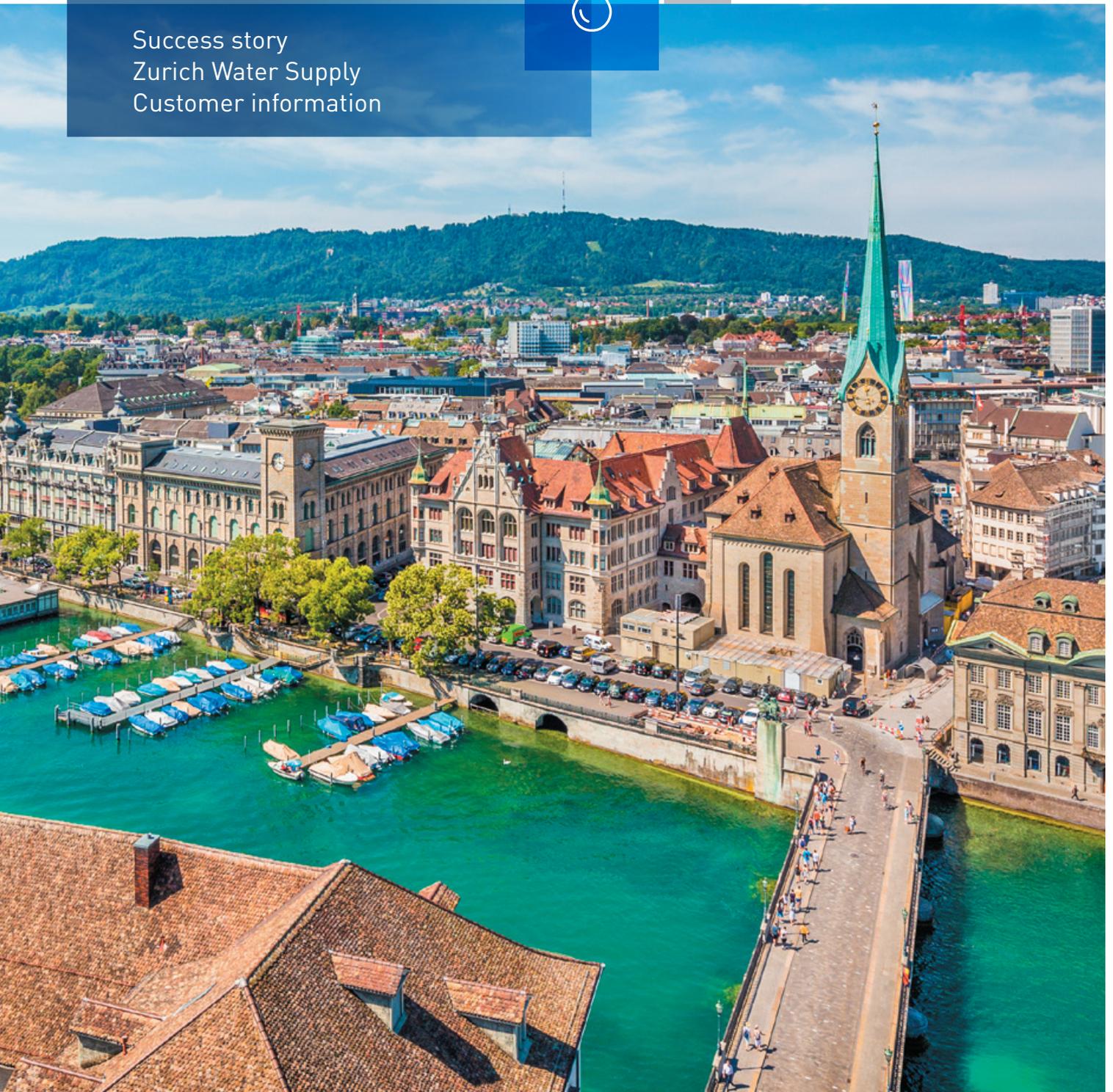


# Ductus S: Reservoir measurements



Success story  
Zurich Water Supply  
Customer information



# GWF enables exact flow measurements and enhances balancing processes



One of the two Ductus S systems at Glaubten Reservoir of Zurich Water Supply

## Project facts

### Customer:

- Zurich Water Supply, Switzerland

### Challenge:

- Widely fluctuating levels of consumption and zero-point transitions. Very few straight inlet or outlet sections

### Solution:

- Installation of two Ductus S ultrasonic flow meters, each with three planes and crossed paths
- Direct connection to the control system

### Added value:

- Optimised balancing processes due to consumption monitoring
- Greater operational knowledge
- Real-time flow rates

## Zurich Water Supply (WVZ)

Zurich Water Supply (WVZ) is responsible for supplying water to every home and the more than 1 200 fountains in the City of Zurich. It also supplies water to a further 67 municipalities in the local region. Most of the water comes from Lake Zurich, plus groundwater and spring water. To offer its more than 900 000 customers a maximum security of supply in the future, WVZ places great emphasis on long-term planning. Exact flow measurements in the reservoir provide the ideal foundation for such planning to be effective.

Installation of a GWF system at Glaubten Reservoir is of special interest for WVZ, due to the widely fluctuating consumption situation. In special operational situations, water may flow back into the reservoir, resulting in zero crossings of flow. The measuring system must therefore be able to determine even the smallest quantities accurately.



A sensor of the Ductus S system

“The support provided by GWF was excellent and friendly from the very first meeting to the finished project. The system has been working without any issues since the day it was installed.”

