

Special Session and Roundtable Discussion

**SETTING THE LANDSCAPE OF SYNTHETIC BIOLOGY
IN EUROPE**

ECSB II:
Design, Programming and biological optimisation of
biological systems

Sant Feliu de Guixols, 2 April 2009



Agenda

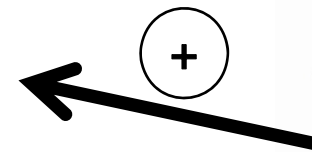
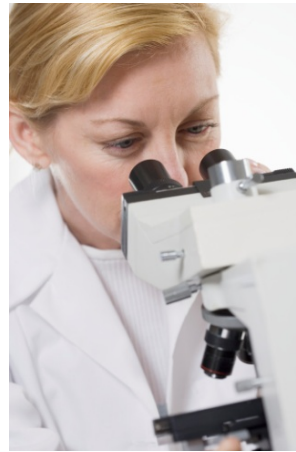
- 1) Sibylle Gaisser (Fraunhofer ISI): *Context conditions, actors and leading countries in SB*
- 2) Benedicte Callan (OECD): *International governance Opportunities and Challenges*
- 3) Berthold Rutz (European Patent Office): *IP regimes in the future and their impact on SB research and development*
- 4) Ioannis Economidis (European Commission): *SB strategy in the European Commission and in FP7*
- 5) Sophia Abbasi (BBSRC, UK): *UK strategy in Synthetic Biology*

Roundtable Discussion:

Making the most of the opportunities for Synthetic Biology



Context conditions of research



Context conditions - Funding

1. Funding:

- BBSRC: Community Building-Measures (since 2008)
- Call of EU in FP 7 "Synthetic biology for biotechnological applications" (Deadline 15. Januar 2009)
- Eurocores-Call "Synthetic Biology: Engineering Complex Biological Systems (EuroSYNBIO) (Deadline 6. März 2009)
- Some national initiatives on centres of excellence
 - Évry, France: The Institute for Systems and Synthetic Biology at Genopole
 - London, UK: EPSRC Centre for Synthetic Biology and Innovation at Imperial College
 - Copenhagen, Denmark: UNIK Synthetic Biology
 - Freiburg, Germany: Centre for Biological Signalling Studies (bioss)



Relevance and Timing of Funding

activity	relevance factor	timing
blue sky funding	3.7	short term
collaborative funding	3.38	short to mid term
individual funding	3.35	short to mid term
translational funding	3.08	mid to long term
funding for teaching	3.0	short to mid term
support for commercialisation	2.63	long term
funding for context analyses (socioethical, legislative/regulatory, safety/security)	2.6	short to long term

Source: TESSY roadmap 2008



Context conditions of research



Context Conditions – Legal Situation

2. Regulatory framework*

- Assumption that regulatory model of rDNA biotechnology is appropriate
 - > challenges in the context of risk assessment of chimera in which the parent agent is not obvious
 - > Rodemeyer: "*The framing process for synthetic biology is now well underway, and the outcome will depend on the thoughtful engagement of all interested parties.*"

* recent analysis of the Woodrow Wilson International Center for Scholars
Michael Rodemeyer: New Life, old bottles. Synbio2, March 2009.
<http://www.synbioproject.org/library/publications/archive/synbio2/>



Relevance and Timing of Regulation

activity	relevance factor	timing
measures to prevent misuse	2.9	mid-term
coordinated regulation of biorisks/safety/security	2.9	mid-term
clarification of ethical issues	2.78	short to mid-term
code of conduct	2.76	short to mid-term
risk assessment mechanism	2.6	short to mid-term

