ENSTA Bretagne

Graduate and Post-graduate Engineering School and Research Institute

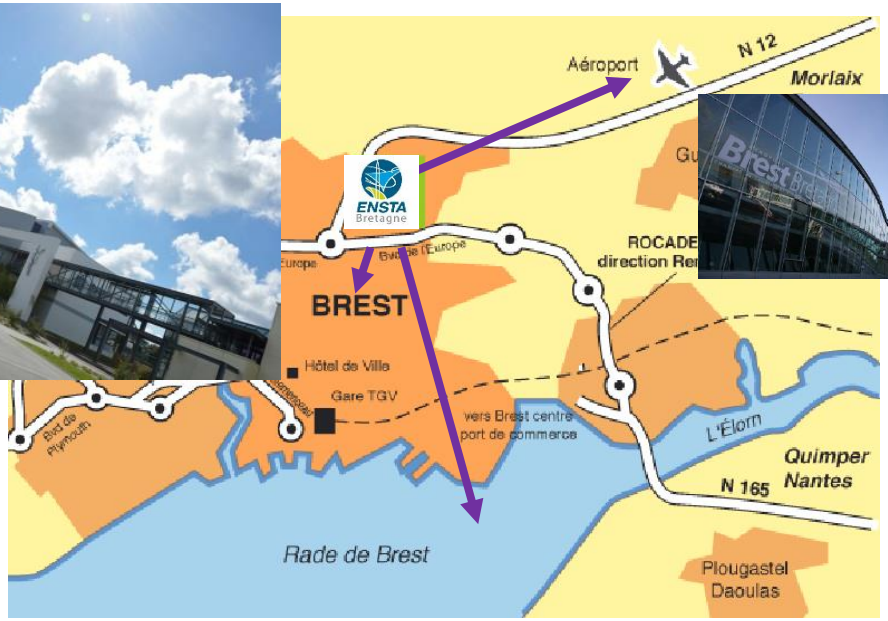
At the westernmost tip of the European continent, open to the world

Bretagne

France

Modern campus

10 minutes from Brest bay, city center & airport



BREST : Ranked 4th worldwide in Maritime Research and Innovation

TECHNOPÔLE BREST-IROISE

PÔLE MER BRETAGNE ATLANTIQUE

EUROPOLE MER

Pierrick Contin

IDENTITY

A French *Grande Ecole* & an Applied Research Center

ENSTA Bretagne **is a major player in the MARITIME SECTOR, in DEFENSE, and in HIGH TECH INDUSTRIES.**

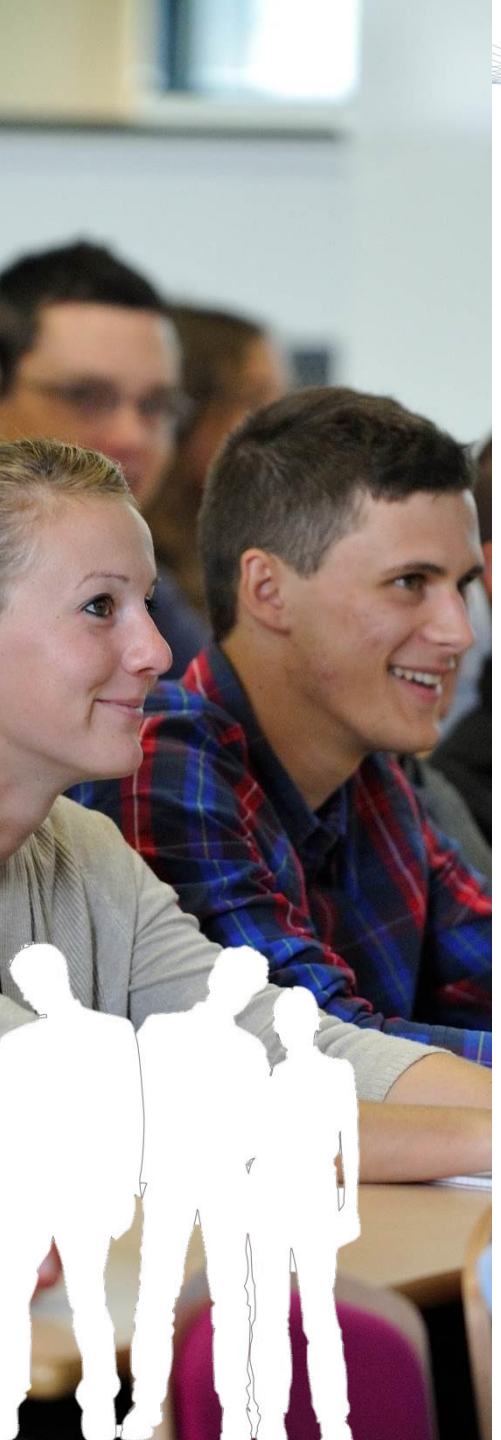
One of four Institutes under tutelage

of the Ministry of the Armed Forces

with Ecole Polytechnique, ISAE-SUPAERO and ENSTA ParisTech

- 18% ENSTA Bretagne graduates are military engineers with officer status
- 82 % are civilian engineers

