Solutions for
Level and Pressure Measurement

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FIP

CONTENTS

VALVES AND FITTINGS
MANUFACTURER SINCE 1954

KNOW-HOW

Since 1954 FIP produces injection molded valves and fittings in thermoplastic materials for pressure pipeline systems thus becoming nowadays a leading European valves manufacturer.

SOLUTIONS

FIP is a reliable supplier for the most conventional pressure pipeline systems such as water distribution systems, civil and industrial water treatment, irrigation, gardening, field and greenhouse farming, sports facilities, swimming pools, aqua parks, SPA and everywhere is required ease of installation, minimum maintenance and long life.

VERSATILITY

Global market challenge is to provide versatile products to be turned into reliable solutions, simple to install and use but effective to the needs of each application.
FIP develop products able to adapt to different conditions of use, featuring design, innovation, functionality, reliability and safety.

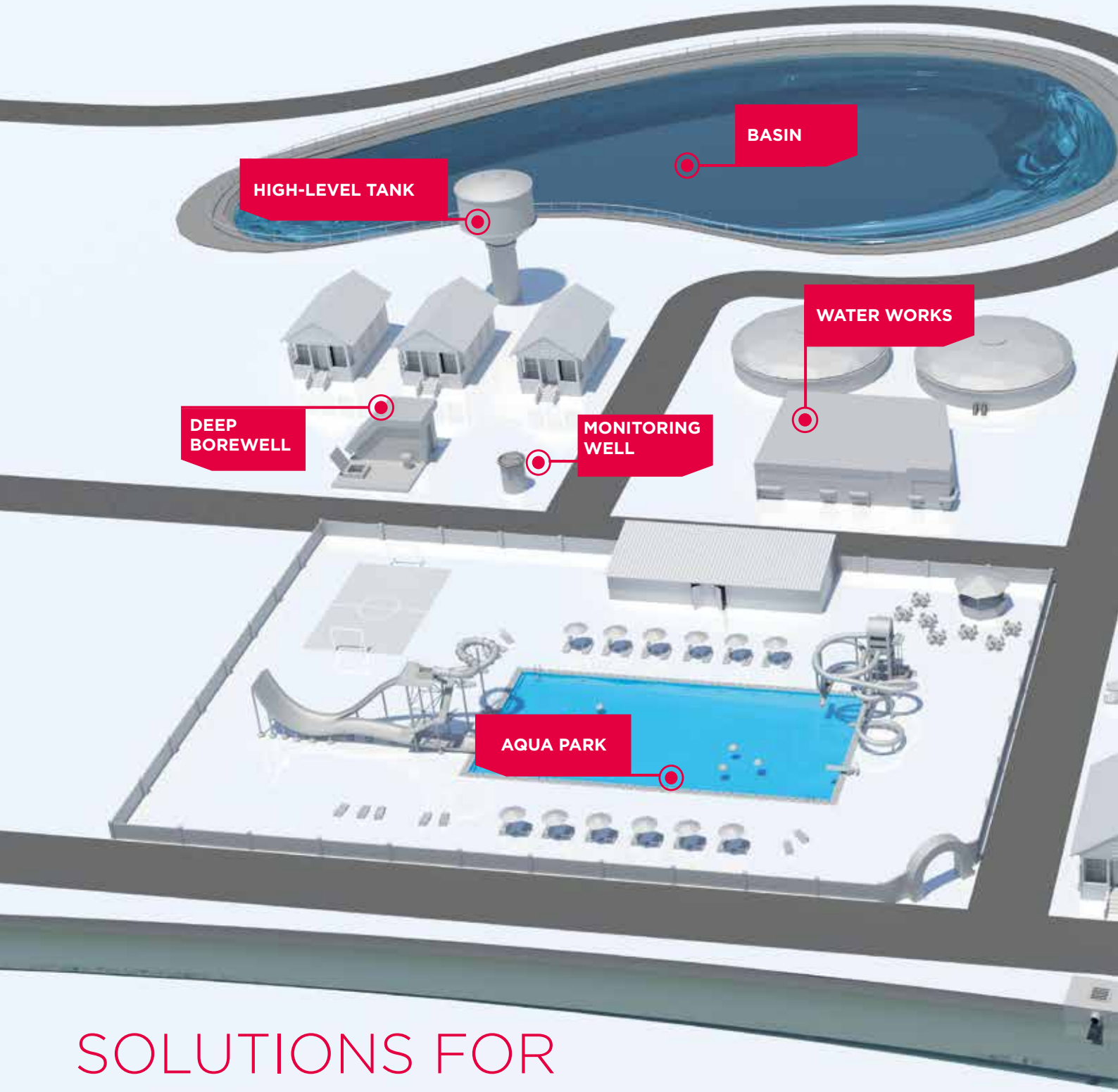
EVERYWHERE

We are constantly investing in R&D and process technologies to improve the products offer as well as the production efficiency; indeed FIP products, available in PVC-U, PP-H, PVC-C, PVDF are able to adapt to different conditions of use always providing additional smart features such as the customization system to clearly identify each valve of the plant.

