



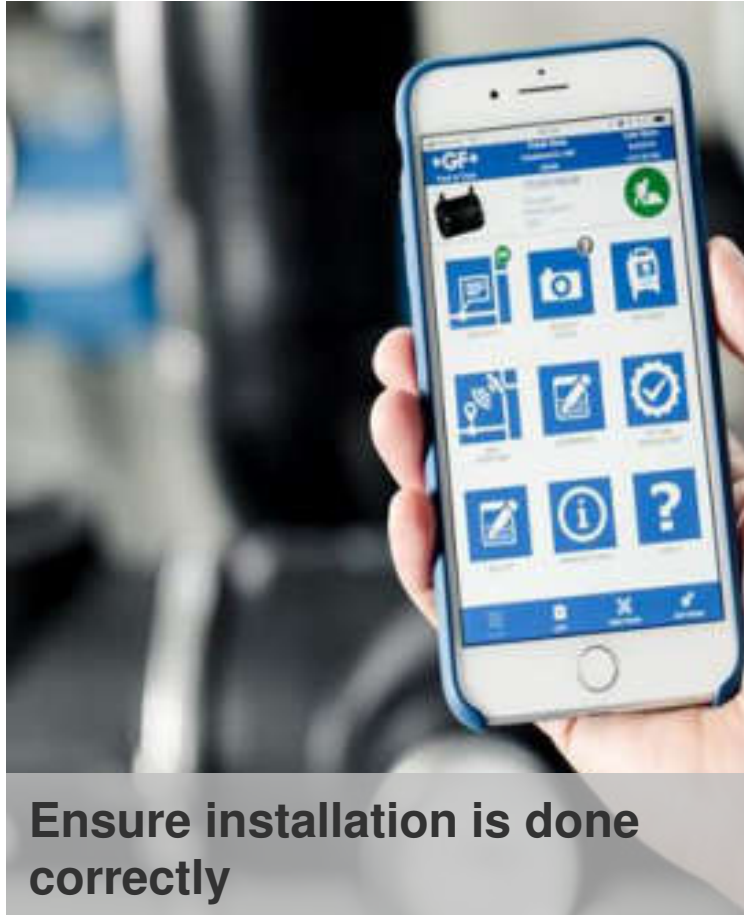
+GF+

Reducing Water Loss

Sanjay Patel,
Global Business Development Manager
Specialized Solutions



Today we will look at three Solutions for **reducing water loss** in your network





About GF Piping Systems



+ We are industrial pioneers

219 years of innovation

On the Swiss Stock Exchange since 1903



Johann Conrad Fischer
1773-1854



Georg Fischer I
1804-1888



Georg Fischer II
1834-1887



Georg Fischer III
1864-1925

3.1 bn CHF

Total Revenues 2020

59

Production sites

137

Total Locations

14'118

Employees Worldwide

+ GF Corporation



GF Piping Systems



GF Machining Solutions



GF Casting Solutions

+GF+



1.7 bn CHF

Total Revenues 2020

36

Production sites

31

Countries

6'890

Employees Worldwide

+ GF Piping Systems

As the leading flow solutions provider for the safe and sustainable transport of fluids, GF Piping Systems creates connections for life.

The division focuses on system solutions and high-quality plastic and metal components for a diverse installed base.

We are sustainably managed and our solutions support the UN Sustainable Development Goals (SDG)



Gold medal sustainability rating 2020



A- score in 2020 Climate Change rating

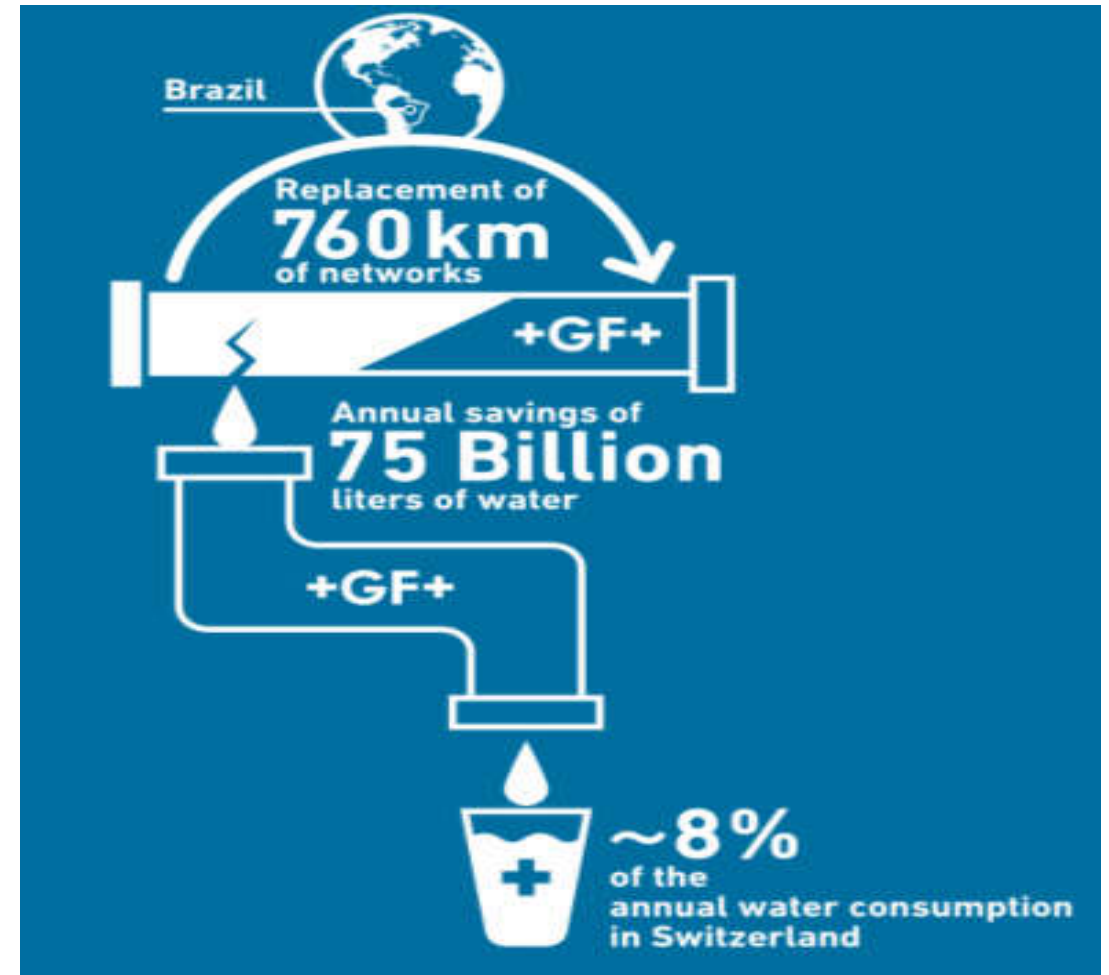


9th most sustainably managed company in the world



Sustainable Development Project

GF is a participant of the UN Global Compact, with GF Piping Systems directly contributing to the United Nations' Sustainable Development Goals






+ Is this your network ?



