



ÉCOLE
CENTRALE LYON

become the
**European
Caltech**

major transitions

An ambition for
École Centrale de Lyon



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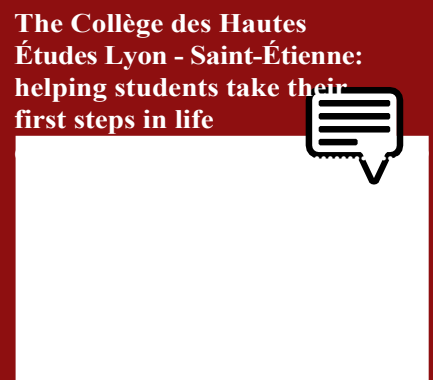
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In this document, the masculine gender is used as a generic term, for the sole purpose of keeping the text simple.

École Centrale de Lyon has set itself the ambition of becoming the European Caltech recognized for its expertise in major transitions, at the service of socio-economic players. The strategy for 2030 was co-constructed with its stakeholders and is based on 4 axes:

1 method for rallying people around a commitment responsible and supportive

2 key missions to produce and transmit knowledge

flagship projects to set the course

> academic alliances to go even further



> Training in basic and engineering sciences, and in economics, humanities and social sciences, combining theory and experimental activities, work experience and team projects.

Demanding, multi-disciplinary training programs that take a systemic approach to the complex issues linked to major transitions in business and society.

> Graduates with the human and technical skills to transform scientific knowledge into technological and social innovations, taking into account their impact, uses and public policy priorities.



> Research in engineering sciences, information sciences and exact sciences, carried out in partnership with industrial players, major public organizations and international partners, to provide answers to societal challenges such as low-energy technologies, energy transition, environmental preservation and decarbonization.

> Research laboratories internationally recognized for their work in a wide range of disciplines: materials and interfaces, acoustics, fluid and structural mechanics, civil engineering, nanotechnologies, bioengineering, electronics, electrical engineering, automation, mathematics, computer science, robotics, perception, uses, innovation and management.

Technology platforms that are unique in Europe, supporting the understanding of fundamental physical phenomena and experiments responding to industrial challenges in the fields of energy, transport and the environment, health, nanotechnologies, bioengineering, processes and construction.

* The SDGs were set in September 2015 by the 193 UN member states as part of the UN Millennium Development Goals. sustainable development program to 2030.

Central in 2022

+3000
students

- > 1,400 general engineers
- > 1,150 specialty engineers, including 350 apprenticeships
- > 250 master's students
- > 240 doctoral students
- > 50 nationalities
- > 25% scholarship holders

330
teachers and teacher-researchers



290
administrative and technical staff



6 joint research units

- > Ampère Laboratory
- > Fluid Mechanics and Acoustics Laboratory
- > Tribology and Systems Dynamics Laboratory
- > Lyon Nanotechnology Institute
- > Camille Jordan Institute
- > Image and Information Systems Laboratory

2 International Research Laboratories

6 International Research Networks / Projects



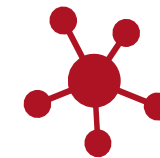
10 joint laboratories with companies or organizations



5 industrial chairs



1 Centrale Innovation subsidiary SATT
Pulsalys
Carnot Institute I@Lyon



2 campuses
> Écully
> Saint-Étienne

72 million euros budget including 13 million euros in research contracts



1 antenna
Digital Region Campus

3 international locations with the Group of Écoles Centrale
> Casablanca
> Beijing
> Mahindra

1 CENTRALYON endowment fund Centrale-US-Education Fund ENISE foundation



Mathematics **top 100**
Mechanical engineering **top 50**



Mechanics, aeronautics and manufacturing **163rd**



Engineering **rank 401-500**



Engineering



Sustainable development **rank 401-600**



Sustainable development **2nd ex aequo**

The situation

A solid base to build on
in a favorable environment despite uncertainties

FORCES

academic skills
of

quality and
robust governance

- > A brand known locally, nationally and internationally
- > The quality of our training courses, student recruitment and excellent integration of graduates
- > A diversified range of training courses from post-baccalaureate to doctorate level
- > Quality of research, scientific platforms, commercialization and links with the business world
- > Expertise in supporting start-ups, SMEs, ETIs and major groups
- > Solid networks, in particular the Groupe des Écoles Centrale and Alumni
- > ENISE integration processes that work
- > Governance capable of supporting large-scale projects in a climate of trust and pride for students and staff

WEAKNESSES

strengthening the
fundamentals

- > The low diversity of student audiences
- > A lack of international strategy, particularly in terms of linking education and research
- > Insufficient resources for renovation and campus expansion
- > Little room for manoeuvre to accommodate a larger workforce, with already high demand teaching and research staff
- > Weak fund-raising campaigns
- > Federating around a common project between the two campuses
- > An overly fragmented quality approach and a transformation to be pursued and secured
- > Campuses that may appear isolated from city centers

OPPORTUNITIES

a favorable
context for
engineering

- > A strong commitment by local authorities to develop engineering training and associated campuses
- > A need to develop training and research on the themes of major transitions
- > Setting up an experimental Comue to support institutional strategy
- > The creation of the Lyon - Saint-Étienne College of Engineering
- > The development of the Collège des Hautes Studies Lyon - Saint-Étienne
- > Short-term availability of teaching space on the Lyon Ouest Écully Campus

THREATS

uncertainties in
particular
and
economic

- > A lack of resources from public funds to ensure smooth operation and development of the Establishment
- > Lack of visibility on short- and medium-term spending constraints
- > A risk of conflicting objectives between the strategies of the Lyon-Saint-Étienne site and those of the Groupe des Écoles Centrale

Power plant Leyno2n0 30

European-style Caltech
recognized on major transitions,
at the service of socio-economic players

Why take inspiration from the Californian Institute of Technology ?

Caltech is comparable in size to Centrale Lyon in terms of the number of research laboratories and students. It is a model for the establishment's development in terms of its position in international rankings, its Nobel prizes, its relations with companies and its business model.

Why on major transitions?

Higher education establishments are key players in environmental, energy, digital and social transitions. By training tomorrow's leaders, producing new knowledge and imagining new technologies, Centrale Lyon must be a driving force in these major challenges.

Why service actors socio-economic factors?

