IIDRE

Geolocation Since 2012

October 28th, 2021

créati

Assets Tracking indoor & outdoor

Louis Lecomte – Embedded Engineer
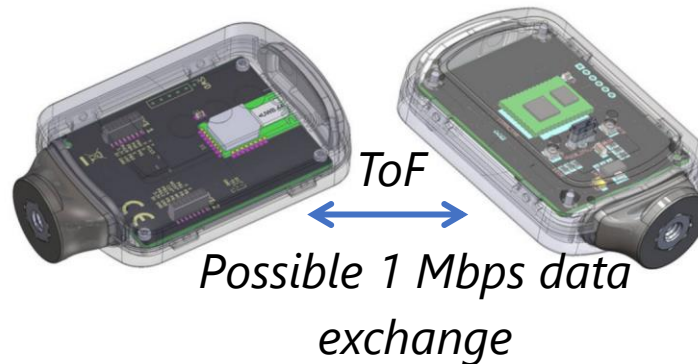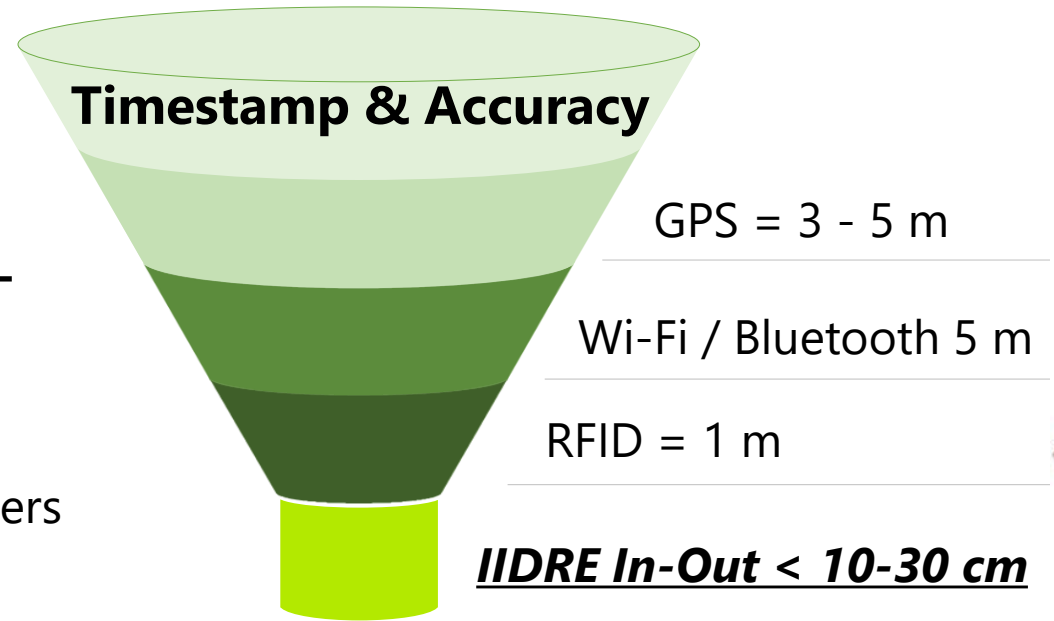
llecomte@iidre.com

esa

business incubation centre
Sud France

aerospace valley

Indoor & Outdoor geolocation

IIDRE is a hardware/software solution using the **ultra-wideband (UWB)** technology as a Design specialist.

With other **technologies (GPS RTK), IoT** (IMU) and **powerful algorithms,** we can provide to our customers much higher accuracy in real time than traditional positioning systems.

