



GROUPE DES ECOLES CENTRALE BRAZILIAN PARTNERSHIP

CENTRALESUPÉLEC – CENTRALE LYON – CENTRALE NANTES – CENTRALE LILLE – CENTRALE MEDITERRANEE

THE GROUP ECOLES CENTRALE

5 SCHOOLS IN FRANCE – 3 IN OTHER COUNTRIES

- **CentraleSupélec** (2015)
 - Merge of Centrale Paris (1829) and Supélec (1894)
 - 3 Campus (ParisSaclay, Rennes and Metz)
- **Ecole Centrale Lyon** (1857)
 - Campus is based in Écully since 1967
- **Ecole Centrale Lille** (1872)
 - Founded under the name of “**Institut Industriel du Nord**”
- **Ecole Centrale Nantes** (1919)
 - Founded under the name of “**Institute Polytechnique de l’Ouest**”
- **Ecole Centrale Méditerranée** (2006)
 - Former “**École d’Ingénieurs de Marseille**” founded in 1891
 - 2 Campus (Marseille and Nice)



THE GROUP ECOLES CENTRALE

ELITE INSTITUTES OF SCIENCE AND TECHNOLOGY



Key Figures :

- Nearly **7 000 engineering students**
 - **20% recruited through international partnerships**
- Nearly 1 300 master students
- More than 1 000 PhD candidates
- **33 Research Laboratories**
 - Nearly 1 000 full-time academic staff
 - 12 International Laboratories
 - 35 Industrial Chairs
- **134 International Partners**
- 100 000 engineers in activity on the **GEC's Alumni Network**



THE GROUP ECOLES CENTRALE

ELITE INSTITUTES OF SCIENCE AND TECHNOLOGY



GEC's Vision of Engineering :

- **Multi-disciplinary curricula**
 - Broad overview of future challenging complex problems
- Access to social sciences, foreign languages and humanities
- **Soft-skills training**
 - Leadership, management & innovation courses
 - Team-work and project-work
- **Corporate Networking** (internships, job fairs, conferences)
- Global vision & open-minded approach
- Industrial problem-solving education

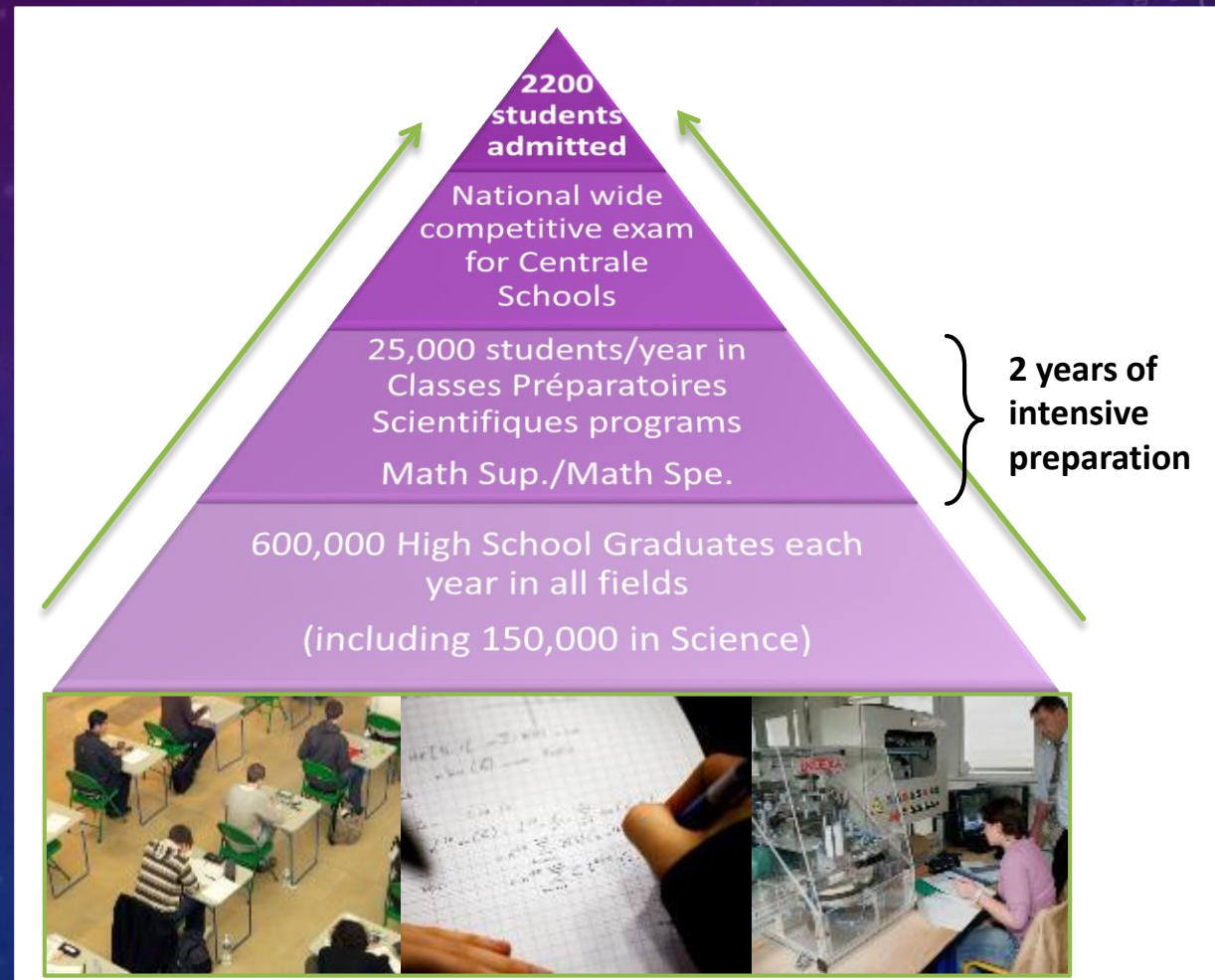


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**Highly selective
recruitment
for French students**

