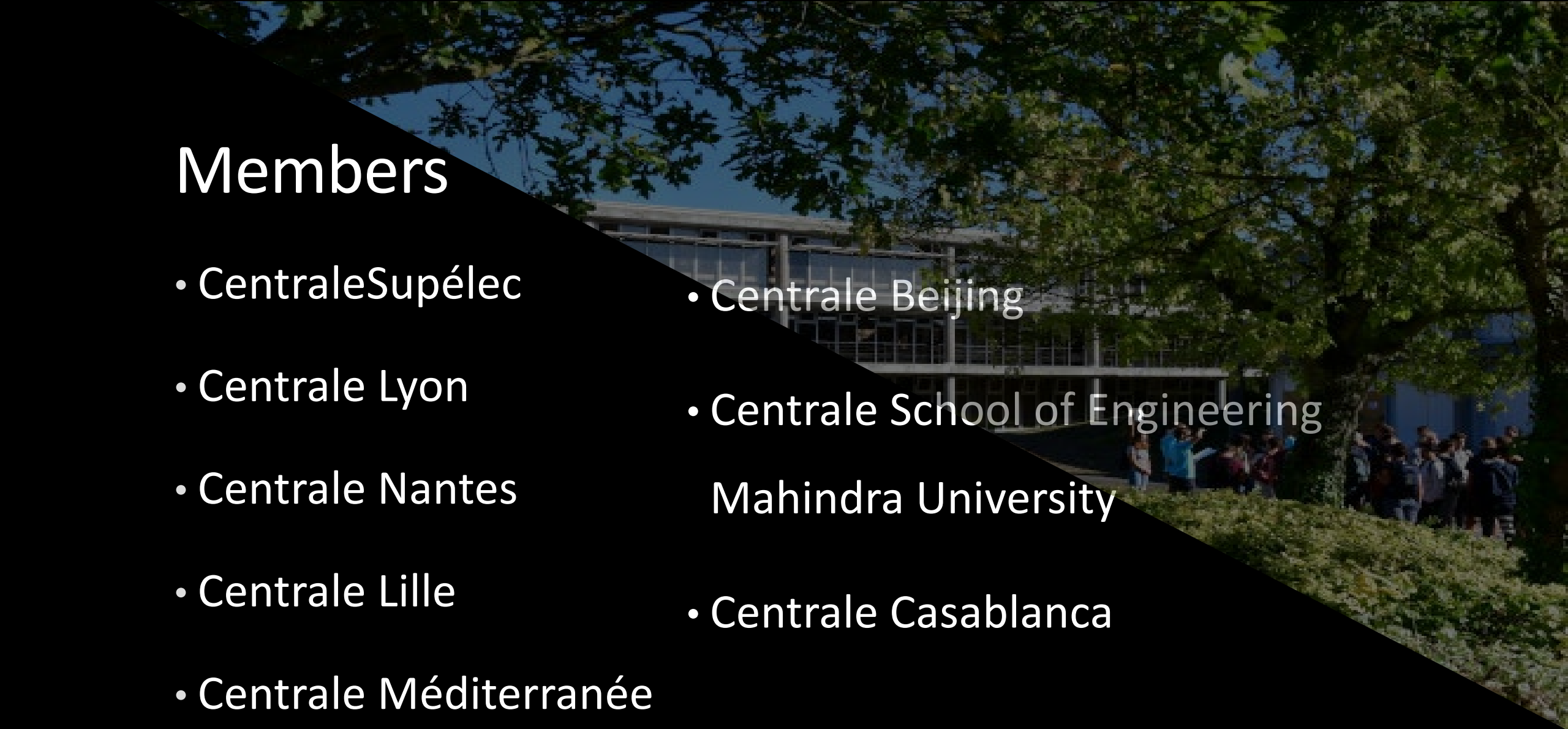

GROUPE DES ÉCOLES CENTRALE
Des formations d'excellence de niveau international

VUELTA 2023



Members

- CentraleSupélec
- Centrale Lyon
- Centrale Nantes
- Centrale Lille
- Centrale Méditerranée
- Centrale Beijing
- Centrale School of Engineering Mahindra University
- Centrale Casablanca

Founded in December 1990.

Same values, same missions and same vision of the future.

