

# Methods and measures for checking the efficiency of the steam cycle

*Frank Heißenbüttel,*  
Area Sales Manager, Gestra

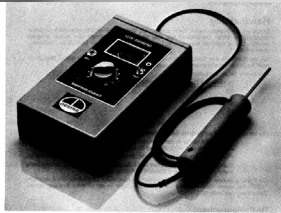
**One partner recently said,**

**"Saving energy has been your theme since Gestra was founded".**

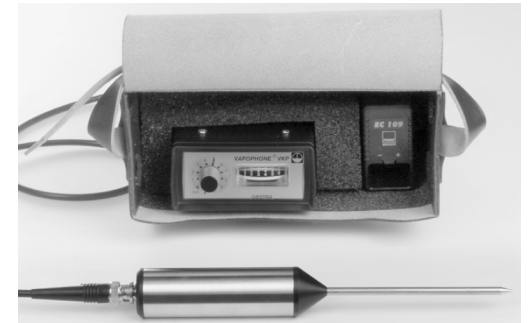
**You just have to be able to check and prove these savings!**

# GESTRA VKP Systems

- Development of trap monitoring



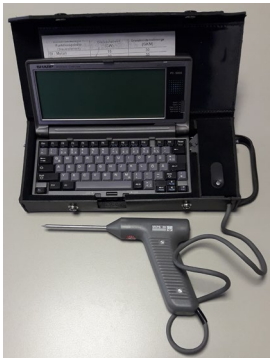
- 1970er  
GESTRA Ultrasonic leak detector
- End of 1970ers/1980er  
Vapophone VKP  
followed by VKP EX  
VKP 10 (non-Ex)



# GESTRA TRAPtest VKP

- Manual Steam Trap Monitoring

**VKP 20**  
1980er



**VKP 30**  
1990er



**VKP 40 (Ex)**  
2006



**VKP 40plus (Ex)**  
2013/2015



**VKP 41plus (Ex)**  
May 2017



# TRAP *test* VKP 42/ VKP 42 Ex portal

Objective steam trap testing made easy



# TRAP *test* VKP 42/ VKP 42 Ex portal

## Test Equipment for Steam Traps

- Benefit from GESTRA's decades of experience in ultrasonic testing of steam traps
- Expands the TRAPtest VKP 42 product family
- Ideal for steam trap audits
- Portal version with web-based portal for evaluation (hardware-independent)



# TRAP test VKP 42/ VKP 42 Ex portal

*The regular inspection of steam traps with the TRAP test VKP 42 (Ex) allows you to...*

- ensure system availability
  - by avoiding reduced availability or even system downtime
- maintain product quality
  - by preventing the production of rejects
- reduce costs
  - by avoiding steam loss



# TRAP *test* VKP 42/ VKP 42 Ex portal

*The regular inspection of steam traps with the TRAP test VKP 42 (Ex) allows you to...*

- improve sustainability
  - by avoiding CO<sub>2</sub> emissions

<b>Faulty steam traps</b>	<b>Loss per annum</b>	<b>Yearly CO<sub>2</sub> emissions</b>
1	720 EUR	3,840 kg
10	7,200 EUR	38,400 kg
20	14,400 EUR	76,800 kg
50	36,000 EUR	192,000 kg
200	144,000 EUR	768,000 kg



# TRAP *test* VKP 42/ VKP 42 Ex portal

## Scope of supply

data collector



Com box

measuring  
transducer



- transport case
- USB cable with accessories for data collector
- USB charging cable VKPA 40plus for Com-Box
- power supply unit for Com box
- 4 mains plug adapters for different mains sockets
- strap for securing the Com box
- Access to web-based analysis portal TRAP *test* VKP
- mirror
- file

# TRAP *test* VKP 42/ VKP 42 Ex portal

## Data Collector

- Large 5" multi-touch colour display
- Reliable operation even with wet fingers or gloves
- Automatic language adaptation for over 20 languages
- Can store up to 2,500 test objects
- Camera feature
- Protection class IP 68
- TRAP *test* VKP 42 Ex for potentially explosive atmospheres



# TRAP *test* VKP 42/ VKP 42 Ex portal

Evaluation application TRAP *test* VKP local

- Browser based cloud application
- Access from everywhere
- Extended range of functions
- Intuitive operation