Source: TESSY roadmap 2008



Context conditions – research cultures

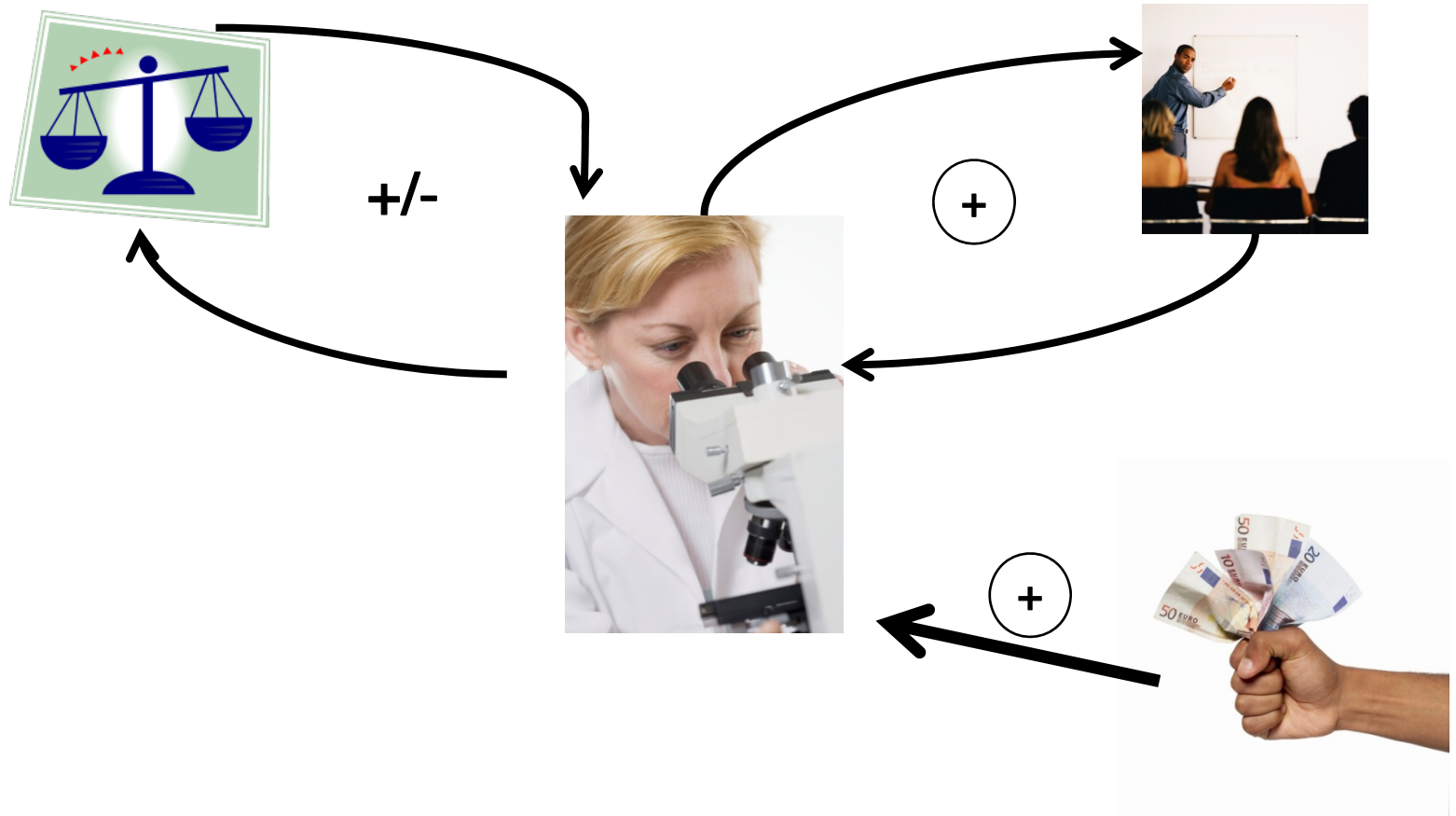
- SB is based on a research culture of openness and sharing of results in publicly available databases and registries
 - > unclarity of patent issues
 - > standardisation – guidance to be developed

activity	relevance factor	timing
clarification of open source status	3.13	short term
IP clarification and harmonization	3.03	short term
standardize components	3.0	short to mid term

