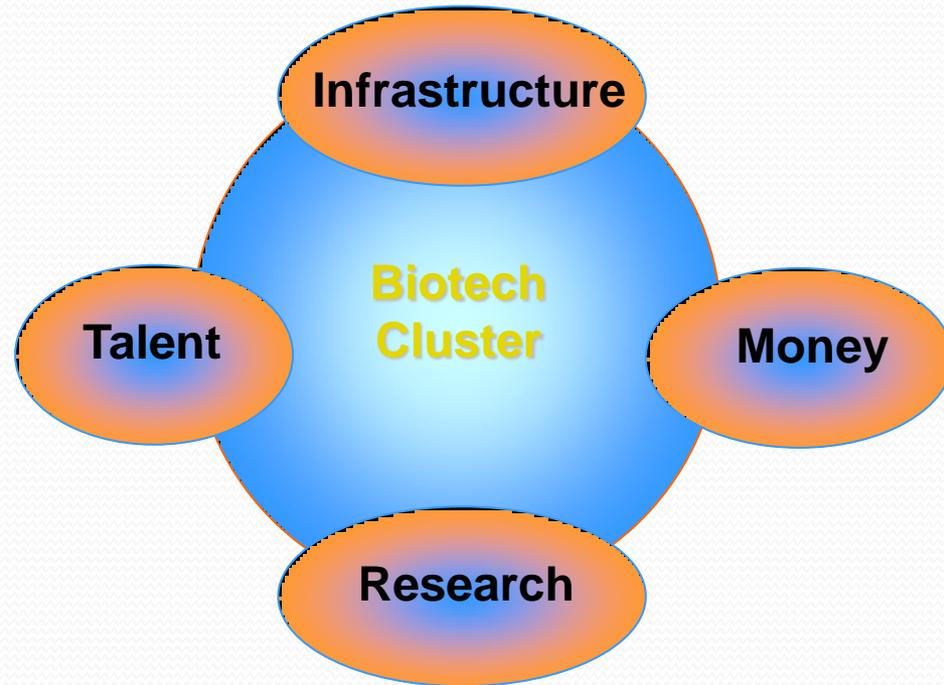




Biotechnology - Life Sciences Cluster in South East Europe

What Is A Cluster?

- “A group of industries and organisations that are linked together in buying and selling relationships, or who share the same infrastructure, customers or skills base and whose linkages enhance competitive advantage”.
 - Prof. Michael E. Porter, Harvard Business School.
- Schwartz (2004) “ Cluster is a regional concentration of industries or firms that gain advantages through such concentration”.



Key elements of a
Technology Cluster

EU Cluster Policy

- Life sciences and biotechnology have become pivotal to certain sectors of the EU economy.
 - Biotech activities include **Healthcare and Pharmaceuticals**, but also **Environmental Sciences**, industrial processing and primary production / agro-food.

been prepared jointly by the DGs Research (RTD) and Enterprise (ENTR), although it is entirely financed by the KBBE programme at DG RTD. The consultant company PriceWaterhouseCoopers (PWC) has been selected for carrying out the research work by using an elaborated method agreed upon by all participants. First results will be presented during a workshop on 10th December 2010, and the final report will be available in January 2011.

The special method consists of several stages: first, a large set of potentially useful indicators is created; next, a series of bioclusters is visited and analysed using all available data and interview results; then, the original list of indicators is revised and adapted; finally, to validate the final selection, the revised set of indicators is applied to another series of bioclusters, this time even in North America and Japan. The majority of bioclusters had been chosen among those representing mainly activities in KBBE-relevant areas. The results are also applied to establish the concept of a 'bioregion', or 'supercluster', meaning a geographical entity comprising several bioclusters and, sometimes, reaching across regional and even national borders.

The selected bioclusters are (first round/second round):

Cambridge Cluster (UK)
Lebensmittel-Cluster Austria
BioCat (Spain)
Ass. industries et agro-ressources (France)
Biotech Umea (Sweden)
Ghent Bio-Energy Valley (Belgium)
Oslo Teknopol (Norway)
Bioval (Spain)
Genopôle Paris (France)
Saint-Hyacinthe Technopolis (Canada)
Medicon Valley (Sweden/Denmark)
Food Valley (Netherlands)
Biovalley (Switzerland/France/Germany)
San Diego Cluster (USA)
Biotech-Region München (Germany)
Heidelberg Biocluster (Germany)

Regional Biotechnology

Establishing a methodology and performance indicators for assessing bioclusters and bioregions relevant to the KBBE area

03 February, 2011

European Cluster Policy Group

Consolidated Set of Policy
Recommendations on Four Themes

Biotechnology Clusters in Europe

EuroBioWest

EuroBioNorth

EuroBioEast

EuroBioSouth

- Cambridge cluster – UK
- Bio-Cat – Spain
- Ass. Industries & Bioresources – France
- Biotech Umea – Sweden
- North Bio-Energy Valley – Belgium
- Oslo Technopol – Norway
- Bioval – Spain
- Genopole Paris – France
- Medicon Valley – Sweden / Denmark
- Food Valley – Netherlands
- Biovalley – Switzerland / France / Germany
- Biotech Region Munchen – Germany
- Heidelberg Biocluster – Germany
- Maastricht Biovalley – Netherlands / Germany / France

?