# TRAP *test* VKP 42/ VKP 42 Ex portal

## License model TRAP *test* VKP portal

	Steam Basic	Steam User	Steam Expert
TRAPtest Portal incl. new features	V	V	V
Multi-devic	X	V	V
Online training/ product training	X	V	V
Data migration	X	V	V
Remote Support	X	V	V
Troubleshooting	X	X	V
Listed as Certified GESTRA Partner	X	X	V

# TRAP *test* VKP 42/ VKP 42 Ex portal

## Benefits

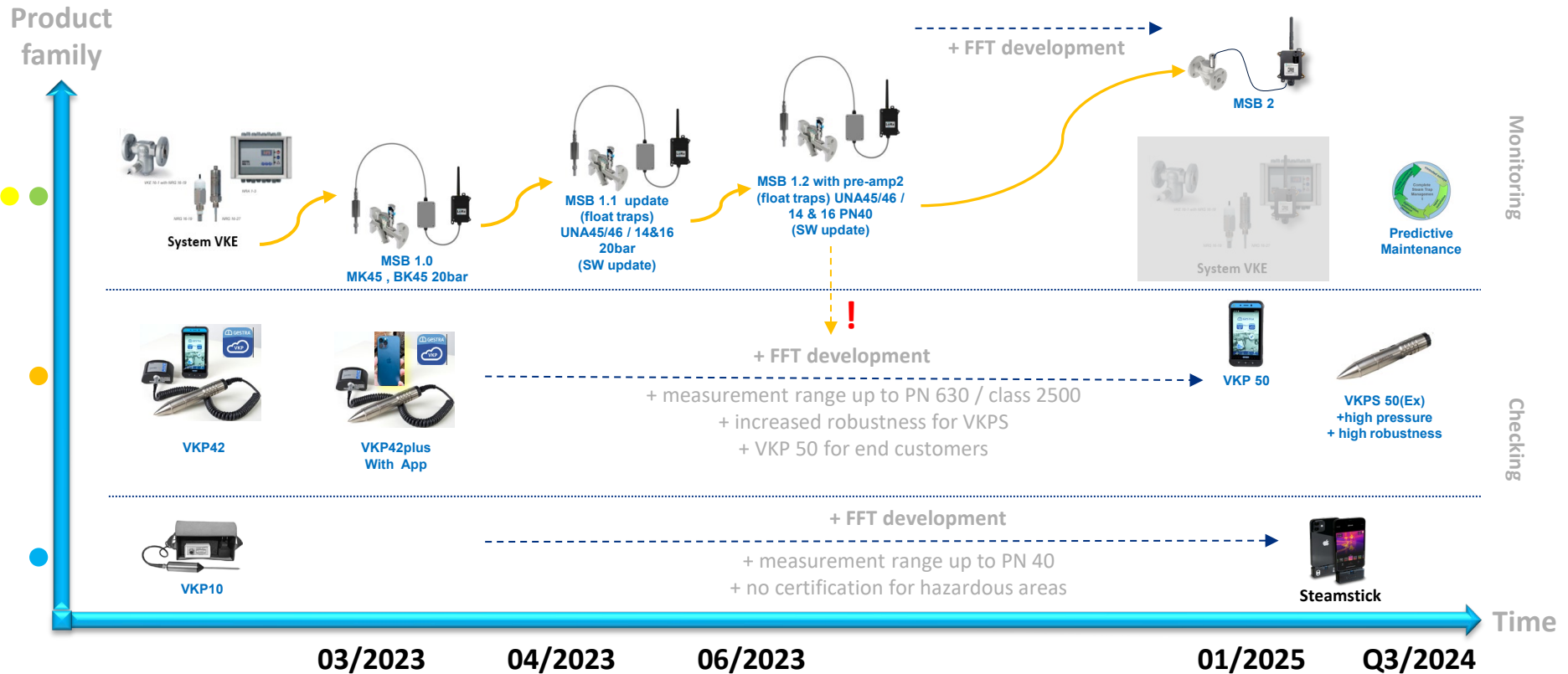
- Highly efficient hardware-independent web app
- Normal and quick check
- Database suitable for more than 20,000 test objects
- Automatic calculation of CO<sub>2</sub> emissions
- Extensive data import and export feature
- Large choice of adaptable report forms
- Direct acquisition of test objects during the test
- Capable of handling QR and NFC codes and Geo tagging
- Optional additional services:
  - Multiple device management
  - Remote support

