We deliver gas infrastructure
We are Uniper

We are a leading international energy company with operations in more than 40 countries and around 13,000 employees. We combine a balanced portfolio of modern assets with comprehensive technical and commercial expertise. Our assets and capabilities enable us to deliver bespoke, competitively priced energy products and services with agility, precision, and speed.

Uniper Energy Services – Your one-stop-shop solutions provider

You will benefit from our combined experience of project development, engineering, asset management, and commodity trading.

We have the know-how to deliver solutions for the challenges of the future. As your partners in energy, we are your independent advocate for new projects. Benefit from our comprehensive experience to achieve full value from your existing assets, and your natural gas and LNG infrastructure projects.

A heritage of technical and operational excellence

We are an experienced international energy company with a new name. Uniper’s know-how is based on a heritage of power industry expertise that dates back a hundred years. Our family tree includes some of the leading companies involved in energy generation and gas networks in Europe – businesses known for their reliability and technical excellence.

You will benefit from our decades of hands-on experience in developing, constructing, and operating gas storage plants, energy systems, and gas pipelines. We have industry-leading technical knowledge of pipeline systems, natural gas storage, and LNG infrastructure. Uniper is helping to shape the natural gas supply in Germany and Europe. We deliver engineering and technical solutions to optimize your commercial and technical performance in whichever market you operate.

Benefit from our expertise

- Gas pipeline systems
- Compressor stations and terminals
- Gas metering, fiscal metering
- Gas storage facilities
- LNG infrastructure (export and import terminals)
- LNG/gas to power projects
- Small-scale LNG solutions
- Gas distribution
- Industrial gas utilization

Entry into LNG technology; construction of LNG fuel stations for trucks; development of power-to-gas plant projects in Germany.

Launch of marketing engineering services – operating under the name of Pipeline Engineering (PLE).

First underground storage systems put into operation, cavern gas storage as well as porous rock and aquifer gas storage.

Construction of high-performance infrastructure for natural gas transport; construction of 10,000 km of high-pressure pipelines mainly for Ruhrgas (as part of the European interconnection system) with approx. 25 compressor stations started.

Construction of pipeline systems for the distribution and utilization of coke gas.
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1980s
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2000s
- Entry into LNG technology; construction of LNG fuel stations for trucks; development of power-to-gas plant projects in Germany.
Creating sustainable gas infrastructure to secure supply

The source of natural gas reserves and the locations where the gas will be consumed can be many thousands of kilometers apart. We bring our experience to match supply and demand and ensure the safe transportation of natural gas, delivered to where it is needed most.

We have outstanding experience in developing gas infrastructure assets, as a developer and owner of international pipeline systems, engineer, and operator. We have adapted continuously to market, technological, and regulatory changes and employed our knowledge in projects around the world.

Uniper procures large quantities of natural gas from a variety of producers in countries like Russia, Norway, the Netherlands, and Germany. Our long-term contracts give our portfolio a solid foundation. In addition, we buy gas on a spot basis at Europe’s liquid trading venues.

Storage capacity supports gas system

Our gas business also includes about 8.5 billion cubic meters of gas storage capacity in Europe and stakes in gas transmission pipelines. This helps gas systems respond to fluctuations in supply as well as demand, and ensures a secure energy supply.

New innovative projects reflect Uniper’s belief in the importance of energy storage in energy systems with significant renewables share. In addition to utility-scale battery systems, we are developing power-to-gas technology. At our power-to-gas plants WindGas Falken hagen and WindGas Hamburg, we transform surplus energy from renewables into hydrogen, which is then partially fed into the natural gas grid.

Besides this, we are developing a methanation plant where one hundred percent of the renewable gas produced can then be fed into the natural gas grid. This is part of the STORE&GO project, which is funded by the European Union’s “Horizon 2020” research and innovation program.

Increasingly, Uniper also imports liquefied natural gas (LNG) from around the world. We have near-term and long-term supply contracts with a variety of LNG suppliers and producers in countries like Canada and Qatar. Our engineers are leading projects for regasification facilities at LNG terminals at various locations across Europe.