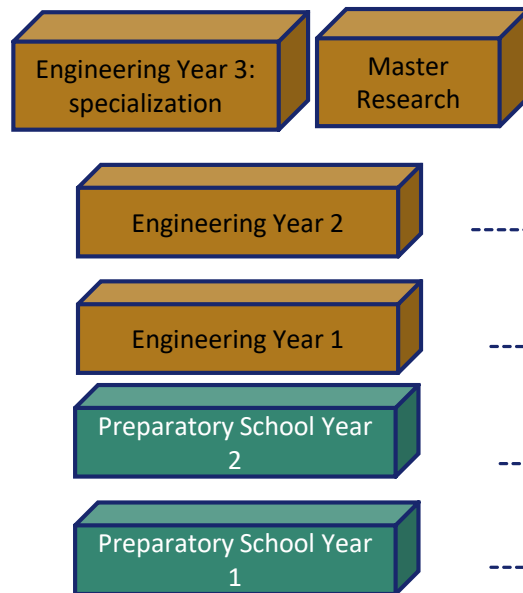


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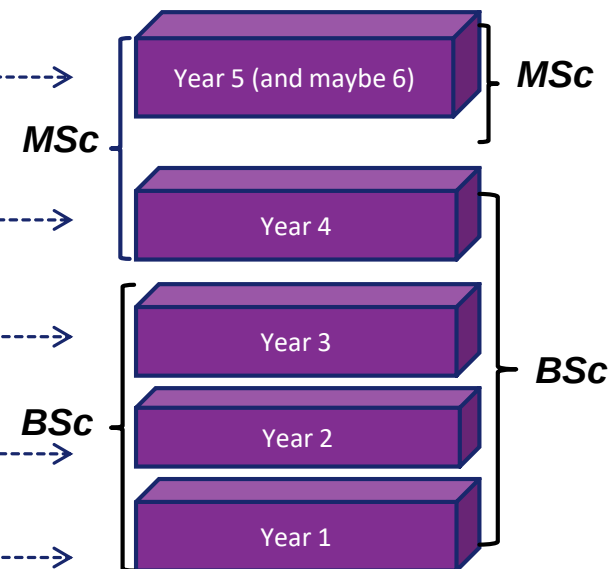
The 3rd years french engineering course model



