



Providers of free on-prem wireless monitoring data

**“We boost our customers’
Overall Equipment Effectiveness
from the very first data point”**



 **Company**

 Solution

 Market

 Business

 Financial

Vision

Our vision is to revolutionize the way industries monitor and optimize their operations by providing intelligent wireless sensor solutions.

We envision a world where seamless data interoperability and near real-time data insights empower organizations to enhance efficiency, safety, and sustainability across diverse domains.





Founders iQunet (family company)

CEO, Dirk Van den Branden, ing. MBA ([LinkedIn](#)) / 50% shares

- Engineer Electronics
- 1990-2000 Quality, Production, Operations mgr. British Steel company (now TATA)
- 2000-2015 Country manager (Lindab NV / HVAC)
- President Advisory Boards (2 tech co.)

CTO, Wim Vereecken, Dr. ir. ([LinkedIn](#)) / 50% shares

- Analog chip designer, RF technology designer
- Hardware & software development
- 2002-2015 Researcher KUL, Flanders Make



Company identity card

iQunet.®

iQunet.®

iQunet
Broekstraat 82
9220, Hamme
Belgium
www.iQunet.com

Creation date: 10 July 2015
Legal structure: BV (BVBA)
Workforce: 4 (incl. owners)
Share capital: 138600€

iQunet provides
free-to-use wireless sensor data
to assist **industrial plant asset managers** in **enhancing their equipment efficiency**
using **AI embedded edge computing** with **on-premise integration capabilities**.

Key figures:

	2018	2019	2020	2021	2022
Turnover	147 k€	172 k€	322 k€	242 k€	238 k€
Net profit	37 k€	-128 k€	68 k€	-51 k€	-62 k€
Equity	62 k€	-67 k€	2 k€	-50 k€	-112 k€
Workforce (incl. owners)	3	3,6	3,9	4	3,9

Market:

Predictive Maintenance & Remote Asset Monitoring
in Smart Operations

Definition:

Industrialized plants and operations worldwide

Size:

Forecast 2030: 86 USD Billion*

Trend:

WW CAGR 2023-2030: 22,9%*

(*source: www.meticulousresearch.com (July 2023))



 Company

 **Solution**

 Market

 Business

 Financial

Problem 1

Condition Monitoring (predictive maintenance) and Asset Monitoring (data capturing) today



Photo source: ACD

Condition Monitoring Measurements

- Labour-intensive, waste of expert's time
- Safety issues
- Snapshot, Limited trends
- Limited reproducibility
- Measurement in standard conditions only
 - Standard speed, unloaded, ...
- No combinations (current, vibration, ...)



Photo source: SKF

Condition Monitoring Analysis

- Waste of time if asset in good condition
- Prone to human mistakes
- Lack of expertise because experts:
 - retire
 - change company
 - are over employed
- High cost



Wired Asset Monitoring

- Limited cabling range (IO-Link= max.10..20m)
- Wired systems disadvantages:
 - complex
 - high maintenance cost
 - Inflexible
 - hard to scale

Solution 1

Wireless Condition AND Asset Monitoring Sensor Solution in ONE edge system

iQunet provides (large) Time Series from Vibration, Electrical Signature AND Analog & Digital signals via wireless sensors with AI based alarming



Wireless
Vibration
Monitoring

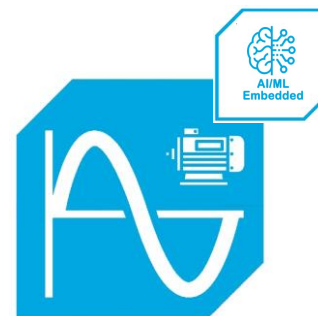
Rotating Equipment



MEMS



IEPE

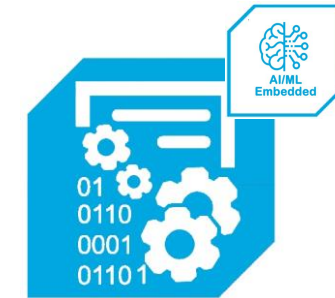


Wireless
Electrical Signature (ESA)
Monitoring

Electric Motors



CT



Wireless
Low Data Metrics
Monitoring

Operations



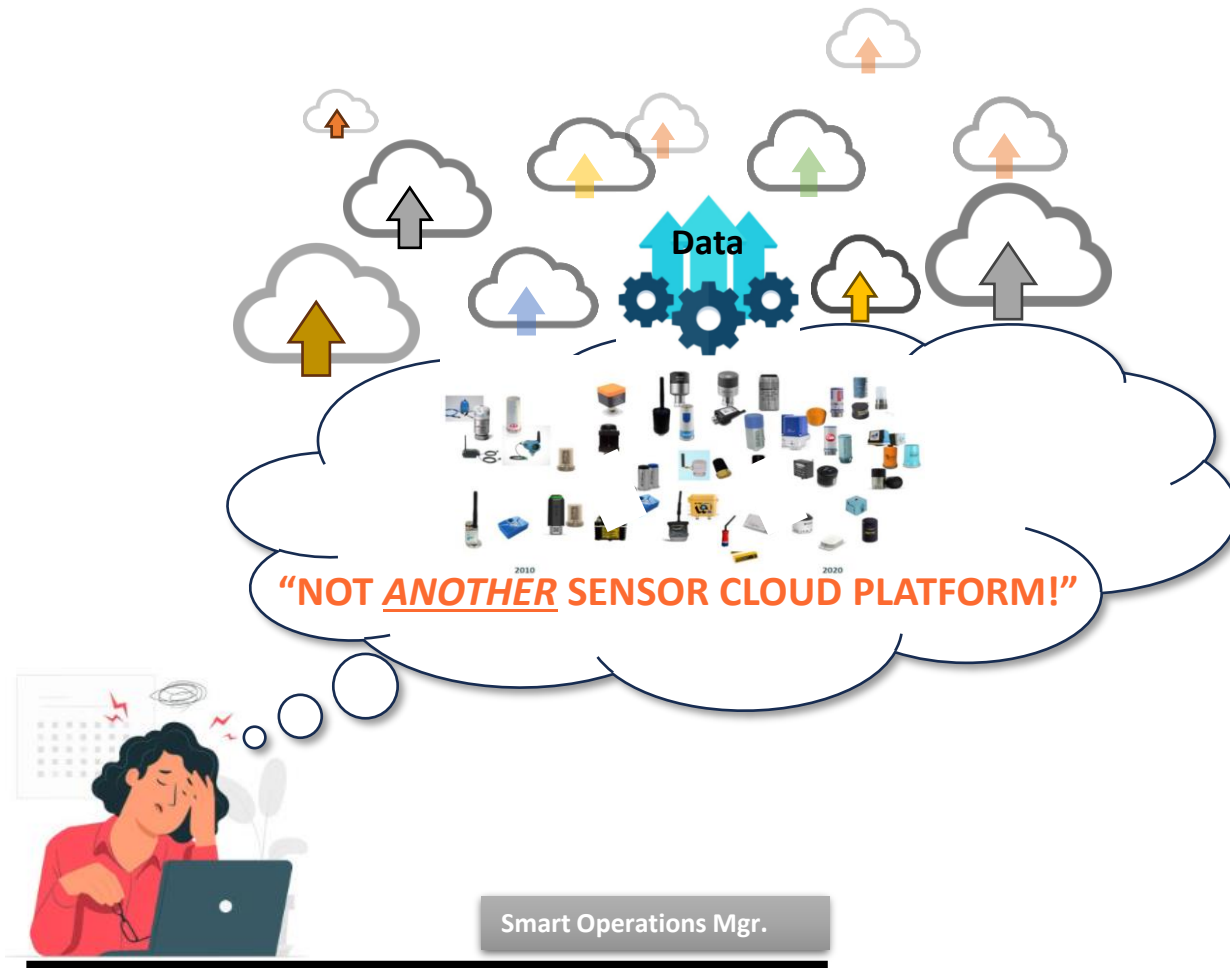
ANALOG



DIGITAL

Problem 2

The large amount of IIoT sensor data sent to the Cloud creates data silos and network problems



Data latency



Bandwidth limitations



Bandwidth costs



Threat exposure



Duplication HW,SW,
memory,...



