

# SAFE. SECURE. SUSTAINABLE.

## Annual Report 2023/2024

### Introduction by the Management Board

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Dear Readers,

**It has been another extraordinary year for DEKRA. Despite challenging conditions, we built on our market position – both in our established business areas and in the testing and certification markets of the future. As a result, we have grown across all our service divisions and regions, in some cases by double digits. Revenue has reached over four billion euros for the first time.**

In 2023, the revolutionary potential of artificial intelligence (AI) for our economy and society became abundantly clear. There is no doubt that AI is a game changer and, for this reason, clear rules must apply. We are involved as an impartial third party in the regulatory process that has begun in many markets and regions around the world.

We are very proud to be one of the first expert organizations to bring testing services for AI applications to the market. We have also established a joint venture with CertifAI in Germany to test and certify AI.

»AI and Sustainability are becoming growth drivers for DEKRA.«

To combat one of the main downsides of modern IT – cyberattacks – we offer a comprehensive cybersecurity portfolio, focusing on the automotive, industrial, medical, and consumer goods sectors.

At DEKRA, we also play an important role in sustainability, another key issue of our time, thanks to our expertise and independence. We

provide over 500 services, many of them digital, to support our customers on their path to greater sustainability.

Perhaps most importantly, we will achieve the goal set out in our Strategy 2025 in time for our 100th anniversary in 2025: making DEKRA the global partner for a safe, secure, and sustainable world.

**Stan Zurkiewicz**

Chairman of the Management Board DEKRA e.V.  
and DEKRA SE  
CEO

**Petra Finke**

Member of the Management Board DEKRA SE  
CDO

**Peter Laursen**

Member of the Management Board DEKRA e.V.  
COO

**Wolfgang Linsenmaier**

Member of the Management Board DEKRA e.V.  
and DEKRA SE  
CFO



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## Supervisory Board

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Dear Readers,

**From artificial intelligence and cybersecurity to future transportation and sustainability, DEKRA invested heavily in the future in 2023. This was evident in the wide range of associated subjects covered in the discussions between the Supervisory Board and the Management Board.**

In the key area of AI, for example, the aim was to use DEKRA's expertise and independence to contribute to the necessary regulation. In addition, DEKRA's first AI testing services required setting strategic directions and making operational decisions.

Regarding transportation of the future, strategic issues were also on the agenda – for example, how the test facilities at the DEKRA Lausitzring in Klettwitz, Germany, can be developed into the world's largest independent test center for automated and connected driving. In the 2023 financial year, DEKRA opened three additional test tracks at the location, enabling us to test the safety of assistance systems and automated driving features even more extensively.

Overall, the Supervisory Board has closely overseen DEKRA's ongoing strategic development. The organization is very well positioned, both today and for the future. This is demonstrated by the robust growth achieved in the challenging 2023 financial year, in which DEKRA generated more than four billion euros in revenue for the first time. This strong result ensures that additional investments can be made in important future fields.

On behalf of the Presidential Board and the Supervisory Board, I would like to thank each and every DEKRA employee for their hard work. I would also like to thank all the members of DEKRA e.V., as well as our customers and business partners, for their long-standing trust.

**Stefan Kölbl**

President of the Presidential Board of DEKRA e.V.  
Chairman of the Supervisory Board of DEKRA SE

## Regions

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### **AMERICAS (1,537 EMPLOYEES)**

The Americas region covers South, Central, and North America. Along with product testing, exhaust emission tests and vehicle inspections are among the region's core business areas. These have been established or expanded in countries including the USA, Brazil, Chile, Costa Rica, and Mexico.

### **NORTH-WEST EUROPE (3,692 EMPLOYEES)**

DEKRA has become a significant provider of vehicle inspection services in this region, which includes the Scandinavian countries. There is strong demand for system inspections, power station inspections, and digital services around the Industrial Internet of Things, such as remote maintenance and online monitoring services. The Dutch city of Arnhem is home to our main regional site for product testing and certification.

### **SOUTH-WEST EUROPE (5,976 EMPLOYEES)**

In the South-West Europe region – which comprises France, Spain, Portugal, and Morocco – vehicle and industrial inspections are among DEKRA's main services. In France, DEKRA's second home market, the vehicle inspection network is characterized by the company's own stations and those operated by franchise holders.

Spain is home to a center of excellence for secure connectivity and measuring the electromagnetic compatibility (EMC) of cellphones and smart home products, with two other focus areas being the Fourth Industrial Revolution and big data applications. At a dedicated test site for connected driving, V2X (vehicle-to-everything) technologies are being tested, and specific test processes for products and applications are in the early stages of development.

### **GERMANY, SWITZERLAND & AUSTRIA (13,916 EMPLOYEES)**

These three countries form an important region for DEKRA. From our home market of Germany, we are driving cross-border innovations and services in future fields, such as sustainability, cybersecurity, and artificial intelligence. For example, the DEKRA Technology Center at the Lausitzring in Klettwitz, Germany, is being developed as Europe's largest manufacturer-independent test track for automated and connected transportation.

### **CENTRAL-EAST EUROPE & MIDDLE EAST (1,761 EMPLOYEES)**

This region encompasses countries such as Italy, Croatia, the Czech Republic, Poland, and Bulgaria. The portfolio includes services for corporate customers – for instance, in connection with electromagnetic compatibility (EMC).

### **APAC (3,968 EMPLOYEES)**

The Asia-Pacific (APAC) region consists of Asian countries such as China, Japan, and South Korea, as well as New Zealand and South Africa. Alongside vehicle and system inspections, the business in this region focuses on product testing for the automotive, energy, medical technology, and retail sectors.

