Biotechnology & Marine Biotechnology Landscape

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Definition of Marine Biotechnology

OECD - definition of biotechnology

"The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services" [1].

+ **list of** biotechnology techniques functions as an interpretative guideline to the single definition.

[1] http://www.oecd.org/document/42/0,3343,en_2649_34537_1933994_1_1_1_37437,00.html

Traditional Model: Development of academic discovery financed by private sector (biotechs) and then handed over to Pharma

Academic/Discovery
Early-Stage

Biotech (VC/IPO)
Mid-/Late-Stage

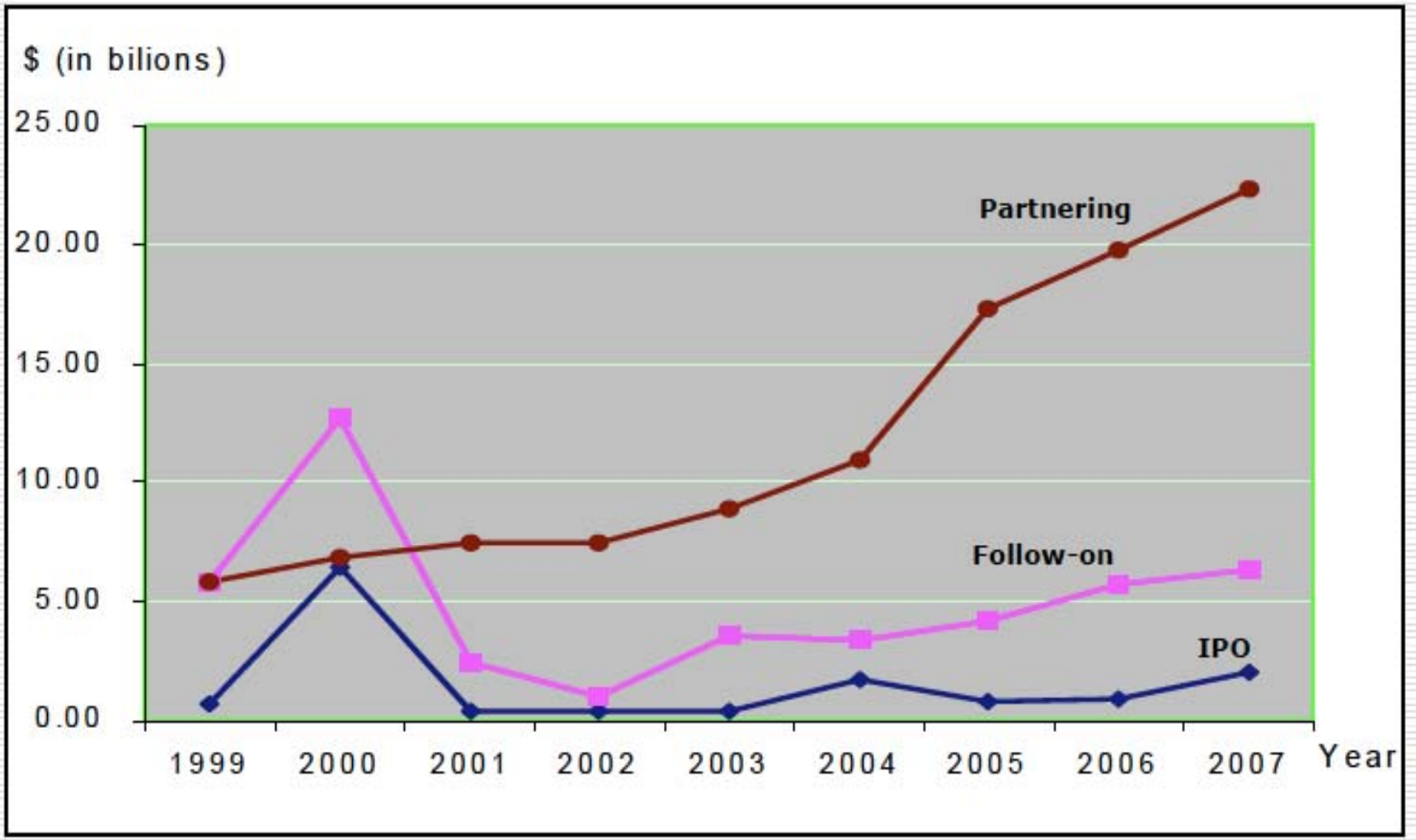
Pharma (Buys them)
Late-Stage/Marketing/Sales