# ecoBolt

## Continuous Steam Trap Monitoring

MSB-1 MultiSensBolt

# Roadmap GESTRA Steam Traptest, evolution



# ecoBolt – Market Demand



- **Energy savings** is the number one sustainability priority for many customers. We have a lot of potential to develop our physical and digital services to deliver greater quantified energy, carbon and water savings. This includes via new digital enabled services, such as real time benchmarking (with Cotopaxi), as well as by digitalising more traditional services such as for steam trap management.
- **Faster detection and repair of failed traps**, enabled by wireless monitoring (compared to average repair times of > 6 months from annual physical surveys), can save up to 10 % of steam system energy losses.
- Mayor players in GESTRA target market demanding **wireless steam trap monitoring solutions**. Their drivers align with all our end user CVPs with focus to Sustainability / Energy Savings and Process Productivity. Preventative Maintenance insights and Safety are other drivers.
- O&G and Chemicals Companies, with 1000s of traps per site, are focussing on **high pressure** or critical process trap monitoring. They will require **ATEX trap monitors** and many of these companies demand that data from trap monitors goes direct to their cloud before they share data on to support our services.







# ecoBolt – Product Introduction

## 1. WHAT IS IT?

The **ECObolt** is a retrofittable trap sensor collecting temperature and acoustic data to monitor the performance of applications across GESTRA MK45, BK45&46, UNA 4x series of traps. By using **RetroFitClamp** competitor product can be monitored by **ECObolt**.

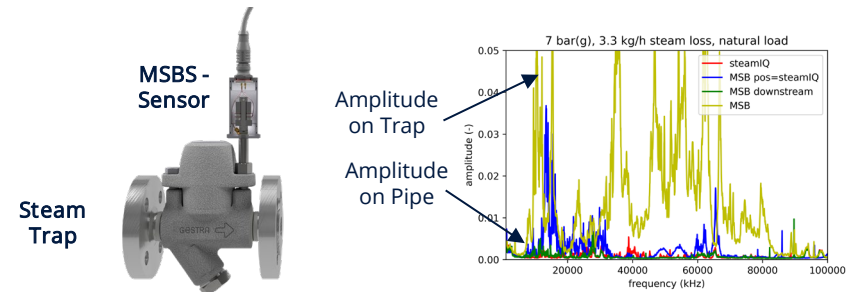
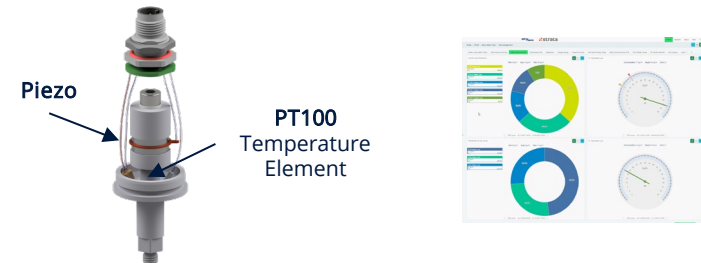
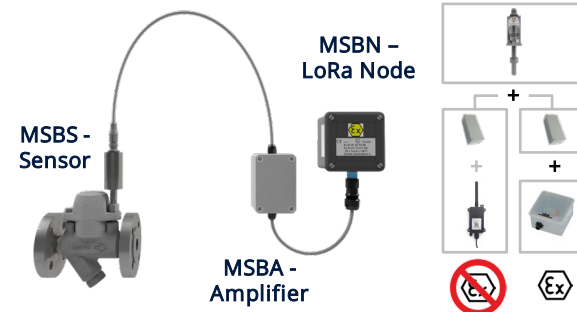
## 2. HOW DOES IT WORK?

It uses the sensor values to identify steam trap performance (incl. functional or failing characteristics) whilst quantifying customer sustainability benefits through the use of a 'Digital Dashboard' & Analysis Service).

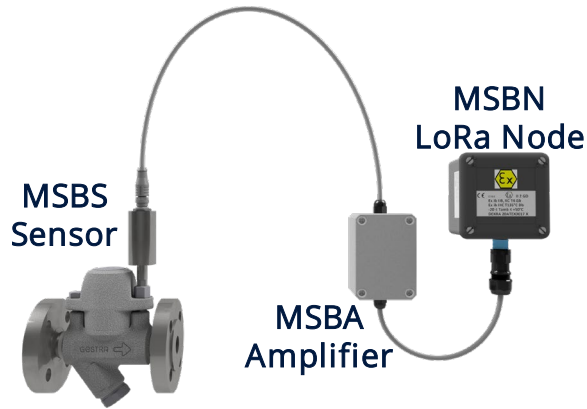
## 3. USP – Unique Selling Proposition

ECObolt states the only solution being mounted directly to traps. Noise amplitude is far higher compared to pipe mounted devices.

