



Pioneers in international business

Leiden Bio Science Park

Life Sciences Gateway to Europe

KNOWLEDGE BASE

Integrated life sciences innovation

- First rate academia, hundreds of SMEs and global players in med-/biotech and pharma within a 120 mile radius

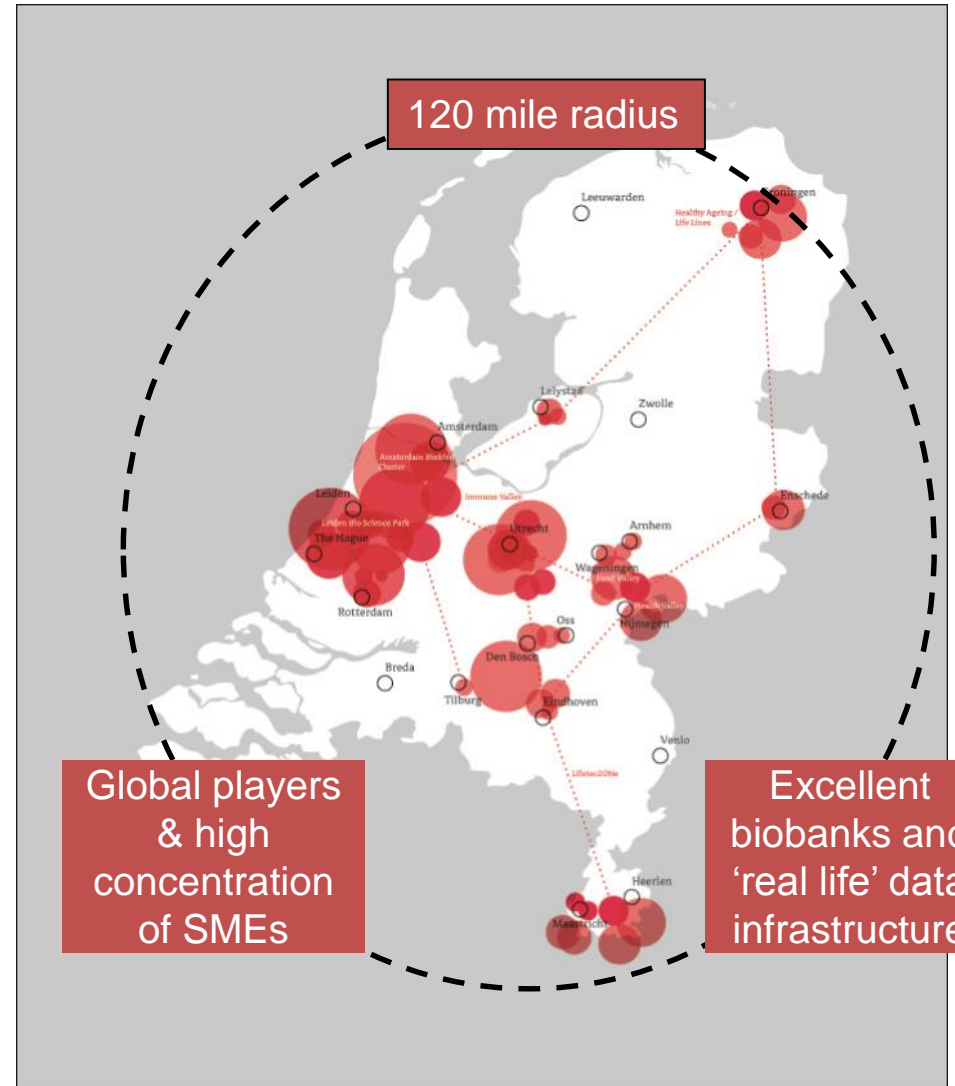
Focal points

- Leiden / Delft / Rotterdam “Medical Delta”
- Amsterdam
- Eindhoven / Maastricht / Oss
- Groningen
- Utrecht
- Nijmegen / Enschede / Wageningen

Fields of excellence

- Translational research
- Clinical research
- Cardiovascular research
- Infectious diseases
- Oncology
- Rheumatology
- Neurodegenerative diseases
- Diagnostics and imaging

Source: OECD REGPAT database



LEIDEN, DELFT, ROTTERDAM (MEDICAL DELTA)

Strong knowledge base

- Three universities with two related medical centers
 - Leiden University (Leiden UMC)
 - Erasmus University Rotterdam (Erasmus MC)
 - Technical University Delft (health program)