Source: TESSY roadmap 2008



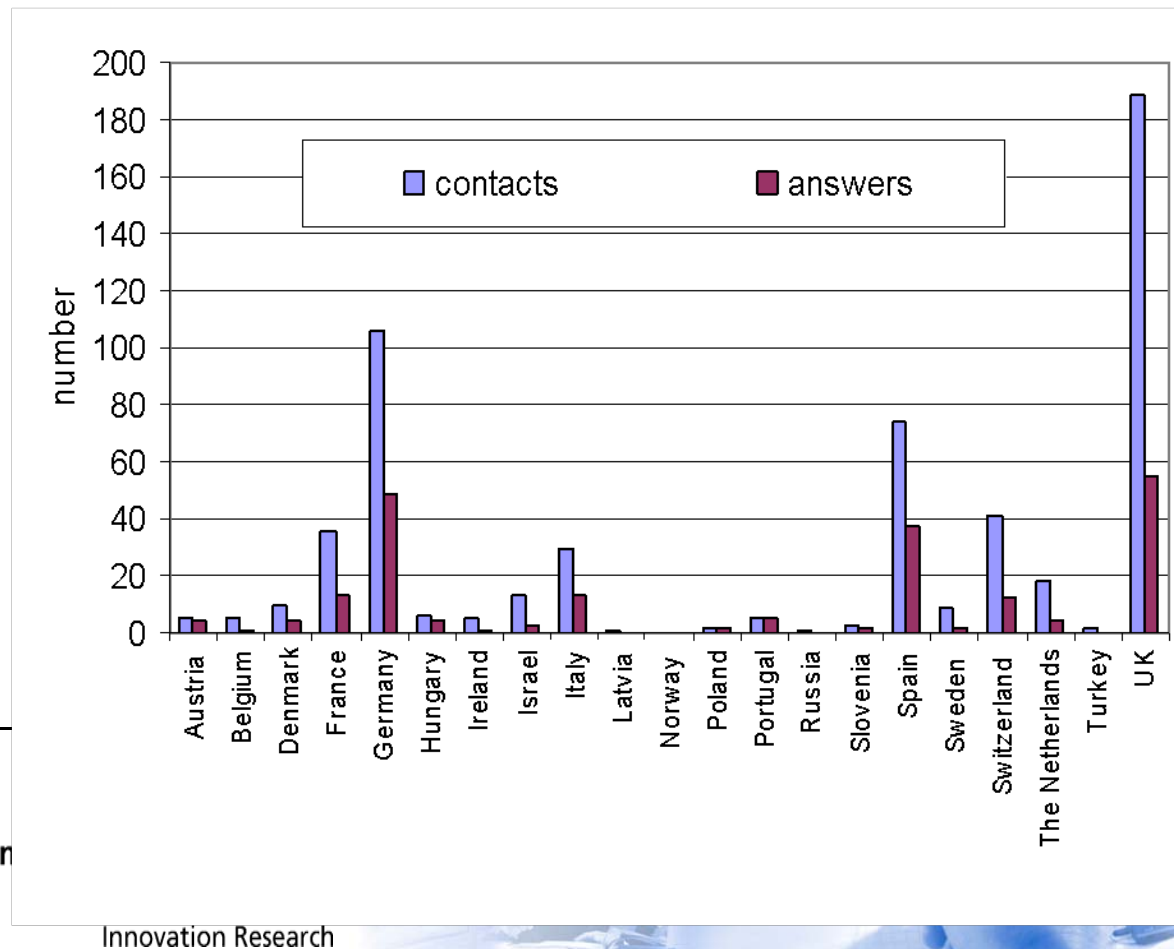
Context conditions of research



Context Conditions – Disciplines and actors