**+ Does this
bring back
memories**



Specialized Solutions could help minimise water loss

Client's benefit from unique **sustainable** solutions for the entire project lifecycle




Field Data Collector



Our goal is to provide **you with a digital pipe book**, instead of 1000s of paper pages

- ✓ Installation process monitoring
- ✓ Field preparation and monitoring
- ✓ Installation Checklists
- ✓ Digital documentation collection
- ✓ Geo positioning
- ✓ Project documentation archiving
- ✓ Field statistics
- ✓ Audit data





**Digital pipe book requires
accurate data to be collected ?**



You need to collect the right data?



14% of damages are directly caused by excavation works, you need to know where and what was installed



Did you know 55% of re-work is caused by field data that is inaccurate*

Information is scattered in many places: ERPs, GIS, Time monitoring, Invoicing tools and... PAPER



Audited every year: they might be allowed (or not) to work in certain places / conditions

*AUTODESK 2019 report



Access all the data safe and secure, ensure the project is on track

Manage your projects successfully and **reduce paper**

WebPlatform

Office Preparation & Monitoring

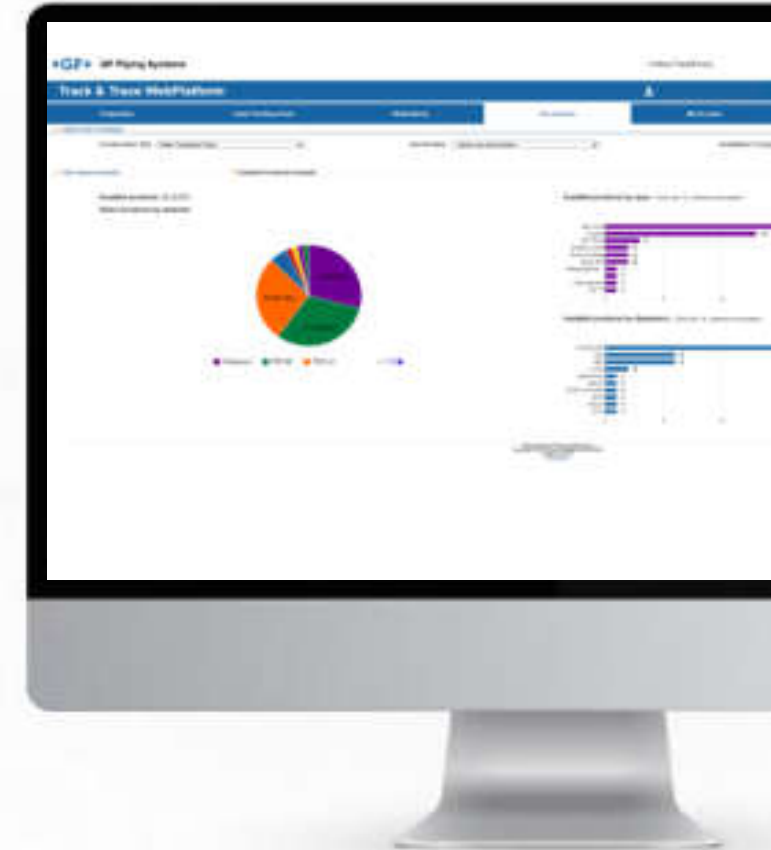
- Construction Site
- Job number
- User rights
- Quality Checklist

Analysis and Statistics

- Full access to field data
- Ready for Audit
- Statistics down to individual product & installer