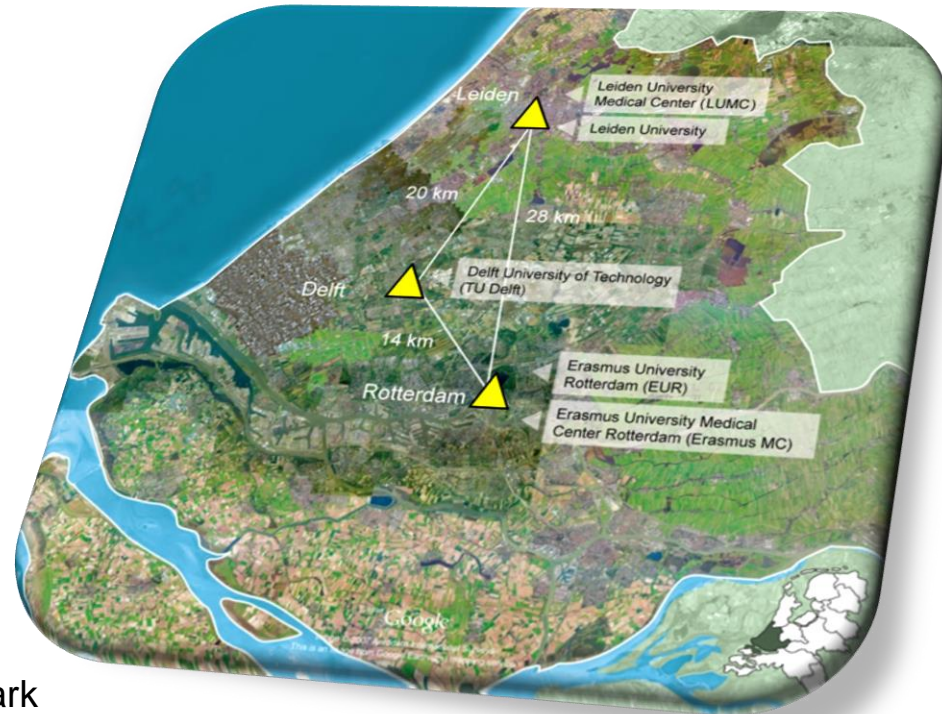
Facts about Medical Delta

- 6,000 scientists
- 12,000 BSc medicine and medtech disciplines
- 2,500 MSc students
- 600 SME companies in Health and Life Science
- 45 Life Science companies in incubators
- > 100 companies located at Leiden Bio Science Park
- Turn over: > EUR 4,5 billion

4 Themes

- Imaging and Imaging guided medicine
- Interventions and Care
- Targeted molecular technology
- *Society driven* program Vitality

Source: Leiden Bio Science Park | Kamer van Koophandel



Leiden

- Leiden is the largest life science cluster in the Netherlands and ranks among the top 5 most successful science parks in Europe. It is fully dedicated to biomedical life sciences research, development and production and offers opportunities for both start-ups and established companies.

Distinguishing features

- Mature cluster with a full value chain of knowledge, services and support for biotech companies
- Access to state-of-the-art research facilities / equipment and numerous real estate options
- Availability of highly educated life science labor force and students



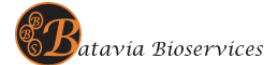
- About 100 dedicated medical life science companies with > 4.500 employees
- 8 Knowledge institutes with ~ 3.000 employees in life science, R&D and training
- Leiden University Medical Centre with ~ 7.000 employees
- Two Museums: Naturalis and Corpus
- Professional management: Leiden Bio Science Park foundation
- Business Association: OV BSP
- Wide range of Real Estate options
- Network opportunities: CEO breakfast, Life Science Café, R&D themed seminars a.o.



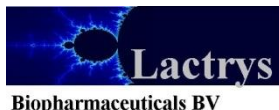


Pioneers in international business

At Leiden Bio Science Park



Universiteit Leiden



Astellas

- Key Strengths in the therapeutic areas of Transplantation, Urology, Oncology, Dermatology, Anti-Infectives and Pain management
- New Research & Development Centre Europe built at Leiden Bio Science Park, opened December 2012
- Europe is an important and growing region for Astellas



Janssen Biologics (previously called Centocor)

- Remicade™ against auto-immune diseases such as Rheumatoid Arthritis, Crohn's disease, > 2 million patients worldwide are being treated; spectacular improvement quality of life
- 1999 takeover by J&J