Walter Aeschbach, Head of Maintenance and Workshops,  
Zurich Water Supply

## Ductus S system details

<b>Application area</b>	Closed pipes for potable water or hydropower
<b>Measuring principle</b>	Ultrasonic time of flight system
<b>Number of acoustic paths</b>	1-10 (20 transducers)
<b>System accuracy for Q (3 planes, DN800)</b>	± 1,5 % of the measured value, down to the minimum reservoir flow rate

## Accuracy in every situation

Thanks to the close, long-standing cooperation, WVZ is always informed about the latest innovative GWF products. This also applies to the growing expertise in the field of acoustic flow measurement, which was met with great interest from Walter Aeschbach, Head of Maintenance and Workshops:

“We required the exact measurement of the exits leading from Glaubten Reservoir into the supply network. The level of consumption fluctuates widely and the flow direction may even reverse at night. In other words, water flows out of the zone and back into the reservoir – resulting in zero crossings of flow. With a GWF ultrasonic system, we are able to detect even the smallest flow rates with deviations of less than 2 %. This is essential for our balancing processes as well as gaining operational insight. In addition, network losses, e.g. due to burst pipes and flushing, can also be determined more precisely thanks to the measurement. This information is extremely valuable for sustainable plant and network operation.”

The Ductus S time of flight system is ideally suited for the specific requirements of WVZ. The outstanding flexibility of the product in terms of its installation position was a decisive advantage. A shaft construction for a system with a different measuring principle would have been an impracticable solution at Glaubten Reservoir. There are no straight inlet and outlet sections, meaning the inflow conditions are less than ideal when carrying out measurements.

“When using an ultrasonic system, we don't need a flow conditioner or have to reduce the cross-section. This ensures that we can supply sufficient water even in the event of a burst pipe. Ductus S is therefore the ideal solution for WVZ. By interlinking the two installed devices in our control system, we can also detect when equalising flows are occurring between the reservoir chambers,” explains Walter Aeschbach.



Roger Haegi, Maintenance Planner Production WVZ, in front of the transmitters of the Ductus S systems

# GWF

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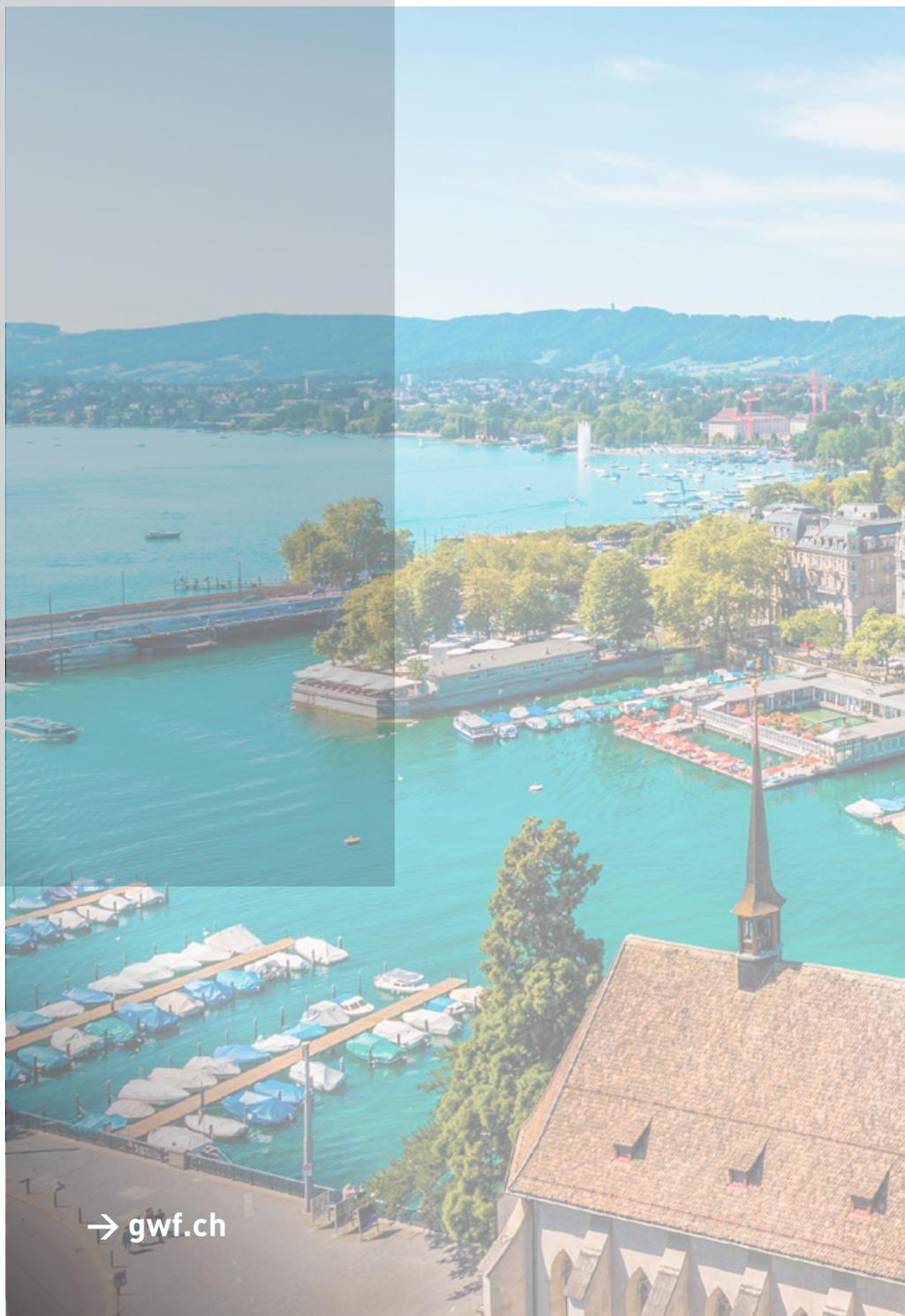
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