Factry Historian

Replace hindsight with insight

▶ **Collect data in a single IIoT platform**

▶ **Unlock actionable production insights**

▶ **Radically improve factory operations**

Factry Historian

Collect, store and visualise any type of industrial data through a user-friendly interface. Unlock new production insights with confidence, speed and agility.

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What are your
data challenges?

▶ The **Industrial Internet of Things (IIoT)** is transforming the **production industry** by enabling companies to make their processes **more efficient, agile, and profitable**.

▶ At the same time, many of them are still **struggling to eliminate manual data collection**, or to **capitalise on the production data they have gathered for years**.

▶ Why? Production data is often **scattered over different systems, databases and spreadsheets or paper**, making process analysis a highly complex challenge.

Can you check any of these boxes?

☐ Paper and spreadsheets are preventing you from getting accurate data insights quickly, automating processes, and meeting new demands

☐ Production data is only accessible to a handful of technically oriented employees, resulting in poor data visibility throughout departments

☐ In case of e.g. a client question concerning a past production batch, you lack the historical data to go back in time and find the right answers

☐ You lack a coherent connection between equipment, systems, and processes, or you're struggling to build a scalable technology stack

☐ You're exploring open technologies, yet struggling to launch a proof of concept, or to scale it to one or more (complete) production sites

☐ Your current historian licence with a traditional vendor is about to expire, and you're looking for other options that could drive new value

Then this is a great time to discover the power of the **open data historian**.
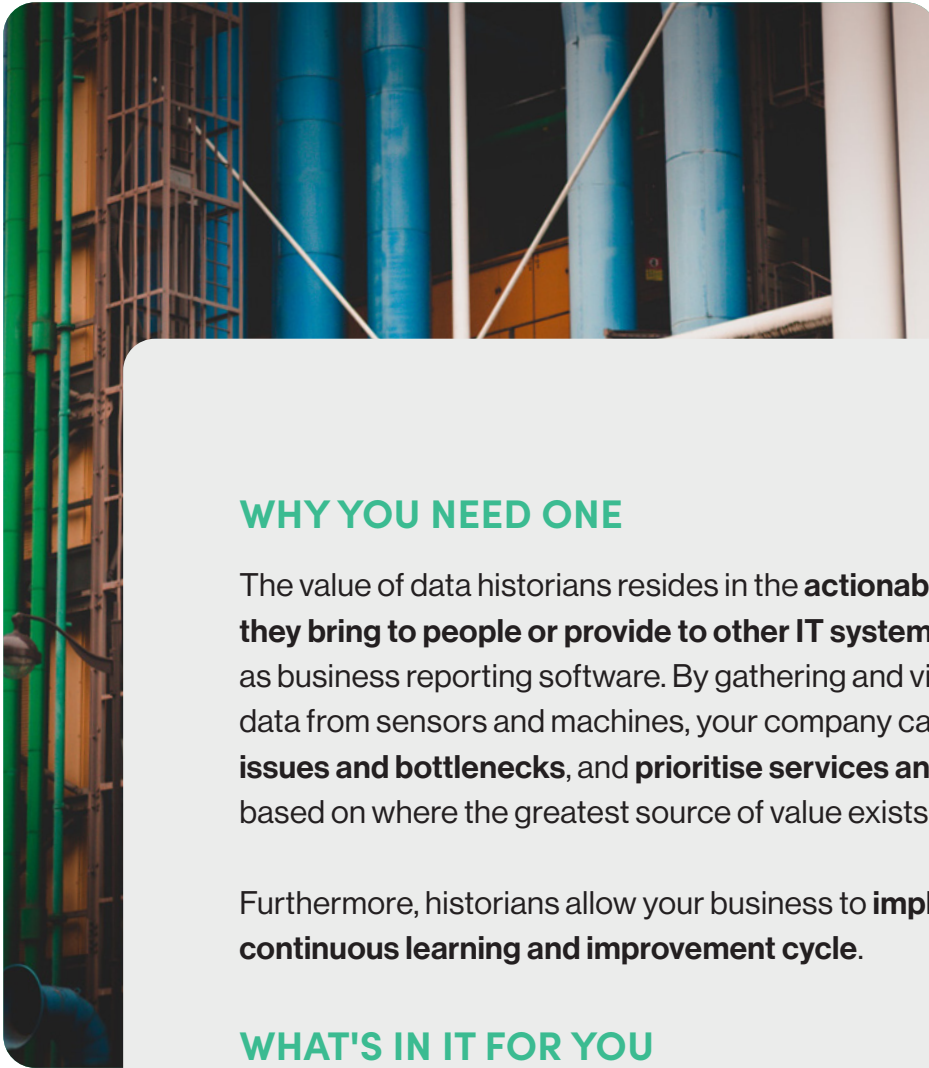
Data historians
At the core of transformation

Data historians or *process historians* play a crucial role in the digital transformation. They provide detailed and highly accurate information about factory performance at any given point in time, for every metric that matters to your operations, whether it's throughput, uptime, or quality. As a result, historians enable **process improvement, real-time production monitoring and detailed reporting.**

WHY YOU NEED ONE

The value of data historians resides in the **actionable insights they bring to people or provide to other IT systems,** such as business reporting software. By gathering and visualising data from sensors and machines, your company can **pinpoint issues and bottlenecks**, and **prioritise services and products** based on where the greatest source of value exists.

Furthermore, historians allow your business to **implement a continuous learning and improvement cycle**.

