



Research and development in the Loire

Research and higher education in Saint-Étienne: 22,500 students.

With a wealth of higher education possibilities available, the Loire is creating tomorrow's innovations. With its skills centres, it is an undeniable force in ultra-specific areas.

Engineering schools

- École Nationale Supérieure des Mines de Saint-Étienne (ENSMSE)
- École Nationale d'Ingénieurs de Saint-Étienne (ENISE)
- National conservatory of arts and crafts (CNAM)
- Télécom Saint-Étienne (ex ISTASE)
- Institut d'Optique "Graduate School"
- Institut Supérieur des Techniques Productives (ISTP)
- Institut Textile et Chimique (ITECH Roanne)
- Institut des Sciences et Techniques de l'Ingénieur de Roanne - Lyon I (ISTI)

Specific national school

- École Nationale Supérieure de Sécurité Sociale (EN3S)

Université Jean Monnet of Saint-Étienne

- 5 faculties
- 4 Instituts Universitaires Professionnalisants
- IUT (university institute of technology) of Saint-Étienne and Roanne

Specific training courses

- Institut Régional Universitaire Polytechnique
- Groupe École Supérieure de Commerce de Saint-Étienne (ESC)
- École Nationale d'Architecture de Saint-Étienne (ENASE)
- École Supérieure d'Art et de Design de Saint-Étienne (ESAD)

LABORATORIES

- **École Nationale Supérieure des Mines de Saint-Étienne (ENSMSE)**
Laboratory for industrial and natural processes - SPIN
Laboratory for environmental science, information and technologies
Laboratory for materials and structures -SMS
Laboratory 3MI (mathematical modelling)
Health science and engineering research centre
Industrial engineering and computing centre
Microelectronics centre of Provence Georges Charpak

- **École Nationale d'Ingénieurs de Saint-Étienne (ENISE)**
Tribology and system dynamics laboratory (LTDS)
Diagnosis and imaging of industrial processes (DIPi)

- **National conservatory of arts and crafts (CNAM)**

- **Institut Supérieur des Techniques Productives (ISTP)**

- **Université Jean Monnet (UJM)**
Centre de physiologie physio-pathologie de l'exercice et du handicap
Optoelectronics and microwave systems and instrumentation (DIOM)
University research and computing team (EURISE)
Graphical computing and vision engineering laboratory (LIGIV)
Signal and industrial process analysis and machine diagnosis and production organisation laboratory (LASPI)
Laboratoire Hubert Curien - (formerly LTSI)
Chemistry of formulations, leathers, textiles, colours
Natural polymer and bioartificial materials laboratory

SKILLS AND TECHNOLOGY TRANSFER CENTRES

- **The Centre Technique des Industries Mécaniques (CETIM) (technical centre for mechanical industries)** of Saint-Étienne is one of France's three centres along with Senlis and Nantes. It provides mechanical industries with technical services (tests, measurements, expertise, studies...).

- **French textile institute (IFTH)**
Healthcare textiles
EC marking of medical textile devices

- **HEF group (hydromechanics and friction)** is one of the world's leading companies in resolving problems related with friction, wear and corrosion using suitable surface treatments.

- **Regional agency for development and innovation (ARDI - Performance)**, in Saint-Étienne and Roanne, comprises an ideal interface for solving questions associated with industrial automation and with aspects leading to improved production.

- **Departmental veterinary laboratory (L.V.D)**

- **Easydis "methods and logistical organisation" research centre**, tests all new technical and logistical projects in Saint-Étienne (voice recognition, mechanisation, Radio Frequency Identification (RFID), vehicle tracking).

- **Cité du design**, research laboratory developing research programmes with companies.

- **The CPAF (centre for advanced manufacturing processes)**, which was set up by the CETIM (technical centre for the engineering industries) and the ENISE (national engineering school of Saint-Étienne), is involved in perfecting rapid manufacturing processes, machining, technologies for manufacturing parts directly from powders and processes involving adiabatic cutting and shearing.

Living environment

The Loire provides large areas of preserved nature. This makes it the ideal environment for enjoying your sports of choice or for simply relaxing just outside the city.



Leaders Made in Loire

Agence du Développement Economique de la Loire (ADEL 42) is committed to working with you

Investing in the Loire means relying on recognised skills

Agence du Développement Economique de la Loire (ADEL 42) provides information, hosting, the establishment proposal and monitoring for your development.

