IAS Laboratory

![IAS - International Automotive Service logo]

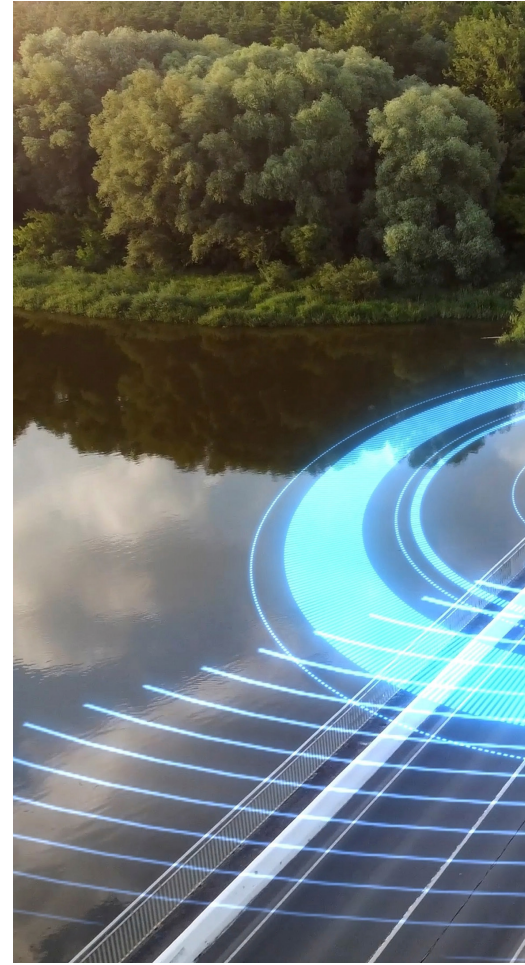## Together to Safer Roads!

www.ias-lab.com
+36 30 258 8620
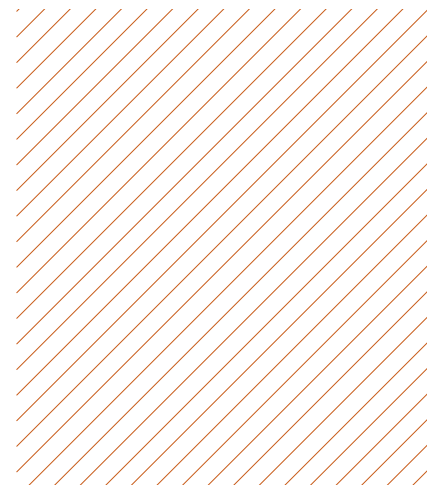
» Our engineering and training services provide comprehensive support, from vehicle design to on-road deployment.
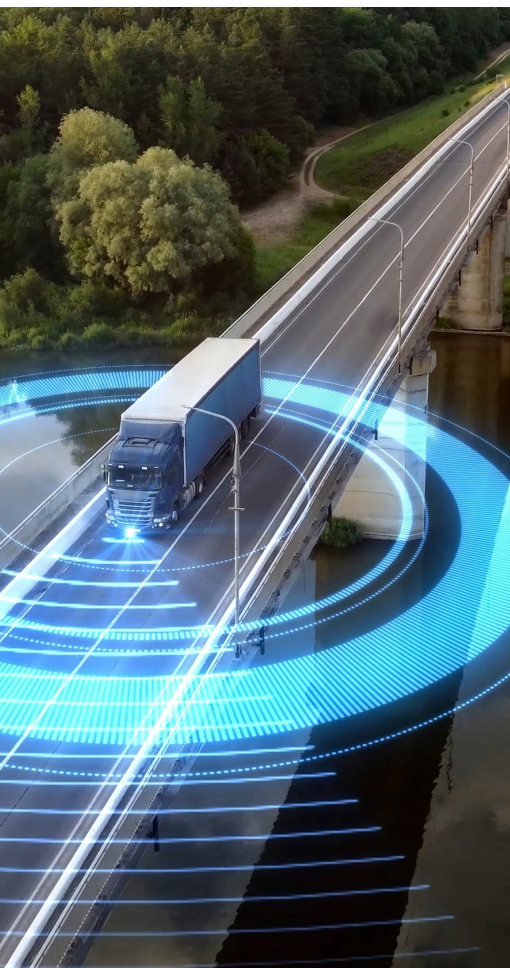
Introduction

IAS-LAB is an international company providing advanced technical and regulatory services to the automotive industry.

Established in 2018, **IAS-LAB** focuses on driving innovation, sustainability, and excellence, particularly in areas like battery regulation, automotive cybersecurity, simulation, vehicle engineering and, homologation services.

We operate laboratories in **Turkey** and **Hungary**, with a global presence managed by our headquarters in **Luxembourg**.

Our expertise includes testing and validation for all aspects of homologation services like electric vehicles, autonomous driving systems, and ensuring compliance with evolving automotive regulations.

