sysnav
NAVIGATION TECHNOLOGIES

Blue Force Tracking beyond GPS
Special Forces - Dismounted Soldiers

HIGH PRECISION 3D POSITIONING & NAVIGATION FOR MISSIONS IN GPS-DENIED ENVIRONMENTS (OUTDOORS & INDOORS) USING SYSNAV'S LOW-DRIFT MAGNETO-INERTIAL TECHNOLOGY

Assured PNT (Positioning, Navigation and Timing) is becoming a critical need of military forces. The reliance on GPS & GNSS for PNT is widespread for military operations and troop maneuvers, but recent conflicts confirm that GPS signals are being jammed on the battlefield.

In addition, **within buildings or undergrounds**, GNSS signals are not available, even M-code and GPS-RTK. And in "**urban canyons**", positions are incorrect due to multi-path trajectories of satellite signals.

To conduct high risk missions, complementary PNT technologies are needed in order to track operators reliably.

SYSNAV developed and patented magneto-inertial geolocation, that takes over from GNSS and provides low-drift inertial positioning while using low-cost sensors.

SYSNAV is engaged in R&D programs for France's future dismounted soldier capability.

SYSNAV PLD Test Kit includes :

- SYSNAV PLDs (Personal Location Devices)
- SYSNAV Studio GUI and API
- Android mobile app
- UWB anchors for initialization
- Configuration, testing & data analysis support
- API training and integration support.

REAL TIME BLUE FORCE TRACKING

- Sub-metric individual tracking in X,Y (Long/Lat) and Z (elevation)
- Team location tracking and position sharing among the team

COMMON OPERATIONAL PICTURE

- Display on any GIS or tactical map
- Compatible with **ATAK** framework

MAN-DOWN ALERTS AND RESCUE

- Customisable alerts (immobility, fall...)
- Directions to man-down

GEO-TAGGING OF RECON INTEL

- Add precise location to points of interest

TRAINING & LESSONS LEARNED

- Training centers: collect data, monitor performance, use in debriefing
- Operations debriefing and evidence

COMPATIBLE WITH ALL COMMUNICATION SYSTEMS

- Tactical Radio, Wimesh, PMR LTE, 4G, 5G

DATA CONFIDENTIALITY & CYBERSECURITY

Anonymous identifiers, encrypted protocols for transmission and storage

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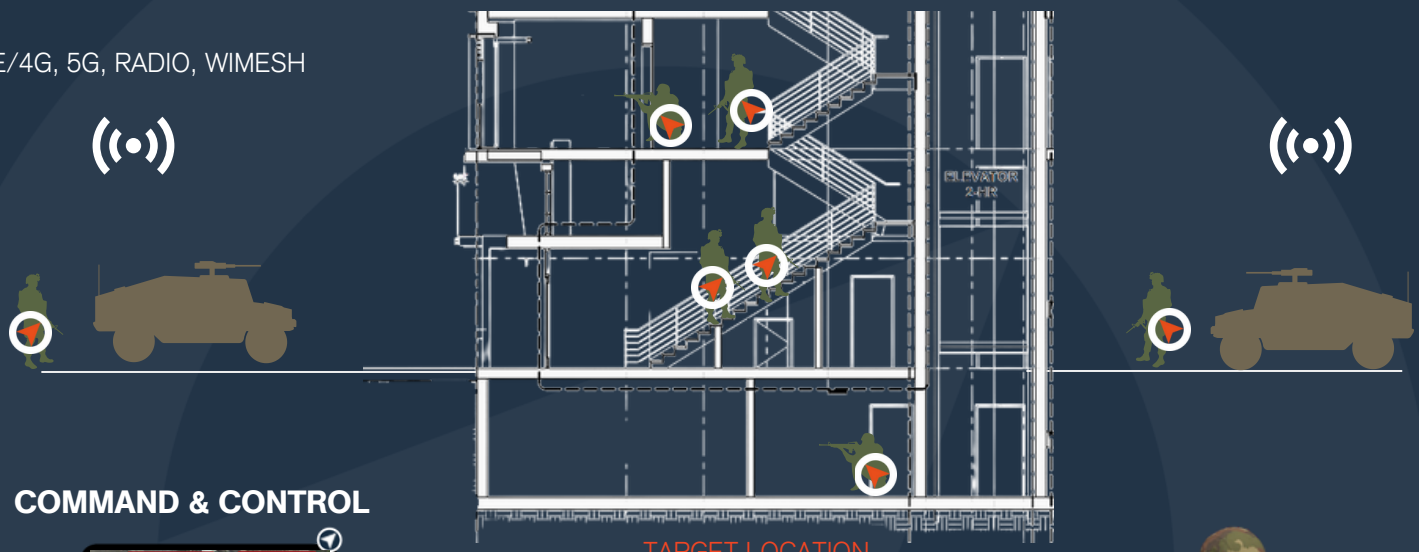
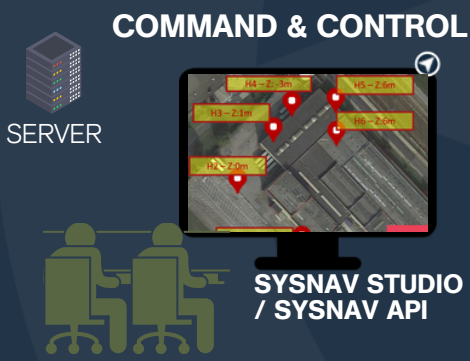
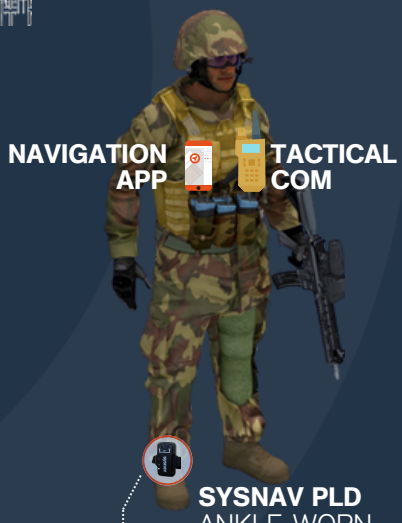
3D PRECISION TRACKING FOR ENHANCED COMMON OPERATIONAL PICTURE







SYSNAV PLD SPECIFICATIONS

Dimensions & weight	86 x 56 x 27 mm, 100 g	PLD connectivity	BLE, UWB
Autonomy	8 hrs	Loss of connectivity	Managed
Battery	rechargeable LiPo 8,8 Wh	Outdoor precision	X,Y < précision GPS; Z < 2m
Current & charging tension	5V/500mA	Indoor precision	X,Y < 1m (if map-matching); Z < 2m
Embedded sensors	3 accelerometers, 3 gyroscopes, 3 magnetometers, 1 thermometer, 1 barometer	Precision without any readjustement	1% of traveled distance
Processors	1 microprocessor with FPU + 1 DSP	Certifications	IK06*, IP68*, CE*, ATEX*
Embedded storage	SD 4Go	ATEX category	II 2G Ex IIC T4
Operational temperatures	[-10°C - 55°C]		*under development

References

MINISTÈRE DES ARMÉES
Liberté Égalité Fraternité

DGA
DIRECTION GÉNÉRALE DE L'ARMEMENT

PARIS FIREFIGHTERS

FIRST RESPONDER CHALLENGE
Smart Tracking

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