ENSTA Bretagne



A Focus on Strategic Technologies

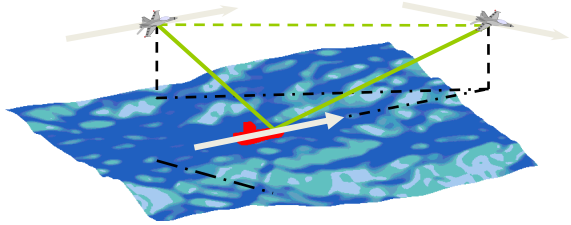
The excellence of ENSTA Bretagne is fueled by strong relations with industries in the most innovative domains:

- MARINE ENERGIES
- IT
- NAVAL INDUSTRY
- AERONAUTICS & SPACE
- HYDROGRAPHY
- AUTOMOTIVE
- DEFENSE & SECURITY
- RESEARCH & TRAINING

A Focus on Strategic Industrial Domains

About 20% graduates get a first contract abroad.

About 40% graduates work in the Defense sector (State and industrial)



Several Available Profiles

969
students

20%
of the students are international

ENGINEERING TRAINING AND STUDIES
867 MSc students

RESEARCH
102 PhD students

& LIFELONG LEARNING

5,000 Alumni

RENOWNED FOR ITS SPECIALIZED COURSES

- **MARITIME ENGINEERING:**

  Naval Architecture & Offshore ressources
  Renewable Marine Energies
  Oceanography & Hydrography *(cat. A)*

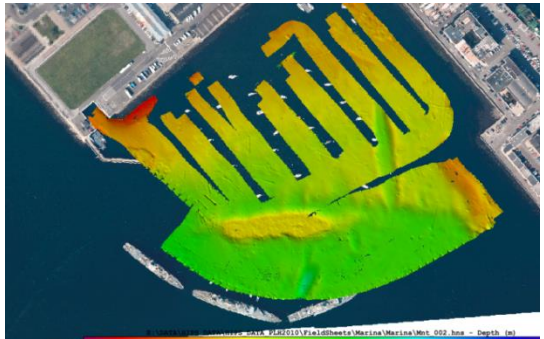
- **IT:**

  Underwater Robotics *(i.e. autonomous vehicles) & Robotics*
  Software & Cyber-security
  Embedded Systems & AI
  Signal Processing (radar, sonar), Telecommunication

