

Life sciences in Flanders

Strong in innovation and R&D

Marine Biotechnology: potential

- **Treatment in diseases:**

- Track record in antivirals (HIV: AZT; Herpes: Zovirax)
- New products in Cancer, asthma, pain, antibiotics,
- Possibilities in nutritional supplements, cosmetics (Kitozyme)

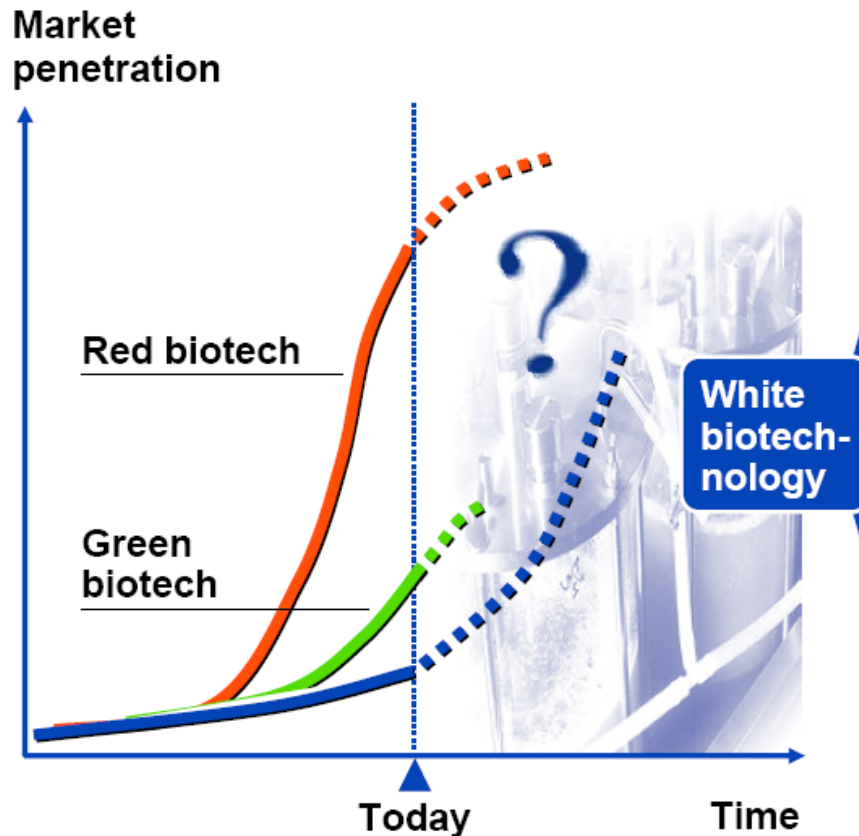
- **Environment:**

- bioremediation (oil),
- biofouling ($\leftrightarrow$ TBT)
- Biomonitoring (algal bloom, in vivo biomarkers, reef)

- **Industrial biotechnology**

- Algae (fuels?, Qteros second generation fuels)
- Agrochemicals, enzymes,

Market penetration curve of Biotechnology



Industrial applications today

Bio-feedstock

- Replacement of oil and gas with biomass



Bio-processes

- Replacement of chemical synthesis by fermentation or biocatalysis



Bio-products

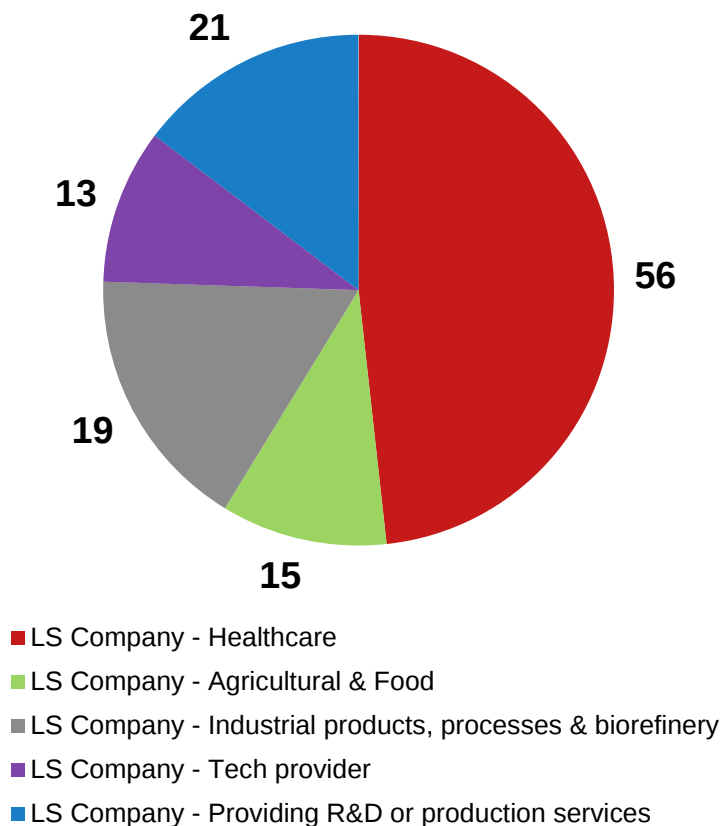
- Products with new characteristics (e.g., biopolymers, enzymes, nutrition/health ingredients)