IAS-LAB is committed to sustainability, emphasizing environmentally conscious practices and partnerships with industry leaders in advanced testing. We support our clients with tailored solutions to meet business strategies amid changing regulatory landscapes, making them a vital partner for companies navigating the future of automotive technology.

Driving Innovation in Automotive Safety, CyberSecurity, and Compliance

- Empowering automotive manufacturers to meet global safety, security, and sustainability challenges with tailored, innovative solutions.

OUR MISSION—

We envision a world where electric mobility, automotive engineering, and technology services are accessible, safe, and sustainable. By focusing on the development and implementation of advanced battery technologies, comprehensive engineering services, and regulatory compliance, we aim to lead the transition toward a greener and more efficient automotive future.

At IAS-LAB, we don't just meet industry standards—we set new ones. Whether you're navigating complex regulations or pioneering the future of electric and autonomous vehicles, IAS-LAB is your trusted partner for driving success in a rapidly changing automotive landscape.

Global Partner's

AVL ZALAZONE

ITAC | VINÇOTTE

IAS-LAB offers a broad range of engineering services, including:

- **Homologation:**

Ensuring compliance for electric vehicles, autonomous systems, and other emerging technologies.

- **Battery regulation:**

Helping manufacturers meet new safety and environmental standards.

- **Vehicle cybersecurity:**

CSMS | SUMS implementation, vulnerability assessments, and penetration testing to secure automotive systems.

- **Engineering services:**

Comprehensive testing, including simulation and computer-aided engineering.

- **Training programs:**

Specialized in automotive regulations, cybersecurity, and homologation processes.

Chair Speach

Welcome to IAS-LAB, where we are committed to shaping the future of the automotive industry through innovation, security, and sustainability. As the CEO of IAS-LAB, I am proud to lead a team of experts who are passionate about making roads safer, vehicles more secure, and the industry more compliant with ever-changing global standards.

In today's rapidly evolving automotive landscape, manufacturers are faced with unprecedented challenges. From cybersecurity threats and the complexities of electric vehicle regulations to the need for efficient homologation processes, success requires adaptability, expertise, and foresight. At IAS-LAB, we understand these challenges—and we're here to provide the solutions.

Our work goes beyond mere compliance. We are committed to pushing the boundaries of what's possible in automotive safety and technology. Whether it's guiding companies through the intricacies of UN R155 for cybersecurity or ensuring their readiness for UN R156 software update management, our mission is to empower our clients to navigate this dynamic environment with confidence.

Since our inception in 2018, IAS-LAB has grown into a global leader by staying ahead of industry trends and putting our client's needs at the center of everything we do. We take pride in offering tailored solutions, ensuring that every partnership is built on trust, collaboration, and shared success. With our laboratories in Turkey and Hungary and an extensive network of partners, we provide localized expertise with a global reach.

Together, we are driving the future of mobility—safer, smarter, and more sustainable.

I invite you to explore the full spectrum of services we offer and discover how IAS-LAB can be your trusted partner in navigating the automotive challenges of today and tomorrow.

Okan Özgören

Roadmap

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At IAS-LAB, our vision is bold and clear: to become the global leader in automotive cybersecurity, regulatory compliance, and consultancy services, while driving the future of mobility. As the automotive industry continues to evolve, so does our commitment to staying at the forefront of innovation, safety, and sustainability.

1. **Strengthening Cybersecurity for a Connected Future:**
   With the rise of connected and autonomous vehicles, cybersecurity is crucial. The roadmap focuses on expanding cybersecurity services to address new threats, aligning with standards like **ISO/SAE 21434** and **UN Regulation R155** to ensure comprehensive protection for future vehicles.

2. **Expanding Global Homologation Services:**
   As electric vehicles (EVs) and autonomous driving technologies grow, the global regulatory landscape becomes more complex. IAS-LAB plans to expand its homologation services to support new markets and emerging technologies, helping manufacturers achieve seamless global compliance with evolving regulations.

3. **Investing in Advanced Testing and Validation:**
   As innovations in autonomous vehicles and advanced systems evolve, the demand for testing and validation increases. IAS-LAB is investing in expanding testing facilities to provide cutting-edge solutions for vehicle safety, performance, and compliance, ensuring clients can bring reliable products to market.

> Engineering is the bridge between where you are and where you need to be. We provide the insight and expertise to cross that bridge confidently, ensuring your success in the global automotive market.

Excellence
We are committed to achieving the highest standards of quality in everything we do.

Collaboration
We believe that great results come from working together.

Innovation
In a rapidly evolving automotive landscape, innovation is key to staying ahead.

Transparency
We believe in conducting ourselves with honesty, transparency, and ethical behavior, ensuring that trust and respect are the foundation of every client relationship.

