

www.n3uron.com

THE COMMUNICATION PLATFORM FOR THE INDUSTRIAL INTERNET OF THINGS



N3uron

Industrial IoT connectivity solutions



INDUSTRIAL DATA MOVING TO THE CLOUD

The rapid evolution of IoT and connectivity creates new opportunities for industries to increase performance and reduce operational costs.

■ The ability to collect real-time data from remote locations, analyze it, and generate meaningful information is a critical capability for cost-effective operations and asset management.

■ Communication protocols traditionally used in industrial sectors are designed for real-time,

deterministic and safe delivery of IO sensor data locally, but centralizing this data in a new **Cloud and IoT Era** requires new tools and approaches, especially when considering security and reliability.

■ **N3uron** is a communication platform that bridges the gap between the

industrial plant floor and Cloud-oriented applications. **N3uron** leverages the technologies and best practices from the **Operations Technology (OT)** and **Information Technology (IT)** worlds to provide a turnkey solution for the **Industrial Internet of Things (IIoT)**.

STANDARD COMMUNICATION PROTOCOLS SUPPORTED:



SECURITY

Industrial communication protocols have two main security issues:

Encryption most industrial protocols lack encryption, so communications through the network can be intercepted, and even tampered with.

Authentication most industrial protocols do not include any type of user authentication, so there is no control over who, what and how the data is accessed.

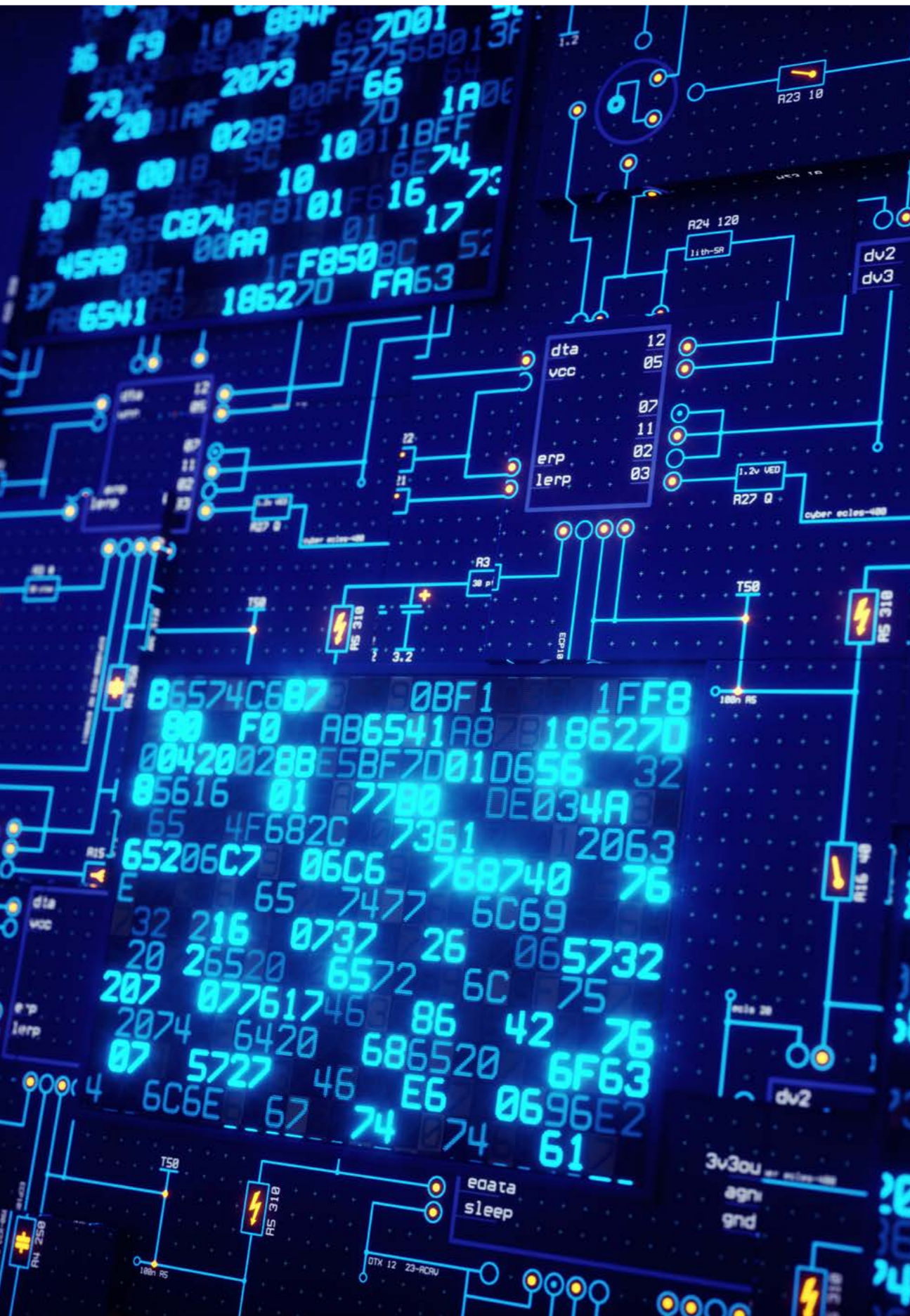
The traditional approach to these issues is to isolate remote networks from any external networks, sometimes using virtual private networks (VPNs) which can be complex and expensive to maintain. And this approach is not valid in the new IIoT paradigm where the entire organization needs access to plant data in real-time while ensuring no breaches in the security.