Reliability issues

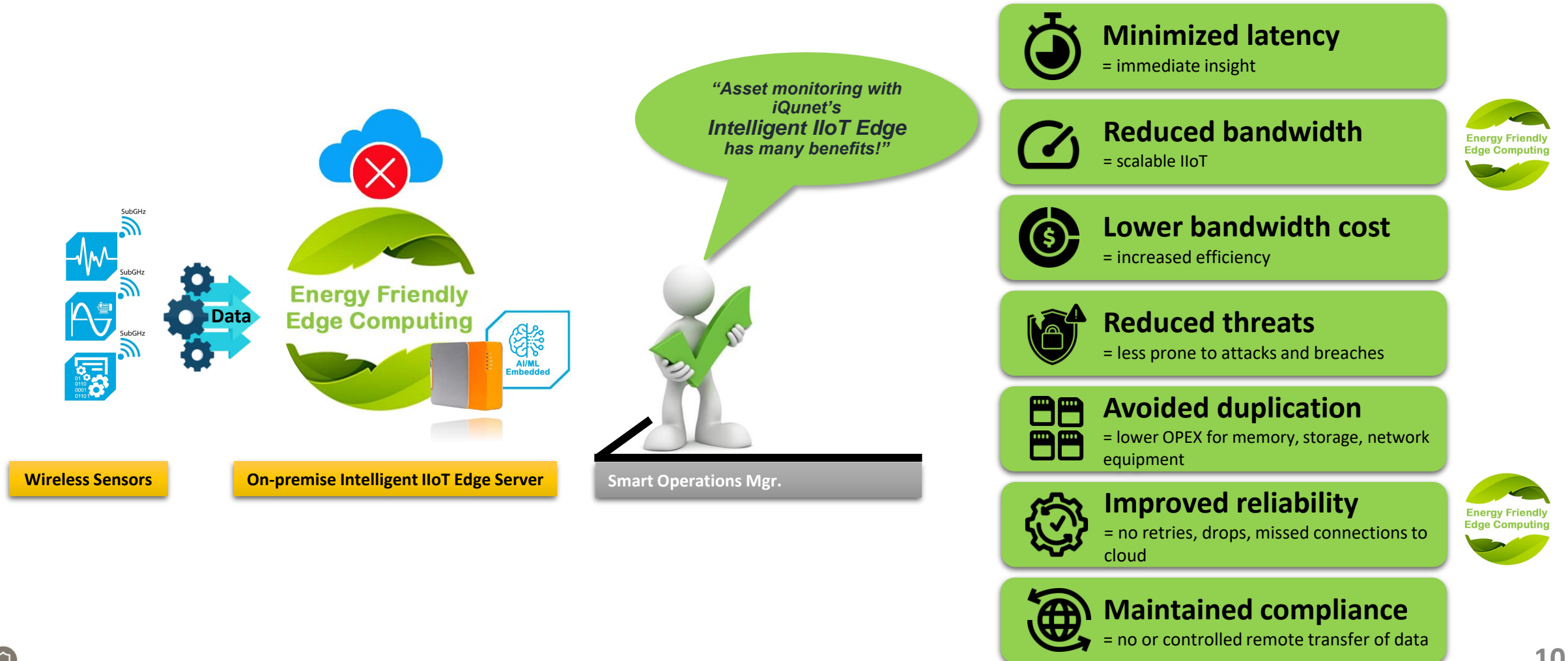


Data compliance issues

Solution 2

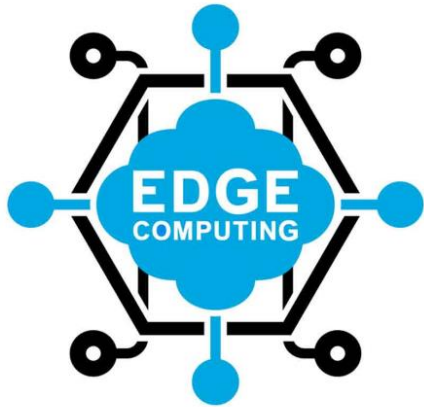
iQunet's "Intelligent IIoT Edge" server for wireless monitoring of assets

an Edge based sensor solution with embedded AI which minimizes IIoT risks



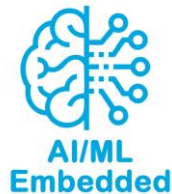
Main Functionalities

An “Intelligent IIoT Edge” for wireless monitoring of assets with



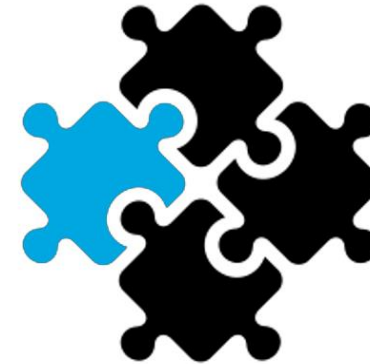
Embedded AI

In the Edge (on-premise)



Data Ownership

Local storage, free to use



OT interoperability

Near real time data

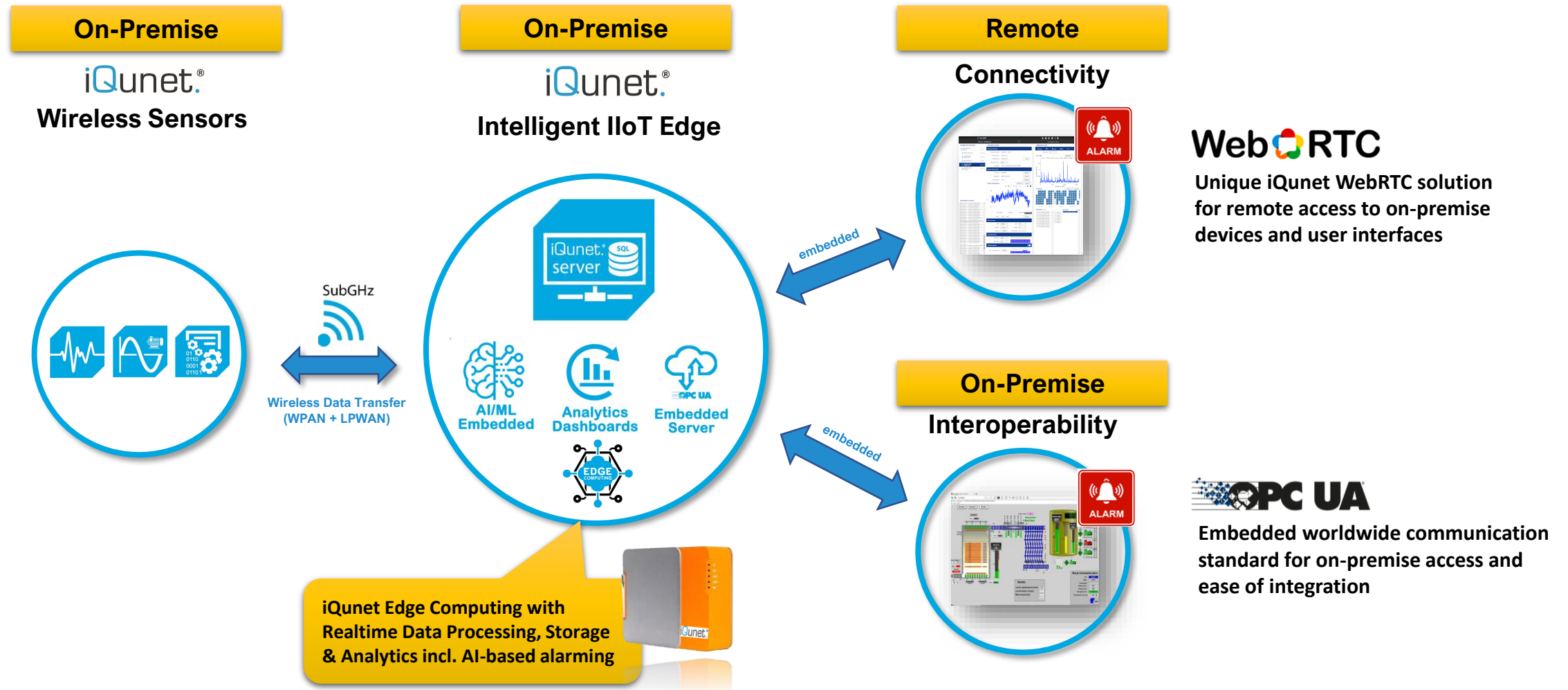


Product range overview

iQunet.®

On-Premise Intelligent IIoT Edge for Wireless Sensors

iQunet develops, manufactures and markets wireless sensor solutions AND Edge Computing devices with powerful embedded software





