

# Oil and Gas

## Transport and Storage



## Moving products with safe transport and storage

Robust and reliable systems compliant with all relevant standards and regulations are key to the safe and efficient transport and storage of oil and gas products. Protecting employees, the community and the natural environment as well as the reputation of your business depends on the strategies you implement and the actions you take. Our experts provide comprehensive services designed to help you establish and maintain effective transport and storage processes and systems tailored to fit your particular circumstance and business goals.

### Securing Industrial Assets – safety in proven strength

Oil and gas producers and suppliers use multiple transport and storage systems to move huge amounts of raw materials and products around the globe. Safe transportation relies on strong and compliant storage units built and maintained to prevent situations that may endanger human life or cause irreparable damage to the natural environment. DEKRA offers a portfolio of services for the oil and gas industry to help you verify and sustain strong and efficient transportation strategies and storage equipment.

#### Advanced Non-Destructive Testing (NDT/Mechanized Inspection)

Advanced Non-Destructive Testing is used to examine materials and objects to locate and measure surface and subsurface defects without causing damage to the test item. Often used for inspection and remote or online monitoring during operation, Advanced NDT technologies minimize downtimes due to maintenance or repair to keep your facility up and running. Specific mechanized NDT solutions can be implemented to safely access tight spaces or contaminated environments to protect human health and save you time and money. Advanced NDT further provides a reliable and cost-efficient inspection of pipe girth welds. Aside from routine facility inspections, the law requires bulk fuel tanks to undergo Non-Destructive Testing (NDT) conducted by a certified inspector. We provide comprehensive NDT services specifically designed for the oil and gas industry to detect leakage or other structural

issues in transport or storage containers. Our certified inspectors help you to ensure the integrity of your tanks to prevent costly incidents and reduce company liability.

#### Destructive and Metallographic Testing for Failure Analysis

Our legacy of conducting state-of-the-art materials testing in accredited laboratory facilities around the world ensures manufacturers and plant owners reliable results based on decades of engineering know-how. In addition to established destructive testing measures, metallographic testing uses standardized methods to examine macro- and micro-scale visual characteristics to determine the current condition and remaining lifetime of a material. DEKRA experts use various testing methods, tools and processes to investigate and analyze potential unexpected failures that can impact safety and affect your business.



## Fire Protection Management and Advisory

Our fire protection experts conduct thorough assessments, serve as external fire prevention officers and provide recognized consulting and other support services to help you fully understand and appropriately address your overall fire risk.

## Health, Safety and Environment (HSE) Management System

We help to ensure your ability to protect employee health and safety as well as the local environment. ISO 50001 certification improves energy efficiency with the introduction of an effective energy management system, while ISO 14001 certifies your environmental management system to demonstrate sustainable operation.

## Environmental Advisory and Services

Prioritizing environmental responsibility, our environmental consultants and advisors ensure your compliance and recommend strategies aimed at increasing your company efficiency. DEKRA experts are there to help with extensive experience in providing environmental appraisals, assessments and permits as well as due diligence and on-site advisory services.

## Examination of Experts for IT and Data Protection

To inspire trust in existing customers and attract new potential clients, it is essential to ensure information security throughout your IT systems, components, processes and personnel. DEKRA accredited personnel certification services span a wide range of internationally recognized requirements to give employees confidence in their skills and provide your customers the peace of mind knowing they have chosen the right partner.

## Examination of Experts for Occupational Health and Safety

Validation by an objective third party gives employees confidence in their skills especially when it comes to the occupational safety of your employees. With our examination services you can be sure that your in-house experts can prove their expertise.

## Explosion Safety

DEKRA supports you in fulfilling the safety requirements as described in the applicable European Directives and possible additional national legislations. As a European Notified Body, DEKRA tests, assesses and certifies according to the ATEX Directive 2014/34/EU, amongst others. Our experience and expertise combined with our pragmatic approach has made us one of the top 3 players in the world in this work field of ATEX and IECEx. Furthermore, we are a founding member of the globally acknowledged IECEx scheme, through which we provide services both as a certification body (ExCB) and as a testing laboratory (ExTL). With our VT 1000 Ex – Full HD Ex classified (Atex Zone 1 rated) inspection camera we can also support you with remote visual inspections in high-risk explosive environments.

## Information Security Management System (ISMS)

DEKRA experts work to help you protect sensitive data and secure your IT systems, components and processes to meet today's cyber security challenges with certification in accordance with ISO 27001.