Its objectives are :

- To develop company networks, to optimise links between research, training and technical centres.
- To facilitate their access to new companies, to promote them at departmental, regional and national levels.

La Loire en Rhône-Alpes

Editorial

760 000 inhabitants
300 000 jobs

Where **3 of Europe's** principal routes meet....

- Hambourg - Barcelona
- Munich - Madrid
- Milan - Bordeaux

... and **3 of France's** principal routes:

- Paris - Marseille
- Strasbourg - Lyon - Toulouse
- Bordeaux - Genève

The Loire, from Viameca to Sporaltec

Whatever the economic context, we will always need businesses, businessmen and business women, business hubs. To the west of the Rhône-Alpes and its five million inhabitants, to the east of the Massif Central, close both to the Alps and the Mediterranean, the Loire is a place of industry, invention, innovation and investment.

Soon, thanks to its new infrastructures, the Loire will be connected to Europe's major business centres.

Our highly trained and highly competent workforce has adapted itself to several industrial revolutions. Both north and south, thousands of students and teachers bear witness to the vitality of high-level further education. For example, the Loire is to produce the first person to be awarded the title of ingénieur-médecin (engineer-doctor).

Within the modern economy, the Loire is involved, via its entrepreneurs and researchers, in seven innovation clusters.

Mail order selling and mass marketing originated in the Loire, which is home to some of the world's leading companies in this field. It is the way we do things here which has attracted over 150 foreign-owned companies.

Welcome to the Loire

Bernard BONNE President of the Loire regional council
et **Georges ZIEGLER** President of the Loire Agency for Economic Development

RÉGION ÉCONOMIQUE DE SAINT-ÉTIENNE - LYON (REEL)

With its 2.9 million inhabitants, the economic region making up Saint-Étienne and Lyons comprises an urban area which is at the forefront of Europe.

An economy on an international scale :

- 1.2 million jobs, 68.4% of which are in the service sector.
- 100 companies with over 1,000 employees with head offices based in the Lyons and Saint-Étienne economic region.
- 541 companies with overseas capital with over 50 employees, making a total of 98,000 jobs.
- 7 innovation clusters named as such by central government.

An innovative metropolis :

- 150,000 students in further education.
- Over 700 exchange partnerships with overseas universities.
- 12% of university students from overseas and 25% of overseas students studying at postgraduate level

Motorways :

in km	St-Etienne	Roanne
Lyon	62	86
Paris	522	392
Marseille	333	410
Genève	219	248

Rail links

	St-Etienne	Roanne
Lyon	45 min	1h10
Paris	2h40 (TGV)	3h (TGV)
Marseille	3h10 (TGV)	3h10
Genève	3h10	3h20

International airports :

in km	St-Etienne	Roanne
Lyon	74	113
Genève	213	250

Everything needed for leading the way

With a very large workforce and highly advanced technical means, the Loire meets all industry's needs.



COMPETITIVENESS CLUSTER

Named as such by central government, these are strongly R&D focused and are responsible for a number of innovative research programmes with national and international coverage.

- **VIAMECA** (head office in the Loire) : Competitiveness cluster wholly devoted to engineering, Technology cluster, Resources cluster.
- **SPORALTEC** (head office in the Loire) : Sport and leisure industry competence centre cluster.
- **TECHTERA** : Meeting point for the technical and functional textiles sector in the Rhône-Alpes.
- **MINALOGIC** : Innovations and skills centre specialising in creation, finalisation and production of goods and services based on intelligent miniaturised industrial solutions.
- **LYON URBAN TRUCK & BUS 2015** : Competitiveness cluster involved in research to implementation of public transport systems for people and goods within the city.

En partenariat avec :

- **TENNERDIS** : Competitiveness cluster for development of new energy technologies.
- **AXELERA** : International chemical environment competitiveness cluster "Moving on from chemistry which creates its own effects to state-of-the-art chemistry which, from the start, incorporates control of its link with the environment".
- **Meat and meat products** : Cluster providing responses with regard to research, development, innovation and training for the needs of Meat and meat product companies.

INNOVATION CLUSTERS

Combining partnerships between Companies, public and private Research and training centre. These are technology platforms whose training and research is regionally and nationally renowned.