Company



Solution Examples



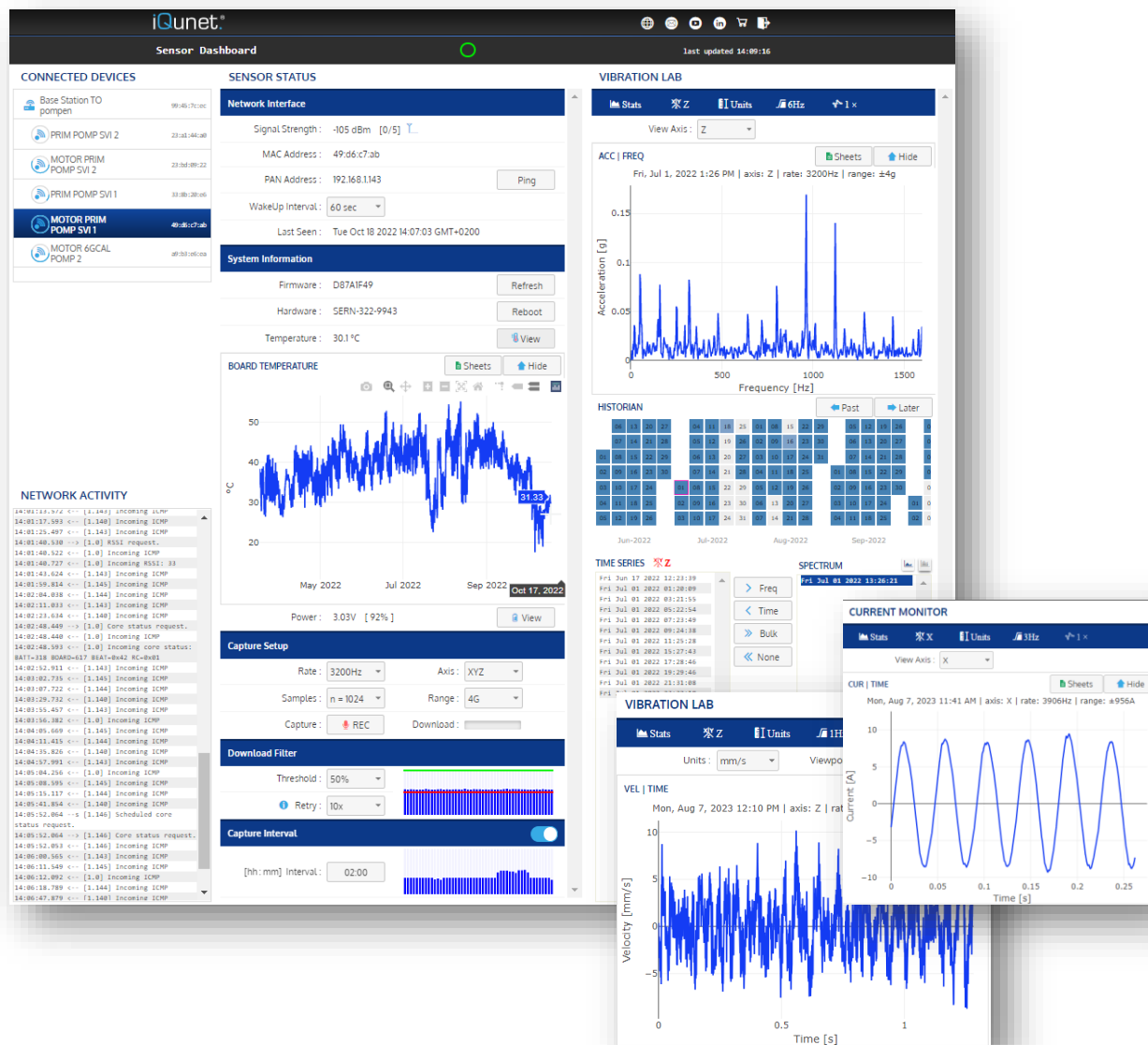
Market



Business



Financial



Capturing and Analytics Dashboard (standard included)

- General sensor information and overview
- Sensor Status information
 - Connectivity
 - Historical temperature graph (vibration sensors)
 - Historical battery level graph
- Capture setup pane
- Capture interval setup pane
- Sensor download threshold setup pane
- Analytics pane (historical data selection)
 - Vibration / Current / other properties monitor
 - Velocity, acceleration, current, charge, ... selection
 - Detailed time series visualizations
 - HP filter settings
 - Time series graph
 - FFT graph
 - 3D FFT plot
 - Statistics (overall values)
 - Velocity, acceleration, current, charge, ... selection
 - HP filter settings
 - RMS trend graph
 - Kurtosis trend graph



All above OPC UA (historical) data nodes are free accessible!

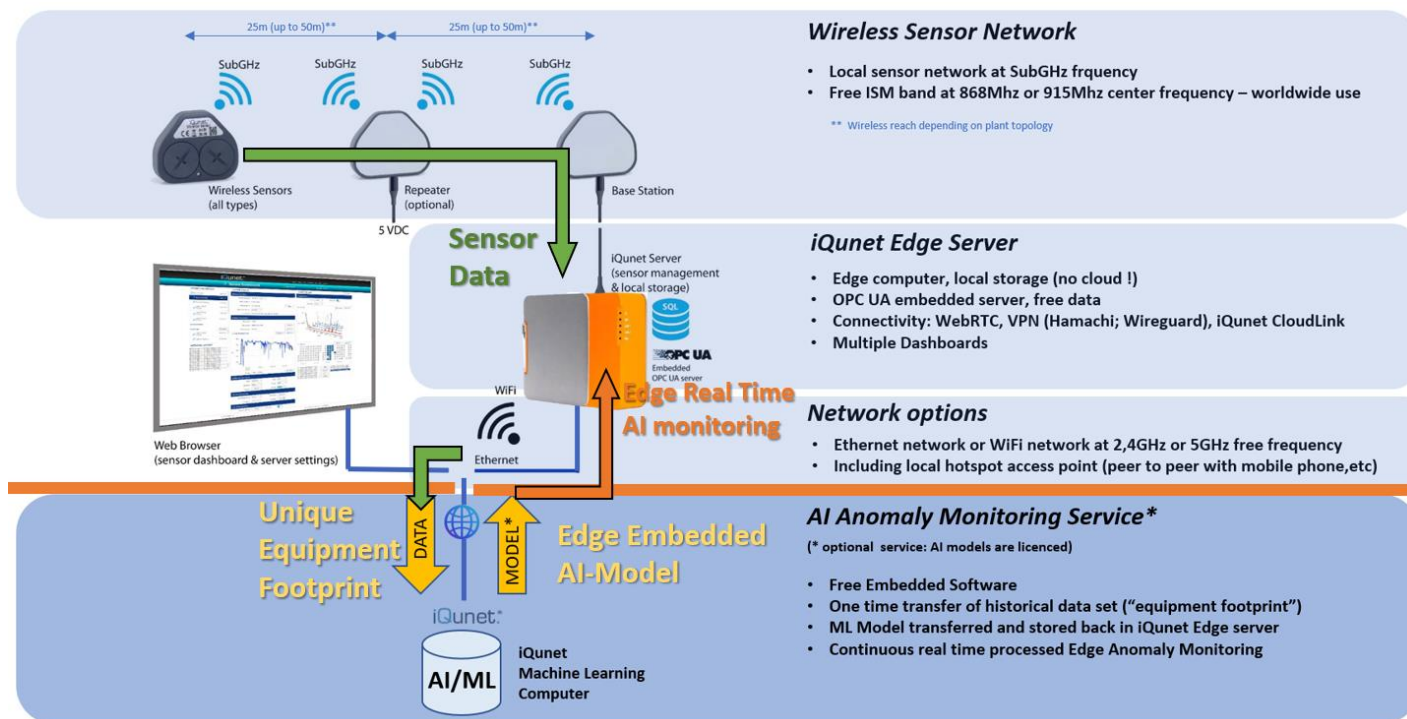


AI-aaS – Anomaly Detection Service

iQunet.®

iQunet Anomaly Detection is an optional AI service

- Based on **real measurement data** (footprint)
- Automatically transferred data to iQunet ML computers
- Comprehensive **autoencoder** (model) creation
- **Embedded** autoencoder running on local Edge Server (on premise)
- **Automatic** detection of anomalies



