

# Navigating the Complex Landscape of Vehicle Homologation: Challenges and Opportunities

February 2024



# Homologation is the mandatory approval process for new vehicle models

### Homologation

1

Is coined by Safety Regulations, Environmental Regulations and Technical Regulations



2

Is defined through a **regulated process** and is **concluded** by a government-issued certificate allowing a product to enter a market

1

#### Safety regulations

- › Ensure vehicles meet standards to protect the well-being of users, occupants, and pedestrians:
  - › Crashworthiness,
  - › Occupant protection, and
  - › Overall vehicle design, i.e., seat belts, airbags, breaks




#### Environmental regulations

- › Target reducing the impact of products on the environment and promoting sustainability
  - › Focus on emissions and fuel efficiency, and
  - › Set limits on pollutants emitted by vehicles, i.e., carbon dioxide (CO2), nitrogen oxides (NOx), particulate matter (PM), and hydrocarbons.
  - › Encourage using cleaner and alternative energy sources.



#### Technical regulations


- › Aim at maintaining consistency, interoperability, and fair competition within the market.
  - › Cover requirements ensuring proper vehicle functioning, performance, and compatibility.
  - › Encompass technical specifications i.e., vehicle dimensions, weight limits, noise levels, etc.




2




Reporting to relevant authorities






Review and approval







Certification






Preparation and documentation of necessary aspects





Assessment and tests according to the regulatory framework



# Homologation is important for OEMs to ensure regulatory compliance, market access and customer trust

## Regulatory compliance

Homologation is often a **mandatory compliance requirement** set by governmental or regulatory bodies in various countries or regions. To **legally sell and operate** their vehicles in a specific market, OEMs must ensure that their products meet the established safety, environmental, and technical standards. Meeting these regulations is a fundamental obligation for OEMs to operate within the boundaries of the law.



Non-compliance can result in **legal penalties, fines, or even bans** on selling the products.

## Market Access

Different countries and regions have their own **unique set** of homologation requirements. Without proper homologation, OEMs would be **barred from entering** or competing in these markets. Achieving homologation demonstrates a commitment to **meeting local standards**.



Compliance with homologation requirements is needed to **enter new markets, enlarge customer base and increase revenue**.

## Positive Brand Image



Homologation assures consumers that a vehicle has undergone **rigorous testing**. A vehicle after homologation **fulfills stringent, and regulated standards** to be **safe, environmentally friendly, and technically reliable**.




Homologation demonstrates a commitment to quality, safety, and environmental responsibility. This can imply **positive brand perception, customer loyalty, and word-of-mouth recommendations**.

# Various regulatory frameworks and new technological developments pose challenges to the automotive industry during homologation

Regulatory  
Setting

	Globally differing regulatory frameworks	<u>Example:</u> <ul style="list-style-type: none"><li>&gt; UNECE: Europe, North America, Asia</li><li>&gt; UB/T: China</li></ul>
	New regulations to accompany new technological developments	<u>Example:</u> <ul style="list-style-type: none"><li>&gt; EU Battery Pass</li></ul>

Implications

	<ul style="list-style-type: none"><li>&gt; Homologation processes are complex</li><li>&gt; Homologation processes vary across the globe</li><li>&gt; Homologation processes are not flexible enough to accompany changes in the regulatory framework brought by new technological advancements</li></ul>	
---	--	--


Regulatory  
Challenges

	<u>High compliance costs</u> Using varying homologation processes to comply with regulations across the globe is costs human and financial resources		<u>Long time to market</u> Complicated and unsystematic homologation processes prolong the time to market and increase costs additionally
---	---	---	--

Related content:

 [Interested in the EU Battery Pass and its implications for businesses?](#)



 [Interested in the challenges currently posed by UNECE and UB/T?](#)



# To future-proof and improve current homologation processes, countermeasures should be taken

1

## Global harmonisation

Aligning homologation regulations and standards across different countries and regions, based on finding consensus on technical requirements, safety standards, and emission norms.

### Benefits:

- › Increased efficiency in design and development based on a standard set of rules
- › Cost savings from research, testing and manufacturing by applying global standards
- › Market expansion through streamlined homologation processes simplifying the entry of new markets
- › Innovation acceleration through reshuffling investments from compliance to R&D

2

## Streamlining certification processes

Simplifying and optimising the homologation processes by including and creating standardised documentation, digital platforms for submissions and clear guidelines.

### Benefits:

- › Decreased time-to-market through lower administrative burden and simplified processes
- › Optimized resource allocation to concentrate on R&D, innovation and product excellence
- › Reduced costs as simplified procedures reduce the need for legal and admin. Support
- › Increase competitiveness through faster certification of cutting-edge technologies

3

## Enhancing stakeholder collaboration

Exchange between OEMs regulatory bodies, industry associations and other stakeholders can improve the definition and usability of homologation standards. Building a network of communication between OEMs and regulators can enhance the regulatory framework.

