



Automotive Cybersecurity

Partnering for growth



Safety. Science. Transformation.™

Speakers



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About UL Solutions

Our mission-driven employees are based in

40+
countries

UL Solutions ranks **No. 1** globally on brand strength out of the top 11 global TIC and EHS brands per 2,124 decision-makers across 13 countries*

We work with **68%** of **Fortune 500**** and **63%** of **Global 500**** and more than **80,000**** different companies

Our diverse customers are based in

100+
countries

Our software is used by **21,000+** organizations across nearly every industry

We sit on **1,300+** standards panels and other technical committees

Our sustainability certifications are referenced in **1,000+** sustainable **product specifications** or purchasing guidelines around the globe

UL Marks appear on **billions** of products globally

*Source: Presciant brand study 2022.

**Data is as of December 2021.

Global expertise and footprint

Through our deep
technical expertise,
extensive
market knowledge

and
150+
locations
around the
world,

including
90+
with
laboratories,
we help customers
gain market access
quickly.



Location information is as of August 2022.
Some locations contain more than one laboratory.

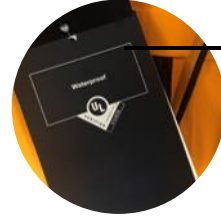
We deliver

Our solutions span the ESG spectrum to increase safety, security and sustainability

PEOPLE. PLANET. TRUST.



Certification



Verification



Testing



Auditing and inspection



Software



Data insights

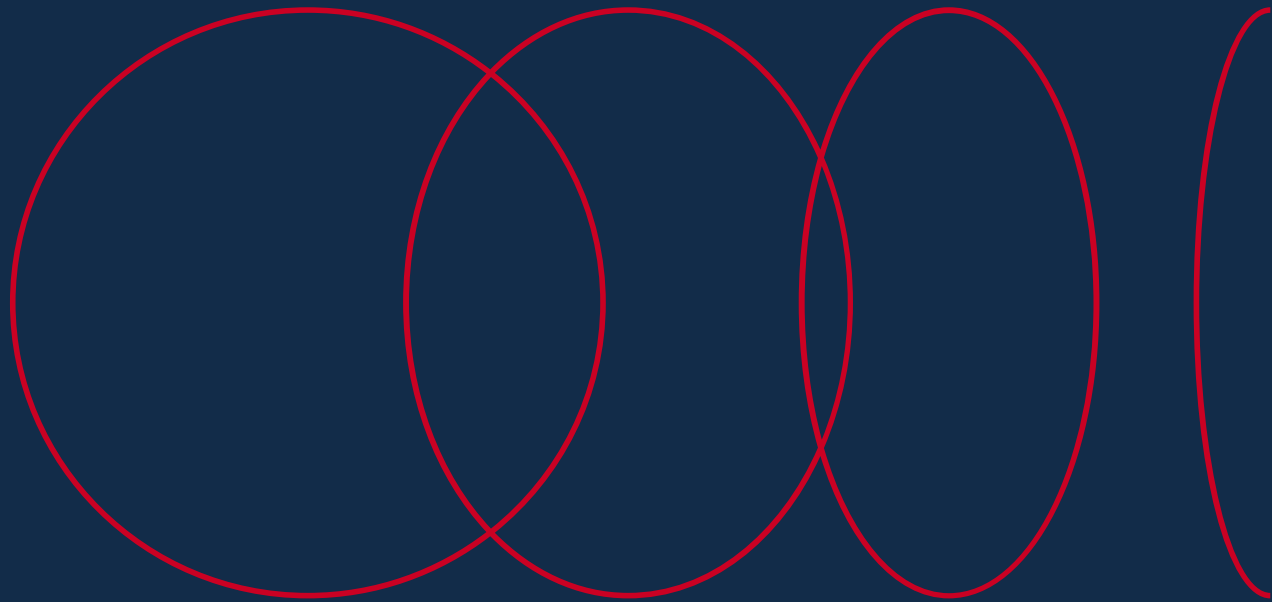


Advisory



Learning and development

Our Automotive Cybersecurity Solutions



>500 SECURITY EXPERTS

COAUTHORED >25 CYBERSECURITY Standards and Frameworks



Solutions
Cybersecurity



INDEPENDENT
Market leader
Global reach



Smart ecosystems



Payments



Mobility



Health care



Home



Buildings



Industry 4.0

System and Facility audits
HW, SW security evals



Secure Development Life Cycle

Challenges for automotive OEM manufacturers and suppliers

Determining and understanding applicable regulations and requirements in target markets

