



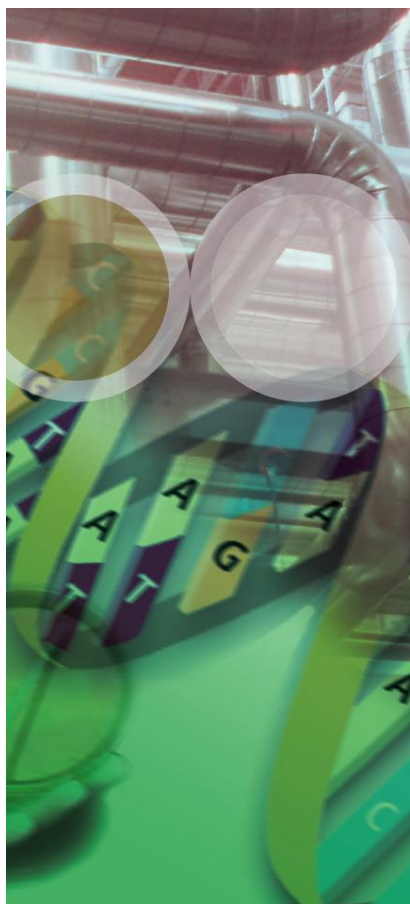
Life Sciences in the Netherlands

Menno Horning
Head of Unit Life Sciences

Ministry of Economic Affairs
Projectdirectoratie Innovatieprogrammes



Index



- Life Sciences and the government
- Overview Life Sciences sector in the Netherlands
- NL in the European context
- Strong knowledge base



Dutch policy: retrospectpective

Actions

- 2000 INB, coherent approach government
- *2002 EU Strategy Life Sciences & Biotechnology!*
- 2000-2004 Biopartner programme (€ 45 mln)
- 2002-2007 National Genomics Initiative (€ 300 mln)
- *2004 Action plan Life Sciences*
- *2006-2011 Innovationprogram Food & Nutrition (€ 120 mln)*
- *2007 Innovationprogram Life Sciences & Health (in development)*

Life Sciences business

Ca. 400 companies involved in Life Sciences R&D and production in 2 categories:

- *dedicated life sciences companies*; growing number since 1990-ies, (mostly start-up R&D companies); Crucell (listed), Keygene, IQ, Pepscan, Paques, MUBio, Genetwister Technologies and more. About 150 companies.
- *diversified life sciences companies*; mostly established R&D driven, listed and not listed companies like DSM, Royal Numico, Organon, Philips, Unilever and several others: plantbreeders
- Not included *medtech sector* (about 400 companies)

Life Sciences business

Characteristics:

- 3 subsectors:
 - Human Health
 - General platformtechnology & industrial biotech
 - Agro-food & plant breeding
- Dutch expertise in all 3 subsectors
- many new public private partnerships
- Dutch life sciences sector was able to grow over the last years contrary to some other European countries
- boost since 2000 in new start-ups particularly in red biotech

