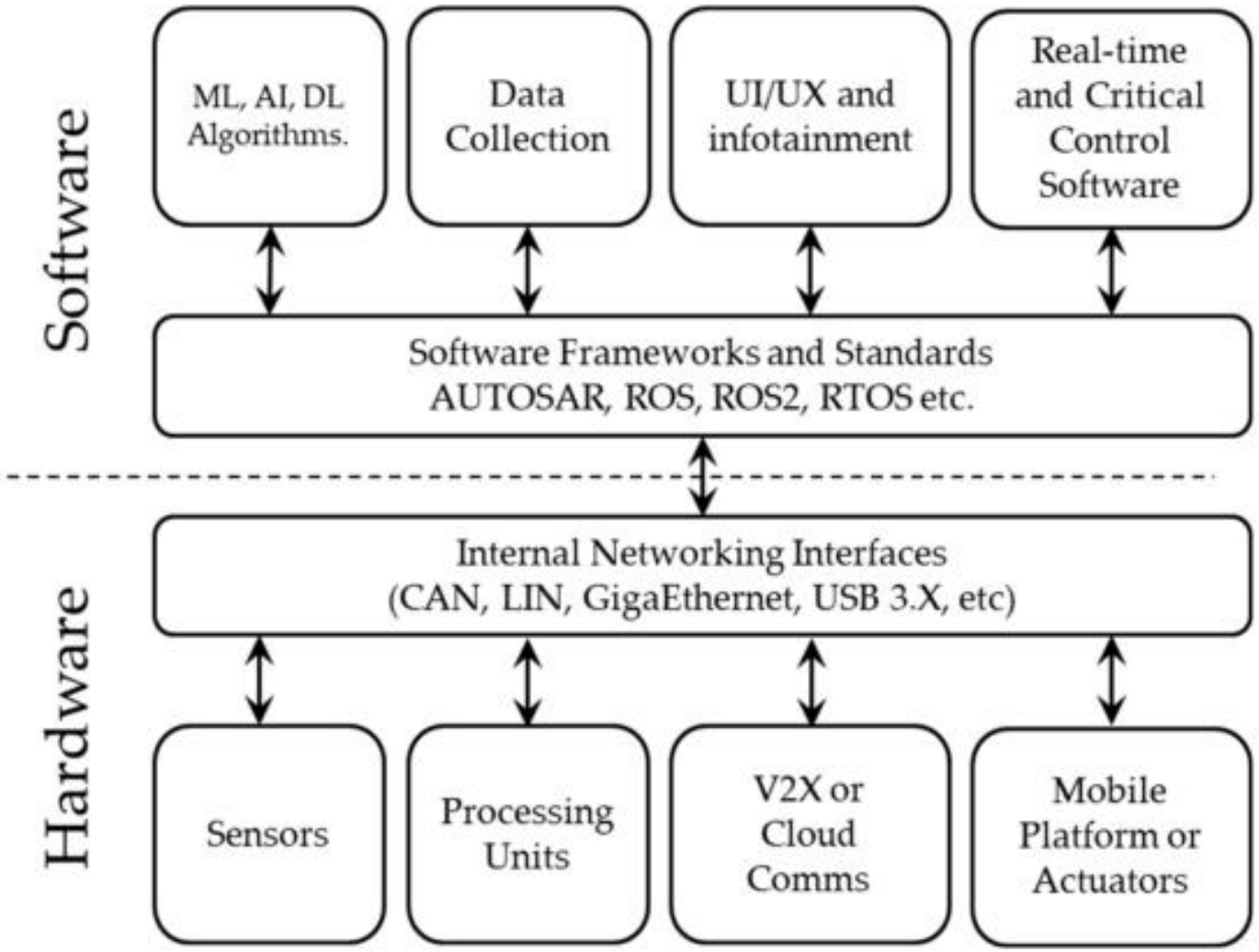
開案需求

設計一智慧型自駕車
Design of a Intelligent Sel-Driving Car

Technical Perspective of Autonomous Driving



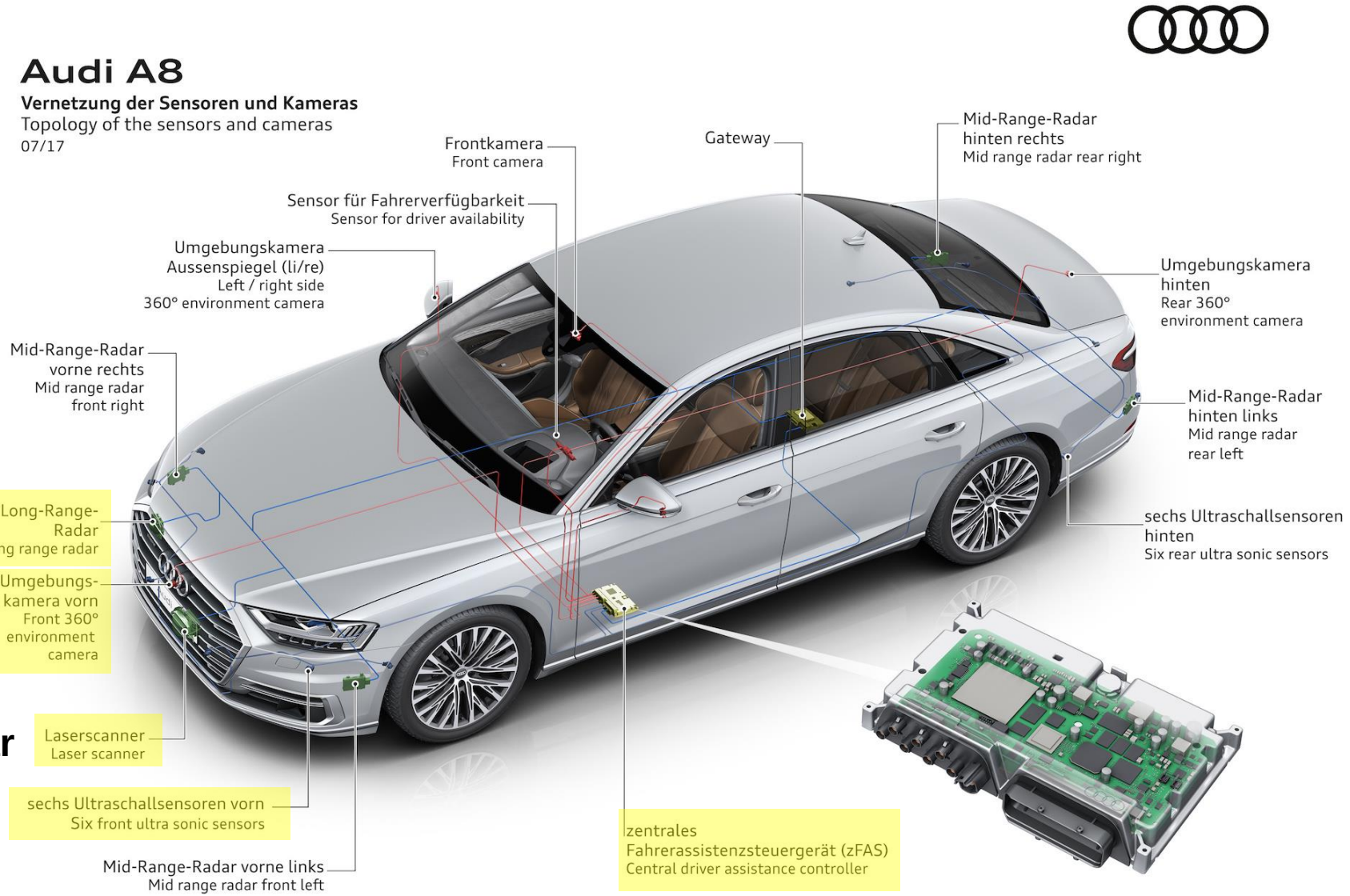
Sensing and control fusion

