Transmitted by the expert from ISO

Informal document **GRVA-16-31**
16th GRVA, 22-26 May 2023
Provisional agenda item 4(f)

ISO 34502:2022

Scenario-based safety evaluation framework for automated driving systems

JSAE / ISO34502

ISO34502 position

SC33 “Vehicle dynamics and chassis components”

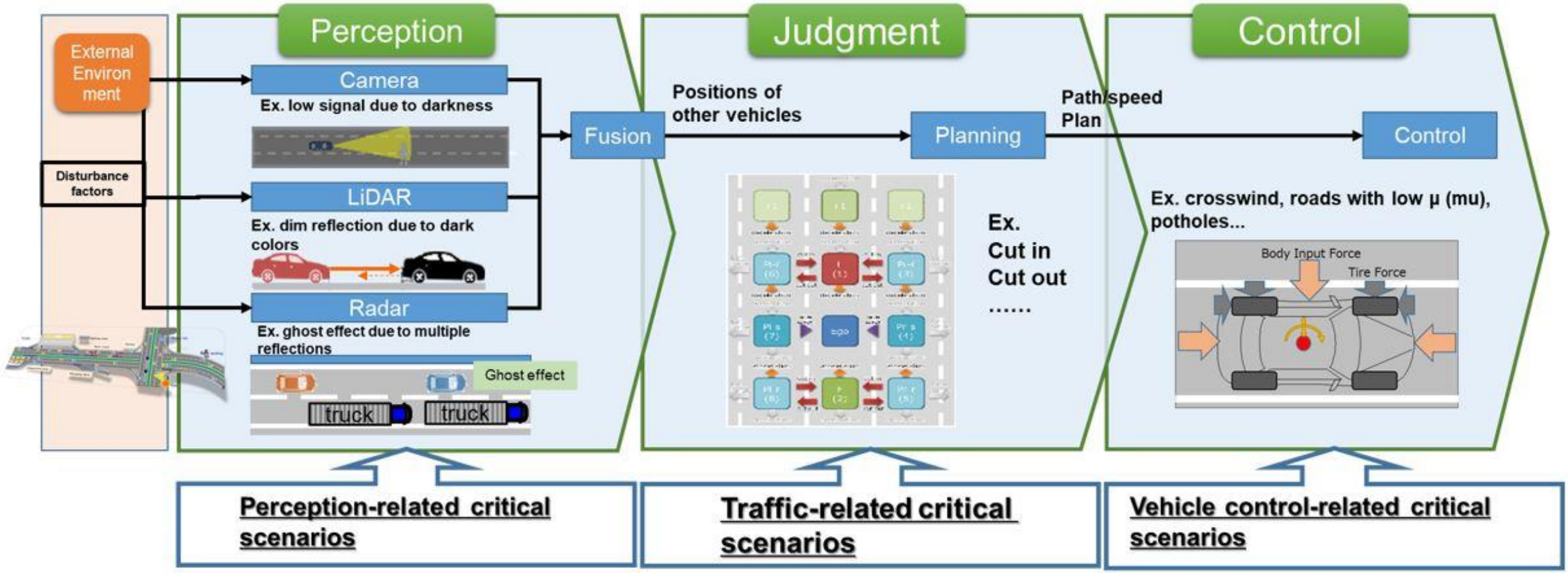
WG9 “Test scenarios of automated driving systems”

ISO No	Title	Stage	IS issue timing	Lead (Co-lead)
ISO34501	Terms and definitions of test scenarios for automated driving systems	IS	22/Oct	China
ISO34502	Scenario-based safety evaluation framework for Automated Driving Systems	IS	22/Nov	Japan (Germany)
ISO34503	Taxonomy for Operational Design Domain for an Automated Driving System	DIS	23/May	UK (Japan)
ISO34504	Scenario attributes and categorization	CD	23/Oct	Netherlands (Germany)
ISO34505	Scenario evaluation and test case generation	NWIP	25/Sep	China Germany