Timestamp & Accuracy

GPS = 3 - 5 m

Wi-Fi / Bluetooth 5 m

RFID = 1 m

IIDRE In-Out < 10-30 cm

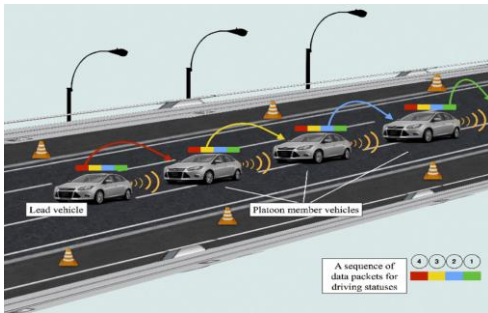*ToF*

Possible 1 Mbps data exchange

Indoor

Tracking

1

Use cases: autonomous engine control

- Easy deployment
- Range: 100 m
- Accuracy: 10 - 30 cm
- 100 positions per second
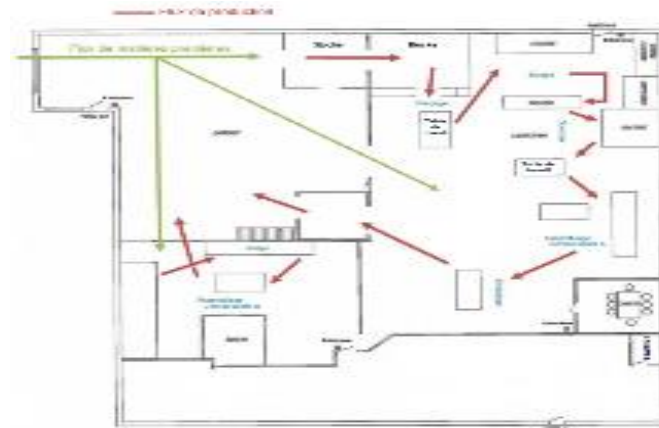- Autonomy: 1 month
- Tailored solution

Supervision

2

Use cases: goods or people supervision

- PoE or wireless solution
- Range: 50 m
- Accuracy: 10 - 30 cm
- 1000 Tags simultaneously
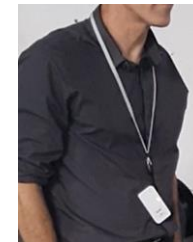 100 positions per second
- Autonomy: 3 year++

Badges

3

Use cases: distances between persons or machines

- No infrastructure required
- Range: 50 m
- Accuracy: 10 - 30 cm
- 2 positions per second
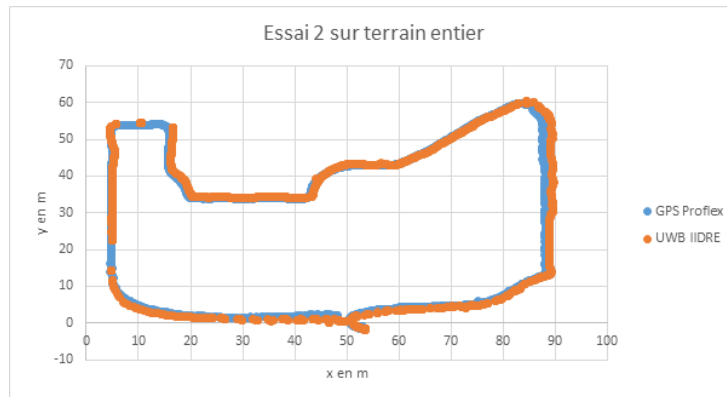- Autonomy: 3 days
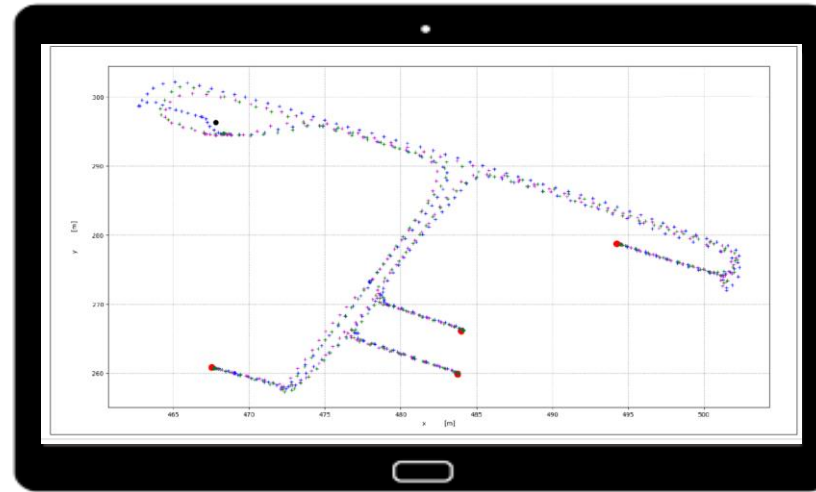- Logs generating and alerts

Outdoor

Centimeter Tracking

All use cases: autonomous engine control, equipment supervision or safety

- **Easy deployment**
- **Accuracy: < 10 - 30 cm**
- **Tailored solution**

Essai 2 sur terrain entier

GPS Proflex
UWB IIDRE

What is about?

- How to quick **search** an equipment in real time and access to the **replay**?
- How to **track and trace** assets in real time?
- How to guarantee **safety** and **optimization** for all the engines **trajectory**?
- How to **avoid collision** between vehicles?
- How to provide an essential **real** and **precise geolocation** for the *Lean Manufacturing*?

How an IoT solution can support the Manufacture Planning Management?