EU/US course model

*The EU
model*

*The Anglo-
saxon
model*



**Comparison between the
French engineering
school model and
European models**

THE GROUP ECOLES CENTRALE

CORPORATE PARTNERSHIPS & NETWORKING



THE GROUP ECOLES CENTRALE

CORPORATE PARTNERSHIPS & NETWORKING



2 or 3 mandatory internships

at least 28 weeks in companies and/or research laboratories

Hundreds of **conferences** and **projects in team**

1 jobfair organized every year in Brazil

around 15 companies and 100 students and alumni

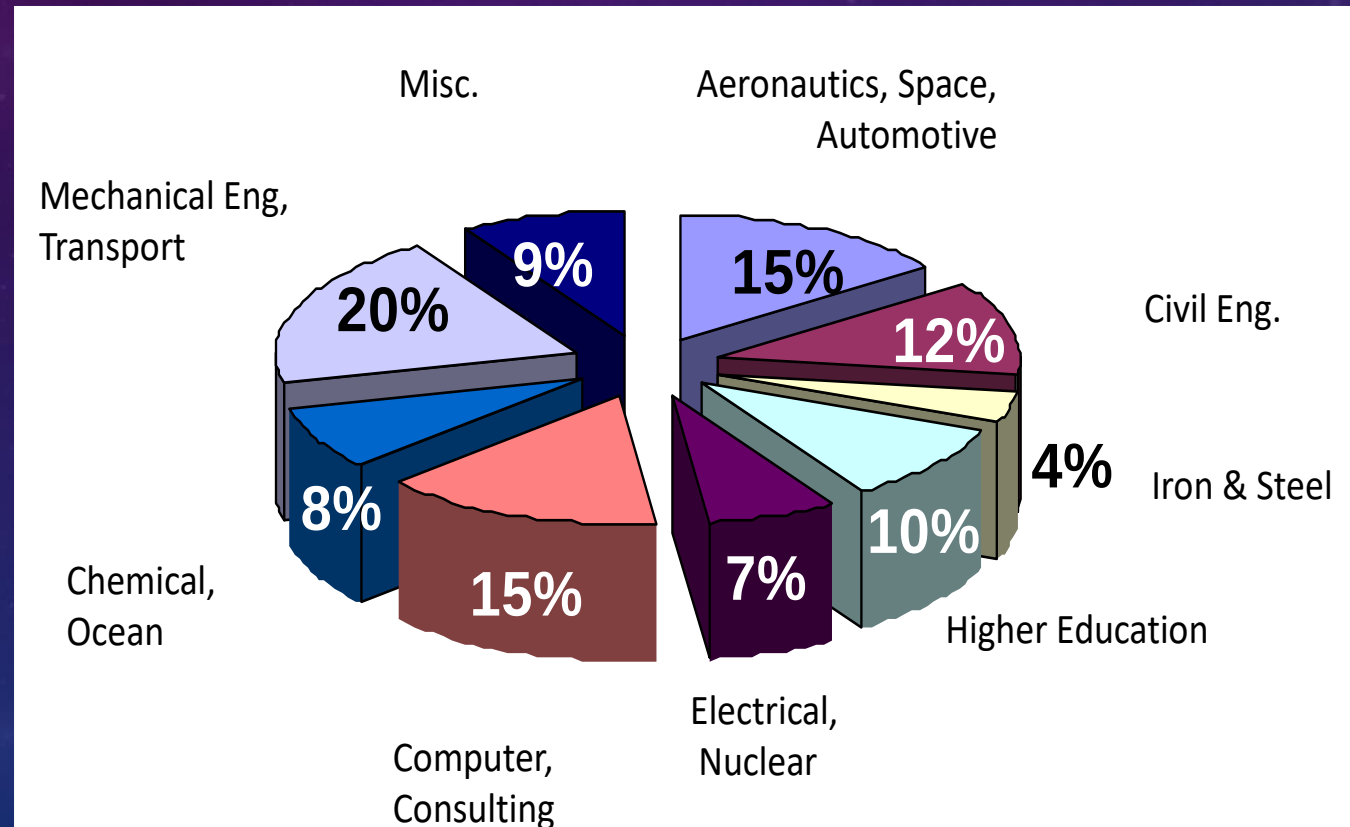


THE GROUP ECOLES CENTRALE

ELITE INSTITUTES OF SCIENCE AND TECHNOLOGY



Recruitment by sector :



THE GROUP ECOLES CENTRALE

SOME WELL-KNOWN ALUMNI



Raphaël Gorgé
Centrale Méditerranée
CEO Groupe Gorgé



Marie Holive
Centrale Lyon
Executive Director of
Proteus International



Jean-Loïc Galle
CentraleSupélec
CEO Thales



Jacques Maigné
Centrale Lyon
CEO Hutchinson



Benoit Potier
CentraleSupélec
CEO Air liquide



André & Edouard Michelin



Delphine Ernotte
CentraleSupélec
President France Télévisions



Cédric Gautier
Centrale Nantes
CEO Stelia Aerospace



Hubert Sagnières
Centrale Lille
CEO Essilor



Michèle Bellon
CentraleSupélec
Former CEO of
ERDF



Marcel Schlumberger



Armand Peugeot

THE GROUP ECOLES CENTRALE

MANY STUDENTS CLUBS AND ASSOCIATIONS



- Students' Union
- **Junior enterprise**, Job Fair organisation
- **Sport clubs** : *Sailing, Rugby, Football, Basketball, Martial Arts,...*
- **Arts clubs** : *Jazz, Chess, Theatre, Cinema, Dance,...*
- **Science & Technology clubs** : *Computers, Fablabs, Robotics,...*
- **Social responsibility** : *tutoring students from disadvantaged backgrounds*
- **International students' clubs**
- and many more...



THE GROUP ECOLES CENTRALE

ACADEMIC EXCHANGE TRACKS



Incoming (GEC schools as Host Institutions) :

- **Double Degree Programs (DD)**
 - Engineering (2 years mobility, courses and internship)
 - DD 1A + 2A
 - DD 2A + 3A
- **Conventional Exchange Program**
 - 1 semester
 - 1 year