The Établissement has the human and technological resources to support companies, communities and civil society in addressing these issues. Its mission is to provide training and research expertise, and to advise private-sector managers and public, and to disseminate scientific and technical culture to the general public.



1 method for federating around a responsible commitment

Achieve the objectives set by an ambitious strategy by mobilizing all our staff, students and partners:

- > Build a strategy around major transitions, with a dedicated management team;
- > Creating the conditions for inclusive and participative management;
- > Provide its stakeholders with responsible, exemplary eco-campuses and demonstrators ;
- > Accelerate the company's digital transformation;
- > Evolve the business model.

2 key missions to produce and transmit knowledge

Train creative, responsible and committed engineers and conduct research projects to meet major societal challenges:

- > A training policy focused on major transitions that reconciles high standards and inclusion with a view to diversifying profiles and career paths and aims to increase the number of graduates;
- > Multi-disciplinary research of excellence in the service of 9 sustainable development objectives to support companies and communities, and supports entrepreneurship in major transitions.

3 major projects to set a course

Giving meaning, inspiring commitment, driving new initiatives and coordinating actions by involving all stakeholders in three major projects:

- > The Transition Lab, a physical and virtual ecosystem that supports the Établissement's strategy on major transitions for all its missions;
- > The international campus, a hub for foreign partners, nurtures scientific projects and teaching practices;
- > The Industrial Change Campus, a center of expertise for companies on technological and managerial advances.

4 to go even further alliances

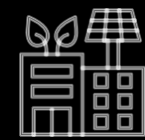
Cooperate with partner higher education establishments to meet the scale of the challenges :

- > The Groupe des Écoles Centrale to promote the Centrale model in France, Europe and internationally;
- > The Comue "Université de Lyon" to strengthen collaborations between establishments on the Lyon site. Saint-Étienne ;
- > Collège d'Ingénierie - Lyon - Saint-Étienne to support economic development, based on industry and society a responsible digital society and the circular economy;
- > The Collège des Hautes Études Lyon - Saint-Étienne to support decision-making in business and public policy.

1 method
to federate around
a commitment
responsible and
supportive



**Transitions at
the heart of
the strategy**



**Responsible,
exemplary and
demonstrative
eco-campuses**



**Accelerating the
transformation**

digital



**A changing business
model**



**Reconciling
high
standards and
inclusion in
training**



**Developing
research
multidisciplinary
excellence**

3 major
projects
to set a course



The Transition Lab



**The
international
campus**



**The campus
on industrial
change**

4 academic
alliances to go even
further

**School
Group
Central :**
wear
the
model
centralian



**Comue
Université
de Lyon :**
strengthenin
g
cooperation
between plants



**College of
Engineering**

Lyon - Saint-Étienne:
supporting development
of companies



**Collège des
Hautes Études
Lyon - Saint-
Étienne:**
supporting
decision-making



Une stratégie à la suite

To build an ambitious strategy, Centrale Lyon has mobilized all its staff, students and partners.



+ 300 shareholdings,
corresponding to over
150 participants

90 teachers and teacher-researchers
40 administrative staff
3 of the 2 campuses

+ 100 alumni
11



- February 7 **Executive Committee Seminar**
Board of Directors and strategy seminar preparation
- March 10 **Board of Directors**
Presentation - launching the approach
- March 22 **Campaign Committee**
Presentation and discussion
- April 7 **Strategic seminar**
World café on 6 themes

summaries available to staff and students and alumni

for
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collective


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1 for staff 1
for students
1 for alumni

May 3
to June 20

- May 3** **Annual General Meeting**
Presenting and soliciting contributions
- May 25** **Collaborative workshops**
10 participatory workshops
+ contributions platform
- June 21** **International Advisory Board**
Presentation and discussion
- June 30** **Endowment Fund Board of Directors**
Presentation and discussion
- July 5** **Strategic seminar**
Finalizing the strategy
- September 12** Results presentation
- October 13** **Strategic Board of Directors**
Presentation and work on indicators
- Executive Committee Seminar**
Finalizing the draft
- Strategic Board of Directors**
Final validation

Annual General Meeting



1 a method for rallying people around a responsible commitment to solidarity

To ensure that every policy, action and decision is questioned in terms of its impact, Centrale Lyon has chosen to build its strategy around major transitions.

The way it operates must be exemplary, thanks to inclusive and participative management.

As part of its exemplary approach, the Établissement is committed to providing its stakeholders with responsible, exemplary eco-campuses.

Finally, these objectives can only be achieved by accelerating the company's digital transformation and changing its business model.



A strategy built around major transitions

Achieving the objectives set by an ambitious strategy based on major transitions requires the involvement of all our staff, students and partners.



Objective

Integrate major transitions into the company's overall policy and apply them to all its components

Action

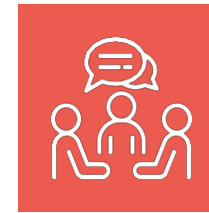
- > Create a cross-functional Major Transitions Development Department, a member of the Executive Committee. The Major Transitions Development Department is supported by two professors-researchers in charge of social responsibility, respectively and environmental and digital ;
- > Set up a Sustainable Development and Social Responsibility Committee (DDRS) and a network of transition correspondents in the components.

Method

- > Place the challenges of major transitions at the heart of our strategy, and apply them to each of our components and actions;
- > Inform, raise awareness, encourage and support players in their day-to-day management of these issues.

Indicator

- > Number of actions in line with the objectives of Sustainable Development Goals (SDGs)



Inclusive and participative management

Increased staff numbers, the development of partnerships and the Établissement's ambitions in terms of major transitions require experimentation with new modes of organization and operation. The successful implementation of our strategy relies on the development of a strong sense of belonging to the Group.

Centrale Lyon, everyone's adherence to common values and commitment to shared objectives.



Objective

Update Centrale Lyon's raison d'être and its role as a mission-driven institution

Action

- > Establish a human resources policy in line with the growth prospects for student flows and the associated business models;
- > Promote quality exchanges between departments, a spirit of cohesion and conviviality, the fight against discrimination and well-being in the workplace;
- > Reinforce staff training, particularly in team management.

Method

- > Continue to deploy the participative and inclusive management approach initiated when staff and stakeholders were involved in defining strategy;
- > Support cross-functional skills, autonomy in defining organizational processes and project-based working;
- > Updating the raison d'être ;
- > Integrate the principles of an establishment with a mission into the way the company operates by questioning its stakeholders, in order to monitor the application of the principles set collectively.