WHAT'S IN IT FOR YOU

- ▶ **Find & fix the root cause of process issues**
- ▶ **Reduce maintenance and repair costs**
- ▶ **Increase flexibility and agility of production**
- ▶ **Eradicate costly unplanned downtime**
- ▶ **Extend the lifetime of machines and equipment**
- ▶ **Increase factory throughput and productivity**
- ▶ **Reduce production cycle times**
- ▶ **Improve product quality and boost sales**

Yet beware... **not all historians are the same** ▶

Proprietary vs.
open historians
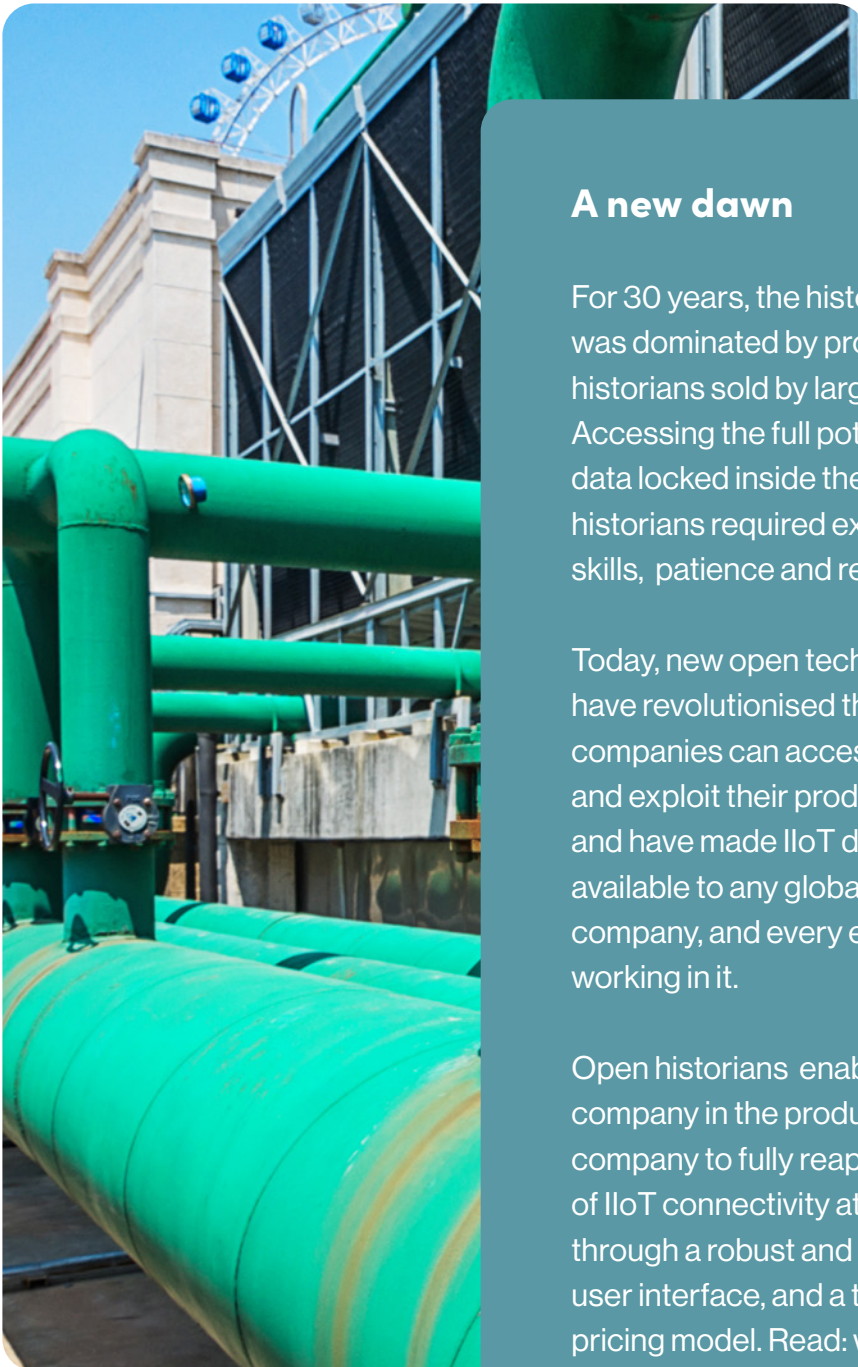
A new dawn

For 30 years, the historian market was dominated by proprietary historians sold by large vendors. Accessing the full potential of the data locked inside these traditional historians required expert in-house skills, patience and resources.

Today, new open technologies have revolutionised the way companies can access, manage and exploit their production data, and have made IIoT data collection available to any global production company, and every employee working in it.

Open historians enable any company in the production industry company to fully reap the benefits of IIoT connectivity at scale, through a robust and integrated user interface, and a transparent pricing model. Read: without spending a fortune.