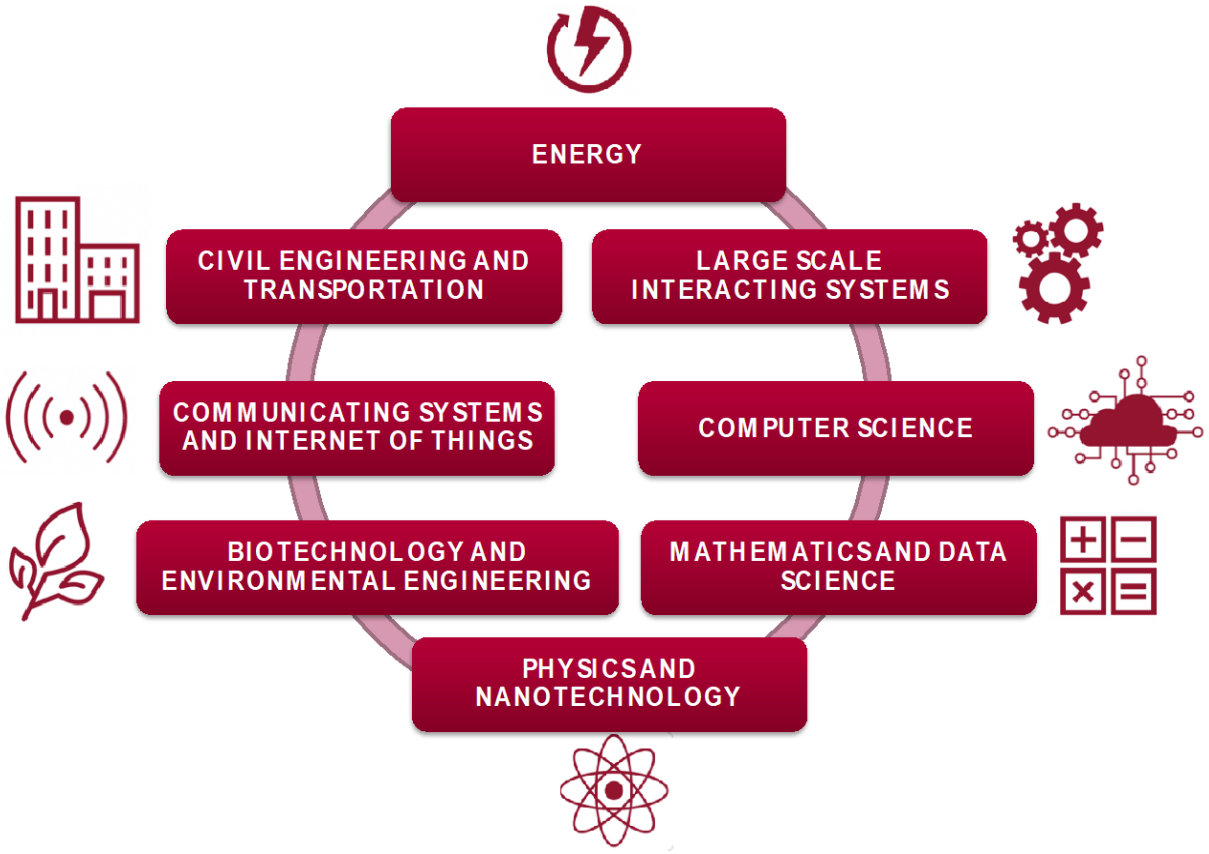
We train multi-disciplinary general engineering, Master and PhD students capable of responding innovatively to the challenges of our society.

In France:
2,100 engineering program graduates every year

800 permanent teaching and research staff

2,000 external contributors

CentraleSupélec



Energy
- Energy Resources [PS]
- Energy Networks & Smart Grids [PS]
- Energy transition [PS]

Biotechnology & environmental eng.
- Environment / Sustainable Production [PS]
- Healthcare & biomedical services [PS]

Mathematics & Data Science
- Mathematical Modeling & Simulation [PS]
- Data & Information Science [PS/M]

Physics & Nanotechnology
- Physics & Photonics [M]
- Quantum Engineering [PS]