Indicators

- > Rate of implementation of strategic plan in number of actions completed
- > Overall student and staff satisfaction (QWL)

ODD





Responsible, exemplary and demonstrative eco-campus

The development of the Établissement, in particular the increase in student numbers and the development of research and services for socio-economic players, requires the continued transformation of the Écully and Saint-Étienne campuses.



Objective

Obtain a label for campus management at national and international level

Action

- > Restructuring the premises in connection with the creation of the Transition Lab ;
- > Developing major research tools ;
- > Create new learning spaces and collaborative work areas;
- > Host academic and industrial partners for their projects.

Method

For all these developments, the greatest care will be taken to ensure that they are exemplary:

- > in terms of their carbon footprint and the protection of biodiversity;
- > the demonstrator nature of the equipment;
- > on their potential for innovation in conjunction with the laboratories' expertise;
- > on their modularity and their ability to facilitate creativity for all audiences concerned;
- > on their impact on the well-being of staff, students and partners.

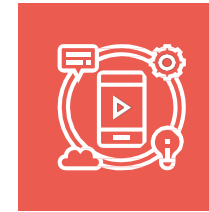
With a view to sobriety, information and incentive actions will be carried out on :

- > energy and flow management ;
- > eco-responsible management of the campus by transforming individual and collective practices, such as waste sorting;
- > the development of soft and responsible mobility, to reduce the carbon footprint of staff and student travel;
- > Implementing responsible purchasing and consumption policies.

Indicator

- > Overall carbon footprint (school, students, staff)

ODD



Accelerating the digital transformation

Digital transformation aims to strengthen synergies between general services and operational structures (campus, in-house school(s), departments, laboratories), as well as between staff at different sites. The aim is to ensure that the digital environment is inclusive, to integrate all students and staff; sober, to reduce its carbon footprint; and sovereign, to guarantee optimum security for all users. services, and ethics, to promote enlightened, open dialogue that respects democratic principles.



Objective

Promoting digital inclusion, sovereignty, sobriety and ethical practices

Action

- > Develop information and communication tools and services, with an emphasis on dematerializing processes;
- > Deploy an active quality policy that provides tools to facilitate collaborative working, such as teleworking;
- > Improving procedures and simplifying the ergonomics and use of information system tools to ensure smooth, secure exchanges and guarantee the best conditions for everyone's personal and professional development.

Method

- > Raise awareness and train students and staff in responsible use of the various channels for exchanging information and data;
- > Training in best practices to reduce the carbon impact of each individual's use;
- > Inform about safety and risks.

Indicator

- > Number of paperless processes

ODD





A changing business model

To achieve the ambitions set by the Établissement, and in particular the increase in headcount, the business model is evolving.



Objective

Increase and diversify resources and strengthen controlling expenditure to support the Établissement's ambitions

Action

- > Conduct fundraising campaigns to increase the resources generated by the patronage of its corporate partners and the philanthropy of its alumni;
- > Pursue partnership research based on the economic model of scientific equipment and platforms;
- > Developing lifelong learning.

Method

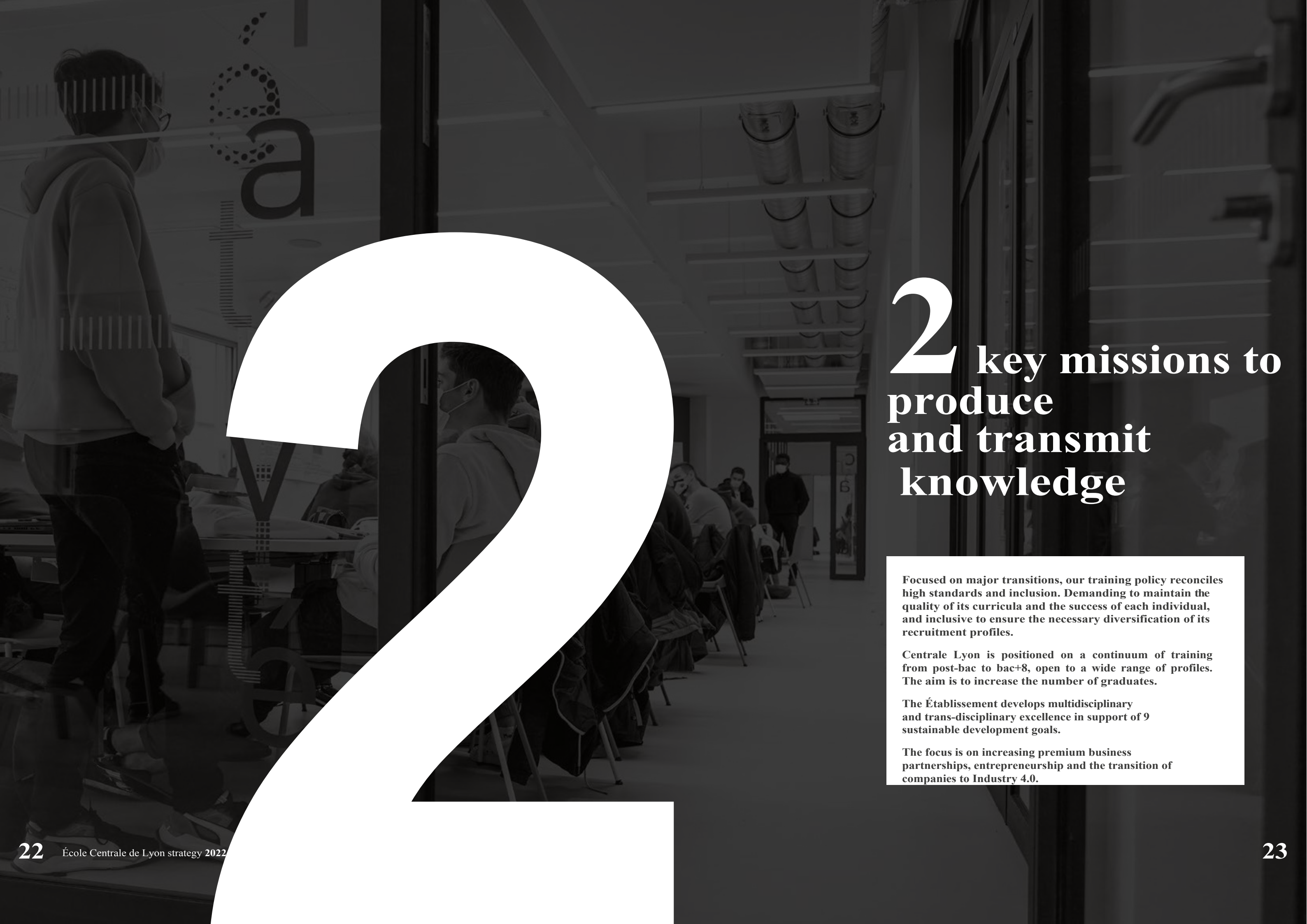
- > Mobilize the campaign committee and the tools at its disposal, namely the Endowment Fund, the Foundation under aegis and the Centrale US Educational Funds;
- > Create new training products (e.g., bachelor's degree, with an experimental business model of its own) and new services (premium partnerships with companies);
- > Set up tools to measure and monitor the analysis of each expense item, in order to suggest areas for improvement, particularly in relation to the control of eco-campus flows.