- Reuters reports: "Only seven of the 61 biotech US companies to have gone public since 2000 are currently trading above their IPO prices."

- The greatest threat to the return of biotech IPOs is the nearly universally poor performance of biotech stocks, despite biotech once being the hottest sector. (Biotech analyst, Cowen & Co.)

- There have been IPO windows, when investors got very bullish on biotech and there was a lot of irrational exuberance," (Guatam Jaggi, managing editor of consulting firm Ernst & Young's annual biotechnology report)

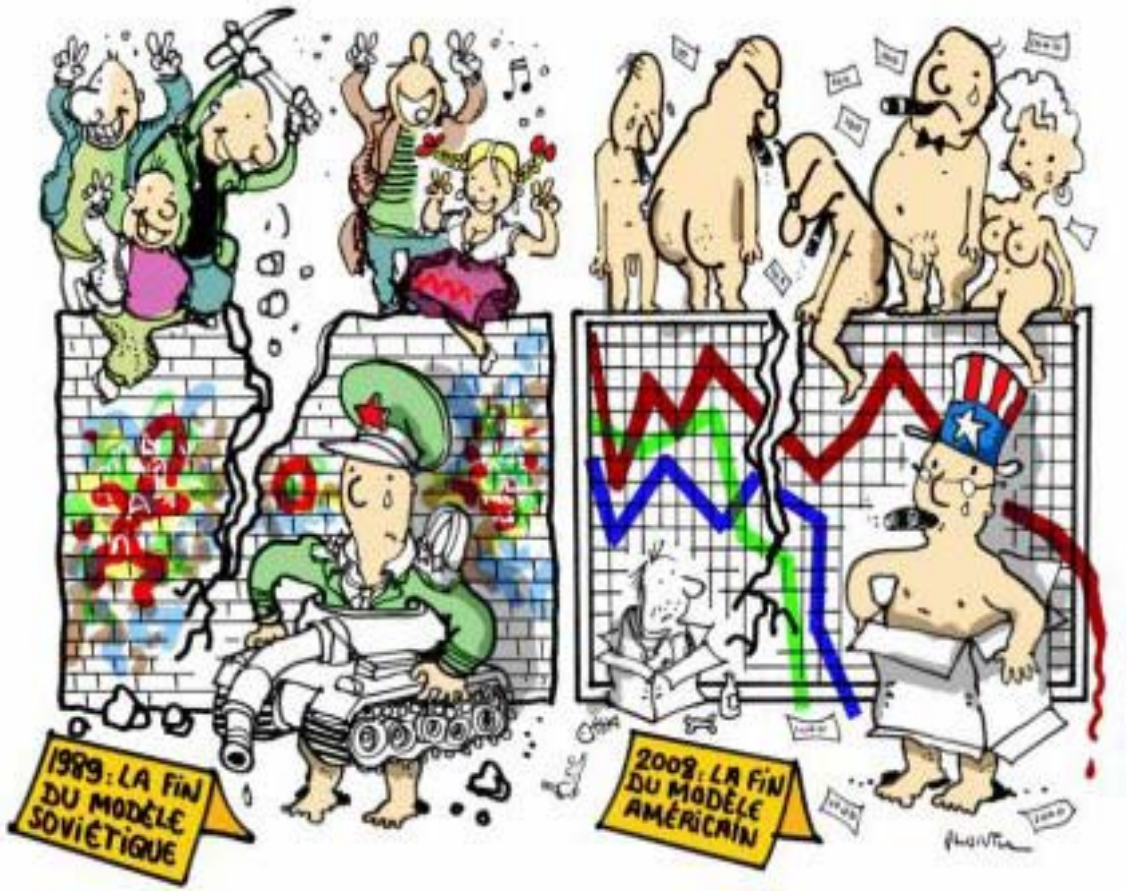
Comparison between IPO, follow-on and partnering