Benefits:

- Near real time and sensitive **alarming in the Edge**
- **Embedded** AI service, even off-line (off-shore)
- Comprehensive **dashboards**

included

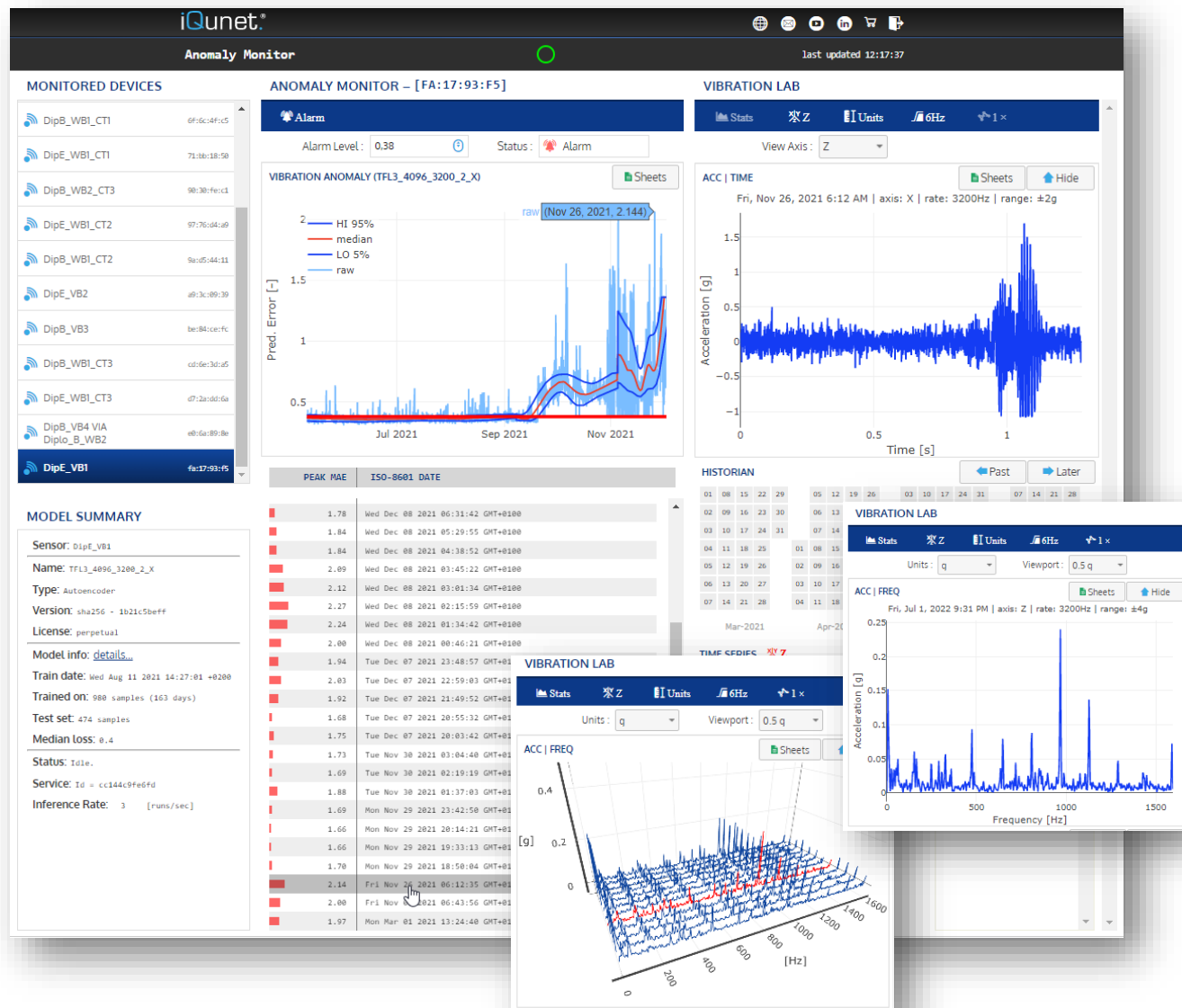
AI-aaS
(AI-as a Service)





AI-aaS – Anomaly Detection Service

iQunet.®



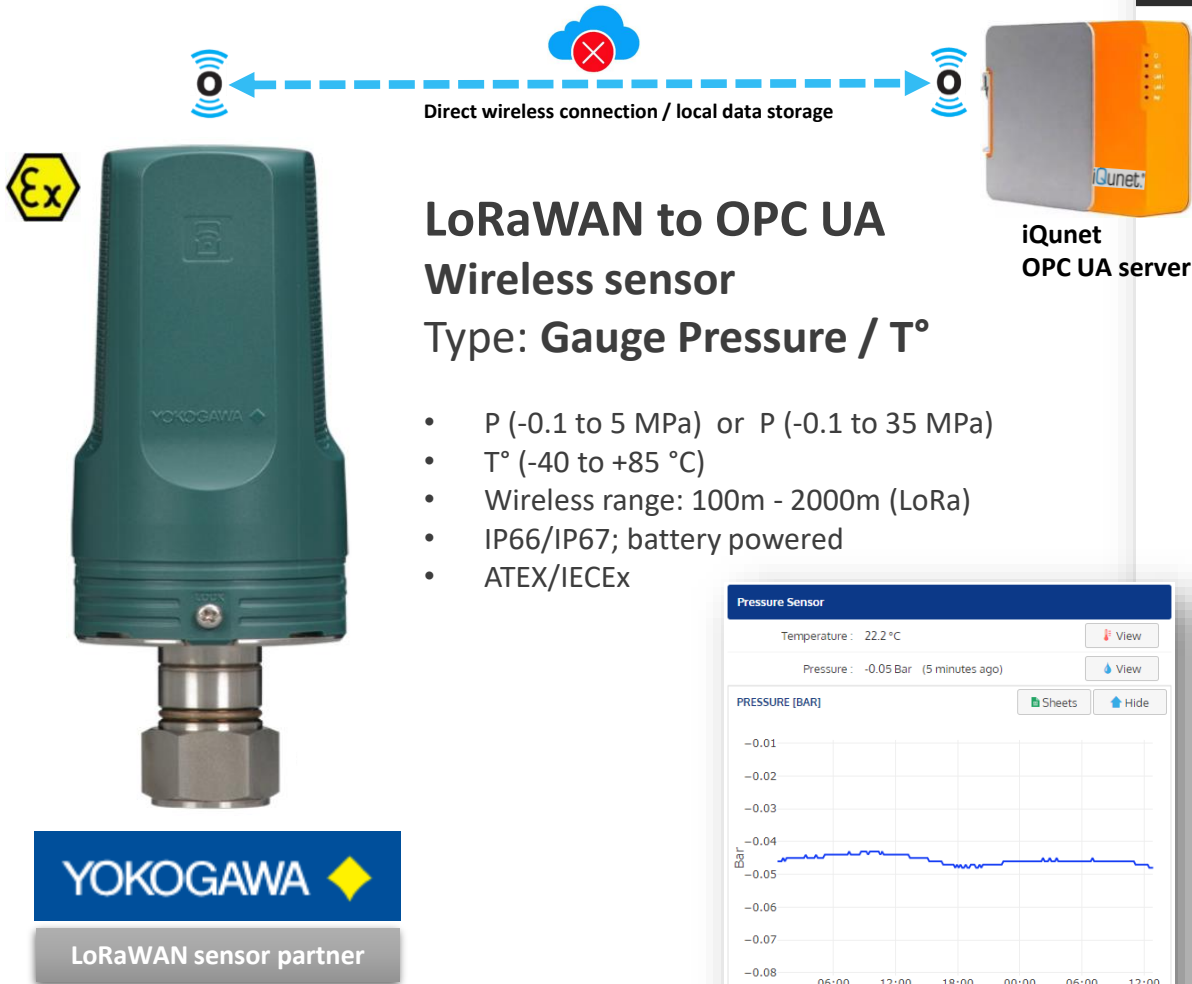
Anomaly Monitor Dashboard (must run AI-aaS)

- Anomaly Detection Alarms
- Anomaly Detection trend graphs XYZ
 - Raw anomalies
 - Trend lines (5%/50%/95% certainty above set alarm level)
- Detailed AI model information
- Selectable list of peak anomaly values
- Immediate visualization of anomaly related
 - time series
 - FFTs
 - 3D-FFTs
- Analytical tools
 - Acceleration / velocity / current / charge / ...
 - Signal filtering & averaging options
 - Ax selection options
 - Historical data queries



All above OPC UA (historical) node data is free accessible!