Export

- GIS System integration
- Reports – inc AsBuilt Data



Work up to 50% faster in the field, collecting **all the data**

App

Data Input - Fieldwork

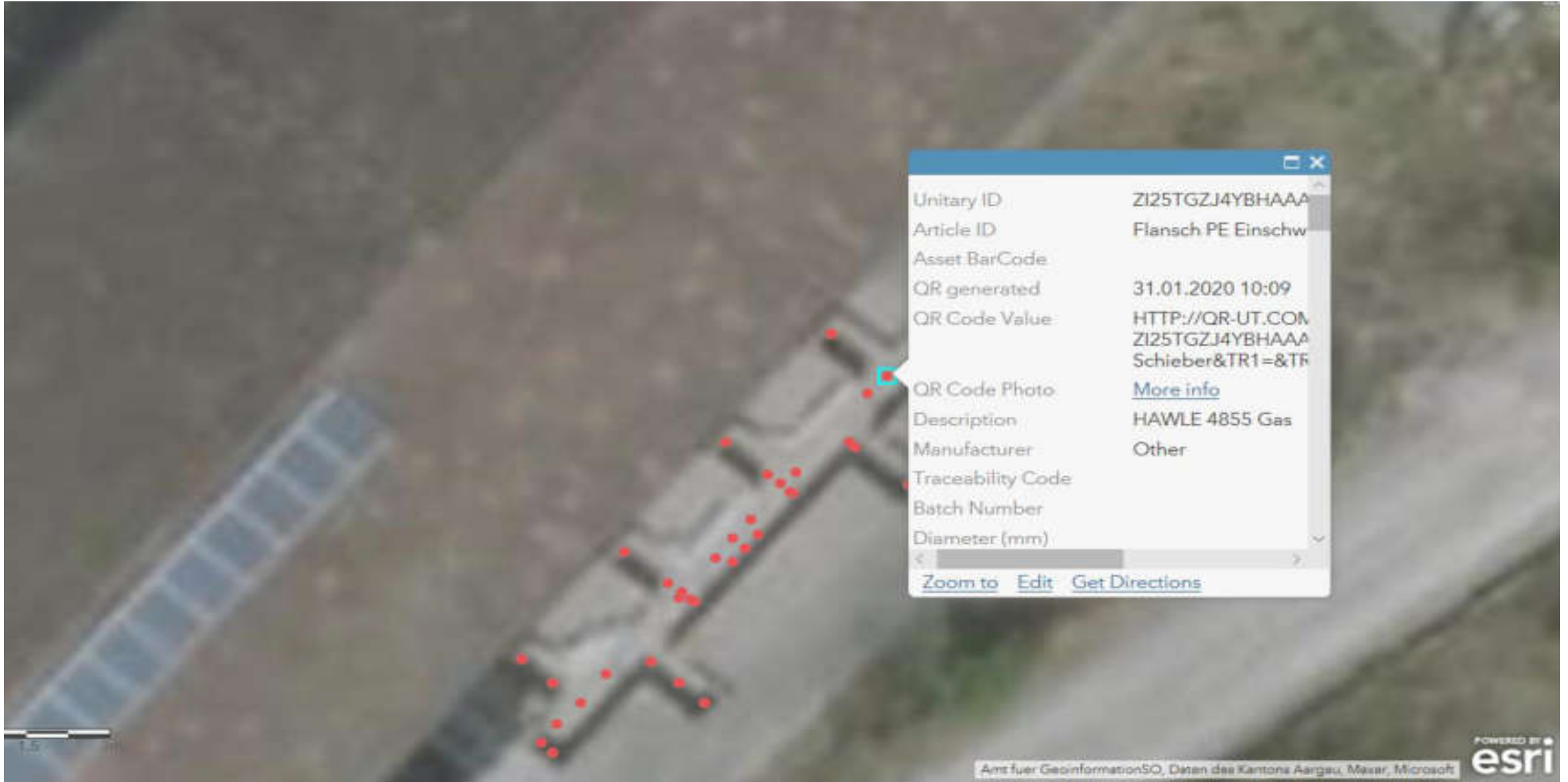
- Product Traceability
- Photographs
- Job Data selection
- Quality Checklist
- Welding (Automatic Welding with GF Machines)
- Geo Positioning
- Notification & Comment Input
- As Build data
- Torque

Communication

Feedback from the Office



Integrate into your Geo Information System (GIS)