Innovating in transport sector

We are innovating to help reduce emissions in the transport sector – CO₂, particulates, NOx, and noise. Instead of diesel, LNG is used as a fuel for trucks. We are an architect engineer for the construction of LNG filling stations for trucks; the first ones have already been successfully put into operation in Germany and France.

We are further leveraging our capabilities to deliver flexible, scalable solutions. We will work closely with you as a trusted partner, to maximize the value of your assets and projects.
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Maximizing your return on investment throughout the entire life cycle of your asset is our key focus. You will benefit from our extensive experience of delivering LNG infrastructure, gas transport pipeline systems, and gas storage projects on time and within budget.

We optimize the technical interface management, while our experience gives you the confidence to know that we will always adhere to grid codes and regulatory requirements.

We bundle technical knowledge and leverage our experience gained over decades of building and operating gas infrastructure. The combination of our experience and technical know-how guarantees the quality of the projects we deliver.

Our engineering know-how

- Pipeline design
- Pipeline routing
- System design and hydraulic simulation
- Process engineering including simulation
- Rotating equipment technology, compressors
- Fiscal gas metering
- Piping 3-D design and layout
- Infrastructure and civil engineering
- Building services/utilities
- Environmental assessment
- High-to-low-voltage distribution systems
- Electrical installations
- Instrumentation and control systems
- SCADA and safety systems

Capacity increased by 20 percent

Our client assigned us to increase the capacity of their existing pipeline transport system by 20 percent. Following comprehensive analysis and simulations, we expanded the existing head compressor stations and built another compressor station along the 500km pipeline. Further plants were to be adapted to the increased throughput. We gained the approval to increase the maximum operating pressure by approximately five percent for the first pipeline section. To minimize disruption and speed up implementation, we planned five construction projects, which we carried out in parallel. We achieved the target capacity increase on time and at the planned cost.

Maximizing working gas volume

We supported our client with his gas storage facility in Eastern Europe to increase the working gas volume and injection rate, by boosting the reservoir pressure as well as adding two turbo compressors. The turbo compressors were to be operated in series or parallel to the existing piston compressors. We developed time and cost plans, planned the modifications, and coordinated and monitored all construction and commissioning work. In a time frame of two and a half years from conceptual design to commercial operation, we managed to finalize an exceptional enhancement of our client’s gas storage facility with little to no impact on its running business and at a lower cost than other recommended solutions.
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**Owner’s approach – operator understanding**

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Our clients have different expectations and priorities. So we design individual packages to suit your demands. Best practice or innovative solutions, minimal CAPEX or minimal OPEX – with our in-house expertise and experience we ensure your requirements are met. From initial concept through to hand over to the operator, we manage risks across the life of a project, providing integrated project development and management.

**Our engineering packages**

- Due diligence
- Status assessment
- Concept, feasibility, and equipment studies
- Failure and debottlenecking studies
- Basic engineering (FEED)
- Equipment specifications
- Pipeline routing based on ground truthing
- Cost estimates
- Project execution plans
- Safety integrity – HAZID, HAZOP, SIL, etc.
- Detail engineering
- Construction management and supervision
- HSE management on-site
- FAT & SAT coordination
- Planning, coordination, and monitoring of commissioning
- Final documentation package

**Financially viable package**

Our client’s multinational pipeline development in southeast Europe needed a bankable FEED (front end engineering design) package in line with the European Bank for Reconstruction and Development requirements. We led the environmental and social impact assessment and stakeholder engagement process in parallel with technical design to ensure not only a technically sound and cost-effective – but a widely supported – route for the pipeline. In a competitive process, investors selected this project for implementation.

**Ensuring compliance**

A German storage operator approached us to analyze the options for their gas turbine, which was no longer compliant with emissions legislation. Our experts recommended installation of a new gas turbine driving the existing compressor. Our implementation plan took advantage of the winter withdrawal period, enabling our client to use the compressor train for the next injection period, with its gas turbine drive fully meeting new emissions requirements.