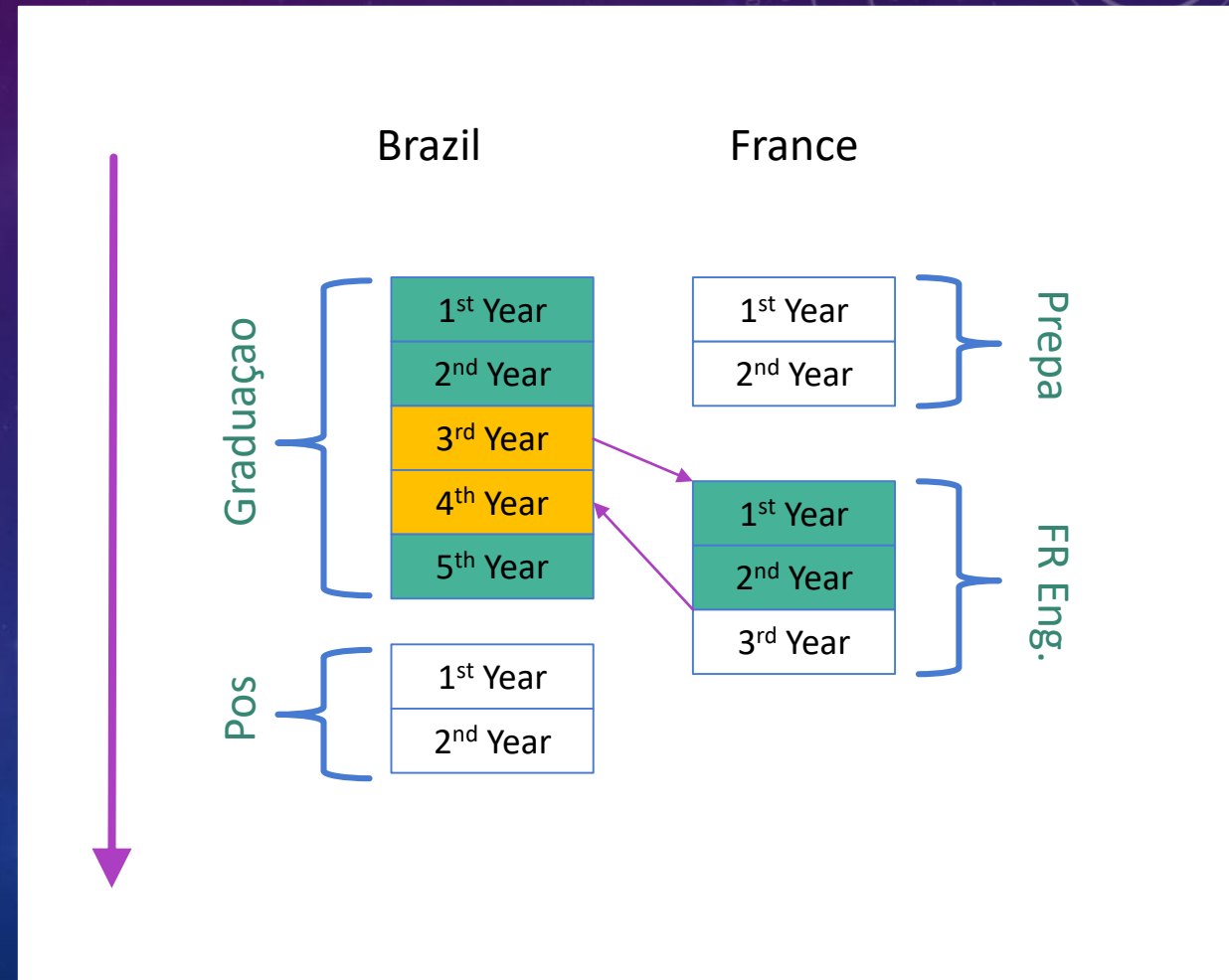
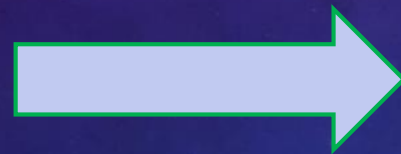
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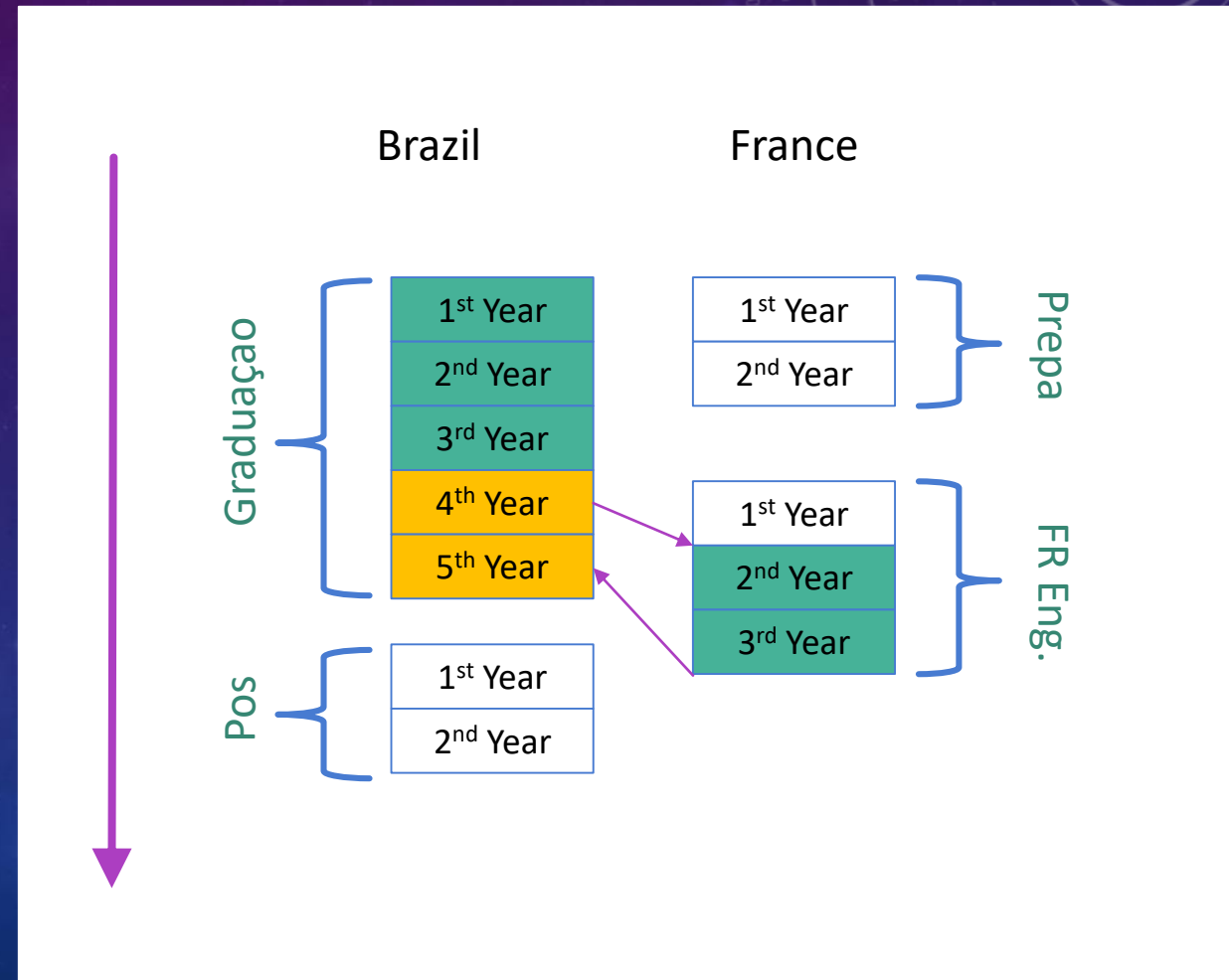
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THE GROUP ECOLES CENTRALE