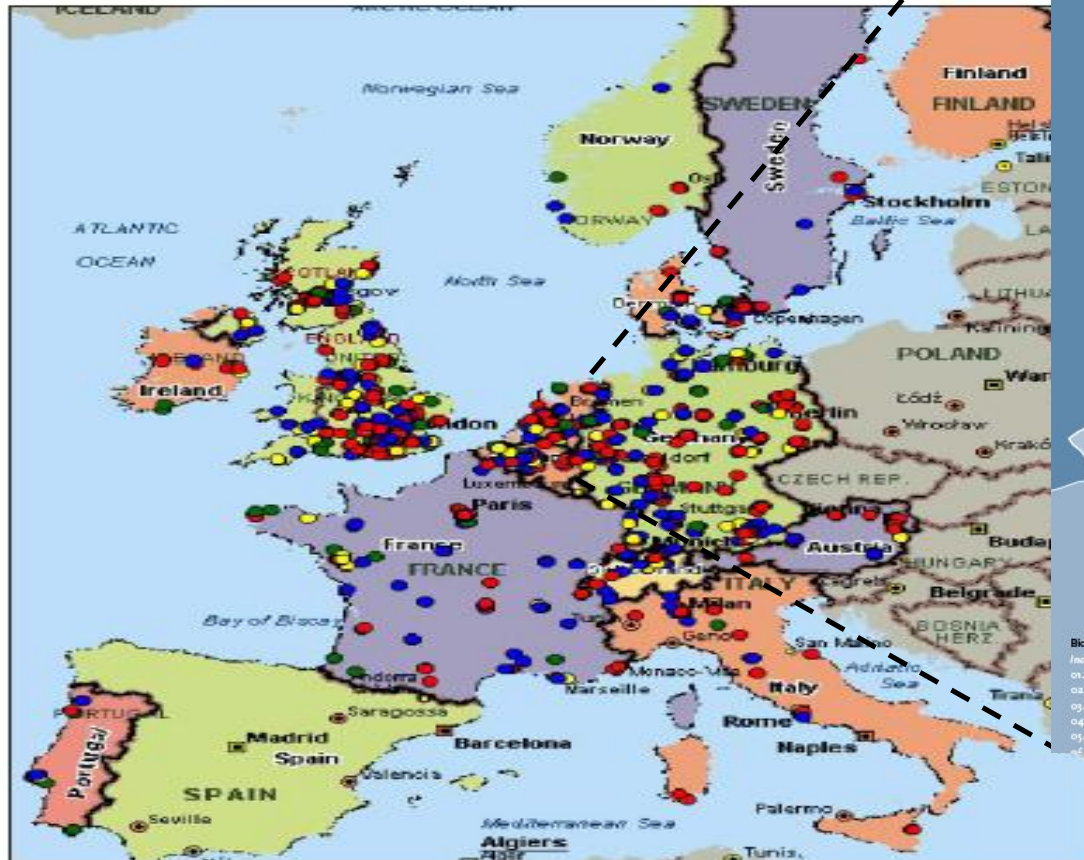
– Economic impact life sciences

- > 20% of national R&D efforts in Life Sciences, appr. € 1 bln p/a
- 4 Dutch multinationals strongly involved in Life Sciences (DSM, Unilever, AkzoNobel/Organon); for bioinformatics, imaging and diagnostics: Philips Medical Systems
- Increasing number of start-up companies with growth potential (appr. 150); over 2500 fte in dedicated Life Sciences companies
- Growing economic sector
- Medtech sector (diagnostics & materials) converts with red biotech



Netherlands in a European context

The European biotech landscape



Source: Critical | Limited

Figure 9. The Netherlands life sciences sector map.

Life sciences activity in the Netherlands



Genomic Centres of Excellence:

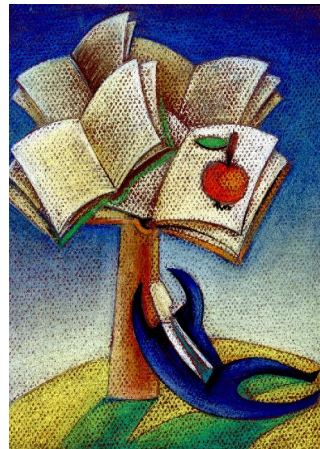
- 11. Centre for Medical Systems Biology (Leiden)
- 12. Centre for Biosystems Genomics (Wageningen)
- 13. Cancer Genomics Centre (Amsterdam)
- 14. Kluyver Centre for Genomics of Industrial Fermentation (Delft)
- 15. Centre for Society and Genomics (Nijmegen)
- 16. Toxicogenomics Centre (Maastricht)

BioPartner Centers:

- 01. BPC Amsterdam
- 02. BPC Groningen
- 03. BPC Leiden
- 04. BPC Maastricht
- 05. BPC Utrecht
- 06. BPC Wageningen

Strong knowledge base

- 8 universities in biomedical sciences, incl. academic hospitals
- 2 universities in agricultural (Wageningen) and veterinarian sciences (Utrecht)
- TNO – Dutch organisation for applied sciences (food & health)



Strong knowledge base

- National genomics programme (€ 300 mln till 2008)
- Several newly established PPP platforms for applied R&D
 - Food and nutrition-delta (Food valley, Wageningen)
 - Plant Breeding (*'Green Genetics'*)
 - TopInstitute Pharma (*'report priority medicines for Europe and the World'*)- Leiden BioScience Park
 - Translational Molecular Medicine (*'CTMM'*) Eindhoven High Tech Campus
 - Biobank Network university hospitals (*Parelsnoer*)
 - Biomedical Materials (*'BMM'*) *

* *in development*



Major public-private initiatives within the program on Life Sciences & Health

- TopInstitute Pharma - cross-disciplinary research on improving the efficiency of the entire drug discovery- and development process.
- www.tipharma.com
- Over 50 public & private partners (end 2006)
- Budget € 260 mln for 4 years
- Location:
Leiden Bio Science Park





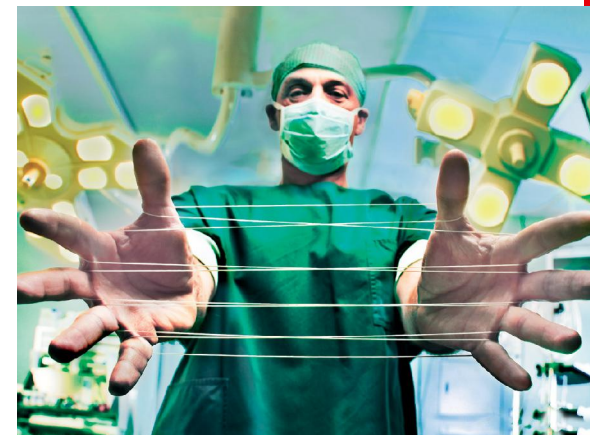
Major initiatives within the program on Life Sciences & Health