## Service Divisions

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### VEHICLES

DEKRA ensures the safety and performance of all types of vehicles on the road. From cars and motorcycles to trucks and buses, comprehensive inspection and testing services are provided that meet the highest standards of quality and reliability. The Vehicles Service Division also keeps pace with the latest technological developments in the automotive industry and supports the innovation and sustainability of the mobility sector with specialized services for these emerging technologies.

### SERVICES

- › Periodic or non-periodic inspections
- › Emission tests
- › Damage appraisals
- › Accident analysis
- › Vehicle valuation
- › Advanced Driver Assistance Systems (ADAS)
- › Automated driving systems

### DIGITAL & PRODUCT SOLUTIONS

DEKRA tests and certifies products to determine whether they ensure safe and secure operation while complying with standards and regulations to access local and global markets. The Digital & Product Solutions Service Division is committed to empowering safety, security, and sustainability in new technological ecosystems by providing testing and certification solutions that support the rapid pace of technology development and its integration into products, vehicles, and services.

### SERVICES

- › Product safety testing
- › Cybersecurity
- › Artificial intelligence
- › Data analytics/big data
- › Connectivity testing
- › Automotive testing
- › EMC & RF testing
- › Product certification
- › Medical device certification

### INDUSTRIAL ASSETS

DEKRA provides comprehensive safety inspections and assessments across Building & Infrastructure and Industrial Installations to clients around the world while using a diverse range of technologies and vast experience. DEKRA uses different inspection methods such as Visual and NDT/DT as well as Robotized and Remote/Monitoring inspection technology designed and produced in-house. The service division serves customers in all phases; from feasibility studies to design, operation and decommissioning, to cover the entire product lifecycle.

### SERVICES

- › Construction Control
- › Fire Safety
- › Ventilation
- › Energy Efficiency
- › Pressure Equipment
- › Plant Safety
- › Welding
- › Lifts & Cranes
- › Machinery
- › Electrical
- › Environmental (Soil, Water, Air)
- › Renewable Energies (Wind, Hydrogen, etc.)
- › Non-Destructive Testing (NDT)
- › Destructive Testing (DT)
- › Robotic Inspection

## PEOPLE, PROCESSES & ORGANIZATIONS

Qualified employees and high-performing companies benefit from competent assessments, certification, advisory, and training across various industries and their supply chains.

Leveraging modern tools and digital technologies, DEKRA's experienced auditors, advisors, and trainers provide services aligned with clients' specific requirements.

DEKRA offers risk, compliance, and performance improvement services, addressing safety, security, and sustainability standards

## SERVICES

- › Health, Safety and Environment (HSE)
- › Sustainability
- › Management systems
- › Verification & validation
- › Process safety
- › Information & cybersecurity
- › Automotive business improvement
- › Transport & logistics

## TEMP WORK

Supporting know-how and experience in personnel-, solution-, event & logistic and human resources management.

## SERVICES

- › Classic temporary work
- › Candidate management
- › Human resources management solutions
- › Event & logistic management

## Strategic Direction

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### »The Global Partner for a safe, secure, and sustainable world«

Volatility and complexity have become the new normal in the modern world. Against this challenging backdrop, we want to ensure DEKRA's stable and healthy growth.

DEKRA celebrates its centenary in 2025, and by then, we aim to be our customers' first choice in both our established business areas and the major fields that will define the future: the global partner for a safe, secure, and sustainable world.

We can make this a reality by pursuing a strategy that is both clear and dynamic, on which we consistently align our operational management. To this end, in 2021, we added focus areas for future services to the Vision 2025 program we launched in 2015: Future Mobility, IT & Cybersecurity, AI & Advanced Analytics, and Sustainability.

Our comprehensive digital strategy was also initiated as part of this process. DEKRA is already a globally recognized partner for testing, certification, and inspection of intelligent and connected products. Nevertheless, we are constantly at work to keep expanding our digital expertise – for example, in the future fields of cybersecurity and artificial intelligence.

Regardless of the industry sector or service area in which DEKRA operates, our organization's success has been and continues to be built on the expertise, innovation, and consistent customer focus of our almost 49,000 employees as well as the great trust placed in us by over 500,000 customers around the world.

## Diversity & Inclusion

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**In fiscal year 2023, DEKRA strengthened its commitment to diversity and inclusion (D&I) as an organization by creating a corresponding global function and a diversity committee. Our company also symbolically underlined its focus on diversity and antidiscrimination by becoming a signatory to Germany's government-backed Diversity Charter.**

The advancement of women in the company also played an important role in fiscal year 2023. A target of 20% was set for the proportion of women in our main corporate bodies and in management positions. Both the Supervisory Board and Management Board of DEKRA SE have already achieved these figures. However, it has not yet been possible to meet the targets of 15% and 20% for the first- and second-tier management levels (Executive Committee and Management Committee). The goal is to reach these quotas by the end of 2025.

With our Grow Beyond mentoring program for all employees and the EmpowHER development program for female staff in particular, DEKRA helps women advance. The DEKRA Women Circle – an international women's network – has been a great success and now has a membership of more than 750 women.

DEKRA is using various means of communication such as podcasts and blogs to raise visibility and awareness of D&I in general. Moreover, D&I has been an aspect of the company's compliance and sustainability training since 2023.

## Key figures

Here you can gain a rapid overview of DEKRA's key figures and other performance indicators.

<b>Revenue DEKRA Group and regions</b>		<b>2021*</b>	<b>2022</b>	<b>2023</b>
Revenue DEKRA Group	in € million	3,534.8	3,796.5	<b>4,101.4</b>
of which GSA (Germany, Switzerland, Austria)	in € million	2,157.8	2,370.5	<b>2,557.1</b>
of which South-West Europe	in € million	541.6	535.1	<b>551.3</b>
of which North-West Europe	in € million	355.8	365.2	<b>397.5</b>
of which APAC	in € million	221.2	244.3	<b>260.7</b>
of which Central East Europe & Middle East	in € million	163.6	167.9	<b>190.4</b>
of which Americas	in € million	94.8	113.5	<b>144.4</b>

\*As of April 1, 2023, DEKRA transferred its activities in Austria and Switzerland to the new GSA (Germany, Switzerland, Austria) Region. The prior-year figures are adjusted accordingly.

