

Smart Metering Solution

Be Proactive



ISO 9001 Certified

Content

Smart
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01	Our Mission
02	One-Stop Solution for Smart Metering
04	Smart Solid-State Meters
06	High-Performance Flow Measurement
08	AMR Field Panel
09	Data Analytical
10	Smart Water Solution
12	Industrial Energy Metering
14	Irrigation Metering for Agriculture

Smart Meter + IoT + Industry 4.0 + AMR
AI + Sustainability + Sensing + Energy
Cloud Based + Lean Manufacturing + AI

OUR MISSION

Gflow+ is a system-level solution provider integrating the next-generation smart solid-state metering technology with IoT and AI Technologies. We are committed to improving the sustainability of future infrastructure by providing new efficient approaches to collect and integrate data for public utilities, agricultural water conservation, buildings, and industrial parks.

Our goal is to improve efficiency, reduce cost, assure information safety, save resources, and promote sustainable economic development.

Gflow+ believes both the concepts of R&D and system integration should be close to the end client. Our smart monitoring system provides customer with everything from solid-state smart meters to wireless data transmission, further to big data analytical platforms. In addition, we also provide customer with full life cycle EPC solutions of smart monitoring projects from product supply, on-site installation,

and commissioning to overall system operation and maintenance. We solve the long-existing issue that system-level solutions are not able to receive proper product-level services.

For nearly ten years, our products and solutions have been distributed to 5 continents worldwide. Our products have obtained a number of patents and international certifications. We provide customized solutions for municipal and large industrial enterprises with the most advanced precision measurement technology.



CEO of Gflow+
Ming, Gong

02

ONE-STOP SOLUTION FOR SMART METERING

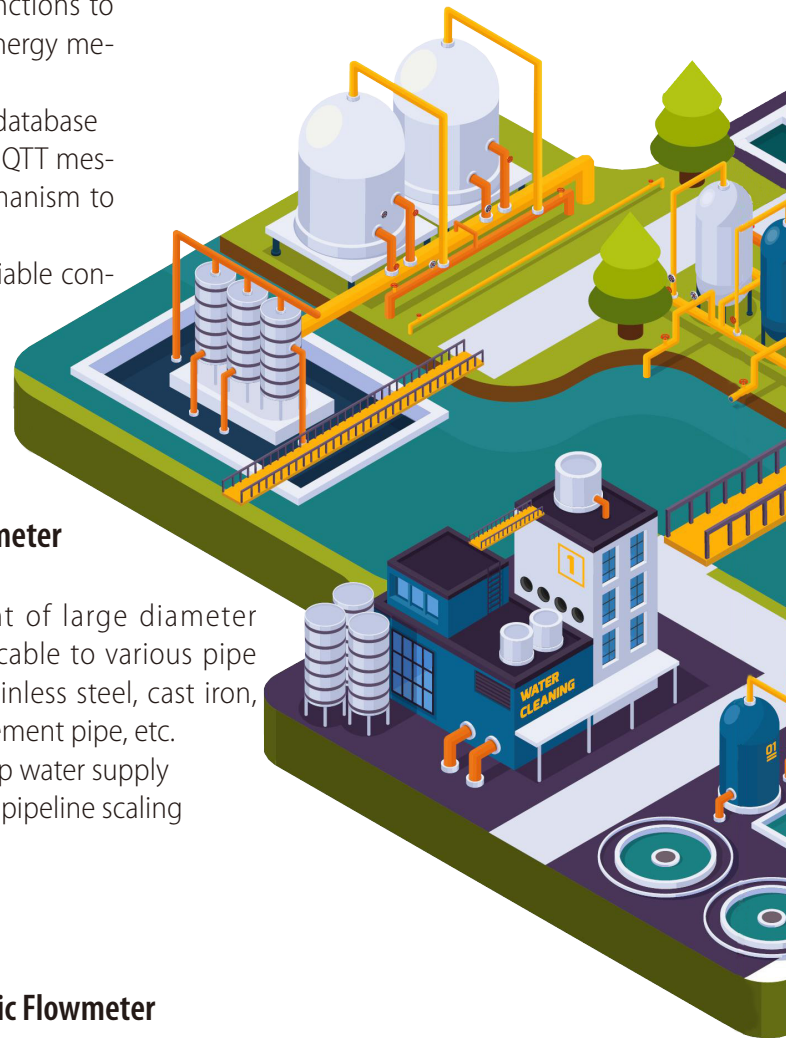
Gflow+ provides complete closed-loop metering ecological services. From suburban to city, hardware to software, wired to wireless, solid-state sensors to cloud servers, we provide the suitable turn-key solution for any sustainability challenge.

