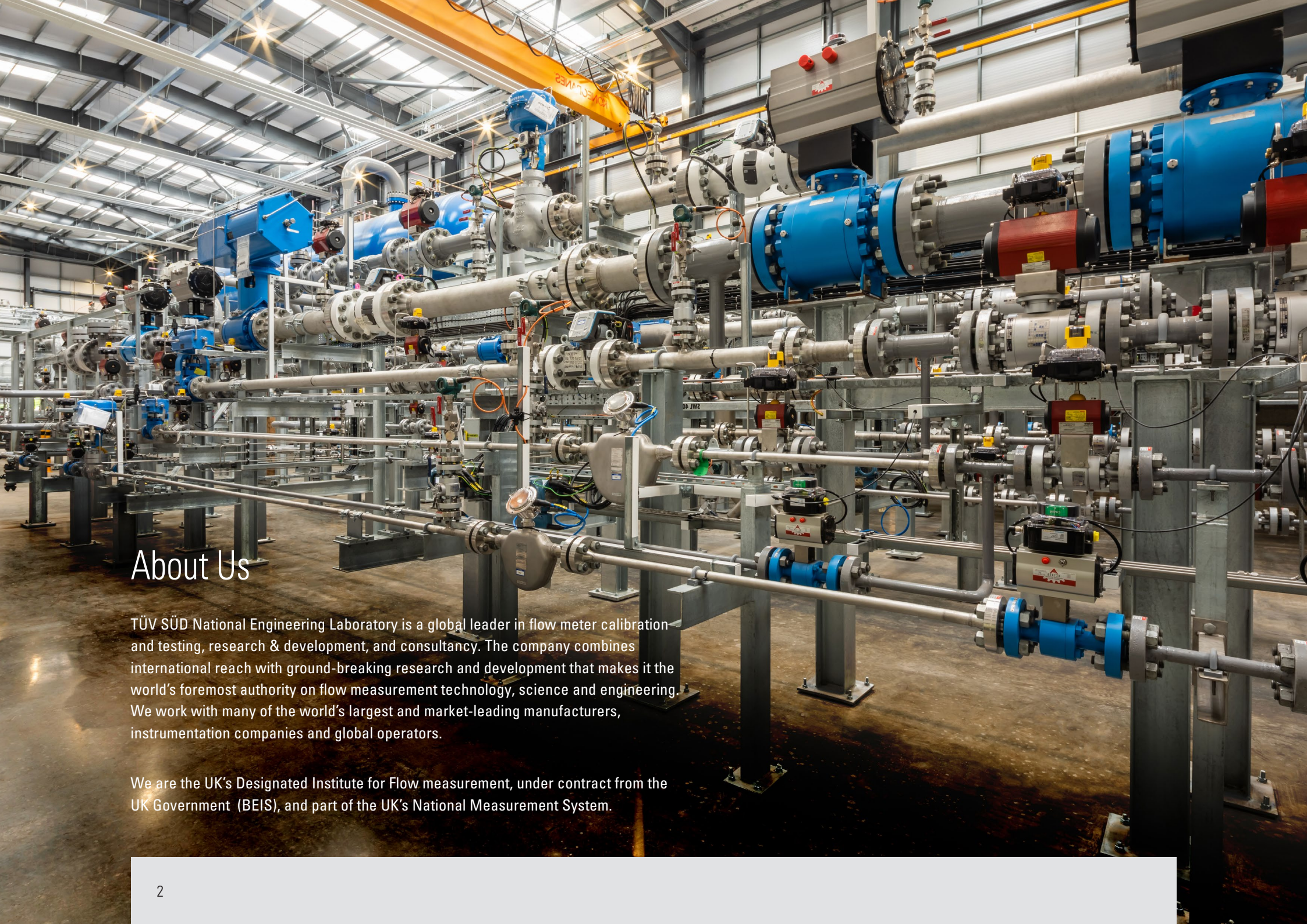




National Engineering
Laboratory

**Add value.
Inspire trust.**

Global leader in flow
measurement calibration,
testing, research and
consultancy



About Us

TÜV SÜD National Engineering Laboratory is a global leader in flow meter calibration and testing, research & development, and consultancy. The company combines international reach with ground-breaking research and development that makes it the world's foremost authority on flow measurement technology, science and engineering. We work with many of the world's largest and market-leading manufacturers, instrumentation companies and global operators.

We are the UK's Designated Institute for Flow measurement, under contract from the UK Government (BEIS), and part of the UK's National Measurement System.

With TÜV SÜD National Engineering Laboratory

you are guaranteed the reassurance of over 60 years flow metrology experience.



Add value. Inspire trust.

The confidence of systems fully certified to the highest industry standards and compliant with health and safety legislation.

The reassurance of dealing with a laboratory accredited to ISO 17025 and ISO 9001 standards.

A track record in validating theoretical results with accurate test data.

In-depth specialist knowledge developed through fundamental research & development.

An unbiased and independent solution to your flow measurement problem.

Engagement with leaders and experts in national and international flow standards.