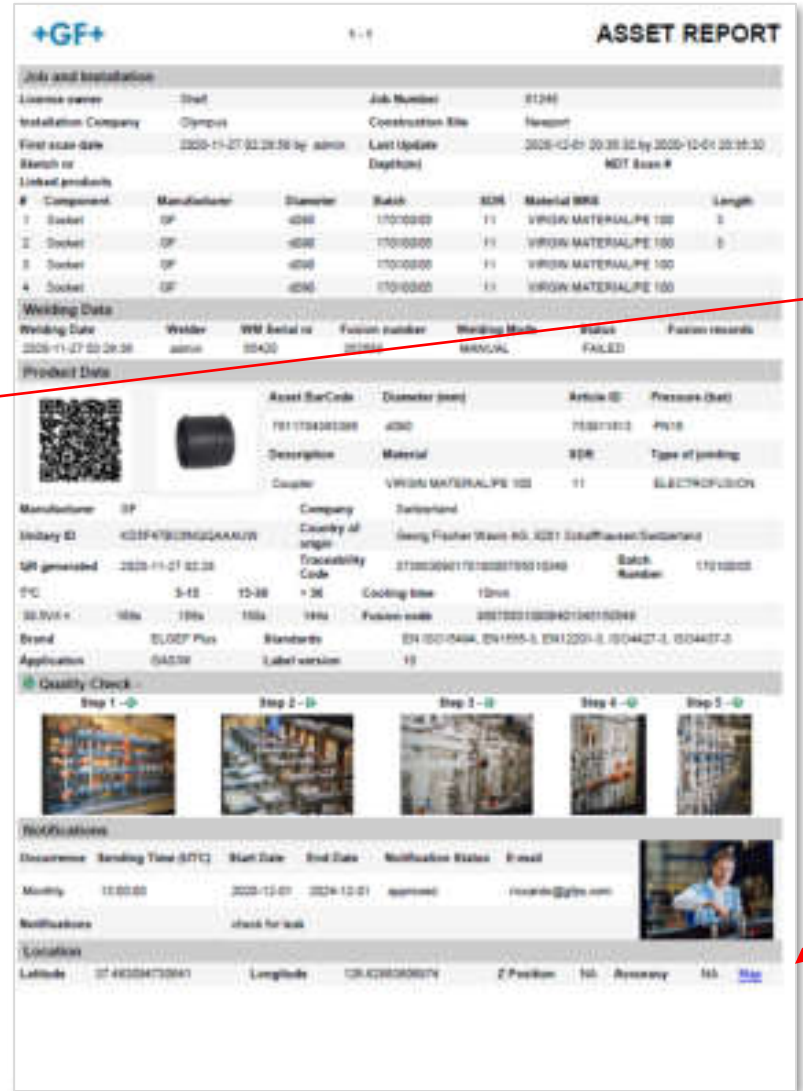
Produce your digital e-pipe book simply

| Elektronisches Rohrbuch | | | | | | | | | | | | | | | | | |
|---|-----------|-----------|--------------|----------|-----------|-------|------------|--------------------|------|-------|-----------|-------|-------|---|------|----------------|--------|
| Schweisprotokoll | Lage | | Traceability | | | | | Verlinkte Produkte | | | | | | | | | |
| | Latitude | Longitude | Herstell | Durchm | Charge | SDR | Material M | Bezeichnung | Herz | Durch | Charge | SDR | Mate | Trace Code | Läng | Referenzbild 1 | Bild 1 |
| https://tts-eu.gfps.com/fus | 49.194207 | 12.057515 | AGRU | d110 | 201914/01 | 11 | PE100 | Stangenrohr | WG | d110 | 260320/33 | SDR17 | PE100 | 23070111026032033508170301 | 12 | | |
| https://tts-eu.gfps.com/fus | 49.194963 | 12.057430 | AGRU | d110 | 201908/01 | 11 | PE100 | Stangenrohr | WG | d110 | 260320/33 | SDR17 | PE100 | 2307011102603203350817030100000000000986 | 2.9 | | |
| https://tts-eu.gfps.com/fus | 49.194862 | 12.057645 | AGRU | d110 | 201908/01 | 11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.194535 | 12.057642 | GF | d63 | 180500 | SDR11 | PE100 | Pipe, straight | WA | d063 | 281018/31 | SDR11 | PE100 | 5331010632810183170517030200000000000308 | 3.8 | | |
| https://tts-eu.gfps.com/fus | 49.194152 | 12.057862 | Plasson | d63 | 931039/01 | 11 | PE100 | Pipe, straight | WA | d063 | 280419/31 | SDR11 | PE100 | 5331010632804193170517030800000000000247 | 3.8 | | |
| https://tts-eu.gfps.com/fus | 49.194315 | 12.057560 | Plasson | d63 | 931039/01 | 11 | PE100 | Pipe, straight | WA | d063 | 210518/31 | SDR11 | PE100 | 5331010632105183170517030500000000000197 | 1.6 | | |
| https://tts-eu.gfps.com/fus | 49.194650 | 12.057537 | Plasson | d63 | 931039/01 | 11 | PE100 | iso PE-body valv | GF | d063 | 190300/02 | SDR11 | PE100 | 37361506319030002705010345 | 0.35 | | |
| https://tts-eu.gfps.com/fus | 49.194507 | 12.057692 | Plasson | d63 | 931039/01 | 11 | PE100 | Pipe, straight | WA | d063 | 210518/31 | SDR11 | PE100 | 5331010632105183170517030500000000000197 | 1 | | |
| https://tts-eu.gfps.com/fus | 49.194310 | 12.057735 | Plasson | d63 | 931039/01 | 11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.194340 | 12.057705 | GF | d110-d63 | 182101 | SDR11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.194365 | 12.057620 | AGRU | d110 | 201914/01 | 11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.193820 | 12.057487 | AGRU | d110 | 201914/01 | 11 | PE100 | iso Elbow | AG | d110 | 201701/01 | SDR11 | PE100 | 31370811020170101708170335 | 0.4 | | |
| https://tts-eu.gfps.com/fus | 49.194785 | 12.057775 | AGRU | d110 | 201914/01 | 11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.195323 | 12.057122 | AGRU | d63 | 201701/01 | 11 | PE100 | | | | | | | | | | |
| https://tts-eu.gfps.com/fus | 49.195375 | 12.057100 | Plasson | d63 | 931039/01 | 11 | PE100 | Pipe, straight | WA | d063 | 280419/31 | SDR11 | PE100 | 55331010632804193170517030400000000000203 | 3.2 | | |
| https://tts-eu.gfps.com/fus | 49.195367 | 12.057203 | Plasson | d63 | 931039/01 | 11 | PE100 | Pipe, straight | WA | d063 | 280419/31 | SDR11 | PE100 | 5331010632804193170517030400000000000203 | 2.35 | | |
| https://tts-eu.gfps.com/fus | 49.195520 | 12.057563 | AGRU | d110 | 201914/01 | 11 | PE100 | iso Tee | AG | | 201801/01 | SDR11 | PE100 | 01370931720180101708170333 | 0.3 | | |
| https://tts-eu.gfps.com/fus | 49.195332 | 12.057042 | AGRU | d110 | 201914/01 | 11 | PE100 | Pipe, straight | WG | d110 | 260320/33 | SDR17 | PE100 | 2307011102603203350817030700000000000751 | 2.7 | | |
| https://tts-eu.gfps.com/fus | 49.195232 | 12.057502 | AGRU | d110 | 201914/01 | 11 | PE100 | Pipe, straight | WG | d110 | 260320/33 | SDR17 | PE100 | 2307011102603203350817030100000000000894 | 12 | | |
| https://tts-eu.gfps.com/fus | 49.195138 | 12.057645 | AGRU | d110 | 201914/01 | 11 | PE100 | Pipe, straight | WG | d110 | 260320/33 | SDR17 | PE100 | 2307011102603203350817030200000000000916 | 8.9 | | |
| https://tts-eu.gfps.com/fus | 49.195240 | 12.057523 | AGRU | d110 | 201914/01 | 11 | PE100 | iso Elbow | AG | d110 | 201701/01 | SDR11 | PE100 | 31370811020170101708170335 | 0.4 | | |



