



UNDERGROUND ENERGY
STORAGE TECHNOLOGIES

A CENTRE OF EXCELLENCE
FOR ENERGY LEADERS

The background of the right side of the image is a composite of several elements. At the top, there is a starry night sky. Below that, a bright sun or star is visible on the left, casting a golden glow over the horizon of the Earth. The Earth's blue and white atmosphere is visible. In the foreground, a network of blue lines and nodes is overlaid on the scene, suggesting a global or technological network.

01 THE CONSORTIUM

Your reliable partner for underground storage projects

Empowering energy leaders identifying opportunities and managing risks in underground storage projects.

UEST (Underground Energy Storage Technologies) is a strategic consortium of the HOT Energy Group, the ILF Group, CAC Engineering and RED Drilling & Services. The partnership fuses the individual partners' decades of project management and broad

expertise in underground storage technologies. UEST's Centre of Excellence empowers Energy leaders by providing strategic advice and delivering high-end and cutting-edge solutions for natural gas, carbon dioxide, hydrogen storage and geothermal energy.

UEST's global footprint is supported by offices in Austria (Headquarters), in Germany and a network of alliance and representative offices worldwide.



STRATEGIC ADVICE

to governments, global corporations and institutional leaders



The HOT Energy Group (HOT) is a leading subsurface engineering provider for production, injection and storage operations. Its vast subsurface experience stems from 40 years of characterising, modelling and simulating complex oil, gas & condensate reservoirs, underground gas storage (UGS) facilities and aquifers. During this time, HOT has proudly supported its customers in developing and extending underground gas storage facilities and operations to cope with the increasing, yet fluctuating, seasonal energy demand.

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While our core business originated in the upstream oil and gas industry, our innovations, technologies and solutions are scalable, expandable and portable across energy systems, and have made us a trusted advisor and partner for sustainable energy solutions and subsurface energy systems.

– Dr Diethard Kratzer, Founder & CEO



The ILF Group (ILF) is a leading international engineering and consulting group that supports its clients to successfully identify, prepare and execute technically challenging energy, industrial and infrastructure projects. With over 3,700 highly qualified employees in more than 45 offices across six continents, the companies of the ILF Group have a strong regional presence. This enables ILF to interact with clients and project parties at any time and any place.

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ILF combines local presence and international expertise to sustainably serve clients' needs. The company is privately owned by the founding families and is therefore completely independent. It has no affiliation with manufacturers, suppliers, or financial institutions.

– Klaus Lässer, CEO

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ALWAYS AN **IDEA AHEAD**

CAC Engineering GmbH is a renowned plant engineering company with 60 years' experience in the planning, implementation and commissioning of gas plants and also surface facilities for natural gas underground storages by providing the whole range of engineering services from its own sources. With around 400 employees, 280 at the company headquarters in Chemnitz, CAC has built more than 500 industrial plants worldwide.

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By considering our long term experiences and technological competencies, CAC is combining the flexibility of a medium-sized privately owned enterprise with project related skills and tools of a large industrial plant manufacturer.

– DI Joerg Engelmann, CEO & Shareholder



RED Drilling & Services GmbH (former RAG Energy Drilling GmbH) was established in 2014 as a 100% subsidiary of a long-established Austrian exploration, production and gas storage company with over 90 years of experience. The core business is the planning, implementation and maintenance of oil and gas exploration and production wells, gas storage and geothermal wells, as well as the plug and abandonment of old wells. Besides subsurface and surface engineering services RED is also operating its own drilling and workover rigs.

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Being a former operator, RED understands the needs of its clients and combines planning and operations experience of more than 1.300 projects with best in class performance while achieving highest quality and safety standards.

– DI Heimo Heinzle, Managing Director

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Our Focus

UNDERGROUND GAS STORAGE

Over the past 35 years, we have supported our customers in converting gas and oil reservoirs into **Underground Gas Storage (UGS)** facilities and have advised them in extending the capacity of their UGS operations to cope with the increasing, yet fluctuating, seasonal energy demand.

