



European GNSS Supervisory Authority



ASPHALT

Advanced Galileo navigation system
for asphalt fleet machines

The research leading to the results of the ASPHALT project has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement no 247976 of the European GNSS Supervisory Authority.

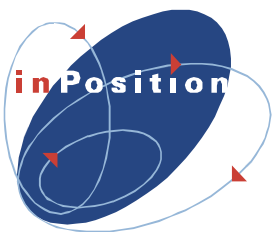




- **Team**
- **Introduction**
- **Supply Chain for Asphalt Construction**
- **Asphalt Applications**
- **ASPHALT System Overview**
- **GNSS Receiver Technology**
- **Outcomes**



- 6 companies
- 5 EU member / RTD associated states
- Industry, SMEs, and research institutes

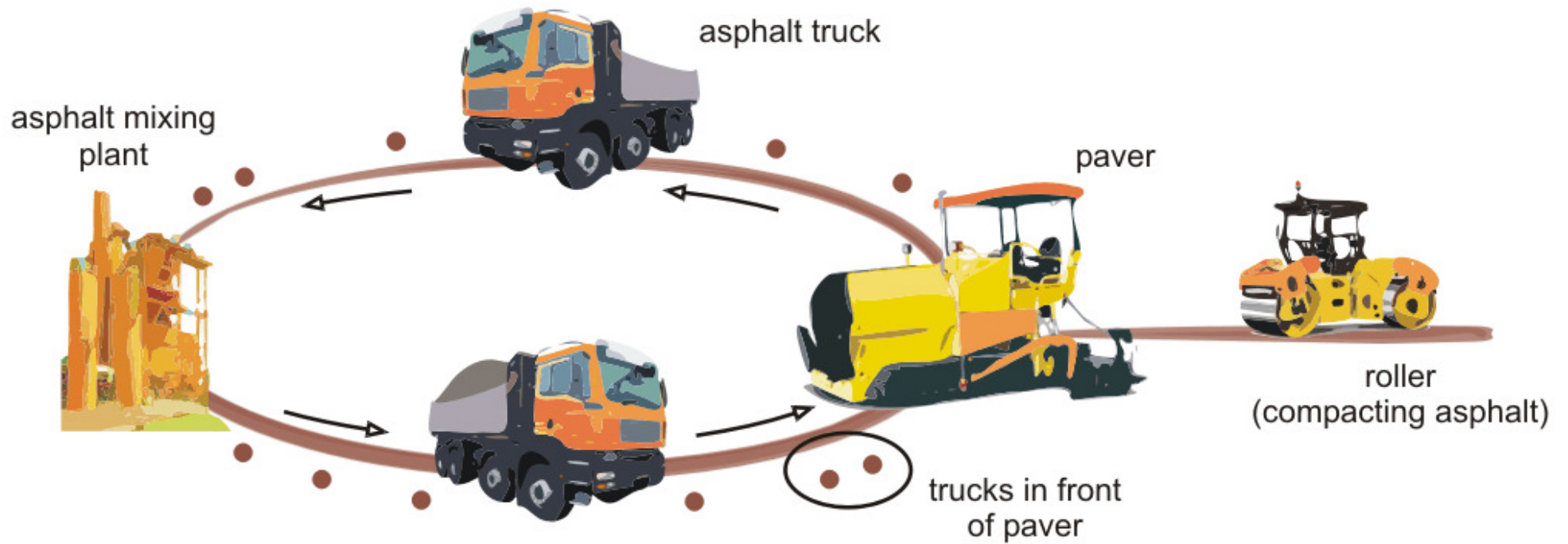




- **More than 90% of the European road network has an asphalt surface which must be regularly repaired or rebuild.**
- **Constant monitoring and control of parameters during road construction are significant for the quality and durability of the road.**
- **An increasing lifetime will result in a reduction of costs of road maintenance.**

- **Key factors during road construction are**
 - optimally manage truck fleets
 - optimally operate pavers
 - optimally steer compactors

- **Sub-optimal operations within this chain may lead to a reduction in road quality, what results in reconstruction or decreased lifetime - both cost-intensive.**