Your Success Is Our Business

At IAS-LAB, your success is not just our goal—it's the foundation of everything we do. We understand that in the fast-moving automotive industry, your ability to innovate, comply with regulations, and bring products to market quickly is critical. That's why we go beyond offering services—we become your trusted partner, committed to helping you achieve long-term success.

Our comprehensive solutions are designed to meet the unique challenges of today's automotive landscape, from cybersecurity and homologation to battery regulation and functional safety. We don't just help you meet global standards; we ensure that your business is positioned for growth and leadership in an ever-changing market.

Why IAS-LAB?

Expertise that Drives Results: Our team of specialists brings decades of experience across a wide range of automotive sectors. Whether you need homologation support, advanced cybersecurity protection, or compliance with the latest battery regulations, we deliver solutions that are tailored to your specific needs.

- **Global Reach, Local Expertise:** With our laboratories in Turkey and Hungary and a global network of partners, we provide world-class services no matter where you are. Our deep understanding of regional and international regulations means you're always ahead of the curve.
- **Innovation at the Core:** As the automotive industry evolves, so do we. We leverage cutting-edge technology and forward-thinking strategies to help you stay ahead in areas like electric vehicles, autonomous driving, and cybersecurity.
- **A Partnership You Can Trust:** We're not just service providers—we're invested in your success. We take the time to understand your business goals, challenges, and timelines, providing expert guidance every step of the way.

At IAS-LAB, we believe that collaboration and transparency are the keys to building lasting partnerships. By working closely with you, we provide the insights and expertise you need to not only meet regulatory requirements but also excel in your industry. Your success is our business, and together, we can achieve great things.

IAS-LAB

Turning Challenges into **Opportunities,** and **Every Project** into **Success**

Project Highlights
—

50 + Homologation Projects
50 + Cybersecurity GAP Analysis
50 + CyberSecurity GAP Closure
30 + Functional Safety Projects
10 + Electric vehicle testing program
10 + Motorcycle tests
05 + Battery Regulation Projects
50 + Battery Test Projects and component projects

98%

Satisfaction rate from the customers in different aspects of services.

98%

Client Satisfaction Rate:
Our clients consistently rate us highly for our technical expertise, responsiveness, and tailored solutions.

95%

Repeat Business:
The majority of our clients choose to work with us again, a testament to the value and trust we bring to every project.

Each completed project represents not just a job well done, but a step towards building long-term relationships with our clients, ensuring their continued success in a competitive market.

IAS-LAB FORMED BY TEAM OF EXPERTS

Potential skills of us

Experience skill setup

Homologation Education Engineering

Formed by a Team of Experts

At IAS-LAB, our strength lies in our people. We are proud to be a company built by a diverse team of world-class experts who bring deep knowledge and practical experience to every project. Our team is composed of highly skilled professionals in the fields of cybersecurity, homologation, functional safety, battery technology, and engineering, ensuring that we deliver cutting-edge solutions for the most complex automotive challenges.

A Commitment to Excellence

Each member of our team brings a wealth of experience, technical expertise, and a relentless dedication to innovation. By combining this deep knowledge with a collaborative approach, we work together to provide tailored solutions that drive success for our clients in the global automotive industry.

At IAS-LAB, we believe that great results come from great teams. And with our multidisciplinary experts leading the way, your business is in the best hands, no matter the challenge.

- **Cybersecurity Experts:**
  Our team is at the forefront of vehicle cybersecurity, ensuring compliance with **ISO/SAE 21434** and **UN R155**. We provide advanced services like penetration testing, vulnerability assessments, and secure software development to protect your vehicles from evolving threats.

- **Homologation Specialists:**
  With expertise in **EU 2018/858**, **EU 167/2013**, and **EU 168/2013**, our homologation specialists ensure that your vehicles, motorcycles, and EVs meet the latest regulatory standards, enabling smooth market entry and global compliance.

- **Functional Safety Engineers:**
  Our specialists in **ISO 26262** provide critical safety analysis and management, helping ensure that all automotive systems, from electric vehicles to autonomous driving technologies, operate safely and reliably.

- **Battery Technology Professionals:**
  As electric vehicles rise in prominence, our battery experts guide manufacturers through compliance with stringent global regulations such as **EU 2023/1542**, performing rigorous testing on battery safety, durability, and performance.

- **Software and Hardware Engineerss:**
  Our engineers design secure, innovative hardware and develop compliant embedded software, focusing on system integration, validation, and security.

- **Training Instructors:**
  Backed by **ISO/IEC 17025** accreditation, our team ensures that all testing—whether for battery systems, vehicle cybersecurity, or functional safety—meets the highest standards of precision and accuracy.

Vehicle CyberSecurity

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In today's connected world, the security of automotive systems is not just a necessity but a priority.