NautiData®

Data Analytical Platform

The software embeds comprehensive services and functions to support IoT platforms and applications for water and energy metering application.

- Optimized real-time data with efficient PostgreSQL database
- Built-in large-scale customizable cloud-native IoT MQTT message server, compatible with COAP message mechanism to connect to massive numbers of IoT devices
- Support software extension to provide safe and reliable connection for devices and sensors



UF Series Battery-Powered Ultrasonic Flowmeter

Designed for flow measurement of large diameter (DN350-DN3000) pipelines. Applicable to various pipe materials such as carbon steel, stainless steel, cast iron, glass fiber reinforced plastic, PVC, cement pipe, etc.

- Hot-tapping sensor without stop water supply
- Stable measurement, no fear of pipeline scaling
- Battery life up to 6 years



IF Series High-Performance Electromagnetic Flowmeter

Wide range of applications, suitable for water supply and drainage, mining slurry, pulp, petrochemical, pharmaceutical, and food industries.

- High accuracy and repeatability, even for low-velocity media
- Self-diagnosis function, the product requires no routine manual maintenance
- Fast response for flow speed varying, suitable for filling applications
- Strong anti-interference ability, robust to work under harsh working conditions
- Can be integrated with pressure sensor for simultaneous acquisition of flow and pressure data
- Support a variety of signal output and input expansion to meet various automation and metering applications



NautiFlow® Series Electromagnetic Water Meter

Suitable for flow measurement in water supply network, including DMA and billing for priority users.

- Protection level over IP68, capable to work in water submerged environment
- Battery life up to 10 years
- Can be read and configured remotely, with built-in Cat-M1, NB-IoT, LoRaWAN, and other communications, and the data is straight transmitted to the cloud without secondary devices or meter readers
- Internationally certified by OIML, MID, CPA, and WRAS



Cetus® Series Ultrasonic Water Meter

Suitable for residents, buildings, municipal, and fire safety applications.

- Compact design, simple and reliable
- Built-in NB-IoT, LoRaWAN, data can be directly sent to the designated server and management platform, without meter reading devices
- Internationally certified by OIML, MID, CPA and WRAS



Torto® Series AMR Field Panel

Widely utilized in municipal, water, energy, and other industrial applications. Customized panels can be configured for various application scenarios and requirements. Gflow+ provides diversified customization and configuration services to make the product blend into the environment.



Steam Metering System

The high-precision steam measurement system can measure and display various parameters simultaneously, including flow, temperature, pressure, etc. The system automatically calculates the boiler working efficiency by measuring the input consumption of water, gas and fuel.