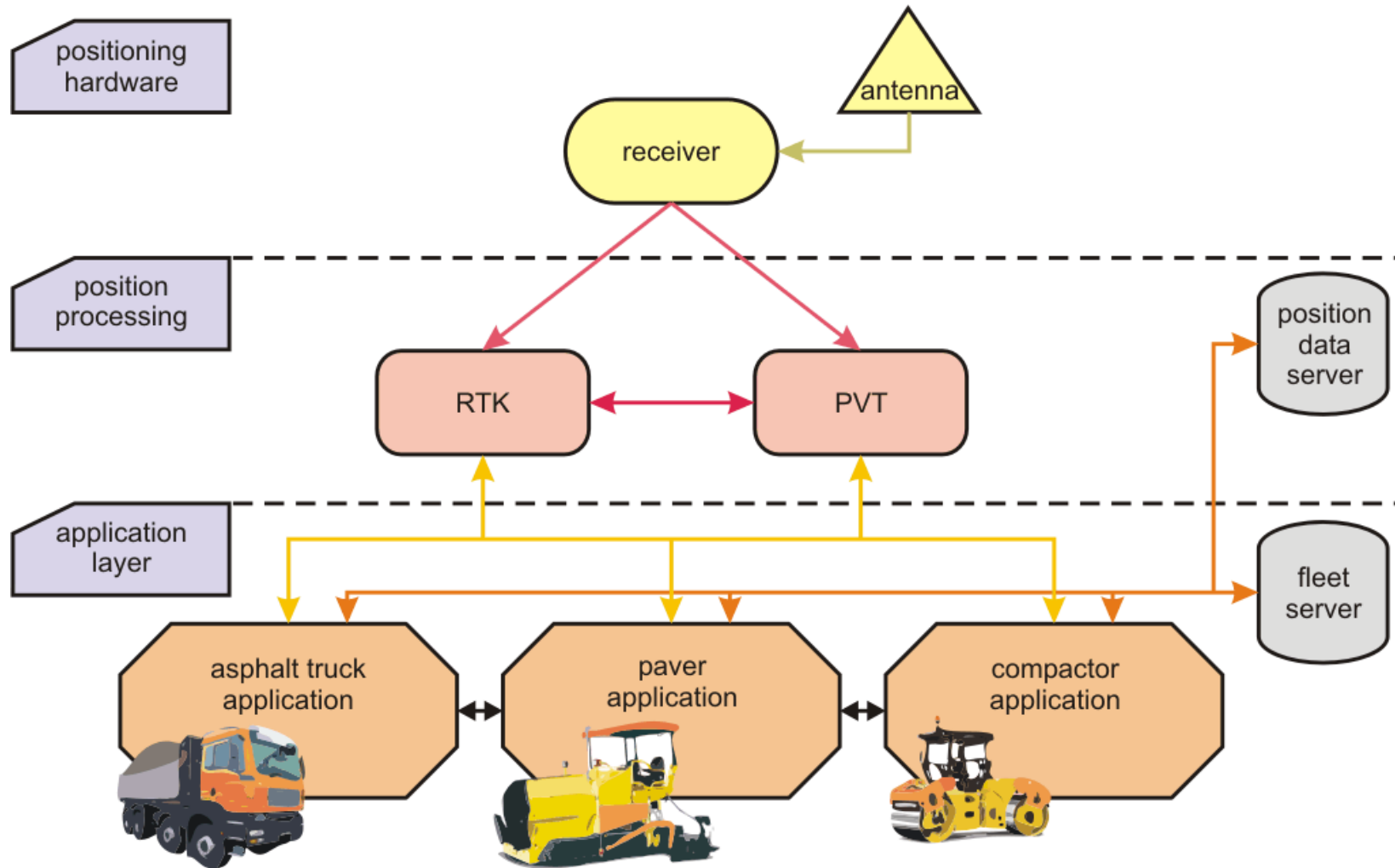


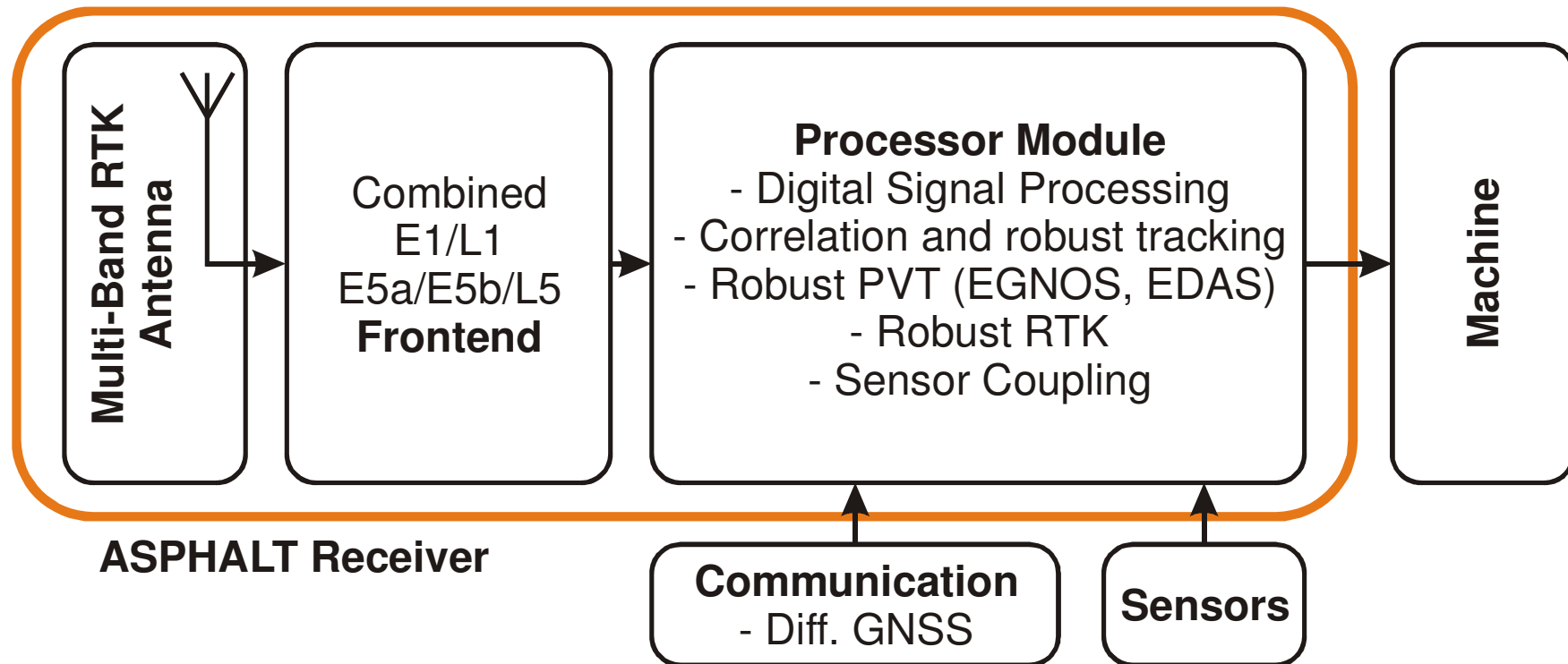


- **The ASPHALT project aims at developing a cost and precision optimized solution taking advantage of the future Galileo system and EGNOS. Further, the positioning system is closely coupled with the machine control and monitoring system.**

- **ASPHALT addresses different applications in the context of the paving process on a road work site:**
 - mass flow control from asphalt plant to the paver
 - asphalt temperature measurement while paving
 - asphalt compaction
 - paver steering
 - thickness and evenness measurement and control

ASPHALT System Overview







■ **Primary benefits of the outcomes of ASPHALT**

- increasing quality of the road;
- decreasing maintenance costs;
- A potential road lifetime extension by 10% would result in cost savings of EUR 4.5 billion per year.

■ **Secondary cost saving factors due to less often maintenance operations**

- reduction of traffic jams
- reduction of resource consumption
- reduction of air pollution and CO₂-emissions

■ **Other secondary effects**

- Safety will increase, due to lower risk of uneven surfaces with puddles on wet roads
- Better ride comfort for all users of the road



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www.asphalt-fp7.eu

Contact

MOBA Mobile Automation AG

Mrs. Christine Seidel

Kapellenstraße 15 / 65555 Limburg / Germany

Tel: +49 6431 9577-252

cseidel@moba.de