RESPONSIBILITY

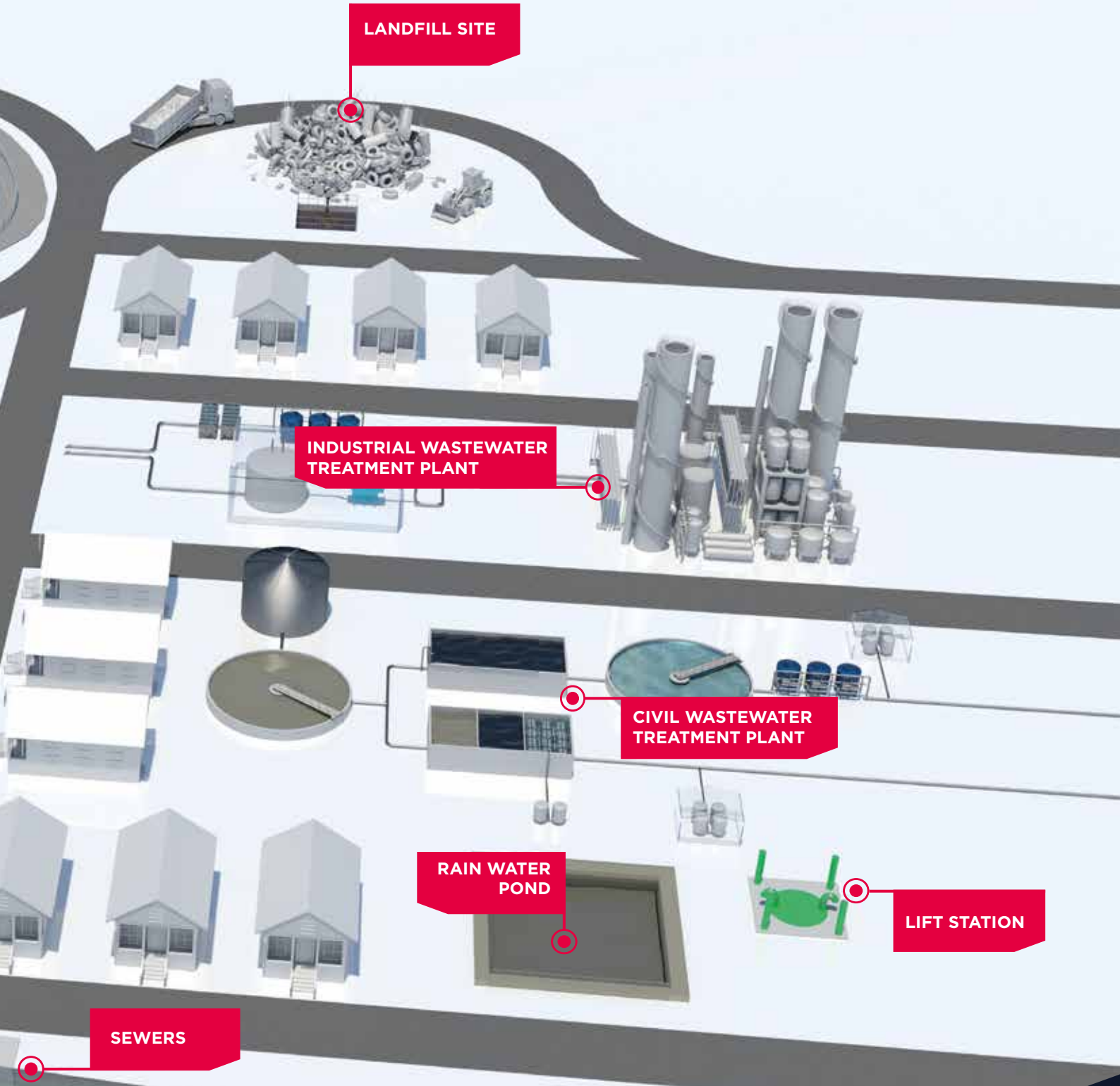
FIP products are manufactured in EU production sites, operating in compliance to the Quality Assurance System ISO 9001 and with the Environmental Management System ISO 14001 standards requirements. We believe that environmental sustainability must be an important component of business practices at all stages of the product life cycle; since its foundation FIP takes care of people health and safety and it is committed to a sustainable use of natural resources and environment respect.

MOLDED IN FIP PRODUCTS
THERE ARE OVER 60 YEARS OF
EXPERIENCE AS WELL AS A STRONG
QUEST FOR INNOVATION



SOLUTIONS FOR **LEVEL AND PRESSURE MEASUREMENT**

The level and the pressure measurement market is rich of technical solutions and, despite new technologies are growing fast, the major market share is still in the hands of historical hydrostatic technology. This solution offers many advantages: general ones as flexible installation, simple commissioning, easy maintenance, and also specific ones as the feature of not being affected by foam and vapour and the excellent zero drift stability.