Robot Operating System

Communication protocol

PHY

2019 Audi Self-Driving Hardware



Radar

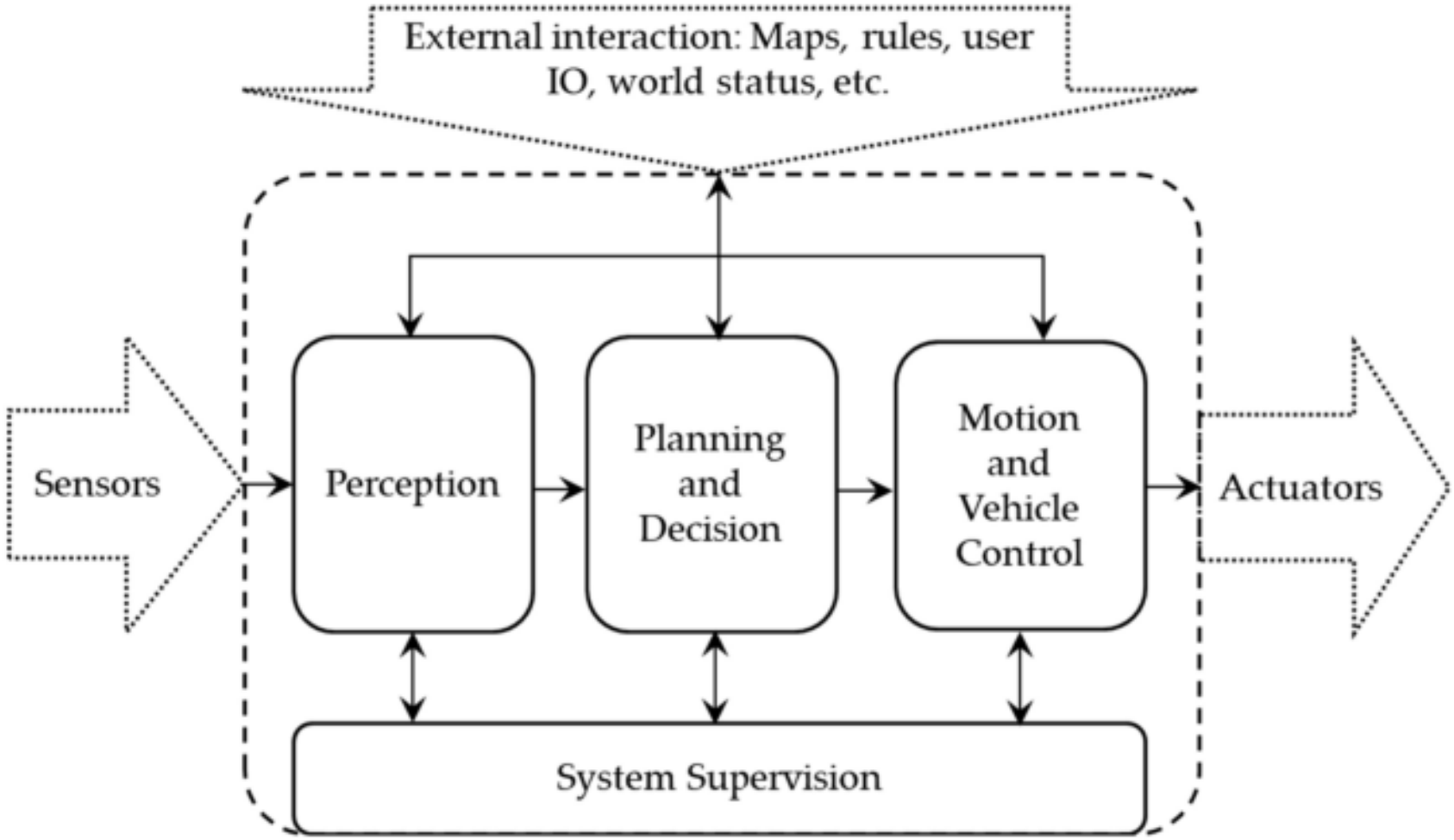
Camera

Lidar

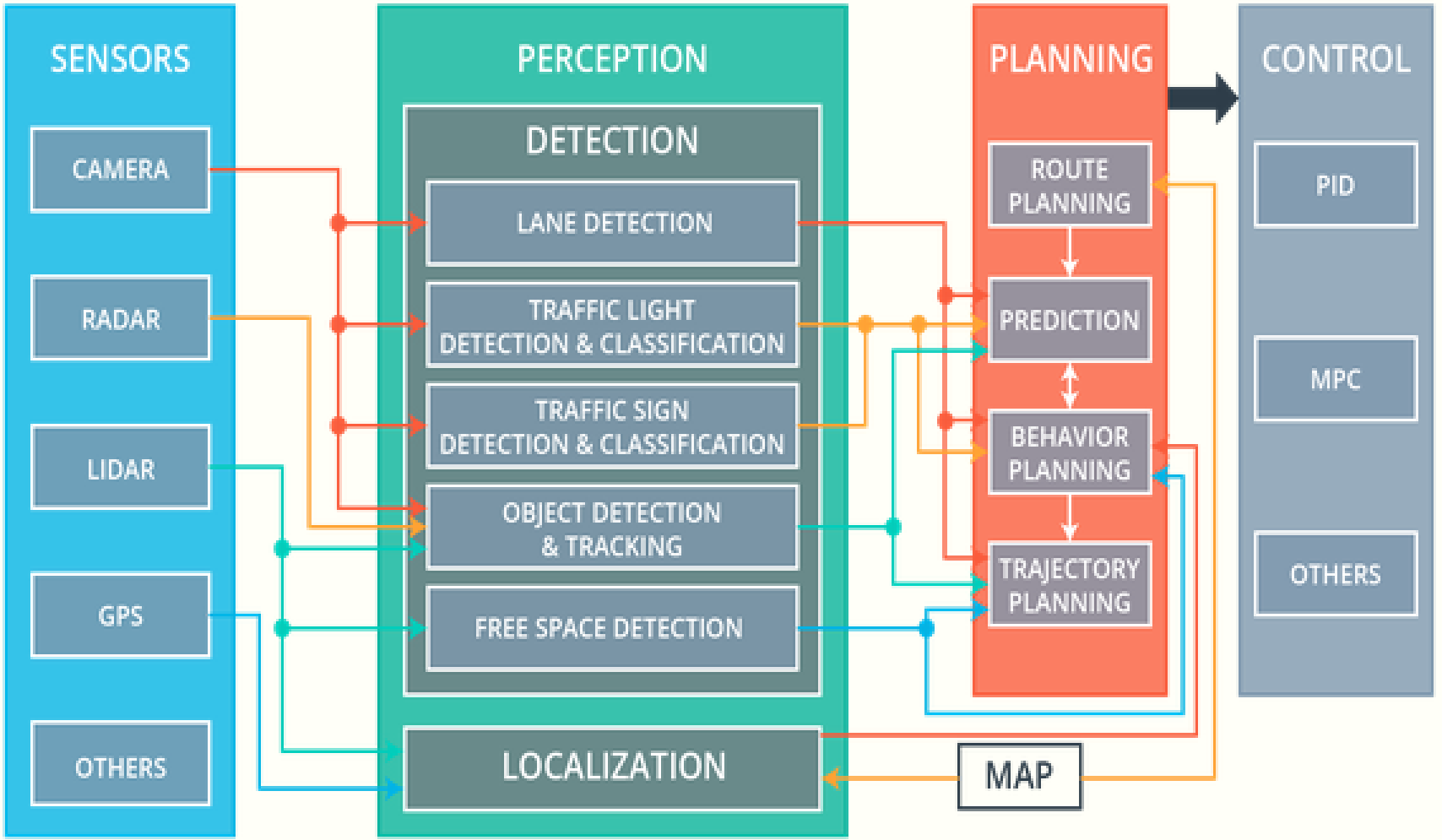