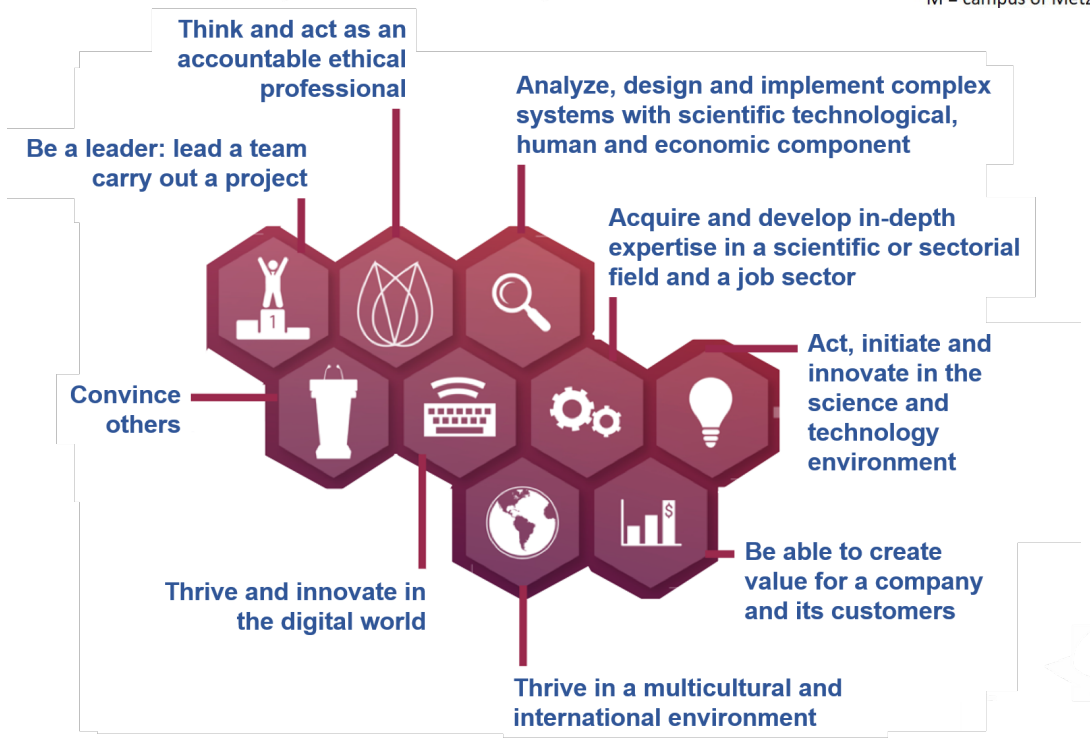
Large-Scale interactive Systems
- Control Engineering [PS /R]
- Design and System Sciences [PS]
- Supply Chain & Operations Management [PS]

Internet of Things & Communication Systems
- Smart Networks Systems [PS]
- Connected Objects & Embedded Systems [R]
- Mobile Communicating Systems [PS]

Computer science
- Software Design [PS]
- Artificial Intelligence [PS]
- Architecture of Information Systems [PS]
- Cybersecurity [R]

Civil eng. & Transportation
- Construction & Urbain Engineering [PS]
- Mechanical & Aerospace Engineering PS]

PS = campus of Paris-Saclay
R = campus of Rennes
M = campus of Metz



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

ÉCOLE CENTRALE LYON

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)

23 engineering programme specialisations on offer

The engineering programme leads to the award of the highly-sought after *'diplôme d'ingénieur'* equivalent to a Master of Science and Engineering.

Automatic Control and Robotics

Energy Control & Management
Data Analysis & Application in Signal and Image Processing
Robotics

Product Design and Industrial Systems

Industrial Engineering
Low tech engineering
Product Engineering
Health, Innovation and Manufacturing

Fluid Mechanics and Energetics

Aeronautics
Propulsion & Transport
Energy Production & Management
Ocean: Hydrodynamics & Marine Engineering
Renewable Energies and Grid Integration
Engineering Science for Housing & Urban Environment

Mechanics, Materials & Civil Engineering

Civil Engineering and Sustainable Construction
Mechanical Engineering for Materials & Manufacturing
Advanced modelling and analysis of structures

Mathematics, Computer Science and Biology

Smart positioning and sustainable mobility
Computer Science for Information Systems
Computer Science for Artificial Intelligence
Mathematics & Applications
Virtual Reality
Digital Sciences for Life Sciences & Healthcare

Doctorate Specialisation (3rd year)

Research Laboratory in Hydrodynamics, Energetics & Atmospheric Environment
Laboratory of Digital Sciences of Nantes
Research Institute in Civil and Mechanical Engineering
Architectural and Urban Ambiances Laboratory
Jean Leray Mathematical Institute

centralelille

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 Artifitial intelligence
- Modelisation and industrial architecture (IT)