Factry Historian
Get insights out of the box
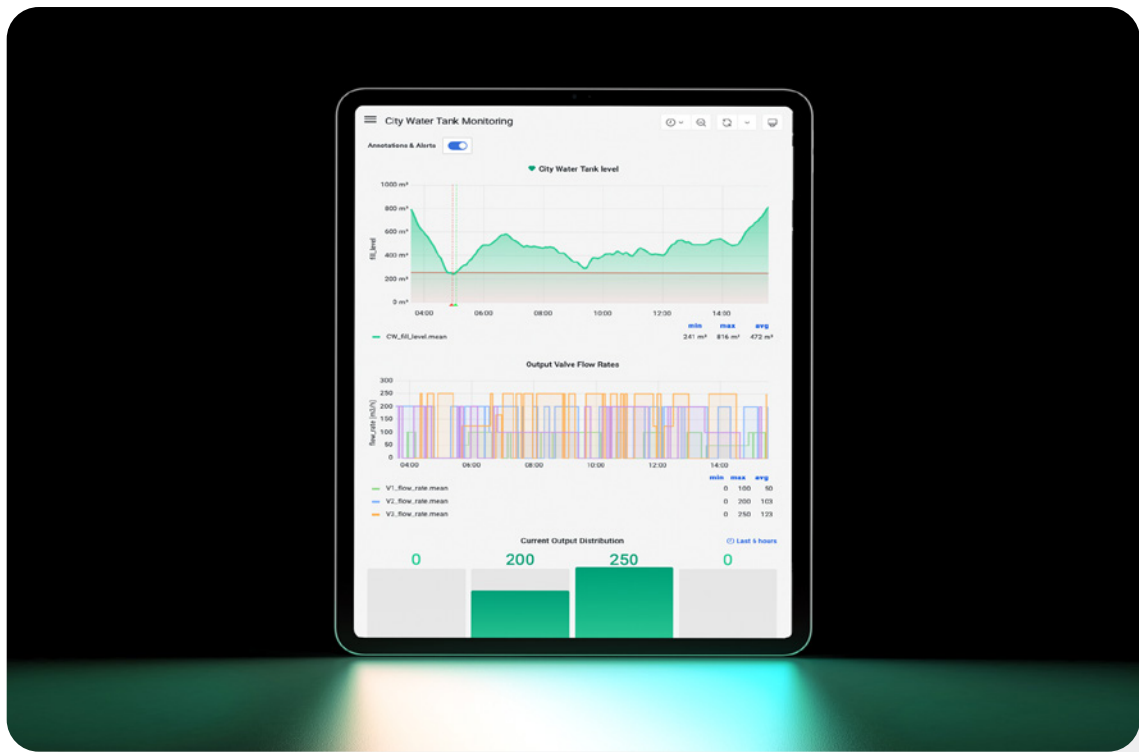
Digital transformation starts here ▶

Tired of spreadsheets, paper and inefficient processes? **Factry Historian** collects data from different sources (PLC, SCADA, …) and presents it in the right context within a **single IIoT platform**. Everyone in the company – from operators to plant managers, local or on company group level – gets access to real-time and historical values of thousands of metrics across one or multiple plants. Custom dashboards allow anyone to gain a maximal level of insight. **It's fast, frictionless and ready for the future.**

Factry Historian
How it works

1

Collect

Factry Historian **collects data from any industrial source** (PLCs, automation systems, third-party applications) and **brings it together in a user-friendly platform** that delivers a single source of the truth.

The platform **sends the production data to a secured, standardised IT web environment**. As such, it can be easily made available to credited employees, or to other applications such as MES, without posing any risk to the production network.

2

Store

Production data is stored in InfluxDB, a highly robust and reliable **time-series database** known for its high performance and efficient storage. The system is built to scale, handle increasing amounts of data, and is very simple to install and manage.

Furthermore, time series data can also be stored in a relational database leveraging PostgreSQL, which allows for advanced reporting, within the historian or by integrating it with your own BI tool.
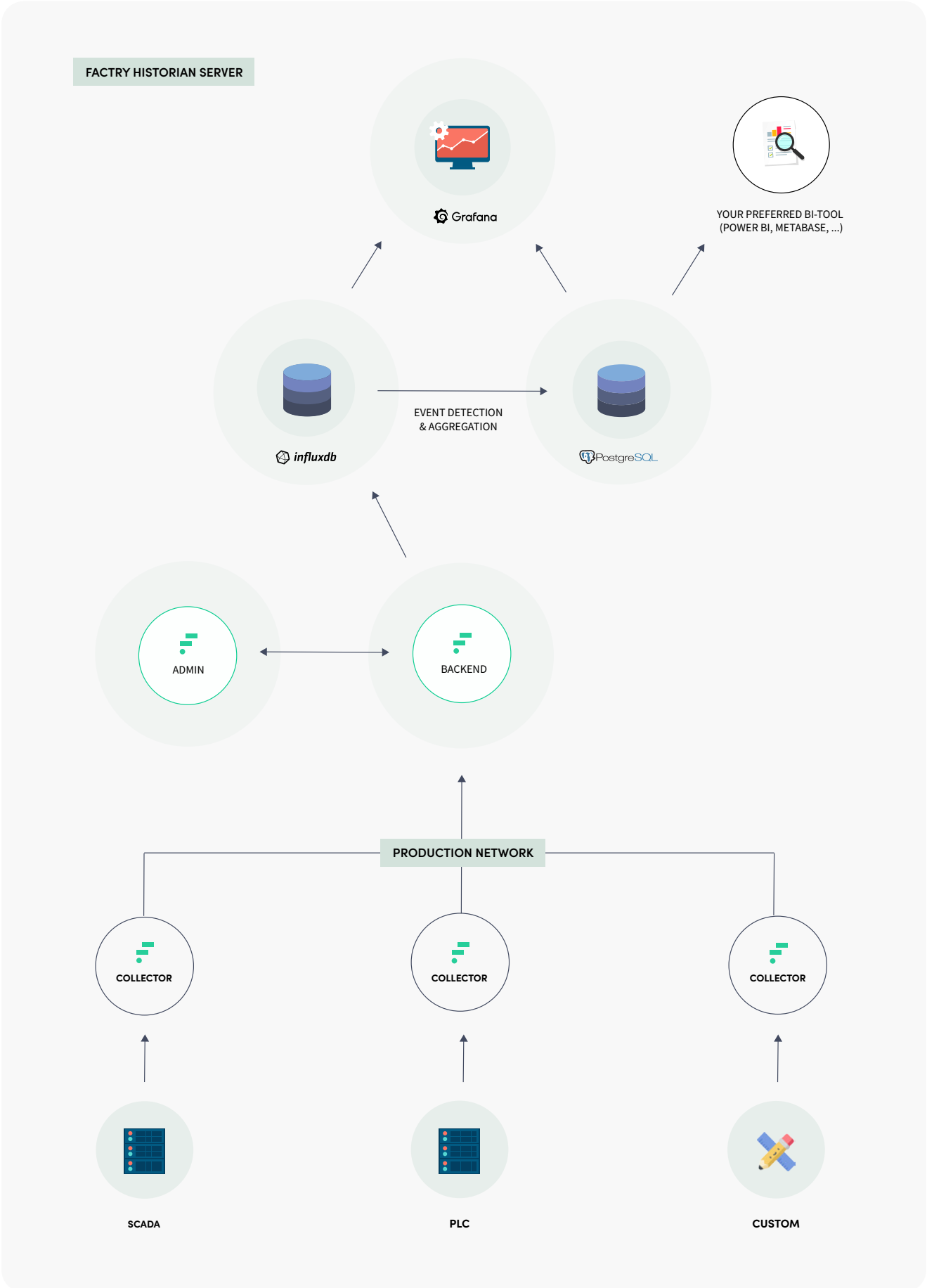
3