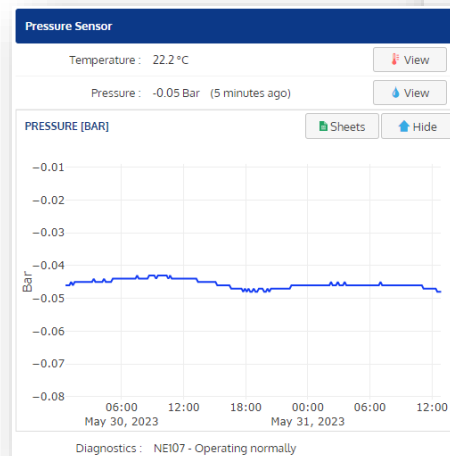
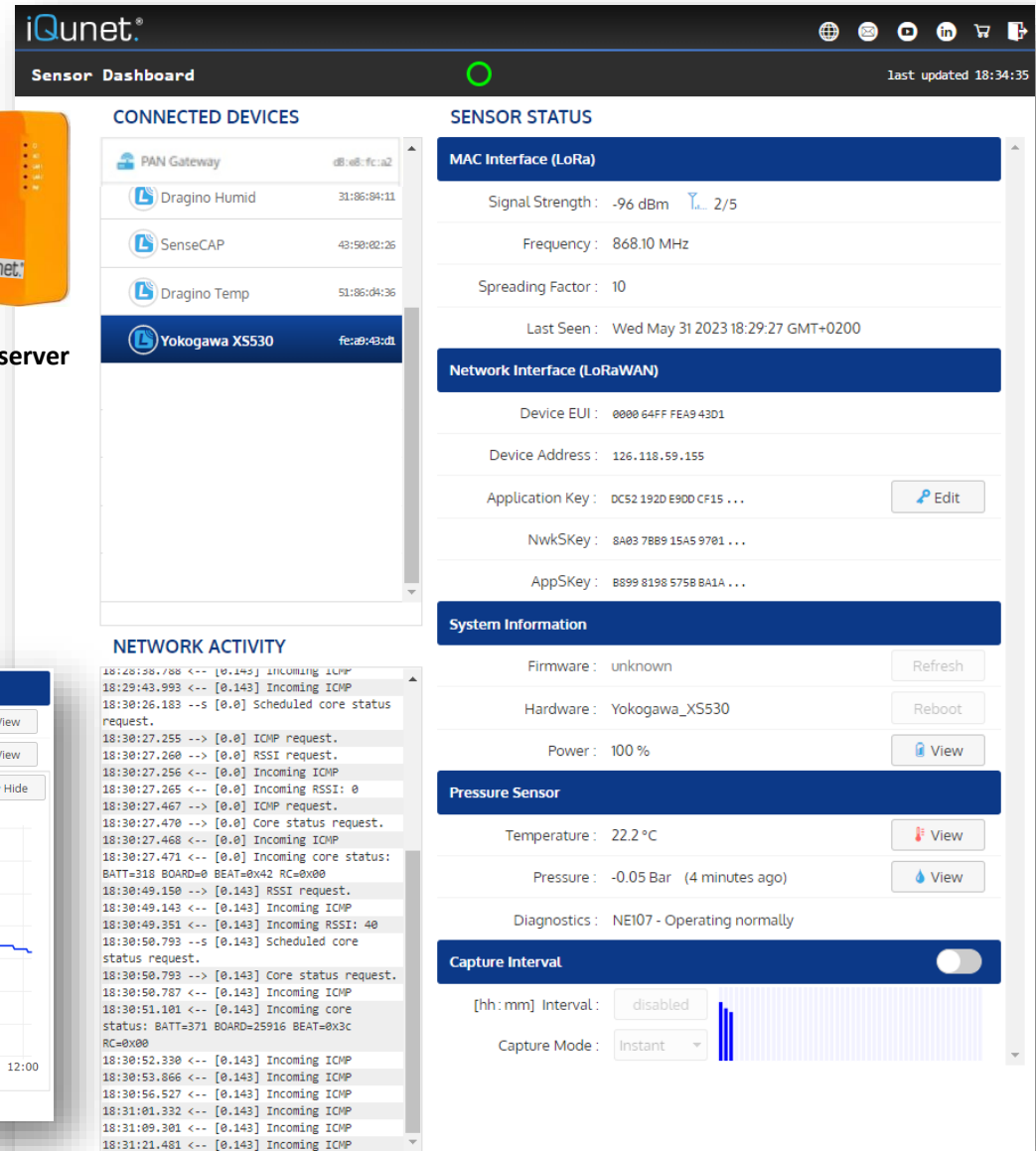




**LoRaWAN to OPC UA
Wireless sensor**
Type: Gauge Pressure / T°

- P (-0.1 to 5 MPa) or P (-0.1 to 35 MPa)
- T° (-40 to +85 °C)
- Wireless range: 100m - 2000m (LoRa)
- IP66/IP67; battery powered
- ATEX/IECEX

YOKOGAWA
LoRaWAN sensor partner

iQunet[®]
Sensor Dashboard
last updated 18:34:35

CONNECTED DEVICES

Device	MAC Address
PAN Gateway	d8:e8:fc:a2
Dragino Humid	31:86:84:11
SenseCAP	43:58:82:26
Dragino Temp	51:86:d4:36
Yokogawa XS530	fe:a9:43:d1

SENSOR STATUS

MAC Interface (LoRa)

Signal Strength: -96 dBm [View](#) 2/5

Frequency: 868.10 MHz

Spreading Factor: 10

Last Seen: Wed May 31 2023 18:29:27 GMT+0200

Network Interface (LoRaWAN)

Device EUI: 0000 64FF FEA9 43D1

Device Address: 126.118.59.155

Application Key: DC52 192D E90D CF15 ... [Edit](#)

NwkSKey: 8A03 78B9 15A5 9701 ...

AppSKey: B899 8198 5758 BA1A ...

System Information

Firmware: unknown [Refresh](#)

Hardware: Yokogawa_XS530 [Reboot](#)

Power: 100 % [View](#)

Pressure Sensor

Temperature: 22.2 °C [View](#)

Pressure: -0.05 Bar (4 minutes ago) [View](#)

Diagnostics: NEI07 - Operating normally

Capture Interval

[hh:mm] Interval: disabled

Capture Mode: Instant



Company



Solution



Market



Business



Financial

iQunet provides solutions for making our customers' operations smarter.
Smart Operations is seeing the fastest growth in IIoT deployments.

