

Experience in further working fields

- Basic and detail engineering in 3D (gas pressure regulation stations, surface facilities of underground storages, compressor facilities)
- Network modelling / pressure measurement, strategic planning and calibration of network models as basis for network optimisation
- Recommendation of technical design e.g. for compressors based on technical requirements and cost estimations
- Techno-economical assessment of gas- and water grids in combination with long term planning of necessary investment with the software BEROS
- Consulting in the area of Pipeline Integrity Management Systems
- Support with the implementation of current legal changes (national and European legislation)
- Expert opinion e.g. grey cast iron distribution pipelines
- Estimation of future demand and sales potential for gases
- Analysis of material characteristics as permeation and chemical resistance
- Field study for upcoming technologies, installations and equipment



Grid plan

Contact / Directions

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GAS GRIDS / GAS FACILITIES

Innovative and established fields of activities
– an overview



DBI GUT
Gas- und Umwelttechnik GmbH

Innovative infrastructural services

Your partner for transfer of research / innovation results into operation

Gas grid optimisation / Smart grids

- Optimisation of historically evolved grids:
 - Analysis of grid structures and identification of potential for optimisation depending on existing and future requirements that needs to be covered by gas grids
 - Assessment of potential as well as technical implementation of dynamic pressure operation mode in gas grids for better integration of renewable gases
 - Development of recommendations for grid structures
- Technical and economic analysis of “smart elements” including specific local preconditions (e.g. bivalent compressor drive and preheating facilities)
- Planning of grid expansion under consideration of economic viability and supply security of consumers
- Optimisation of grid topologies and supply strategies

Security of Supply / Energy Economics

- Analysis and evaluation of supply security of the gas infrastructure considering legal aspects and possible interactions with trading activities/interests
- Development of methods and actions to preserve and improve supply security e.g. by development of warning and shortage signals

Environmental issues focussing on gas grids

- Estimation of greenhouse gas emissions from the gas infrastructure
- Identification of potentials to minimise greenhouse gas emissions
- Assessment of material suitability e.g. deposit water in Oil and Gas E&P

Your partner for connection between stakeholders of economy, research, economic associations, technical bodies as well as economic and environmental policy

Power-to-Gas

Assessment of specific local conditions

- General spatial analysis of potential locations for Power-to-Gas and feed-in installations
- Location specific assessment of potential sites for Power-to-Gas and feed-in installations
- Development of rough concepts of Power-to-Gas, feed-in installation as well as pipeline routing

Analysis of cost-efficiency

- Estimation of capital and operating expenses for the components of the Power-to-Gas, feed-in installation
- Identification and assessment of potential revenue sources

Planning and Consulting

- Basic and detailed planning of feed-in installations including instrumentation
- Evaluation of the hydrogen tolerance of the gas infrastructure and impact on the gas grid, its components, and connected customers
- Assistance in risk assessment e.g. by hazard and operability analysis (HAZOP)
- Preparation of documents for administrative permit incl. permit procedure with the authorities
- Technical planning documentation for feed-in installation with P&I Diagram, Isometry, list of material, shop drawings and as-built-documentation
- Construction site supervision upon project realisation

Pressure regulation stations – an integrated concept

- Support during the implementation of condition based maintenance methods
- Technical modification of pressure regulation stations in order to enable dynamic pressure control of the gas grids
- Performance of technical and economical assessment, e.g. comparison of conventional pressure regulator v.s. gas expansion turbine as well as optimisation of the required power layout of the gas preheating system
- Ex-zone on blow outs – calculation and graphic visualisation of Ex-zones

Your partner with specialised know-how of the gas infrastructure