SMART SOLID-STATE METERS



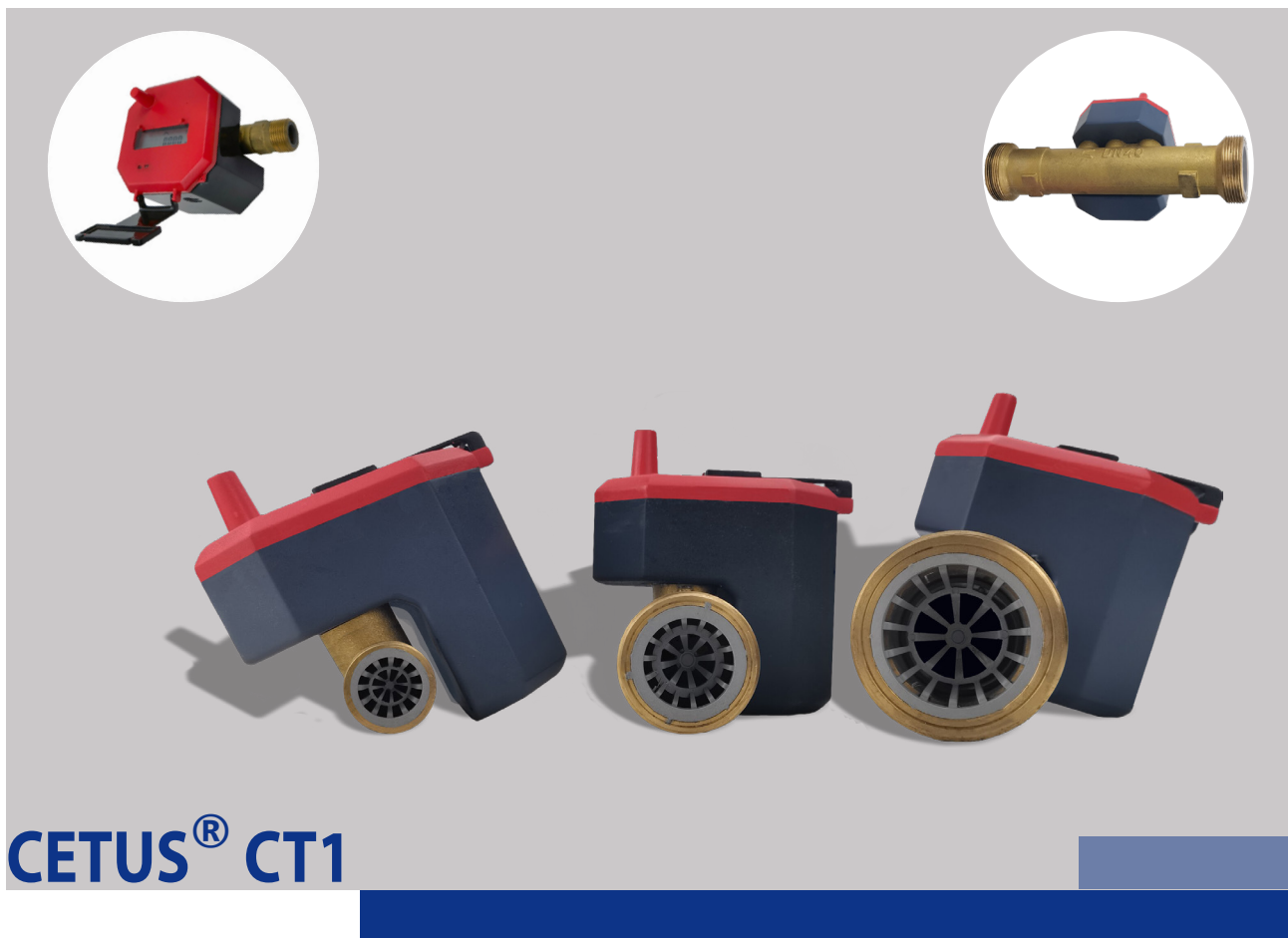
NAUTIFLOW[®] NF1G2

NautiFlow[®] series smart water meter was first debuted at the WEFTEC International Water Expo in 2015. This series showcases Gflow+'s cutting-edge low power measurement technology and energy management technology. NautiFlow[®] obtained multiple international and domestic water metering certifications, including OIML, MID, CPA, etc. The series is targeting priority water users with a medium diameter of pipelines (DN50 - DN600) and is suitable for DMA analysis applications. The meter reshapes the market's expectations for smart water meters by integrating precision, reliability, and connectivity all in one.

In 2021, the NautiFlow[®] series received a major upgrade in technology and application. NF1G2 is released with a 65% battery life extension while the data recording and wireless communication functions are integrated to comply with mainstream IoT protocols. The 2nd generation Nautiflow meters can be fully integrated with Gflow+'s cloud-based NautiData software platform so users can manage the meter and its data from anywhere in the world.

Why go solid-state?

Solid-state water meters, also known as static water meters, are type of water meter with no moving parts in the flowtube. Solid-state water meters utilize electromagnetic, ultrasonic, thermal technologies to measure water consumption. Compared with traditional turbine water meters, solid-state water meters have higher measurement accuracy and longer operation life time. It also provides more comprehensive data processing and communication transmission capabilities which are required for future utility applications based on the Internet of Things.