Visualise

Our platform ships with Grafana, a powerful **web-based trending and dashboard solution**.

This built-in visualisation tool allows you to query production data on the fly, perform historical analysis, and create trends for any timespan for one or multiple metrics. Create custom dashboards by combining values from different metrics. Simply choose an auto-refresh interval, and you're set to monitor processes in real-time.

See it in action. Schedule a demo session.

FACTRY HISTORIAN SERVER

Grafana

YOUR PREFERRED BI-TOOL
(POWER BI, METABASE, ...)

influxdb

EVENT DETECTION
& AGGREGATION

PostgreSQL

ADMIN

BACKEND

PRODUCTION NETWORK

COLLECTOR

COLLECTOR

COLLECTOR

SCADA

PLC

CUSTOM

Factry Historian
For which industries?

Chemicals

Food & Beverage

Energy & Utilities

Textile

Materials & Mining

Biotechnology

Oil & Gas

Waste & Wastewater

Heavy industry

Factry Historian
How it's different

Built on open technologies

If data monitoring is not an industry-specific problem, why solve it with industry-specific solutions? Our Historian is built on top of proven and well-maintained open technologies, such as InfluxDB, Grafana and PostgreSQL, which were augmented with robust collectors and IIoT connectivity and allow for a scalable tech stack.

Transparent pricing

Factry Historian comes with a transparent pricing model: within a single fixed-fee licence, an endless amount of data, tags, users, or metrics can be added to the historian.

Historian As-a-Service

Minimise IT costs with a "batteries included" process monitoring system, hosted in a secure cloud or at your premises, and serviced and updated by Factry. Collectors are managed on local infrastructure, and use a store-and-forward mechanism to prevent data loss. All of our historian installations are monitored 24/7.

Effortless integration

Whether you want to build new applications on top of Factry Historian, or connect it to third-party equipment and software, the open API's allow for smooth integration. Next to our default OPC UA collector, standard collectors for OPC DA, Modbus, .csv and .xlsx files are available, while our collector API makes it possible to quickly write a data collector for your specific system.

Frequent updates

Don't wait a decade for another update. In contrast to SCADA systems or traditional historians, Factry Historian is continuously updated with new features, security patches, bug fixes, etc. It's even possible to update or reboot the system is without users noticing.

Scalable & flexible system

Get a solution that meets your present, but also your future needs. Factry Historian is built to scale to up to 100.000s of sensors, while providing a solid groundwork for any future AI or ML application, such as predictive maintenance.

Factry Historian
Standard features

Web-based IIoT interface

Consult the Historian dashboards **from any location, on any web-enabled device**. Since there is no limit on the number of users, and the **dashboards are built responsively**, production data can be displayed on many screens as you want. From laptops and mobile devices, to large TV screens across the production facility.

Easy-to-use administration panel

Manage collector settings and measurements through a **user-friendly admin interface**. Add measurements one by one or through bulk import. **Live search** and **status filtering** allow you to find a particular measurement or detect any wrongly configured ones, and edit them on the fly. Audit logs store who changed what when. Collectors detect and apply the updated settings without downtime.

Fluent user management

Factry Historian enables fine-grained user management, both **locally and in the cloud environment**. Each user can log on with his own account. Managing the access rights is made easy by authenticating with Active Directory or by using single sign-on. Having this unlimited freedom will help you **raise awareness** for your IIoT project and **increase adoption** from day one.

Automated process alerting

For those parameters in your facility that require **quick intervention** when crossing a certain threshold, Factry Historian provides a user-friendly alerting system. In case something fails, the right people are notified via a **visual warning, email or text**. More advanced integration allows for custom actions such as creating work orders in an ERP system by development of **custom webhooks**.

