

CENTRALE NANTES

Excellence in Science & Engineering

Centrale Nantes French Atlantic Coast



- 5th largest city in France
- Industrial hub of France
- Capital of the Region Pays de la Loire
- Population 1 million
- 45,000 students
- 2 hrs from Paris by TGV

Life in Nantes



- Dynamic student city
- City of history and culture
 - > International cultural event “Folles Journées”
- Pleasant climate, calm and peaceful
 - > European Green Capital 2013
 - > Top city for quality of life
- The most beautiful French river Erdre
- Lu biscuit manufacture



- Airbus Nantes and Saint-Nazaire
 - > Aircraft manufacturer – Airbus A380, the largest one in the world



- > Ship manufacturer
 - Queen Mary 2



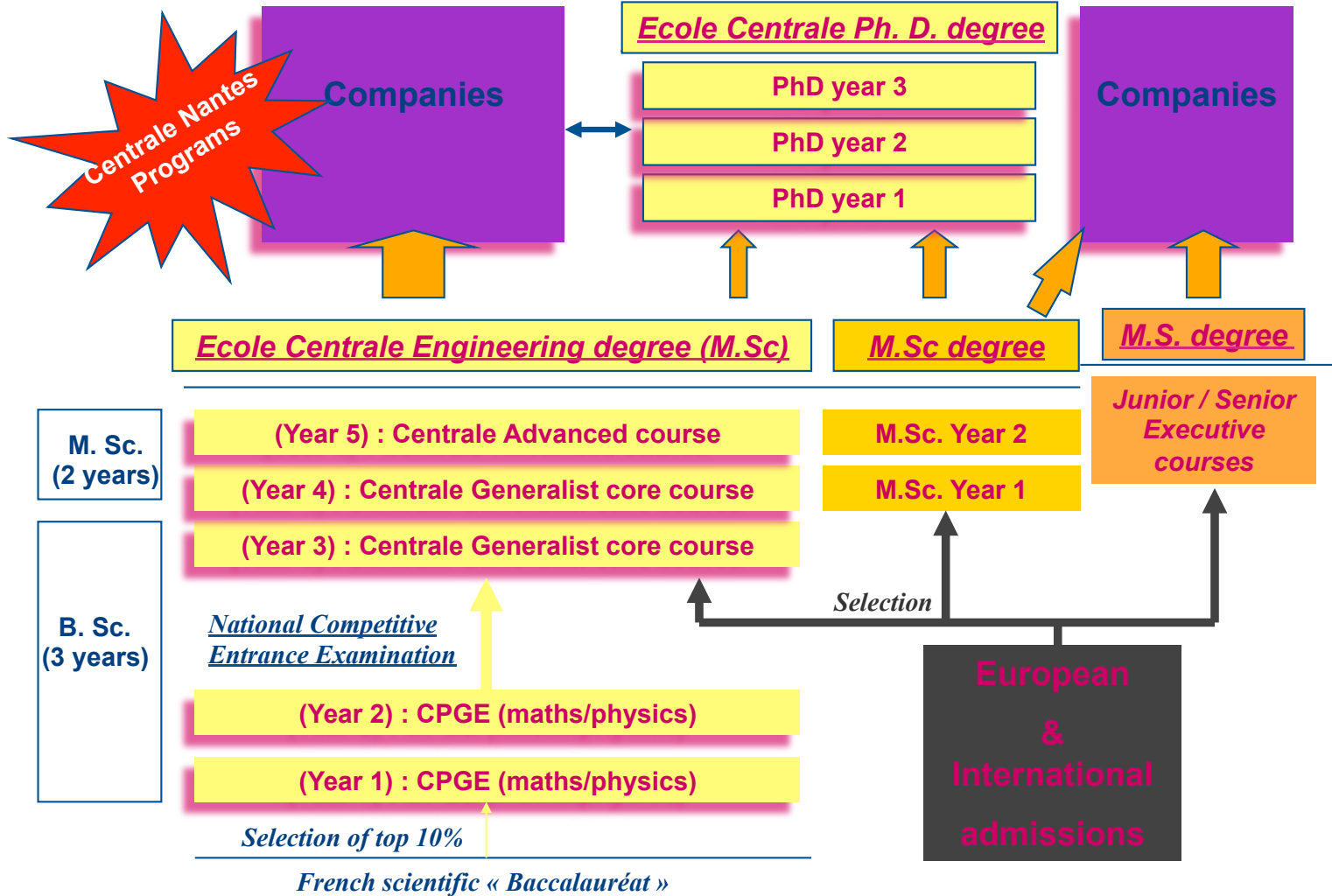
Centrale Nantes - 1919

- Top 5 “French Engineering Schools” / 200+
- 2 500 graduate students/year
- 37,000+ alumni GEC (Master/PhD)
- 300 Professors - researchers
- 16.4 Hectare campus

#1 in France for International development and visibility.