 IOT ANALYTICS

October 2021

Your Global IoT Market Research Partner

The Top 10 IoT Use Cases

N= 1,640 IoT Projects

Use Case	Type	Global Adoption ¹	Trend ²
1 Remote asset monitoring (read-only)	Smart Operations	34%	↗
2 IoT-based process automation	Smart Operations	33%	↑
3 Remote asset monitoring and control (read/write)	Smart Operations	32%	→
4 Vehicle fleet management	Smart Supply Chain	31%	↘
5 Location tracking	Connected Products	31%	↗
6 IoT for asset/plant performance optimization	Smart Operations	31%	↑
7 IoT-based quality control & management	Smart Operations	30%	↗
8 IoT-based goods condition monitoring in transit	Smart Supply Chain	29%	→
9 Predictive maintenance	Smart Operations	29%	↗
10 On-site track & trace	Smart Supply Chain	29%	↘

... of 48 use cases analyzed in total

Note 1: Share of companies that have at least partially rolled-out the use case Note 2: Based on respondents' indication of investment plan in the next 2 years
 Source: IoT Analytics Research 2021, Conditions for republishing: Source citation with link to original post and company website; Non-commercial purposes only



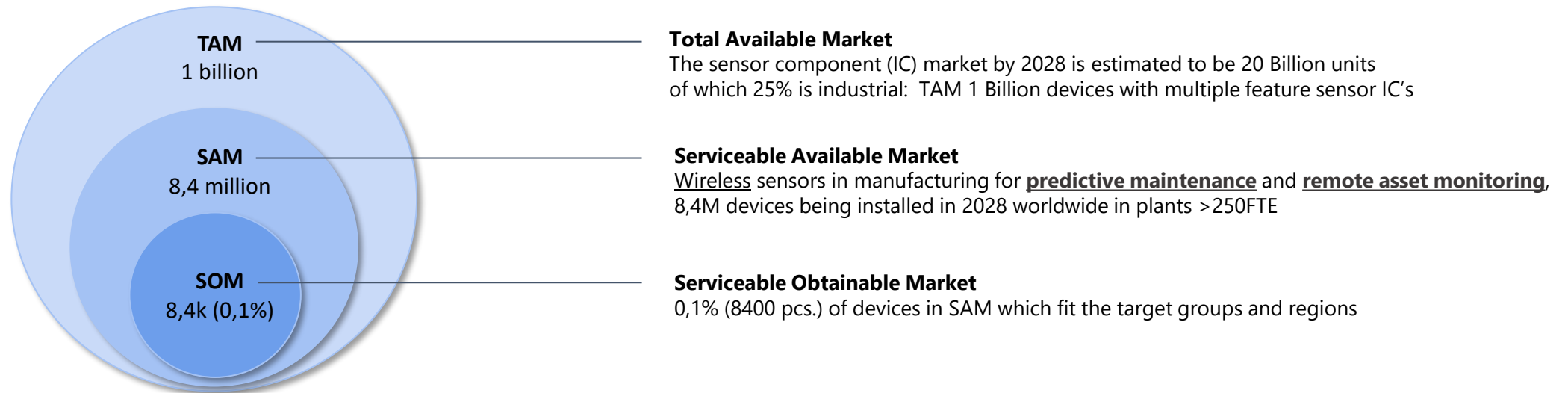
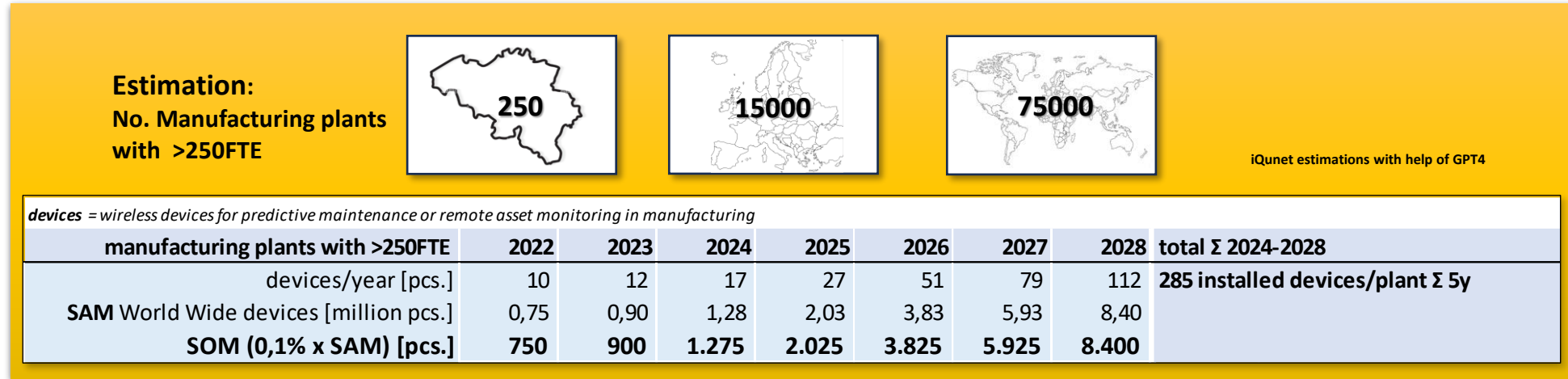
Very strong investments expected in next 2 years



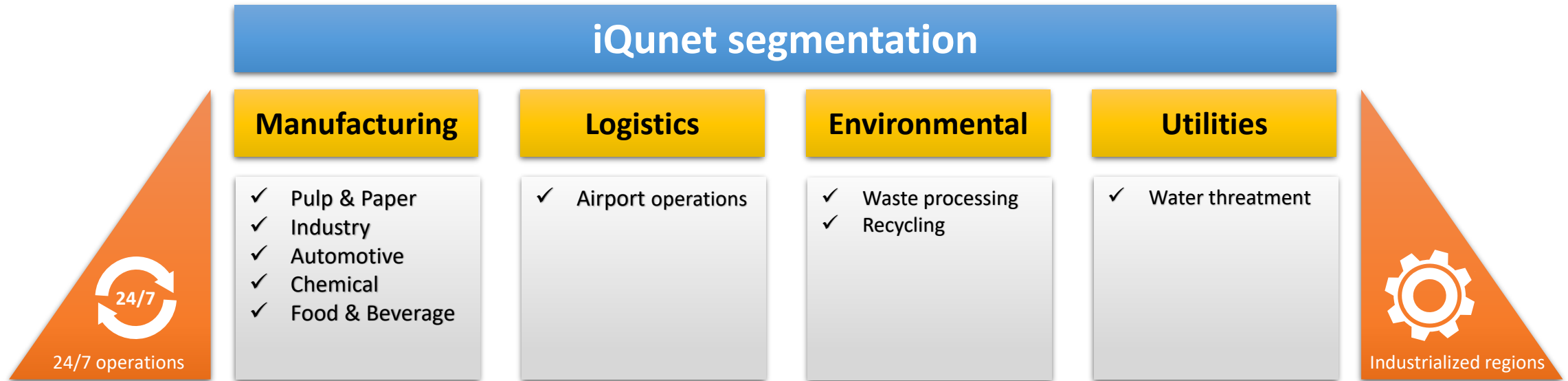
Moderate investments expected in next 2 years



Market size



Segmentation



Prio.	Target Audience	Segment	Customer benefit	iQunet priority explanation	Estimated # customers (worldwide) <small>iQunet estimation</small>
1	Plant Asset Mgr. / Smart Operations Mgr. / Maintenance Mgr.	Manufacturing	OEE ↗	High-margin sales with recurring services. Very sensitive to arguments related to data compliance and local data storage.	75.000 plants estimated average spending Σ 5y =150k€/plant
2	(Digital) Project Mgr.	Logistics	OEE ↗	High quantity standard products. Only reachable via integration or service partners. Very sensitive to compliance argument.	
3	Maintenance Mgr.	Environmental	OEE ↗	High sales margins / lower quantities per project but direct contact.	
4	(Digital) Project Mgr.	Utilities	OEE ↗	Large quantities, only reachable via service companies (long indirect sales trajectory, but long-term contract based)	



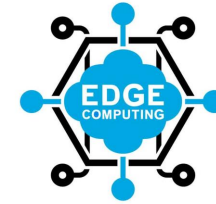
Competition

Company	Offer	Edge Computing w/ near real time data	Edge Embedded AI	Brand-agnostic smart sensor solution	scalable OT-integration & security	Wireless Spot (VIB) + System (ESA) Con.Mon.
iQunet (BE)	Intelligent IIoT Edge with wireless sensors	✓	✓	✓	✓	✓
Erbessed Instr. (MX)	Cloud based wireless sensor solution	✗	✗	✗	✗	✗
Nanoprecise (CA)	Cloud based wireless sensor solution	✓	✓	✗	✗	✗
Treon (FI)	Cloud based wireless sensor solution	✗	✗	✗	✗	✗
ifm (DE) (sensors)	Industrial group – OEM sensors	✗	✗	✗	✓	✗
SKF (SE) (bearings)	Industrial group – OEM bearings (+sensors)	✗	✗	✗	✗	✗
ABB (CH) (motors)	Industrial group – OEM Elec. Motors (+sensors)	✗	✗	✗	✗	✗
Bently Nevada (US)	Premium asset performance mgt. group	✓	✗	✗	✓	✗
Emerson (US)	Premium asset performance mgt. group	✓	✗	✗	✓	✗
Samotics (NL)	Alternative condition monitoring (ESA) supplier	✓	✓	✗	✗	✗
IO-Link Wireless	Alternative technology	(✓)	✗	✓	✓	✗



Market Positioning

iQunet.®



Wireless (Condition) Monitoring with unique IIoT Edge solution



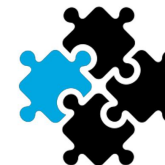
Proprietary wireless stack combining “fast” sensors with “slow” sensors in one system



Sensitive Edge near real-time AI monitoring trained on equipment footprint data



Low customer TCO including free customer data access



Scalable solution /
/ non-scaling technology costs



Counter-positioning

iQunet Positioning Statement:

For industries that are pursuing increased OEE, iQunet provides a one stop shop for products that deliver wireless monitoring data which is easy to use, delivers fast deployment and results, remains on-prem, is well structured, and is free-of-use.