Collectors

+ Create a new collector

CSV Staging - The CSV collector on the staging serve...- Act...	☑
JS OPC-UA Staging - the JS collector on opc-ua sta... - Acti...	☑
JS OPC-UA Windows Collector - Active	☑
MODBUS - Active	☑
OPC-DA-AZURE - OPC-DA collector on azure - Active	☑
OPC-UA Kepware Azure - Active	☑
OPC-UA Staging - The OPC-UA collector on the stagin... - A...	☑

JS OPC-UA Windows Collector

Generate token **❚❚ Pause**

Basis

Name	JS OPC-UA Windows Collector
	The name of the collector. Must be unique!
Description	*No value*
ID	2c47a4c4-25b0-11ec-864a-81d3f45e479b
Status	Active
Health	● Collecting
Heartbeat	● Last seen 1 minute ago
Collector type	@factry/opcua-collector
Collector version	4.0.0-beta.1

Settings

UAEndpoint	opc.tcp://127.0.0.1:49320
	The location of the OPCUA server.
UASecurityMode	SignAndEncrypt
	Security Mode for the UA server
UASecurityPolicy	Basic256Sha256
	Security Policy for the UA server
UAUsername	administrator
	The username for basicauth.
UAPassword	•••••••
	The password for basicauth.

Measurements

+ Create a new measurement

🔍 Search...   🔍 ✕   ☑ ❚❚ ❶

Filter by collector ▾   Filter by database ▾

INPPUTREG0 *historian*	☑
INPPUTREG2 *historian*	☑
INPUTREG1 *historian*	☑
INPUTREG3 *historian*	☑
INPUTREG4 *historian*	☑
INPUTREG5 *historian*	☑
INPUTREG6 *historian*	☑
INPUTREG7 *historian*	☑
JS OPCUA Windows Bool 1 *historian*	☑
JS OPCUA Windows Bool 2 *historian* **BadInvalidDataType**	☑
JS-OPC-UA Boolean 1 *historian*	☑
JS-OPC-UA Boolean 10 *historian*	☑
JS-OPC-UA Boolean 100 *historian*	☑
JS-OPC-UA Boolean 101 *historian*	☑

INPPUTREG0

❚❚ Pause

Basis

Name	INPPUTREG0
	The name of the measurement. Must be unique!
Description	*No value*
ID	8261f662-6ed9-11ec-864a-81d3f45e479b
Collector	MODBUS
Collector status	☑ Active
Quality	● Good
Database	historian
Datatype	number

Settings

Address	0
	The Modbus address (with or without offset) to start reading registers from.
CollectionType	monitored
	The way this measurement should be collected from the Modbus server.
CollectionInterval	2000
	The interval in milliseconds at which the Modbus measurement should be collected.
CollectionOffset	0
	The offset in milliseconds, relative to the 0th second, at which this measurement should be collected. Only relevant for polled measurements.
RegisterType	Input Register

Sidebar navigation: Collectors, Measurements, Calculations, Events, Configuration, jvz

REPLACE PROGRAMMATION WITH EASY CONFIGURATION

Automatically create records in a **relational database** that meet events in production, such as batches, recipes, orders, shifts, and downtime. A seperate SQL database allows for **complex querying within the historian**, and is **compatible with any reporting tool**.

Answer complex questions such as:

▶ How much energy was consumed per specific product or asset?
▶ What was the average temperature for a certain batch?
▶ How does the pH-curve compare to previous batches?
▶ What volume was produced on a certain asset in one week?

1. Event detection
Add context to raw production data

Abstract the data from the absolute time and approach it from a higher perspective. Record any type of event through a generic, asset-based event detection and contextualisation module. Instantly sample historical data on those production events, without the need for custom integration scripts.

The event detection module allows users to:

▶ Create and configure an asset model of their process equipments
▶ Configure event detection based on incoming data or other triggers
▶ Sample data on those events, without custom integration scripts
▶ Connect the data to any reporting tool through an SQL database

2. Data aggregation
Find the golden production batch

Aggregate process data **in the context of a specific event type**, and perform in-depth process analysis - all within the Factry Historian platform. Event data aggregation allows you to **calculate KPIs**, **streamline quality**, **find out why values differentiate**, and enables **smarter cost accounting** in relation to different parameters, such as energy consumption.

The data integration module allows users to:

▶ Aggregate process data in the context of any kind of process event
▶ Specify how the properties of event types should be acquired
▶ Overlay real-time production curves with previous runs or batches
▶ Compare production set points with real-time process values

Factry Historian
Around the world

Jacques ICE-CREAM

LESAFFRE

copaco screenweavers

AGC

Roger & Roger
A FAMOUS NAME IN SNACKS

allnex
The Coating Resins Company

puratos
Food Innovation for Good

ALGIST BRUGGEMAN
A LESAFFRE COMPANY

vleemo

Ekopak

Agristo
we love potatoes

HunterDouglas

Use cases
IIoT in action

Take a look at some of the most high-impact IIoT use cases today, and find out how they have driven new value for our clients in the process industry.

1 **Process improvement**
Algist Bruggeman

2 **Asset monitoring**
Van Damme Group

3 **Products-as-a-Service**
Ekopak

4 **Plant benchmarking**
Puratos Group

5 **Root cause analysis**
Vleemo

Process improvement

Say goodbye to manual processes

Radically increase factory performance by eradicating paper and spreadsheets, and monitoring processes in real-time. Factry Historian eliminates the flaws of manual data collection and data silos, and brings clarity for plant managers and operators alike. As a result, they can spend more time on actually improving processes.