Indicators

- > Own resources as a percentage of total consolidated budget revenue
- > Cash flow from operations
- > Amount of available working capital

ODD





2 key missions to produce and transmit knowledge

Focused on major transitions, our training policy reconciles high standards and inclusion. Demanding to maintain the quality of its curricula and the success of each individual, and inclusive to ensure the necessary diversification of its recruitment profiles.

Centrale Lyon is positioned on a continuum of training from post-bac to bac+8, open to a wide range of profiles. The aim is to increase the number of graduates.

The Établissement develops multidisciplinary and trans-disciplinary excellence in support of 9 sustainable development goals.

The focus is on increasing premium business partnerships, entrepreneurship and the transition of companies to Industry 4.0.



Reconciling and inclusion in training

At the crossroads of science and technology, engineers play a central role in meeting the challenges of climate change, as an economic and political player, and as a citizen.

In the corporate world, engineers play an active role in CSR, taking into account the uses and impacts of the life cycle of the products and services they design and produce.

They also support the definition and implementation of public policies, thanks to their technical knowledge and ability to manage complex projects. Finally, engineers are "science brokers", disseminating scientific and technical knowledge to the general public, and playing a role in terms of acceptance of innovations and breakthroughs.

To meet the challenges of transition and the development of short circuits and the relocation of know-how, public authorities and companies believe that the number of assistant engineers, engineers and PhDs trained in France is currently insufficient.

Centrale Lyon is proposing to increase the number of graduates in :

- > Opening up its training courses to a wider variety of profiles;
- > Diversifying its range of engineering training courses through a continuum from post-bac to bac+8.



1 A continuum of training from post-bac to bac+8 to accommodate different profiles

To diversify the profiles of French and international students, increase the social mix and ensure equal opportunities, Centrale Lyon has positioned itself in science and engineering, on a continuum of training from post-bac to bac+8, including all three cycles of higher education.

Objective

Diversifying profiles, increasing social diversity and equal opportunities

Action

- > Offer curricula adapted to a variety of profiles: assistant engineer diploma, engineering diploma, master's degree, doctorate, establishment diploma ;
- > Develop new courses and degrees specific to Centrale Lyon or offered in collaboration with our partners, thanks to our training engineering expertise.

Method

- > Introduce individualized support, particularly in the first cycle, in the form of academic tutoring and/or a "one-to-one" training program. corporate sponsorship to co-construct students' orientation according to their career plans and potential;
- > Facilitating internal and external links between different courses;
- > Strengthen support for students' schooling through a scholarship program via sponsorship and a housing support offer, by drawing inspiration from "internat d'excellence"-type schemes;
- > Expand partnerships with local high schools and middle schools, to increase students' awareness of and interest in higher scientific education.

Indicators

- > Rate of grant holders on social criteria
- > Percentage of women in total workforce
- > Success rate/year/diploma

ODD



2 An increase in the number of graduates by 2030, based on the attractiveness and diversity of the offering.

The range of courses is clearer and more attractive to students from France and abroad, with entry and exit points linked to the three cycles of higher education. For each course of study, we are striving to establish its own economic model in response to the expectations of society and business.

Objective

Increase the number of graduates in the 3 cycles of higher education, in line with an increase in human resources and premises.

Action

Strengthen the reputation of graduate programs

> Consolidate the Centralien generalist engineering brand

Centrale Lyon reaffirms its commitment to the Groupe des Écoles Centrale (GEC) and the École Centrale brand. Through the GEC, Centrale Lyon aims to promote the common skills repository and the development of the École Centrale brand. new teaching methods to stimulate entrepreneurial skills and focus the curriculum on major transitions. Beyond French students, the promotion of the Centrale generalist engineering brand is designed to enhance the attractiveness of the degree to international students. Centrale Lyon is also looking to expand its range of hybrid courses and diplomas. Courses in "Double-diploma" or "post-graduate" programs are being studied in partnership with local establishments and international markets.

> Building and consolidating Centrale Lyon's specialty engineering brand

The Établissement aims to reinforce its specialty engineering brand, establish itself as a benchmark in this field and build the reputation of its diplomas with companies. Consideration is being given to the creation of new programs and/or new in-house or associated specialty schools, in conjunction with companies and with a particular focus on apprenticeships.

> Enhance the international appeal of our master's programs

The range of Master's courses is diversifying to offer specializations in promising sectors and to encourage people to enter the research profession, particularly internationally. This reflection is being carried out in conjunction with the Lyon - Saint-Étienne site.

> Developing doctorates

To facilitate understanding of major transitions and disruptive innovation, it is essential to train more PhDs. Centrale Lyon is therefore keen to increase the number of its doctoral students. To encourage vocations, an engineer-doctor program has been set up. The process of valorizing research work by filing patents and setting up companies in conjunction with SATT Pulsalys is also encouraged and should be strengthened. In addition, the creation of a "Validation des Acquis de l'Expérience" (VAE) pathway for R&D managers is helping to integrate research into companies.

Diversifying undergraduate offerings

> Strengthening the ENISE preparatory cycle

As the gateway to specialized engineering degrees at the Saint-Étienne campus, the preparatory cycle enables students to develop their choice of specialization through elective courses and experimental activities. Consideration is being given to adapting the curriculum to changes in training paths in the final year, and developing modules on digital technology, sustainable development and recruitment diversification.