LANDFILL SITE
INDUSTRIAL WASTEWATER TREATMENT PLANT
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LIFT STATION
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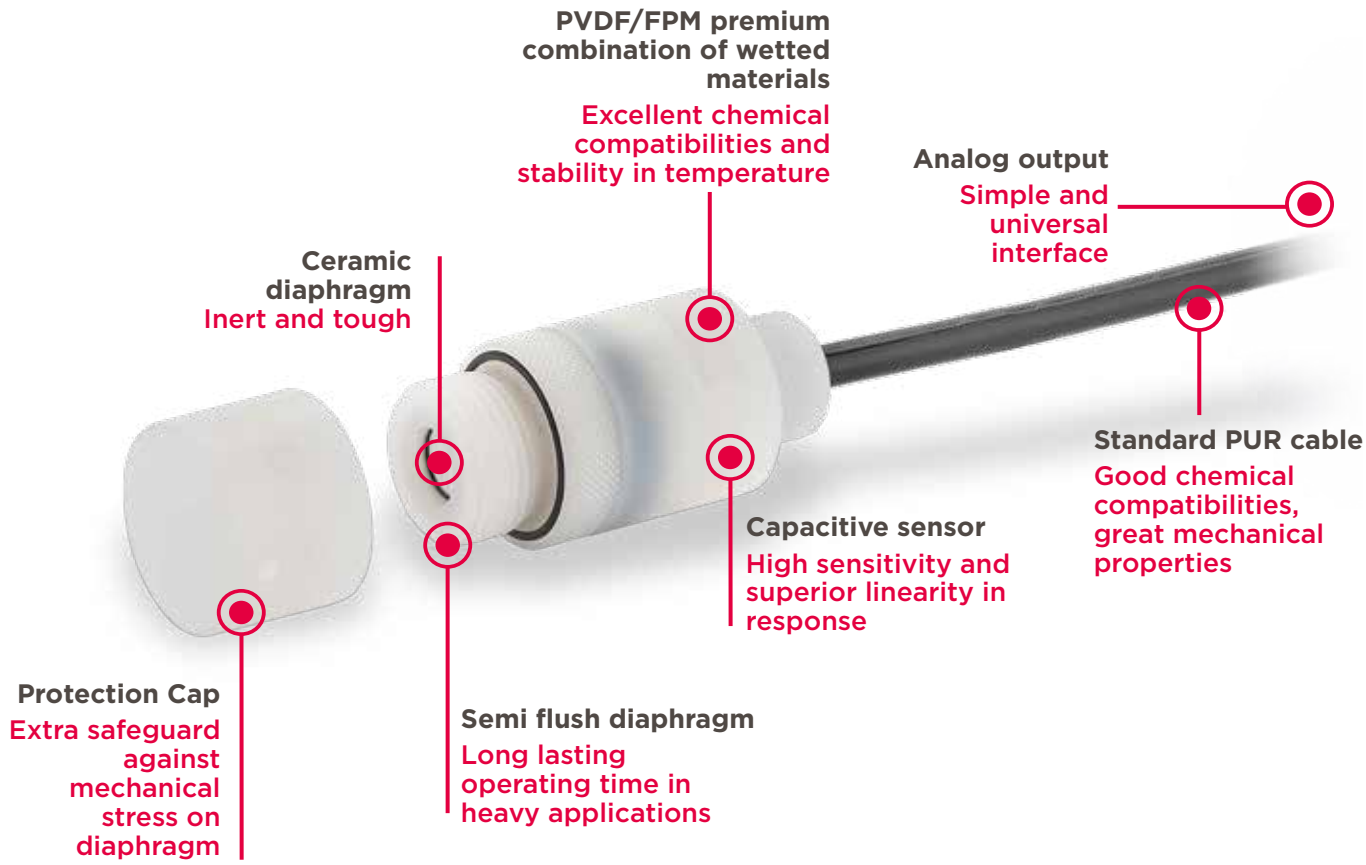
EVERYWHERE

ONE SINGLE PRODUCT FOR DIFFERENT APPLICATIONS

HF6 hydrostatic level and pressure transmitter



TECHNICAL DATA AND RANGE

Code	Mode	Range	Body material	Sealing material	Cable	Accuracy	Response time	Medium temperature	Supply voltage
HF6.004	Gauge	0 - 0,4 bar	PVDF	FKM	PUR; 8 m	≤ ± 0.5 % FSO	≤ 10 msec	-30° to 125° C	8 to 32 VDC
HF6.010	Gauge	0 - 1,0 bar	PVDF	FKM	PUR; 8 m	≤ ± 0.5 % FSO	≤ 10 msec	-30° to 125° C	8 to 32 VDC
HF6.100	Gauge	0 - 10 bar	PVDF	FKM	PUR; 8 m	≤ ± 0.5 % FSO	≤ 10 msec	-30° to 125° C	8 to 32 VDC
HF6.160	Gauge	0 - 16 bar	PVDF	FKM	PUR; 8 m	≤ ± 0.5 % FSO	≤ 10 msec	-30° to 125° C	8 to 32 VDC

INSTALLATION MODES

Submersed with cable in conduit

On tank side

Submersed with wetted cable

On pipe line derivation

OPTIONS

Element	Option
Operating range (bar)	20mA @ 0.6; 1.6; 2.5; 4.0; 6.0; 25; 40
Measurement mode	Absolute
Cable material	FEP
Cable lenght	Up to 700 m
Seal material	EPDM

ALTERNATIVES

- **SS AISI630 body** equipped with **SS AISI630 flush diaphragm** and ranges **from 0-1 bar up to 0-100 bar (gauge mode)**
- **SS AISI316L body** equipped with **ceramic semiflush diaphragm** and ranges **from 0-0.1 bar up to 0-25 bar** (**gauge** or **absolute mode**)

FROM THE SINGLE PRODUCT TO A SYSTEM

HF6 + M9.10 Dual-Parameter Analog Monitor

The HF6 transmitter can be empowered by the **combination with the FLS M9.10**.
The FLS M9.10 is a powerful monitor and transmitter designed to manage two analog signals (or analog and frequency signals). It is equipped with a wide full graphic display 4" which shows **measured values clearly and a lot of other useful information**. Moreover, due to a multicolor display plus a powerful backlight, **measurement status can be determined easily from afar** also. A tutorial software guarantees a **mistake-proof and fast set up of every parameters**. Two independent 4-20mA outputs are available to **remote measures to external devices**. An advanced combination of digital outputs (2*SSR and 2*relays) allows **customized setups for any process to be controlled**.