Involved in 6 Laboratories

CRIStAL — Centre de Recherche en Informatique, Signal et Automatique de Lille

Fundamental informatics
Computer Engineering
Automatic Control
Signals

iemn — UMR CNRS 8520

Micro-Nano-Technologies
Functional Electronics
Acoustics & Optoel.
Microfluidics

L2EP — Laboratoire d'électrotechnique et d'électronique de puissance de Lille

Electrotechnics
Power Electronics

UCCS

Catalytic
Process Engineering
Solid chemistry

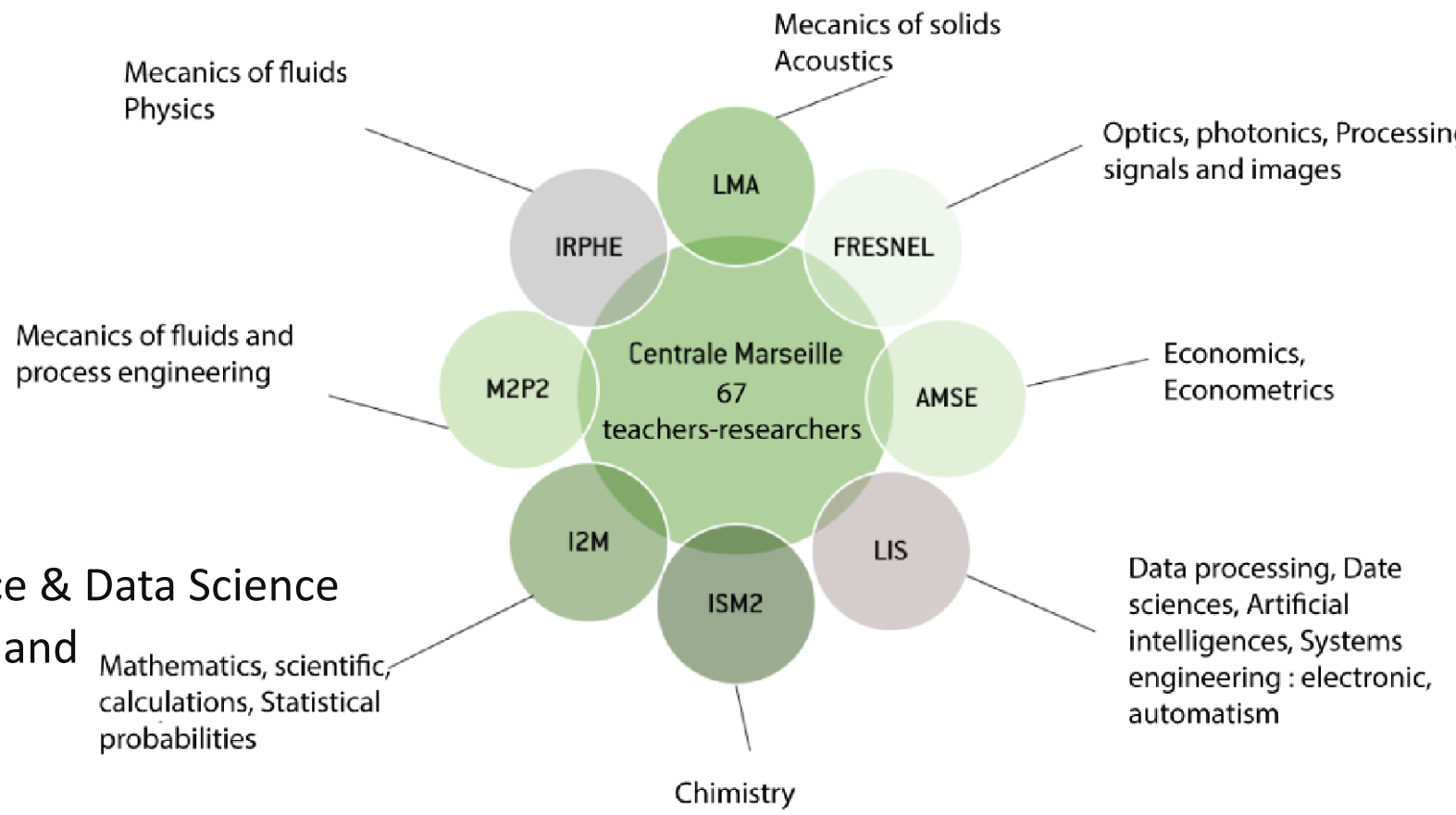
CUBE

Civil Engineering
Material Sciences
Mechanics

aboratoire de écanique des luides de ille

Fluid Mechanics

Centrale Méditerranée



Engineering Specializations :

