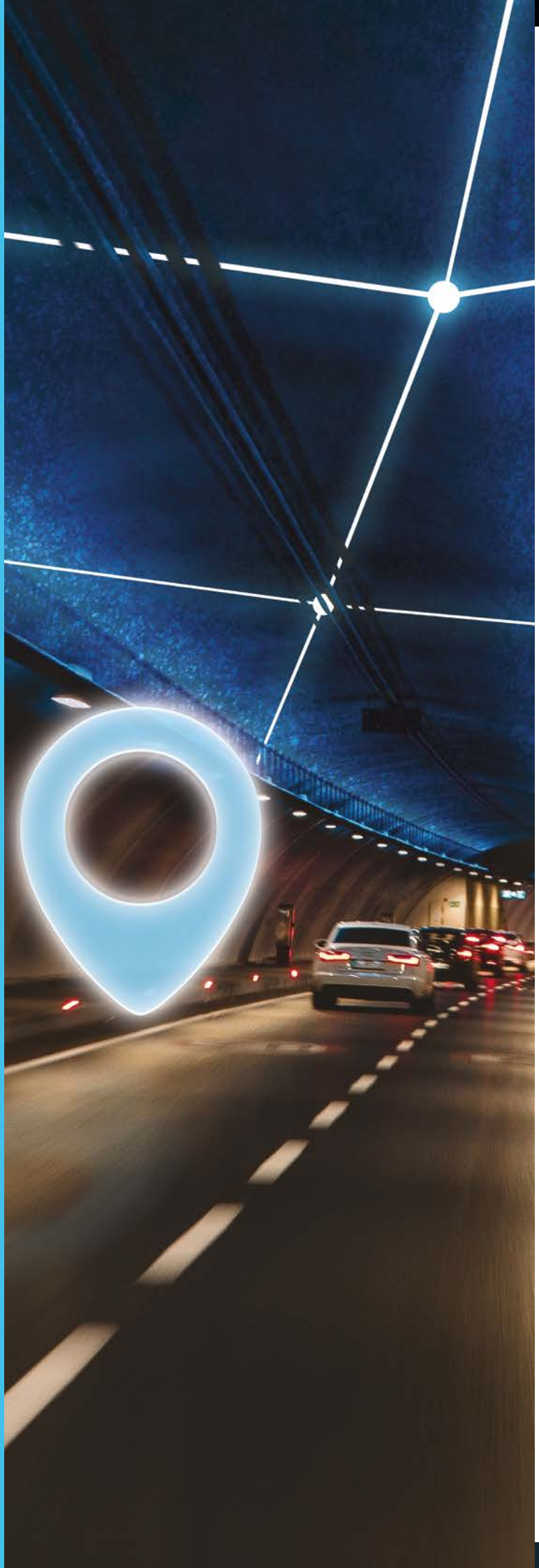

Seamless and Universal

GPS Coverage Extension

SubWAVE™

for Road

SYNTONY GNSS

2

Emergency calls location

As the standard of location worldwide,
GPS positioning is used outdoor
by rescue forces to locate emergency calls,
and by the public to benefit from guidance.

With SubWAVE™, it has become available everywhere.

Extended Safety

To enhance rescue forces response to emergencies, many safety regulations enable dispatch centers to collect the caller's information. Latitude, longitude and altitude are some of them, and GPS provides them natively on every smartphone, used 80% of the times in emergency calls.

By emulating GPS underground, SubWAVE™ can provide this crucial piece of information to dispatch centers, and help saving precious time and lives.

Moreover, rescue forces are constantly positioned with GPS, to help dispatch centers affect resources with efficiency. With SubWAVE™, this monitoring is extended underground and rescue forces can even benefit from guidance to optimize their ETA, enhancing their response time.

Emergency calls location

Rescue forces optimized action

GPS-based Maintenance

Incident prevention

To operate outside, workers can locate any problems and manage to repair it by coming back with the right team and the right tools. With SubWAVE™ installation, maintenance operations inside tunnels can be managed with the same GPS-based tools as outside.

Day-to-day maintenance

To optimize the management of teams and assets, location services are crucial. By using the GPS underground, a simple missing screw causing a butterfly effect can be avoided. Minor problems are difficult for workers to find if you can't locate them. With SubWAVE™, you can pinpoint them on a map to help solve them.