Cetus® series is Gflow+'s solution for residential water metering targeting the smart building market. The series obtained multiple international and domestic water meter metrology certifications, including OIML, MID, CPA, etc.

Since launched in 2021, the Cetus® series drew the industry's attention with high-precision measurement performance, ultra-long battery life, and minimal installation footprint. Compared with other popular competing products on the market, Cetus® CT1 is 30% smaller in volume to fit in the tighter water meter space in the building.

Data logging and meter configuration via wireless communication platform ease the maintenance workload. The meter is fully compatible with LPWAN communication protocols such as LoRaWan and NB-IoT and this makes Cetus® a true IoT-based meter.

High-Performance Flow Measurement

06



Flow Measurement Solution for Complex Flow Condition

Gflow+ has been consistently providing high-quality products and services to solve customer's application challenges.



IF Series High-Performance Electromagnetic Flowmeter

Size: DN15 - DN3000
Flow Range: 0.01-10m/s
Accuracy: $\pm 0.5\%$, $\pm 0.3\%$, $\pm 0.2\%$
Power: 85-267V AC, 24V DC, Solar Power (optional)
Protection Level: IP67, IP68
Flange Option: ISO7005, ASMI, JIS, EN, DIN, AS
Communication: Modbus RS485,

The IF series instrument is a high-performance electromagnetic flowmeter. It covers almost all the measurements of conductive liquids applications by having excellent noise immunity, sensitive signal capturing and data processing capability. Even under hush working environment, IF series can remain in reliable operation.

The IF series products also integrate meter verification and self-diagnosis functions. These reduce maintenance costs and provide product excellent measurement accuracy of up to $\pm 0.2\%$ without frequent calibration.

The IF series is suitable for the measurement of the inlet/outlet of water in treatment plants, beverage filling, and slurry measurement.





UF Series Battery-Powered Ultrasonic Flowmeter

Size: DN80-DN3000
Flow Range: 0-15m/s
Accuracy: $\pm 1\%$
Power: 220V AC, 8-36V DC, Build-in Battery
Protection Level: IP67, IP68
Communication: Modbus

UF series battery-powered flowmeter is a high-performance insertion-type ultrasonic flowmeter, it has flow velocity measurement range up to 12m/s, which can be applied to pipes of various materials, including carbon steel, stainless steel, cast iron, fiberglass, PVC and concrete, etc.

Cooperating with Gflow+'s pipeline hot-tapping installation service, the UF series can be continuously carried out in the application scenario of large-diameter pipeline flow measurement where the main power is not available, or where water interruption is not allowed.



Steam Metering System

The system is tailor-made for the field of steam metering and smart boiler application by integrating temperature, pressure, differential pressure to measure compensated steam flow, together with the intake measurement of water, gas, and fuel. This integrated steam measurement system not only measures accurate steam flow, but also provides boiler efficiency to diagnose boiler operating conditions.

Boiler operation data can be wirelessly transmitted. The operator can monitor the parameters of the field instrument remotely through the web application. The system can be applied to textile industry, power plants, and energy-related industrial fields.



