iQMatic- FFI resultatkonferens 2018-09-27

Lars Hjorth, Project Manager, lars.hjorth@scania.com

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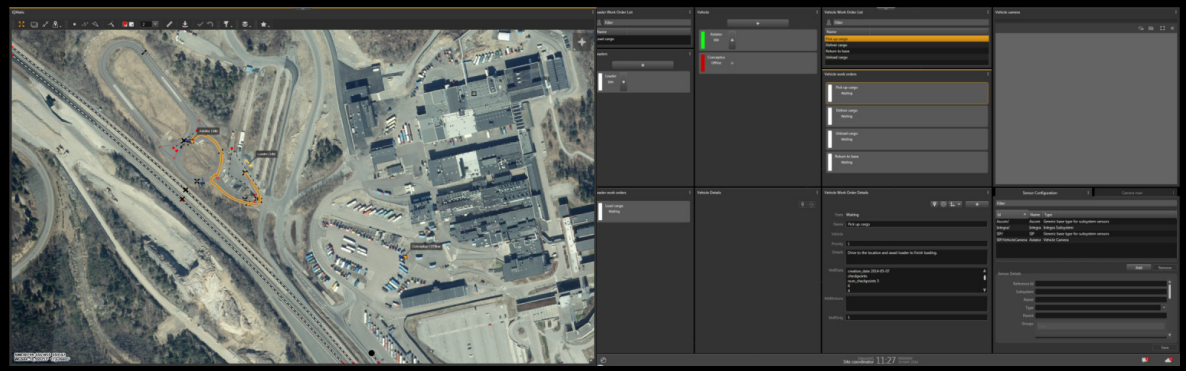
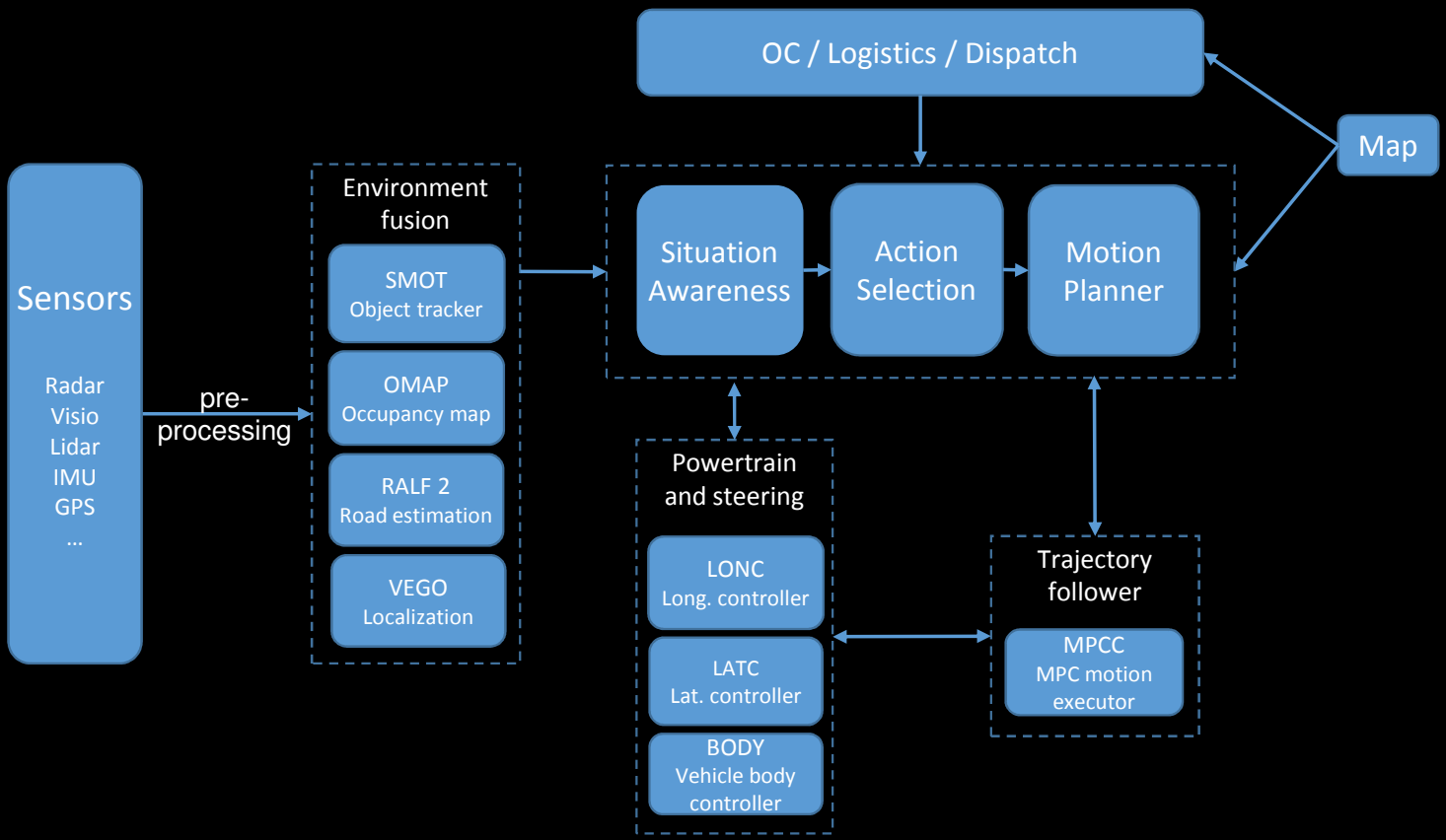
iQMatic (2013-2017)