Ultrasound sensor

Central driver assistance controller

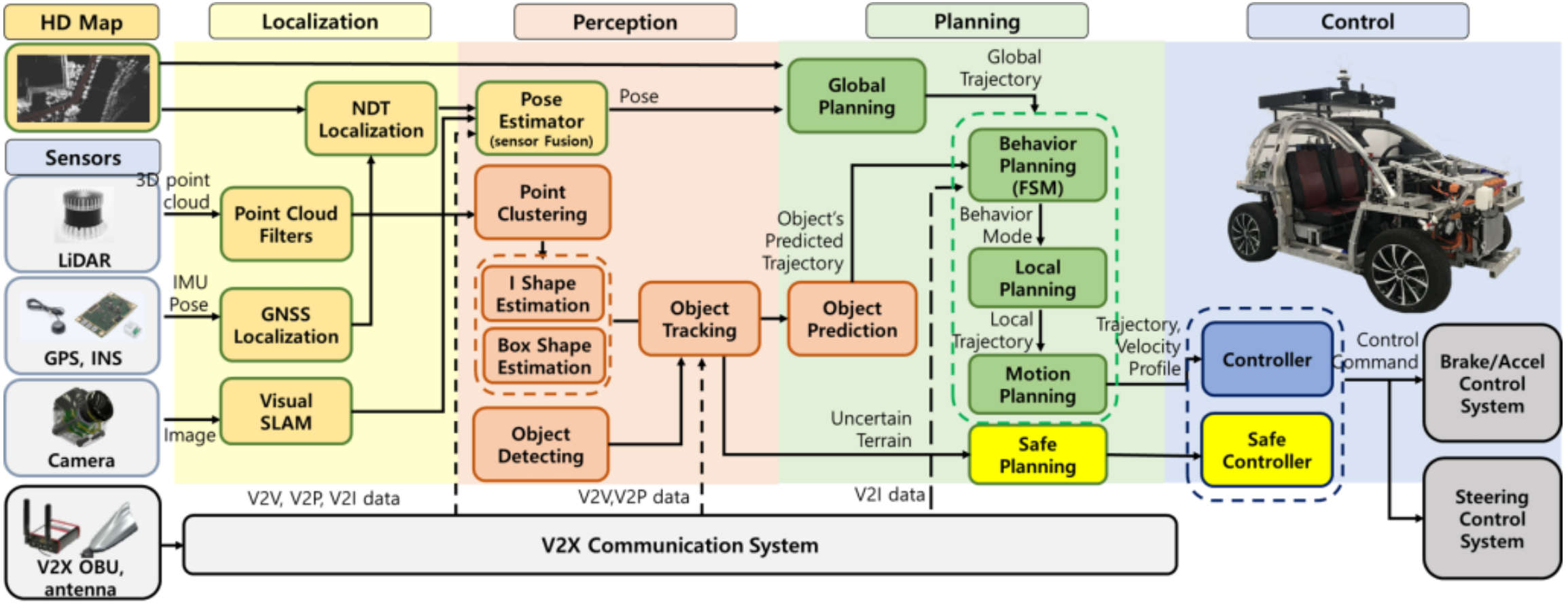
Function Perspective of Autonomous Driving



Self-Driving Car Block Diagram



Self-Driving Software Function



https://hmc.unist.ac.kr/research/autonomous-driving/

開案需求

- 專案名稱：設計一個防碰撞的超音波測距儀，並組裝智慧小車
- 使用者需求描述：
  - 超音波: 使用Timer功能設計一超音波距離量測系統，用來避免車輛碰撞，請參考 Link1, Link2
  - 智慧小車組裝: 請依照說明書組裝智慧小車，並把超音波感測器裝上
  - L298N控制訊號重新設計：請依照課堂說明，使用STM32 Timer 1 (advanced timer)的互補輸出功能設計智慧小車的馬達轉速控制

    Duty cycle範圍: 70% ~ 0%
- Due day: 3/30 12:00 p.m.
  - HackMD: Design Description, schematic(block circuit edit), code, demo