This presentation was given by Dr. Alejandro Manilla during the Public Webinar of 4 July 2019, on Legal perspectives of using IoT for AD, this in the context of AUTOPILOT H2020 project.
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AUTOPILOT Cybersecurity Evaluation

Index

- **Cybersecurity Objectives for IoT**
- **Methodology**
  - Feature definitions, architectures and AUTOPILOT concept
  - Initation of the cybersecurity plan
- **Study**
  - Threat analysis risk assesement from architecture to device
  - Cybersecurity concept
- **Evaluation of the results**
  - Misbehavior detection and countermeasures
  - Cybersecurity assessment of the AUTOPILOT architectures

Cybersecurity objectives for IoT

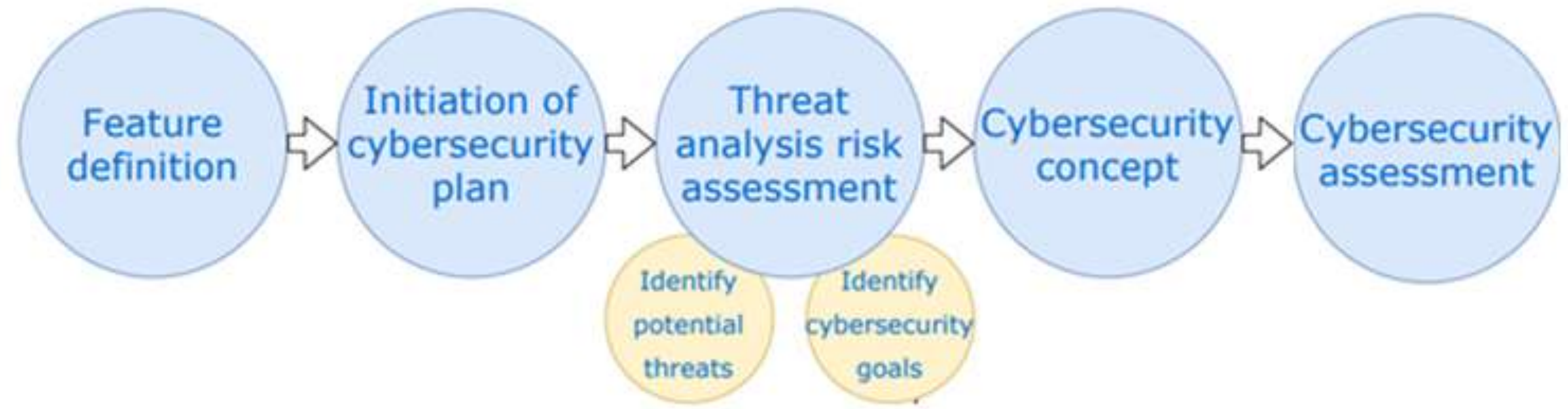
The evaluation will identify the potential cybersecurity issues on IoT devices and architecture and determine if the AUTOPILOT implementations are secure to the required level, accomplishing the next main objectives.

Confidentiality
Integrity
Availability

Reach the objectives also will influence the quality of the service improving the overall system.

Cybersecurity objectives

Evaluation methodology steps


Feature definition
Initiation of cybersecurity plan
Threat analysis risk assessment
Cybersecurity concept
Cybersecurity assessment
Identify potential threats
Identify cybersecurity goals

The methodology is adapted and based from SAEJ3061

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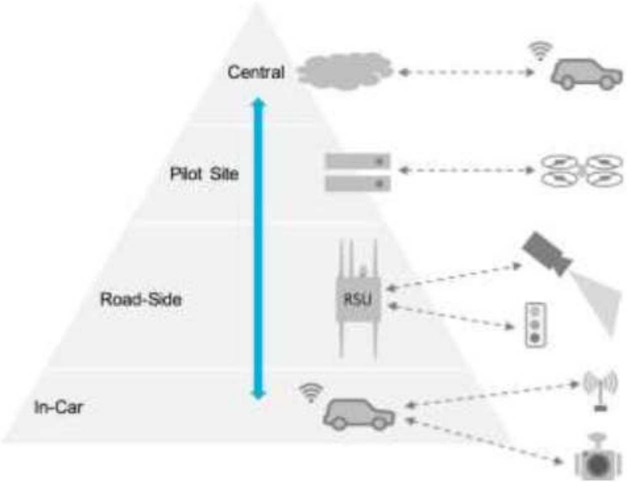
Methodology of the workplan

Feature definition

Gather information about feature definitions and architectures implemented by pilot sites that will be required to start the cybersecurity evaluation methodology. A common architecture for the AUTOPILOT project will be used to start the analysis.