Service Structure

At IAS-LAB, our vehicle cybersecurity services are designed to address the complex challenges faced by the automotive industry, ensuring that vehicles are not only innovative but secure from cyber threats.

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Our team of experts utilizes cutting-edge technologies and the latest industry practices to deliver a comprehensive range of cybersecurity solutions tailored to the specific needs of each client.
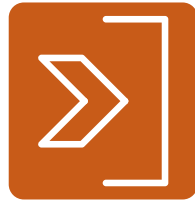
Cybersecurity Management System (CSMS)

1. CSMS GAP Closure
2. CSMS GAP Analysis
3. Comprehensive GAP Analysis Report

Threat Analysis and Risk Assessment (TARA)

- Our TARA services identify potential threats and vulnerabilities in vehicle systems, enabling manufacturers to implement effective security measures and mitigate risks.

Penetration Testing and Vulnerability Assessments

- We conduct rigorous testing to detect and address vulnerabilities within automotive systems, preventing potential cyber-attacks and enhancing vehicle safety.

Incident Response and Recovery

- Our team provides rapid response services to manage and mitigate the effects of cyber incidents, ensuring quick recovery and continuity of vehicle operations.

Software Update Management System (SUMS)

1. SUMS GAP Closure
2. SUMS GAP Analysis
3. Comprehensive GAP Analysis Report

Vehicle CyberSecurity Training

- General Cybersecurity Awareness
- Technical Training on Specific Cybersecurity Threats and Mitigation Techniques
- Best Practices for Secure Software and Hardware Development

Standards and Regulations
It matters

Regaining
Competitiveness

Elevate
to Excellence

—

We handle the entire homologation process, from design simulation and testing to final certification, ensuring that your vehicles and components are ready for global markets.

Why They Matter

In the rapidly evolving automotive industry, compliance with standards and regulations is more than just a legal requirement—it's the key to building safer, smarter, and more reliable vehicles. At IAS-LAB, we understand the importance of adhering to the latest international standards, ensuring that your vehicles and components are not only compliant but also future-ready.

Navigating Complex Global Standards

From electric vehicles to autonomous driving systems, the automotive landscape is becoming increasingly complex. Keeping up with changing regulations is challenging, but essential to success in global markets. IAS-LAB is here to help you stay ahead with our in-depth expertise and industry knowledge.

Component Testing & Design Simulation

Before homologation, rigorous testing is essential to ensure compliance with performance, safety, and environmental standards. At IAS-LAB, we design and simulate tests for components such as braking systems, powertrains, lighting, and battery technologies, allowing manufacturers to refine products early in development. Our **ISO/IEC 17025**-accredited facilities validate components, ensuring they meet all regulatory requirements for homologation.

Homologation for Electric Vehicles (EVs)

The rise of electric mobility has introduced new regulations for electric vehicles (EVs), including specific requirements for battery safety, emissions, and environmental performance. IAS-LAB is at the forefront of helping manufacturers homologate their electric vehicles, ensuring they meet the stringent requirements of regulations such as **EU 2018/858**.

Our EV homologation services include:

- Battery testing and certification
- Safety and environmental compliance for EV powertrains
- Charging system compatibility assessments
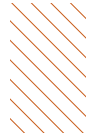- Testing for high-voltage systems and electrical safety

Reputation Matters

Our ISO/IEC 17025-accredited laboratories are equipped with the latest technology to perform all necessary tests for vehicle and component homologation.
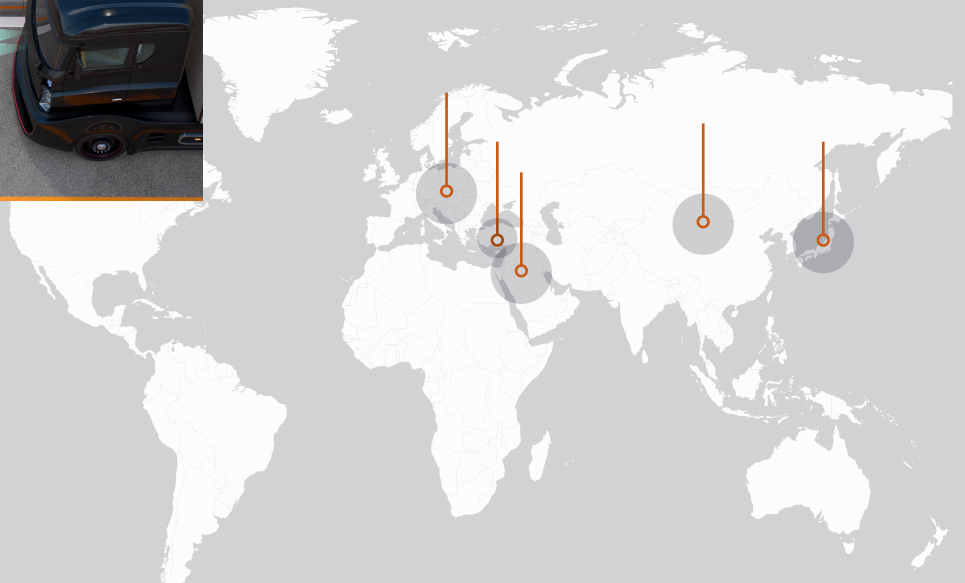
Elevate
your Product
through our services

Logistics infrastructure at IAS-LAB.

