



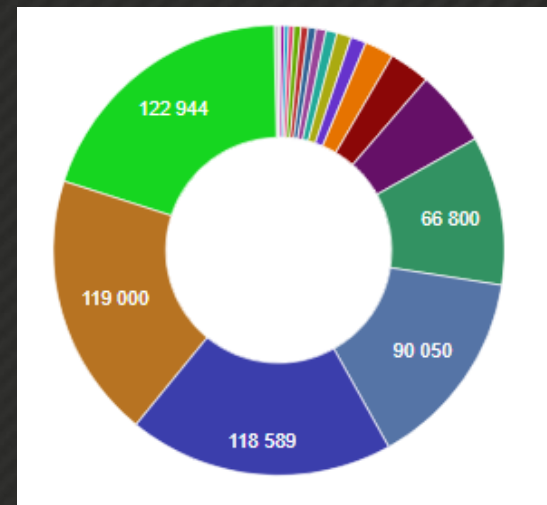
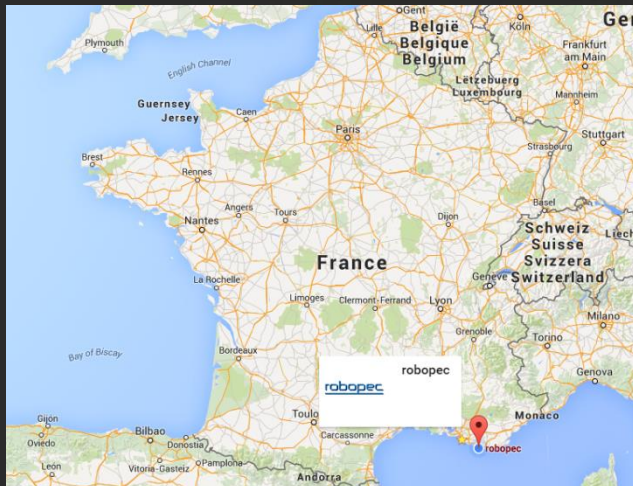
Robotics experts

Algorithms and software development

# General Presentation

- ▶ Created in 2008
- ▶ 10 employees
- ▶ Located in Six Fours

	Turnover	Workforce
2011	60 k€	2
2012	158 k€	2
2013	298 k€	3
2014	360 k€	4
2015	470 k€	5
2016	470 k€	6
2017	450 k€	8
2018	800-1000 k€	10-12



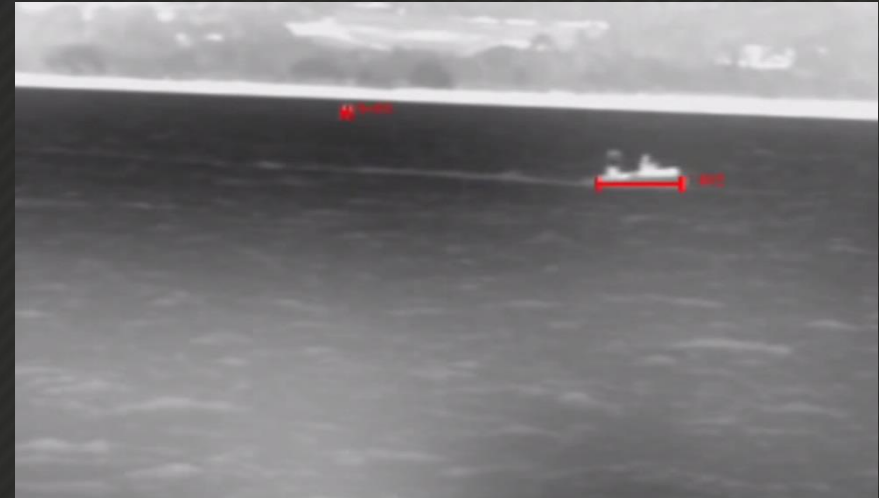
# Engineering activities

- ▶ Algorithms design
  - Robots control : Ground, Surface and Underwater
  - Obstacles detection and avoidance systems
  - Localization and Mapping : GPS, INS, SLAM
  - Autonomous mission controller
  - Sensors data processing : Lidar, Sonar, Camera
- ▶ Software development
  - Embedded software : x86, ARM, microcontroller
  - HMI software : desktops, tablets, web



# Products activity

- ▶ Maritime Detection and Tracking (MDT)
  - IR Camera, lidar, AIS, ...
  - USV obstacles avoidance



- ▶ Mobile Robots / SLAM

- ▶ Phenotyping



# Projects examples (UGV)

## ▶ Vehicle Tracking

- Thermal camera, stereo camera and lidar tracking and data fusion
- Path smoothing and following



## ▶ People tracking



# Projects examples (Loc and Carto)

- ▶ SLAM (Simultaneous localization and mapping)
  - Lidar based
- ▶ Autonomous exploration
  - Mission manager
  - Path finding
  - Path following
  - Obstacle avoidance
  - Live mission replanning





# Projects examples (ROV and AUV)

- ▶ ROV simulator (mine killer)



- ▶ AUV embedded software

- Ifremer Ariane HROV
- Mission Manager
- Fault Manager
- Actuators controllers



- ▶ Underwater cable detection and tracking in a SONAR image (for AUV recovery by an USV)

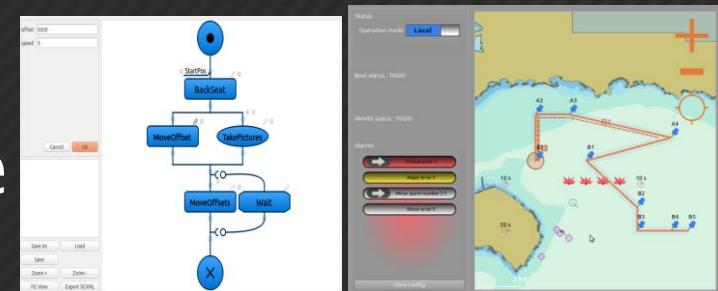


# Projects examples (USV and Maritime)

- ▶ USV obstacles avoidance
  - Infrared obstacles detection
  - Radar/INS/IR fusion
  - USV obstacles avoidance



- ▶ USV Control Human Interface
  - Mission planner
  - Mission controller and supervisor
  - Fault panel



- ▶ Ship anti piracy system
  - Actuator controllers
  - Architecture and simulator





# Our clients