*20+ European projects,
100% students with international
experience,
1/3 international students on campus,
72 nationalities*





Study offer (Engineering programme)

- Aeronautics
- Embedded Control and Power Grids
- High Performance Computing in Engineering Science
- Mechanical Engineering for Materials and Manufacturing Processes
- Product Engineering
- Robotics
- Civil Engineering
- Engineering Science for Housing and Urban Environment
- UrbaniSTIC: Geomatics and Urban Planning
- Industrial Engineering
- Management of Digital Business and Information Technologies
- Energy Production and Management
- Ocean: Hydrodynamics and Marine Engineering
- Propulsion and Transport
- Digital Hospital
- Digital Sciences for Life Sciences and Healthcare
- Signals, Images and Applications in Biomedical and Audio Engineering
- Computer Science
- Mathematics and Applications
- Modelling and Simulation in Mechanics
- Virtual Reality

11 International Master Degrees

- Urban Environment
 - > Atmosphere, Water and Urban Environment
- Applied Mechanics
 - > Computational Structural Mechanics
 - > Design of Systems and Products
 - > Material Process & Technology of Composites
 - > Hydrodynamics & Ocean Engineering
 - > Energetics & Propulsion
- Control Engineering & Production Systems
 - > Automatic Control, Signal & Image
 - > Advanced Robotics
 - > Real Time, Steering and Supervision
- Civil Engineering
- Ship Operation and Naval Engineering

3 Erasmus Mundus Masters + 1PhD

- EMARO+: Advanced Robotics (coordinator)
 - Computational Mechanics (UPC, Spain):
Master + PhD
 - EMShip Advanced Design: naval architecture
(ULG, Belgium)
- > Offering scholarships for students covering
tuition fees + insurance/travel, monthly
allowance

Centrale Nantes N° 1 in France

- 3 Erasmus Mundus Masters (Action 1)

- > **Advanced Robotics (ECN)**

- > Computational Mechanics (UPC)

- > EMShip Advanced Design (ULG)

**Full scholarships covering
tuition fees
+insurance/travel, monthly
allowance**

- 1 Erasmus Mundus Joint PhD (Action 1)

- > Computational Mechanics

- 15 Erasmus Mundus Partnerships (Action 2) – 3 as coordinator

- > **INDIA, ASIA**, CHINA, BRAZIL, JAPAN-KOREA, NORTH AFRICA, CENTRAL ASIA, EASTERN EUROPE

- 2 Erasmus Mundus Action 3

- 5 Laboratories associated to CNRS (A or A+)
 - > Nantes Research Institute on Cybernetics & Communications (IRCCyN): Robotics, Signal & Automatics, Electronic Systems, Telecom & Radar
 - > Fluid Mechanics Laboratory (LHEEA): Hydrodynamics & Ocean Eng., Energetics, Atmosphere Dynamics, Internal combustion engines
 - > Research Institute of Civil Engineering & Mechanics:
Metallic & composites assemblies, computational mechanics, polymers...
 - > Laboratory for Mathematics “Jean Leray”: non-linear PDE, scientific calculus, approximation, probability statistic
 - > Urban Environment and Architecture (CERMA): modeling & simulation of natural phenomena, design and characterisation of ambiance

- Mechanical Engineering
- Computational Structural Mechanics
- Metallic Assemblies and Complex Composites
- Civil Engineering and Environment
- Hydrodynamics – Energy & Propulsion
- Control and Applied Computer Science
- Advanced Robotics
- Urban Environment: Atmosphere, Water and Urban Environment
- Design of Systems and Products
- Virtual Engineering
- Integration of Manufacturing Processes
- Control, Signal processing
- Embedded Computer Science & Production Systems
- Information Technology