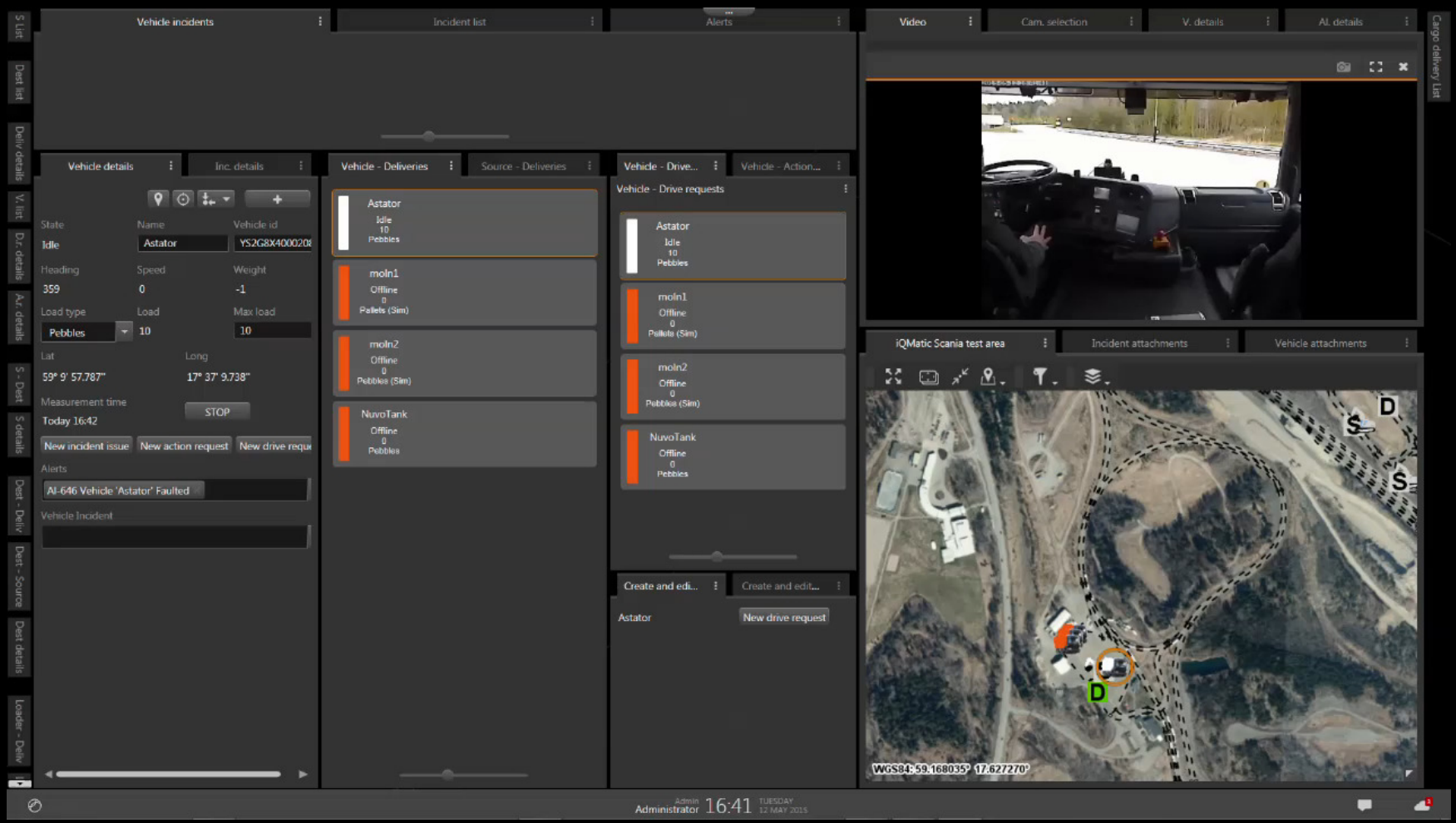
Project Summary

- Autonomous driving on closed-off areas with two trucks
- Command centre based monitoring and dispatching
- Very close integration between industri and academia