N3uron incorporates built-in standard security mechanisms for Industrial Cybersecurity, including:

1 DATA ENCRYPTION OF ALL COMMUNICATIONS USING SSL CRYPTOGRAPHIC PROTOCOLS

2 FIREWALL FRIENDLY SINCE NO OPEN PORTS ARE REQUIRED AT REMOTE FACILITIES

3 AUTHENTICATION BASED ON DIGITAL CERTIFICATES



RELIABILITY

Industrial environments require the highest standards of reliability, and for industrial communications, reliability depends largely on network availability - if the network fails, real-time data is lost during the outage. In the context of **Cloud** and **IIoT**, data must be sent through unreliable public networks where availability is not guaranteed.

N3uron ensures data integrity even in the worst scenarios - low bandwidth, high latency, and unstable networks - thanks to the following mechanisms:

1 STORE & FORWARD FOR AUTOMATIC REAL TIME AND HISTORICAL DATA RECOVERY AFTER A COMMUNICATION OUTAGE

2 COMPRESSION ALGORITHMS TO ENSURE LOW BANDWIDTH CONSUMPTION



MULTIPLE INTERFACES TO DELIVER THE DATA:

INTEGRATION

On the plant side, **N3uron** communicates directly to existing local monitoring systems and/or devices using standard protocols. On the data center side, it resides on cloud computing platforms like **AWS** and **Azure**, and even onpremises servers. Data is distributed to end-use applications via standard protocols, an open API, and other standard mechanisms, including database insertion or file generation.

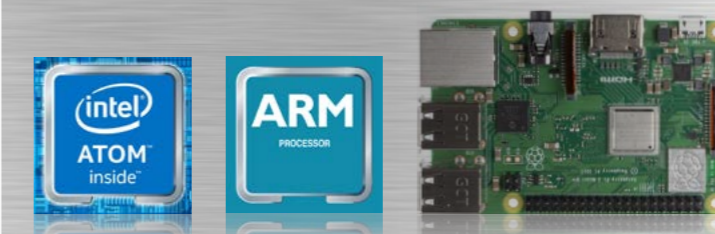
The entire configuration, commissioning and maintenance of **N3uron** platform can be done remotely.

OPERATING SYSTEM:



REMOTE DATA COLLECTION REQUIREMENTS

Depending on the size of the plant it can run on really small devices with ARM or Intel Atom® processor with 500MB of RAM or big mainframes.





ABOUT N3URON

N3uron is based on extensive experience integrating data from remote industrial environments. N3uron is deployed in plants all over the world today, ensuring reliable and secure data delivery and creating the foundations of Industry 4.0.

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KEY CAPABILITIES

- DATA COLLECTION FROM REMOTE PLANTS TO A CENTRAL SERVER
- ONSITE DATA AGGREGATION
- DERIVED DATA CALCULATION ON THE FLY
- WEB ACCESS TO THE DATA

2

KEY BENEFITS

- STORE&FORWARD MECHANISM
- DATA ENCRYPTION
- AUTHENTICATION BASED ON DIGITAL CERTIFICATES
- NO OPEN PORTS REQUIRED ON THE REMOTE LOCATION
- MODULAR ARCHITECTURE
- MULTIPLATFORM
- OBJECT ORIENTED CONFIGURATION

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