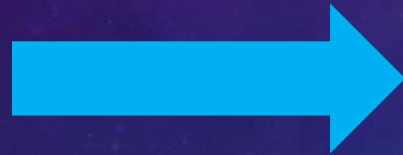
ACADEMIC EXCHANGE TRACKS



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- **Conventional Exchange Program**

- 1 semester
- 1 year



1 semester or 1 year

(in the 2nd or the 3rd year at Ecoles Centrale)

- Courses,
- Projects in team
- Internship in a lab or in a company

These mobilities don't deliver the French degree !

THE GROUP ECOLES CENTRALE

BRAZILIAN PARTNERSHIPS - RECRUITMENT



Recruitment Agenda Calendar for Double Degree :

- **June-September** : Call for double degree
- **September-October** : Interview of candidates by the GEC committee
- **November** : Announcement of Selected Candidates
- **December** : Deadline for Eiffel scholarships
- **April** : Announcement of Eiffel scholarships
- **May** : Announcement of BRAFITEC scholarships
- **August-September** : Beginning of Mobility exchange

**Number of places
available for Double
Degree with Brazil in
the Group :**

~ 140

PRESENTATION OF EACH CENTRALE SCHOOL MORE SPECIFICALLY





CENTRALESUPELEC

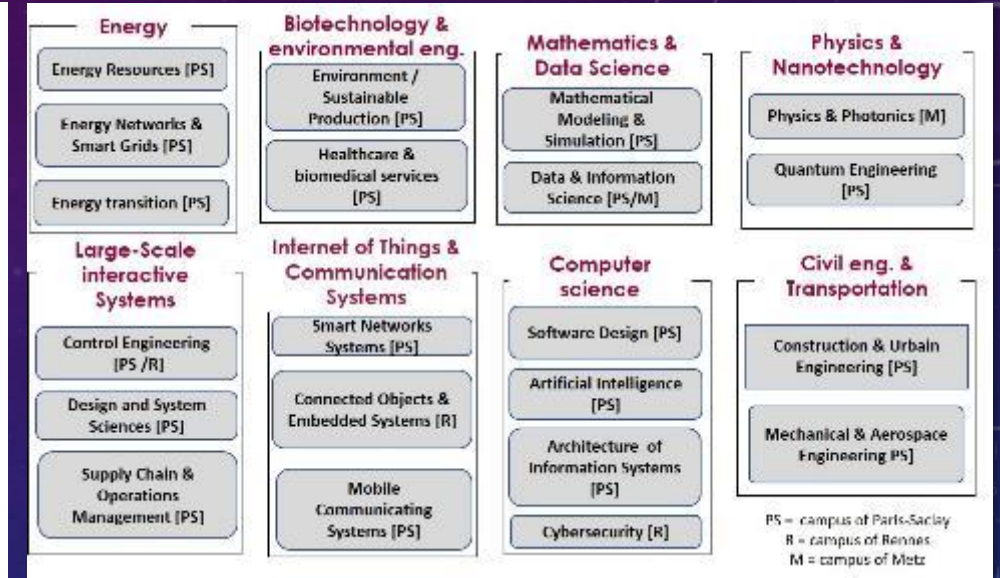
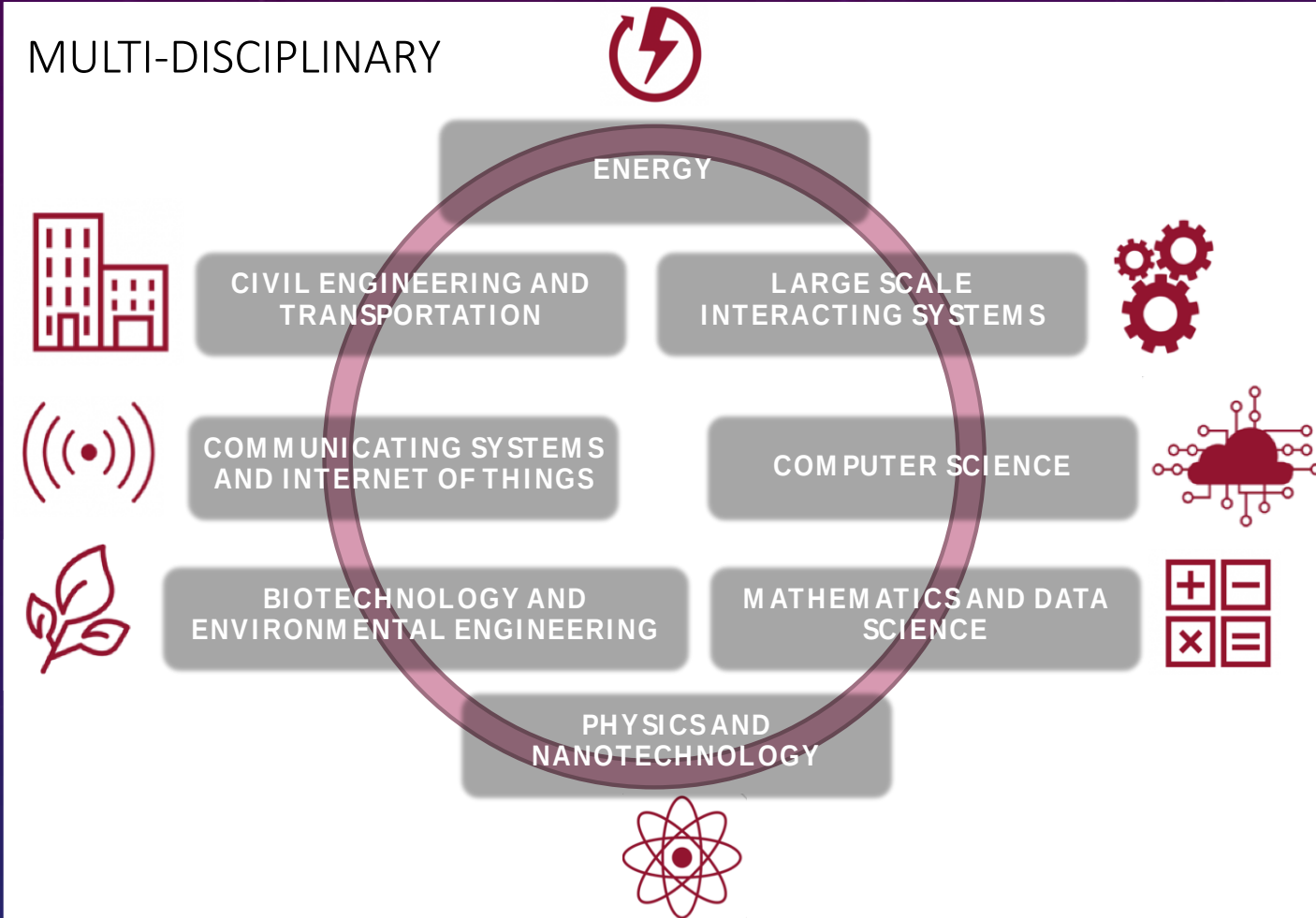
CENTRALESUPÉLEC