HAL Allergy

- Developing, producing and selling allergy therapies
- One of top European players in the field of allergy vaccinations
- Located in Leiden since 2009





Crucell

- Focus on developing vaccines and antibodies against range of infectious diseases in pediatric, travel and endemic fields
- Quinvaxem: 5-component pediatric vaccine, fully liquid (which is unique); via Unicef > 500 million doses sold
- Vaccines in development for: Tuberculosis, Malaria, Ebola and Marburg, HIV, RSV, HPV and Influenza seasonal
- 2011 takeover by J&J. Leiden since 2011 Vaccines Center of Excellence



Prosensa

- Drug development for **Duchenne's disease**, muscular dystrophy for boys, unmet medical need
- June 2013: raised \$ 90M at Nasdaq
- Academic partner in Leiden: Leiden University Medical Center (LUMC)

Pharming:

- 1990: Founder bull Herman, first GMO bull in the world
- First Dutch LS company with product on market
- Lead product Ruconest for HAE, recombinant human C1 inhibitor approved for treatment of angioedema attacks in patient with HAE

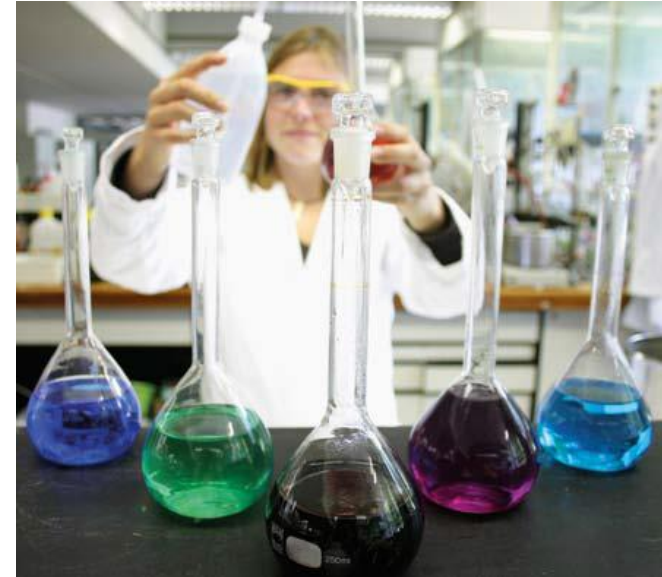
PHARMING



Bull Herman

Service companies

- **BaseClear**: DNA sequencing, forensic support
- **Batavia Bioservices**: early process development
- **BioTop**: regulatory affairs
- **CHDR**: scientific development clinical trials
- **Chiltern**: full clinical research services from early phase to late phase
- **Galapagos**: target discovery
- **Halix**: contract manufacturing organization
- **LifeScienceGo!**: business resources
- **Microsafe Laboratories**: microbiology testing
- **Octoplus**: drug delivery technology
- **ProBase Pharma**: Molecular biological testing methods
- **Proxy Laboratories**: QA, QC, stability testing, assay development, validation
- **ServiceXS**: genomics service center
- **TLC**: drug delivery technology
- **TNO Quality of life**: drug development
- **Xendo**: process development, drug development, validation, RA, GMP, pharmaceutical engineering, clinical trials, bio analytical service



- **Applied radar technology**: sleep monitoring and assisted living solutions
- **Biomimiq**: in vitro skin model technologies as alternatives to animal experimentation
- **In Ovo**: developing biotech solutions for the poultry industry
- **Mimetas**: the organ on a chip company
- **Ocello**: development of clinically relevant in vitro human micro-tissue models used for screening and profiling of small molecules and biologics
- **Pluriomics**: pluripotent stem cell technology for the discovery of novel cardiac drug targets, cardiac drugs, and assays to predict cardiac safety early in development of all new drugs
- **ProQR Therapeutics**: discovery and development of RNA-based therapeutics for the treatment of severe genetic disorders with an initial focus on Cystic Fibrosis
- **Syntecnos**: developing innovative microfluidic BioWell™ plate solving high throughput hurdles with current zebrafish screening tools
- **Toxys**: the stem cell-based ToxTracker reporter assay providing insight in the mechanisms of toxicity of nanoparticles, meeting the urgent demands for better in vitro assays for toxicity testing of nanomaterials



Medical Device companies

- Aeon Astron
- Applied Radar Technology
- Avery Dennison
- BabyBloom
- BioClinica
- Bruker
- Flexgen
- Medis
- Mentor Medical Systems
- Miltenyi Biotec
- Mimetas
- Welch Allyn

Service companies

- BioTop Medical
- MediRent
- Xendo



ProQr Therapeutics went public on the Nasdaq September 2014

ProQr Therapeutics, an innovative biopharmaceutical company engaged in the discovery and development of RNA-based therapeutics for the treatment of severe genetic disorders with an initial focus on Cystic Fibrosis, went public at the Nasdaq at 18 September 2014. The company raised almost \$ 100 mln. ProQr Therapeutics is after Prosensa the second Leiden company listed on the NASDAQ Global Market.