Read full use case

CLIENT CASE

The Belgian yeast supplier Algist Bruggeman lacked insight into its fermentation processes. Production data was collected on paper, making it difficult to compare batches, aggregate production parameters or detect anomalies.
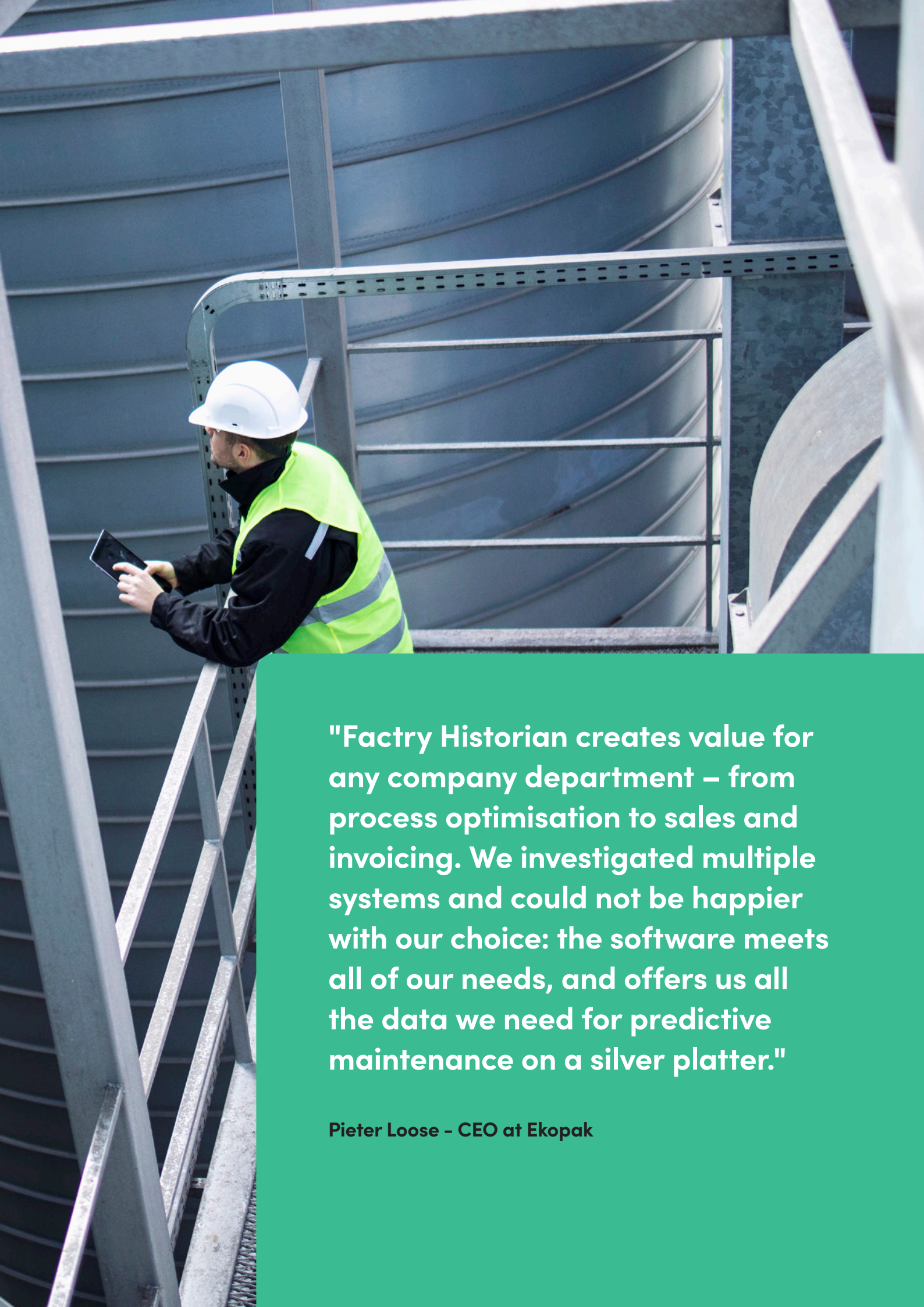
By automating its data collection process , the company is now able to trace batches, instantly draw production reports, build custom dashboards, notice trend patterns and compare product batches.

THE RESULTS

- **Higher production efficiency**
- **Improved product quality**
- **Shorter delivery times**

"Factry Historian creates value for any company department – from process optimisation to sales and invoicing. We investigated multiple systems and could not be happier with our choice: the software meets all of our needs, and offers us all the data we need for predictive maintenance on a silver platter."

Pieter Loose – CEO at Ekopak

Production monitoring

Fix things before they break

Factry Historian offers managers and operators a bird's-eye perspective of operations , and accurate insight in the health and performance of production assets. With real-time notifications, operators can respond swiftly to small concerns before they become big issues that could affect production operations.

Read full use case

CLIENT CASE

Group Vandamme is a producer of natural edible oils for the food industry. They use our historian to automatically gather data from systems and equipment, and make it easily accessible to employees.

Sensor data is measured 24/7. In case of anomalies, the right people are instantly notified through email alerts and alarms. This allows them to intervene more quickly and improve the safety of operations.

THE RESULTS

- **Higher production uptime**
- **Reduced maintenance costs**
- **Increased profitability**

3 Water-as-a-Service

Make your way into untapped markets

Turn real-time data into a competitive advantage. Grow your revenue by providing customer-centric options that deliver your product as-a-service. Accurate data collection on seconds-level enables performance or outcome-based products, such as usage and uptime, by combining custom product features with IIoT connectivity.