## Mandatory and Voluntary Inspections for Pressure Equipment

Based on decades of experience, DEKRA has developed a wide range of services to ensure compliance of potentially hazardous pressurized equipment such as filling systems for oil and gas, and steam boilers. As a Notified Body, we provide CE Certification and design verification to ensure you meet all regulatory requirements and safety standards relevant to the oil and gas sector to warrant an acceptable declaration of conformity. Our remote on-line monitoring allows us to continually analyze your pressure equipment so that we can advise you on any issue that may arise. We are your reliable and recognized partner, providing certification of your corporate processes, quality assurance systems and safety procedures.

## Mandatory and Voluntary Inspections of Electrical Installations

Through comprehensive programs and reporting, our experts secure your electrical systems to ensure compliance, detect errors, minimize costs, and especially prevent explosions as a main risk from the earliest planning stages. We conduct failure risk analysis using perturbation measurement to correct malfunctions degrading the performance of your electrical installations and ensure reliable operation of your facilities. We also provide thermographic measurements using infrared thermography to reduce the risk of costly unscheduled downtime, conserve energy, improve safety and ensure quality. DEKRA operates as an accredited body or with specially authorized electricians to carry out mandatory initial periodical and non-periodic inspections for the oil and gas sector. Furthermore, we test, assess and certify according to the ATEX Directive 2014/34/EU, amongst others. In addition, we can also support you with remote visual inspections in high-risk explosive environments with our VT 1000 Ex – Full HD Ex classified (Atex Zone 1 rated) inspection camera.

## Process Safety Competence Development

The DEKRA Process Safety Academy provides competence development programs in all areas of process safety. We incorporate various learning methodologies, including public courses and events, tailored in-house courses, e-learning and computer-based training and skills development programs.

## Process Safety Consulting and Testing

For the risk identification, analysis, prevention and management of fires, explosions and accidental chemical releases, we provide impartial advice and recommendations. Our process safety testing services are carried out in state-of-the-art laboratories in accordance with local and international standards. Our trained specialists conduct the proper testing and expert analysis essential to preventing fires, explosions or other disasters. We provide you the support you need to accurately recognize potential risk factors inherent to the handling, storing and processing of hazardous substances and to develop a robust and effective process safety management system.

## Safety Advisory, Services and Coordination

Expert DEKRA advice, risk assessment, training, on-site support and project safety coordination services help you protect your employees from accidents and other hazards in the workplace to minimize the overall effort for your occupational safety measures.

## Flexible Processes – promoting adaptable solutions

Strategic process control and safety systems are key components in developing solutions able to adapt to the extent and complexity of your transportation and storage of operational apparatus. DEKRA provides a wide range of services to help you maintain the flexibility to meet any challenge.

## Advanced Non-Destructive Testing (NDT/Mechanized Inspection)

Advanced Non-Destructive Testing is used to examine materials and objects to locate and measure surface and subsurface defects without causing damage to the test item. Often used for inspection and remote or online monitoring during operation, Advanced NDT technologies minimize downtimes due to maintenance or repair to keep your facility up and running. Specific mechanized NDT solutions can be implemented to safely access confined spaces or contaminated environments to protect human health and save you time and money. Advanced NDT further provides a reliable and cost-efficient inspection of pipe girth welds.

## Chemical Safety Advisory

Maintaining compliance with testing protocols, reporting mandates, product labeling, documentation requirements and legislative initiatives such as REACH can be an overwhelming task for both manufacturers and importers. Our chemical safety advisory team specializes in testing, classification, management and other services supporting companies seeking to comply with the hazardous substances regulatory framework.

## Second-Party Audits

Experienced auditors provide fast and efficient audits to help you in approving new suppliers, addressing quality issues, confirming corrective actions, or performing reviews or maintenance as part of a supplier management process.

## Welding Services

DEKRA welding experts ensure you meet the requirements established by recognized standards, directives and national legislations as well as individual customer specifications. Qualified personnel and welding procedures must often be approved by a notified body, recognized third party, or accredited certification body. We are your reliable and recognized partner, providing certification of your corporate processes, quality assurance systems and safety procedures.

## Digital Health, Safety and Environment (HSE) Solutions

How we seek and use information about safety is critical to our ability to achieve results in safety. DEKRA delivers innovative IT solutions and platforms which enable organizations to manage, control and understand their data as well as uncover relevant trends in order to identify areas of improvement and minimize risk. DEKRA data collection and analytics solutions pair the experiential expertise of our research professionals with proven tools and methodologies.

## Examination of Experts for Occupational Health and Safety

Validation by an objective third party gives employees confidence in their skills especially when it comes to the occupational safety of your employees. With our examination services you can be sure that your in-house experts can prove their expertise.