Source: Burrill & Company

Sosei Group Corporation
2008/6/23
4565.T
900000
800000
700000
600000
500000
400000
300000
200000
100000
44050
2004/1
2005/1
2006/1
2007/1
2008/1

Questionning the idyllic picture



1989: End of Soviet Model

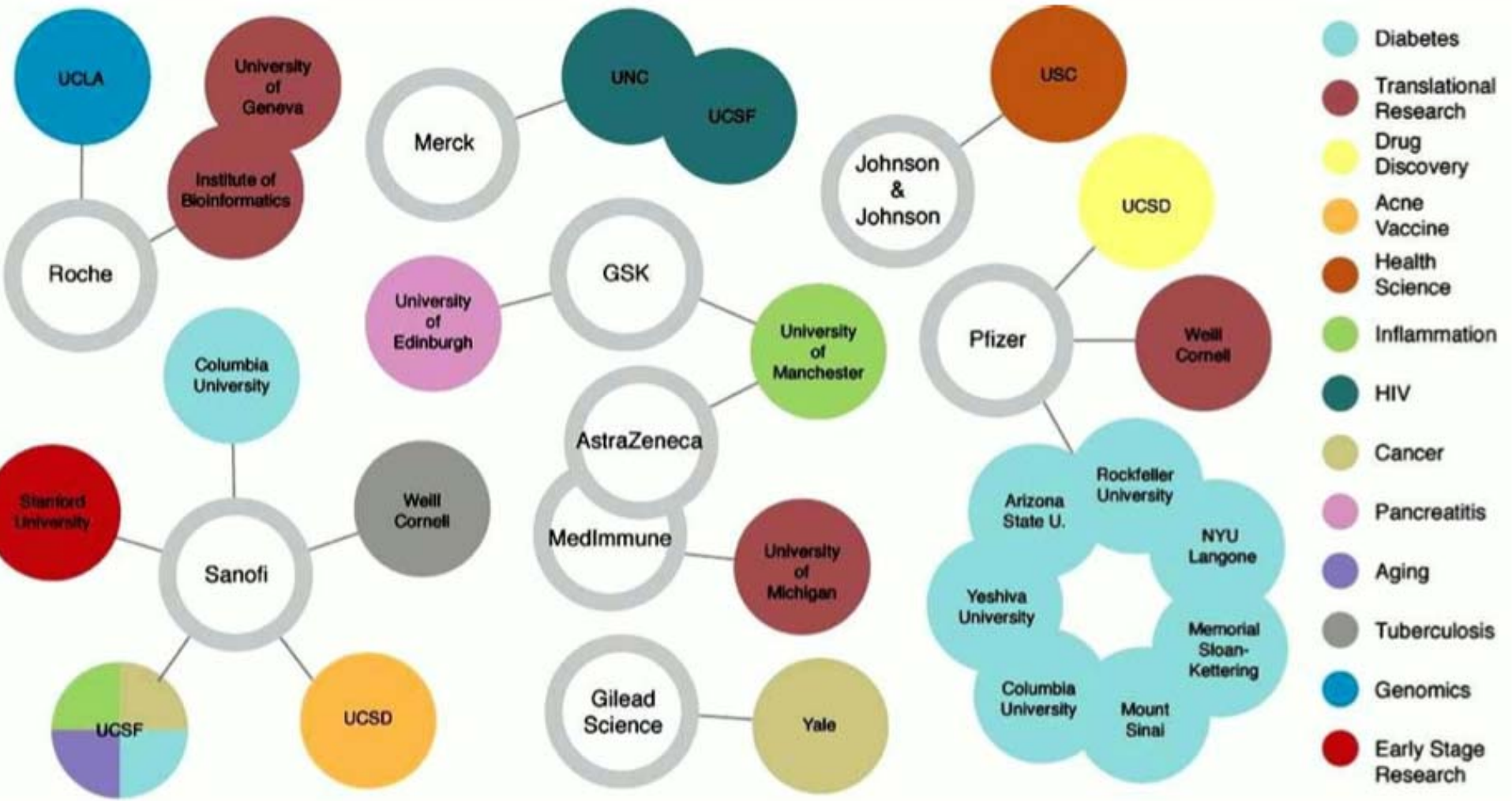
2008: end of US Model

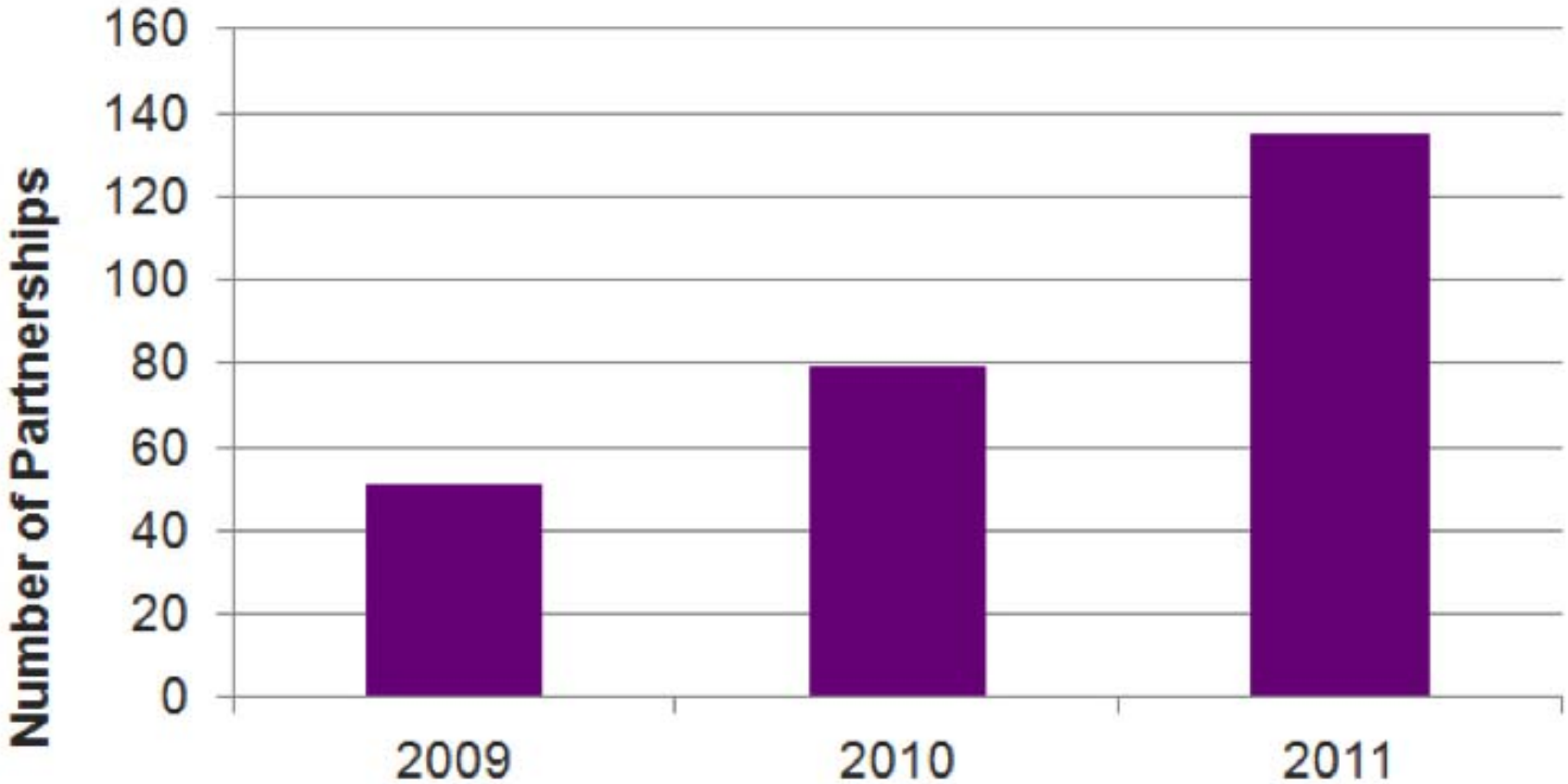
W/o the authorization of Plantu. « le Monde ».