Research plattform architecture

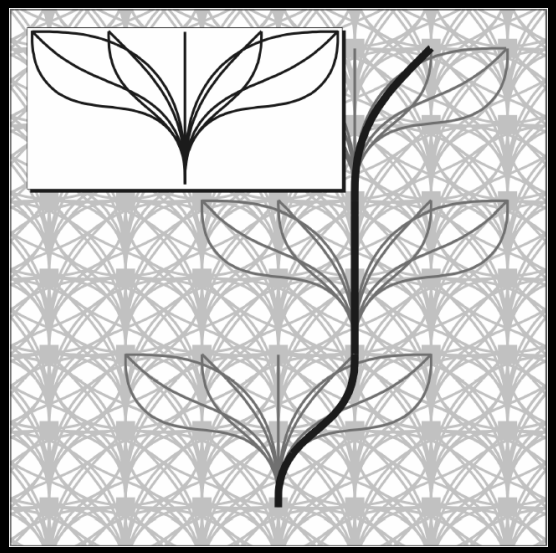


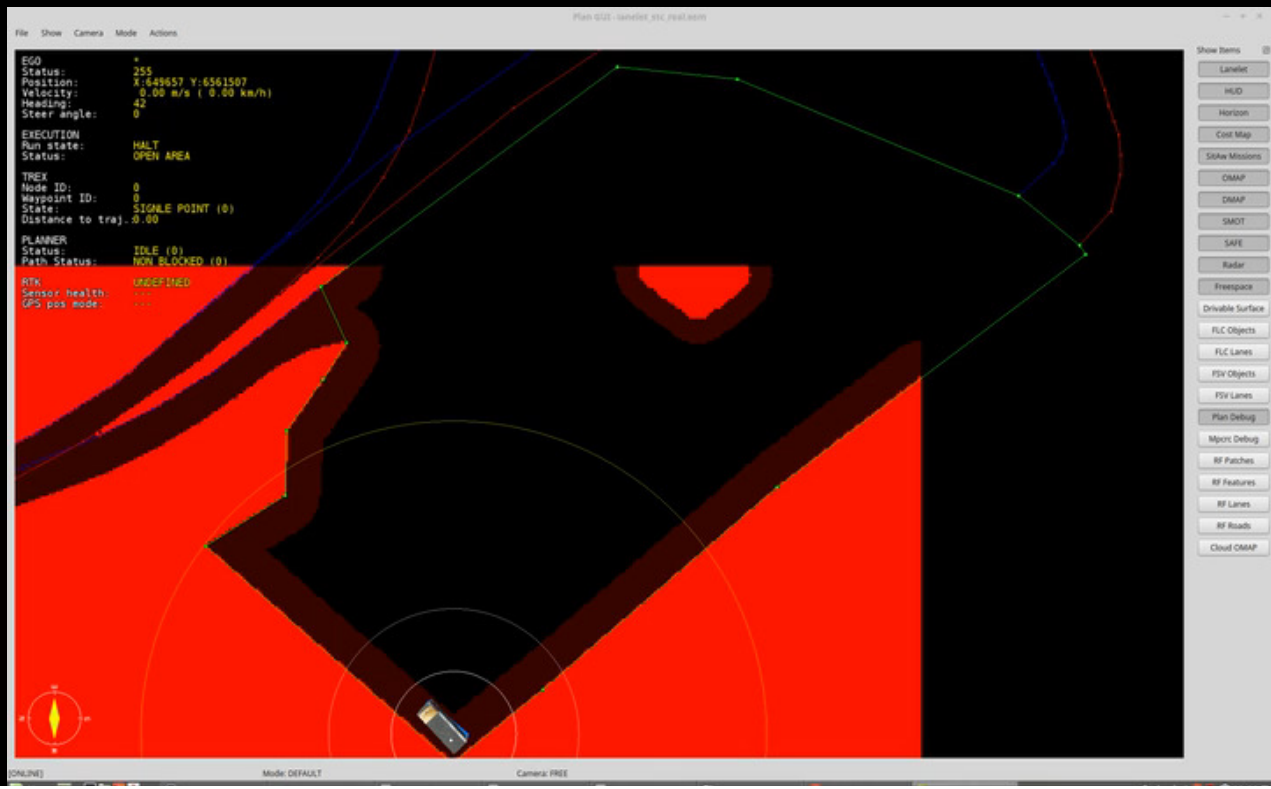
SAFE – the Control Centre



Motion planning

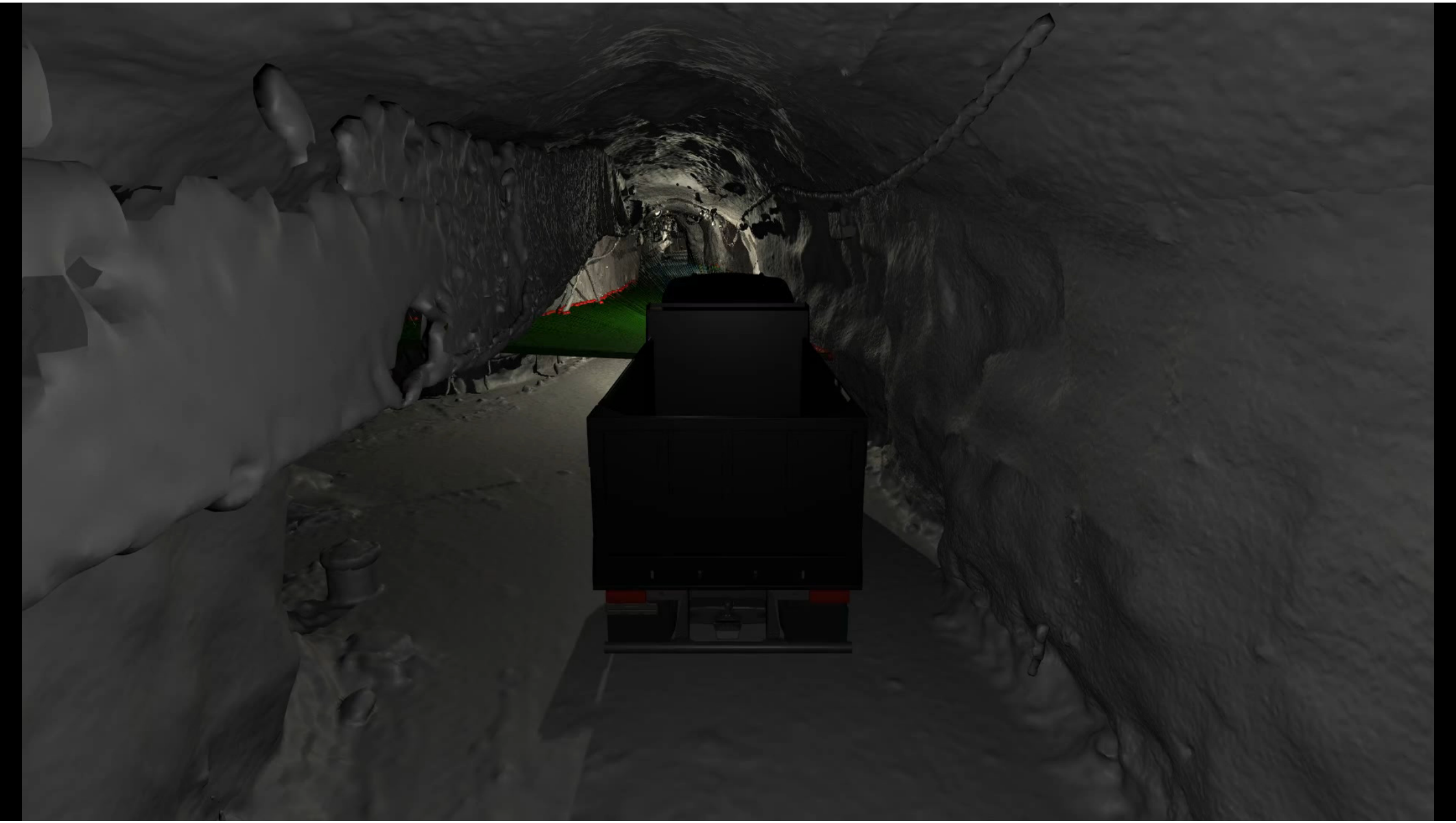
- **Lattice-based planner (for off road)**
- **Planning algorithms based on graph search**
- **Apt at solving complex pose-to-pose maneuvers**





Autonomous vehicle driving

Localization



RECEPTION

Much work left to do…

Many open research problems:

- Prediction of movements and intention of other traffic participants
- Robust, redundant systems
- Methods for test and validation according to standards (ISO/IEC)
- Interaction between humans and autonomous vehicles
- many more!

Summary

- Very tight collaboration between academia and industri:
  - 3 successful Ph.D. defenses, now working within the discipline
  - iQMatic has trigggered large-scale development of autonomous transport solutions at Scania
  - Very high interest from industri, academia and society for demonstrations.
- iQMatic has inspired several new projects:
  - Reversing with trailer project
  - iQPilot – Autonomous busses
- Research plattform resused by several students from the WASP-program.

Questions?