5 Experimental Platforms

- Hydrodynamics
- Dynamics (Materials, Crash tests)
- High Speed Machining
- Durability Mechanics
- Virtual Reality



5 Experimental Platforms

Wave tank: 30m wide, 50m long, 5m deep





Centrale
Nantes

- Fully-fitted wave energy test facility intended test and improve the efficiency of Wave Energy Converters for marine renewable energies industries in the world
- Off shore system linked to the shore based station (Le Croizic)

<http://www.semrev.fr/en>



Networking: professional development of our students

- Professional experience in student-run organisations
 - > « Ingénieurs sans Frontières » Association
 - > Junior Entreprise « Centrale Nantes Etudes »
 - > Annual Recruitment Fair (Forum Atlantique)
- On campus: talks and meetings with company managers « Partners days »
- Projects given by companies
- Internships

- **More than 100 contracts/year** (research collaborations, transfer of technology, experimental or numerical tests, consulting...): aeronautics and space, construction & public works, offshore operations, automobile, electronics, mechanics, ship industry, robotics,...

- **9 Industrial Research Chaires**
 - 26 million euros in total
 - Renault / Siemens : -> energetics and propulsion (motors)
 - EADS
 - Faurecia composites, material sciences for automotive industry
 - ESI-> computer science

Industrial Partners



altran



BUREAU
VERITAS



AIRBUS

Allianz 



faurecia

GDF SUEZ

SAINT-GOBAIN

MAZARS

orange™

GRUPE
ATLANTIC



Technip

DAHER



DCNS

SYNTEC-INGÉNERIE

VEOLIA
ENVIRONNEMENT

Rte
Réseau de transport d'électricité

IBM

Eni Saipem s.a.

VINCI

Sopra
group

SAFRAN

- Topnotch Graduate Institution: Masters & PhDs
- Develop management & social skills with a general knowledge of engineering sciences
- Work by projects (25% of the cursus)
- Close to companies
- Strong involvement of students in the associative life: all students are part of at least one association: team work, responsibilities
- Ranked n°1 for international expertise and quality management of large scale European projects of excellence

National Network

The Group des Écoles Centrales



International Campus of
Ecoles Centrales :