HF6
Hydrostatic level and pressure transmitter

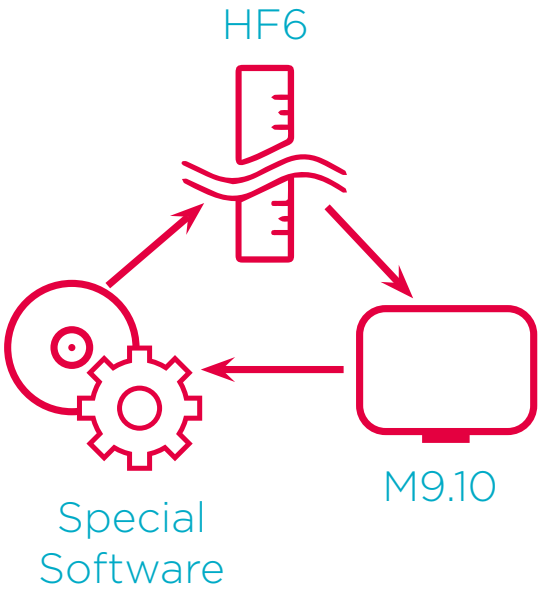
M9.10
Dual-parameter analog monitor and transmitter

	MAIN FEATURES	ADVANTAGES
	■ Full graphic display ■ Multicolor backlight	A wide screen to get more information and long distance visibility
	■ Help on board ■ Practical tips	Easy and quick calibration with a guided and mistake-proof system

FROM THE SYSTEM TO A SOLUTION

HF6 + M9.10 + Special Software

To enhance the system of HF6 and M9.10 FIP has coinceived a **new special software with advanced and specific functions** for level and pressure measurements. This software can be **downloaded freely** and **installed easily** by the USB port of the monitor.



FOR LEVEL/VOLUME

- Possibility of computing the **level measurement based on the hydrostatic pressure**.
- **Simplified data reading** thanks to several units of measurement.
- **Volume determination** through the level measurement **considering the vessel geometry**.
- Intuitive application to **level/volume monitoring in open basins and tanks**, and to the more complex **control in sealed volumes**, typical of closed and pressurized containers and tanks. In this second case, the system is able to manage also the double measuring as **Differential Pressure**.
- **Innovative Autocalibration Function** to determine the liquids density accurately and easily based on simple practical tests.

FOR PRESSURE

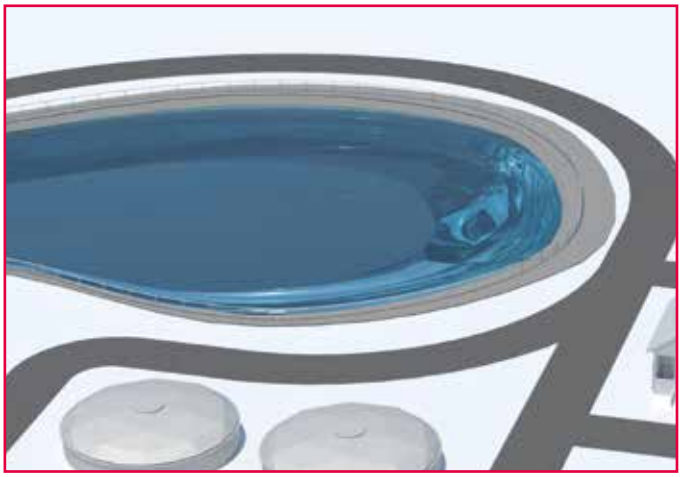
- Possibility to manage two pressure measurements either independently or as differential pressure, very suitable for **monitoring the dirt level in filters**.
- **Data easy to read and compare** thanks to the several units of measurement.
- **1 or 2 points calibration** in order to get maximum flexibility and suitability for every applications.

	MAIN FEATURES	ADVANTAGES
	■ Volume determination considering vessel geometry ■ Innovative autocalibration function	Advanced functions for level measurement
	■ Differential pressure management ■ 1 o 2 point calibration	Cost-effective solution to manage two pressure measurements

MEETING DIFFERENT APPLICATIONS

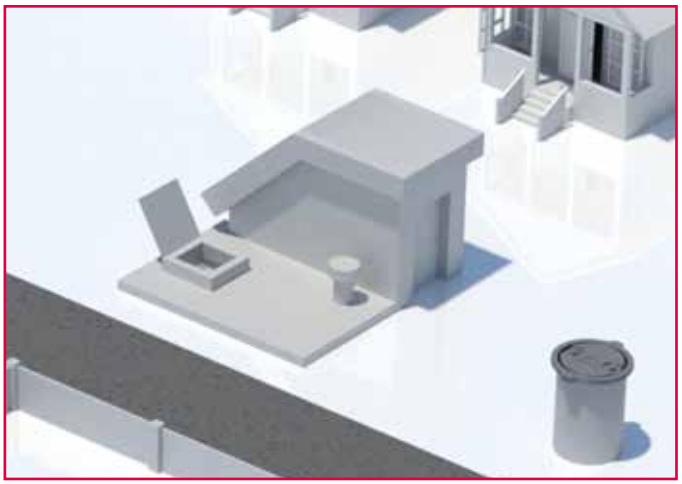
HIGH-LEVEL TANK

High tanks help the water supply network to get a proper water head. HF6 sensor with **higher operating ranges** (up to 40 bar) can meet the **pressure requirements of the pump for refilling tank** with drinking water.