- **DIGITAL-e** → Consulting, Computer Science & Data Science
- **GREEN** → Chemistry, process engineering and
- sustainable processes
- **MECA → Mechanics**
  - Modelization of Structural and Material Mechanics,
  - Fluids : energy, transport, environment, health,
  - Marine Engineering
- **DDEFI** → Mathematics, Management, Economics & Finance
- **PICSEL** → Photonics, Image, Signal and Communicaton
- **CliMaTHs** → Mathematics and Modeling for Climate, Earth, Man

Complex System Engineering (Master in English)

Environmental Engineering

Biomedical Engineering

Cooperación internacional

Esquemas de intercambios

Cooperación internacional

- Cada año:
  - *2500 estudiantes extranjeros entre los 5 campus*
  - *500 estudiantes de las EC en las universidades colaboradoras*
  - *2000 prácticas en el extranjero*

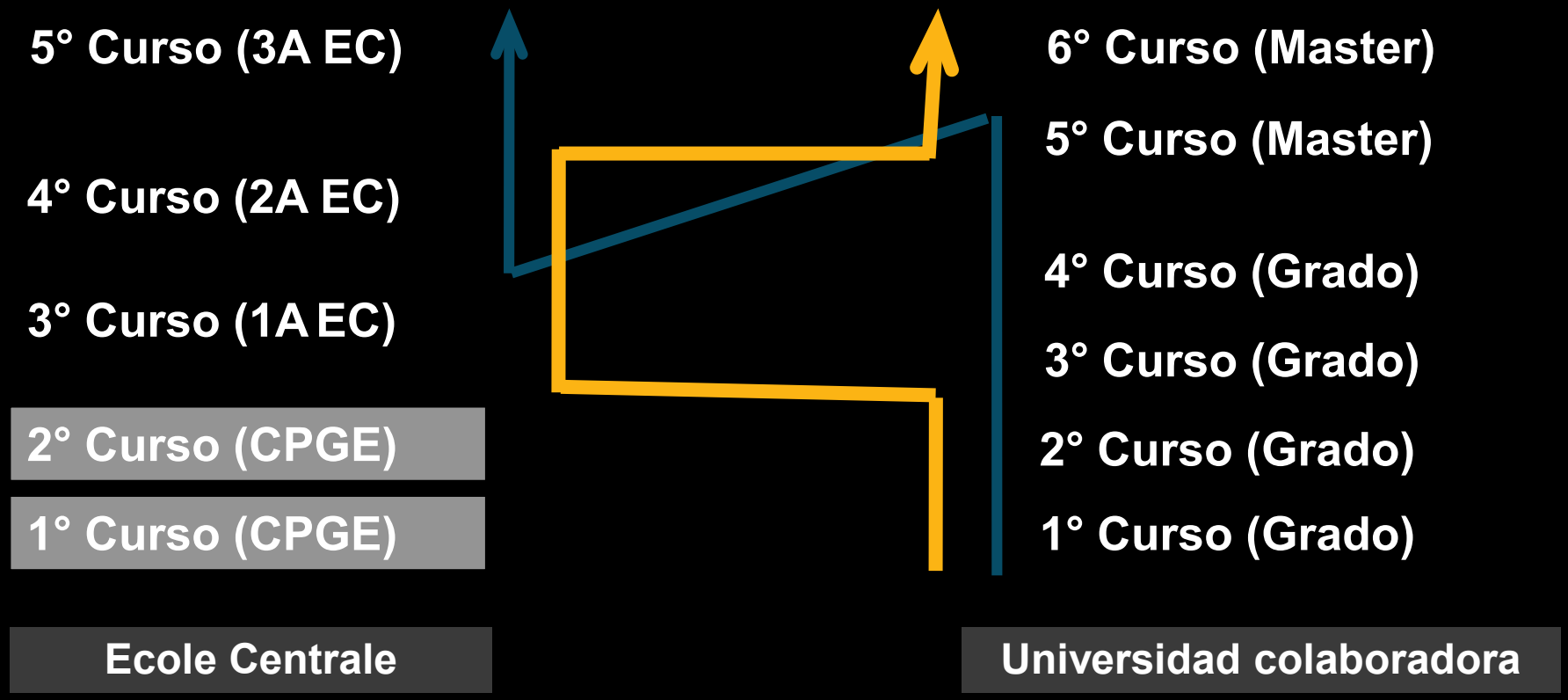
  Y
  - 80 profesores invitados
  - 90 universidades colaboradoras
- Posibilidades:
  - *Doble titulación Ingénieur/Master*
  - *Master degree*
  - *Créditos ECTS y prácticas de investigación en los laboratorios de las EC*
  - *Doctorados: invitados y cotutelas*