-  Company
-  Solution
-  Market
-  **Business**
-  Financial

Business model

Wireless Monitoring Solutions

Product Sales



Predictive Maintenance Solutions



Vibration



Electrical Signature



Remote Asset Monitoring Solutions

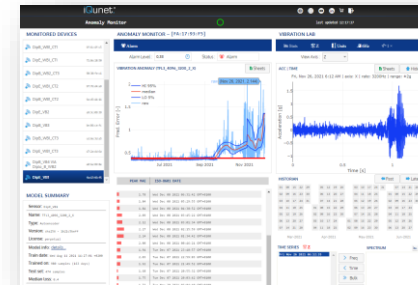


Other Sensor Data

Sales margin > 75%

Sales margin > 50%

Software Sales



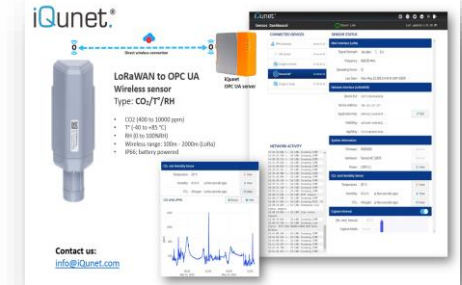
AI services



Anomaly Monitor

Sales margin > 70%

(recurrent)



Licenses



Payload decoder

Sales margin > 90%

Industrial hybrid strategy

Innovation

Continue investing in development to improve sensor technology, enhance performance, and introduce new features in SW & HW

Partnerships and Alliances

Creation of partnerships with worldwide LoRaWAN sensor suppliers to create large and flexible portfolio of products

Quality Assurance and Certifications

Focus on maintaining high-quality standards and maintaining relevant certifications and compliance to build trust with customers (ISO9001, CE, ATEX, IECE)

Scalable Manufacturing

Implement scalable manufacturing processes together with supplier partners

After-Sales Support and Services

Offer after-sales support, and maintenance services to ensure customers derive maximum value from the sensor solution

Cost Optimization

Continuously optimize production costs without compromising product quality



Internalized:



- Development of easy to assemble products
 - Use of standard components from the shelf
 - 100% own Software (IP) + open source
 - Internal final assembly (QC)
 - Packaging (UN regulations Lithium batteries)

Externalized:



- PCBA production and pre-assembly in EU
 - main supplier: LHM (BE) DT: 5-8w
- Logistics: DHL (worldwide)

Industrialization roadmap:



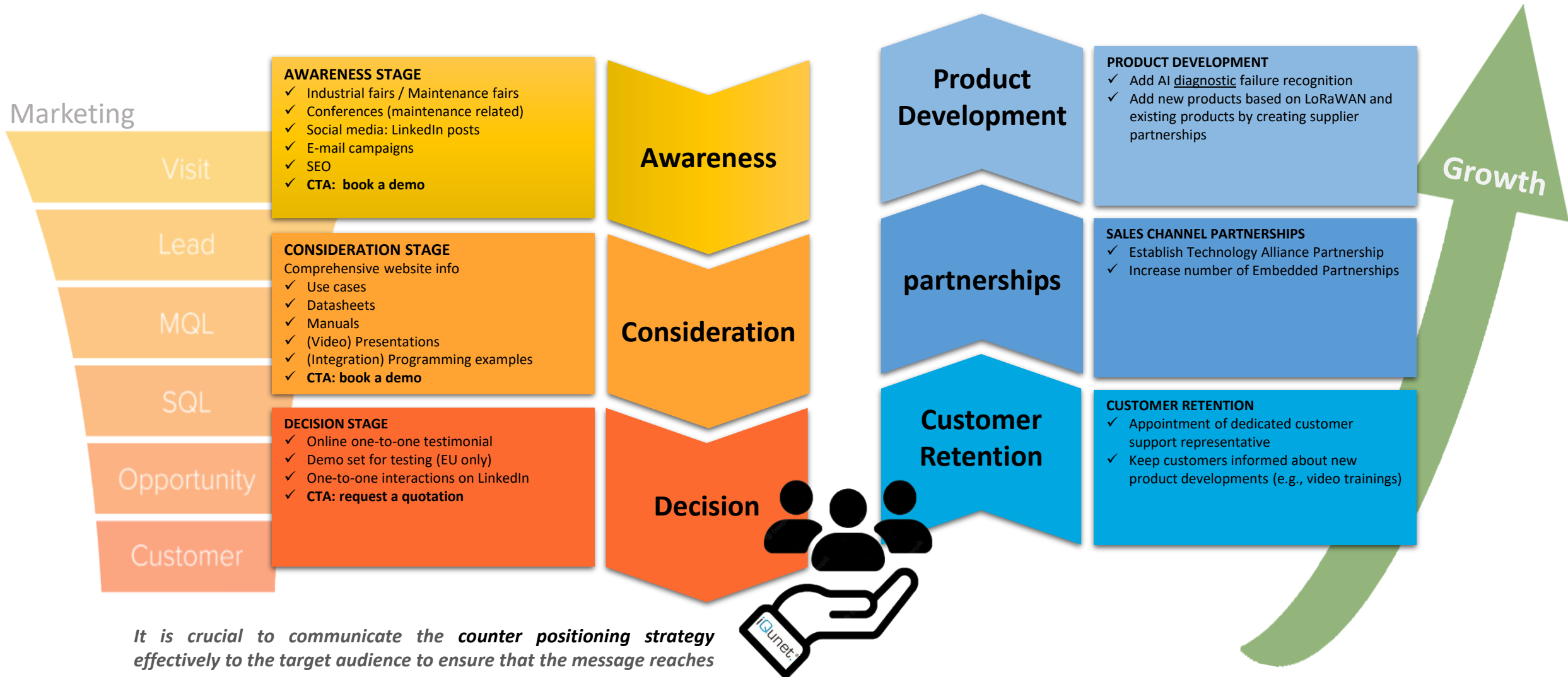
- Development of automatic and embedded AI diagnostic failure recognition
- Maintain and improve QMS-ISO9001 and extend to ISO/IEC-80079-34 (Ex-product manufacturing)
- Make use of external assembly providers for non-strategic sub-assemblies.
- Step by step improvement and growth of (lean) assembly facility for strategic assemblies
- Appoint manufacturing lead for purchase and operations

Protection of innovation



Device / Software	Software description	Ownership	iQunet IP protection methodology
iQunet Edge Server	Operating System	Open-source Standard Linux	None
	iQunet analytics & sensor mgt.	iQunet development	Know-how protection through compiled code
	Interfaces: OPC UA server	iQunet development	Know-how protection through compiled code
	Anomaly Monitor (AI-aas)	iQunet development	Know-how protection through compiled code
	LoRaWAN payload decoder	iQunet development	Know-how protection through compiled code
WPAN Sensors	Sensor machine code	iQunet development	<ul style="list-style-type: none"> • Processor protection • Scrambled/Compiled
LPWAN sensors	Sensor supplier software	With product purchase	Know-how protection through compiled code
Server remote login	WebRTC (node-WebRTC)	iQunet development	Protected Cloud environment
iQunet server interface	iQunet CloudLink (DB-aaS / web-server)	iQunet development	Protected Cloud environment
BI-Tool	Google Looker Studio (free user license)	<ul style="list-style-type: none"> • Google free user license • Connector: iQunet development 	Know-how protection of connector software