BASIN

Artificial as well as natural reservoirs secure a continuous water supply during dry seasons. Hydrostatic pressure transmitter is a smart solution to monitor level. **Protection cap offers an extra barrier against possible collisions with solids,** like pebbles and stones.



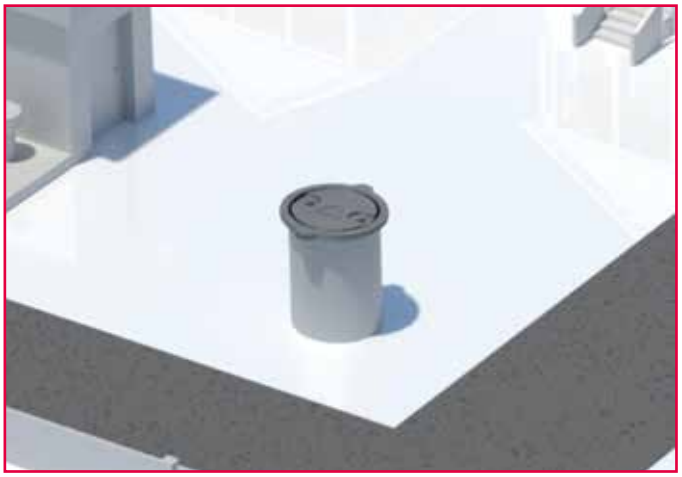
DEEP BOREWELL

Hydrostatic level sensor provides a reliable **depth monitoring in the deep reservoir** offering important info about water asset.
Since this application typically requires a long cable, the **extension (up to 700 m) of the standard cable (8 m)** can meet the needs of the installation sites.

NEEDS

WATER WORKS

Water for human consuming must be filtered and treated usually by at least a chlorination.
The water treatment process includes many tanks which can be divided in buffer tanks (pre/post treatment) and storage tanks. The tanks level monitoring can be performed by a convenient external installation. In this case the **bottom thread of the hydrostatic sensor HF6 allows a simple coupling with a shutting off valve which simplifies all the maintenance activities.**



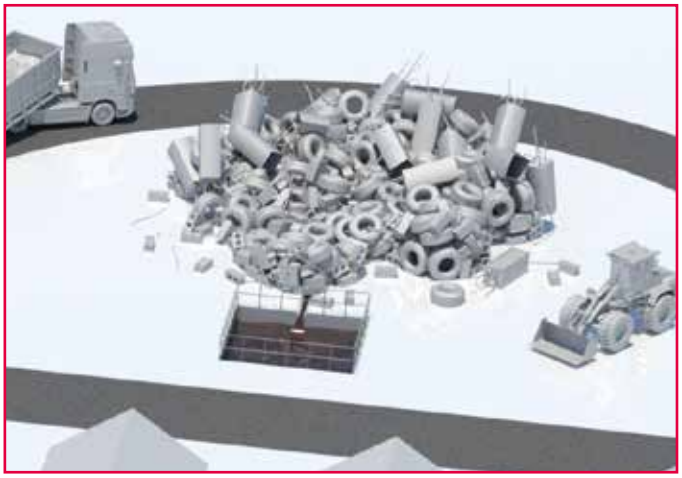
MONITORING WELL

Level of ground water reservoirs is strategic for preventing hydrogeological instability due to an over exploitation of water. It is important to consume a proper volume giving time to get a natural replenishment. **The easy submersed installation of the compact HF6 is suitable for narrow and cramped spaces** offered usually by the wells.

AQUA PARK

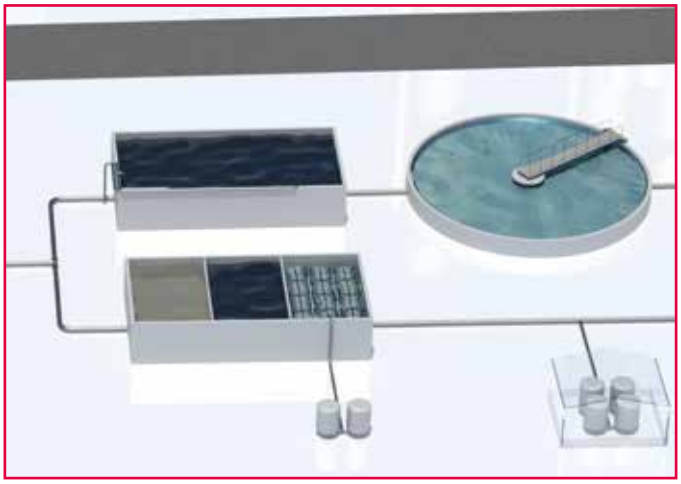
Aqua park includes a water treatment area where tanks of dosing solution are usually present and where the sand filtration is a technology generally applied for primary treatments. The **great accuracy and high sensitivity** of the HF6 sensor offers a smart solution to monitor level in small tanks and can be a **proper option to detect low pressure loss in sand filtration, information useful for managing the filter backwashing**.