Depending on side condition the application at trap is beneficial compared to e.g. isolated pipes.

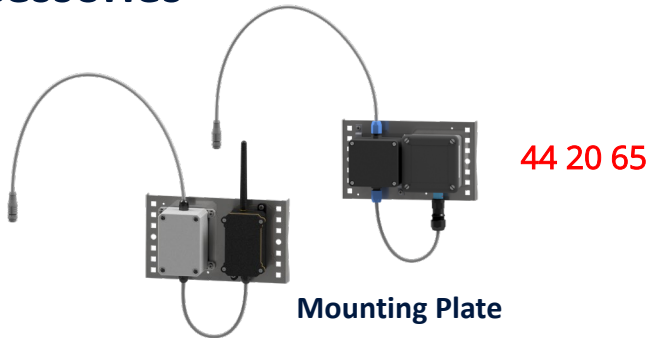


# ecoBolt – SSP



			44 20 01				
			44 20 10	44 20 23	+	44 20 33	
MSB-1 Ex	TBC €						
MSB-1	TBC €						
			44 20 10		+	44 20 26	
			44 20 00				

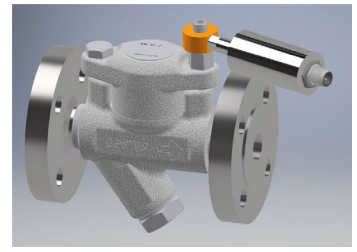
## Accessories



- DN 15 / ½" - 44 20 55
- DN 20 / ¾" - 44 20 56
- DN 25 / 1" - 44 20 57
- DN 40 / 1 ½" - 44 20 58
- DN 50 / 2" - 44 20 59