> Diversify recruitment paths with CapECL, an integrated preparatory class

Opening in September 2022, CapECL welcomes post-baccalaureate students to its new preparatory training program. With specific support, students can join Centrale Lyon's generalist or specialty engineering programs. The aim is to attract more scholarship students to this program.

> Find out more about the Cycle Pluridisciplinaire d'Études Supérieures (CPES) program

For the start of the 2022 academic year, Lycée du Parc and the École Normale Supérieure de Lyon have created the "Sciences et société" CPES. A 3-year multi-disciplinary course designed to enable students to enter master's or engineering programs, the CPES combines mathematics, physics, computer science, economics and political science, history-geography and general culture. The Institut d'Études Politiques de Lyon and Centrale Lyon are also involved in the project, and will contribute to training in years 2 and 3.

> Launching a new bachelor brand

A new course at Centrale Lyon, the bachelor's degree is designed to train assistant engineers with a diploma in engineering. A bachelor's degree, *Data Science for Responsible Business*, in partnership with emlyon, opens in 2023. It leads to a dual competence combining data science (with a focus on artificial intelligence) and management science (corporate social and environmental responsibility). The final year is open to apprentices. Discussions are underway on the creation of other bachelor's degrees around industrial themes, to train assistant engineers, particularly for SMEs and ETIs.

Method

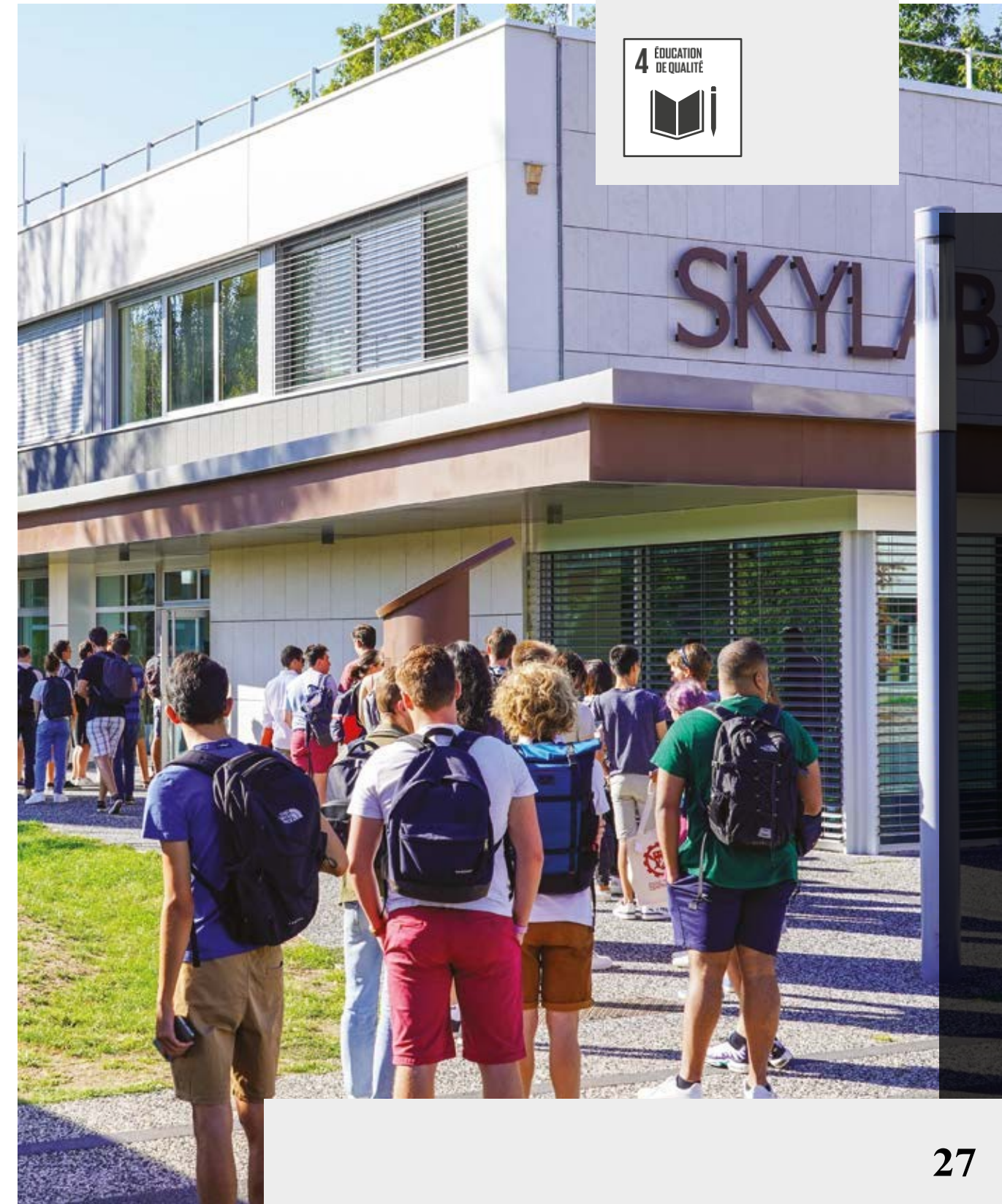
Several avenues are being explored to increase the number of graduates in initial training:

- > Increase the number of graduates for existing courses;
- > Create new training courses, including apprenticeships, alone or in partnership with other establishments;
- > Create new in-house specialty schools or associated schools.

Indicators

- > Number of students enrolled
- > Plant national ranking
- > Company placement rankings on completion of generalist curriculum

ODD





Developing multidisciplinary research excellence

In order to achieve the MDGs set by the United Nations in 2015, and in the face of climate change, environmental degradation, pressure on energy resources and emerging conflicts, research plays a leading role.

Researchers question the paradigms of our society and propose solutions to political and economic decision-makers. Research brings to bear on the current challenges of major transitions a solid methodology based on reliable data and reasoning, distanced questioning and putting the issues in perspective; a methodology that is indispensable for grasping issues that are by nature complex and systemic.

École Centrale de Lyon intends to mobilize its teacher-researchers and researchers more fully around the SDGs:

- > Accelerate research on the SDGs by encouraging the emergence of transdisciplinary projects;
- > Supporting major industrial projects on these SDGs;
- > Supporting entrepreneurship to encourage breakthrough innovations and assisting local businesses to spread best practices.