A GLOBAL LEADING ENGINEERING SCHOOL IN SCIENCE & TECHNOLOGY



- Top tier French « Grandes Ecoles »
- Ecole Centrale Paris (1829)
- Supélec (Ecole Supérieure d'Electricité - 1894)
- merged in Jan 1st 2015 to jointly create CentraleSupélec covering all the fields of engineering
- Sharing **values** of scientific excellence, innovation, entrepreneurship, internationalization and leadership
- Founding members of Université Paris-Saclay





Pedagogy modalities: interdisciplinarity and meaning, skill's evaluation and new pedagogies with active learning, concrete situations, , associative activities, companies at the heart of the trainings, project and professional training student as an actor of his curriculum and his professional project



CENTRALESUPELEC LINKS



Engineering Program

<https://www.centralesupelec.fr/fr/le-cursus-ingenieur>

<https://www.centralesupelec.fr/en/cs-engineering-degree-programme-masters-level>

Scientific Research

<https://www.centralesupelec.fr/en/the-research-center>

International

<https://www.centralesupelec.fr/en/study-centralesupelec>



—CENTRALE LYON—

CENTRALE LYON

A LONG CULTURE IN ENGINEERING EDUCATION



- ❖ 1550 student engineers enrolled in various programmes
- ❖ 25% female students
- ❖ 235 Master students, 200 PhD students
- ❖ 24% international students
- ❖ Over 50 different nationalities on campus
- ❖ 12,000 alumni throughout the world

6 CNRS laboratories (National Scientific Research Center)

- Laboratory of Fluid Mechanics and Acoustics (**LMFA**)
- Laboratory of Tribology and Systems Dynamics (**LTDS**)
- Lyon Nanotechnology Institute (**INL**)
- **Ampère** Laboratory (Electrical Engineering)
- Camille Jordan Institute (**ICJ** : Mathematics)
- Lyon Research Center for Images and Intelligent Information Systems (**LIRIS**)

Main partners :

Airbus, Alstom, CEA, CNES, Dassault aviation, Dassault systems, DCN, Eads, Eurocopter, EDF, Lafarge, Michelin, PSA, Renault, Saint-Gobain, SNCF, Safran, Snecma, ST Microelectronics, Andritz, IHI, Thales, Thomson multimedia, Total, Naval group...

