



SOFTWARE INTENSIVE SYSTEMS

Navigating global market certification processes

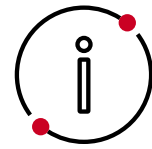
Vehicle homologation training for vehicle engineers and leaders responsible for certification

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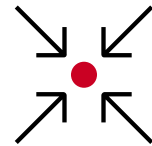


Vehicle homologation training for vehicle engineers and leaders responsible for certification



General information

This course offers an opportunity to gain a global view of the complex processes, regulatory resources and testing requirements for homologation. UL Solutions Software Intensive Systems (SIS) designed this course for project-level engineers and executives who need to better understand the requirements of specific markets. While geared more toward vehicle manufacturers, suppliers will also benefit from the component- and system-level certification requirements covered in the course.



Objectives

- Deepen knowledge of the homologation process and requirements for significant markets
- Gain an overview of testing requirements
- Understand the documentation task
- Understand certification scheduling requirements and lead time



Intended audience

- Product engineers, release engineers and planners
- Project managers
- Test engineers and managers
- Quality leadership
- Engineering management and C-level executives
- Startup founders and leaders
- Marketing management

Contents

Part 1

- Introduction
- What is homologation?
- Self-certification versus witness testing/type approval
 - State-specific regulations
 - Vehicle compliance labeling
- U.S. Department of Transportation (DOT)
- U.S. National Highway Traffic Safety Administration (NHTSA)
- Federal Motor Vehicle Safety Standards (FMVSS)
 - More in-depth look at the process in the U.S.
- Canadian Motor Vehicle Safety Standards (CMVSS)
 - Significant regulatory differences
 - Transport Canada (TC) requirements
- U.S. New Car Assessment Program (NCAP)
- Insurance Institute for Highway Safety (IIHS)
- U.S. Environmental Protection Agency (EPA)
- Electric vehicle testing and labeling
- California Air Resource Board (CARB)
 - ARB Section 177 States
- Corporate Average Fuel Economy (CAFE) standards
- On-board diagnostics (OBD)
- California Zero Emission Vehicle (ZEV) mandate



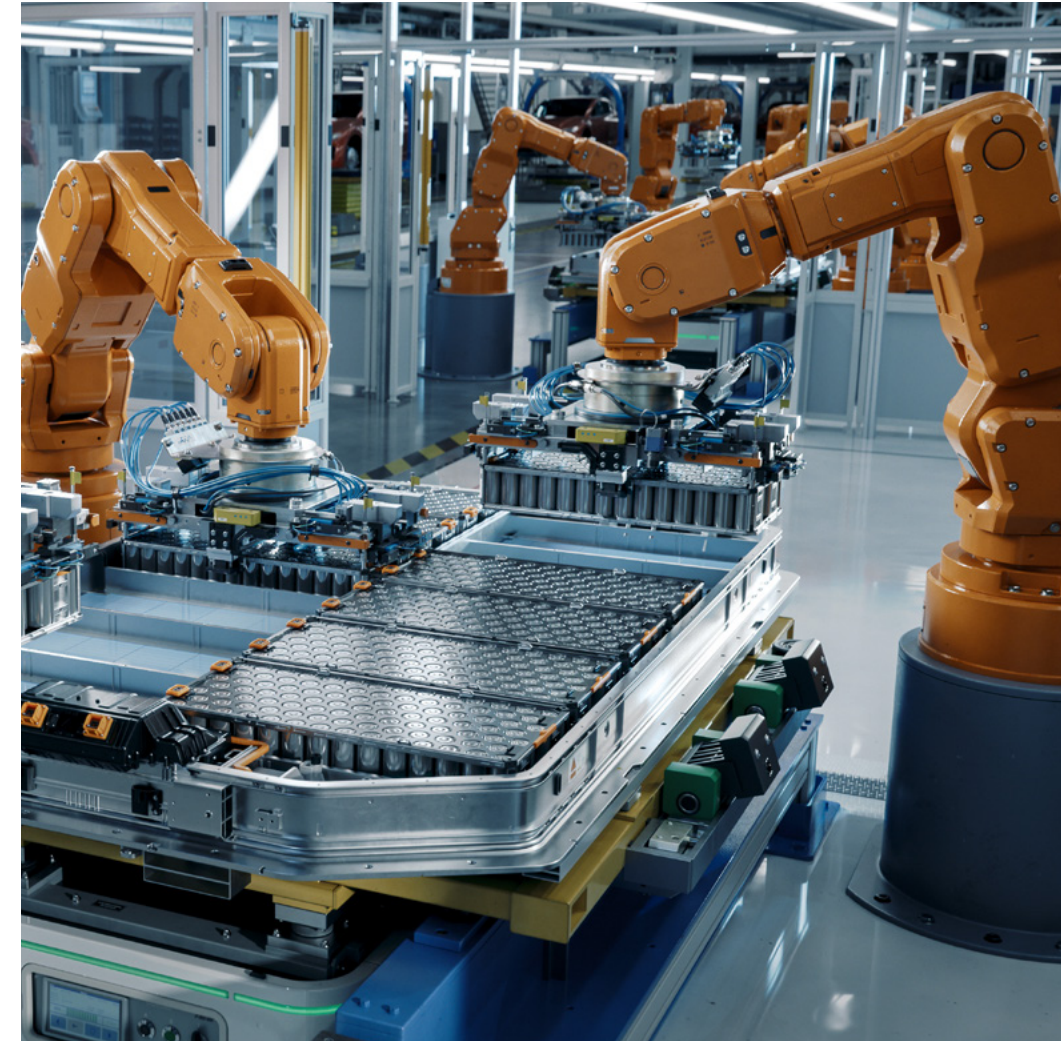
Part 2

- European Union (EU) vehicle certification and harmonization
- United Nations Economic Commission for Europe (UNECE)
- World Forum for the Harmonization of Vehicle Regulations (WP.29)
- Global Technical Regulations (GTRs)
- Worldwide manufacturer identification (WMI) from the Society of Automobile Engineers (SAE) — an important first step for new manufacturers

Part 3

- China Compulsory Certificate (CCC) Process
- CCC evolution/proposed changes
- Other markets
 - Japan
 - Mexico standards and certification
 - Russia (GOST)

- Functional safety overview
- U.S. Federal Communications Commission (FCC)
- Electromagnetic compatibility (EMC) requirements
- How to build a homologation team
 - Homologation department roles and responsibilities
 - Subject matter experts versus homologation experts
- Related critical automotive considerations and available training
 - Automotive functional safety – ISO 26262 standard
 - Safety of the intended functionality (SOTIF) – ISO 21448 standard
 - Automotive cybersecurity – ISO/SAE 21434 standard
 - Autonomous vehicles – UL 4600 and other standards





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