A professional service focused on increasing operational efficiency and reducing expenditure for industry.

The confidence of dealing with a global provider – part of the TÜV SÜD Group, an industry leader in testing, inspection and certification.

Our facilities at a glance:

Oil Flow Measurement Facility

The oil flow measurement facility is designed to cover a wide range of operating conditions with a selection of different oils. The facility allows calibration and testing of flow meters at significantly elevated pressures and temperatures.

Gas Flow Measurement Facility

The Gas Flow Measurement Facility offers test and calibration for gas flows. The facility has been fundamental in developing knowledge and capability that has allowed industry to produce and measure natural gas along with its associated liquid hydrocarbon content from marginal reserves. The facility reduces the uncertainty and financial exposure that operators experience.

Water Flow Measurement Facility

The water flow measurement facilities offer flow meter calibrations and evaluation and has been enhanced with more advanced automation and control systems.



The facility has two separate flow lines, covering a wide range of flow rates in different line sizes.

Sand Management and Erosion Centre

The Erosive Flow Centre has been developed to examine and understand how equipment and components will perform under controlled erosive conditions.

Advanced Multiphase Flow Measurement Facility

The facility is a revolutionary high

pressure, high flow rate multiphase test facility. With an operating envelope larger than any multiphase or wet gas facility in the world, the AMF also has the highest flow rate in the world within one multiphase facility. This allows the investigation of the transition of multiphase to wet gas conditions for flow meters sized from 2 inches to 14 inches and over, providing vital real-world testing capability for energy operators and equipment manufacturers.

Densitometer Calibration Facility

Our Densitometer Calibration Facility is the only one in the UK that allows densitometers to be calibrated at their anticipated operating conditions. This allows companies to follow the guidance of the UK regulator, the Oil & Gas Authority (OGA).

Hydrogen Domestic Gas Metering Facility

Whilst primarily focused on domestic and small commercial gas meters, the facility can test a wide range of equipment that needs these process conditions, such as non-return valves, regulators and excess flow valves. It can investigate not only the performance of existing meter stock but also allow the development of new meters designed specifically for hydrogen service. Testing can be performed with pure nitrogen, pure hydrogen, air, methane or a hydrogen - methane blend in any ratio; testing can also be performed with natural gas although measurement uncertainty is impacted in this case.

Testing and Calibration

The UK National Standard flow measurement facilities are fully independent and set the benchmark for accuracy. We have purpose-built test rigs and a range of other bespoke facilities that support industry needs, including meter verification of domestic gas meters for hydrogen service, erosion assessment, validation, and subsea sampling testing. This makes us one of the world's leading flow meter calibration service providers. We offer a flexible service to meet our customer requirements.

Our calibration services are complemented by MeterVue™ software which allows real-time, interactive monitoring, data capture and analysis, and remote witnessing of calibrations. Other services include performance evaluation of oil-in-water monitors, measurement equipment and separation of produced water.





Specialist Flow Measurement

All our services can be applied to water, oil, natural gas, hydrogen or carbon dioxide for CCUS

- Flow assurance and validation
- Measurement uncertainty calculations
- Metering advice and management
- Measurement data validation
- Fluid Properties
- Allocation
- CO₂, CH₄ emission evaluation
- Flaring process optimization
- Independent audit & certification



Data Analytics

We provide valuable insights into operational performance, by interrogating data which has already been generated by the client's equipment. Using advanced data analytics and machine learning techniques, TÜV SÜD National Engineering Laboratory offers a range of solutions related to predictive maintenance / CBM.



Consultancy

We offer a comprehensive range of independent flow measurement & metering consultancy services, backed by over 50 years of research, to help clients choose, develop and maintain measurement systems.

We have an excellent track record in the development, design and application of leading-edge flow measurement systems, helping your business reduce costs and increase profitability. We are well positioned to support companies as they address their flow measurement challenges in cleaner fuels and in the future transition to a net zero emissions.



Environmental Compliance:

We provide unbiased assessments of the impact of current and proposed environmental regulations. We also provide clients with the technical solutions they need to meet all applicable legislative requirements.



Modelling and Computational Fluid Dynamics

We provide industry-leading digital solutions to flow measurement problems for the global energy industry and beyond. Our capabilities include Computational Fluid Dynamics (CFD) modelling in single and multiphase, using our unique proprietary software PPDS (Physical Properties Data Service) which has fluid behaviour and uncertainty management capability.



Training and Knowledge Services:

We run a wide range of highly-respected knowledge-sharing networks and training events and courses. We also offer bespoke training for specific audiences.



Research and Development

- Improving flow metrology capabilities and knowledge across all industrial sectors, including energy, clean fuels, life sciences, and water.
- Working with industrial partners to develop new flow metering technologies.
- Driving the development of more accurate flow measurement standards.
- Developing more accurate regulatory and fiscal reporting technology.
- Fostering innovation through research and collaboration.



TÜV SÜD National Engineering Laboratory is the world's leading provider of flow measurement solutions.

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