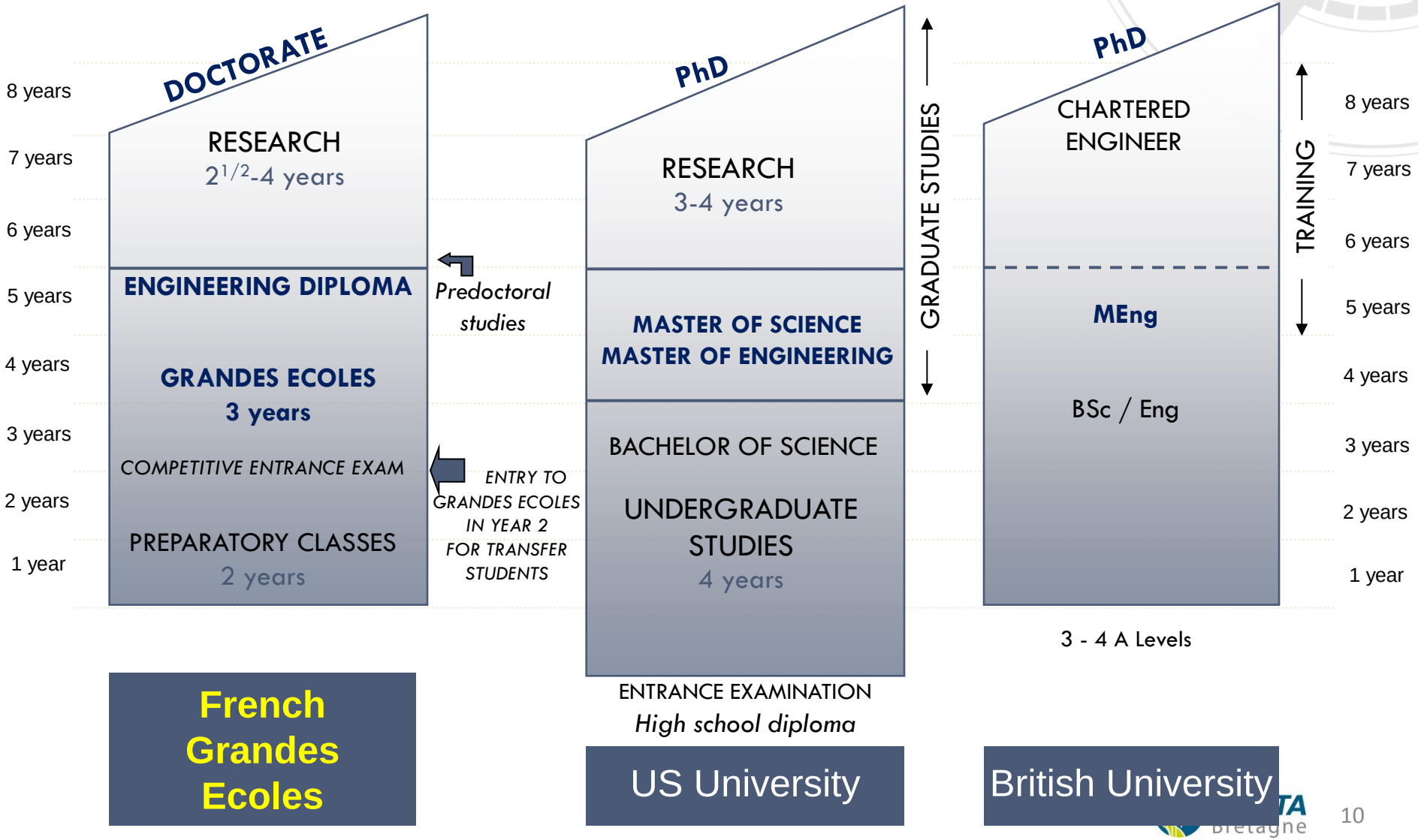
- **MECHANICS:**

  Pyrotechnics & Propulsion
  Automotive Engineering & Modeling

- **MANAGEMENT of ENGINEERING PROJECTS**



Engineering education
Guidelines for corresponding levels abroad



PROGRAMS

- **Engineering Program (Master degree)**

  3 years after preparatory classes

  or 2 years after a BSc degree or equivalent

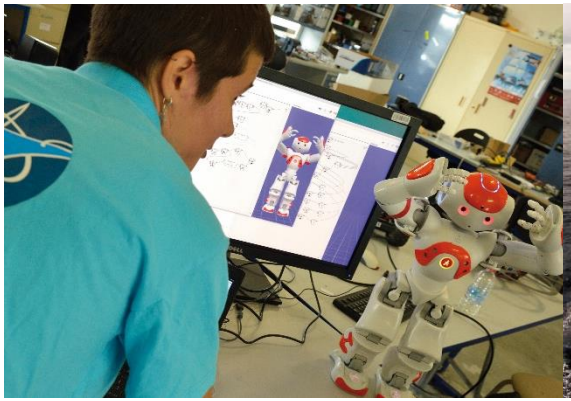
- **Master of Engineering**

  2 years after a BSc degree or equivalent

- **Advanced Masters**

  1 year after a MSc degree or a BSc + professional experience

- **PhD program**



Engineering Program: Progressive Specialization

1st year : General Engineering Training

2nd year : Branch-based general training

Mechanical Systems Engineering	Hydrography	IT Systems Engineering

3rd year : Intensive specialized training in Options

Naval Architecture and Offshore Engineering	Vehicle design or Modeling	Pyrotechnics Systems	Hydrography and Oceanography (cat. A)	Observation Systems & Artificial Intelligence	Security & Digital Systems	Robotics	Engineering and the Management of Organizations

ENSTA Bretagne

Advanced Masters

- **Renewable Marine Energies Expert**

To train project or program managers dedicated to the development of energy production systems and farms at sea.

http://www.ensta-bretagne.eu/index.php/advanced-master-in-renewable-marine-energies/

- **Marine Engineering, Naval Architecture and Offshore Engineering**

To train naval architects able to innovate and design ships and offshore platforms of all types, wich are more advanced and respectful of the environment.

http://www.ensta-bretagne.eu/index.php/advanced-master-in-naval-architecture-and-offshore-engineering-marine-engineering/

- **Management of Maritime projects**

To train « project managers » able to pilot, coordinate and evaluate maritime projects of international caliber.

http://www.ensta-bretagne.eu/index.php/advanced-master-management-of-maritime-projects/