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We provide the whole scope of service from zero to completion.

01

ASIA

02

EUROPE

» Motorcycle Homologation

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Motorcycles and other two- and three-wheeled vehicles face unique homologation challenges due to their distinct design, safety, and performance requirements. IAS-LAB provides homologation services for motorcycles under **EU 168/2013**, covering everything from emissions testing to noise regulations.

Our motorcycle homologation services include:

- ☑ **Emissions and noise**

- ☑ **Electric Motorcycle Homologation**

- ☑ **Brake system and stability evaluations**

- ☑ **Type approval processes for motorcycles, scooters, and mopeds.**

Why IAS-LAB

Expertise in EU 168/2013 Compliance

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Our deep knowledge of European and international standards ensures that your motorcycles are fully compliant with current regulations.

Tailored Solutions for Electric Motorcycles

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As electric two-wheelers grow in popularity, we are equipped to handle the unique challenges of homologating electric motorcycles, scooters, and mopeds.

WE ARE FAST

At IAS-LAB, we understand that in the automotive industry, time is of the essence. The pace of innovation and the urgency to meet regulatory requirements demand a partner that can deliver fast, efficient, and reliable solutions—without compromising on quality. That's why at IAS-LAB, we pride ourselves on being fast and flexible, adjusting to meet your unique needs and timelines.

Immediate
Response

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24/7 Support
Our team is available around the clock, providing immediate assistance and ensuring that your project stays on track, no matter the time zone.

Expert
Guidance

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We work closely with you to develop bespoke strategies that fit your business objectives and timeline, ensuring that you get the services you need—when you need them.

Rebuilding

Trust and Transparency

In an industry where safety, security, and compliance are paramount, trust and transparency are the cornerstones of success. At IAS-LAB, we understand the importance of maintaining strong, trustworthy relationships with our clients. Whether it's recovering from past challenges or navigating complex regulatory landscapes, we are committed to providing transparent solutions that rebuild confidence and strengthen partnerships.

01 // Clear and Honest Communication

Transparency starts with open communication. We keep you informed at every stage of the process, from initial consultations to final certifications, ensuring that there are no surprises or hidden details.

02 // Accountability and Integrity

We believe in taking full responsibility for our work. Our team is committed to delivering results with integrity, meeting deadlines, and providing solutions that meet the highest standards of quality and safety.

03 // Data-Driven Solutions

Trust is built on evidence. Our services are backed by thorough testing, data-driven analysis, and a commitment to adhering to industry standards. We provide full transparency in our testing processes and reports, giving you complete visibility into the compliance and performance of your products.

Long-Term Partnership

We are not just service providers—we are your partners in success. By fostering long-term relationships built on trust, we help you achieve your business goals while navigating the evolving demands of the automotive industry. Our transparent approach ensures that we're working together towards mutual success.

Training Services: Empowering Your Team with Expertise

Vehicle CyberSecurity Training

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Cybersecurity Training With the increasing connectivity of vehicles, cybersecurity is more important than ever. Our cybersecurity training programs equip your team with the tools and knowledge needed to protect against evolving threats, secure software and hardware, and ensure compliance with **ISO/SAE 21434**, **UN Regulation R155**, **ISO24089** and **UN Regulation R156**.

- General cybersecurity awareness for all employees
- Technical training for secure software development and penetration testing
- Incident response and threat analysis workshops

Homologation & Regulatory Compliance Training

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Navigating the complex global regulatory landscape requires in-depth knowledge and practical expertise. Our homologation training provides a clear understanding of the **EU 2018/858**, **EU 167/2013**, and **EU 168/2013** regulations, among others.

- Understanding global type approval processes
- Compliance with emissions, safety, and environmental standards
- Documentation preparation and pre-audit readiness

Functional Safety (ISO 26262)

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Training Ensuring the functional safety of automotive systems is crucial for minimizing risks and achieving certification. Our **ISO 26262** training programs are designed to help engineers and project managers understand the entire lifecycle of safety-critical automotive systems.

- Risk assessment and hazard analysis
- Designing systems compliant with functional safety standards
- Safety management throughout the development process

Successful
Trainings
100+

Software Update Management System (SUMS) Training

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With over-the-air updates becoming more prevalent, it's essential that organizations understand how to implement secure and compliant software updates. Our **SUMS** training covers the fundamentals of **ISO 24089** and **UN Regulation R156**, ensuring that your systems are up-to-date and protected.