Asset Report feature

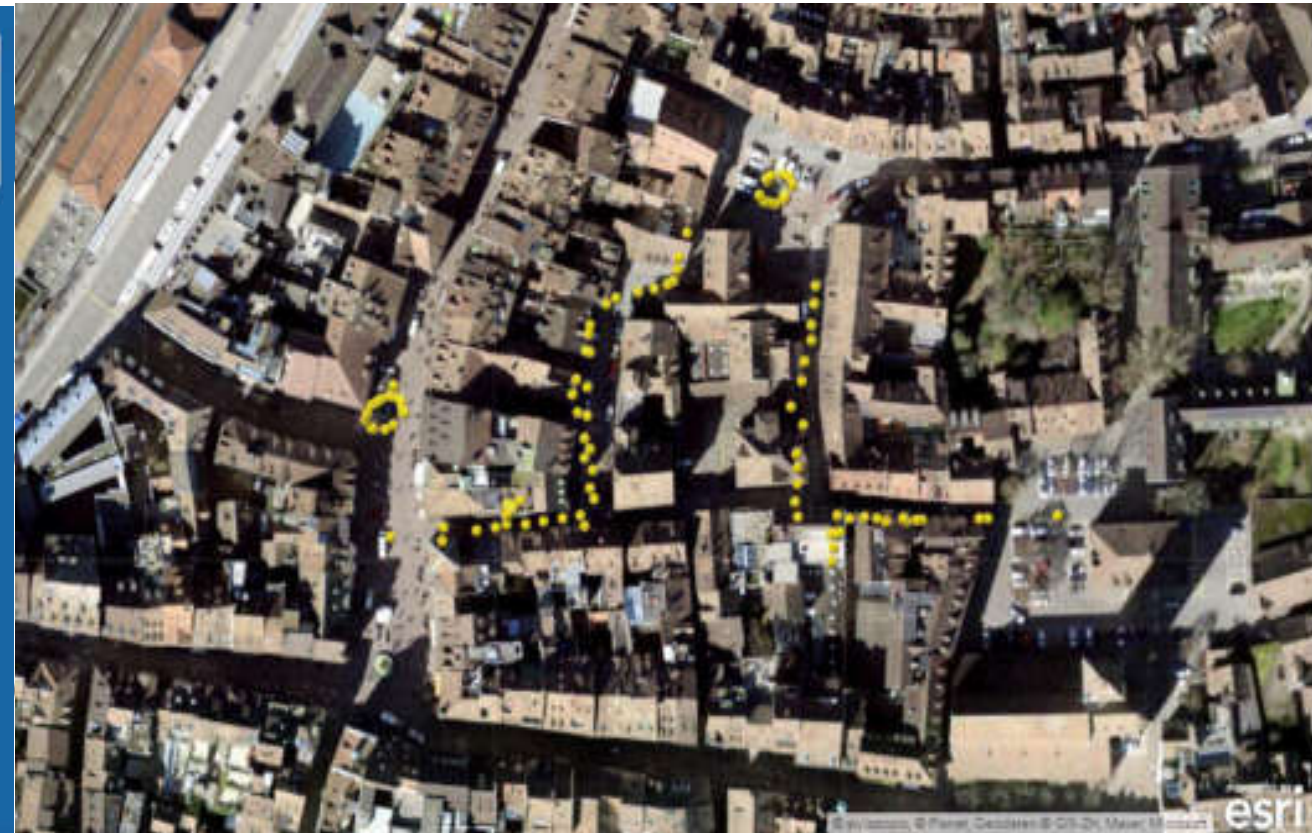
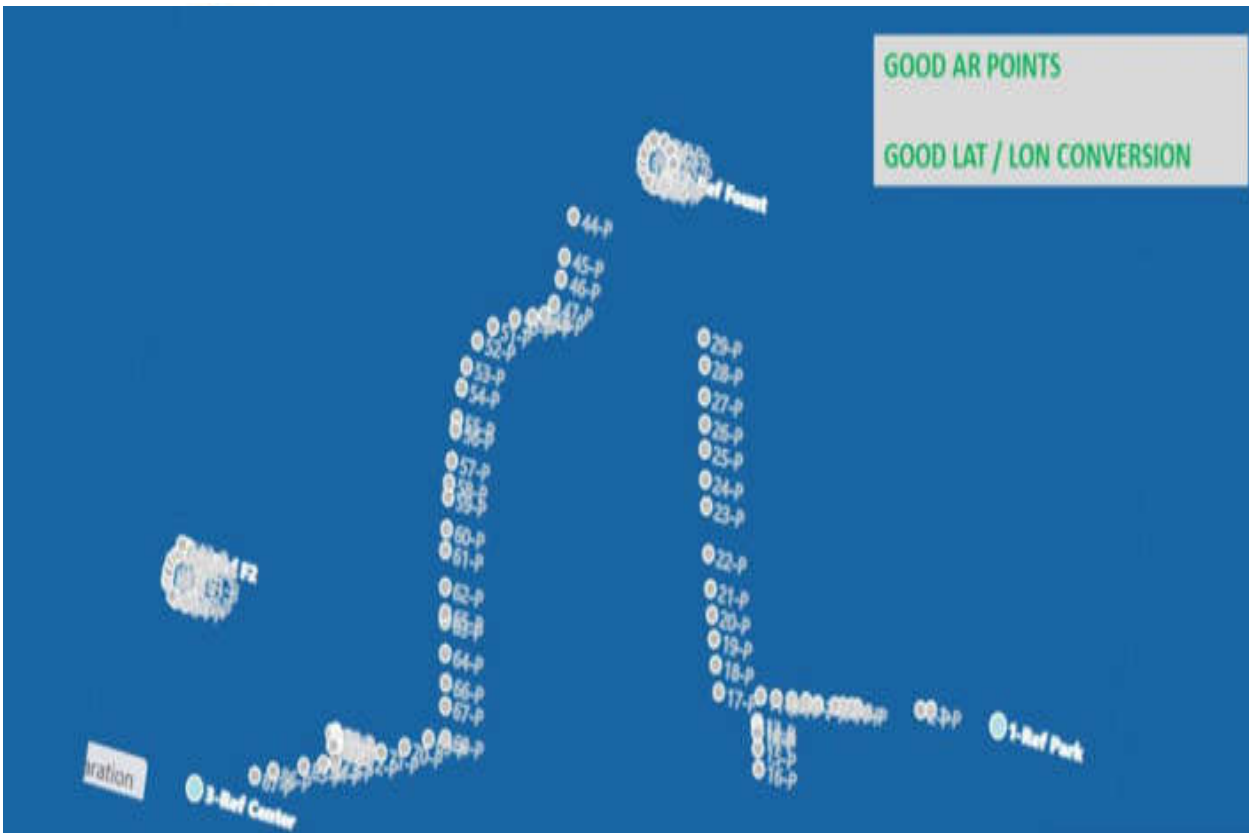
Create asset reports...if needed



Scan QR code with your phone to access the report

Map location

AsBuild data, ready when you are



As Built data exported to GIS map (eg ArcGIS)

A construction worker wearing a yellow hard hat, safety glasses, and ear protection, smiling while holding a laptop on a construction site. The background shows a blurred construction site with orange scaffolding and a blue sky with clouds.

**Remote site monitoring
from anywhere**

Remote quality control from the office

Job and Installation Welding Data Product Data **Quality Check Pictures** Notifications Location Asset Documents X

⊗ **Quality Check not approved (2018-07-10 07:17:25 by ifat@C679)**

Last comment: * Please check the picture 1 and 4, *

▶ [Click here to change quality status](#)

▶ QA List : Title List 1

| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 |
|---|--|---|---|---|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 2018-07-05 05:22:42 by Johannes Mayer | 2018-07-05 05:17:31 by Johannes Mayer | 2018-07-05 05:17:36 by Johannes Mayer | 2018-07-05 05:22:49 by Johannes Mayer | 2018-07-05 05:17:46 by Johannes Mayer |

A photograph of two men in a professional office environment. The man on the left, wearing a grey blazer over a blue button-down shirt, is smiling broadly and looking towards the man on the right. The man on the right, wearing a light blue button-down shirt and glasses, is seen from the back/side, looking at a document held by the first man. The background is a blurred office space with windows and a whiteboard.