Improve maintenance efficiency

Location of isolated workers to protect them

Guiding the future of Automotive

Continuity of Guidance Service

GPS and GNSS are used by billions of users to benefit from guidance services anywhere on the planet. Those services are even available from smartphones, with standard apps like Google Maps or Waze.

By extending GPS Coverage into road tunnels, SubWAVE™ offers the continuity of such a service, to everyone. Moreover, traffic data in tunnels can be considered when computing the best route, considerably reducing the risk of jammed traffic and accidents.

Autonomous Driving

With GPS and GNSS available in road tunnels, autonomous cars can benefit from it to perform precise and safe driving.

Member of the 5G Automotive Association (5GAA), Syntony is constantly improving SubWAVE™ to meet the challenges of GNSS precision and accuracy in road tunnels, to enable a safe and efficient autonomous driving.

5GAA Automotive Association

Use case: Truck Platooning

Developed to both optimize and secure truck transportation, platooning rely on Vehicle-to-vehicle (V2V) communication and GPS.

With this data, trucks can follow autonomously in tight order a guiding vehicle, operated by a human driver. The platooning enables trucks to consume less fuel, benefitting from aspiration, and reduces risks of human error leading to accident.

With SubWAVE™, Syntony offers the GPS-needed environment for the technology to operate in tunnels and underground areas.

SubWAVE™ has been chosen by the Tunnel du Mont-Blanc to conduct tests in truck platooning research and is a member of 5GAA to develop precise location technologies in indoor environment.

SubWAVE main benefits

SubWAVE™ is a real-time GPS emulator providing signal in facilities out-of-range from natural GPS.

Using telecom network to broadcast, SubWAVE™ emulates GPS signal matching real coordinates, computable by standard chipsets.

Since almost every portable device has a GPS positioning feature, SubWAVE™ allows majority of trackers to keep working underground.

Zone-based or continuous along a path, SubWAVE™ enables efficient positioning, everywhere.

Extension of Universal technology

- Real-time GPS emulation
  allowing continuity of GPS service where it cannot naturally get
- Seamless transition between outdoor and underground
  Receivers will not even notice they switched to Synthetic GPS

Easy implementation

- Use of existing telecom infrastructure
  GPS signal is broadcast through leaky feeders used for coms, or antennas
- Compatible with existing equipment
  P25, TETRA equipment, or even smartphones equipped with standard GPS chipset

Built to evolve with your requirements

- Software-defined-radio architecture allowing remote updates
  New GNSS constellations, algorithms enhancing precision, etc.

They trust us

Enhanced Urban Navigation with Raw Positioning in Madrid Calle30

MC30 integrated our raw positioning solution into Madrid's belt, mostly underground, where GNSS signals were previously unavailable. This enhancement provides reliable public guidance for residents and visitors, while also allowing professionals to accurately locate assets, leading to improved safety and operational efficiency.
This Living Lab can be visited, contact us to learn more.

Guidance & Emergency Call Location Enabled in Tunnel du Mont-Blanc

ATMB, the renowned European tunnel operator with over 1,700,000 visitors annually, integrated our raw positioning solution for continuous guidance service.
This integration also ensures E112 regulation compliance, enabling emergency call location inside the tunnel. The system supports uninterrupted navigation and bolsters safety for users and heavy truck traffic.

Improved Safety and Maintenance with GNSS in Stockholm Tunnels

Trafikverket operates a network of tunnels in the Stockholm area where SubWAVE enables continuous public guidance and maintenance asset monitoring.
The solution enhances safety and operational efficiency for maintenance teams and the operator by enabling precise positioning and streamlined coordination within the tunnel system.

E911 Compliance and Public Guidance in Hong Kong Bypass

EMSD installed our SubWAVE solution in the Central–Wan Chai Bypass in Hong Kong, meeting E911 regulation compliance for emergency call location and providing uninterrupted public guidance and positioning. This dual capability ensures safety and continuous service for tunnel users, supporting efficient emergency response and reliable navigation.

SYNTONY GNSS

For more information

Visit our website:
syntony-gnss.com

Contact us:
contact@syntony.fr

Follow us:

Subscribe to our newsletter

Syntony Offices

TOULOUSE - PARIS - NEW YORK - MONTREAL

Financed by the European Union
Next Generation EU - France Relance