


LYON  BIOPOLE



Facts
& figures

20072008



Some investments and collaboration agreements involving Lyonbiopôle partners

€600 million : estimated amount (2004 to 2009) invested in biotech in the Rhône-Alpes Region

€105 million invested by Genzyme in Lyon Gerland to build a bioproduction unit

€13 million initial payment to Transgene following Roche's acquisition of an exclusive license for a therapeutic vaccine to treat illnesses related to Human Papillomavirus (HPV)

\$2 million service contract signed between genOway and an American company for the development of custom animal models

Creation of PX'Monoclonals, a murine and humanized monoclonal antibodies platform for therapeutic use

A global center of excellence in vaccines and diagnostics

Lyonbiopôle, accredited as a world competitive cluster by the French State on July 12, 2005, aims to gain a comprehensive understanding of human and animal infectious diseases. The cluster's expertise ranges from diagnostics and prevention to treatment, with the development of innovative delivery systems.

This "integrated" approach aims to build a healthcare shield in order to protect populations against these diseases.

The strength of the healthcare shield **lies in the world class expertise of its industrial corporations and SMBs on dynamic markets**

Human vaccines

2% of the pharmaceuticals market, an average of 15% increase per year for the past 5 years

→ Sanofi pasteur, n°1 worldwide in human vaccines with a 25% market share

Animal health

→ Merial, a worldwide leader in animal health with a 13% market share

In vitro diagnostics

6.5% growth per year

→ bioMérieux, n°1 worldwide in microbiology

Administration systems

29% of the pharmaceuticals market

→ BD, n°1 worldwide in administration systems

Therapeutic proteins, monoclonal antibodies and biotech

300% growth over 5 years

→ Genzyme, EUSA Pharma (OPi), Protein'eXpert, Transgene and others

Nanobiotechnologies

28% growth per year in the nanotechnology market

Rhône-Alpes: Significant R&D potential...

2,500 researchers in the field of infectious diseases

- half in the private sector (sanofi pasteur, Merial and bioMérieux)
- and half in the public sector (IFR Biosciences, Inserm, CNRS, Claude Bernard University, Lyon Civil Hospitals, Joseph Fourier University, CRSSA and others)

4,000 researchers in micro and nanotechnologies in Grenoble (CEA), including 300 specialized in healthcare applications (NanoBio).

... and entrepreneurial spirit

Rhône-Alpes is France's **no.2** employer in the biotech and medical devices sector with **28,000** employees (**14%** of France's jobs in the sector). On average, **13** Life Sciences companies have been created per year in the Rhône-Alpes region since 2000.

Lyonbiopôle's aim: to create economic value

- By establishing better, more dynamic links between partners
- By supporting the development of New Innovative Businesses
- By boosting public research to meet industry needs
- By heightening the cluster's international renown and making it more attractive

The Infectious Disease Center: a cornerstone of Lyonbiopôle's action plan

Public and private research groups have expressed their needs, which include hosting mixed research teams, sharing activities and equipment, maintaining dialog and organizing research networks. In response, the Infectious Disease Center, located on the Charles Mérieux (Lyon/Gerland) Campus, will offer joint organization of R&D activities and shared services for the cluster's partner research teams.

The real estate development program will be carried out in 2 steps:

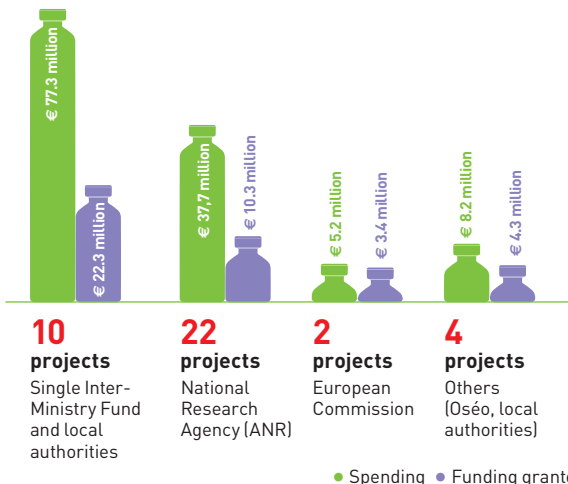
- Opening of the Domilyon building in 2008
- Extension in 2012/2013 (with a new building)

Charles Mérieux Campus: key figures

16,000 sq. m. (172,000 sq. ft) of high-level laboratories and facilities. **1,000** researchers and related staff in the field of infectious diseases. **€50 million** in overall real estate investment for the years 2007-2013, financed by the French State and local authorities, including the Rhône-Alpes Region, the Rhône County Council and Greater Lyon.

Lyonbiopôle - driving innovation and making the region and its firms more competitive

Since 2005, **38** R&D projects accredited by Lyonbiopôle, representing a total investment of **€128 million**, obtained **€40 million** in funding from the State, local authorities, Oséo and the European Community.



Collaborative Projects selected by the Single Inter-Ministry Fund, local authorities* and Oséo in 2007

ALPHA VAC

New therapeutic approach for the treatment of Hepatitis C virus infection.