**Bringing real benefits
across your organization**
Empowering you locally

A photograph of two men in business suits shaking hands. The man on the left has a beard and glasses, and the man on the right is clean-shaven with glasses. They are both smiling. The background is a bright, out-of-focus office interior with large windows.

Our solution for customers



Track and Trace



+ 30% Save Time

Reduce unnecessary paperwork and work smarter

Mennicke Rohrbau GmbH is responsible for the construction and maintenance of gas, water, and district heating pipes on behalf of Infra Fürth GmbH in Germany.

The multifaceted tasks of the responsible site managers range from construction site coordination and customer meetings to time-consuming documentation tasks.

The Track & Trace service helps them record and digitalize all relevant data seamlessly.

Field data collection, keeping you on track

Track and Trace



+ Complete data available

Reduce unnecessary paperwork and work smarter

Water utility company in Italy uses Track & Trace to support their operations.

" We verified the Track & Trace GPS accuracy, and could see that even with several points inside the same square meter, we could differentiate them efficiently in the measurements. With the Find Module, GF has developed additionally, we will finally have a tool to find the right valves to close in case of leakages ! "

Field data collection, keeping you on track



Ultrasonic Non Destructive Testing for plastics



1 out of 300 joints leak **every year on Utility networks due to improper installation**

Innovative Ultrasonic NDT in Plastic

- Ultrasonic Non Destructive Testing is an established process
- 1000's of standards for metal, companies simply copy paste them
- Innovation of existing technology
- Reducing risk with [algorithmic quality assessment](#)
- Global Standards and Specifications being defined



+ Ultrasonic Non Destructive Testing (NDT)

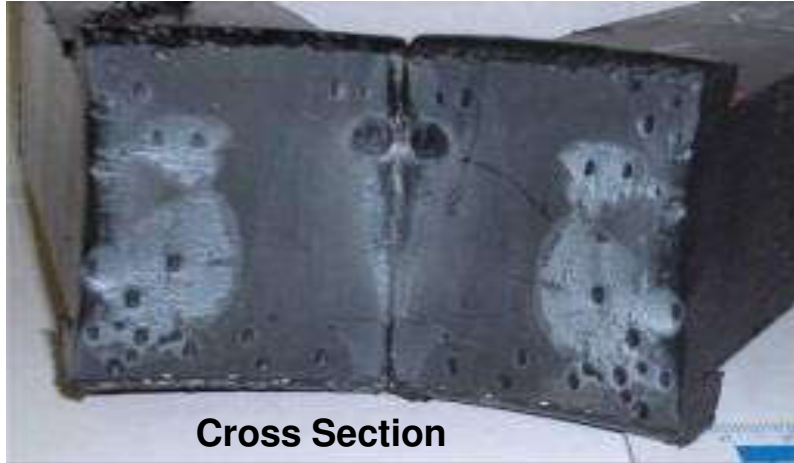


- The **first** NDT for butt / electro fusion HDPE, PP **with** a long term Pass/Fail assessment **and** extended weld warranty issued within 24 hours after scanning
- **True** Peace of Mind for owners and operators

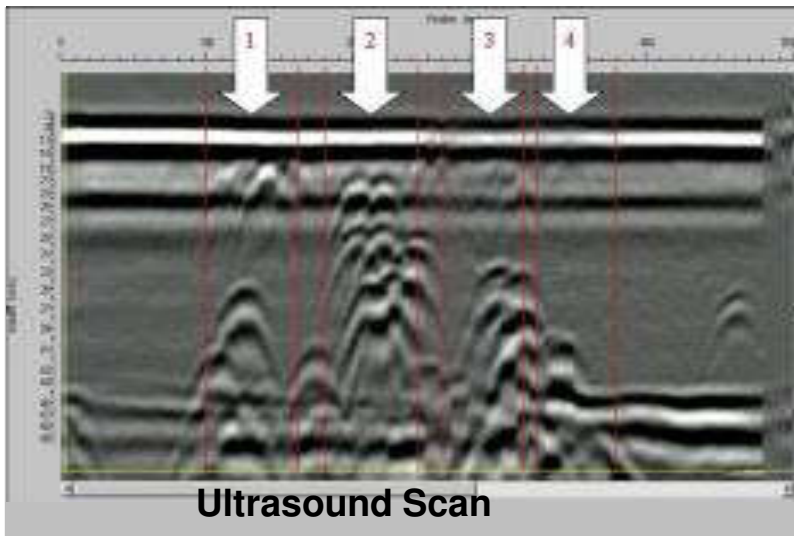




50+ years R&D Validated algorithm methods for reliable and credible results

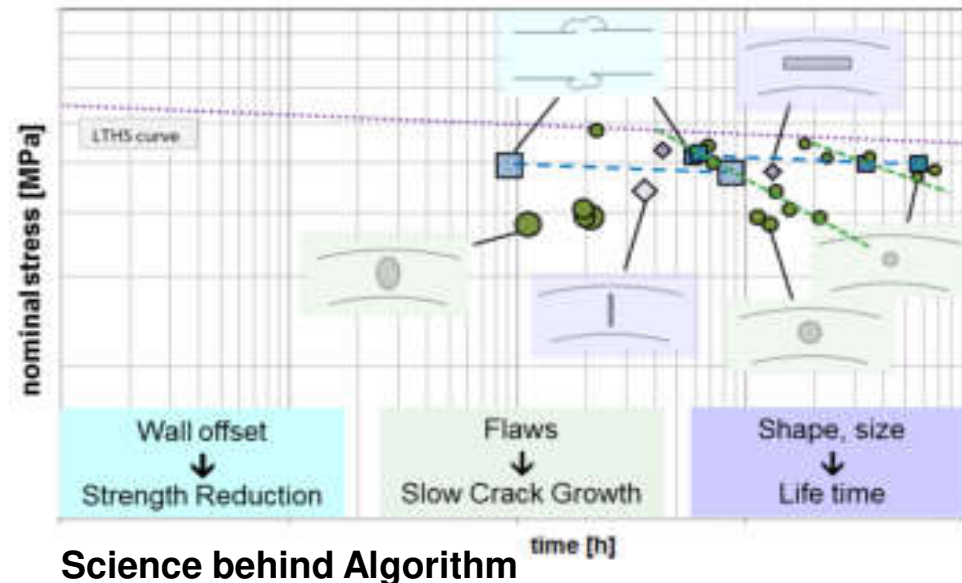


Cross Section



Ultrasound Scan

- ✓ Unique Algorithms evaluate weld quality - accurate, and repeatable EVERY time
- ✓ Taking away the human factor of misjudgement
- ✓ Speed of analysis in 24hrs



Result is an Algorithm based on practical research

Science behind Algorithm



A photograph of two men in business suits shaking hands. The man on the left has a beard and glasses, and the man on the right is clean-shaven with glasses. They are both smiling. The background is a bright, modern office with large windows.