Source: McKinsey

Strong company innovation track

124 life sciences companies with biotech activities



Focus and growth

- Main focus: health care and medical applications
- Strong in plant biotech
 - Biggest R&D hub in Europe
- Emerging industrial biotech
 - CINBIOS network
- Total employees: > 13,000

High Quality Universities

1 K.U.Leuven



2 UGent



3 Vrije Universiteit Brussel



4 Universiteit Antwerpen



5 UHasselt



Innovative research



Prof. em. Marc Van Montagu
& Prof. em. Jeff Schell

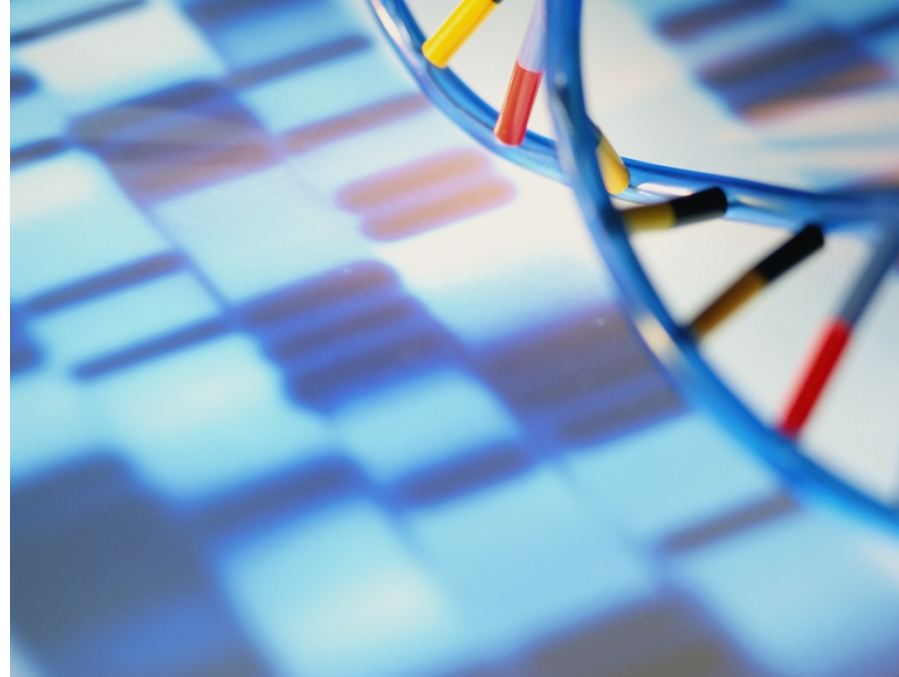


First transgenic plant

Innovative research



Prof. em. Walter Fiers



First DNA sequence of a gene

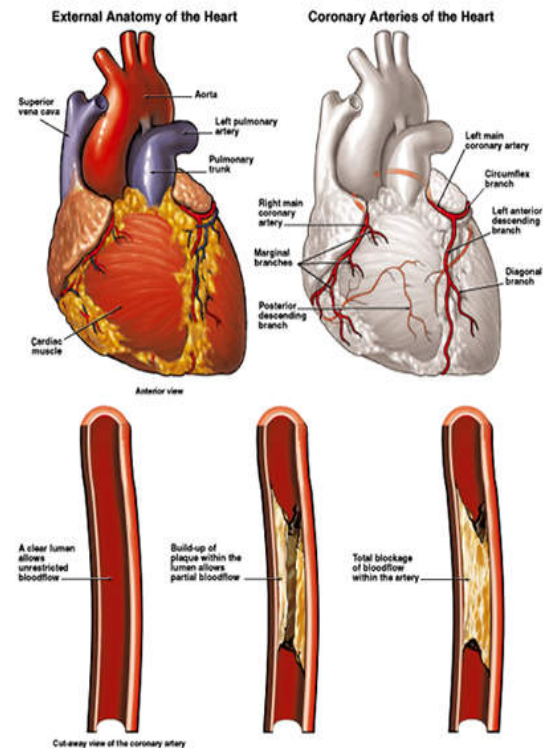
First DNA sequence of a genome

Innovative research



Prof. em. Désiré Collen

Anatomy of the Coronary Arteries with Potential Blockages



Discovery tPA

World class research institutes

Strategic research centres with an economical focus

VIB (1996)

- Biotech research
 - >1100 researchers
 - Universiteit Antwerpen, Vrije Universiteit Brussel, UGent, K.U.Leuven
- Technology transfer
 - IPR
- Communication
- www.vib.be

IMEC (1984)

- Nanotechnology (chips)
- Leuven
- Moving to bio
- R&D with many international collaborations
- www.imec.be

CMI (2009)

- Centre for Medical Innovation
- Newly founded
- Translational Medicine
 - University hospitals
 - Biotech companies
- Driven by FlandersBio, supported by IWT

NERF (2009)

- VIB and IMEC collaboration: neuro electronic research

Belgium, Home to Pharmaceutical Companies



Tailor-made infrastructure

In total: 300.000 sq ft of dedicated infrastructure

1. Bio-incubator (Gent): 86.000 sq ft
Actogenix, Pronota, Complix, Biomaric, Yakult, AIP
2. Bio-Accelerator (Gent): 107.000 sq ft
Ablynx, Bayer
3. Bio-Incubator (Leuven): 43.000 sq ft
Thrombogenics, reMYND, Regenesys, Formac, Fugeia
4. BioVille - Life Sciences incubator (Hasselt): 18.000 sq ft



Investing in R&D – Government support

- IWT, government agency (1991) – Regional funding
- A one counter stop for subsidies for innovative R&D projects
 - Prototype development (25%)
 - Mixed research (37.5%)
 - Innovative research (up to 55% for SME's)