<b>Revenue DEKRA Group and business areas</b>				
Revenue DEKRA Group	in € million	3,534.8	3,796.5	<b>4,101.4</b>
of which Vehicle Inspection	in € million	1,217.7	1,308.3	<b>1,453.6</b>
of which Industrial Inspection	in € million	555.0	555.9	<b>587.2</b>
of which Claims & Expertise	in € million	483.4	514.6	<b>555.7</b>
of which Temp Work	in € million	438.5	539.3	<b>528.3</b>
of which Advisory & Training Services	in € million	403.2	410.7	<b>446.3</b>
of which Digital & Product Solutions	in € million	296.3	317.8	<b>363.0</b>
of which Audit	in € million	99.9	108.8	<b>125.2</b>
of which Other	in € million	40.8	41.1	<b>42.1</b>



## Key figures

<b>Earnings</b>		<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>DEKRA Group</b>				
Adjusted EBITDA	in € million	417.8	422.7	455.5
Adjusted earnings before taxes (EBT)	in € million	215.5	210.5	237.9
Adjusted earnings before interest and taxes (EBIT)	in € million	226.0	226.4	255.3
Adjusted EBIT margin	in %	6.4	6.0	6.2
<b>Investment and Cashflow</b>				
<b>DEKRA Group</b>				
Net investment in tangible assets (property, plant, and equipment) and intangible assets	in € million	100.6	133.1	138.0
Gross investment in tangible assets (property, plant, and equipment) and intangible assets	in € million	106.6	143.2	143.5
Cash flow from operating activities	in € million	367.4	286.3	340.9
<b>Balance sheet</b>				
<b>DEKRA Group</b>				
Total assets	in € million	2,811.3	2,812.4	2,882.4
Non-current assets	in € million	1,839.8	1,848.5	1,937.4
Current assets	in € million	971.5	963.9	945.0
Equity	in € million	942.8	1,153.5	1,133.5
Equity ratio	in %	33.5%	41.0%	39.3
<b>Employees</b>				
<b>excluding DEKRA e.V. and DEKRA Digital GmbH</b>				
Number as of 31/12		47,770	48,646	48,771
Personnel expenses	in € million	2,327.3	2,550.3	2,718.4

## Corporate Management

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### MANAGEMENT BOARD

**Stan Zurkiewicz**

Chairman of the Management Board  
DEKRA e.V. and DEKRA SE  
CEO

**Petra Finke**

Member of the Management Board  
DEKRA SE  
CDO

**Peter Laursen**

Member of the Management Board  
DEKRA SE  
COO

**Wolfgang Linsenmaier**

Member of the Management Board  
DEKRA e.V. and DEKRA SE  
CFO

### REGIONS

**Stefan Törngren**

Executive Vice President  
Region North-West Europe

**Guido Kutschera**

Executive Vice President  
Region Germany, Switzerland & Austria

**Toni Purcaro**

Executive Vice President  
Region Central-East Europe & Middle East

**Nicolas Bouvier**

Executive Vice President  
Region South-West Europe

**John Tesoro**

Executive Vice President  
Region Americas

**Mike Walsh**

Executive Vice President  
Region APAC

### SERVICE DIVISIONS

**Christoph Nolte**

Executive Vice President  
Service Division Vehicles

**Fernando Hardasmal**

Executive Vice President  
Service Division Digital & Product Solutions

**Joakim Wikeby**

Executive Vice President  
Service Division Industrial Assets

**Roman Zadrozny**

Executive Vice President  
Service Division People  
Processes & Organisations

**Suzana Bernhard**

Executive Vice President  
Service Division Temp Work

## CORPORATE FUNCTIONS

### **Christian Köhn**

Executive Vice President  
Legal, Compliance & Data Protection,  
DEKRA Group

### **Uta Leitner**

Executive Vice President  
Communications & Brand Management,  
DEKRA Group

### **Pierre Ribeill**

Executive Vice President  
Global Procurement,  
Administration & Real Estate

### **Guido Ruiz Höhn**

Executive Vice President  
Chief Human Resources Officer (CHRO),  
DEKRA Group

### **Mark Thomä**

Executive Vice President  
Strategy & Corporate Development

Marketing & Sales, DEKRA Group (interim)

### **Martina Taxis**

Executive Vice President  
Group Finance

## PRESIDENTS LEGAL ENTITIES

### **Jann Fehlauer**

Executive Vice President  
DEKRA Automobil GmbH Germany

### **Friedemann Bausch**

Executive Vice President  
DEKRA Automobil GmbH Germany

## Committees

### DEKRA E.V.

#### PRESIDENTIAL BOARD DEKRA e.V.

Stefan Kölbl	President, Leinfelden-Echterdingen
Arndt G. Kirchhoff	Vice President, Attendorn
Prof. Thomas Edig	Zwickau
Klaus-Jürgen Heitmann	Coburg
Bernhard Mattes	Köln
Simone Menne	Kiel [since Apr. 05, 2023]
Hildegard Müller	Düsseldorf [since Apr. 05, 2023]
Dr. Harald Schwager	Speyer
Dr. Stefan Sommer	Meersburg
Bernd Tönjes	Marl
Peter Tyroller	Stuttgart
Prof. Dr. Wolfgang Weiler	Coburg [until Apr. 05, 2023]