Methodology of the workplan

Top-down analysis of the AUTOPILOT concept



The cybersecurity analysis in AUTOPILOT will be performed from the high level architecture concept to the IoT devices, without going in deep to the devices requirements.

Methodology of the workplan

Initiation of cybersecurity plan

Describes the activities to be carried out as part of the cybersecurity evaluation methodology in AUTOPILOT

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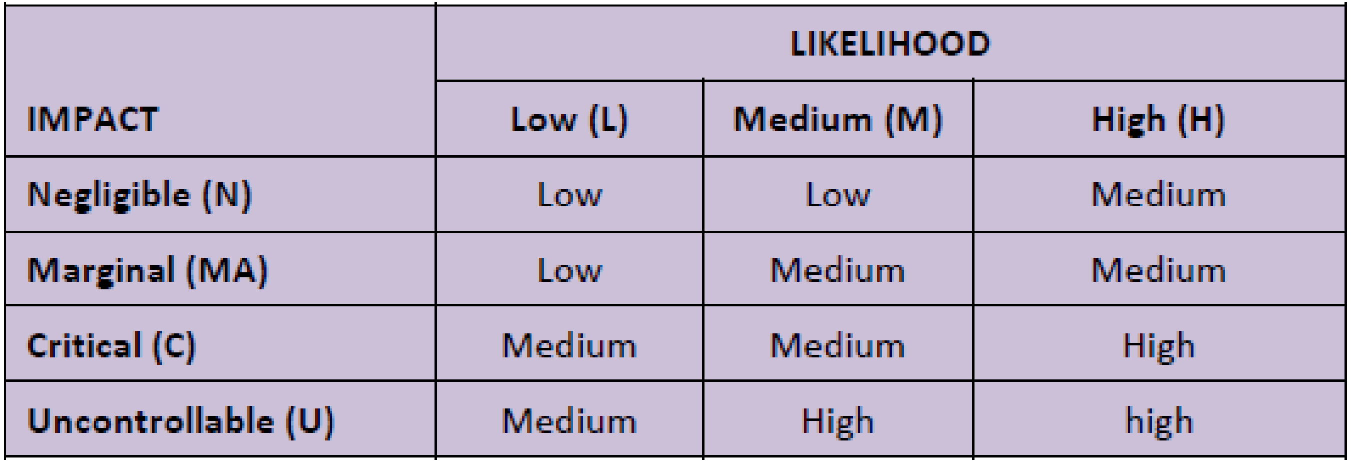
Study of cybersecurity solutions

Threat analysis risk assessment (TARA)

This activity is used to identify the potential threats and determine the risk associated to each threat, it helps to identify potential vulnerabilities. The analysis will be performed from the high level architecture and infrastructure to the IoT devices, without going deep in devices requirements.

Study of cybersecurity solutions

Identify potential threats - Threats will be determined for the studied architectures and system features.



IMPACT	LIKELIHOOD		
	Low (L)	Medium (M)	High (H)
Negligible (N)	Low	Low	Medium
Marginal (MA)	Low	Medium	Medium
Critical (C)	Medium	Medium	High
Uncontrollable (U)	Medium	High	high

Table shows FERMA standard approach

Identify cybersecurity goals - Cybersecurity goals for the evaluation will be identified for the highest risks based on the identified threats.

Study of cybersecurity solutions

Cybersecurity concept

The cybersecurity concept may contain the high-level cybersecurity goals identified during the “Threat analysis risk assessment” stage. The strategy for addressing the cybersecurity goals will be based on the potential risk level of the threats associated for the IOT technology.

Study of cybersecurity solutions

Misbehavior detection and countermeasures

The TARA cannot cover previously unknown threads, therefore functionality misbehavior detection systems will be considered and proposed, along with their countermeasures.

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Evaluation of the results

Misbehavior detection and countermeasures

During the evaluation of results, function misbehaviors will be noted and countermeasures to the detected issues will be proposed.

Evaluation of the results

Cybersecurity assessment

Cybersecurity assessment analysis is performed to evaluate the cybersecurity state of the autopilot system. It provides the justification that the system is “secure” to the required level, this means that cybersecurity goals identified in the TARA and the strategy in the cybersecurity concept is satisfied and pass the evaluation.

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