1 Research in support of 9 SDGs

Centrale Lyon's research teams are mobilized to respond to 9 SDGs.

Objective

Developing expertise of excellence on the SDGs and strengthen state-of-the-art facilities and infrastructures

Action

Recognized for its fundamental and applied research in the sciences of matter, life and data, the Établissement is committed to furthering the research work of its laboratories on cross-disciplinary themes linked to major transitions:

- > Sustainable and sober energy production and transport, renewable energy and systems efficiency (bio-cell, smartgrid, hydrogen, etc.);
- > Eco-design and low-carbon industrial production (sustainable materials and the environmental impact of materials, additive manufacturing, predictive maintenance, life cycle analysis, etc.);
- > Adaptability and resilience of mobility and urban systems (sustainable housing, sustainability of space, air and ground transport, air pollution, etc.);
- > Environmental protection and health (bioengineering, biomimicry, sensory engineering, etc.);
- > Calculation, analysis and monitoring of massive data (artificial intelligence, big data, quantum computing, nanotechnologies, etc.).

Method

These federative projects are a lever for :

- > Stimulate team creativity and encourage interdisciplinarity between laboratories within and outside the establishment;
- > Strengthen the development of expertise and skills ;
- > Promote the development of complementary research infrastructures;
- > Organize workshops bringing together researchers, teacher-researchers and doctoral students from all laboratories and partner establishments to share research results and work on common issues and initiate cross-disciplinary thinking and projects;
- > Create new student paths;
- > Develop new partnerships with socio-economic players;
- > Develop entrepreneurship among researchers and students;>

Disseminate research work within the framework of the scheme.
"open science"

Indicators

- > Number of A-Q1 publications
- > Amount of research contracts

ODD



2 Premium corporate partnerships to support major industrial projects

To support the Établissement's role on the SDGs with socio-economic players, emphasis is placed, among other things, on developing "premium" partnerships with major corporations.

Objective

Create joint ventures, joint laboratories, joint test benches...

Action

- > Initiate new collaborations with companies and socio-economic players on major societal issues, based on a diversified service offering.

Method

- > Initiate new research collaborations, in-company theses, capitalize on laboratory results and expertise, make platforms available, create joint laboratories and/or joint ventures;
- > Develop lifelong learning modules;
- > Involve external experts in training courses;
- > Offer student projects and internships; > Offer employer branding initiatives;
- > Involve outside personalities in the establishment's governing bodies.

Indicator

- > Number of joint laboratories with industry

ODD



3 Support for entrepreneurship and local businesses

In addition to these ongoing initiatives, the school is committed to opening up its students to the world of entrepreneurship, in particular through the support offered at Skylab to entrepreneurial students in the 3rd year "ingénieur intrapreneur-entrepreneur" course, doctoral and post-doctoral students, as well as lecturers and researchers.

Objective

Position itself as a resource center for entrepreneurs and startup creation

- > Supporting the creation of industrial startups ;
- > Hosting innovative companies in our laboratories.

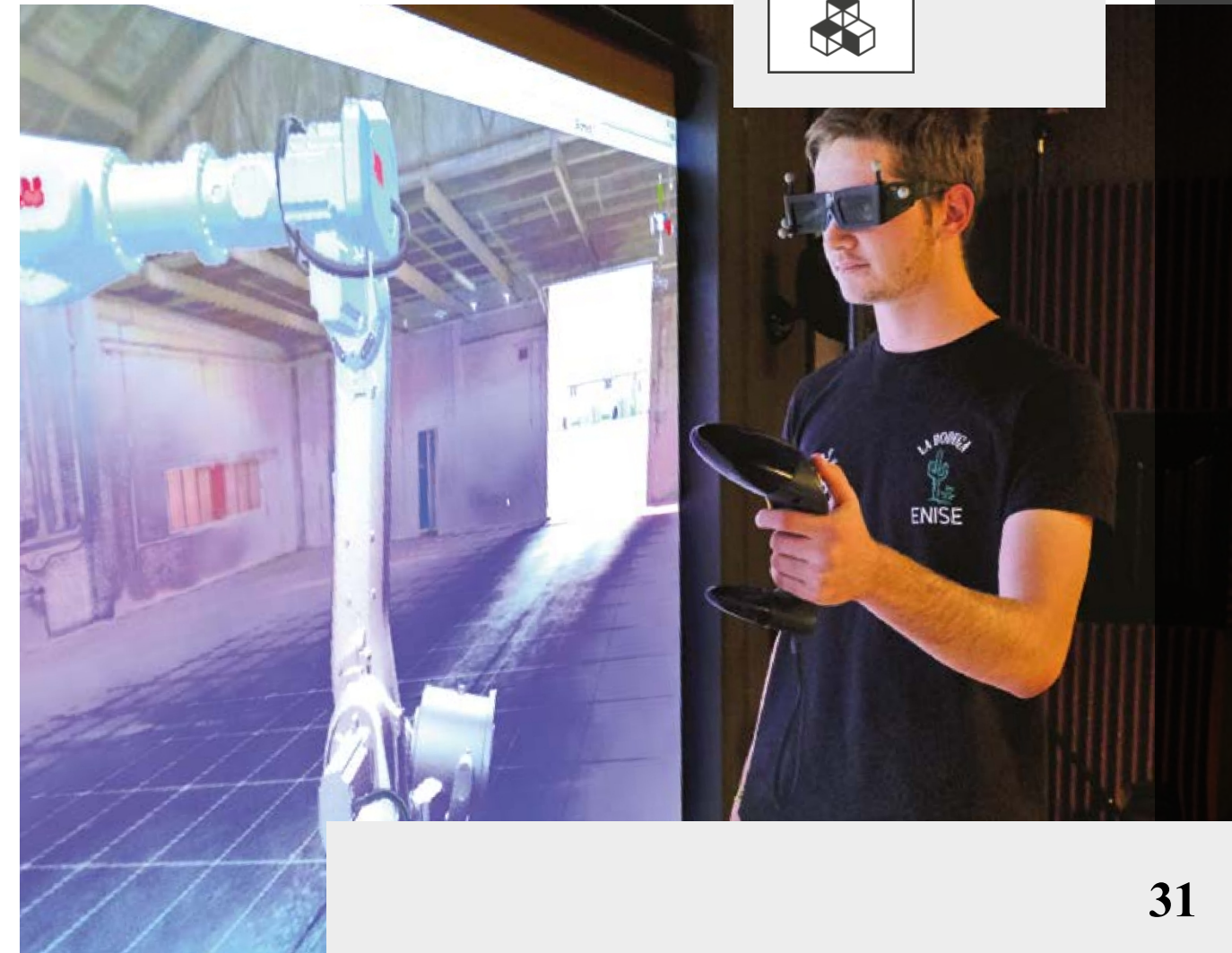
Method

- > Support projects in partnership with the local ecosystem and local establishments;
- > Providing platforms, expertise and resources to help companies make the transition to Industry 4.0.