### Examination of Experts for Quality, Energy and Environment

Validation by an objective third party gives employees confidence in their skills especially when it comes to the quality of your processes and the ability to meet modern requirements for a clean environment and saving energy. With our examination services you can be sure that your in-house experts can prove their expertise.

### Expediting, Shop and Vendor Equipment Inspections (Electrical, Pressure Vessels, Machinery)

Acquiring new equipment and machinery can be time-consuming, costly and risky. We carry out inspection and expediting services worldwide at your supplier's premises, verifying the quality of manufactured products or equipment and time of delivery.

### Explosion Safety

DEKRA supports you in fulfilling the safety requirements as described in the applicable European Directives and possible additional national legislations. As a European Notified Body, DEKRA tests, assesses and certifies according to the ATEX Directive 2014/34/EU, amongst others. Our experience and expertise combined with our pragmatic approach has made us one of the top 3 players in the world in this work field of ATEX and IECEx. Furthermore, we are a founding member of the globally acknowledged IECEx scheme, through which we provide services both as a certification body (ExCB) and as a testing laboratory (ExTL). With our VT 1000 Ex – Full HD Ex classified (Atex Zone 1 rated) inspection camera we can also support you with remote visual inspections in high-risk explosive environments.

### Health, Safety and Environment (HSE) Management System

We help to ensure your ability to protect employee health and safety as well as the local environment. ISO 50001 certification improves energy efficiency with the introduction of an effective energy management system, while ISO 14001 certifies your environmental management system to demonstrate sustainable operation.

### Health, Safety and Environment (HSE) Strategy and Management

Our HSE strategy consultants help companies design a roadmap for a comprehensive policy that promotes a safe and healthy workplace to protect your employees from preventable hazards. In addition to addressing compliance issues, DEKRA experts assist you in enhancing overall performance, reducing your environmental impact and creating a supportive corporate culture.

### Mandatory and Voluntary Inspections for Pressure Equipment

Based on decades of experience, DEKRA has developed a wide range of services to ensure compliance of potentially hazardous pressurized equipment such as pipes, pipelines, storage and filling systems for oil and gas, and steam boilers. Our on-site inspections and remote online monitoring allow us to continually analyze your pressure equipment so that we can provide technical advice on any issue that may arise. We are your reliable and recognized partner, providing certification of your corporate processes, quality assurance systems and safety procedures.

### Mandatory and Voluntary Inspections of Electrical Installations

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## Organizational Diagnostic, Assessment and Development

With our portfolio of tried and true diagnostic tools we strive to transform workplace culture, ensuring reliability and strengthening performance. Aiming to optimize your organizational culture with improved safety, higher employee motivation and increased integrity along your supply chain, our consultants utilize customized surveys, qualitative assessments as well as our specially designed assessment methodologies to help you choose the approach best for your company. Working closely with you, we enhance your safety approach through education, skills training, and in-the-field coaching and guidance to bring positive change to your enterprise and the entire logistics network.

## Process Safety Consulting and Testing

For the risk identification, analysis, prevention and management of fires, explosions and accidental chemical releases, we provide impartial advice and recommendations. Our process safety testing services are carried out in state-of-the-art laboratories in accordance with local and international standards. Our trained specialists conduct the proper testing and expert analysis essential to preventing fires, explosions or other disasters. We provide you the support you need to accurately recognize potential risk factors inherent to the handling, transporting and storing of hazardous substances and to develop a robust and effective process safety management system.

## Professional Driver Training

Having already trained more than 50,000 drivers across the world, DEKRA is a leading provider of flexible courses in various formats including e-learning components and platforms. DEKRA training courses can be accessed via our national branches, international subsidiaries and external partners and are carried out according to an internationally secured quality standard.

## Quality Management System

Reliable quality management based on ISO 9001 ensures high quality processes, products and services. A central feature is its risk-based approach, which identifies opportunities and risks, derives appropriate measures and evaluates their effectiveness. Certification according to ISO 9001 helps you implement a robust quality management system and efficient accompanying processes with which to achieve your desired results.

## Second-Party Audits

Experienced auditors provide fast and efficient audits to help you in approving new suppliers, addressing quality issues, confirming corrective actions, or performing reviews or maintenance as part of a supplier management process.

## Warehouse Logistics Training

DEKRA seminars provide you with a sound knowledge of all aspects of warehouse logistics. Our strict quality standards coupled with more than 40 years of experience in transport and logistics education guarantee you and your skilled staff first-rate, real-world vocational training. Our students include warehouse professionals ranging from forklift drivers to certified logistics supervisors.

## Skilled and Safe Personnel – credentials for excellence

Well-trained, certified employees and management professionals play an important role in maintaining a safe workplace and securing optimal performance results. DEKRA offers the comprehensive training and recognized certifications your staff needs to propel the success of your company.