Aim: Guide the scenario-based safety assessment framework for automated driving systems

Target : Product development process for automated driving systems with Level 3 and above defined in ISO/SAE PAS 22736. First of all, the target is a system that operates on motorways

ISO34502 Overview

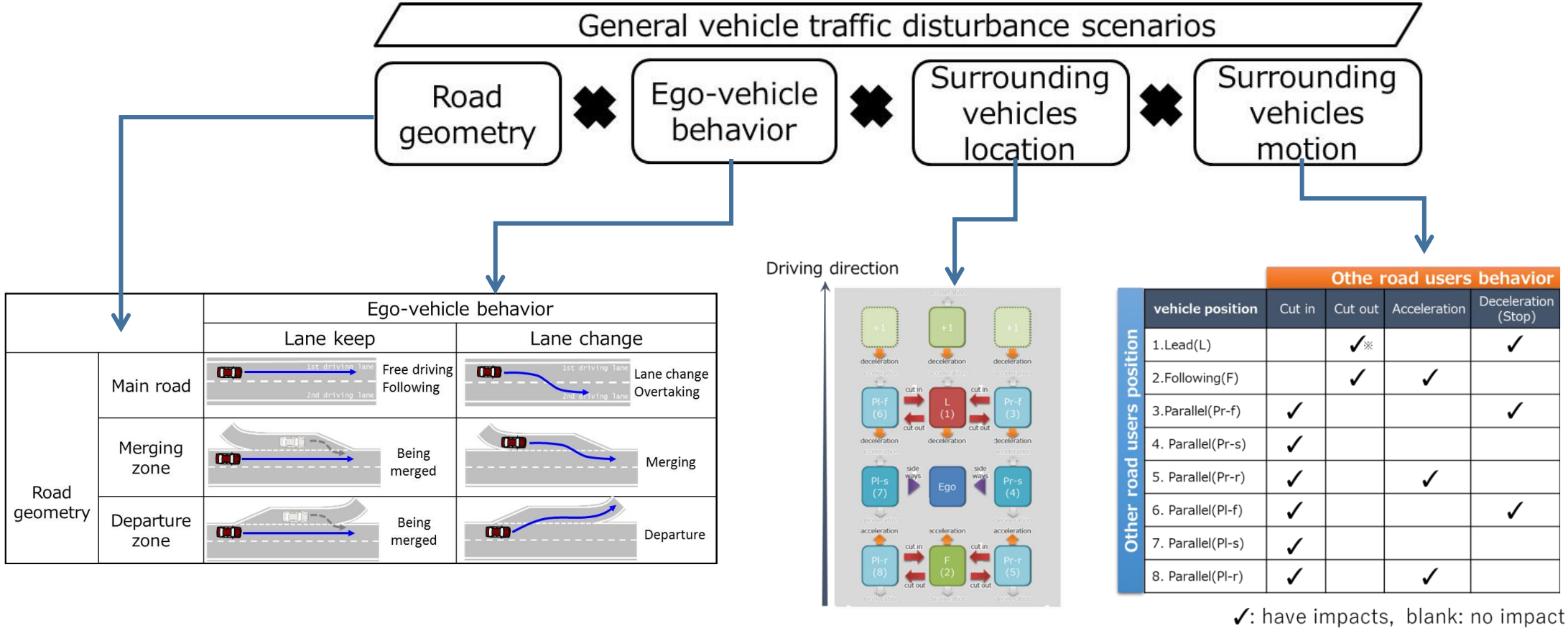


Challenge: Establishing the scope of scenario validation and identifying critical scenarios.

