

Mass market Panel Discussions Results Summary

EGNSS User Consultation Platform Plenary

4th December 2018

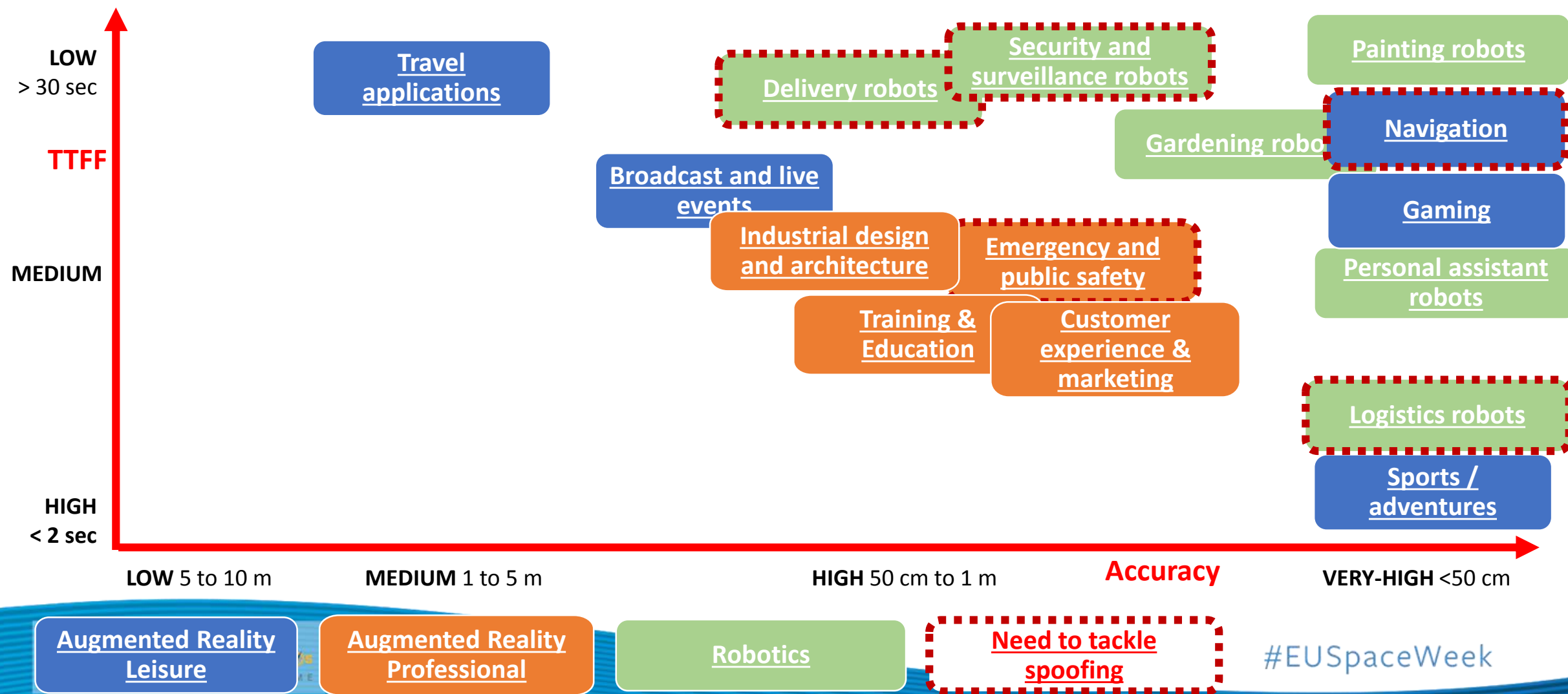
Highlights of Main Trends in LBS/IoT

- Hybridisation of GNSS with other technologies to achieve ubiquitous positioning and desired accuracy
 - **Wi-Fi**
 - **LP WAN (Lora, Sigfox)**
 - **5G (including NB IOT and CAT M1)**
 - **Inertial sensors**
 - **UWB**
- The top 3 most growing applications are:
 - **Robotics**
 - **People and asset tracking**
 - **Safety and emergency and m-Health**

Recommended Refinements of User Requirements

- [Accuracy] Addition of a confidence level of 95% across all applications
- [Coverage]
 - Level of availability of PNT in urban canyons and under canopy should be kept at the confidence level of 95%, instead of the 70% proposed
 - The requirements for indoor positioning are split into light indoor (below 5m from window) and deep indoor, to enable GNSS to partially address the requirement
- [Robustness against environmental conditions] requirement to be removed, since the majority of LBS/IoT apps are in urban areas
- [Robustness against interference] requirement kept at qualitative level

User Requirements for New/Emerging Applications: Robotics and Augmented Reality (1/2)



User Requirements for New/Emerging Applications: Robotics and Augmented Reality (2/2)

- All the emerging applications **require high level of accuracy (<1 m)**
- TTFF:
 - “Prosumer users” are willing to **trade-off shorter TTFF for higher accuracy**
 - **Leisure users** require a very short TTFF (<10s)
- **Spoofing-proof solutions are interesting** especially for robots that carry valuable load
- The **ability to operate in urban canyons and indoor** is fundamental

Research and Innovation Priorities

- **Hybridisation with LP WAN and other sensors, TTFF improvements and developments using machine learning** are the key areas to develop innovative chipset and receiver technologies
- **Ubiquity (avoiding loss of signal), power consumption reduction to achieve short TTFF, trustability (resilience to spoofing & jamming,)** represent the main challenges for mass market innovation
- **Fast time-to-market commercialisation support and other tools to increase the EU competitiveness** are the most important gaps in current R&D schemes
- **Funding below 500 k€**, available on continuous basis, is the support needed for Galileo adoption and closes the gap of funding for SMEs, adding new tool on top of H2020 and FE

Discussion on EGNSS Services and GSC

- **OS-NMA:** high interest expressed by the mass market user community
- **High Accuracy Service:** on top of the E6 broadcast there is a need to transmit the correction via the terrestrial link, format should be consistent with the 3GPP standard finally selected, need for short convergence time (5min not acceptable)
- **GSC feedback:**
 - Adding on the website a roadmap of upcoming documentation
 - SLA for almanac and ephemerides data provision
 - Reduction of the time between incidents occurring and NAGU publication
- **Ionospheric Prediction Service** not relevant for mass market community

Thank you !