Marketing & Growth Strategy



Sales channel	iQunet benefit	Customer examples	Distribution margin against recommended list price	Interlocutor	Estimated sales cycle
iQunet Direct sales	Direct customer contact, high margin	Daikin, PepsiCo, Mohawk, Lafarge-Holcim	Direct sales @ List price	Digitalization Mgr. , Plant Performance Mgr., Maintenance Mgr.	3-6m
iQunet Online sales	Prepayment, high margin	Ad hoc customers	Direct sales @ List price		1d
Value-Added Reseller	Selling iQunet solution to their existing customer base + add value in many ways	Reshenie (KR)	20% + value added	Owner, (Digital) Project Mgr.	3-12m
Service Delivery Partner	Make iQunet's products more attractive by reducing the pain of implementation	Facta	20% + service value added	Maintenance Project Mgr.	3-12m
Global System Integrator	Break into the lucrative enterprise market	Siemens, Siemens Energy,	20-40% + solution service value added	(Digital) Project Mgr.	6-18m
Embedded Partner	Increase sales with limited cost of sales	ROSTA	20% + solution value added	(Digital) Project Mgr.	6-18m
High Velocity Partner	Keep administrative costs low	Digikey	(25%) in consideration	Account Mgr.	-

Technology alliance partner	<i>iQunet will benefit from the association with a trusted partner</i>	To be defined	In consideration		
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Customer quotes

“The iQunet system is exactly what we need: monitoring in the edge, embedded AI, vibration combined with current signature monitoring (ESA), ease of use, and complete ownership over the data via OPC UA for our future digitalization projects. iQunet ticks all the boxes!”

Jorge Gamarra, Head of Maintenance Technology, Holcim Group, CH.

Ref. Holcim>iQunet negotiations for supplying +100 plants with +100 sensors/plant over 5 years, June 2023

*“Amazing what you have developed! iQunet has knowhow and products we don’t have.
Why aren’t you acquired yet ...?”*

Benno Kathan, CTO, Member of board of directors, ifm Group, DE



Ref. Hannover Messe 2023, visit on iQunet booth



“Now iQunet’s solution is validated in large airports and integrated in the Siemens Logistics Nuremberg customer demo center, your products are showcased to airports worldwide. We expect München Airport will order the Siemens Service 4.0 for their baggage handling conveyors by Q4/2023 which include +2000 pcs. of iQunet sensors.”


Dr. Ing. Frank Koenig, Senior Project Mgr., Predictive Analytics/Digitalization, Siemens Logistics GmbH, DE

May 2023

-  Company
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-  **Financial**

Predictive Maintenance			Year	2022	E2023	E2024	E2025	E2026	E2027	E2028
	Product	# condition monitoring devices (WPAN)	#pcs	434	605	791	1289	2686	4297	5875
		sales €/pc	€/pc	517	579	562	545	528	513	497
		sales margin €/pc	€/pc	388	447	441	434	423	414	403
		sales margin %	%	75%	77%	78%	80%	80%	81%	81%
	Software	# yearly services (AI-aaS / DB-aas)	#pcs	101	121	158	258	537	859	1175
		sales €/pc	€/pc	132	150	150	125	125	100	100
		sales margin €/pc	€/pc	82	105	110	90	95	75	80
		sales margin %	%	62%	70%	73%	72%	76%	75%	80%

Remote Asset Monitoring			Year	2022	E2023	E2024	E2025	E2026	E2027	E2028
	Product	# monitoring devices (LPWAN)	#pcs		330	495	743	1114	1671	2506
		sales €/pc	€/pc		1158	1123	1090	1057	1025	994
		sales margin €/pc	€/pc		628	608	580	552	525	499
		sales margin %	%		54%	54%	53%	52%	51%	50%
	Software	# payload decoder licenses (LPWAN)	#pcs		297	446	668	1002	1504	2255
		sales €/pc	€/pc		190	170	150	130	110	90
		sales margin €/pc	€/pc		185	165	145	125	105	85
		sales margin %	%		97%	97%	97%	96%	95%	94%

		Year	2022	E2023	E2024	E2025	E2026	E2027	E2028	
	total	Product (x 1000 Euro)	k€	224	732	1000	1511	2595	3915	5414
	total	Software (x 1000 Euro)	k€	13	74	100	132	197	250	319
	Sales		k€	237	807	1100	1644	2792	4165	5733

Financials



Profit&Loss (x 1000 Euro)	Year	2022	E2023	E2024	E2025	E2026	E2027	E2028	
Sales	k€	237	807	1100	1644	2792	4165	5733	100%
direct cost	k€	-61	-261	-359	-534	-865	-1287	-1828	-32%
sales margin	k€	176	546	741	1110	1927	2878	3905	68%
sales margin	%	74%	68%	67%	68%	69%	69%	68%	
total workforce FTE	FTE	3,8	4,2	9,0	9,0	10,5	11,5	12,5	
Total cost FTE's	k€	-85	-328	-772	-789	-954	-1044	-1139	-20%
other cost	k€	-62	-109	-142	-232	-317	-466	-621	-11%
Total Other Cost	k€	-147	-437	-914	-1021	-1271	-1510	-1760	-31%

EBITDA	k€	35	114	-168	94	661	1373	2150	38%
EBITDA %	%	15%	14%	-15%	6%	24%	33%	38%	

EBIT	k€	-57	34	-238	44	631	1353	2150	38%
EBIT %	%	-24%	4%	-22%	3%	23%	32%	38%	

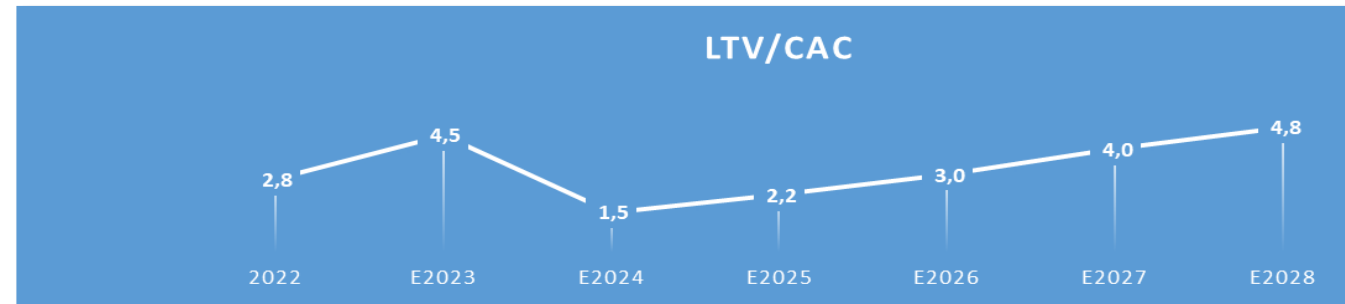
EBT	k€	-62	29	-245	39	614	1327	2113	37%
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Net Earnings	k€	-62	29	-245	39	543	929	1479	26%
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Employees



	2022	E2023	E2024	E2025	E2026	E2027	E2028
Sales	0,24M€	0,8M€	1,1M€	1,6M€	2,8M€	4,2M€	5,7M€
Overhead FTE	1,0	1,0	2,0	2,0	2,5	3,0	3,5
O&O + support FTE	0,8	1,0	2,0	2,0	2,0	2,5	3,0
Sales FTE	0,0	0,2	3,0	3,0	4,0	4,0	4,0
Owners	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Total workforce FTE	3,8	4,2	9,0	9,0	10,5	11,5	12,5





Raising 1,5M€ (Series A)

Target close Dec. 2023

So we can reach **5,7M€ in sales**

by

- Scaling and refining marketing & sales
- Scaling customer support
- Enhancing embedded AI with auto-diagnostics
- Widening sensor offering through partnerships

Conclusion & Contact



Just as iQunet embraces a hands-on mentality in its operations, we appreciate the proactive approach of **Industrya**.

With its access to a vast national and international network of expertise, markets, customers, and industrial partners, by joining **Industrya**, we are confident in achieving iQunet's vision.

iQunet.®

Dirk Van den Branden

dvdb@iQunet.com

+32 478 44 66 20