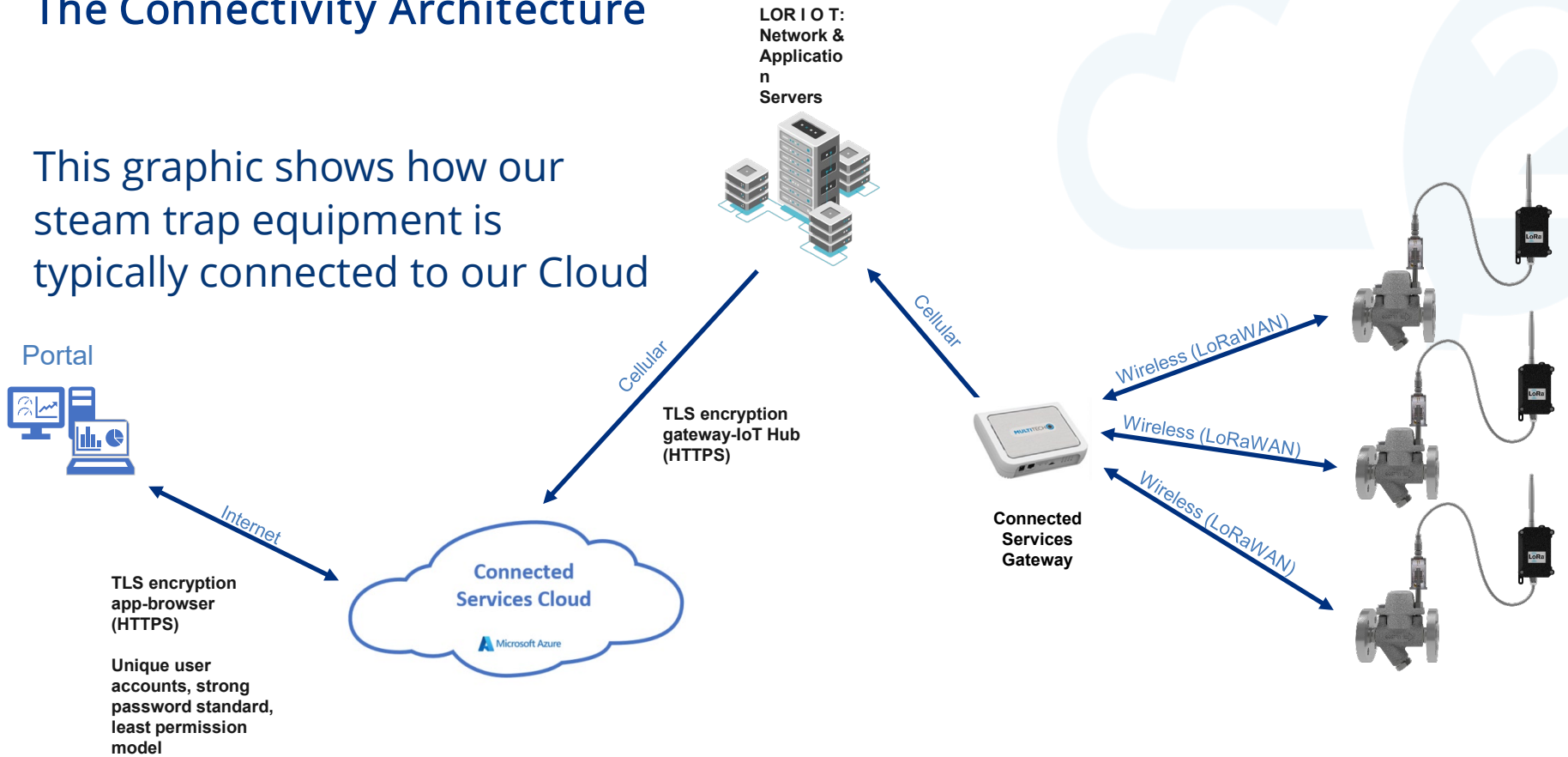
### 90° Adapter

XX XX XX

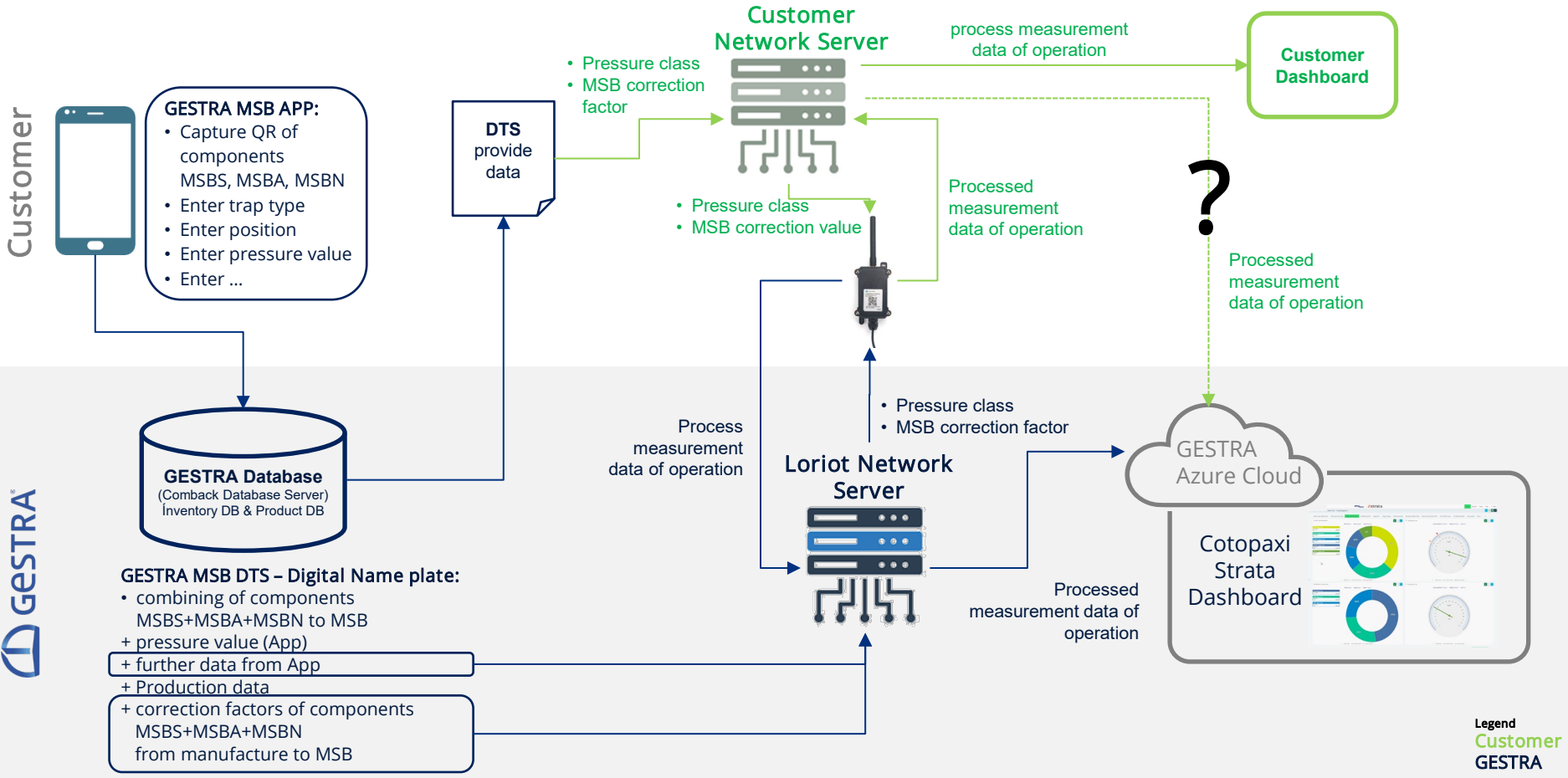


# The Connectivity