

# Processing raw materials for delivery downstream

Once at the refinery and purification plant, crude oil and natural gases are processed for delivery to downstream distributors and independent retailers. Complex refining and purification processes require state-of-the-art equipment and facilities as well as the highest safety standards. Intricate logistic networks must be maintained with the latest technologies and a knowledge-based approach to ensure safe and timely distribution. Our global experts provide comprehensive services dedicated to helping you safely process quality products according to your individual needs and business objectives.

### Securing Industrial Assets - safety in compliance and stability

Oil refineries and purification plants are large industrial complexes relying on extensive piping and technical equipment to process oil and gas products safely and efficiently. A strong distribution apparatus must also be maintained to support secure delivery downstream. DEKRA conducts a wide range of services to support refinery and purification facilities meet regulatory obligations according to established international standards to maintain safe processing and transfer strategies.

# 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.

### **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.

### **Equipment Engineering and Operation Training**

The consequences of improper operation of equipment can result in considerable personal injury or property damage. DEKRA offers training to ensure employees have the appropriate qualification.



### **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.

### Fire Protection Management and Advisory

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

# 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. 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 online 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.

### **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**

Whether you are carrying out a safety review, implementing safety audits or ensuring regulatory compliance with standards or regulations, DEKRA consultants can help with impartial advice and effective 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

Protect your employees from accidents and other hazards in the workplace and minimize the overall effort for your occupational safety measures by engaging with our safety specialists. Our experts help you reach your safety goals with a range of tailored services including advisory, risk assessments, coaching and instructions/training, due diligence and on-site support. At construction sites and during shutdowns or turnarounds, we provide coordination and safety services related to all project phases, and with industries involving hazardous substances, we can share our expertise in proper handling, storage and transport.

### 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.

### Flexible Processes - dedicated adaptability

Robust management of process controls and safety systems protects your ability to make appropriate adjustments for quick and effective reaction to any challenge that might affect your operational capacity. DEKRA provides expert services to make sure you are always ready to handle any threat or provocation.

# 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.

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

Comprehensive DEKRA HSE services support 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.

### **Explosion Safety**

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# 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

Through comprehensive programs and reporting, our experts secure your electrical systems to ensure compliance, detect errors, minimize costs, and especially prevent explosions 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, 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.

# 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. We aim 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 inthe-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, storing and processing 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.

### Skilled and Safe Personnel - qualified credentials

Safe work environments and optimal performance results depend on strong, qualified employees and management staff functioning at the highest levels. DEKRA offers the comprehensive training and recognized certifications you need to make sure your workforce is the best it can be.

#### **Ambient Measurements**

DEKRA offers a wide range of services to assist trained company representatives in their efforts to create and maintain a safe work-place. 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 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.

# 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.

## Health and Medical Advisory, Services and Examinations

Supporting a healthy workforce and leadership, we assess physical, ergonomic and psychological risks and offer practical solutions. Our practices enhance employee well-being and create a safe, human-centered workplace where motivation thrives, and human factors are respected.

# 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. ISO 45001 certifies your occupational health and safety management system according to ISO 45001 and considers all aspects of occupational safety – both those related to operational processes as well as those arising from work-related stress that can trigger mental illness.

### 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 lead to a more motivated and productive workforce. Our DEKRA experts have developed tools to help organizations harness the power of neuroscience in the service of optimal mental health. Through targeted assessments, recommendations and consultations, we help you maximize every employee potential.

#### Information Security Officer Training

Information is the greatest asset of any successful company. Robust security strategies and qualified personnel are paramount to protecting both digitized and non-electronically processed information. Strong and reliable security must safeguard data confidentiality, integrity and availability. It must be ensured that information can be exclusively read and processed by authorized personnel during both the transmission and accessing of data. All modifications must be transparent and traceable. System failures must be prevented to ensure data is available when needed. DEKRA provides comprehensive training to qualify information security officers according to the ISO/IEC 27001 international standard. Alternatively, DEKRA can temporarily support you with an external Information Security Officer, providing a reliable resource for questions that arise and guidance through mandated processes.

### 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.

### Occupational Health and Safety Training

Regardless of title or position, all employees should be able to perform their duties safely. Occupational health and safety training addresses workplace-specific issues and hazards to promote on-the-job safety and ensure your legal compliance to protect both employees and your business.

### **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.

### 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 - electronic security and safety

Digital solutions help better manage the flow and analysis of information to support strong cyber security strategies, improve operational processes, optimize performance and increase profitability. DEKRA provides you the expertise you need throughout the digital transformation process to keep your refining, purification and distribution systems safe, efficient and operational.

### Chief Information Security Officer (CISO) Training

This DEKRA course provides a well-founded overview of the various information security standards needed to make tactical and operational decisions as a Chief Information Security Officer (CISO). It provides insights into legal and personnel aspects and addresses how to safely deal with outsourcing projects. An external Chief Information Security Officer (CISO) could be an attractive alternative for companies of all sizes and sectors. Our information security experts have extensive experience in the field, are well-versed in questions of compliance and bring a fresh perspective to each organization.

### **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.

# 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, your strengths and most pressing needs to advise on establishing or optimizing an ISMS for your organization.

# Information Security Risk Assessment and Management

No company is immune to cyber security risks and potential attacks, making system and network security a top business priority. We support you in identifying, assessing and monitoring IT security risks and help you recognize threats and assess their probability of occurrence. Our experts analyze your system, carry out penetration tests and uncover vulnerabilities.

#### 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. 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 - services for holistic support

DEKRA experts provide a wide range of supplemental services for added support in your efforts to improve your overall performance for a strong and profitable business.

### **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 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.

### **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 meet management, DE-KRA 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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