Read full use case

CLIENT CASE

Ekopak delivers renewable water to industrial companies. IIoT data collection through Factry Historian has proven to be the cornerstone of their transition to a Water-as-a-Service business model.

Instead of selling water treatment installations, they now invoice clients per cubic metre of water. The historian data allows them to invoice the volumes correctly, follow up installations online, and schedule preventive maintenance.

THE RESULTS

- A new business model
- Higher product value
- Reduced maintenance costs

4 Plant benchmarking

Streamline global operations

Compare data from multiple plants in a glimpse, and replace disparity in data sources and silos with company-wide data visibility. Factry's open IIoT platform enables you to gather, validate, and compare data across plants, equipment, or lines, and to establish repeatable performance throughout the entire company.

Read full use case

CLIENT CASE

Puratos is a multinational company, specialised in developing ingredients for the bakery industry. Due to its rapid expansion and numerous acquisitions, Puratos is spread out over 65 sites worldwide.

With Factry Historian, Puratos is able to centrally access and manage data from any manufacturing plant from any location, giving them more insight into these production sites, in a quick and cost-effective manner.

THE RESULTS

- Improved OEE performance
- Faster scaling to new sites
- Better production insights

"Factry Historian has shifted our paradigm from chart recorders to databases that allow us to capture and store any type of data. The software improves OEE performance and drives cost reduction, while drastically reducing complexity. It has really propelled us into a brand new age."

Jerry Nunes – Operations Manager at Puratos Canada

Root cause analysis

Improve processes, reduce costs

Find the root cause of process issues, by collecting any type of data in real-time and investigating it in user-friendly dashboards. Combine any process or equipment parameters in a custom lay-out, and zoom in or out on them. Discover unknown process inefficiencies or bottlenecks, and continuously improve factory operations.

CLIENT CASE

Wind turbine operator Vleemo lacked central management of its turbines, often resulting in downtime. In case of issues, a lack of easily accessible and interpretable data prevented them from finding the root cause quickly.

Because Factry Historian collects and visualises data in real-time, they can now take immediate action when issues occur, assess equipment remotely before the intervention, and save time on machine maintenance.

THE RESULTS

- **Decreased operating costs**
- **Less unplanned downtime**
- **Reduced maintenance costs**

Read full use case

Most clients say they should have met us earlier. Don't make that mistake.

Traditional historians	Factry Historian
▶ Technology & vendor lock-in	▶ Open, scalable and flexible
▶ Pay-per-use business model	▶ Transparent pricing
▶ Artificial data limits	▶ Unlimited data, tags & users
▶ High maintenance & IT costs	▶ Regularly upgraded
▶ Difficult to interface	▶ Talks with any data source
▶ Cumbersome reporting	▶ Instant data insights

See it in action. Schedule a demo.

Change Log

v6.4	A new step towards simplified administration
v6.3	A leap forward in cloud connectivity and manual data entry
v6.2	Enhanced functionality and usability for power users
v6.1	Improving the administrator's user experience

System Requirements

Collectors	Windows (32 & 64 bit), Linux (i386, amd64, Arm)
Server	Linux (i386, amd64)

Specific system requirements are dependent on the expected read- and-write load to the historian.