Astellas to form partnership with Clearpath and Mymetics to build vaccine portfolio

Astellas and ClearPath announced a strategic partnership to form a portfolio of development companies focused on vaccines targeting infectious diseases. The partnership was established to support Astellas' goal of building a global vaccine franchise and launched its first company, RSVC, in December 2013. Astellas will fund RSVC's development of a virosome vaccine technology, licensed from Mymetics, for respiratory syncytial virus (RSV) through completion of a Phase 2b human proof-of-concept study.

Mimetas and Galapagos to develop human disease models on-a-chip

MIMETAS and Galapagos (Euronext: GLPG) have entered into a research collaboration on the development of organ-on-a-chip-based human disease models for new medicine development. The companies will collaborate to develop miniaturized 3D cell culture models that mimic specific aspects of human diseases.

Pluriomics raises €4 million

Pluriomics announced that it has raised €4 million in a Series A round led by Vesalius Biocapital (VBC) with additional financing from InnovationQuarter (IQ) and Société régionale d'Investissement de Wallonie (SRIW). The funds will be used to further develop Pluriomics' innovative stem cell derived cardiomyocytes and assays and to commercialize these technologies.

Leiden University

- Founded in 1575, oldest university in the Netherlands
- First-class research university
- 11 research profile areas, most of them with a strong multidisciplinary focus

Main focus areas in life sciences

- Brain function and dysfunction over the life span
- Bioscience: the science base of health
- Vascular and regenerative medicine
- Health, prevention and the human life cycle
- Translational drug discovery and development.



Universiteit Leiden



Leiden University Medical Center (LUMC)

- One of the eight medical centers in the Netherlands
- Five core tasks: patient care, scientific research, education, study programmes, continuing education
- Employs 7.000 people

Research themes

- Vascular and Regenerative medicine, Immunity-Infection-Tolerance, Translational Neuroscience, Ageing, Cancer Pathogenesis and Therapy, Innovation in Health Strategy Quality of Care and Biomedical Imagine

LURIS - Leiden University Research and Innovation services: Technology Transfer Office of Leiden University and Leiden University Medical Center

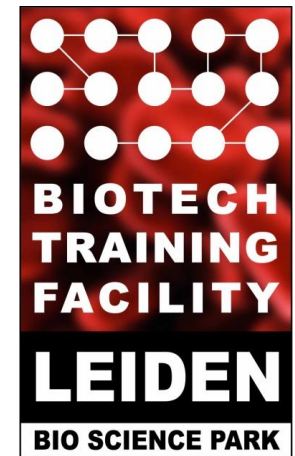
- Mission of both centers is to maximize effective utilization of new IP (social, economic and financial drivers are relevant)
- Evaluate & protect new inventions
- Identify and negotiate licensees
- Assist in new company information (mentoring, pre-seed & seed funds)
- Advise University on EU and other major research funding opportunities
- Negotiate research contracts, particularly complex public / private partnerships

Rationale for International Collaboration

- Research programmes – industrial & multi-institutional
- Licensing opportunities
- Access to Seed & VC funding
- Networking of spin-out companies
- Development of exciting new technologies requires partnership among research centers, companies and national funding agencies. Terms of engagement for IP access are set up in advance
- Good examples are in European projects and Dutch national programmes

Biotech Training Facility (BTF)

- Realistic biopharmaceutical plant for training, education and demonstration; focus on GMP
- Bridge gap between schooling and practice
- Floor plan of 2.000 m²
- Investment ~ € 8M
- Central location at Leiden Bio Science Park
- Joint developments of BSF and teaching modules by companies, schools and suppliers
- Expected: fully operational in October 2015
- International audience
- International collaboration





We are pleased to assist you

Ellen Smit, Leiden Bio Science Park, ellen.smit@leidenbiosciencepark.nl

Lissa Boxy, Innovation Quarter, lissa.boxy@innovationquarter.nl