#### EXECUTIVE BOARD DEKRA e.V.

Stan Zurkiewicz	Chairman, Stuttgart
Wolfgang Linsenmaier	Freiberg am Neckar

#### ADVISORY BOARD DEKRA e.V.

Matthias Wissmann	Chairman, Ludwigsburg
Stefan Kölbl	Vice Chairman, Leinfelden-Echterdingen
Prof. Dr. Thomas Bauernhansl	Pforzheim
Dr. h. c. Rudolf Böhmler	Schwäbisch Gmünd
Ulrich Dietz	Stuttgart
Arnd Franz	Böblingen [since Mar. 23, 2023]
Jürgen Karpinski	Frankfurt a. M. [until Nov. 23, 2023]
Arne Joswig	Kronshagen [since Mar. 19, 2024]
Mathias Krage	Hannover
Simone Menne	Kiel [until Mar. 22, 2023]
Hildegard Müller	Düsseldorf [until Mar. 22, 2023]
Joachim Müller	München [until Mar. 19, 2024]
Prof. Dr. Markus Oeser	Stolberg
Andreas Renschler	Stuttgart
Prof. Dr. Hermann Requardt	Erlangen
Prof. Dr. Thomas Weber	Stuttgart

## Committees

### DEKRA SE

#### SUPERVISORY BOARD DEKRA SE

Stefan Kölbl	Chairman, Leinfelden-Echterdingen
Monika Roth-Lehnen	Vice Chairman, Wuppertal [Employee Representative]
Hanna Binder	Stuttgart [Employee Representative]
Prof. Dr. Sabine Fließ	Möhneseesee [until Apr. 30, 2024]
Nicolas Gibaudan	Suzette, France [Employee Representative]
Klaus-Jürgen Heitmann	Coburg
Jean-Luc Inderbitzin	Doulevant-le-Château, France [Employee Representative]
Arndt G. Kirchhoff	Attendorn
Stephan Kramer	Henstedt-Ulzburg
Daniel Kusch	Köln [Employee Representative]
Jörg Leiser	Ettlingen [Employee Representative]
Peter Tyroller	Stuttgart

#### MANAGEMENT BOARD DEKRA SE

Stan Zurkiewicz	Chairman, Stuttgart
Wolfgang Linsenmaier	Freiberg am Neckar
Peter Laursen	DK-Allerød [since Apr. 05, 2023]
Petra Finke	Emsdetten [since Jul. 01, 2023]

## Future Mobility

### Safe and secure transformation

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The transportation sector is changing rapidly – and DEKRA is developing the testing, inspection, and certification services that are required. Whether new technologies, vehicles, and mobility applications are emerging, there is also a growing need for safety and security.

DEKRA deploys its expertise to assist companies in the mobility industry. This specialist knowledge covers automotive cybersecurity issues in the context of connected and automated driving as well as the challenges associated with alternative drive concepts such as electric and hydrogen-powered systems. As global market leaders in automotive testing and based on our experts' knowledge, we at DEKRA are shaping future mobility.

## The transportation of the future

»Hydrogen trucks can deliver impressive practical benefits«

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Sara Schiffer and her team at hylane are taking the decarbonization of road transportation to the next level. Founded just two years ago, the German startup operates the largest hydrogen-powered truck fleet in Europe with support from DEKRA.

On its way to being a leading source of hydrogen-based transportation, Hylane is receiving a helping hand from DEKRA. "We chose DEKRA as a strategic partner because their organization is a one-stop shop offering everything we need," says the company director, Sara Schiffer, "from track tests for the vehicles to training courses for the drivers." Since 2022, DEKRA experts have also been providing a variety of services for the hydrogen-powered trucks in the local areas where the rental customers use them, as well as throughout the trucks' lifecycle from when they are delivered to when they are taken out of service.

Schiffer, 30, went straight from finishing high school to working for insurance firm DEVK. That was in 2013. She would certainly never have dreamed back then that nine years on, she would be in charge of a DEVK subsidiary that rented out hydrogen-powered trucks. But that is how things have turned out, with the insurer wanting to help make the transportation of heavy goods greener.

»We chose DEKRA as a strategic partner because their organization is a one-stop shop offering

everything we need, from track tests for the vehicles to training courses for the drivers.«

Sara Schiffer, founder and company director of hylane

### HYLANE – HYDROGEN TRUCK RENTALS

Founded: October 2021

- › Staff: 13
- › Hydrogen-powered trucks: 42 approved, another 80 ordered
- › Customers: 20, from German transportation companies to retail chains
- › Vehicle classes: from 5.2-metric-ton box trucks to 40-metric-ton heavy-goods trucks

Schiffer experienced hydrogen-powered trucks on the road for the first time during a project in Zurich. This was the initial spark for an idea she took with her back to Germany: that organizations should be able to have their first interactions with the alternative fuel without taking on a risk to themselves.

The goal that drives her on is to reduce CO2 emissions from heavy-goods vehicles in line with EU rules. The technology does exist, but hydrogen-powered trucks are still expensive. At the moment, only a few transportation companies would contemplate buying this type of vehicle, not least because it is unclear whether hydrogen-powered or battery-powered electric vehicles will win out.

The solution? hylane's customers only pay for the kilometers they have driven, so there is no risk to them with regard to investment or technology. However, they still receive a full package with maintenance, repairs, servicing, insurance, and access to hydrogen.

Powering this concept is the ten-person team headed by Schiffer. And it has proven successful: The first truck was approved at the end of 2023 and has already been joined by more than 40 additional vehicles. These are used by customers such as transportation companies DB Schenker and GLS as well as retailers like DM and Rewe.

The proof of concept has been demonstrated. But Schiffer, who has since gotten her truck driver's license, knows that Hylane requires staying power as a pioneer in an emergent market. And with DEVK's strong financial backing, her business has just that ... so the success story can continue.