- €100 million invested in life sciences and 370 projects (2010)
 - Never a blank check; conditions
- > 70% of business projects submitted by SMEs (<250)
- 40% to starters within the first 6 years of their existence
- www.iwt.be

Incentives for R&D in Flanders - Belgium

8 One of world's most favorable tax systems

8.1 Exemption of employers' payment



8.2 Tax allowance for newly R&D personnel



8.3 Patent deduction



8.4 Investment deduction



8.5 Incentives for R&D projects



8.6 Notional interest deduction



8.7 Parent-subsidiary directive



8.8 Expatriate Tax Regime



FlandersBio, facts & figures

The organisation

- Founded in 2004
- Member organisation – 245 members
- Private not-for-profit
- Board of Directors (#18)
- Team of 7
- > €1 million turnover
- Means:
 - Strategic partners and Membership
 - Sponsoring
 - Project subsidies:
 - IWT, EU, FIT, ...

FlandersBio, services

- 1 Networking and stimulating collaborations
- 2 Supporting innovative research
- 3 Working with the Government
- 4 Investing in Flanders
- 5 International visibility



Pooling resources and interaction

gateway to an extended international life sciences network,
exchanging knowledge and active stimulation of collaborations

Knowledge for Growth

- Annual Life Sciences Convention
- > 1000 participants (2011)
- > 330 companies & organisations
- Excellent research programme
- Exhibitions for companies and universities
- Job Fair

Workshops & seminars

- Thematic workshops
 - Business, Science & innovation
- Peer-to-peer
 - CEO, HR, researchers ,...
- Partner matches
 - National and international

What needs to be done: network

Industrial Biotech Cluster

- Stimulating networking and collaboration
- Creating a supportive environment
- Putting Flanders on the map



Industrial Biotechnology in Flanders, Belgium



FlandersBio, facts & figures

FlandersBio team

Ann De Beuckelaer, PhD
Managing Director

Joke Comijn, PhD
Communications Manager

Willem Dhooge, ir, PhD
Project Manager Industrial Biotechnology

Anouk Brackenier, PhD
Project Manager Plant Biotechnology

Jonas De Backer,
Communications and Director Assistant

Freya Clauwaert,
Office Coordinator