- **Pyrotechnics/Propulsion**

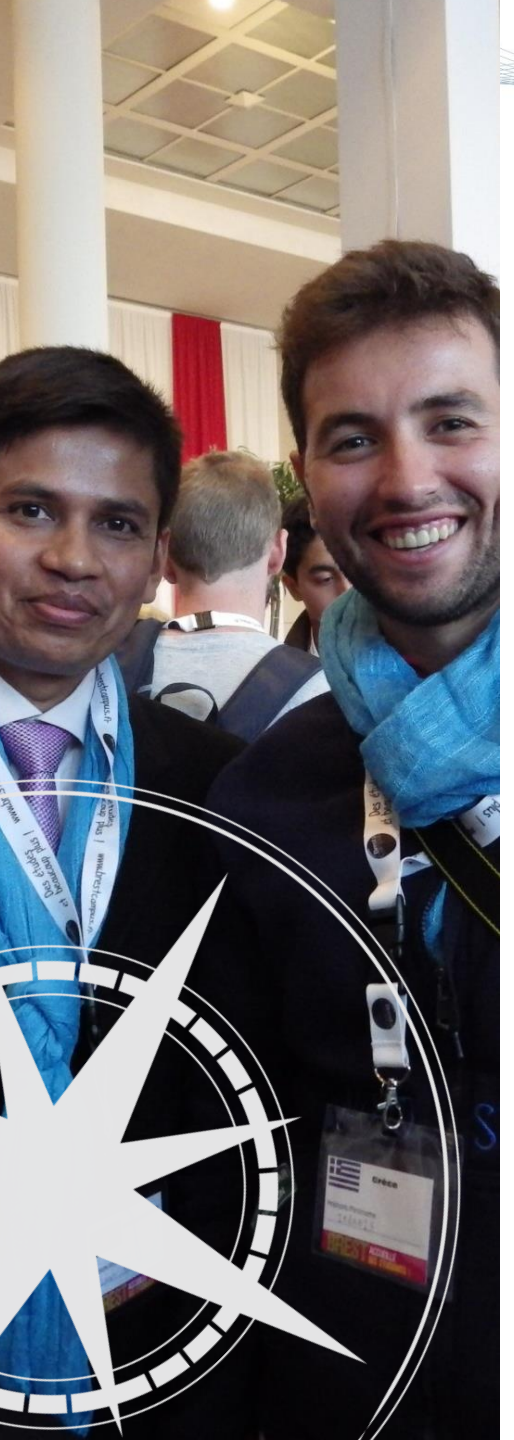
The aim of this course is knowledge of combustion, deflagration and detonation phenomena.

http://www.ensta-bretagne.eu/index.php/advanced-master-in-energetic-material-and-propulsion/

- **Sensors, Geolocation and Navigation**

To train engineers in the design, commissioning and maintenance of technological systems used in the fields of radar, electronic warfare (radar/communication), optronic warfare (countermeasures, decoys), inertial navigation systems, geolocation, complex navigation systems, sensor guidance and use systems, information fusion and choice of sensors.

http://www.ensta-bretagne.eu/index.php/advanced-master-in-sensors-geolocation-and-navigation/



3 Laboratories

- **IT Department**
  - Treatments Observation and Statistical Methods
  - Perception, Robotics, Autonomous Systems
  - Interaction of electromagnetic waves with the environment
  - Hardware/Software Design Methodologies and Tools
  - Communication

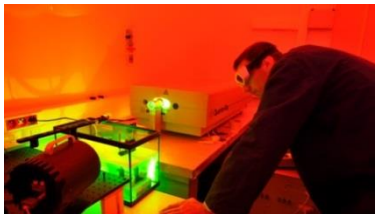
  Lab-STICC Laboratory: www.labsticc.fr

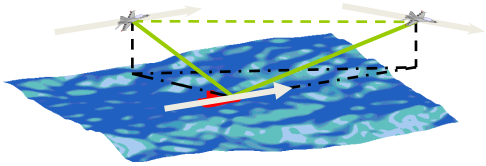
- **Mechanics and Systems Department**
  - Composites
  - Assemblies
  - Interaction, Fluid & Structures
  - Durability

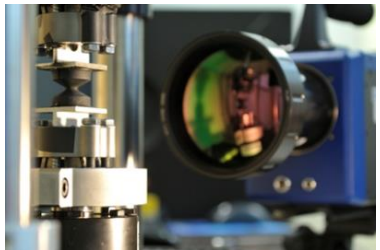
  IRDL Laboratory: http://irdl.fr/

- **Human and Social Sciences**
  - Training and professionalization for the Engineer

  FAP Laboratory: http://crf.cnam.fr/







88 Partners in 32 Countries

in Master of Science and PhD