160 Researchers , **85** Research Engineers,
200 PhD students, **50** Post docs



Rhône-Alpes is France's Second most economically important Region

- Lyon is just 2 hours from Paris by the TGV High Speed Train,
- 90mn from the Mediterranean coast,
- 90mn from the Alp Mountains (the Rhône-Alpes Region has no less than 216 ski resorts)





Specializations & Masters

- Transport and Traffic engineering
- Energy engineering
- Civil and Environmental engineering
- Aeronautical engineering
- Computer science and communication engineering
- Bioengineering and nanotechnologies
- Mathematics and Finance
- Materials Science
- Electrical engineering
- Industrial engineering
- Ocean, Atmosphere, Climate
- Mechanics
- Environmental risk
- Health engineering
- Applied maths & statistics



CENTRALE LYON LINKS



Engineering Program

<https://www.ec-lyon.fr/formation/ingenieure-generaliste>

Scientific Research

<https://www.ec-lyon.fr/en/research-and-innovation/research-centrale-lyon>

International

<https://www.ec-lyon.fr/en/international/incoming-mobility>



CENTRALE NANTES



CENTRALE NANTES

FOCUSED ON INTERNATIONAL DEVELOPEMENT

Tradition dating back to 1919



Among the best "French Engineering Schools" / 350+



2 150 graduate students



37,000+ Centrale Groupe alumni



550 Researchers and teaching staff



270 PhD students



40-acre campus in Nantes

Industrial environment



Nantes & Saint-Nazaire Airbus factories



STX Ship building (Queen Mary)

6 Laboratories associated to CNRS (A or A+) for a cutting edge research

SHAKE THE FUTURE.



- **Fluid Mechanics Laboratory (LHEEA):** Hydrodynamics & Ocean Eng., Energetics, Atmosphere Dynamics, Internal combustion engines
- **Laboratory of Digital Sciences of Nantes (LS2N):** Cybernetics (Robotics, Signal & Automatics, Electronic Systems, Telecom & Radar) and Computer Science
- **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 characterization of ambiance
- **High Performance Computing Institute (ICI):** a mid-sized computing center of 6000 cores, one of the most powerful French regional centers.





Centrale Nantes specialisations and masters (in english)



- Control, embedded systems, image processing
- Robotics
- Virtual reality, computer science
- Atmosphere, water and urban environment
- Ocean engineering
- Civil and environmental engineering
- Aeronautics
- Materials and Composites
- Energetics and propulsion
- Industrial engineering
- Manufacturing
- Health



EMARO+: Advanced Robotics



MCM: Computational Mechanics Master + PhD



EMShip Advanced Design Naval architecture



REM: Renewable Energies in the Marine environment

* Offering scholarships for students covering tuition fees + insurance/travel, monthly allowance



CENTRALE NANTES LINKS

Engineering Program

<https://www.ec-nantes.fr/version-francaise/formation/les-programmes>

First Year

<https://www.ec-nantes.fr/study/engineering-programme-diplome-dingenieur/engineering-programme-year-1>

Second and Third Year

<https://www.ec-nantes.fr/study/engineering-programme-diplome-dingenieur/course-specialisations-yrs-23>

Scientific Research

<https://research.ec-nantes.fr/>

International

<https://www.ec-nantes.fr/english-version/international/study-at-centrale-nantes?l=1>



CENTRALE LILLE

CENTRALE LILLE

KEY FIGURES



Centrale Lille



Lille Beffroi



First automated metro in the world



Leonard de Vinci



Louvre Lens near Lille

✓ 270 People

- 31 Professors
- 49 Associate Professors
- 10 CNRS
- 120 PhD Students
- 27 Postdocs / Research engineers / ATER
- 35 Invited Profs / PAST (7 FTE)
- 17 Teaching Assistants

1500 Students

- 1273 Engineering *Diplôme d'Ingénieur*
- 69 Master Sciences M2R (Research)
- 120 Doctoral Ph.D programs

✓ 25 M€ Total budget

✓ 88 International partnerships

✓ 200 Company partnerships



CENTRALE LILLE

4 AXES OF SPECIALIZATION IN 8 TRACKS

SUSTAINABLE CONSTRUCTIONS & ENERGY

- Constructions and sustainable materials
- Energy and smart grids

SMART SYSTEMS AND ENVIRONMENTS

- Smart systems and advanced networks
- Future networks and smart environments

INDUSTRY FOR THE FUTURE

- Smart industries
- Sustainable conception and productions

FROM STRATEGY TO DATA MANAGEMENT

- Data science and Artificial intelligence
- Modelisation and industrial architecture (IT)



*Fundamental informatics
Computer Engineering
Automatic Control
Signals*



*Micro-Nano-Technologies
Functional Electronics
Acoustics & Optoelectronics
Microfluidics*



*Electrotechnics
Power Electronics*



*Catalytic
Process Engineering
Solid chemistry*



*Civil Engineering
Material Sciences
Mechanics*



Fluid Mechanics

Involved in 6 Laboratories

CENTRALE LILLE LINKS



Engineering Program

<https://ecole.centralelille.fr/ingenieur-centralien-2/>

First year

<https://ecole.centralelille.fr/ingenieur-centralien/la-premiere-annee/>

Second Year

<https://ecole.centralelille.fr/ingenieur-centralien/la-deuxieme-annee/>

Third Year

<https://ecole.centralelille.fr/ingenieur-centralien/la-troisieme-annee/>

Scientific Research

<https://centralelille.fr/recherche/>

International

<https://centralelille.fr/international/>



CENTRALE MEDITERRANEE

CENTRALE MEDITERRANEE

INNOVATION SPIRIT AND SENSE OF RESPONSIBILITY

Marseille, the 2nd biggest city in France

- 860 000 people
- 3000 researchers
- 2nd pole of public research in France
- 100 000 students