Priority	Component	Num	Status text	*Site*	Status %	Nb anomalies	Planning delta	Delay
1	DIST	2659-2900	Finalization	Office5	90%	1	12 d.	Yes
2	APN	7712-2209	Tests on going	Test Office	25%	0	1 d.	No
3	SAFS	2567-6391	Ctrl on going	Ctrl Office	75%	2	3 d.	No

Lean indicators example

Use Cases

	Industry	Challenges	IIDRE solution
	For a leader in the **Aerospace industry**, Indoor robots (30) fleet management for the assembly of the great structures.	• Moves through a narrow passage , **less than 50 cm**. • Concentration of electrical machinery.	**UWB indoor** installation for robots tracking and positioning. Simple infrastructure, rapidly implemented.
	For a leader in the **construction**, extensive storage buildings (150 000 m2), forklifts (50) fleet management.	• Moves through **narrow corridor** (- 2 m) • Velocity (4m/s)	**Full solution** package provided outdoor / indoor seamless navigation.
	For a company in the **online sale**, safety solution for the workers (10), to avoid any crash with mobile machinery (20).		**Personal badge** solution package without any infrastructure.

Assets track « on - premises » or « Cloud »

1. **Equipment search** and **track** software in real time with high precision.

2. Forklift **Track and Trace** solution with fixed beacon. Enable to build **diagram spaghetti** on Map with choice filters. Non-intrusive or linked system.

3. **Pedestrian prevention** warning. Personal badge with high vibration and beacon for engines with high level alarm to **avoid collision in real time**.

4. Collect data on local gateway for local server or Cloud and **access to the software** to lead his own **historical data** (metrics: distance, speed ... and data csv export).

5. Possible extension for seamless continuity with **outdoor** GNSS/GPS RTK geolocation.
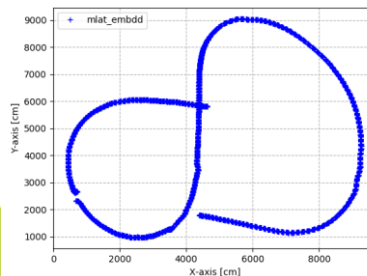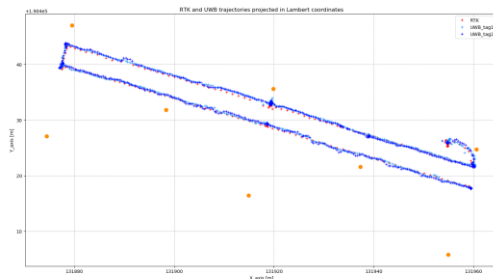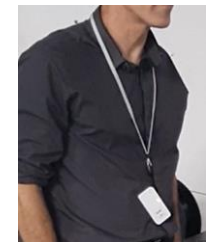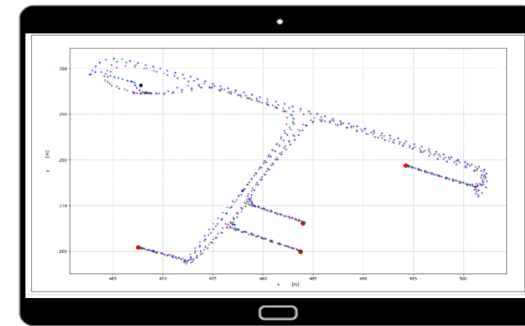
The IIDRE Core Team

Michel Seyrac is an IT engineer with experiences as auditor, IT architect and project leader.

Olivier Audaire is a senior consultant with extensive international experience gained within high growth and innovative businesses across Europe and Africa.

Show room: Platform PRACTICE 4.0.
ENSAM, Campus Bordeaux Talence
Esplanade des Arts et Métiers
33405 TALENCE

Arts et Métiers — Sciences et Technologies

IIDRE is Qorvo UWB chip provider Design Partner for the last 4 years.
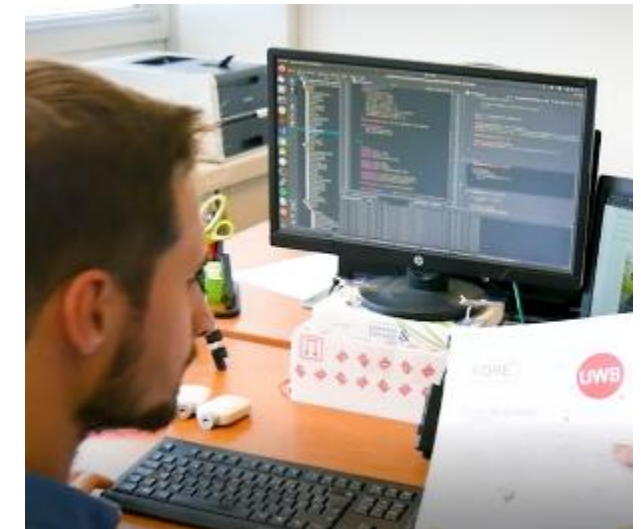
Aeroparc - Bordeaux Technowest

25 rue Marcel Issartier

33700 Mérignac – France

09 72 27 88 73 contact@iidre.com

A French deep-tech SME - EASME