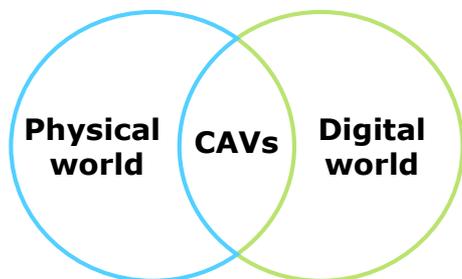


Risk Frameworks for Connected and Autonomous Transportation

Using comprehensive and adaptable risk and strategy frameworks – including for security convergence, cybersecurity and privacy by design – can help organizations understand, manage, and report on the various aspects of physical security, cybersecurity, privacy, and trust impacting the connected and autonomous vehicle (CAV) ecosystem.

The Need for a CAV Cybersecurity Framework

Cybersecurity risks are particularly complex for CAVs, as they operate at the convergence of the physical and digital world, both consuming and creating data, while communicating with the surrounding ecosystem.



Risks to CAVs involve complex and interrelated threats across:

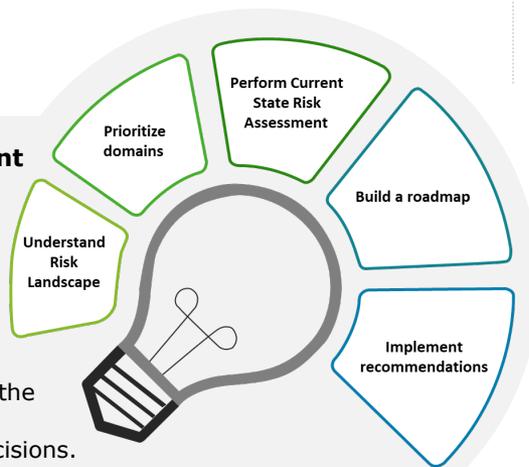
- The vehicle,
- The CAV ecosystem, and
- The data collected.

Trust is multi-dimensional.

Conducting a Risk Assessment

Risk assessments help to identify threats and risks, understand current gaps in compliance or resilience to emerging threats, and document and prioritize remediation tied to those risks.

This will support key reporting to the board and executives, and inform important business and safety decisions.



The Deloitte Cyber Strategy Framework (CSF)

The Deloitte Cyber Strategy Framework (CSF), based on NIST, ISO, and SANS, supported by a Privacy by Design framework and Security Convergence methodology, allows for the analysis of key capabilities needed to mitigate emerging threats to CAVs.



The Privacy by Design Framework

The 7 Privacy by Design principles can be incorporated into the CAV design, development, and deployment process to keep privacy at the forefront of decision-making, alongside the use of Privacy Impact Assessments (PIAs) and regulatory frameworks.

- 1 **Proactive not reactive: preventative not remedial**
- 2 **Privacy as the default setting**
- 3 **Privacy embedded into design**
- 4 **Full functionality: positive-sum, not zero-sum**
- 5 **End-to-end security: full lifecycle protection**
- 6 **Visibility and transparency: keep it open**
- 7 **Respect for user privacy: keep it user-centric**