

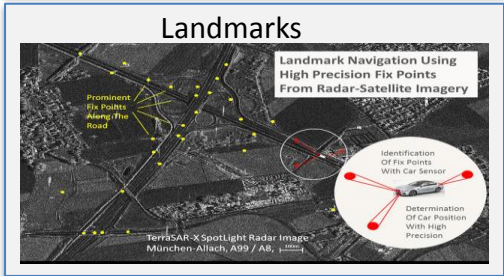
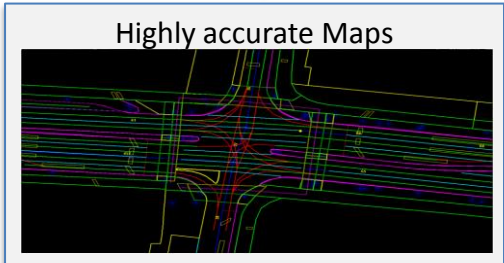
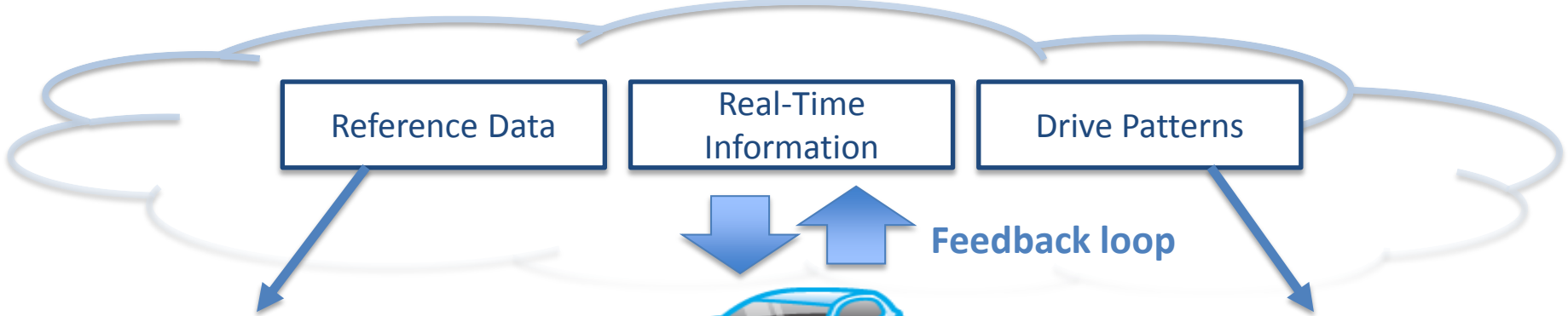


iMobility Forum WG Automation in Road Transport

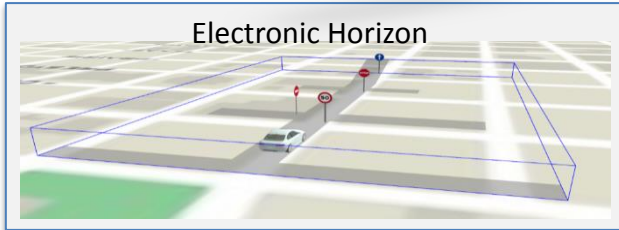
Sub-WG on Digital Infrastructure

Maxime Flament, ERTICO

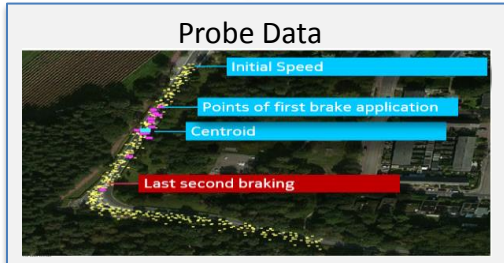




Source: DLR – Hartmut Runge



Source: GAIN Project



Source: HERE

Roles of the DI for Automation

Static

Provide accurate map data (e.g. HD Maps)

Provide apriori knowledge along the road (Electronic Horizon)

Enable high relative position accuracy (landmarks)

Reproduce human like driving (driving patterns)

Allow or not automated functions on specific roads (e.g. managed lanes)

Dynamic

Notify the vehicle about situations ahead that may require human attention or even intervention (L4→L3→L2...)

Provide dynamic information around the vehicle (LDM)

Vision (EU)

- The digital infrastructure will become a **trusted and reliable** resource essential to the operation of vehicle automation and may eventually become a **critical infrastructure**
- A **clear governance** should be proposed for data sourcing, processing, sharing and maintenance
- Any **changes to the infrastructure (planned or unexpected)** can have an impact on safety and road operations and will need to be **shared digitally**.
- The digital infrastructure will need to be maintained, requiring a close **cooperation between the road operator** managing the physical infrastructure, the **service/map provider** bringing the information to the users and finally the **vehicle** reporting on any discrepancies
- **Harmonized interfaces and common resources** will be needed to collect and maintain the DI.

Current R&D needs (EU)

- Create a Digital Infrastructure framework between public authorities and map providers including
 - Governance, Role and responsibilities
 - Roadmap towards a digital infrastructure
 - Regulations
- Investigate impact/benefits of shift of investments between roadside furniture (post signs) and digital infrastructure.
 - What does it cost for PA to get involved / not to get involved in the DI

Current R&D needs (EU)

- Define cloud-based spatial data infrastructure for highly automated driving
 - State map content requirements for automation operations
 - Propose standardised interface with cloud
- Demonstrate applications using accurate mapping and precise localisation
 - Show differences with and without precise positioning
- Demonstrate an “automated” map data feedback loop

Thank you for your attention...

Any questions?

VRA.info@mail.ertico.com

Maxime Flament, m.flament@mail.ertico.com

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