**Keeping safety a high priority**

Our client, a gas plant operator in Germany, chose us to update their vent system and earthing and lightning protection in line with current standards and industry practice. We provided a concept to implement the minimum necessary modifications, leading the project management, detail engineering, and site supervision. With our support, the client has successfully demonstrated compliance with relevant current standards.
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Our experience of developing and operating energy assets for over one hundred years means we are the natural first choice when you need an independent advocate and source of expertise. We know how to deliver the most cost-effective solutions and optimize your energy projects.

We deliver for owner’s engineering and project management, including procurement, permitting, and all required environmental studies, for you to optimize project development and implementation as well as commercial and technical performance, in whichever market you operate.

**Our owner’s engineering services**

- Consulting
- Owner’s representative
- Project/study management
- Owner’s engineering team
- Project definition
- Business case assessment

- Commercial case assessment
- Request for proposal (RFP) process
- Coordination of permitting
- Project risk assessment
- Cost and schedule assessment
- Acceptance on behalf of owner

**First-of-its-kind LNG import facility**

Our client selected us to deliver and commission a turret-moored Floating Storage and Regasification Unit (FSRU) to import LNG, installed 22km offshore in the Mediterranean. The project included conversion of an LNG carrier into a floating regasification terminal. The unit has a regasification capacity of 3.75bcm per year and a storage capacity of 137,500m³ of LNG. Our experts were part of the project management and the owner’s engineering team and responsible for steering and supervising the EPCIC contractor during construction and commissioning over a period of several years. The LNG FSRU is now being successfully operated and has received and regasified numerous LNG cargoes.

**Development of a greenfield LNG export project**

Our client is developing a greenfield LNG export facility in North America. The project consists of LNG processing facilities, two 5mtpa liquefaction trains with GT drive, three 230,000m³ LNG storage tanks and marine facilities to load LNG tankers. Entrusted as the owner’s technical representative and part of the owner’s engineering team, we steered and supervised the engineering contractor during front-end engineering and design. We also delivered a conceptual design for a 400MW power plant. The project has now received export authorization.
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With our owner-operator experience we can quickly select the best concepts, both technically and economically, and develop them according to the specific requirements of the project. Using our experience in project management, we coordinate all required services, such as surveying, rights acquisition, or procurement, and integrate these into packaged solutions. While doing so, our priority is to always meet highest health, safety, security, environmental (HSE) and quality standards, and to conduct our business responsibly. We can provide solutions for the optimization of existing installations to meet changing regulatory requirements, for example adaptions to meet new emissions or lightning protection requirements.

During project development and implementation, we take into account legal requirements and economic factors that determine your financial success.

**Our project management services**

- Project management consultancy
- Project development
- Scheduling/cost estimates
- Tender packages
- Procurement services incl. FIDIC contracting
- Interface management
- Document control center
- Reporting, cost and schedule tracking
- Expediting and inspection
- Site management
- Construction management and supervision
- Preparation and coordination of commissioning
- Collecting and preparation of as-built documentation

**National transport system established**

Our client planned a 400km pipeline system (DN 300 to DN 700) with more than 30 metering and control stations for a Mediterranean country. We supported development of the national transport system over a period of several years. In addition to basic engineering, we conducted locally developed detailed engineering. Our experts supervised the construction works and advised our client on the establishment of the company organization. The completed system has made a reliable contribution to the country’s energy supply.

**New storage facility in record time**

In northern Germany, our client needed to develop a completely new storage facility with 19 caverns, a working gas volume of approximately 2bcm, and entry/exit rates of more than 2bcm per hour in a very short time. As the chosen project engineer and coordinator, we used strict time and cost monitoring in collaboration with the other stakeholders. In addition to the actual planning documents, detailed planning of the construction process and commissioning was a high priority. Our client benefitted from project completion within the given time frame and from costs below budget.
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