Torto® Series AMR Field Panels

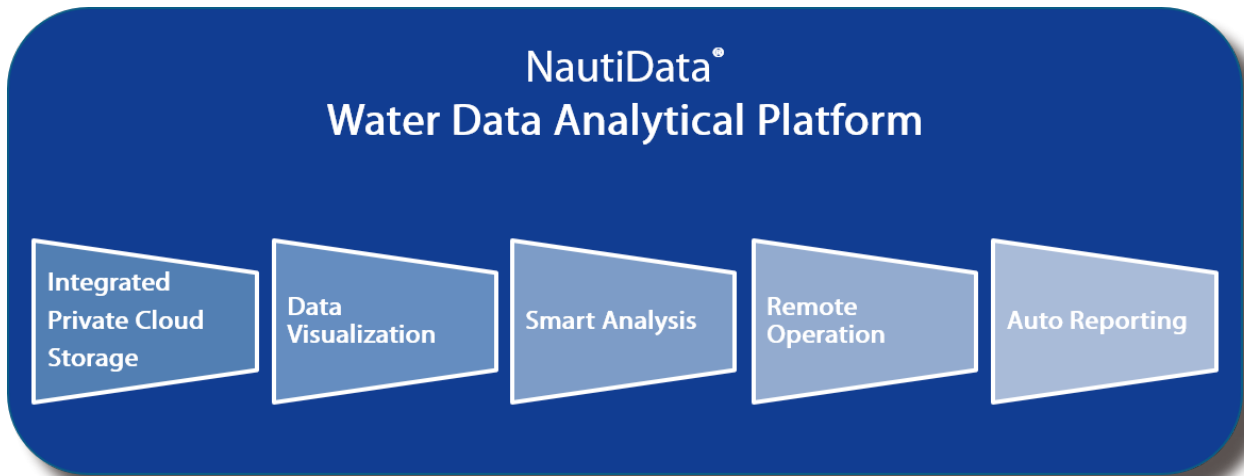
Field panels are widely used in various fields of industry domain, providing the power supply, data logging, smart controlling, and remote communication capability, the field panel is a crucial component in engineering projects.

Based on a large number of engineering projects implementation, Gflow+ has accumulated rich experience for terminal cabinet customization. By introducing modularity, the customization and standardization of panel making are no longer in conflict with each other.

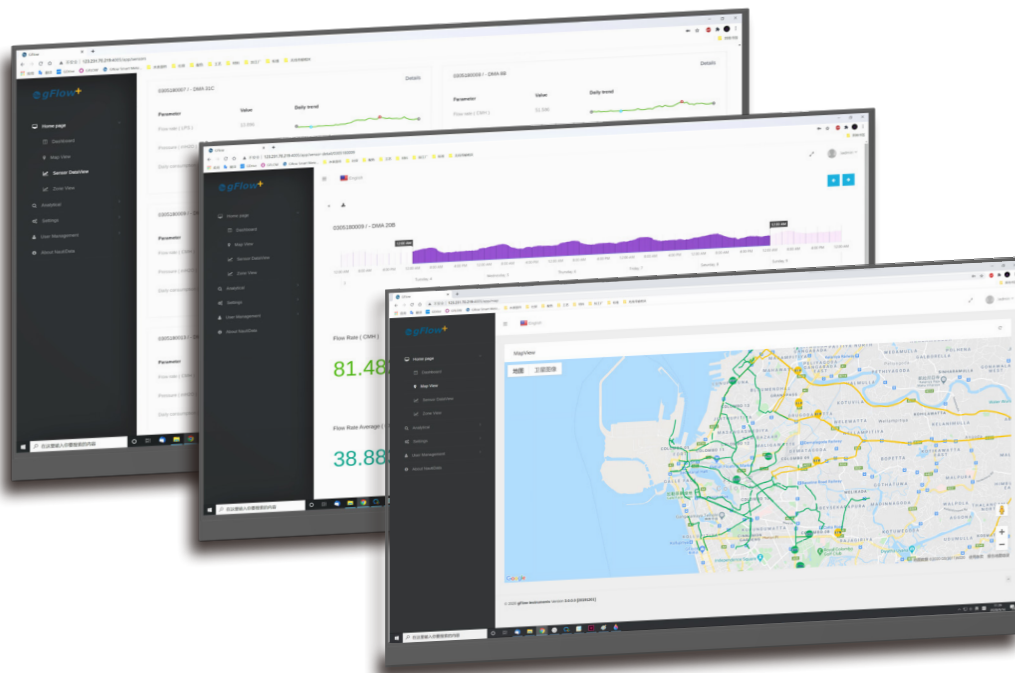
We provide a full range of customized cabinet design services with 3D BIM generation and rendering to better blend into the client's overall design scheme.

Our Partners for Long-Term Sustainability Goal





- Cloud-oriented, enabling real-time monitoring, modeling, and management of water data.
- Automatically generating IWA complied Non-Revenue Water Report
- Advanced SCADA and sensor analysis water supply operation, real-time monitoring of pipe network operation status
- Import data from any smart sensors or legacy devices via web services or data files
- Benefiting from IoT technology, monitoring the water operation status in real-time condition can be anywhere around the world



10



Smart Water Solution

Water is one of the most important resources on the planet. With the economy growing and technology developing, leading countries have begun to focus on the usage efficiency of water resource by monitoring and analyzing data.