Determining the right level of security for products and systems

Embedding security into product and system development processes

Securing suppliers' products and components

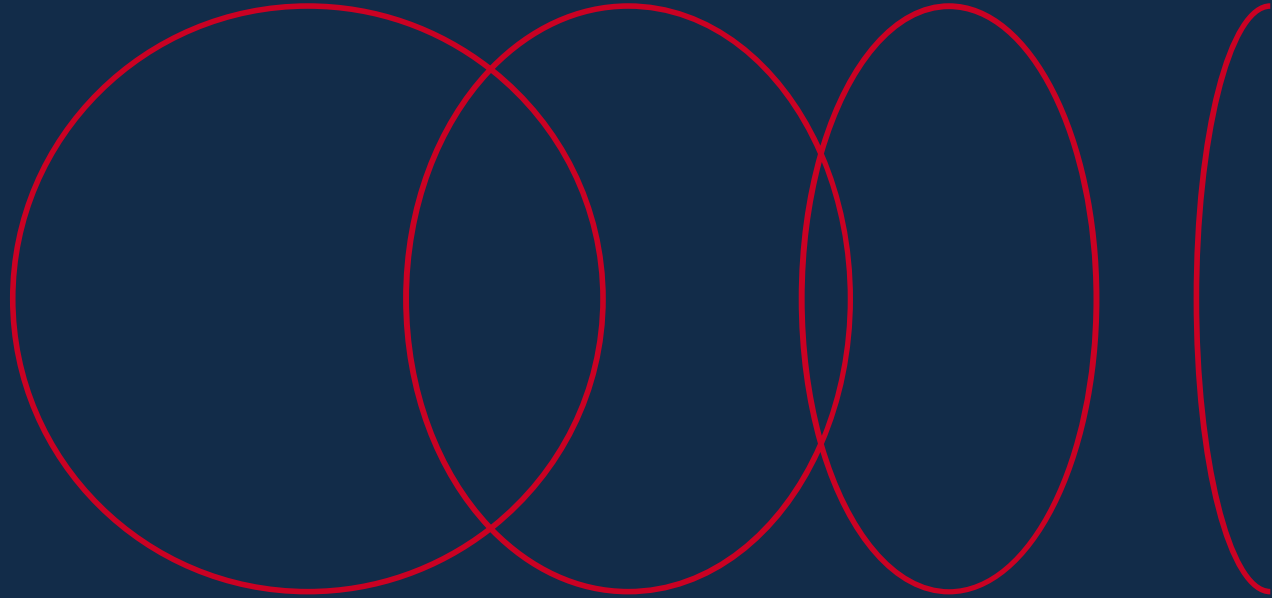
Achieving regulatory approval and market access and demonstrating validation of security to customers

Differentiating products/systems based on security

Our automotive cybersecurity solutions

Training	Advisory	Verification and Validation	Regulatory Compliance
<ul style="list-style-type: none"> Automotive cybersecurity landscape Principles of risk management Threat modeling and analysis 	<ul style="list-style-type: none"> Gap analysis Cybersecurity Management Systems (CSMS) framework Software Update Management Systems (SUMS) framework Risk management framework Threat Analysis and Risk Assessment framework Cybersecurity incidence monitoring and evaluation Supply chain management 	<ul style="list-style-type: none"> Cybersecurity assessment System testing Component testing 	<ul style="list-style-type: none"> R155 and R156 type approvals CSMS audit and assessment SUMS audit and assessment

Global cybersecurity regulations and standards



Automotive cybersecurity regulations and standards

UNECE WP.29

The United Nations Economic Commission for Europe (UNECE) established WP.29 to regulate motor vehicles and equipment. This subsidiary Working Party (GRVA) is dedicated to automated/autonomous and connected vehicles and proposes uniform provisions for the approval of vehicles concerning:

- Cybersecurity and cybersecurity management systems
- Software and management system updates



Enforcement
dates

UNECE

- Effective January 2021

European Union

- All new vehicle types: July 2022
- All vehicle types covered under R155: July 2024

South Korea: Second half of 2020

Japan: January 2021

Automotive cybersecurity regulations and standards

ISO/SAE 21434

ISO/SAE 21434 builds on functional safety standard ISO 26262, providing a similar framework for the entire life cycle of road vehicles. It also includes cybersecurity risk management requirements for:

- Road vehicles with electrical and electronic (E/E) systems
- Components, interfaces and communications
- Engineering through concept, design, development, production, operation, maintenance and decommissioning



ASPICE
Cybersecurity

- Covers only Software development.
- Some requirements overlap with 21434 requirements, but with less detail.
- No TARA Framework.

Automotive cybersecurity regulations and standards

ISO 24089

ISO 24089 provides a framework for implementing and managing software updates and update campaigns in vehicles.

- Applicable to road vehicles
- Provides process managing software updates
- Applies to both workshop and OTA software updates.



Q&A





Thank you

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Contact us

- Automotive cybersecurity auditing and testing
- Automotive cybersecurity assessment
- Automotive cybersecurity training and education

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