Centrale Méditerranée facts and figures

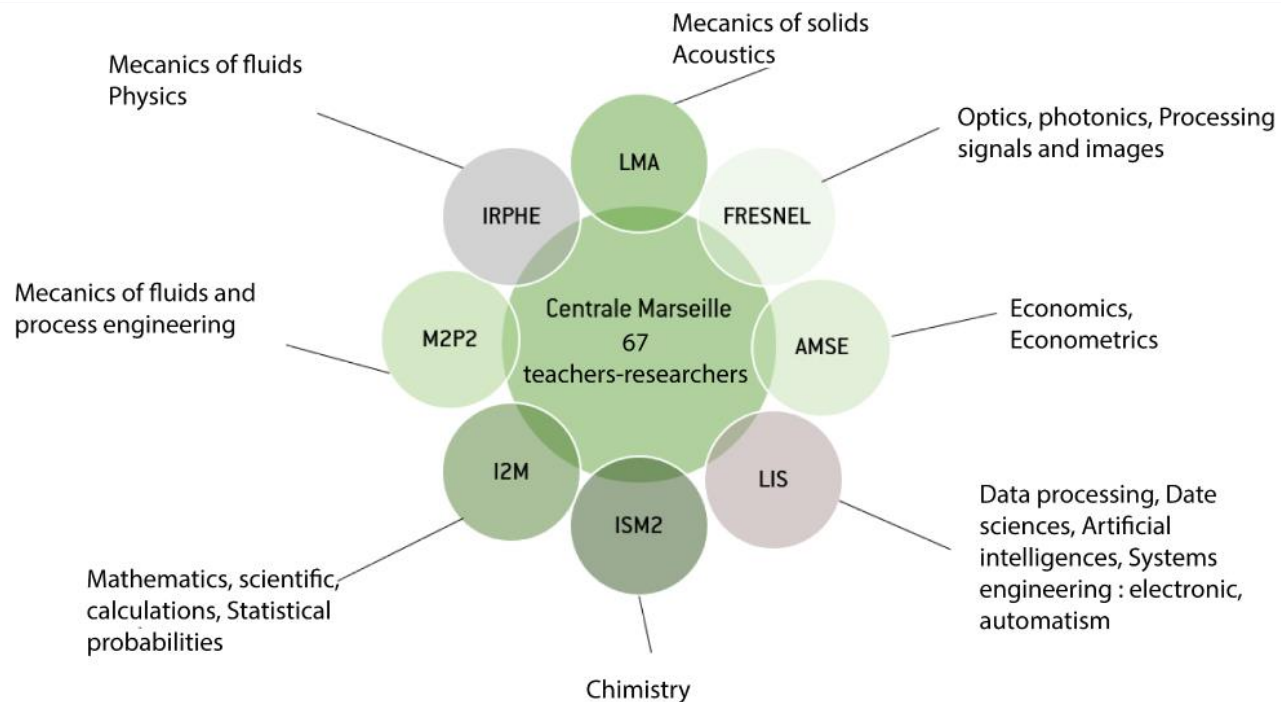
- **1100** Students registered in the engineering program
- **11** Masters with **39** specialities
- **190** PhD students supervised by Centrale Marseille researchers
- **16 000** Alumni throughout the world
- **Staff** : **85** administratives, **102** teachers and researchers and more than **200** instructors
- **8** research laboratories in co-supervision

CENTRALE MEDITERRANEE

INNOVATION SPIRIT AND SENSE OF RESPONSIBILITY



8 research laboratories



Engineering Specializations :

- **INFO** → **Computer Sciences**
 - INFO-DOIT Development and Organization in Information Technology,
 - INFO-IAM IA, Machine Learning and Data Science
- **GREEN** → Chemistry, process engineering and sustainable processes
- **MECA** → **Mechanics**
 - Modelization of Structural and Material Mechanics,
 - Fluids : energy, transport, environment, health,
 - Naval Engineering
- **DDEFI** → Data, Economic & Financial Decisions
- **PICSEL** → Photonics, Image, Signal and Communication
- **CliMaTHs** → Mathematics and Modeling for Climate, Earth, Man

Complex System Engineering (Master in English)

- Environmental Engineering
- Biomedical Engineering

CENTRALE MEDITERRANEE LINKS



Engineering Program

<https://www.centrale-mediterranee.fr/en/education/engineer-ecole-centrale/engineering-programme>

Complete Syllabus

<https://syllabus.centrale-med.fr/en/formation/formation-d-ingenieur-centralien-FI/engineering-degree-of-ecole-centrale-de-marseille-L3VLIMES.html>

Scientific Research

<https://www.centrale-mediterranee.fr/fr/recherche/laboratoires-en-tutelle-et-partenaires>

International

<https://www.centrale-mediterranee.fr/en/international/mobilité-entrante/opportunities-international-students>



<https://www.centralesupelec.fr/>

<https://www.ec-lyon.fr/>

<https://www.ec-nantes.fr/>

<https://centralelille.fr/>

<https://www.centrale-mediterranee.fr/>