2009 : LA FIN
DU MODÈLE
AMÉRICAIN

Pharma Heads Back to School

Selected discovery alliances announced with academic institutions in 2011




Number of Partnerships
160
140
120
100
80
60
40
20
0
2009
2010
2011

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Current Model: Pharma reaching back over biotech's to gain access to early-stage molecules

Academic/Discovery
Early-Stage

Pharma
Late-Stage/Marketing/Sales

BRICs

- Brazil (GMO,Diasporas,Spain..)
- Russia (Astra Zeneca R&D,Bayer JV,Ajico)
- India (Pharma,Diaspora)
- China (Merck et al !!!)

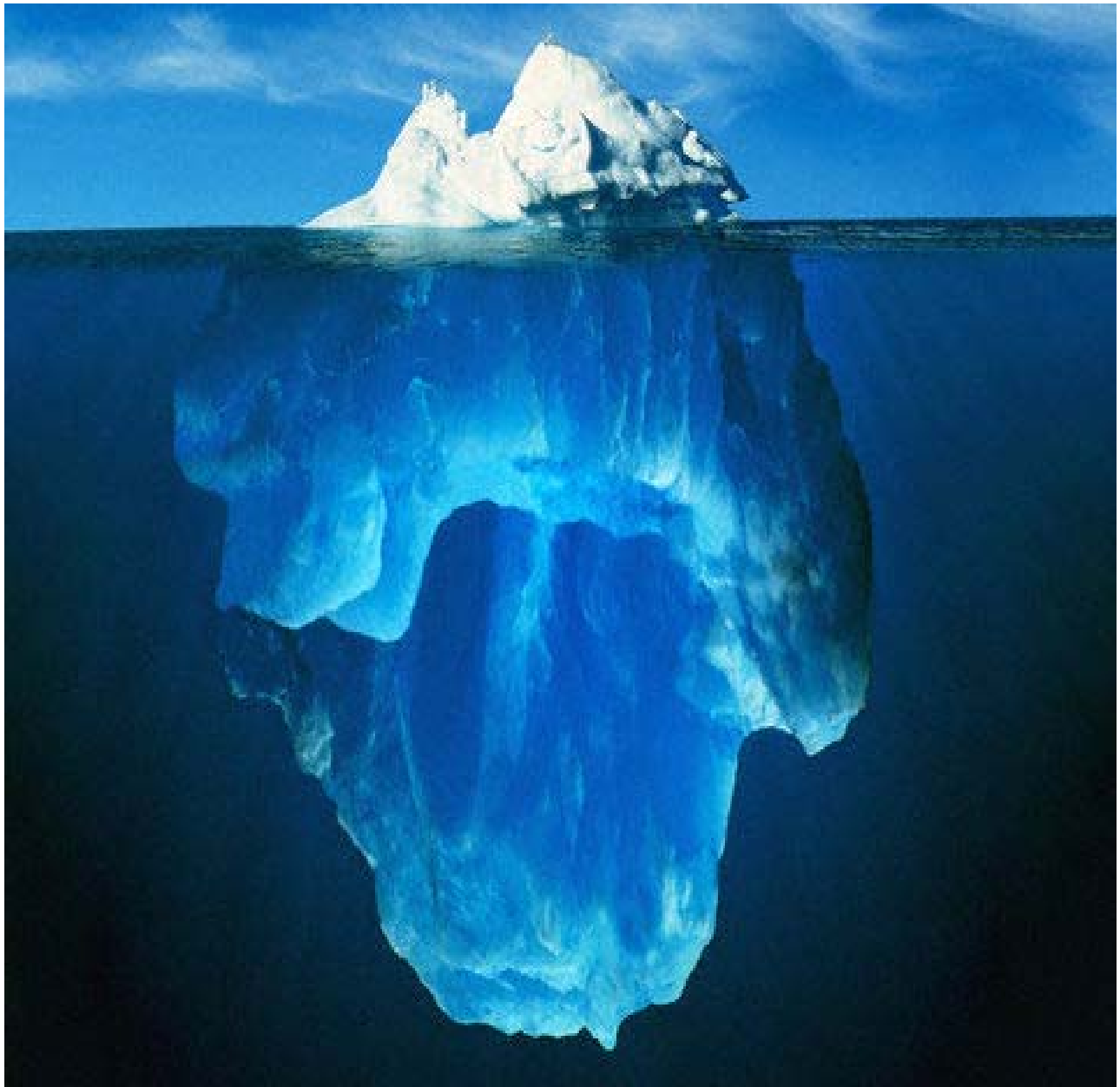
…CIVET

- Columbia
- Indonesia
- Vietnam
- Egypt
- Turkey

- End of traditional model
  « silicon valley »,IPO,Promises…
- BRIC , CIVET
- Europe (s)

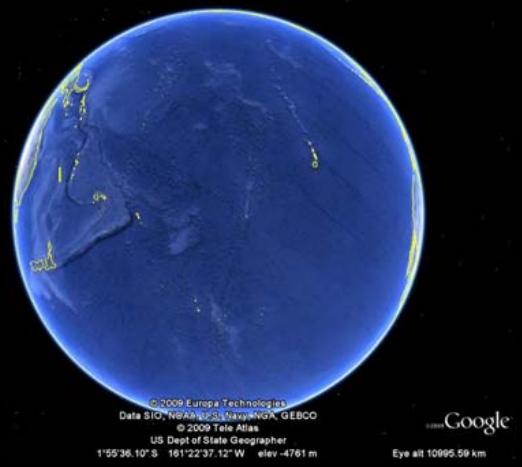
- Interaction University /Industry
  as an allosteric model…

Blue Biotechnology



oceans

Pacific



Indian

Arctic & Atlantic

70% of Earth's surface
97% of biosphere volume
80% of species on Earth
2/3 of the value of all natural services provided by the planet

A largely invisible world

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Marine Biotechnology

… explores and uses marine bioresources as the target or source of biotechnical applications.