Indicators

- > Number of startups hosted or created using laboratory technologies
- > Industrial services

ODD





3 flagship projects to set a course

Giving meaning, inspiring commitment, driving new initiatives, coordinating actions and disseminating the approach to all stakeholders with three major projects that set the course:

- > **The Transition Lab,** physical and virtual ecosystems for major transitions
- > **The international campus,** hub for our foreign partners
- > **The Industrial Change Campus,** a center of expertise for companies.



The Transition Lab, an ecosystem on major transitions

The Transition Lab is an ecosystem where research, initial and continuing training and the dissemination of knowledge on the themes of major transitions converge. Physical and virtual ecosystem, it implements the Établissement's strategy.

Objective

Supporting socio-economic players in major transitions

Action

- > Identify key partners in major transitions, including academics, businesses, politicians, associations and the media;
- > Develop research projects and chairs with companies;
- > Take the SDGs into account in the expectations and progress of research projects;
- > Train teacher-researchers on transitions so that they can be better taken into account in their teaching;
- > Assistance in finding funding for research projects;
- > Developing dedicated initial training courses and continuing education at Centrale Lyon and in partnership with other institutions;
- > Increase the number of student projects focusing on transitions, particularly in conjunction with local authorities, associations and other organizations. laboratories ;
- > Participate in civil society events on transitions: conferences, exhibitions, debates, etc;
- > Set up a shared documentary watch on major transitions.

Method

- > Provide a forum for exchanges between multidisciplinary teams, thanks to dedicated areas;
- > Enable teacher-researchers to work in project mode on common subjects;
- > Welcoming academic and industrial partners from France and abroad;
- > Hosting spin-offs, startups and LabComs, encouraging the hybridization of skills and creativity;
- > Train responsible citizens and decision-makers, providing them with technological solutions to environmental, energy, digital and societal transitions.

Indicator

- > THE Impact Ranking (international sustainability ranking)

ODD



The international campus, a hub for our partners

Centrale Lyon's Campus Lyon-Ouest Écully (CLOE) is an international campus open to international higher education and research institutions, providing a gateway for initiating collaborations with all the institutions on the site. For international institutions, the campus also provides access to European partnership tools and mechanisms.

Objective

Become an international center of e-pertise on major transitions thanks to an international campus

Action

- > Offer international universities the opportunity to set up a light but permanent presence on campus;
- > Offering new spaces for exchange, training, research and creativity, to foster the emergence of projects in line with major global challenges and European priorities;
- > Diversify the recruitment and hosting of students and scientists from historical partnerships.

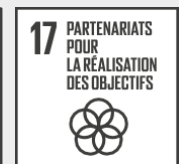
Method

- > Pilot the project from a small circle of establishments, ideally at least one per continent, and then bring in other international branches on a larger scale;
- > Provide foreign universities with the infrastructure they need to collaborate in teaching and research;
- > Encourage the creation of new European and international training courses and develop the network of international doctoral students.

Indicators

- > Number of international co-supervised theses
- > Number of foreign lecturers, or with a foreign diploma
- > Number of international research laboratories
- > Number of international institutions hosted on campus
- > Number of actions carried out with host establishments

ODD





The industrial change campus, a center of expertise for businesses

The campus on industrial change in Saint-Étienne supports companies in their industrial, digital, managerial and economic transitions. environment, with a view to developing responsible industry 4.0 in the region.



Objective

Developing a campus on industrial change

Action

- > Diversify our range of services for businesses ;
- > Set up technology transfer platforms on both campuses to conduct research and proof-of-concept activities with SMEs;
- > Supporting the development of industrial startups.

Method

- > Develop apprenticeships in specialized engineering programs and bachelor's degrees to meet the needs of local businesses;
- > Strengthen lifelong learning and accreditation of prior learning, including for doctorates, in collaboration with companies and local authorities;
- > Raise young people's awareness of industrial careers in conjunction with socio-economic players and local authorities;
- > Create a school dedicated to lifelong learning to upgrade the skills of people working in companies.

Indicators

- > Amount of industry-related research
- > Number of startups hosted or created using laboratory technologies

ODD



4 academic alliances to go even further

Aware of the vital need for cooperation between higher education establishments to meet the scale of the challenges ahead, Centrale Lyon is keen to contribute its expertise in the following areas its dynamism and resources to the four alliances of which it is a member:

- > **Groupe des Écoles Centrale (GEC)** to promote the Centralien model in France and abroad;
- > **The "Université de Lyon" joint venture** to strengthen cooperation between establishments on the Lyon-Saint-Étienne site;
- > **Collège d'Ingénierie Lyon - Saint-Étienne** to support business development, around a low-carbon industry and society, a responsible digital society and the circular economy;
- > **Collège des Hautes Études Lyon - Saint-Étienne** to support decision-making in business and public policy.



The Group Écoles Centrale: promoting the Centralien model

Founded in December 1990, the Groupe des Écoles Centrale (GEC) comprises CentraleSupélec, Centrale Lyon, Centrale Lille, Centrale Marseille and Centrale Nantes. With over 800 permanent teaching and research staff and no fewer than 2,000 external contributors, the GEC graduates nearly 1,500 engineers every year.

Appreciated and recognized in France and abroad, the training model for engineers at Centrale Paris faces two main challenges:

- Promote the originality and richness of our training programs and the quality of our graduates in France, Europe and internationally;
- Expand our student base in France and abroad by maintaining our three current locations and developing new projects to consolidate our brand.



Objective

Raising the profile of the Centrale Group and promote the brand nationally and internationally

Action

- Enhance and promote your skills repository in France and abroad;
- Diversify its audiences by recruiting more widely and ensuring equitable access to its training courses;
- Conducting joint projects on transitions ;
- Share its expertise with partner countries.