Proposal: Proposes a scenario-based approach as a method for identifying critical scenarios.
Scenario structure based on key physical principles of “Perception” ,“Judgment” and “Control”

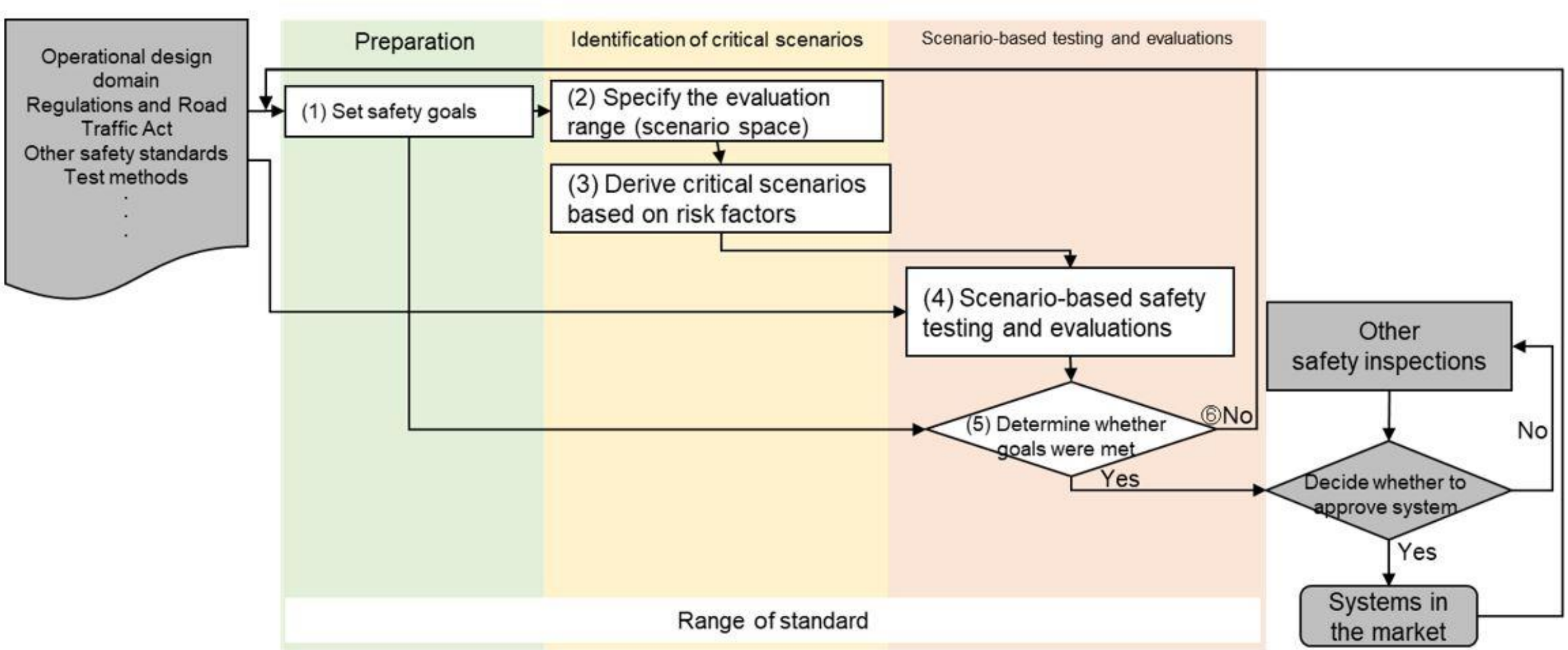
Scenario Structure: Traffic-related critical scenarios

Are there an infinite number of safety-related scenarios that automated driving systems might encounter in real traffic?
Traffic scenarios organize and combine physical factors related to safety
⇒Extract exhaustive and finite scenarios



Vehicle specific traffic-related critical scenario structure schematic

ISO34502 Overview



ISO34502 describes a process for evaluating the safety of automated driving systems.

Thank you for your patient for my presentation.
Please keep in touch .

Mr SATOH Hideaki
JSAE Safety Assuarance Associate, ISO 34502 expert
hideaki.satoh@mail.toyota.co.jp