

## Resilience-by-Design – Development Process

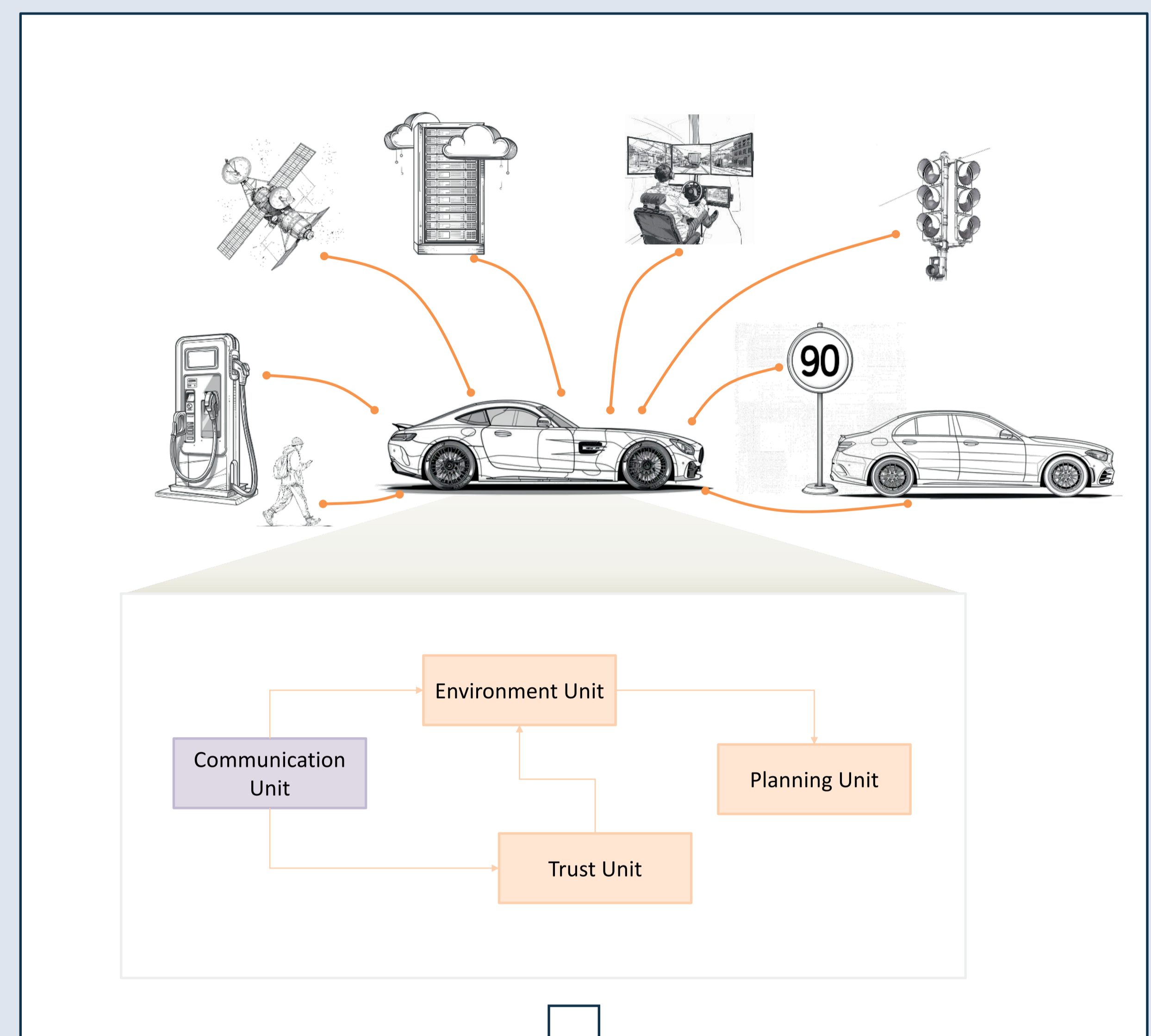
### Scope

Systems are becoming increasingly complex. As a system-of-systems, the mobility system consists not only of vehicle systems, but also of pedestrian systems, infrastructure systems, energy supply systems, traffic management systems and communication systems that must interact with each other.