#### **DEKRA SERVICES FOR HYLANE**

- › Initial acceptance tests
- › Statutory vehicle inspections
- › Condition reports
- › Expert assessments
- › Driver training

#### **PUBLICLY FUNDED**

- › The German government is supporting hylane's hydrogen-powered rental fleet ...
- › ... covering 80% of the difference in procurement costs relative to diesel trucks.
- › Hylane uses every cent of the money from the subsidy to offer attractive rental rates.



## Cybersecurity Services

### 360-Degree-Approach

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The digital world is affected by a wide range of threats and countless attacks on products, systems, and infrastructures. As a result, safety and security are becoming more relevant than ever for determining the success of innovations.

DEKRA invested early in expanding its expertise in this area. Now, we have established a cybersecurity hub that brings internal and external experts together to work on information and data security for future mobility, product testing, and functional safety. DEKRA supports customers with a 360-degree range of services that include consulting, training, inspection, testing, and certification.

## Cybersecurity

### Building Trust

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BYD, the global leader in new energy vehicles, has been a longstanding strategic partner of DEKRA. It trusts DEKRA as a reliable provider of expertise and innovative services.

Drawing on DEKRA's renowned expertise in technical capabilities and its cutting-edge testing equipment, proficient teams, and extensive global network resources, BYD has entrusted DEKRA Shanghai Laboratory, Suzhou Laboratory, and Kunshan Laboratory with being its designated third-party laboratories. This pivotal decision cements the foundation for continued close collaboration between the two organizations.

**DEKRA bietet ein umfassendes Leistungsspektr**  
**DEKRA offers a comprehensive range of services that enable BYD to navigate the complex regulatory landscape. These services span the full spectrum and include the following:**

- › Safety testing and certification for batteries, EV components, and charging systems
- › Reliability testing
- › Chemical testing
- › EMC testing
- › Global market access (GMA)
- › Road testing solutions and homologation
- › Car key testing
- › Management system certification
- › Functional safety
- › Cybersecurity

In 2023, FinDreams Battery Co. Ltd., a wholly owned subsidiary of BYD, was honored to receive the DEKRA ISO/SAE 21434 automotive cybersecurity certificate. BYD FinDreams Battery's areas of activity include EV battery R&D and production,

energy storage and new battery applications, batteries for consumer electronics, and components. With a particular emphasis on cybersecurity services, DEKRA is committed to providing an expanded suite of services tailored to BYD FinDreams Battery's specific needs.

The strategic partnership with DEKRA endeavors to enhance BYD's automotive services with cutting-edge cybersecurity solutions, ensuring that the company's vehicles and systems enjoy the strongest protection against evolving digital challenges.

»Safety is the cornerstone of the development of the new-energy vehicle industry, and BYD FinDreams Battery is committed to providing customers with environmentally friendly and secure solutions. The ISO/SAE 21434 automotive cybersecurity certificate marks a milestone for BYD FinDreams Battery, confirming that our entire product development and production process is aligned with cybersecurity standards. We are committed to leveraging technological innovation to tackle safety challenges, foster healthy and secure progress within the industry, and empower the future of automotive safety.«

Shoubo Zhang, Deputy General Manager and VPO-Director, BYD FinDreams Battery.

## **BYD sold 3,000,000 electric vehicles worldwide in 2023**

»It is a great honor to see BYD FinDreams Battery receiving the DEKRA ISO/SAE 21434 automotive cybersecurity certificate. With its commitment to being an innovation leader and meeting the burgeoning demand for cars and rechargeable energy storage systems, BYD FinDreams Battery aligns with DEKRA's strategic focus on future vehicle and transportation services in China. DEKRA is poised to support BYD FinDreams Battery in bolstering its global presence, expanding collaboration in information and cybersecurity, and sustainable development initiatives, aiming to become a worldwide partner in safety and sustainable development.«

Dr. Kilian Aviles, Senior Vice President DEKRA Asia Pacific and Managing Director of Mainland China and Hongkong

### **ABOUT BYD**

An international high-tech company, BYD is the global market leader in electric vehicles as well as operating in the electronics, renewable energy, and rail industries. BYD has been researching rechargeable batteries since its founding in 1995 and today plays a pioneering role in the development of sustainable technologies. The business is active in 70 countries around the world and has been in Europe since 1998.

## Sustainability

»Energy, Environment,  
Governance«

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Customers, employees, and the public as well expect and require companies to do business sustainably. This is a major challenge given the complexity of processes and supply chains.

Whether it is a question of switching to renewables, complying with environmental, social, and governance (ESG) requirements, or adopting sustainable products and cycles, DEKRA can offer assistance in the form of in-depth knowledge and more than 500 sustainability services. Here are some examples of our services.

### **SUPPLY CHAIN RISK MANAGEMENT – PROTECTING SUPPLY CHAINS**

Strikes, cyberattacks, geopolitical events, and trade and customs developments pose constant risks to supply chains.

With support from DEKRA, organizations can assess and enhance the resilience and sustainability of their supply chains. We analyze and evaluate service providers and suppliers to reduce losses as part of supply chain management.

### **AUDITING SUSTAINABILITY REPORTS – COMPREHENSIVE, ACCURATE, OBJECTIVE**

Under the EU's Corporate Sustainability Reporting Directive (CSRD), more and more companies are required to prepare sustainability reports that meet set standards and are verified externally.

DEKRA audits and verifies these reports to help companies provide comprehensive, transparent, and credible information and data on all aspects of sustainability. These aspects include environment and climate, safety and security, health, social standards, raw materials, and supply chains. With its professional expertise and many years of experience, DEKRA has established itself as a trusted partner for companies.

