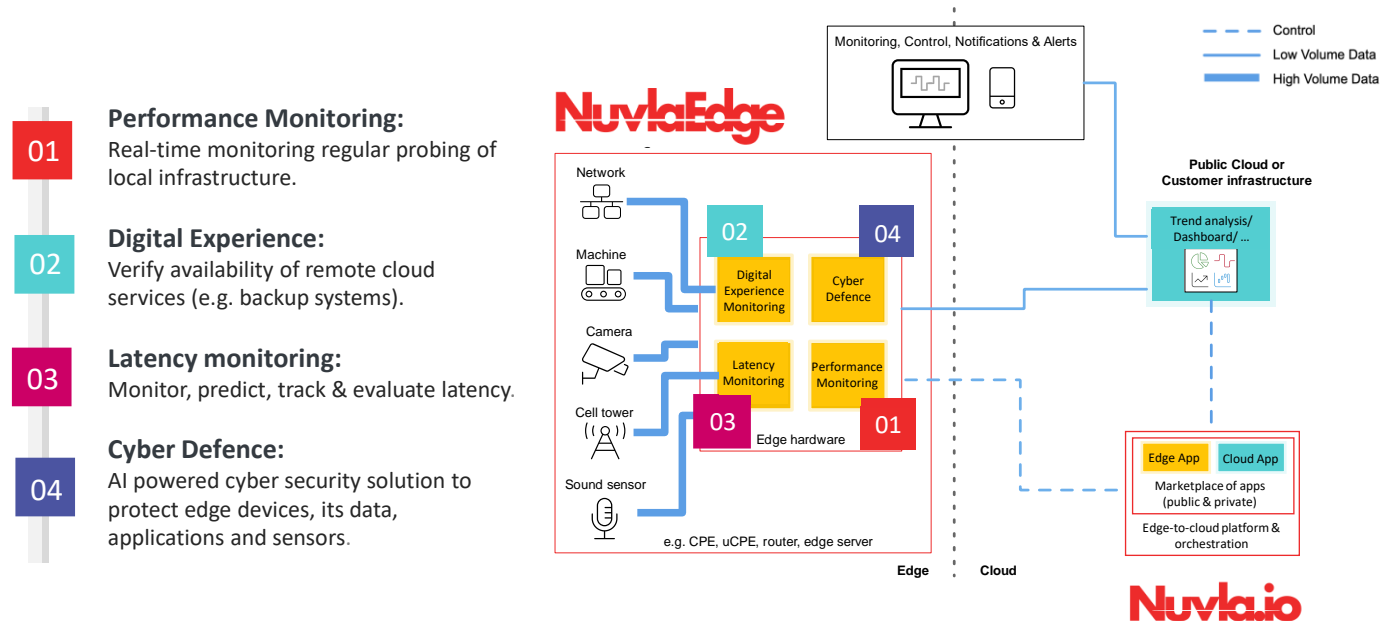The implementation of edge computing through Nuvla.io can help you to:

Monitor
Monitor real-time performance

Detect
Enable fluctuation detection and alerts

Statistics
Generate usage and production statistics

Efficiency
Improve energy efficiency

Cybersecurity
Protect your digital ecosystem

Video
Gather video analytics for safety and efficiency

Buildings
Analyse occupancy and variations

Analyse
Provide real time analysis on data

and more...

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How can Nuvla.io support Energy

Edge computing practices normally require technical knowledge, training, and specialised personnel able to understand and run a complex, digital ecosystem. Nuvla.io takes this complexity away, keeping you focused on your business.
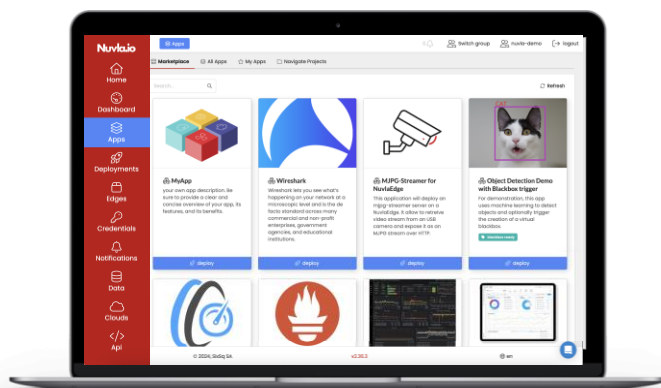
Nuvla.io provides a diversified suite of applications in a unique edge-first marketplace to enable your business at the edge. We operate to avoid vendor lock-ins and provide a simple interface and enjoyable user experience which allows anyone to operate otherwise complex edge computing systems.

01 Performance Monitoring:
Real-time monitoring regular probing of local infrastructure.

02 Digital Experience:
Verify availability of remote cloud services (e.g. backup systems).

03 Latency monitoring:
Monitor, predict, track & evaluate latency.

04 Cyber Defence:
AI powered cyber security solution to protect edge devices, its data, applications and sensors.

NuvlaEdge is SixSq's software that enables hardware to become smart edge devices, securely and remotely managed from Nuvla.io. NuvlaEdge runs on most Linux-based operating systems with support for Docker and Kubernetes.

A Bouquet of Solutions

✅ **Cutting edge computer vision, analytics, reporting, dashboarding and insights:** You get a modular solution, with no lock-in, taking advantage of an open eco-system.

✅ **Reuse existing hardware to reduce costs and carbon emissions:** You can deploy on a wide range of existing and new hardware, including cameras and sensors.

✅ **Acceptable by workers and unions yet improving health and safety:** You get a solution designed to be respectful of the privacy sphere of workers and the public.

✅ **Easily scales on wide range of sites:** You get an open, low network dependent solution, based on standards.

Nuvla.io offers a variety of existing ready-to-use apps that serve your specific needs. To learn more, visit our catalogue.

You have total freedom to combine other apps, create your own, or register applications of your choice to the Nuvla.io ecosystem. This gives you huge flexibility to enable you to reach your energy goals.

Unleash the power of Edge Computing with Nuvla.io

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