Product features summary

▶ Central web-based administration of collectors and metrics

▶ Collectors with store-and-forward mechanism and on-disk buffering

▶ Single-binary collectors without external dependencies

▶ One-command install of collectors

▶ Event detection and classification

▶ Efficient bandwidth usage with gRPC

▶ Status overview of collectors and measurements

▶ Central web-based administration of collectors and metrics

▶ Audit trails record changes in collector and measurement configuration

▶ Bulk importing of measurements

▶ Support for OPC-UA, OPC-DA, Modbus and Azure IoT Hub protocols

▶ Configure multiple InfluxDB databases

▶ Enforce standard naming convention with external API endpoint

▶ Deploy on-premise or in the cloud
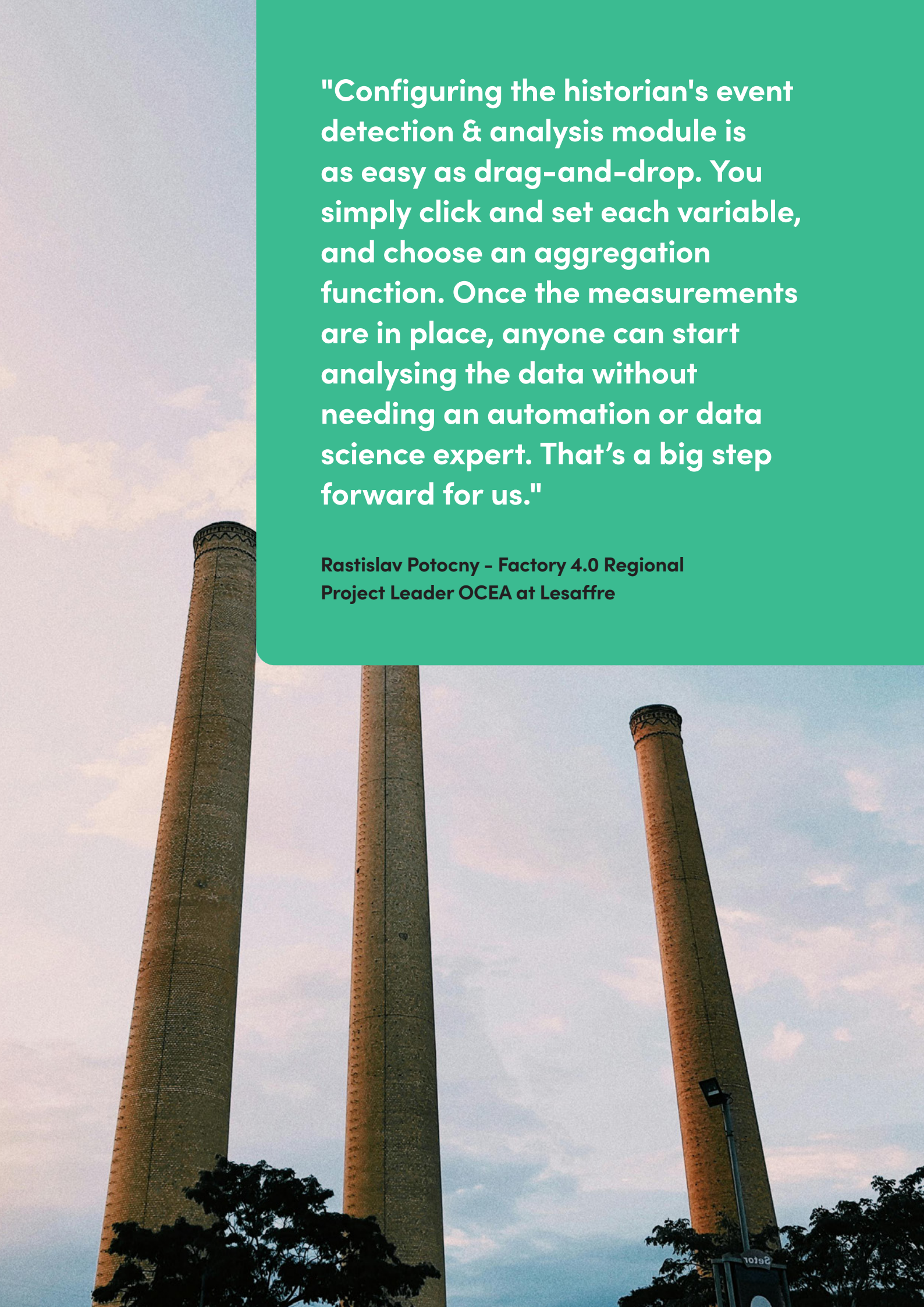
About Factry
Empowering data-driven excellence

Factry empowers process manufacturers with open software to monitor, analyse, and optimise operations. With cutting-edge solutions, Factry makes actionable data insights accessible for any role, from plant operator to CFO.

With a strong focus on usability, Factry's commitment is to bring companies closer to their process data, so they can learn from it, make data-driven decisions, and continuously improve the quality of products and processes.

Factry offers manufacturers not just a technology solution but a team dedicated to their plant's future. Together, we establish a culture of continuous innovation – crucial for gaining a competitive edge in Industry 4.0.

factry.io

"Configuring the historian's event detection & analysis module is as easy as drag-and-drop. You simply click and set each variable, and choose an aggregation function. Once the measurements are in place, anyone can start analysing the data without needing an automation or data science expert. That's a big step forward for us."

Rastislav Potocny - Factory 4.0 Regional Project Leader OCEA at Lesaffre

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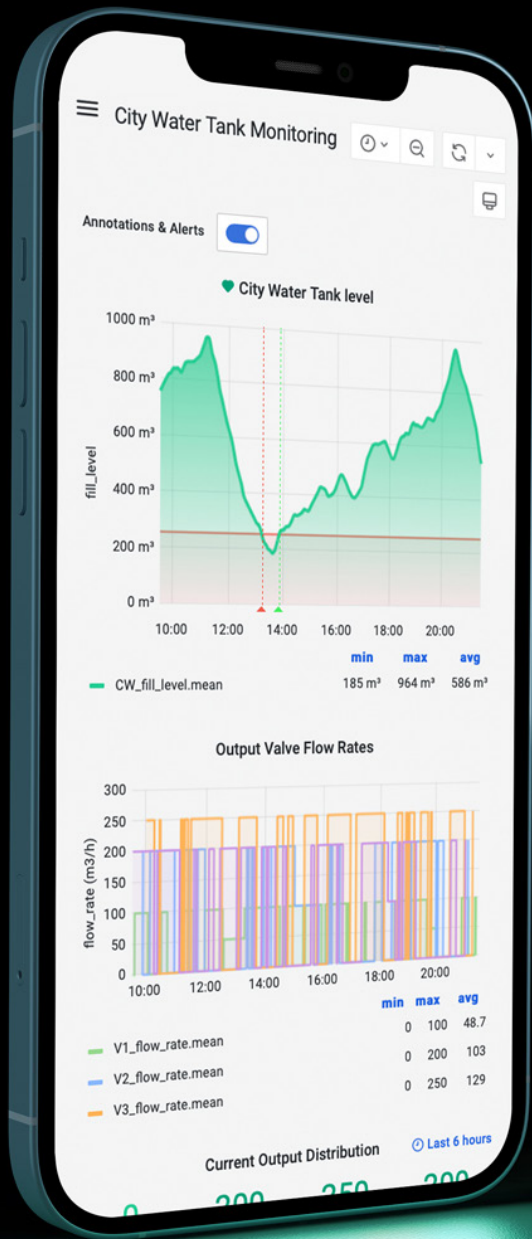
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