MEETING DIFFERENT APPLICATIONS



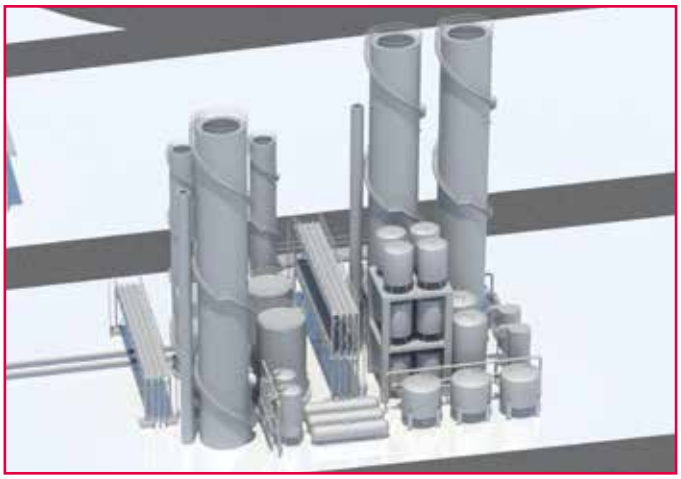
LANDFILL SITE

Aggressive liquids are collected in leachate pools. HF6 equipped with **optional FEP cable** is the **proper solution for monitoring level preventing any contamination of the ground due to the overfilling**.



CIVIL WASTEWATER TREATMENT PLANT

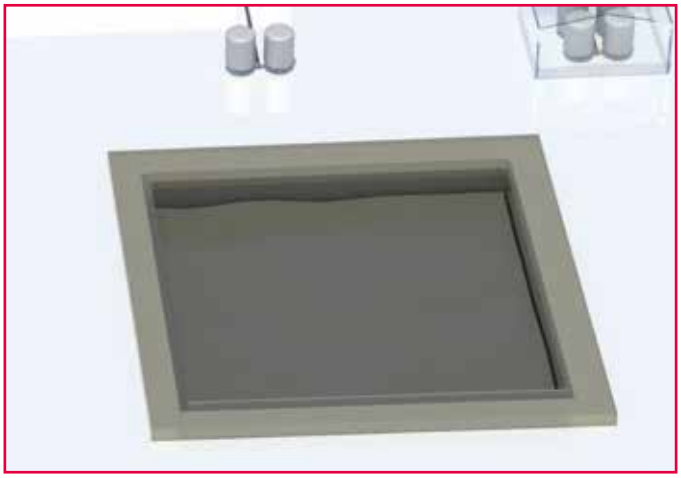
A plant for treating sewage includes settling tanks, digesters pools and aeration basins: facilities which need a constant level monitoring.
The semiflush diaphragm of HF6 provides a reliable monitoring definitely unaffected by foam and by the presence of solids.



INDUSTRIAL WASTEWATER TREATMENT PLANT

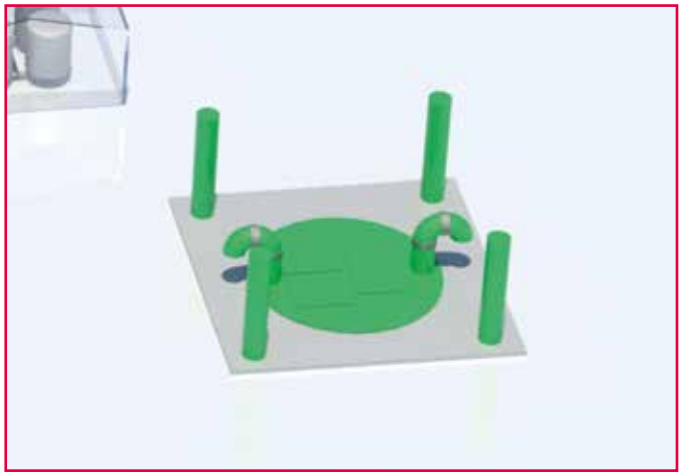
An industrial water treatment involves usually the same facilities of a municipal waste water treatment plus additional specific treatments according to industrial process and to related waste products. **Hydrostatic level probe can offer a dependable monitoring in pools and tanks to prevent overfilling or accidental emptying.**
HF6 allows to manage storage containers for dosing liquids thanks to the high linearity and stability of instrument response.

NEEDS



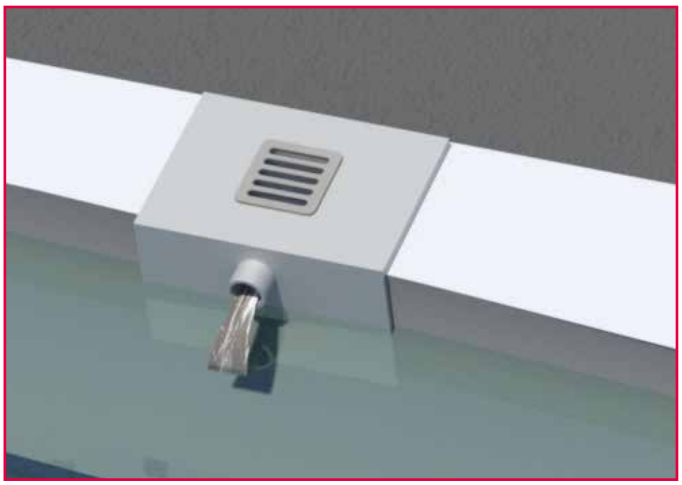
RAIN WATER POND

During storms, the sewage system can be in overloading so, to prevent this condition, retention basin offers a temporary compensation slowing this process. **Upper thread of the sensor combined with a conduit offers a level monitoring by a submersed installation with protected cable, granting a long operating time under adverse weather conditions**.