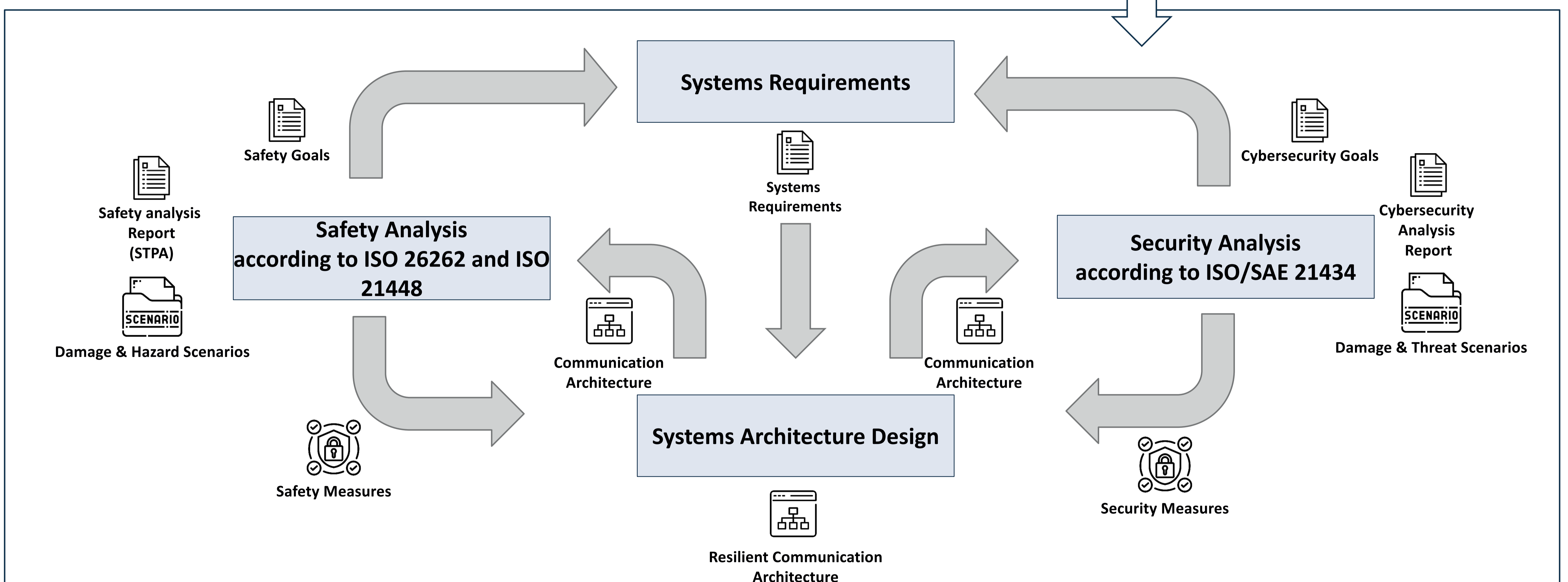
The design and development of individual systems requires a systematic approach to fulfill all essential normative and regulatory requirements for the approval of the overall system.

In ConnRAD, we specifically examine the aspects of cybersecurity, safety and trust to ensure that V2X communication is resilient and trustworthy. We consider these aspects in the early stages of system development and use them to develop methods, tools, mechanisms, etc. The newly developed methods and tools will then be consolidated and used for the development of resilient systems for automated and autonomous driving in an interdisciplinary team.

Increased complexity due to high degree of connectivity in the mobility system



**Resilience-By-Design : An Interdisciplinary approach in the concept phase for the development of automotive resilient systems**



### Next Steps

#### Systems Engineering :

- Resilience Engineering : First draft of a procedure model in the development process
- Consideration and identification of the interfaces to safety engineering, cybersecurity engineering and trust
- Complete the System model & extends the SysML language

#### Safety Engineering:

- Derivation of the hazard scenarios
- Identification of gaps in the application of the procedure

#### Cybersecurity Engineering:

- Derivation of the threat scenarios
- Identification of gaps in the application of the procedure

#### Trust:

- Investigation and implementation of the Chain of Trust

Additional Information:

