

## Excellence in Inertial Technologies

Innovation is a fundamental feature of the company culture and this reflects the continuous search for improvements of its systems, which are able to perform under harsh and demanding conditions.

Innovative solutions in Guidance, Navigation and Positioning sensors are investigated in the

### P R A N S

Photonics Research & Advanced Navigation Science laboratories, where highly qualified scientists and engineers study new products and new technologies for the future of inertial measurement and guidance control.

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INERTIAL POSITIONING

ARTILLERY STABILIZATION



ARTILLERY POINTING

LAND NAVIGATION

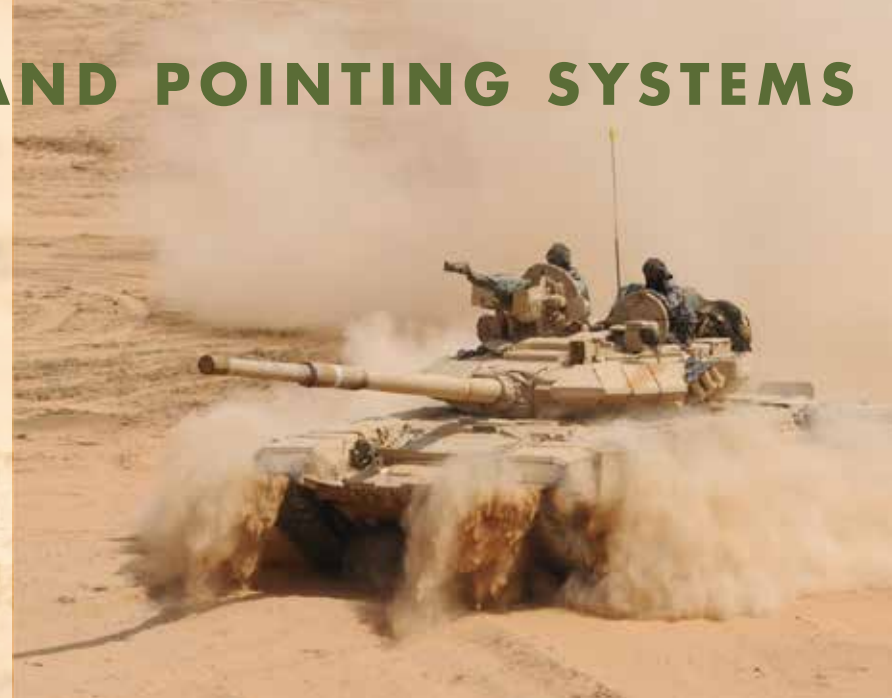
**LOCALIX**  
Inertial Land Navigation Systems

# LAND DEFENCE INERTIAL NAVIGATION AND POINTING SYSTEMS

GEM elettronica develops Inertial Navigation Systems (INS) specifically for Stabilization, Aiming and Land Navigation even in GNSS denied environments. Localix INS are selected by trusted Defense Industries as their main navigation solution in advanced armored vehicle programs.



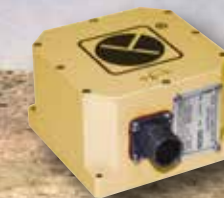
## LOCALIX



FOG DUAL AXIS  
ARTILLERY STABILIZATION

## Localix FGU-200

- GUN TURRET STABILIZATION
- EO/FLIR STABILIZATION
- RADAR ANTENNA STABILIZATION
- PRECISION POINTING
- LINE-OF-SIGHT TRACKING



## PERFORMANCES

	120	100	200
Heading Accuracy	8 mils	5 mils	1 mils
Roll/Pitch Accuracy	< 2 mils	< 2 mils	< 0.35 mils
Position Accuracy - Horizontal Position (VMS only)	0.3% DT	0.2% DT	0.1% DT
Embedded GPS		Optional	
Setup Time (full accuracy)		< 10 min	
Fast Setup Time (stored data)		30 s	
Start-up Time Valid Data		< 5 s	
ITAR Components		NO	

## ADVANCED FIBER OPTIC TECHNOLOGY

### LAND NAVIGATION & POSITIONING

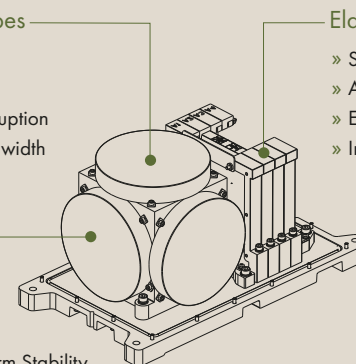
### ARTILLERY POINTING

#### Fiber Optic Gyroscopes

- » Solid State Technology
- » Closed Loop Design
- » Low Noise / Low Consumption
- » High Resolution / Bandwidth
- » Calibration Free

#### Accelerometers

- » Superior Reliability
- » Compact
- » High Accuracy
- » Robustness and Longterm Stability



#### Elaboration Unit

- » Sensor Fusion Algorithms
- » Advanced Navigation Filter
- » Embedded GPS
- » Intuitive User Interface

## MAIN FEATURES

Start-up Time	< 5 sec
Angle Random Walk	0.12°/√h
Bias Repeatability (day to day)	3.5°/h (1σ)
Bias Instability (in run)	1.8°/h (1σ)
Scale Factor Error (over temperature)	100 ppm/°C
Dynamic Range (angular rate)	± 500°/s
Input Voltage	18-32 VDC
Operating Temperature	- 40°C / + 70°C
Weight	1.89 kg