### **DECARBONIZATION ADVISORY PROGRAM – IMPROVING ENVIRONMENTAL PERFORMANCE**

To minimize the impact of climate change, companies across all sectors are under pressure to meet national and international climate targets. It is thus expected that businesses make a visible, measurable commitment to sustainability.

With the Decarbonization Advisory Program, DEKRA supports its customers in their efforts to reduce their environmental impact. This modular program can be tailored to each company's individual needs and readiness. DEKRA's expert services and training range from setting targets through recording climate-relevant emissions to implementing, verifying, and documenting plans of action.

### **SUSTAINABLE CONSTRUCTION – GREEN BUILDING**

By using environmentally friendly materials and renewable energy, sustainable construction promises high-quality buildings, a healthy living environment, and lower energy costs over the long term. When subsequent costs and value retention are also factored in, sustainable construction proves more efficient than conventional construction.

DEKRA supports the analysis, planning, and designing for sustainable construction projects. Our experts are on hand to consult and carry out

sustainability assessments and environmental product declarations (EPDs in accordance with ISO 14025). In addition, DEKRA offers continuous professional development programs and audits of sustainable construction activities.

### **ENVIRONMENTAL DUE DILIGENCE PROVIDING THE FULL PICTURE**

Identifying and assessing the risks and opportunities in mergers, acquisitions, financing, and insurance has always been standard practice. However, in today's business landscape, environmental, social, and governance (ESG) standards and expectations have become increasingly important and now form an integral part of due diligence activities.

For this reason, DEKRA applies ESG criteria and conducts environmental due diligence to check for potential risks. Using international standards as well as national laws and guidelines as a basis, DEKRA experts determine the environmental, liability, renovation, and cost risks of a subject.

### **TESTING SERVICES FOR HYDROGEN REFUELING STATIONS – SAFE REFUELING**

DEKRA uses its expertise to support the development of a safe infrastructure for hydrogen production, storage, and distribution.

This includes the refueling station network expansion envisaged by the European Commission and the German government. In summer 2023, DEKRA became one of the first testing organizations to be authorized by the Clean Energy Partnership (CEP) to provide all essential services relating to hydrogen refueling stations. In addition to testing and certifying the systems pursuant to ISO 19880-1c, DEKRA also assesses the hydrogen's quality in accordance with DIN EN 17124.

### **WORKPLACE NOISE AND VIBRATION MONITORING – SUITABLE WORK ENVIRONMENT**

Persistent noise and vibration can make an environment unsuitable for work, for example by making staff unwell and damaging buildings. Identifying the causes of these disturbances is therefore necessary to minimize the adverse impacts.

Using systems such as acoustic cameras, DEKRA experts pinpoint the loudest parts of machines, production floors, and buildings so action can be taken to reduce noise levels.

### **WIND TURBINE SERVICES – AVAILABILITY AND POWER**

Wind turbines are a critical building block in the energy transition. They must operate at a high level of efficiency and availability over a long lifespan. As a result, requirements for technical safety, environmental protection, occupational health and safety, and production processes must be considered during the design, construction, and operating stages.

DEKRA acts here as an independent service provider, supporting its customers in all project phases, from design and preparing expert reports to the full range of testing services. In this way, DEKRA contributes to an efficient, environmentally friendly, and safe energy transition.

### **SUSTAINABILITY TRAINING COURSES – BESPOKE TRAINING**

Sustainability pays off—for the environment, the climate, and people, as well as for businesses. Companies that assume environmental and social responsibility attract both investors and young talent while enhancing their growth opportunities and competitiveness. But how can you tell which processes or work areas can be optimized for greater sustainability?

This is where DEKRA comes in. We offer information and training, from basic knowledge to concepts and plans of action. Topics include sustainable construction, mobility concepts, ecodesign, climate strategies, and internal communication.

## AI & Advanced analytics

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Artificial intelligence (AI) is working its way into more and more areas of our private and professional lives, and at breathtaking speed. The advantages, though, can be enormous – provided that this technology is safe and secure, and can earn our trust.

DEKRA is committed to ensuring that AI is safe and secure. This begins with our dedication to appropriate regulation and extends to the testing of AI models and applications. We advise and support our customers across all industries as they move toward using AI in a safe and secure manner for the benefit of business clients and individual customers. Our goal is to make AI trustworthy by ensuring that it complies with the latest standards and regulations.

## Introducing first-generation AI services

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We are past the point of no return. AI is here to stay, and we as a society bear the ethical and social responsibility for its safe and secure use. DEKRA is helping make AI trustworthy. In the 2023 fiscal year, we launched the first services specifically for testing AI models and systems.

### »DEKRA IS BUILDING A BRIDGE BETWEEN INNOVATION AND SAFETY AND SECURITY IN AI.«

Dr. Xavier Valero  
Director of AI & Advanced Analytics, DEKRA

As Director of AI & Advanced Analytics, Dr. Valero is responsible for all of DEKRA's AI and advanced analytics activities. Together with his team, he has introduced a first-generation range of AI services to the market. Dr. Valero holds a doctorate in machine learning and has more than 15 years of experience in data science and the implementation of AI projects.

**DEKRA**  
Why do we need AI safety and security services?

**Dr. Xavier Valero**  
Probably the best-known AI application is ChatGPT. It offers impressive functionality, and its use has spread rapidly around the world. But this also brings risks, such as responses potentially being inaccurate, biased, or even discriminatory. The issues become even more severe in AI systems used in fields like automated driving and robot-assisted surgeries, where a malfunction would put

lives at risk. So there is an urgent need to test and certify the safety and security of AI applications in terms of data quality and robustness.

**DEKRA**  
How does DEKRA support customers and users of AI?

**Dr. Xavier Valero**  
DEKRA has been working on AI services in recent years by partnering with first-rate universities, research institutions, and tech startups. We have leveraged our expertise in testing and certification to develop software, tools, and processes with a view to building a bridge between AI innovation and safety and security. For instance, our first-generation AI services include data quality analysis and testing of safety and security. We also offer advisory services and training on a wide range of topics such as AI management systems.