- Center for Translational Molecular Medicine - technological developments in the field of molecular imaging, diagnostics and therapy
- www.ctmm.nl
- Over 30 public & private partners (end 2006)
- Budget € 400 mln for 5 years
- Main location:
Eindhoven High Tech Campus

Major initiatives within the program on Life Sciences & Health

In statu nascendi

- Biomedical Materials Program - development of new medical materials, e.g. scaffold, smart drug delivery systems and coatings for medical devices and systems.
- www.biomedicalmaterialsprogram.nl
- Ca. 20 public & private partners at this moment
- Planned budget:
€ 120 mln for 5 years
- Main location:
DSM R&D Campus



Coherence new PPPlatforms in Health

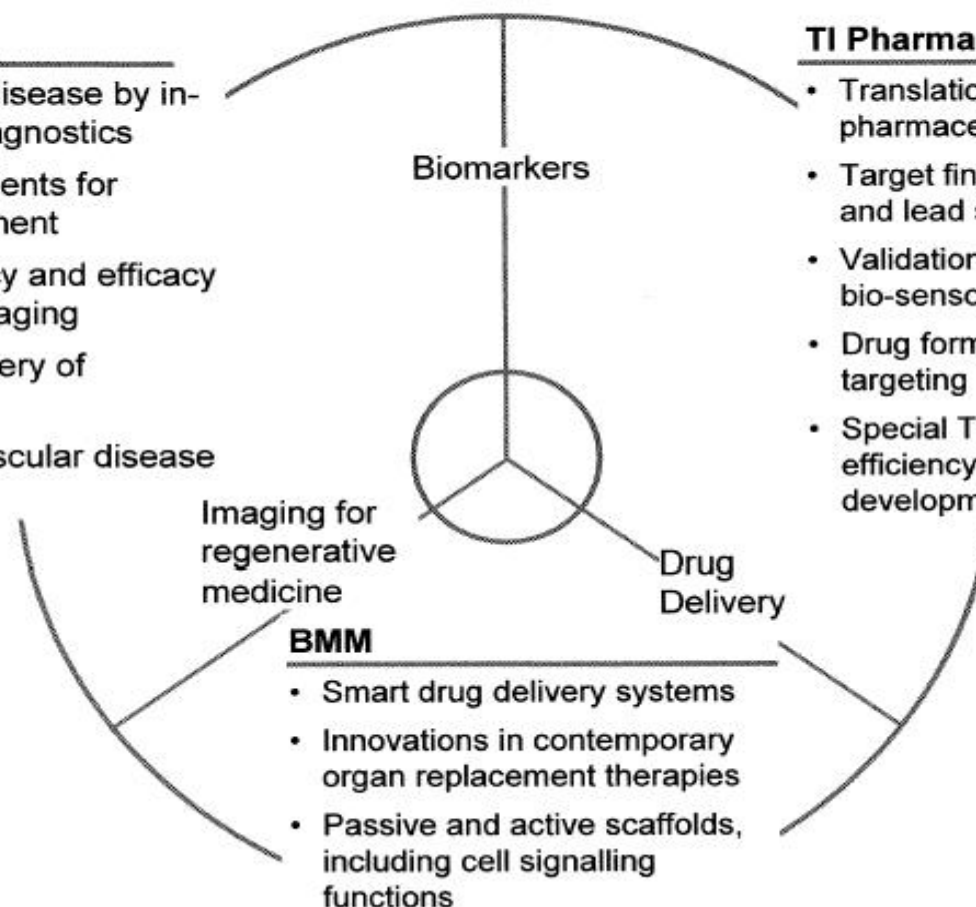
Together, CTMM, TI Pharma and BMM offer an integrated approach for innovations in the Dutch health care sector

CTMM

- Early detection of disease by in-vitro and in-vivo diagnostics
- Stratification of patients for personalized treatment
- Assessing efficiency and efficacy of medicines by imaging
- Image guided delivery of medication
- Focus on cardiovascular disease and cancer

TI Pharma

- Translational research on novel pharmaceutical therapies
- Target finding, animal models and lead selection
- Validation of biomarkers and bio-sensing
- Drug formulation, delivery and targeting
- Special Theme focusing on the efficiency of the process of drug development



BMM

- Smart drug delivery systems
- Innovations in contemporary organ replacement therapies
- Passive and active scaffolds, including cell signalling functions

Innovatioprogram Life Sciences & Health

In development

Mission: *“capitalizing on knowledge”*

3 general issues for action:

1. Finance for growth of new SMEs
2. International networking and cooperation (i.a. Eurotransbio)
3. Creating good climate for innovation (human capital, legal framework, public perception)

from bench to bedside....



Conclusions

Good conditions for cooperation:

- Key-technology
- Vision and high ambitions
- Active role governments

Possible steps:

- Technology Collaboration Subsidy Scheme ERA-net Eurotransbio
- Matchmaking between Dutch life sciences clusters and French PdC's
- Participation in European initiatives JTI IMI , ETP Nanomedicines,
- Others...?

for actual information:

www.lifesciences.ez.nl