Your challenges
In the event of a failure, process systems of technical plants and all types of operational processes can potentially pose danger to people, cause costly damage to property and have an adverse environmental impact. Therefore, owners and operators of industrial plants need a systematic approach to identify possible hazards. Faced with the increasing safety demands of governments and public bodies as well as pressure from competitors, owners and operators require an effective solution to determine hazards, increase plant safety and availability, and reduce maintenance costs.

What is the HAZOP procedure?
The HAZOP (Hazard and Operability Study) procedure was developed by the English ICI group of companies. In a HAZOP study, a multidisciplinary team of external and internal experts uses a systematic approach (based on “guide words”) to identify possible hazards resulting from deviations from the process design associated with the operation and modification of the plant or installation. The HAZOP team evaluates the causes and consequences of each deviation, the existing safeguards as well as the preventive measures to develop corrective actions. The HAZOP procedure is applicable to all types of specific operational sequences and can be used for planned and existing systems. It is most effective when conducted during the conceptual design phase where recommendations affecting the general design may be made.

Why are HAZOP studies important for your business?
HAZOP studies offer a systematic method to improve plant safety by considering technical and organisational hazards, potential human error and external influences. In addition to determining which safety measures provide genuine benefits, HAZOP studies can also help identify the best solutions for functional safety assets of process control. The results can be used to reduce the likelihood of costly and time-consuming malfunctions.
while increasing operational safety and availability. HAZOPs are able to cover existing standards as well as new complex technologies that can consequently improve the insurance terms of a plant.

How can we help you?
TÜV SUD is an independent and trusted service provider with many years of experience and expertise in carrying out HAZOP studies and other systematic analyses. We offer comprehensive consulting services and support for a systematic analysis of your plant based on the HAZOP procedure, with the aim of improving safety and ensuring compliance to relevant laws, codes and standards. Our experts provide objective facilitation of a HAZOP study, ensuring that brainstorming meetings are well structured and performed systematically, encouraging creative solutions and supporting in the analysis and documentation of the HAZOP results.

Our HAZOP procedure services
TÜV SUD provides consulting services for the systematic analysis based on the HAZOP procedure as follows:

- Identification of the necessary scope of the analysis and selection of the necessary documents.
- Moderation of the HAZOP meetings by an experienced, independent team leader.
- Recommendation of experts or specialised consultants required for the HAZOP team.
- HAZOP study with the help of modern data processing and presentation techniques.
- Documentation of the HAZOP study results.

Furthermore, we also provide support in the application of other systematic methods such as failure analysis, event sequence analysis and fault tree analysis.

Your business benefits

- **Improve operational safety and availability** – by reducing hazard potential and increasing the effectiveness of the plant operation with our state-of-the-art safety concepts for implementation and assuring legal compliance.
- **Minimise cost** – with targeted differentiation between necessary and useful safety measures in the early design phase, creating a predictable cost base with higher accuracy, ensuring better utilisation of resources and avoiding unnecessary investment costs.
- **Benefit from one-stop solutions** – with TÜV SUD’s multidisciplinary expertise in a variety of systematic analysis methods to ensure all technical and organisational aspects of your business are covered and procedures are carried out correctly.

Why choose TÜV SUD?
TÜV SUD has extensive experience in supporting operators, owners and licensing authorities in plant safety and major accident prevention through the use of HAZOP studies and other systematic analyses. We are widely known as an independent third-party solutions provider that offers impartial, unbiased and strictly confidential inspection and assessment services on which you can base decisions. Our international presence allows us to work around the world on our clients’ behalf, providing immediate and cost-effective support from our many in-market offices to meet your local needs with a uniform level of premium quality. We also have in-depth familiarity with national and international directives and regulations.

Choose certainty. Add value.
TÜV SUD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

Related services
TÜV SUD provides the following related services:
- Risk-based inspection and maintenance
- Non-destructive testing
- Failure analysis