Our extensive reservoir and well engineering expertise, combined with our drilling and workover capabilities and our operational experience with developing numerous gas storage surface facilities, from concept to handover, have made us the preferred partner and trusted advisor for gas storage companies all over Central Europe and beyond, among these Europe's leading storage facility operators.



Photo: Courtesy RAG Austria AG

Our Focus

CARBON MANAGEMENT (CCS/CCU)

Carbon Capture, Storage (CCS) and Utilisation (CCU)

are important emission reduction technologies and can help to scale up the hydrogen economy (Blue & Green Hydrogen). Depleted gas reservoirs represent a great opportunity for underground CO₂ storage. They provide significant storage capacity as well as infrastructure in place.

Benefit from our experience in developing underground storage facilities. We have adopted a robust workflow starting from identifying CCS opportunities to maturing these to underground storage projects.



Our Focus

UNDERGROUND HYDROGEN STORAGE

Hydrogen storage will be an important cornerstone for smooth operations of a hydrogen economy. Underground storage is well suited for large-scale and long-term storage while securing a continuous and well-defined supply stream.

Benefit from our experience. Starting from our initial assessment of reservoir and facilities, we deepen your knowledge base through laboratory experiments, special studies and numerical modelling. Our combined subsurface and surface facilities expertise makes us the preferred partner for operators planning hydrogen storage facilities.



Photo: Courtesy RAG Austria AG

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Our Focus

GEOTHERMAL ENERGY

Geothermal energy is abundant, renewable and with minimal carbon footprint. It has the potential to significantly contribute to the global energy supply.

We support our customers in identifying locations of high-quality geothermal resources, in mitigating geological risk and in designing and developing geothermal projects. We have planned, drilled and completed many dedicated geothermal wells for our European clientele.



WHAT WE CAN DO FOR YOU

Identify and develop opportunities, manage risks in underground energy projects

Our consortium fosters impactful collaborations and strategic advice to governments, global corporations and institutions, amplifying their progress as energy pioneers.

OUR CAPABILITIES

We analyse the project's potential from different perspectives:

Methodology, geological, technical, economic, legal, financial, and regulatory.

We support your project throughout all stages, from identification, framing, screening, procurement, project management, execution and commissioning.

IDENTIFICATION

FRAMING

SCREENING

PROCUREMENT

PROJECT
MANAGEMENT

EXECUTION

COMMISSIONING

WHY CHOOSE UEST?

Extensive proficiency throughout the entire project lifecycle

We know the limitations of standalone and silo-type projects that fail to deliver real value. We bring broad expertise covering all segments of your project.

By choosing to partner with us, energy leaders gain access to:

- Strategic advisory & holistic assessment
- A centre of excellence
- Long-term partnership & value creation



Photo: Courtesy RAG Austria AG

SUBSURFACE

SURFACE

TRANSPORTATION

LOGISTICS

OPERATIONS

LEGISLATION

PROJECT
MANAGEMENT

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WHY CHOOSE UEST?

In-depth knowledge and proven track record

Our organisation builds on decades of expertise and offers a well-rounded service portfolio – from identifying your future success criteria, framing necessary developments, and maximising resource efficiency for key energy sectors.



PLANNED

> 20

Billion Cubic Metres
of Storage Capacity



SUPERVISED

> 10

Storage Surface
Facilities
Developments - from
Concept to Operation



PLANNED & DRILLED

> 70

Energy Storage Wells



COMPLETED

> 56 K

Metres Storage
Reservoir



BUILT

> 500

Industrial Plants



COMMISSIONED

> 30

Storage and
Production Stations



PROVIDE

> 150

Years of Combined
Corporate Experience

UEST YOUR PARTNER FOR UNDERGROUND ENERGY SYSTEMS

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