### Ambient Measurements

DEKRA offers a wide range of services to assist trained company representatives in their efforts to create and maintain a safe workplace. We help remediate occupational health and safety (OHS) issues to protect workers. Our ambient measurement services assess factors such as indoor and outdoor air pollution, temperature, lighting, radiation, noise and vibration to determine any health risk to employees or negative impact on brand products.

### Examination of Experts for IT and Data Protection

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### Examination of Experts for Quality, Energy and Environment

Validation by an objective third party gives employees confidence in their skills especially when it comes to the quality of your processes and the ability to meet modern requirements for a clean environment and saving energy. With our examination services you can be sure that your in-house experts can prove their expertise.

### Health and Medical Advisory, Services and Examinations

Our trained and accredited team of specialists conducts physical, ergonomic and psychological risk assessments and provides practical solutions. These and other DEKRA services including coaching and training on health-related topics or travel medicine consulting can be customized according to your needs.

### Human Performance Reliability and Mental Health

While advances in technology and their business applications receive ample attention, new discoveries in neuroscience that help us understand the human brain could also have a major impact on the workplace. Learning how to recognize and manage employee stress and how to support good decision making, for example, can both lead to a more motivated and productive workforce. Through targeted assessments, recommendations and consultations, we help you maximize every employee potential.

### Leadership Diagnostic, Assessment and Development

Effective leadership is a decisive factor in your company's success, influencing all aspects of operations and culture. Our consultants have developed an array of tools to support the development of valuable leadership skills. The DEKRA Leadership Diagnostic Instrument (LDI) and Leader Care Profile assessment measure leader strengths and weaknesses. SafeAlign™ and our Leading Safety Performance™ solutions, as well as our program on understanding major accident hazards, focus on how strong leadership can be used to optimize safety standards and practices in your business. Individualized coaching is also available as part of our comprehensive approach to helping leaders reach their ultimate potential.

### Load Security Training

Goods must be securely loaded to ensure quality delivery and to protect the safety of carriers and their employees. When transporting hazardous oil and gas products, liability aspects must also be considered. We provide training in correct load securing to minimize damage in transit, reduce accidents and consequential costs, and avoid fines and penalties.

### Process Safety Competence Development

The DEKRA Process Safety Academy provides competence development programs in all areas of process safety. We incorporate various learning methodologies, including public courses and events, tailored in-house courses, e-learning and computer-based training and skills development programs.

### Safety Advisory, Services and Coordination

Expert DEKRA advice, risk assessment, training, on-site support and project safety coordination services help you protect your employees from accidents and other hazards in the workplace to minimize the overall effort for your occupational safety measures.

### Transportation of Dangerous Goods Training

Employees responsible for the safe storage and transport of hazardous products must be fluent in and able to confidently apply national and international regulations. DEKRA conducts comprehensive training and regular updating courses to provide commercial drivers and responsible officers with the legally required compliance credentials they need to perform their duties at the highest level.

### Workforce Diagnostic, Assessment and Development

DEKRA has designed services to specifically evaluate your safety culture and engage your workforce at every level. Our experienced specialists help you implement behavior-based strategies that drive transformational change and enhance overall performance.

# Digital Transformation – streamlining security and efficiency

Digital technologies enable companies to improve the flow and analysis of information to support strong cyber security, improve operational processes, optimize performance and increase profitability. DEKRA experts can help you in your digital transformation to keep your transportation and storage systems safe and efficient.

## Data Protection Consulting

DEKRA experts keep you informed and help you to stay legally compliant and up to date when it comes to handling data. If you prefer more targeted expertise, we can provide the individualized support of a data protection officer to carry out services on-site and in close cooperation with your team.

## Digital Health, Safety and Environment (HSE) Solutions

How we seek and use information about safety is critical to our ability to achieve results in safety. DEKRA delivers innovative IT solutions and platforms which enable organizations to manage, control and understand their data as well as uncover relevant trends in order to identify areas of improvement and minimize risk. DEKRA data collection and analytics solutions pair the experiential expertise of our research professionals with proven tools and methodologies.

## High-voltage Systems Training in Motor Vehicles for Professional Drivers

Handling high-voltage systems in motor vehicles is potentially dangerous. This is because the use of voltages above 25 V AC and 60 DC leads to hazards in the form of body currents and electric arcs. As a result, you have a responsibility to train your employees so that they can assess the electrical work involved, recognize potential hazards and implement suitable protective measures. Our training courses in this area teach both the theoretical basics and how to safely handle HV components.