- Securing over-the-air (OTA) updates
- Compliance with software update regulations
- Managing software changes and ensuring vehicle safety post-update

SOTIF (Safety of the Intended Functionality) Training

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As vehicles become more automated, the Safety of the Intended Functionality (**SOTIF**) has become a critical aspect of vehicle safety. Our SOTIF training provides insights into **ISO 21448,** helping you identify and mitigate risks associated with the intended functionality of your systems, especially for autonomous and advanced driver-assistance systems (**ADAS**).

BATTERY REGULATION
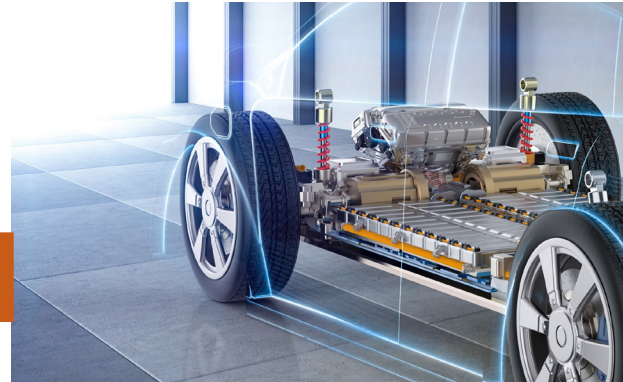
Understandig
EU Regulation 2023/1542 –
Ensuring Safety, Compliance, and
Sustainability

—

As the world shifts toward electric mobility, compliance with evolving battery regulations is more important than ever. At IAS-LAB, we provide comprehensive support to ensure your batteries meet the highest standards of safety, sustainability, and regulatory compliance. With the repeal of 2006/66/EC and the introduction of the new Batteries and Waste Batteries Regulation, staying ahead of the curve is essential for success in the rapidly growing electric vehicle (EV) market.

Why EU 2023/1542 Matters?

01 // Access to Global Markets

Achieving compliance with battery regulations opens doors to key global markets, positioning your business for growth in the EV sector.

02 // Safety and Environmental Responsibility

Complying with regulations ensures that your products meet the highest safety and environmental standards, protecting both your customers and the planet.

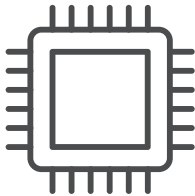### 03 // Sustainability Leadership

By verifying recycled content and conducting carbon footprint analyses, we help you demonstrate a commitment to sustainable practices, enhancing your brand's reputation in an eco-conscious market.

R100 Tests

- Emission Testing
- Immunity Testing
- Electrical Testin

R10 Test

- Mechancial Testing
- Thermal Testing
- Electrical Safety Testing
- Durability and Lifespan Testing

IAS-LAB Role
is helping you comply with EU 2023/1542 and Battery Tests

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At IAS-LAB, we understand that battery safety and regulation are critical components of the growing electric vehicle (EV) industry. Our comprehensive battery regulation and testing services ensure that your EV batteries meet the strict safety, performance, and electromagnetic compatibility standards set by global regulations, particularly **UN Regulation R10** and **UN Regulation R100**. These standards are essential for gaining type approval and ensuring that your vehicles are safe, reliable, and compliant.
We provide comprehensive support for manufacturers seeking to comply with **EU 2023/1542**. Our services include:

Gap Analysis for Battery Regulation:
We help you assess your compliance with the latest regulatory requirements, offering expert assistance in interpreting the new Battery Regulation and conducting a thorough gap analysis. This includes identifying areas where adjustments are needed to meet the new standards, ensuring smooth market entry and operational continuity.

Verification of Product Carbon Footprint (PCF):
Our team provides third-party verification of your product's carbon footprint, as required by the Battery Regulation. This process involves on-site visits and detailed reviews of your manufacturing data to ensure accurate and compliant PCF declarations, helping you align with sustainability goals.

Verification of Recycled Content:
We verify the recycled content in your batteries as per the latest regulation, ensuring that the amounts of cobalt, lead, lithium, or nickel recovered from waste are documented and compliant. This verification strengthens your commitment to sustainability and environmental responsibility.

Supply Chain Due Diligence:
We assess your supply chain to ensure compliance with due diligence requirements, including sustainability practices. This includes documentation reviews, on-site audits, and final evaluations to verify adherence to sustainable corporate governance and supply chain management standards.