Beijin, China

Mahindra, India

Casablanca, Morocco

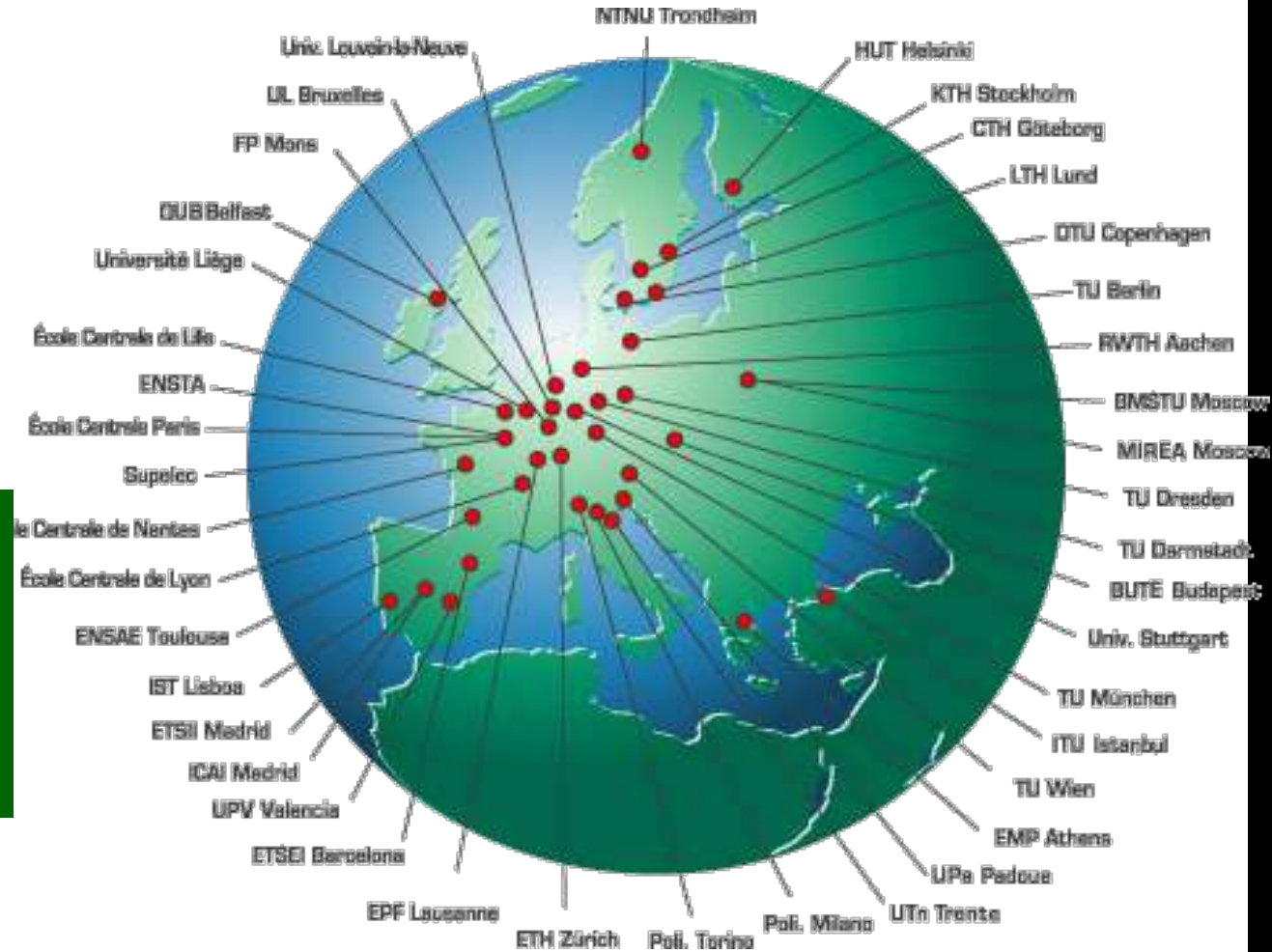
Mauritius





International Network

TIME : Top Industrial Manager for Europe



Brazil : 1 univ.

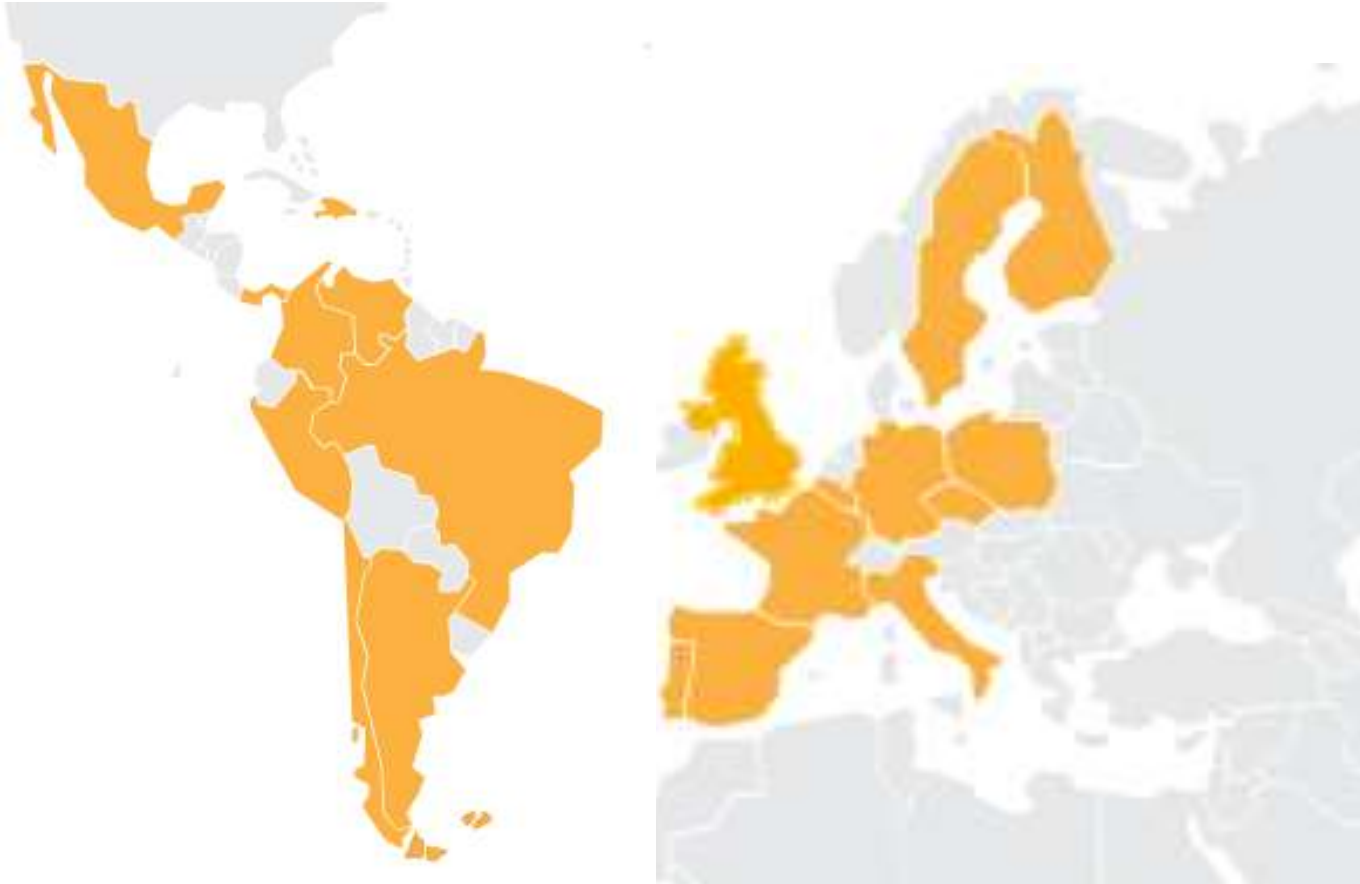
Japan 3 univ.