## Information Security Awareness Training

In order to sensitize personnel so that they are able to precisely identify and prevent cyber and social engineering attacks, DEKRA provides comprehensive information security awareness training. The course aims to inform employees of current threats, demonstrate your ability to protect your assets and teach staff how to react in actual risk situations.

## Information Security Management System Consulting

DEKRA cyber security consultancy follows up an analysis of your IT infrastructure with recommendations for the design and implementation of IT security management systems. We assess the specifics of your sector as well as your strengths and most pressing needs to establish or optimize an information security management system in your organization.

## Information Security Risk Assessment and Management

No company is immune to cyber security risks and potential attacks. Our consultants carry out systematic network security analyses to determine your existing level of cyber security and help you develop an effective plan for improvement.

## Process Safety and Functional Safety Consulting

DEKRA provides impartial process safety advice and recognized expertise for the risk identification, analysis, prevention and management of fires, explosions and accidental chemical releases. Our consultancy services can be tailored to your precise business needs; whether helping you to expand capabilities or providing short, medium or long-term partner support. Most industrial processes rely on functional safety strategies to prevent health and environmental hazards and protect assets and facilities. We deploy a range of tools and methodologies to assess and verify the Safety Integrity Levels (SIL) of your Safety Instrumented System (SIS). Our DEKRA experts provide comprehensive support throughout the Safety Lifecycle and Safety Instrumented Functions (SIFs) evaluation, SIL Verification, Safety Requirements Specification (SRS) and Functional Safety Assessment (FSA).

## Remote and/or online Monitoring and Digital Optimization Services

We offer services for remote and online monitoring to complement inspection services. Your main advantage will be the ability to get information about trends and foresee the potential issues, helping you prevent downtimes, increase efficiency and save costs. In addition, DEKRA uses state-of-the-art data management and analysis solutions to optimize workflows and processes. Our experts can e.g. help you implement VALTO 360°, an information management solution that virtualizes your operating and production environments into 360° interactive panoramas to facilitate oversight at any time from any location. Suitable for many different operating environments, VALTO 360° is connected to an IoT platform to monitor important key figures and QR code labels to identify assets in the operational production environment. Users can also report data directly from the field via mobile devices. Specific information such as documents, pictures, instructions, video and more can be added to the images for easy viewing and updating. In addition, DEKRA uses state-of-the-art data management and analysis solutions to optimize your digital workflows and processes. These critical predictive services help to prevent downtime, increase efficiency and save you money. Furthermore, with our VT 1000 Ex – Full HD Ex classified (Atex Zone 1 rated) inspection camera we can also support you with remote visual inspections in high-risk explosive environments.

## Complementary Services – ensuring a holistic approach

DEKRA experts provide a range of supplemental services to strengthen your overall performance and business environment.

### Business Continuity Management System

Business Continuity Management (BCM) according to ISO 22301 enables you to quickly resume your business activities after critical events. DEKRA services follow the international standard which provides the appropriate framework and bundles the requirements for robust, effective business continuity management.

### Business Resilience Impact Assessment (BRIA)

Effective business resilience depends on a strong corporate immune system capable of fighting off disruptive global events such as economic fluctuation, political unrest, natural disaster or infectious disease. Our experts conduct a multilevel impact assessment to help you implement and maintain reliable strategies to meet any challenge.

### Expediting, Shop and Vendor Inspection of the Supply Chain

Acquiring new equipment and machinery can be timely, costly and risky. We carry out inspection and expediting services on your supplier's premises, verifying the quality of manufactured products or equipment and the reliability of delivery times.

### Mandatory and Voluntary Construction Control Services

DEKRA offers a comprehensive range of testing and inspection services in the building, renovation and maintenance of your facility based on expert construction assessments and building technology. Our extensive portfolio of mandatory and voluntary inspection services provides solutions for every circumstance.

### Supply Chain Audits

Our comprehensive audits let you evaluate and ensure ethical, environmental and social compliance as well as process integrity and security throughout the entire supply chain. Our services include initial supplier audits and continuous monitoring, as well as helping you to decipher international, national and local regulatory requirements.

### Sustainability Advisory and Services

Our experts show you how to maximize sustainability with solutions that respond to your needs. Focusing on sustainable practices, we evaluate policies and processes and provide solutions that improve the sustainability of clients' processes, products and services while maintaining efficiency and productivity. Whether compliance, education or corporate sustainability management, DEKRA is equipped to provide innovative, tailored solutions that help you reach your sustainability goals.

*Due to impartiality and independence requirements of regulatory authorities, services may have to be performed by different, mutually independently operating DEKRA units to ensure impartiality.*

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On the safe side.