Other Services

Comprehensive Solutions for Your Automotive Needs

> **Our scope of services does not have an actual limit.**

> **Client Confidence: Our accreditation provides clients with confidence that our testing results are accurate, repeatable, and meet the necessary compliance requirements, supporting them in gaining market approvals and certifications.**

- Simulation/CAE & Virtual Tests
    - Linear and nonlinear static/dynamic analysis
    - Strength analysis
    - Durability analysis
    - Validation processes
    - UN Regulation No.66 & 58 & 93

- Mechanical Tests
    - Mechanical Strength tests
    - Coupling device tests
    - Battery testing
    - Flammability
    - Motorcycle dynamometer

- Electromagnetic Compatibility (EMC) Tests
    - Ensures compliance with UN Regulation R10 for safety and performance.
    - Verifies that systems do not cause or suffer from electromagnetic interference.
    - Ensures electronic systems' resilience to external electromagnetic disturbances.
    - Supports global regulatory compliance and market entry for vehicles and components.

- AVL-Zalazone
    - Partnership agreement for Proving ground
    - All solutions for AV vehicles and GSR2

Hi-Tech infrastructure
2018
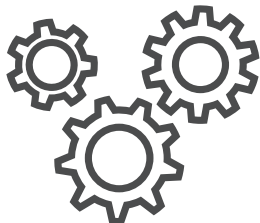
Our Laboratory Accreditation

At IAS-LAB, we are proud to operate ISO/IEC 17025-accredited laboratories, reflecting our commitment to the highest standards of quality, precision, and reliability in testing and calibration. This internationally recognized accreditation demonstrates that our facilities meet rigorous criteria for technical competence, impartiality, and consistent operation, ensuring that all testing services we provide are performed to the highest industry standards.

A Partner You Can Rely On

At IAS-LAB, our commitment to delivering excellence goes beyond any single service. Whether you need support with homologation, functional safety, or advanced engineering solutions, our team is dedicated to ensuring your success. We offer end-to-end solutions, ensuring that your vehicles not only meet global standards but exceed them in performance, safety, and sustainability.

Explore the full range of services IAS-LAB can provide, and partner with us for your next automotive challenge.
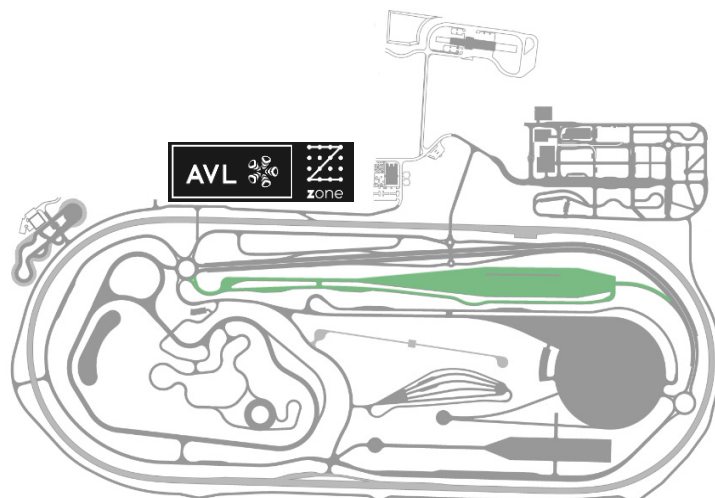
» CALL TO ACTION

Why Choose IAS-LAB?

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At IAS-LAB, we are more than just a service provider—we are your trusted partner in navigating the challenges of the ever-evolving automotive industry. Our commitment to excellence, innovation, and collaboration sets us apart as a leader in automotive testing, certification, and compliance. Here's why you should choose IAS-LAB:

- **Excellence in Every Detail:**
We hold ourselves to the highest standards, ensuring that every solution we deliver is precise, compliant, and of the utmost quality. Our relentless pursuit of excellence means we don't just meet industry benchmarks—we set new ones.

- **Driving Innovation:**
In a world where technology is changing rapidly, we help you stay ahead of the curve. From advanced cybersecurity to cutting-edge battery testing and homologation services, we embrace the latest technologies to ensure your products lead the way in safety, performance, and sustainability.

- **Collaboration That Delivers Results:**
At IAS-LAB, we work hand-in-hand with our clients, building close partnerships that align our solutions with your vision. We don't just deliver services—we drive your success, tailoring our approach to meet your unique needs and challenges.

- **Global Expertise with Local Insight:**
With a global reach and deep understanding of **UN R155, UN R156, battery regulations, and homologation requirements**, we are well-positioned to support your business in every major market. Wherever your automotive journey takes you, IAS-LAB is there to guide you.

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Let's Drive the Future Together

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The future of mobility is exciting, but it's also filled with challenges that require expertise, agility, and foresight. Whether you need support with regulatory compliance, functional safety, or sustainability goals, IAS-LAB is ready to be your partner in creating safer, smarter, and more innovative vehicles.

Get in touch with IAS-LAB today

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Get in touch with IAS-LAB today and let's discuss how we can accelerate your success in the automotive world. Together, we'll turn today's challenges into tomorrow's opportunities.