The priority of product revolution in the water industry has been evolved from passive use of water resources to proactive, efficient, and intelligent control of water resources. This trend leads to the inspiration and development of smart solid-state water meters that deliver more complicated and comprehensive functions.

Gflow+ has been deeply involved in the smart water industry ever since its foundation. We have developed a complete set of closed-loop metering and data service to support customers' metering need.

We have formed a long-term cooperative relationship with NWSDB, the national water authority of Sri Lanka. We participated in the Colombo City DMA project, which is Sri Lanka's first ever smart metering program.

Product: EMF, Data Analysis Platform

Scenario: Municipal Water Supply

Project Period: 2016-2022

Location: Sri Lanka, South Asia

The DMA project in Colombo City started in 2016, includes a 3-year construction period and a 3-year maintenance service period. The project aims to reduce the leakage of the municipal water supply city of Colombo. The metering point data of the water supply network is transmitted to the central server of NWSDB, and the data can be measured, controllable, presented, and real-time analyzed.

With Gflow+'s support, NWSDB has constructed nearly 100 DMAs to provide flow measurement, pressure monitoring, data remote transmission to reduce the water loss from 48% to 18%. We also took part in the construction of Attanagalla Water Treatment Plant, the biggest drinking water plant in the country, providing safe drinking water to more than 600,000 inhabitants.



Product: EMF, Field Panel
Scenario: Municipal Dewatering Network
Project Year: 2017
Location: Qatar, Mid East



Infrastructure construction is essential for every city. How to improve public facilities with smart technologies has become the new topic.

Gflow+ assisted ASHGHAL, the Qatar state-owned municipal authority, to complete its dewatering measurement and monitoring project.

As the host of the 2022 FIFA World Cup, the Qatar government has launched numerous infrastructure construction and urban facility upgrade projects. One of the building dewatering projects requires battery-powered smart electromagnetic water meters, together with a solar power supply systems and a remote data transmission system. Gflow+ won the tender and delivered promised solution with competitive products, scheme designs, and prices.

The chief engineer of the project, Mohammad Saif Khan looked back after the project, "The Gflow+ team showed very solid technical capabilities. Although it was our first cooperation, I am very impressed."



12 Industrial Energy Metering

Product: Steam Metering System
Scenario: Power Plant
Project Time: 2019
Location: Israel, Mid East



This key project consists of two thermal power plants, Alon Tavor and Ramat Gabriel power plants, both located in the north of Israel, with Siemens as the general contractor.

The steam utilization of thermal power plants is not only the key process in the operation of power plants but also the key component of the whole energy recycle and reuse process. Different from regular liquids and gas measurement, steam flow measurement results are subject to operating conditions. The effects of temperature and pressure have significant contribution to the measurement.

The difficulty of this project is the harsh working conditions, with temperature as high as 540 °C, and the pressure exceeding 90 bar. To adapt to the conditions of field use, products require customization, including special material selection, product design and installation. In addition, the customer's strict process control over the project the entire project increases the lead time.

Engineering team of Gflow+ analyzed the on-site application requirements and proposed the V-cone flow measurement technology with pressure and temperature compensation as solution. Gflow+'s engineers delivered detailed design documents from engineering materials, 3D product models to installation site drawings and product maintenance plans.

Leon Forrar, CEO of Dionyx Liquid Analysis values us, "As we all know, this is by no means an easy task, and the whole process with formidable competitors and challenging technical difficulties, but Gflow+'s engineering team finally finished this almost perfectly."