3. Communication among the SB community

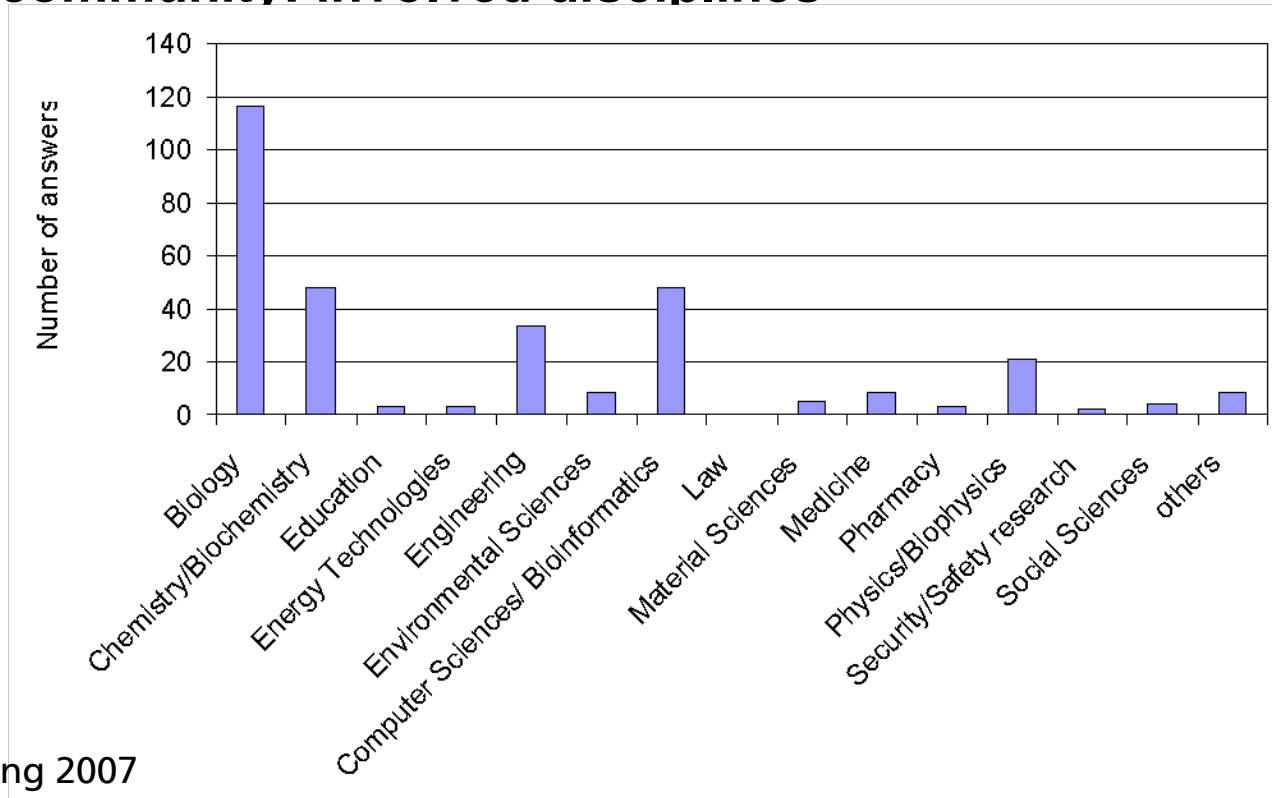
- Core community well established in the EU