- **Le Pôle Optique Rhône Alpes (PORA)** : 100 partners, 1,500 researchers, 4,000 engineers and technicians, 8000 employees.
- **Mécaloire et ViaMéca (Industrial engineering and Creation)** : 1,300 companies, 27,000 jobs, turnover of 3 billion Euros. The Loire has strong potential with regard to engineering and surface treatments. It is organised around Mécaloire and the Pôle ICI (creativity and innovation industries cluster).
- **Medical technologies cluster** : 60 companies, 4,000 jobs, turnover of 400 million euros. Saint-Étienne and the department of the Loire account for a third of the Rhône-Alpes potential in medical technologies.
- **Design** : Design in France has its roots in Saint-Etienne. It has developed in this ever-innovative region in which so many consumer goods have been invented and manufactured.
- **Loire food-industry cluster** association bringing together those involved in this area "from pitchfork to fork": represents 700 companies and 10.000 employment on the department and occupies the position of leader in the Rhone-Alps.

SPECIFIC NETWORKS AND SKILLS

The Loire has specific skills and successful companies which complement one another and which, through partnerships, have been built into actual fields of activity.

- **Car - Trucks - Special Vehicles** : of the design to the construction of the vehicles while passing by the realization of many components. CAR (Circle of Regional Reception of the equipment suppliers) the dialogue between all the companies of the die allows.

- **Logistics** : over 600 transport companies, 10,000 jobs. Logistics is one of the main areas of the strategic development project for the Loire, through which it can connect 250 million consumers in 24 hours.

- **Timber** : 900 companies, 9,000 jobs. This represents 125,000 hectares of timber-producing forest and a broad range of know-how. It is aimed towards providing the best possible value for timber in the construction industry.

- **Energy Eco Industry** : 150 partners, 3,500 jobs, turnover of 1 billion Euros. The CIRRID (international resource and innovation centre for sustainable development).

- **Luxury fashion Textiles and Clothing** : 380 companies, 8,000 jobs, turnover of 620 million Euros. France's ready-to-wear capital, Roanne manufactures 70% of "made in France" jumpers.

- **Numerical** : 230 compagnies, 3.400 jobs. To development specific, software edition, telecom, system and networks, formation, advisor, equipment and services, software firm, creation of Internet sites, multi-media, centers of contacts, at sale of computer equipment.

PROVIDING LOCATIONS IN ACTIVITY ZONES WITH "ENVIRONMENTAL QUALITY" STATUS

The "Loire Quality" seal guarantees and commits to providing ongoing hosting, establishment and monitoring conditions which meet company needs :

Meeting deadlines, hosting and management methods policies, respecting the environment, ensuring suitably-adapted and reliable networks, high-output equipment, a zone upkeep method provided for by the site manager.

Leading the way in very high speed broadband for industrial companies and services, the Loire produced a "very high speed broadband" programme in 2006-2007 making the Saint-Étienne-Roanne area a unique technology park fitted with secure optical linkage for companies (114 activity zones). 20,000 companies have access to very high speed broadband from 2008.



THE LOIRE ALSO HAS...

- **4,500 employees in the electricity and electronics industries.** As the perfect addition to the engineering and textiles industries, these companies provide specialities with regard to automatisms and cable manufacture. Through Focal JM Lab, the Loire is home to one of the world's leading HiFi speaker companies.

- **France's fourth most important department and second most important province for printing and publishing** (2,200 jobs), the Loire also employs around 1,500 people in secondary paper processing (packaging, envelopes, labels, cardboard...)

- **6,000 employees working in the fields of chemistry, glass and materials.** The Loire is home to two of France's leading industrial paint companies (DuPont Powder Coating France, Becker Industrie), the world's leading company in flocculants for water purification (SNF Floerger), Europe's leading private swimming pool company (Desjoyaux) and a number of SMIs specialising in plastic packaging and films, manufacture of small soft bottles for beauty care, perfumery and food.

- **220,000 employees in the service industry, which is three-quarters of the total number of jobs.** Three activities are predominant: business, logistics and different services for companies and individuals. The Loire is home to several call centres: Transcom (Swedish group Kinnevik), Carrefour, Protravel, Casino, Thuasne, Laser Group...

- **Casino group was set up in the Loire a century ago,** becoming a pioneer in modern distribution. It has expanded widely in France and overseas. With 131,000 employees worldwide, including 74,000 in France, with sales above 35 billion Euros, it is one of Europe's largest distribution groups.