**DEKRA**  
What is your vision for the future of AI and DEKRA's role in it?

**Dr. Xavier Valero**  
AI technology is growing dramatically and rapidly. Every product or service will soon either be built with AI or make use of the technology. As a result, our society needs neutral third parties like DEKRA around to test and certify AI models and products in an independent manner. We ensure safety and security by using our own solutions as well as by engaging with governments, standardization organizations, and industry alliances. Together, we are working out crucially important AI rules and standards.

**DEKRA**  
Why should organizations offering or using AI models and applications seek certification?

**Dr. Xavier Valero**  
First, to comply with current and upcoming AI regulations such as the EU AI Act. Second, to build the necessary trust with clients and users. Third, safe and secure AI technology will reduce economic damage from AI not working as it should. And last but not least, because by ensuring safe, secure, and responsible AI, companies can stand out from their competition.

## Leveraging benefits, avoiding risks

»Reliable AI will revolutionize the automotive industry«

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There is no question that artificial intelligence (AI) is an absolute game changer. It is now being used in all markets and sectors, and it can save lives – for instance, on the road. But AI is certainly not perfect. The key task is to learn how to harness the benefits of AI while avoiding the risks, particularly in the transportation of the future.

Net vehicles are a symbol for the future of mobility and can be connected with other services or devices. Their market share in the eu is expected to reach 49% in 2025.

»Reliable AI will revolutionize the automotive industry.«

Jan Zawadzki  
Chief Technology Officer (CTO), CertifAI

- › Long-time head of artificial intelligence at Cariad, Volkswagen AG's software subsidiary
- › Initiator of AI project management based on Canvas

- › Member of several data and AI leadership committees
- › Guest speaker at Oxford University and ESMT Berlin

### DEKRA

AI is playing an increasingly important role in connected driving and inside the vehicles themselves. What are the biggest challenges this presents from a safety/security perspective?

#### Jan Zawadzki

AI is a major driver of new and personalized customer experiences, but it also introduces uncertainties and new risks. While many AI-based applications such as personalized assistants or driver assistance functions work well in a quick demo setting, making these applications work reliably at scale is a big challenge. The automotive industry must ensure that the AI-based components work as safely as intended, and they have to provide appropriate evidence of that. We believe that our solution helps make the AI do what it's supposed to do in an automotive setting, while also fulfilling the legal and compliance requirements.

### DEKRA

What concepts and solutions is CertifAI looking to employ to overcome these challenges?

#### Jan Zawadzki

We carry out a risk assessment in which we identify the AI component's risks in the specific use case. Then we define objectives and tests to mitigate these risks. Combined with the development approach based on the 3-V model (Gracic et al., 2020), we can come to a bottom-up conclusion that the residual risk is acceptable and support the overall system safety argumentation. By clearly identifying the risks of the AI system and mitigating them appropriately, automotive customers can develop their AI systems much more efficiently and increase their chances of actually integrating them in a standard operating procedure (SOP).



**DEKRA**

CertifAI is part of Mission KI, an AI initiative run by Germany's National Academy of Science and Engineering (Acatech) and Federal Ministry for Digital and Transport (BMDV). Why is this initiative so important, and what contribution does CertifAI make?

**Jan Zawadzki**

CertifAI is part of an expert group defining the testing criteria for a future "AI Made in Germany" seal. The "Made in Germany" mark has been a source of trust in the quality of products around the world, and we're working hard to establish "AI Made in Germany" with a similar reputation. We believe that making AI do what it's supposed to do is this century's most important challenge. Together with our partners, we'll determine ways to ensure reliable AI development and high-quality AI-based products.

**About Mission KI**

This research and development initiative is one of the flagship projects within the German government's digital strategy and is intended to strengthen the German economy's digital competitiveness. Mission KI addresses the challenges of AI by expanding the pool of data for AI innovations and promoting the development and growth of trustworthy, marketable AI applications.

**About CertifAI**

CertifAI was founded by DEKRA, auditing and consulting firm PwC Germany, and Innovationsstarter Fonds Hamburg, a startup fund run by the Hamburg city government. The joint venture's focus is on providing services in testing and certifying AI models, products, and solutions in compliance with industry-specific norms and standards. The three founding partners want to build trust in AI and meet regulatory demands for technology-driven companies as efficiently as possible. CertifAI's management is highly experienced in building digital business models in regulated environments.

## AI assessments and testing in practice

Ensuring AI quality and reducing risk

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DEKRA and LatticeFlow AI completed the first commercial AI assessment for Migros Bank, one of Switzerland's best-known financial institutions. This milestone demonstrates both organizations' commitment to ensuring comprehensive and impartial assessments of business-critical AI use cases in the banking and financial sectors based on the latest ISO standards for data quality and model robustness.

### THE BUSINESS CASE

Gowago, Switzerland's largest online car leasing provider, uses an AI model to predict the value of cars at the end of the lease term. This capability empowers Migros Bank to help Gowago provide competitively priced leasing rates. However, a fault in the AI model could have a huge impact on Migros Bank's revenues. It therefore needs to be assessed carefully.

### THE CHALLENGE

"Innovative AI solutions, such as those offered by Gowago, have the potential to revolutionize and enhance the services we provide to our customers. However, ensuring the accuracy and reliability of the AI models in use, as demonstrated by an independent assessment service, remains paramount in mitigating risks and ensuring regulatory compliance."