Source:
TESSY roadmapping 2007

Context Conditions – Disciplines and actors

3. SB community: involved disciplines



Source:
TESSY roadmapping 2007



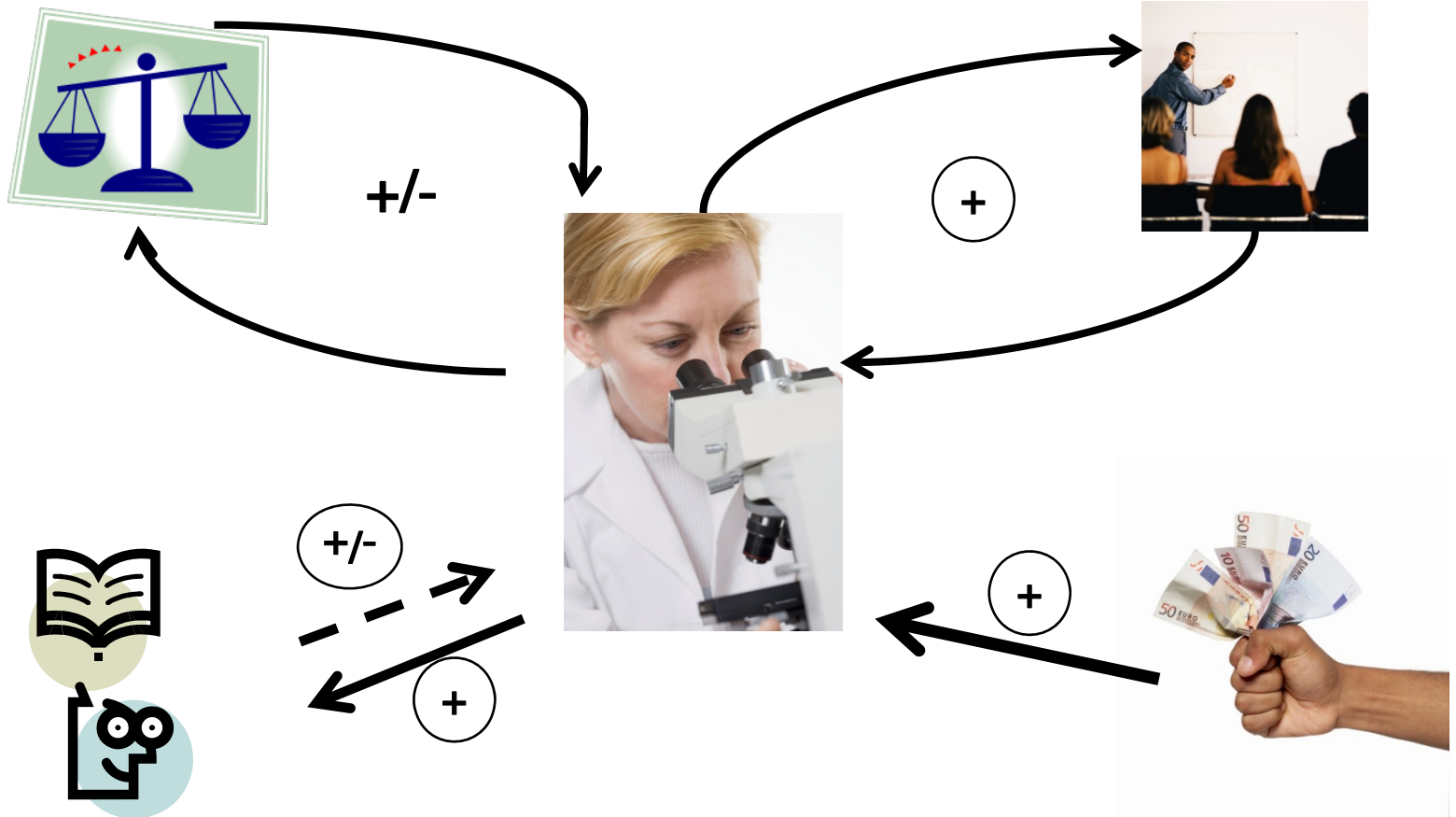
Relevance and Timing of Knowledge Transfer

activity	relevance factor	timing
implement interdisciplinary training	3.37	short to mid term
establish SB networks	3.14	short term
SB integration in existing curricula	3.05	short to mid term
elaborate education/ information material	2.76	short to mid term
educational activities at all levels	2.66	short to long term
raise public awareness	2.62	short to long term