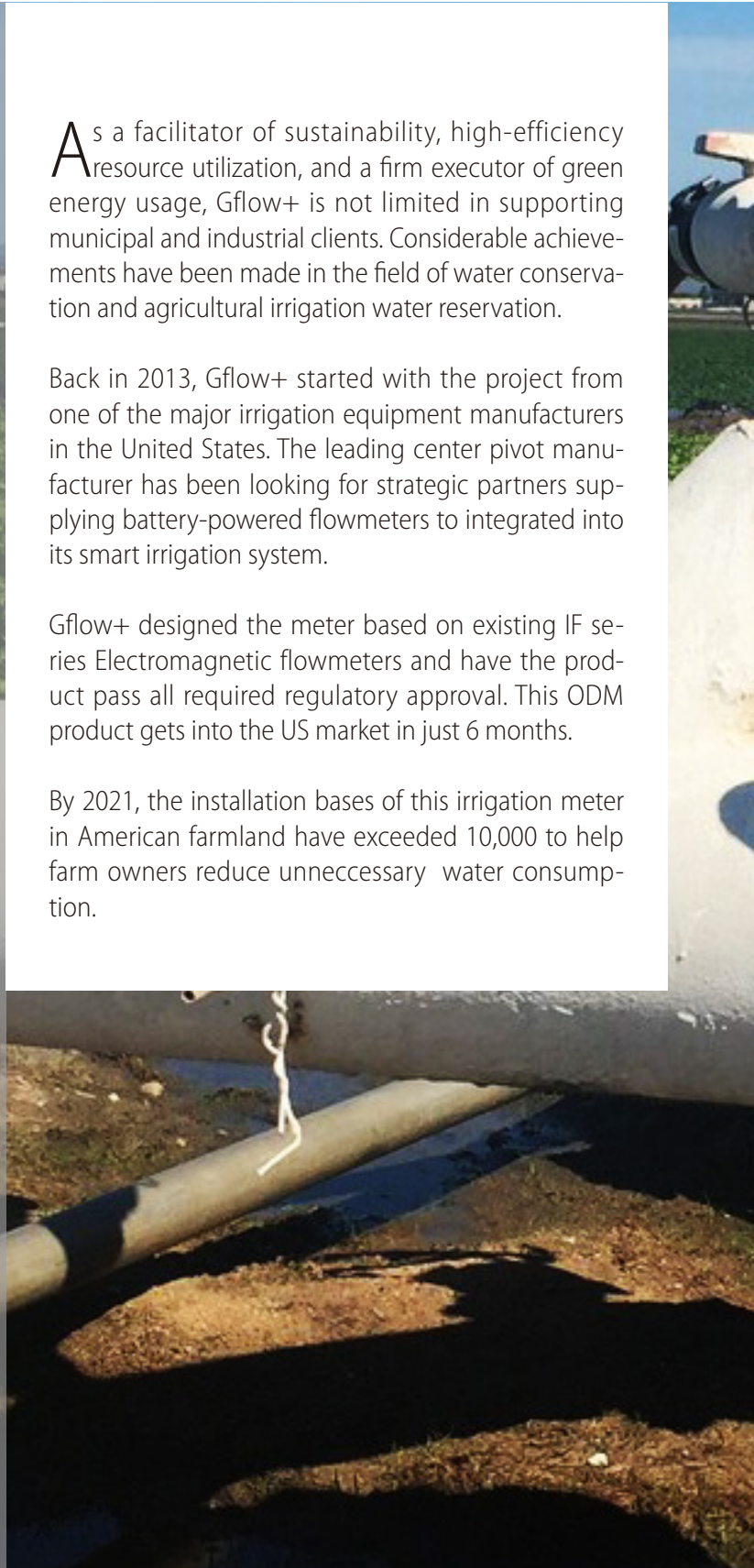
Smart Irrigation Metering

As a facilitator of sustainability, high-efficiency resource utilization, and a firm executor of green energy usage, Gflow+ is not limited in supporting municipal and industrial clients. Considerable achievements have been made in the field of water conservation and agricultural irrigation water reservation.