Stephan Wick, COO & CIO, Migros Bank

### THE SOLUTION

"We conducted a thorough assessment of Gowago's AI system with our partner LatticeFlow AI. DEKRA audited the AI lifecycle processes, from development through testing and deployment to operation. To that end, our expert auditors used the DEKRA AI Assessment Framework, which focuses on assessing the AI system quality as well as its compliance with upcoming EU regulations. In addition, our partner LatticeFlow AI conducted an end-to-end technical assessment of the AI lifecycle, leveraging their robust AI platform to evaluate data quality, model robustness, and model deployment to ensure safety and trustworthiness in line with the latest ISO standards."

Dr. Xavier Valero Gonzales, Director AI & Advanced Analytics, DEKRA

## THE BENEFITS

The in-depth AI assessment's key benefits for Migros Bank are:

- › **Risk mitigation:** Managing internal risks at the bank.
- › **Regulatory compliance:** Ensuring compliance with regulatory requirements set by FINMA, the Swiss financial market supervisory authority.
- › **Business decision-making:** Enabling management to make informed decisions regarding the use of innovative, AI-based solutions in bank operations.
- › **Independent technical assessment:** Guaranteeing objectivity thanks to DEKRA and LatticeFlow performing an unbiased and independent AI assessment.

## ABOUT MIGROS BANK

Migros Bank is a wholly owned subsidiary of the Migros-Genossenschaftsbund. It employs around 1,700 people and operates over 70 branches in all parts of Switzerland. Its approximately one million customers entrust the bank with customer deposits totaling over 45 billion francs.

## Introducing first-generation AI Services

### Enhancing the security of AI Models and Systems

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In a strategic partnership with Bosch-owned startup AIShield, DEKRA will be enhancing the security of AI models and systems. DEKRA's Fernando E. Hardasmal Barrera, Executive Vice President, and AIShield's Manojkumar Parmar, founder, CEO, and CTO, provide the background.

#### DEKRA

What's the reasoning for this partnership?

#### FERNANDO E. HARDASMAL BARRERA

Given the rapid spread of AI applications, there is an enormous need for services that ensure safe and secure AI models and systems. Thorough training, assessment, audits, testing, and checks are the only way to make AI trustworthy.

#### MANOJKUMAR PARMAR

Securing AI models is crucial. Insecure AI systems can result in adverse business impact, revenue losses, and loss of trust, while non-compliance with standards and regulations can potentially result in severe penalties.

#### DEKRA

How will the partnership work?

#### MANOJKUMAR PARMAR

AIShield will assume the role of technology provider for security testing and evaluation of AI models and systems based on our leading AI security platform.

#### FERNANDO E. HARDASMAL BARRERA

Using AIShield's innovative platform for AI security software, DEKRA AI experts will be conducting comprehensive tests and assessments to identify security vulnerabilities and check compliance with regulations and standards.

#### DEKRA

What are the partnership's objectives?

#### FERNANDO E. HARDASMAL BARRERA

Our shared goal is for AI to be widely adopted quickly but responsibly and securely. We will provide reliable testing processes, ensuring that AI models and systems meet the strictest standards. Together as partners, AIShield and DEKRA will contribute to the development of responsible AI frameworks, establishing trust in AI technologies.

#### DEKRA

Which industries are your efforts aimed at?

#### MANOJKUMAR PARMAR

Compliance standards for AI are emerging in a number of industries, such as automotive, manufacturing, banking, healthcare, telecommunications, and critical infrastructure. We pool our strengths and knowledge to prepare companies in these industries for these standards and for compliance with them.

#### ABOUT AISHIELD

AIShield, a Bosch-owned startup recognized by Gartner, stands at the forefront of cybersecurity development for AI systems. AIShield's AI security technology is backed by over 45 patents and has been used globally by over 40 organizations in the automotive, manufacturing, banking, telecommunications, and healthcare industries since 2022. AIShield helps organizations mitigate AI security risks before and after deployment and make AI systems (including generative AI) resilient and secure. This improves the safety and trustworthiness of AI systems as well as compliance with AI regulations and cybersecurity guidelines.

## Committed as independent third party

Expertise in secure AI

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Whether in association with policymakers and businesses or in dialog with universities, tech startups, and users, DEKRA has established itself as an integral part of the AI ecosystem. As an independent third party, it is committed to ensuring that AI is safe, secure, and trustworthy.

### REGULATION AND STANDARDIZATION

Legislative initiatives have been introduced in a host of countries with a view to regulating AI – one example being the EU AI Act within the European Union. As an independent testing and certification expert, DEKRA is playing an active part in these processes. It also contributes to the work of standardization bodies such as the prestigious International Organization for Standardization (ISO) and its ISO/IEC JTC 1/SC 42 Artificial Intelligence working group.”

### ADVISORY SERVICES FOR BUSINESSES

The emerging role of AI in an increasing array of products and processes is instilling trust in this new technology. As a global partner at all stages of the AI model and application development cycle, DEKRA helps organizations navigate this journey with training programs focusing on current and upcoming AI regulations, audits to ensure compliance with standards, and comprehensive tests supported by state-of-the-art software tools.

### COMMITMENT TO PEOPLE

In providing services such as model robustness, data quality, and risk management for AI applications, DEKRA is also engaged in global efforts to protect the safety and security of AI users. To ensure that the technology simplifies and enriches life, it must be compatible with the values expected by society – for example, by being transparent, safe, secure, and sustainable.

»To ensure that AI simplifies and enriches life, the technology must be compatible with the values expected by society.«

### WIDE RANGE OF PARTNERSHIPS

To help ensure that AI-driven innovations are safe and secure, DEKRA combines its expertise in testing and certification with the knowledge held by universities, research centers, and tech startups. In Europe, for example, DEKRA collaborates with the German Research Center for Artificial Intelligence (DFKI), the University of Málaga, and a number of startups. In China, one of the leading markets for AI, our partners include Shanghai Jiao Tong University.



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