Source: TESSY roadmap 2008



Context conditions of research



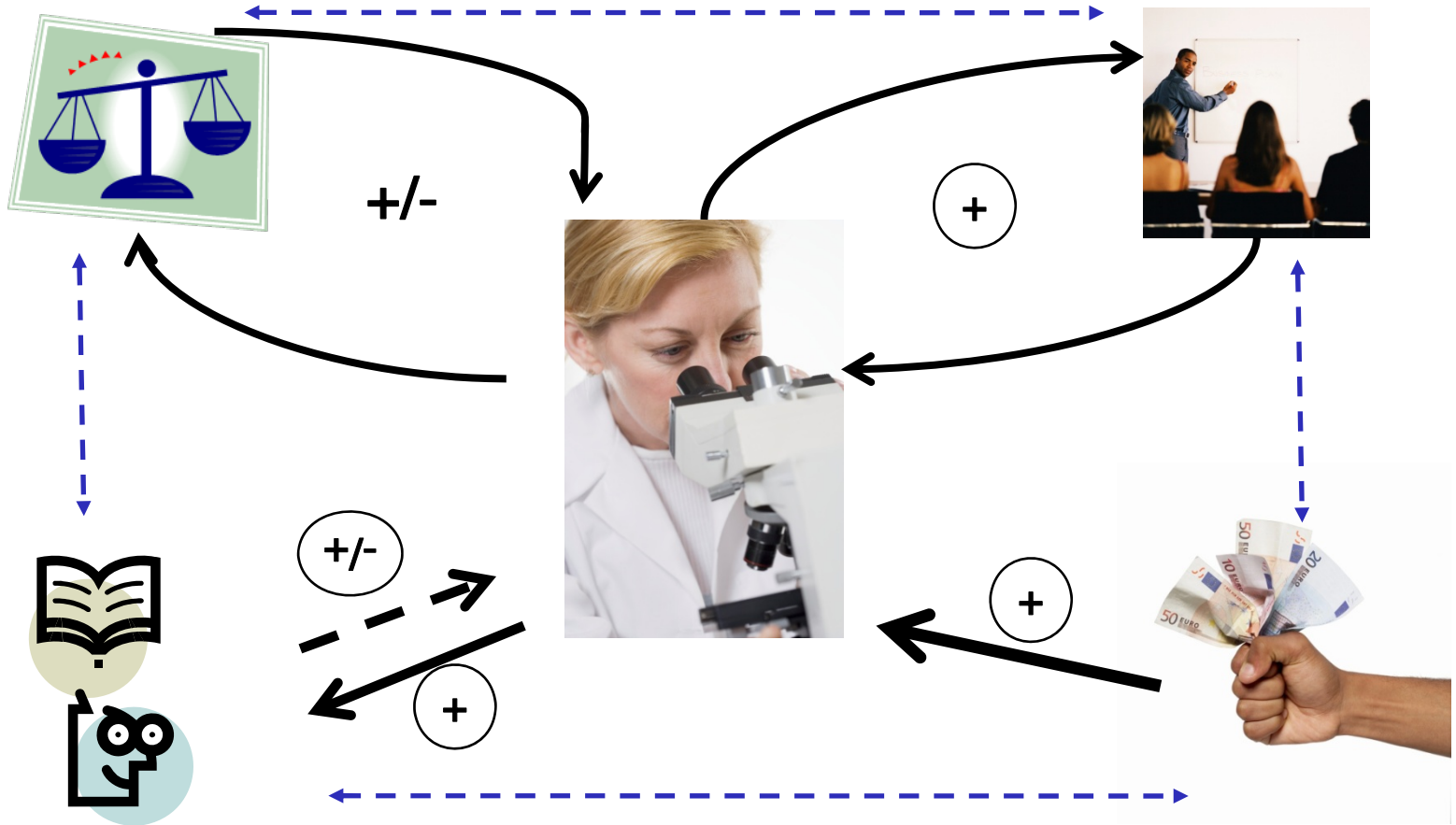
Context conditions – Communication

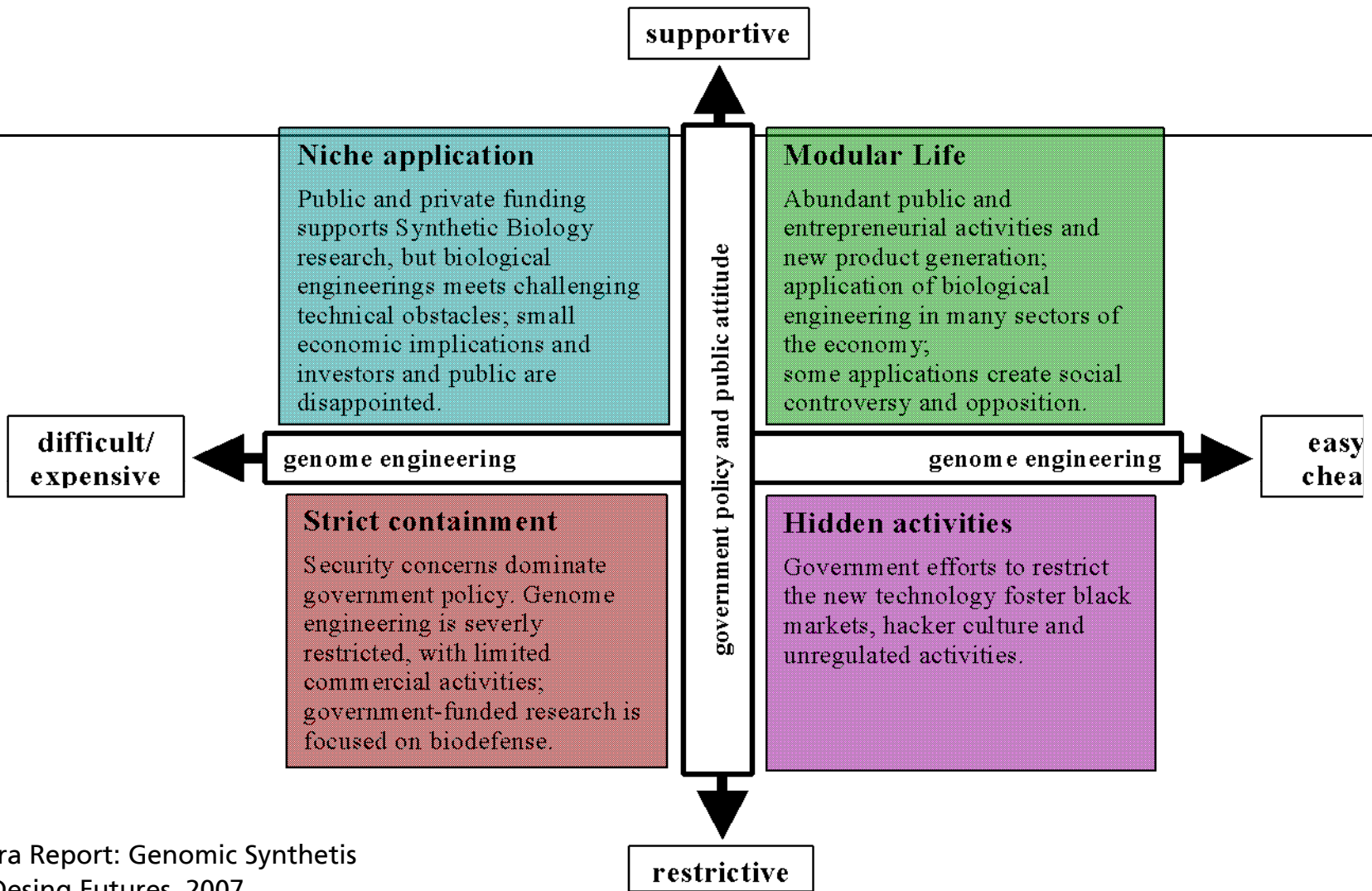
4. Integration of different actors

- ESF-Konferenz "Design, Programming and Optimisation of Biological Systems" (29. März -3. April 2009)
- BioFine-Konferenz: Applied Industrial Synthetic Biology in Europe (16. -17. April 2009)
- OECD-Konferenz "Opportunities and Challenges in the Emerging Field of Synthetic Biology (9. – 10. Juli 2009)
- BIO World Congress on Industrial Biotechnology & Bioprocessing (July 19–22, 2009)
- EuroBio 2009: The partnering and tech transfer event for the Bioindustry (23-25 September 2009)



Context conditions of research





Bio-era Report: Genomic Synthesis and Design Futures, 2007

