

SPEAR

The premise



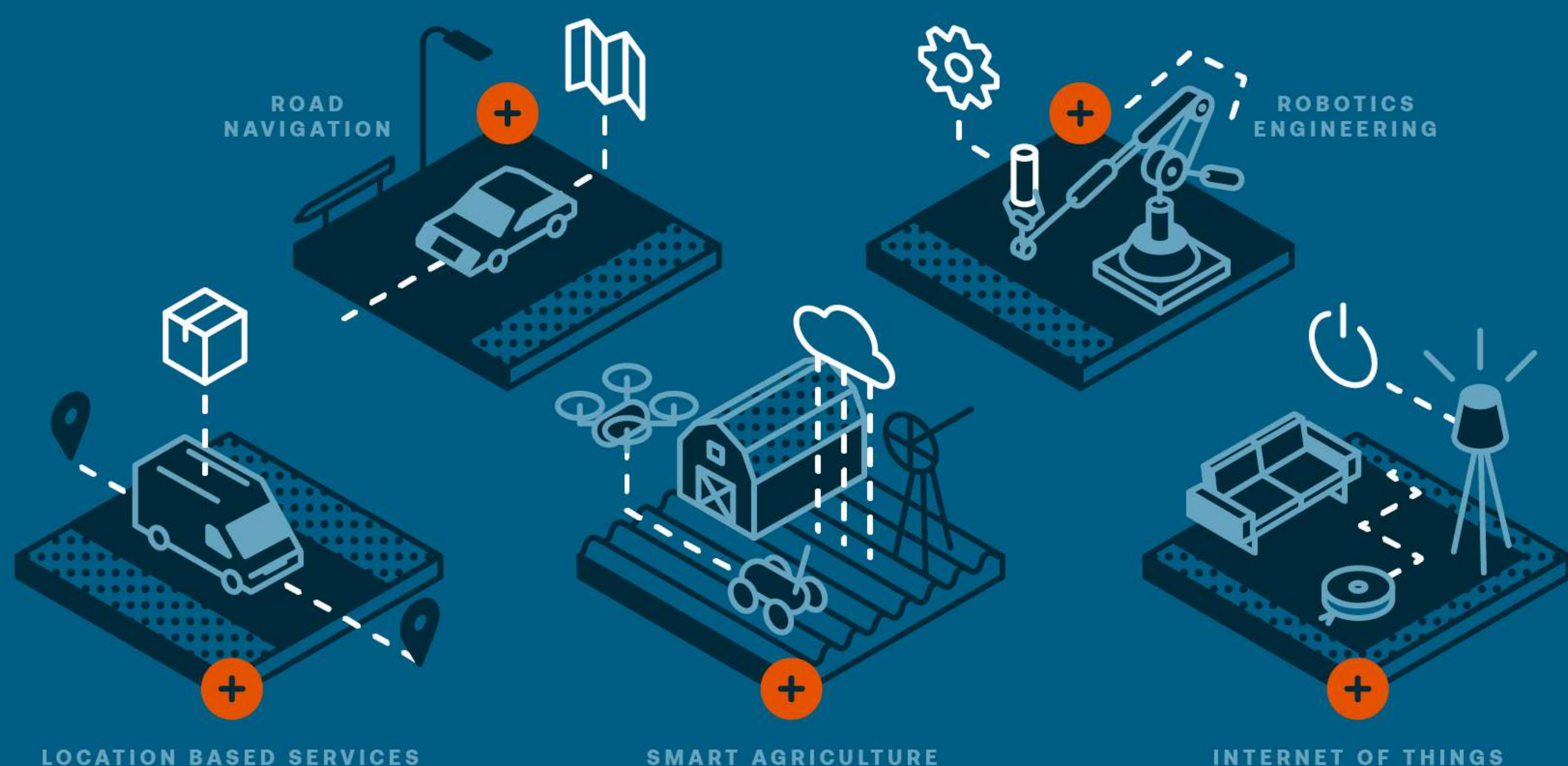
The ultimate technology in high accuracy navigation solutions

How does it work?



The technology scenario

Use cases



The real scenario

Attributes



ACCURACY

SPEAR delivers decimetric-level accuracy for mass-market GNSS applications by optimally configuring itself based on the available data in the device. By adopting cutting-edge GNSS data processing strategies based on uncombined and undifferenced data, SPEAR supports Precise Point Positioning (PPP) or differential techniques such as Real Time Kinematics (RTK) and offers a higher degree of flexibility in the processing strategy: single rover with single- or multi-base receivers, parallel multi-rover, ...



DATA FUSION

SPEAR supports assistance navigation technologies that increase the engine performance such as augmentation services or SSR corrections such as Galileo High Accuracy Service (HAS). In addition, SPEAR has been designed to fuse GNSS data with other technologies such as Wi-Fi round travel time, Ultra-wideband or inertial sensor data. This multi-navigation nature improves SPEAR navigation availability, even in GNSS compromised or denied scenarios.



ROBUSTNESS

The multi-navigation, multi-frequency and multi-constellation technology nature of SPEAR offers an extra layer of position robustness that will allow on-the-fly position cross-check with alternative navigation systems. Besides incorporating a Fault Detection and Exclusion (FDE) layer to detect and discard potential harmful data, SPEAR will also provide an extra security layer against spoofing thanks to the Galileo Open Service Navigation Message Authentication (OS-NMA).



PLATFORM AGNOSTICISM

SPEAR has been conceived to be platform independent and easily integrated in the user navigation device. Its implementation as a low level SW library fosters portability, integration and scalability. SPEAR is specially suited for mass-market or premium mass-market navigation equipment, optimizing the performance and providing accurate navigation at an affordable cost. SPEAR has been validated in platforms as different as automotive navigation OBUs or Android smartphones.

These are the unique features about Spear



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[Spear White Paper](#)