Esquema de la doble titulación

Ingénieur EC + Ingeniero de la Universidad colaboradora

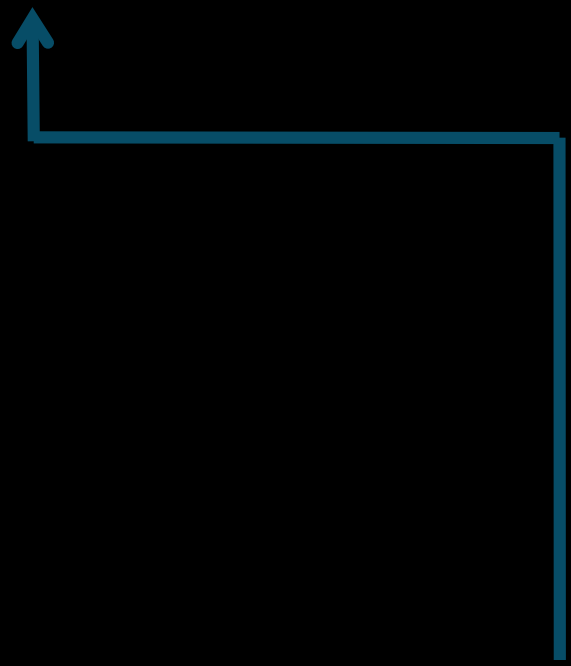
Complementaridad : Generalista+ Especialista

Bi-cultural: 2 años en el extranjero



Intercambios en una Ecole Centrale

S7 – S8 – S7&S8 – S9&S10



5° Curso (3A)

4° Curso (EC)

3° Curso (EC)

2° Curso (CPGE)

1° Curso (CPGE)

Ecole Centrale

6° Curso (Master)

5° Curso (Master)

4° Curso (Grado)

3° Curso (Grado)

2° Curso (Grado)

1° Curso (Grado)

Universidad colaboradora

Vida del Estudiante

Clubes, asociaciones

Alojamiento

Clubes y asociaciones de alumnos: asociaciones culturales, clubes deportivos, etc.

Experiencia profesional (management):

- *Ingénieurs sans Frontières (Ingenieros sin fronteras)*
- Junior Entreprise
- Salón de empresas

Deportes y clubes:

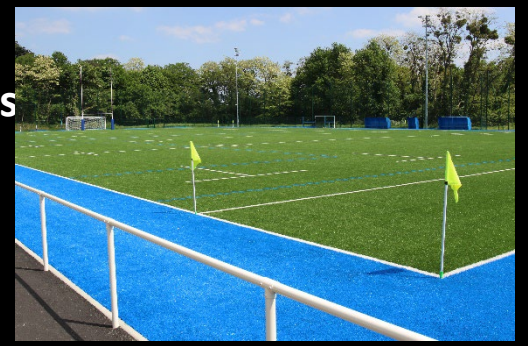
- Jazz, Ajedrez, Teatro, Cine, Baile
- Vela, Rugby, Futbol, Baloncesto, Artes marciales, etc.
- Le challenge

Clubes Internacionales

Alojamiento: residencias estudiantes

Prioridad para alumnos internacionales

- 10 minutos andando del campus
- Habitaciones individuales o dobles con cocina compartida o estudio
- Conexión a Internet
- Gimnasio
- Lavandería autoservicio
- Y mucho más



Conclusión

- Dependiendo de tu movilidad, obtienes un plan de estudios multidisciplinario que te ayuda a relacionarte con especialistas y brinda una visión general amplia de los desafíos complejos futuros (sostenibilidad, digitalización, evolución climática, gestión de la energía),
- Cursos científicos de alto nivel en todos los campos de la ciencia, la tecnología y la ingeniería.
- Acceso a las ciencias sociales, lenguas extranjeras y humanidades
- Capacitación en habilidades blandas: cursos de liderazgo, gestión e innovación, proyectos en equipo, posible participación en clubes de estudiantes
- Networking corporativo: prácticas, ferias de trabajo, conferencias, proyectos, mesas redondas
- Mejora constante en el dominio del francés: 300 millones de francófonos en el mundo (muchos de ellos en África, que es el continente de más rápido crecimiento)

Bienvenue en France !

Contactos

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¿Preguntas?