Participants: Flamel Technologies, Transgene, Inserm U 823, HCL, CHU Grenoble, the Geneva Cantonal Hospital and Lausanne CHUV

CARBINFEC

Identification and development of oligosaccharides molecules, from biomass, inhibiting virus attachment and stopping their entry into target cells.

Participants: Elicityl, Kalys, Cermav-CNRS, UMR CNRS/CEA/UJF, Inserm U758 and the Lyon Human Biology Laboratory

HYPERBAR

Development of a new industrial physical process for the inactivation of bacteria and viruses in Vaccine Production.

Participants: Merial, Top Industrie, Réseau Technologique des Hautes Pressions from CNRS and Institut de Virologie Moléculaire et Structurale (IVMS) of Grenoble

COLLECTAIR

Development of an air sampling device dedicated to bioaerosol analysis for healthcare center.

Participants: CIAT (project leader), FAURE Ingénierie, CEA Leti, CSTB (Interior Environment Microbiology Laboratory), ELYO Cylergie and ENS Lyon

HU'S MAP

Development of technologies for monoclonal antibody humanization.

Participants: PX' Monoclonals (project leader), Genoway and the Lyon Immunity, infection and vaccination Inserm U851 Laboratory

THYMO 2010

Lymphocytes Monoclonals Antibodies.

Participants: Genzyme Polyclonals SAS, IBCP, NOVOTEC, Texcell, Indicia Biotechnology, EFS

* The Rhône-Alpes Region, Greater Lyon, Grenoble Alpes Métropole and the County Councils of Rhône, Isère and Ain.

> Highlights of 2007

Lyonbiopôle's international development, partnerships, and joint promotional and prospecting activities

- Meetings with European clusters from Switzerland/Zurich, Baden-Wurtemberg, Milan, the UK and Leipzig
- Launching of the International Technological Partnership Program (PPTI) to boost the international growth of local SMBs, with the support of the General Directorate for Enterprise
- Creation of the Lifescience Corridor France putting together Lyonbiopôle with Alsace Biovalley and Cancer-Bio-Santé.
- Shanghai: R&D sharing and higher education mission
- Lyonbiopôle's participation in BioVision (Lyon), BIO Boston, the "R&D Fast Track Partnering with France" seminar in Boston, and BIO Japan

Forward planning in R&D:

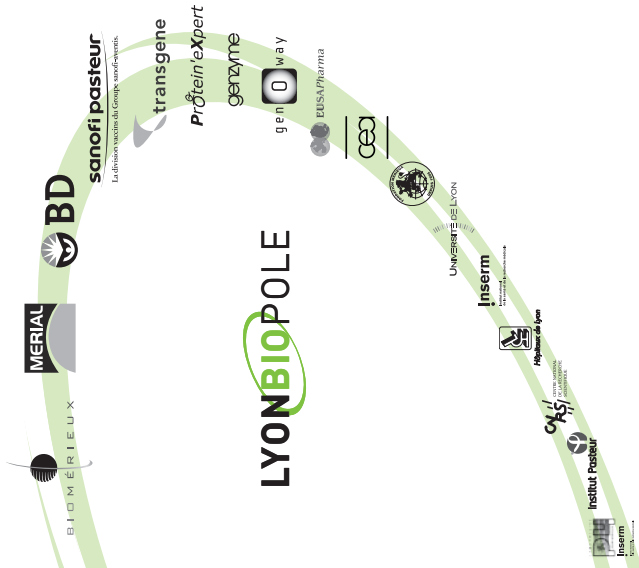
identification of technological issues and development programs

Special events, development of synergy and training

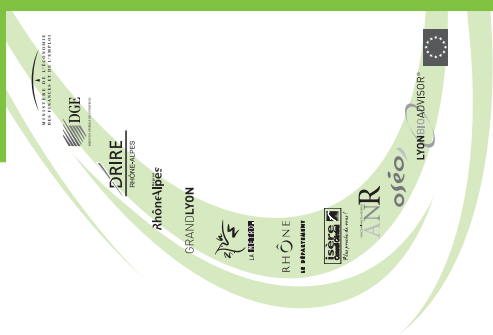
- 1st session of Lyonbiopôle's Partnering Days
- Theme workshops (R&D Funding for SMBs, the Innovation School)
- Partnership with the Tropical Health cluster (Guyana)
- Opening of a Professional Master's in Infectiology, September 2007 (Claude Bernard University)

> Major projects for 2008

- 1 Emergence and setup of R&D projects, with priority given to Europe and international development of projects
- 2 Scientific special events: immunosenescence, immunoprediction, complex systems, sepsis, markers and tests
- 3 Opening of the Infectious Disease Center
- 4 Continuation of international development // prospecting, synergy and joint activities // participation in the "French American Biotech Symposium" in San Diego // the WHO conference on "Managing Health Emergencies in Urban Areas" in Lyon // international congresses, BIO San Diego, BIO Bangalore, BIO Japan and BIO Contact Quebec
- 5 Implementation of the SMB plan (platform and private funding)
- 6 Initial and continuing education



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