Method

- Continue to promote the GEC's generalist engineering training model, with a reference system that attests to the acquisition of cross-disciplinary skills in addition to scientific and technological knowledge and know-how;
- Pursue the GEC's development in France (project to create a École Centrale in Toulouse) and internationally (studies in Latin America and sub-Saharan Africa);
- Propose new forms of cooperation by adapting Central training to the needs and cultures of partner countries;
- Position itself as a player in the training of specialty engineers, with the development of a skills repository specific to this Centralian model;
- Diversify student profiles and ensure a better social mix, by strengthening actions to promote scientific studies in partnership with targeted high schools and the post-bac recruitment strategy;
- Consider modulating tuition fees to reconcile fairness in access to higher education and its own business model.

Indicator

- Number of GEC actions involving the Établissement

ODD



www.groupe-centrale.com



The Comue "Université de Lyon": strengthening cooperation between establishments

With 35 member and associate institutions, 153,000 students and 6,800 researchers and teacher-researchers, the Lyon-Saint-Étienne university site is internationally renowned and highly attractive. Numerous collaborations between establishments in both research and education have been initiated on the site, thanks to a vast field of expertise, numerous networks and a strong local presence with companies and local authorities.

With a view to strengthening and expanding its collaborations, the Lyon-Saint-Étienne university site is working to set up an experimental Comue, the aim of which is to accompany and support the strategies of its establishments, and to coordinate and steer subjects of common interest. As a member of the Comue, the Établissement is an active participant in this new site dynamic.



Objective

Setting up a Comue with e-perimental status

Action

- Getting fully involved and coordinating initiatives involving several establishments (Student Welcome Desk, Student Life Master Plan, University Master Plan...), CCSTI du Rhône...);
- Contribute to defining and implementing the transfer and innovation policy entrusted to SATT Pulsalys;
- Participate in leading a site-wide policy on innovation and promoting the entrepreneurial spirit among students;
- Contribute to the coordination of a common real estate strategy, campus development and planning on a site-wide scale;
- Promote the site and its integration into the local ecosystem through close dialogue with local authorities and the socio-economic world.

Method

- Participate in piloting and setting up projects within the framework of various calls for projects (PIA, France 2030...);
- Support projects in which Centrale Lyon is not directly involved, with the aim of collectively building a center of excellence for higher education and research in the Lyon - Saint-Étienne area.

Indicator

- Number of site actions involving the Établissement

ODD



www.universite-lyon.fr





Collège d'Ingénierie Lyon - Saint-Étienne: supporting business development

Engineering plays an important role in the Auvergne-Rhône-Alpes region, with nearly 25,000 students enrolled in engineering programs in 2020-2021*. At the crossroads of fundamental and applied research, engineering sciences contribute to the dynamism of a regional economy driven by industry.

Engineering sciences also play a fundamental role in companies' responses to the challenges of major environmental and digital transitions, such as sustainable energy and low-carbon production, eco-design and circular economy, industry 4.0...

Since 2019, Centrale Lyon, ENTPE, INSA Lyon and Mines Saint-Étienne have been working together to structure engineering on the site. Building on their long-standing collaboration in joint research laboratories, the schools want to go further by aligning their research strategies around decarbonized industry and society, the responsible digital society and the circular economy.

Centrale Lyon aims to contribute to the region's industrial development by positioning itself as a key player in the structuring of engineering in the region. The establishment intends to support public policies on issues of major transition, as well as on the development and relocation of an industry of the future.

Objective

Setting up the Lyon - Saint-Étienne Engineering College

Action

- > Strengthen collaboration between teacher-researchers on societal issues;
- > Encourage the emergence of joint research projects, in particular by launching interdisciplinary thesis packages;
- > Enhancing the value of research for local companies and supporting industrial start-ups;
- > Expand the range of international masters programs;> Organize joint events.

Method

- > Strengthen the institutional links between the

- plant governance ;
- > Consider ways of strengthening student exchanges and joint training projects;
- > Pooling shared services, such as support for setting up European projects or developing lifelong learning;
- > Involve other establishments to strengthen the engineering dynamic and raise the region's profile in this field.

Indicator

- > Number of actions carried out by the College of Engineering involving the Establishment

ODD



* STRATER - Territorial diagnosis of higher education, research and innovation in the Auvergne-Rhône-Alpes region, French Ministry of Ecology and Sustainable Development, of higher education and research, July 2022.



Le Collège des Hautes Études Lyon - Saint-Étienne: to help you take the lead of decision

Supplying renewable, safe, sovereign and efficient energy, adapting cities to climate change, relocating industry while decarbonizing it, facilitating mobility for all while reducing carbon impact... these are all complex issues that call for a systemic response in order to make decisions that take account of impacts and risks.

Created in 2013, the Collège des Hautes Études is based on a hybridization of expertise: basic sciences with École Normale Supérieure de Lyon, engineering sciences with École Centrale de Lyon and Mines de Saint-Étienne, agronomy and veterinary sciences with VetAgroSup, political science with the Institut d'Études Politiques de Lyon, law and humanities with Université Lyon 3, management with emlyon and the arts with the Conservatoire National Supérieur de Musique et Danse de Lyon.

As part of the College, Centrale Lyon aims to amplify the pooling of knowledge, methodologies and cross-disciplinary skills to support students and managers in the complex, cross-disciplinary issues of major transitions.

Objective

Develop the Collège des Hautes Études Lyon - Saint-Étienne on cross-disciplinary issues

Action

- > Train high-level executives in foresight and decision-making ;
- > Develop double degrees between establishments;
- > Strengthen collaborations and pool research expertise and know-how;
- > Organize workshops and summer schools.

Method

- > Develop a continuing education program for high-level executives working in the private and public sectors with a transdisciplinary approach to complex and systemic issues;
- > Offer a year of specialization in these subjects to Collège students and international students;
- > Set up a gap year program on major transitions for students from partner institutions;
- > Consider the creation of a summer school;
- > Organize scientific workshops on complex cross-disciplinary themes, proposed by third parties, to enable teacher-researchers to contribute ideas and initiate joint projects;
- > Prefigure a Think&Do Tank between partner institutions;>

Propose collaborations to Comue members, local civil service training establishments and international institutions and organizations.

Indicator

- > Number of actions carried out within the framework of the Collège des Hautes Études involving the Établissement

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