

THE PROBLEM ADDRESSED

Despite more than 20 years of indoor navigation research and development, it is still difficult to combine reliability, robustness, genericity (i.e. multi-use-case purposed) and easy implementations of the available solutions.

GLoc offers an efficient and cost-optimized approach to this problem:

1. Our Hardware is embedded in Emergency Lighting Units, a mandatory infrastructure in public-access buildings
2. Our symbolic algorithms aim at providing the best reliability and robustness for our geodata

Télécom SudParis has been conducting research on indoor positioning for over 25 years, and has carried out a comparative study of more than 40 technologies. This work has now led us to propose an unconventional approach to the problem.

TECHNOLOGY

The technology developed is based on a so-called "symbolic" approach, which consists of providing positioning in the form of an area in which the probability of presence of the Tag to be located is exceptionally high. It guarantees measurement reliability through a position validity indicator.

(On the contrary, conventional approaches consist in providing the best precision possible occurring with very low probabilities, providing low reliability). The tag can be on a person or an object.

COMPETITIVE ADVANTAGES

- Reliable and robust : operational under all real-life operating conditions : for example, when a receiver is out of order, only precision is degraded
- Generic, platform-agnostic : powerful system for a wide variety of data and use cases
- Cost-effective implementation : pre-installed generic infrastructure
- Scalable and incremental : easy scaling and incremental deployment
- On-demand : data as a service, cloud native computation, Smart Data

APPLICATION

We are first focusing on the health and building sectors. Indoor localization also applies to:

- Railway stations, airports,
- Factories, warehouses, supermarkets,
- Performance tracking in sports,
- Exhibition centers, conference centers...

DEVELOPMENT STATUS

TRL 4/5: we already made demos and POCs with an MVP except we had one hardware for both location and data transmission and it was not embedded in the Electronic Lighting. With two separated hardware we'll be able to provide a Real Time Location System (RTLS).

INTELLECTUAL PROPERTY

Patent : B-IOT (FRANCE - Demande de brevet n° 2402158 du 4 mars 2024 aux noms de INSTITUT MINES-TELECOM - PATAROT Alexandre)

INVENTORS & CONTACTS

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PUBLICATIONS

100+ publications on Indoor Positioning
Samama, N. & Patarot, A. *An IoT-Based GeoData Production System Deployed in a Hospital*. Sensors 2023, 23, 2086. <https://doi.org/10.3390/s23042086>

LOOKING FOR

1. Electronic Lighting Units manufacturers for partnership and distribution.
2. Users in the health (retirement homes and hospitals) and building sectors especially
3. Investors in order to finance the spin off company we plan to create