LIFT STATION

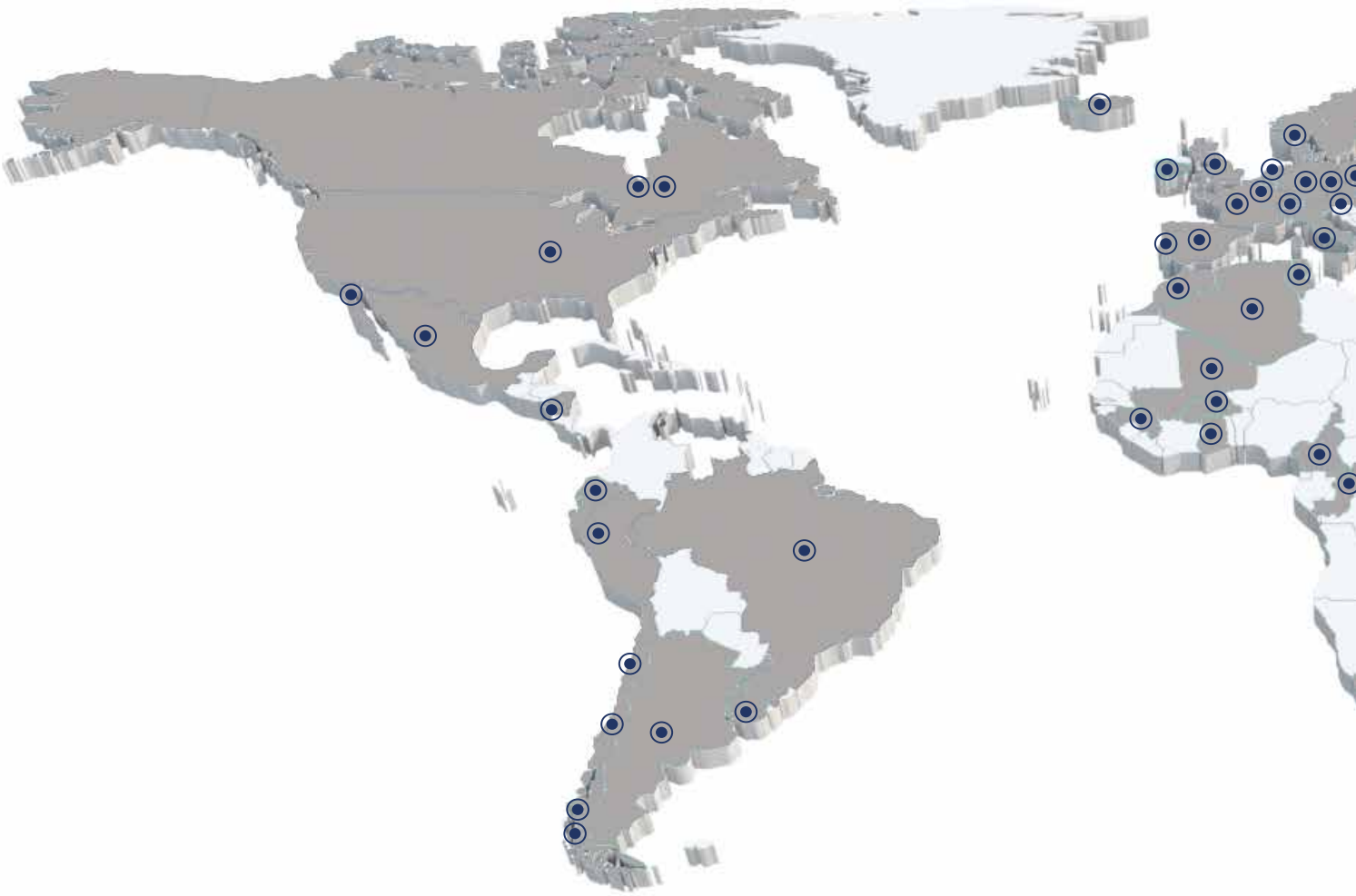
Civil wastewater flows in the sewage network by gravity. Wastewater is received in basins where the pumps lift water to higher tanks generating a proper hydraulic head. Hydrostatic measurement helps **to prevent an overloading of receiving basin and to protect the pump from running dry**, application where the **significant toughness of the ceramic diaphragm makes a difference**.



SEWERS

Waste water load is usually monitored by hydrostatic sensor avoiding the overload in the sewage plant exploiting retention pools. HF6, installed in submersion, thanks to **the standard PUR cable, operates efficiently also under mechanical stress due to the typical fluid stirring.**

ALIAXIS WORLDWIDE



THE ALIAXIS GROUP

We are a global leader in the manufacturing and distribution of fluid handling solutions.
Our extensive plastic pipes and fittings offering finds its way into buildings, infrastructure and industrial applications all over the world. With a global workforce of more than 16,000 employees, our flexibility means we provide both standard and tailored solutions that match the needs of our customers and end-users perfectly.