Architecture

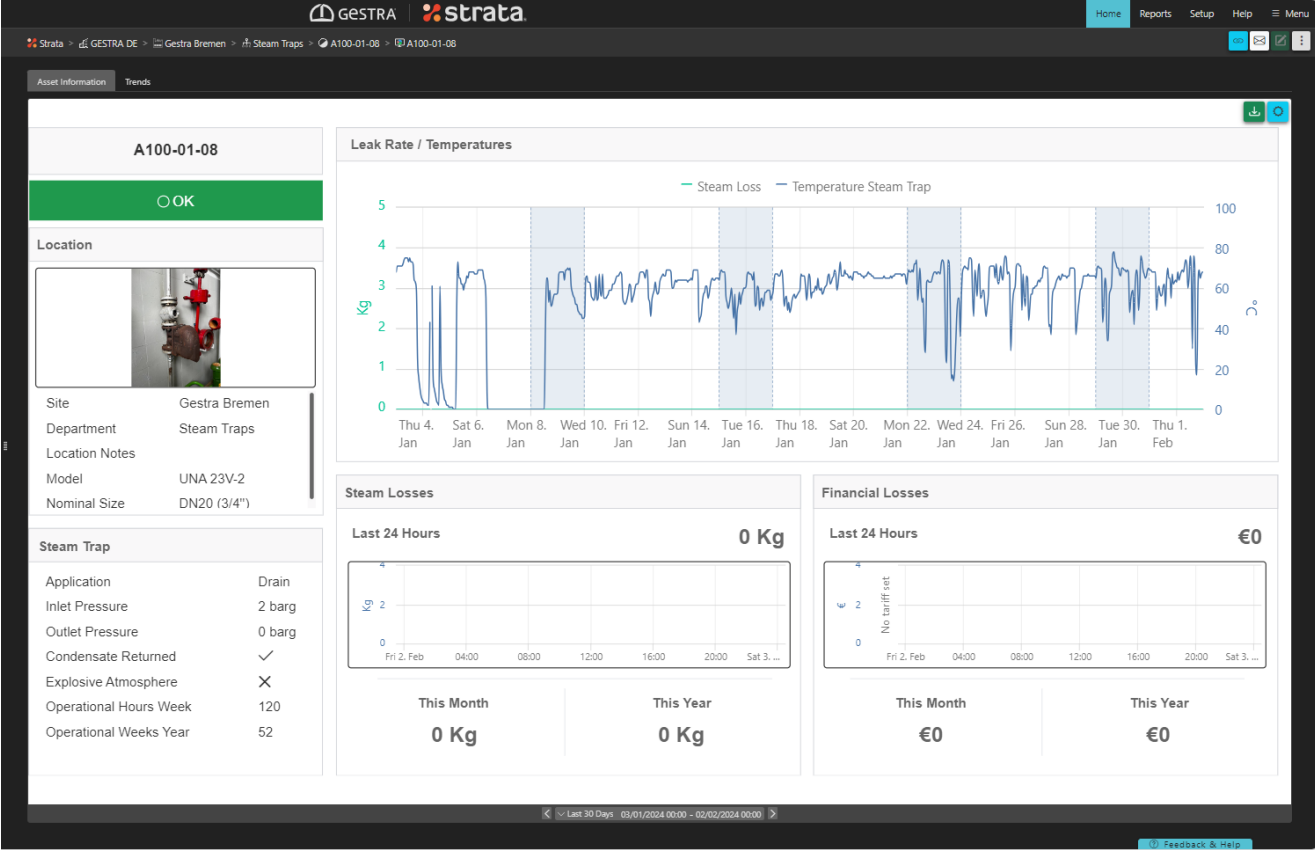
This graphic shows how our steam trap equipment is typically connected to our Cloud