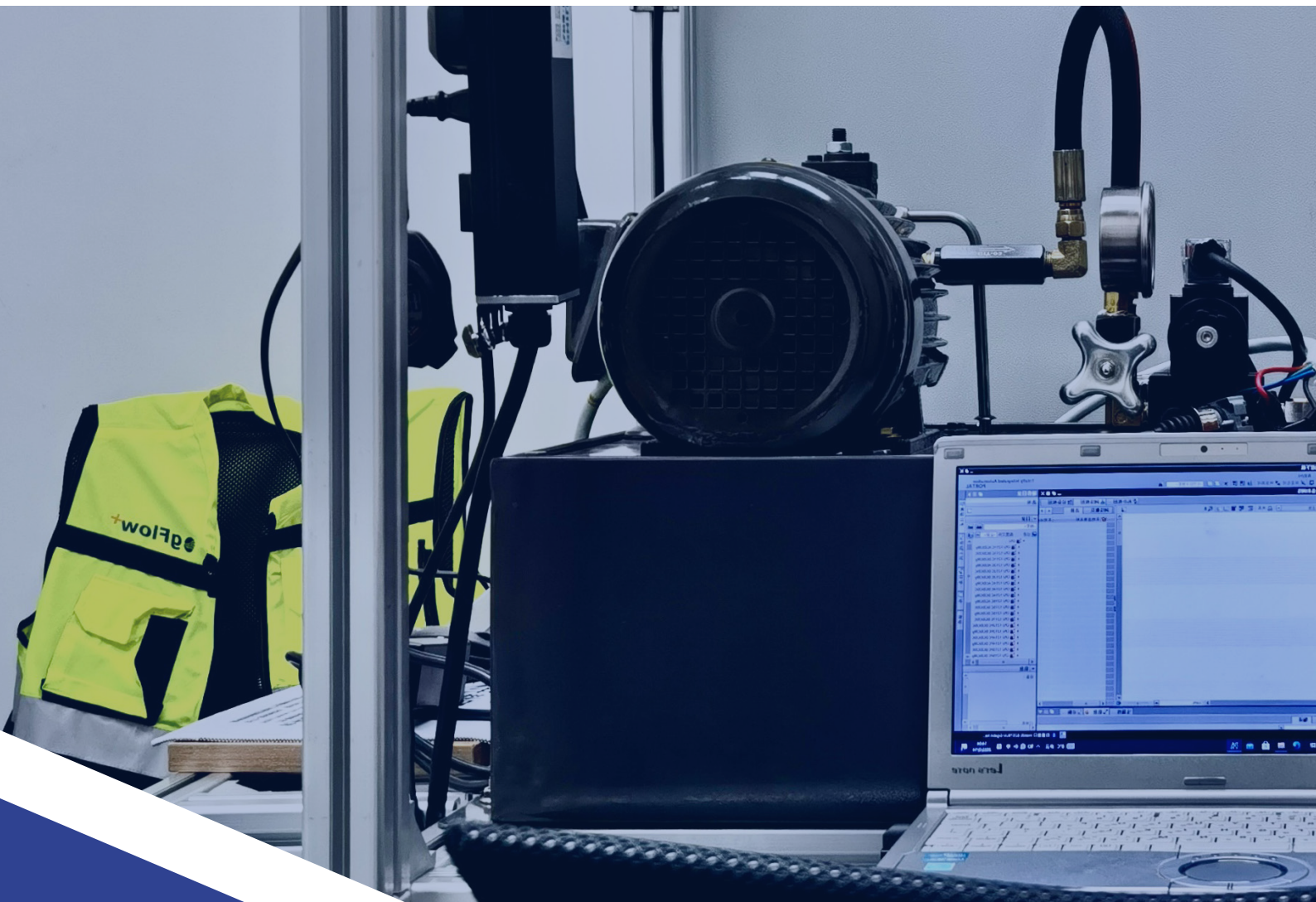
Back in 2013, Gflow+ started with the project from one of the major irrigation equipment manufacturers in the United States. The leading center pivot manufacturer has been looking for strategic partners supplying battery-powered flowmeters to integrated into its smart irrigation system.

Gflow+ designed the meter based on existing IF series Electromagnetic flowmeters and have the product pass all required regulatory approval. This ODM product gets into the US market in just 6 months.

By 2021, the installation bases of this irrigation meter in American farmland have exceeded 10,000 to help farm owners reduce unnecessary water consumption.







Our Global Based Engineering Team Are On Hand To Support Sustainability Challenge

More retailer contact details can
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