Our Group is active through more than 100 manufacturing and commercial companies, operating in over 45 countries. Aliaxis is privately owned, and our global headquarters is in Brussels, Belgium.

CUSTOMER-FOCUSED INNOVATION

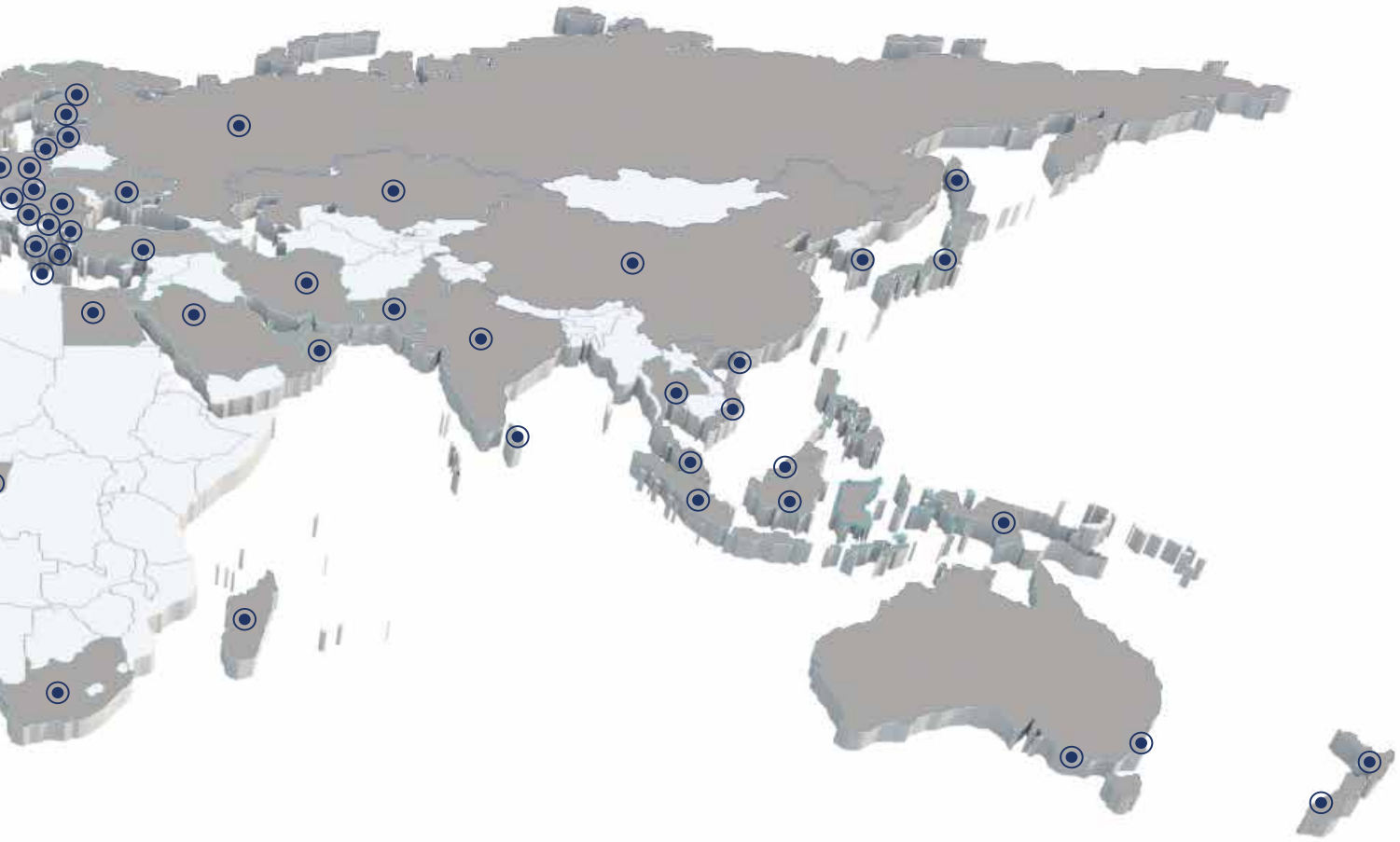
Innovation is key for Aliaxis. In our highly competitive sector, innovation is one of the most powerful differentiators. We invest in market-leading R&D and dedicate people to develop what our customers need - products and solutions to get projects up and running, quickly, easily, reliably and more profitably. And by sharing practices and learning from colleagues and customers around the world, we innovate at speed.

HEALTH AND SAFETY ABOVE ALL

The health, safety and well being of our employees are our top priority. We aim to raise our overall safety performance, with a goal of zero accidents worldwide. Our global safety community, consisting of HSE managers from our different divisions, is dedicated to streamlining the structural exchange and the transfer of best practices.

COMMITTED TO THE ENVIRONMENT

Lifecycle analyses have shown that plastic pipe systems are not only more environmentally-friendly but also healthier alternatives to pipes made from other materials. But we don't rest on our laurels. Environmental protection is taken into account for each of our business processes. Our environmental programme defines specific KPIs for monitoring CO_2 emissions, non-recycled waste and water consumption. It also includes initiatives aimed at sharing best practices and training, as well as raising environmental awareness among our employees.



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