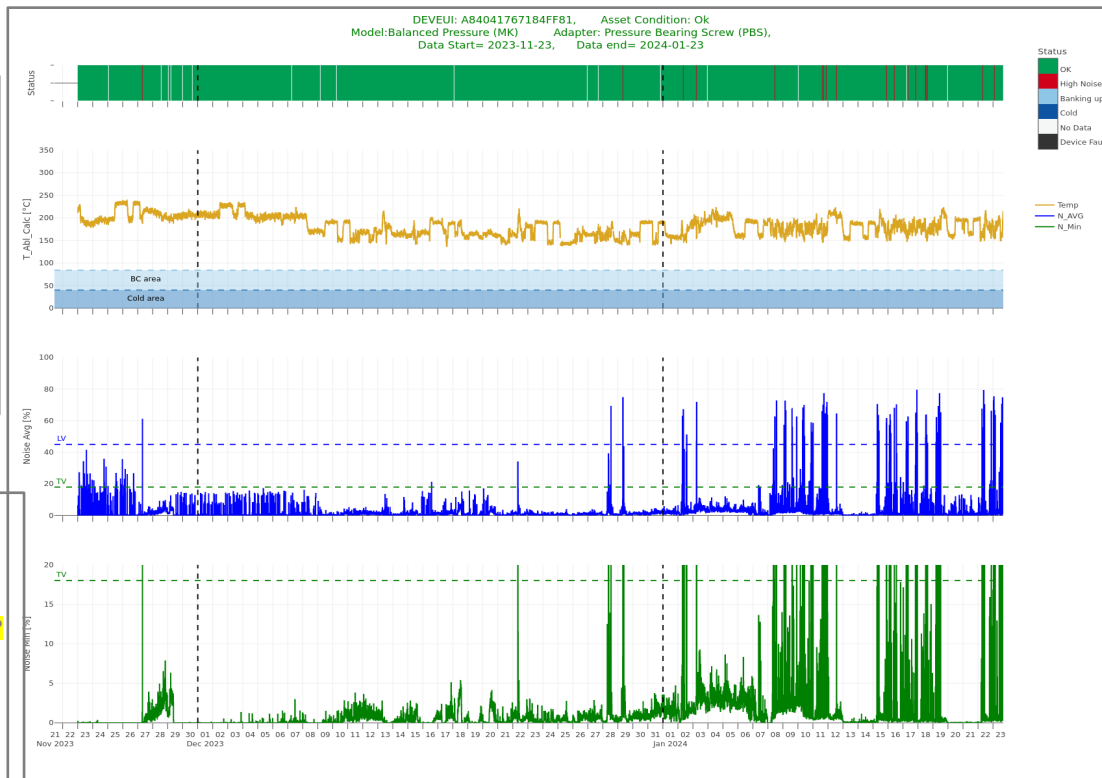
# ecoBolt – Commissioning & Correction



# L2: GOLD – Asset Overview (for each steam trap)



# Trap Analysis Report (1) : A84041767184FF81 (Nov 2023 – Jan 2024)



## Comments

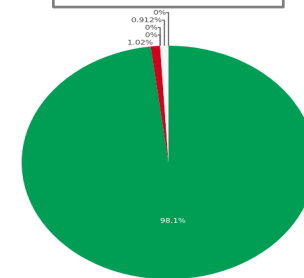
Reduction of high noise

Membrane has been changed?

Y

OK

## Status Summary



100% = 61.67 days

## Battery

100.0%

## Signal Quality



## Status Legend

Ok	High Noise	Device Fault
Banking Up	Cold	No Data

# L2: GOLD – Asset Overview (Dashboard)





😊 Thank you for your attention 😊