Our solution for customers

Condition Analysis on water networks



+ Save '000s €

Instead of tradition water pressure test

- Using HDPE with protective PP sleeve for this critical Horizontal Directional Drilling (HDD) project, 23meters deep – 740m long under an existing drink waterline, passing by a Shopping Centre, high buildings... with having a 100% guarantee of welding success.
- Ultrasonic NDT was used on 1.5km of d500mm HDPE butt fusion welds.
- NDT replacing traditional commissioning of water filling pipe, which takes time and increases costs

Performance assured, for your peace of mind

Condition Analysis at petrochemical plants



+ 100% Safety

Thanks to worlds first ultrasonic NDT for plastics.

- Ultrasonic Non Destructive Testing (UT NDT), used by Major Belgian Petrochemical company manufacturing polymers.
- Critical Fire system on plant was tested to meet strict fire regulations and to make sure installation was 100% correct. The 250mm OD HDPE line was installed using electrofusion fittings.
- GF UT NDT was able to meet site fire specifications.

Performance assured, for your peace of mind

Condition Analysis on water networks



+ 100% Objective

Thanks to worlds first weld assessment algorithm.

- Ultrasonic Non Destructive Testing (UT NDT), used by water utility company in Finland to validate 100% of each weld in the 800mm HDPE piping system.
- Using a proprietary algorithm, GF was able to confirm each weld tested would meet the life expectancy of the system.

Performance assured, for your peace of mind

GF Piping Systems

+GF+



NeoFlow PRV

+GF+

Networks without compromise, dealing with non-revenue water (NRW)

USD39bn

is the estimated yearly global cost of non-revenue water to utility companies¹

75%

reduction in pipe bursts by decreasing excess pressure by 25%²

5%

reduction of water leakage can save up to 225'000 metric tons of CO₂ annually³

¹ Quantifying the global non-revenue water problem. Roland Liemberger/Alan Wyatt

² Reference document Good Practices on Leakage Management WFD CIS WG PoM

³ The Carbon Footprint of Water. Bevan Griffiths-Sattenspiel/Wendy Wilson

Helping you to conserve what is most precious



Pressure management reduces excess consumption, existing leakage and unnecessary mechanical stress. Water is conserved and network durability is improved.

An innovation providing a compact, intelligent and low maintenance solution

9x

lighter than a standard metal PRV

5x

more compact than a standard metal PRV

40%

less time to install than a standard metal PRV



Clear benefits of applying pressure

Pressure management technologies are widely considered as one of the most effective methods to reduce non-revenue water.

- ✓ Reduce the flow rates of existing leaks
- ✓ Limit mechanical stress on infrastructure
- ✓ Lower burst rates
- ✓ Prolonged asset life

Due to the aging water distribution infrastructure, non-revenue water (NRW) is a major issue for water utility companies across the globe.



Water Conservation

Reduce existing leakage



Cost Reduction

Reduce OPEX



Cost reduction

Reduce maintenance and repair costs



Optimised Renewal

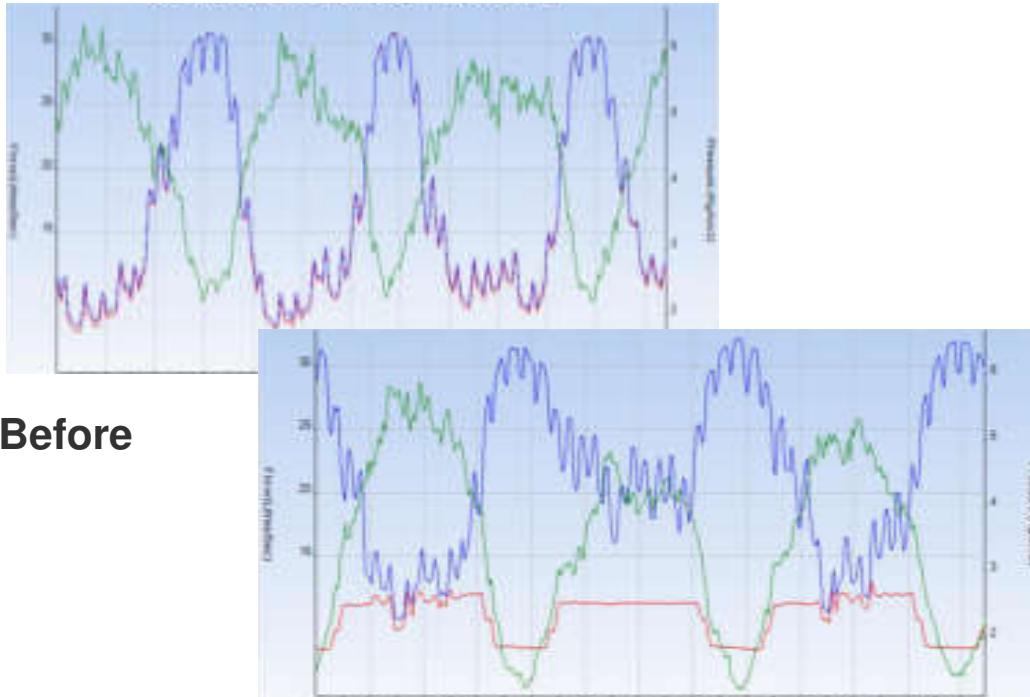
Extend water network lifetime

A photograph of two men in business suits shaking hands. The man on the left has a beard and glasses, and the man on the right is clean-shaven with glasses. They are both smiling. The background is a bright, out-of-focus office interior with large windows.