China : 1 univ.

Austria : 1 univ.

International Network : Magalhaes

■ America Latina and Caraibes

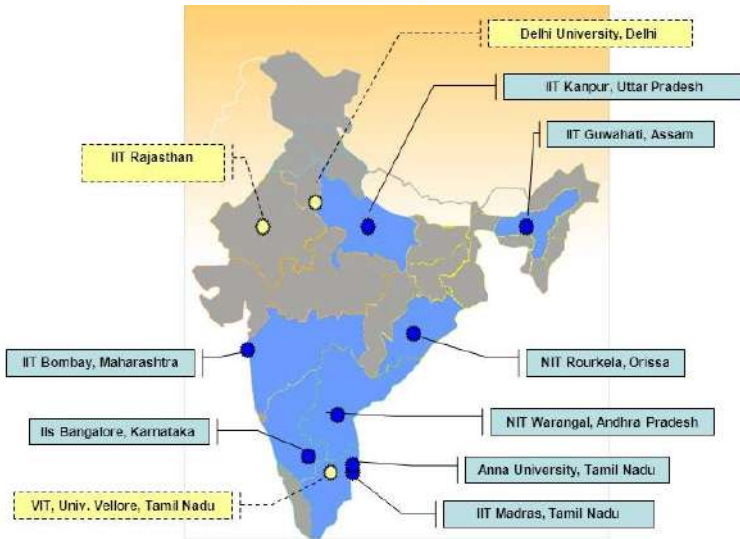


International Network RMEI

- ~~Mediterranean Networks of Engineering HEI~~
- + 2 ERASMUS MUNDUS networks METALC



INDIA and ASIA : coordinated by Centrale Nantes





- VIP Welcoming for all the international students
 - > Airport / Train station
 - > Students residence on campus: possibility of sharing apartment with French classmate (Priority access for international students)
 - > Administration, Visa and Permit Stay, Bank,....
 - > Visit of the school

- Welcoming week

- Introduction to the various student associations (40+)
 - > Sports and other clubs:
 - > Jazz, Chess, Theatre, Cinema, Dance, etc.
 - > Sailing, Rugby, Football, Basketball, Martial Arts, etc.

- International Student Association (ACCENTS)



A CLUB OF CENTRALE NANTES FOR TRAVELLING STUDENTS



Campus life with the international office team



SEMAINE INTERNATIONALE

École Centrale de Nantes



Centrale Nantes International



international@ec-nantes.fr



ec-nantes.fr/version-anglaise/international/