IAS

International Automotive Service
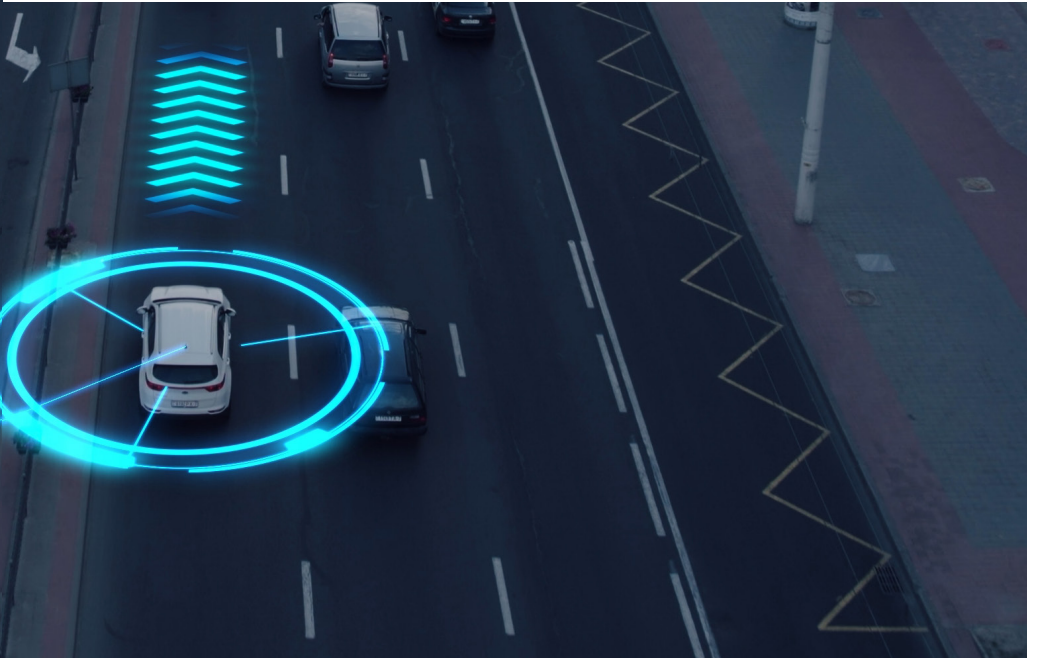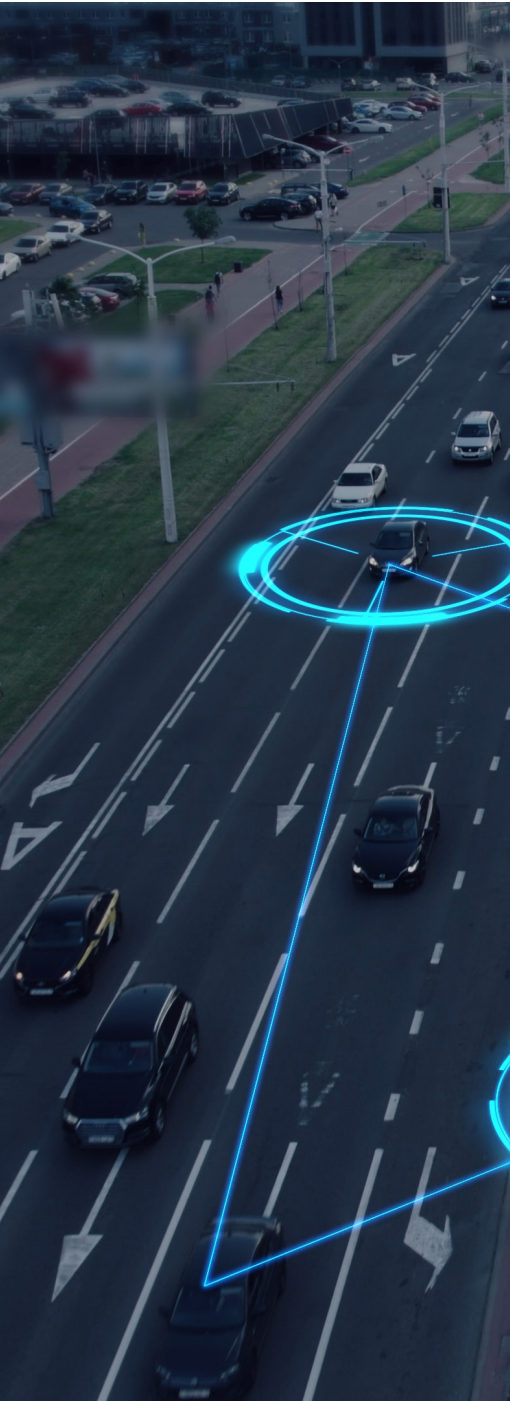
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