### Benefits:

- › OEMs are enabled to participate in shaping regulations
- › OEMs gain early insights into upcoming regulatory changes preventing last-minute compliance challenges
- › Compliance related risks and uncertainties are minimised as OEMs are consulted during the regulatory processes



Ease homologation to foster innovation



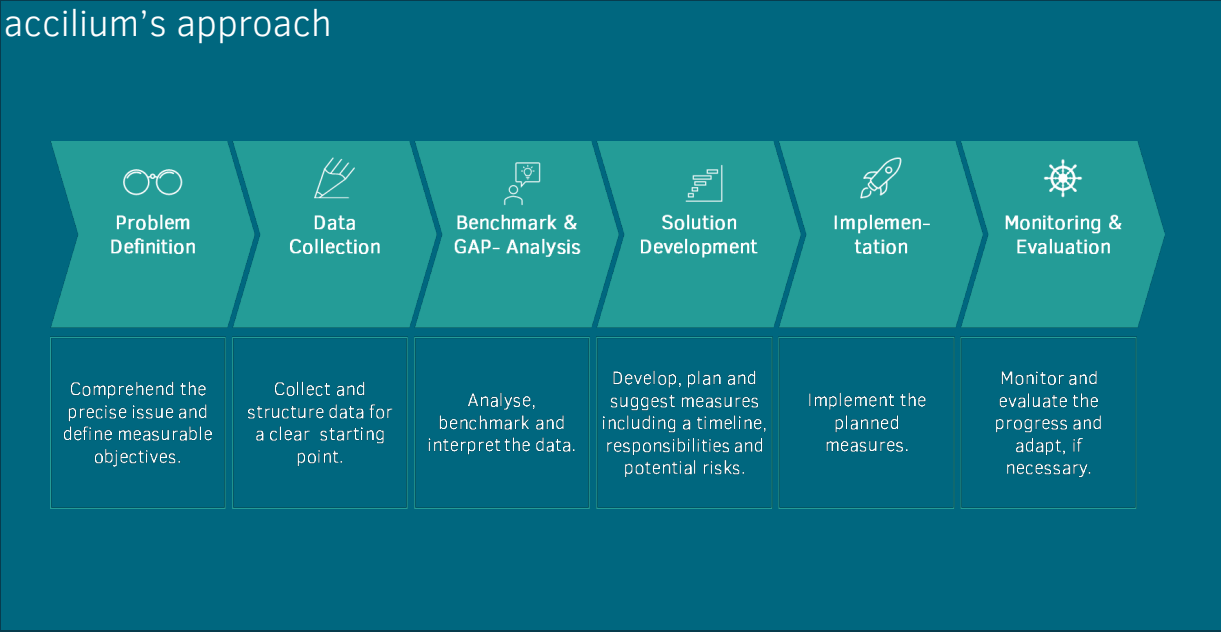
# accilium as a partner



**Stakeholder**  
We make sure that all stakeholders are involved and committed to support the chosen approach.

**Innovation**  
We ensure to enrich the project by the most innovative and most suitable ideas.

**Individualisation**  
We bring the flexibility to adjust existing formats to your needs or to develop new formats.



accilium serves as a sparring partner and supports clients in enhancing efficiency and effectiveness along their complete homologation process by streamlining, adapting and developing processes for communication, collaboration and certification.



# In a nutshell, homologation is a mandatory compliance requirement

...implying multiple challenges...

...calling for proactive measures...

... to become future-proof.

1

- › Homologation is a lengthy and complicated process
- › Diverse regulatory frameworks exist globally including different processes and requirements
- › Technological advancements lead to a growing regulatory framework



High compliance costs and long Time-to-market



2

- › Promote global harmonisation aligning standards on technical, safety and environmental requirements across countries and regions
- › Streamline certification processes creating standardised documentation, digital platforms and clear guidelines
- › Enhance stakeholder collaboration enhancing the regulatory framework



Ease homologation and foster innovation



3

- › Ensure an efficient, harmonized and future-proof homologation framework
- › Develop safety and environmental guidelines aligned with market competitiveness



Foster and ensure growth in the global automotive industry





Michael Jetschni

Senior Manager

+49 173 418 6503

[michael.jetschni@accilium.com](mailto:michael.jetschni@accilium.com)



Ann-Kristin Gross

Senior Associate

+491735151170

[ann-kristin.gross@accilium.com](mailto:ann-kristin.gross@accilium.com)



#### CONTACT

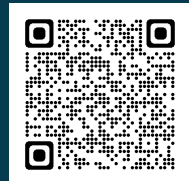
[office@accilium.com](mailto:office@accilium.com)

+43 1 934 68 05

[accilium.com](https://accilium.com)



#### FOLLOW US



ISO/IEC 27001:2013 certified