This for the production of knowledge, goods and services. The developments can, positively or negatively, affect the natural environment, therefore it is necessary to consider sustainable use and social acceptance for the use of the marine environment. *(definition by CSA MarineBiotech - Adapted from OECD)*

Marine Ecosystem

- Unexplored
- Understudied
- Underexploited

(CSA Marine Biotech Faro meeting)

« visibility »

- Blue Biotech
- Marine Biotech
- Maritime Technology

Etc etc

« lobbying »

- Red Biotech ++
- Green Biotech ++
- White Biotech ++
- Blue Biotech --

Too many players? (french case)

- Research Institutions (Ifremer,CNRS,MNHN,IRD,INRA, UniversitieS, etc etc)
- TLO (S)
- Science parks,Clusters,bioclusters,blue bio clusters,Competitiveness Poles, etc etc

« le mille feuilles »

THINK EUROPE ,

opportunities for Europe

- Pooling resources (infrastructures and human capital)
- Exchanging knowledge and best practices
- Avoiding duplication of efforts through better coordination of activities (aligning at various levels)
- Improving the science-policy and science-industry interface

sources

- Europabio
- Burrill & Co
- OECD
- ESF
- JBA
- CSA Marine Biotech
- Zemi Yonekura

黒鯖

2008.2.25
城ヶ島

全長 44.7cm
重量 1.6Kg
検量店 えび神

加人 三留祐樹