Our solution for customers

37% Reduction in average water loss

- April 2020 Mexico
- DN200 pipe application



Before

After pressure management

| | Before | After |
|--------------------|--------|-------|
| Maximum flow (L/s) | 31.5 | 21.4 |
| Minimum flow(L/s) | 9.4 | 4.2 |
| Average flow (L/s) | 21.5 | 13.5 |



Projects in Italy 2020



April 2020 – Vertical installation



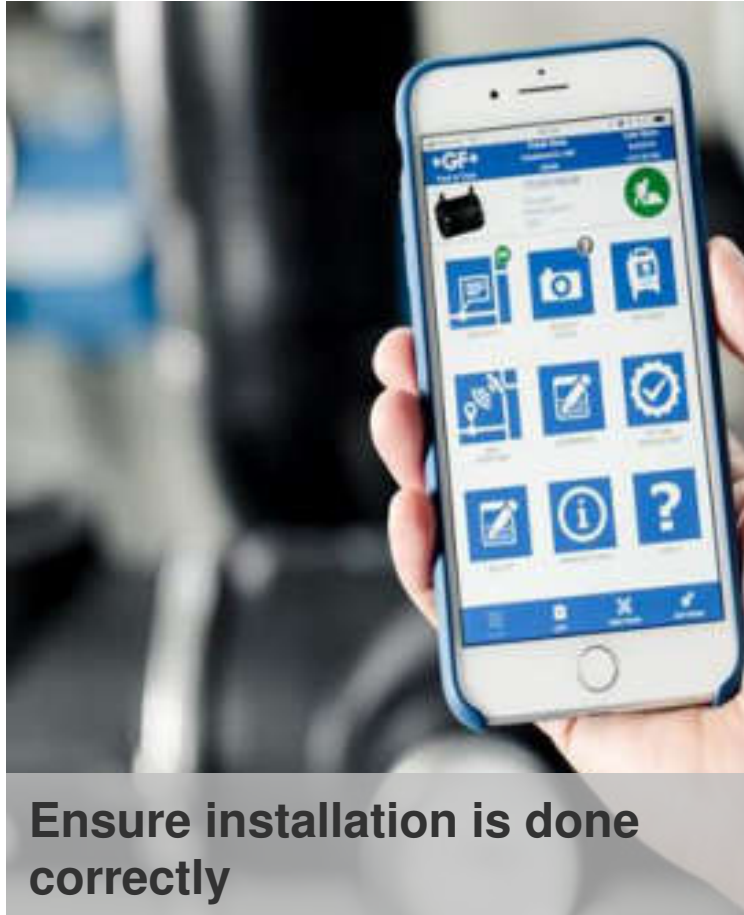
July 2020 – By pass installation

Metal replacement for stability and corrosion free

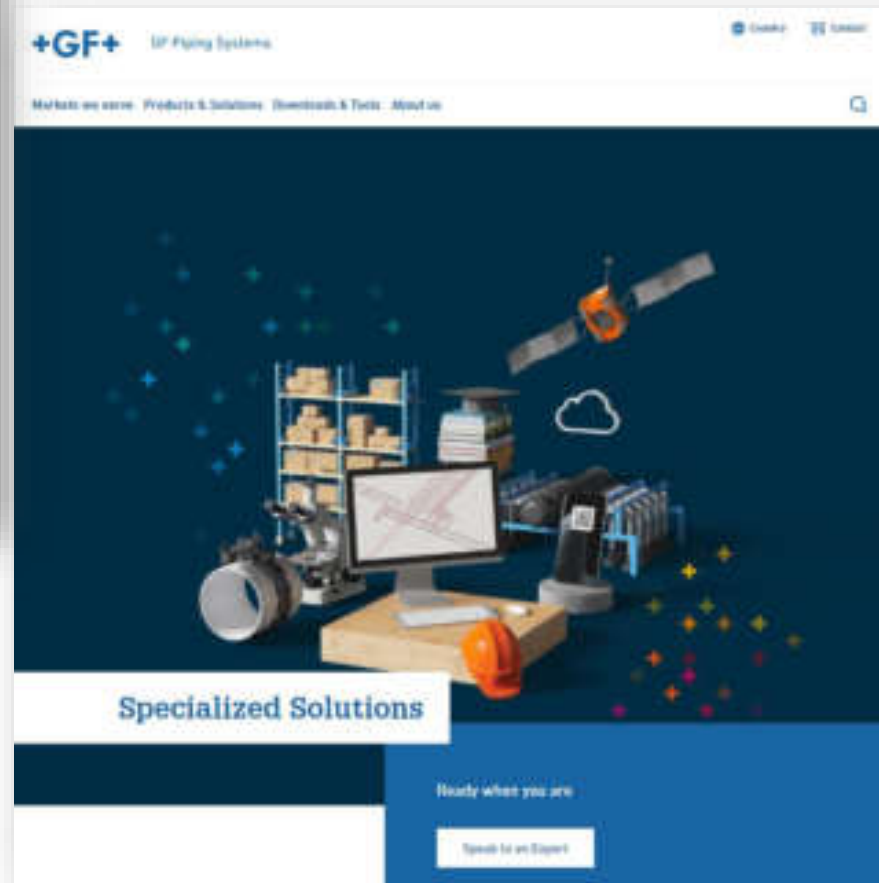
Oct 2020 – Germany
installation



Three Solutions for **reducing** water loss in your network. **No reason to waste clean water !**



Find the latest information at....



For more information visit:
gfps.com/specialized-solutions

Questions from the chat



Thank you!



Sanjay Patel

Specialized Solutions

Global Business Development Manager

e-mail: sanjay.patel@georgfischer.com
services@georgfischer.com

Disclaimer

This document is for presentation purposes only and should not be construed as an offer, invitation or solicitation to subscribe for, purchase or sell any investment. Neither it nor anything it contains shall form the basis of any contract whatsoever.

Opinions expressed herein reflect the current judgement of the management of GF. The presentation contains forward-looking statements that involve risks and uncertainties. The actual results of GF may differ materially from those anticipated in these forward-looking statements and forecasts as a result of a number of factors.

The management of GF does not accept any liability whatsoever with respect to the use of this presentation.