Established Biotech – Health Clusters

North America

Seattle, USA
 San Francisco, USA
 Los Angeles, USA
 San Diego, USA
 Saskatoon, Canada
 Minneapolis/St. Paul/Rochester USA
 Austin, USA
 Toronto, Canada
 Montreal, Canada
 Boston, USA
 New York/New Jersey, USA
 Philadelphia, USA
 Baltimore/Washington, DC, USA
 Research Triangle NC, USA

Continental Europe

Brussels, Belgium
 Medicion Valley, Denmark/Sweden
 Stockholm/Uppsala, Sweden
 Helsinki, Finland
 Paris, France
 Biovalley, France/Germany/Switzerland
 BioAlps, France/Switzerland
 Sophia-Antipolis, France
 BioRhine, Germany
 BioTech Munich, Germany
 BioCon Valley, Germany

United Kingdom/Ireland

Glasgow-Edinburgh, Scotland
 Manchester-Liverpool, England
 London, England
 Cambridge-SE England
 Dublin, Republic of Ireland

Asia

Beijing, China
 Shanghai, China
 Shenzhen, China
 Hong Kong, China
 Tokyo-Kanto, Japan
 Kansai, Japan
 Hokkaido, Japan
 Taipei, Taiwan
 Hsinchu, Taiwan
 Singapore
 Dengkil, Malaysia
 New Delhi, India
 Hyderabad, India
 Bangalore, India

Central America/South America

West Havana, Cuba
 Belo Horizonte/Rio de Janeiro, Brazil
 Sao Paulo, Brazil

Africa

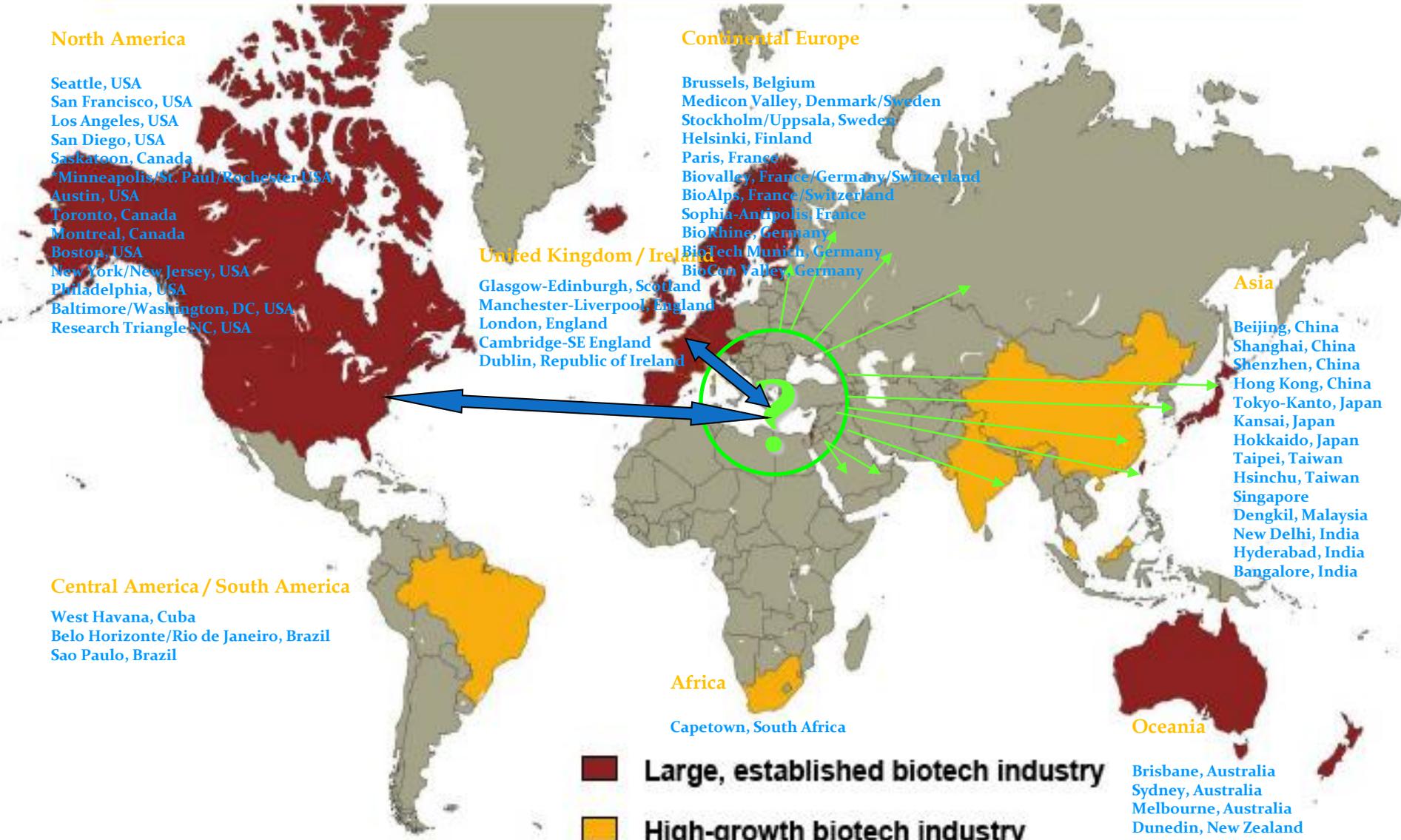
Capetown, South Africa

Oceania

Brisbane, Australia
 Sydney, Australia
 Melbourne, Australia
 Dunedin, New Zealand

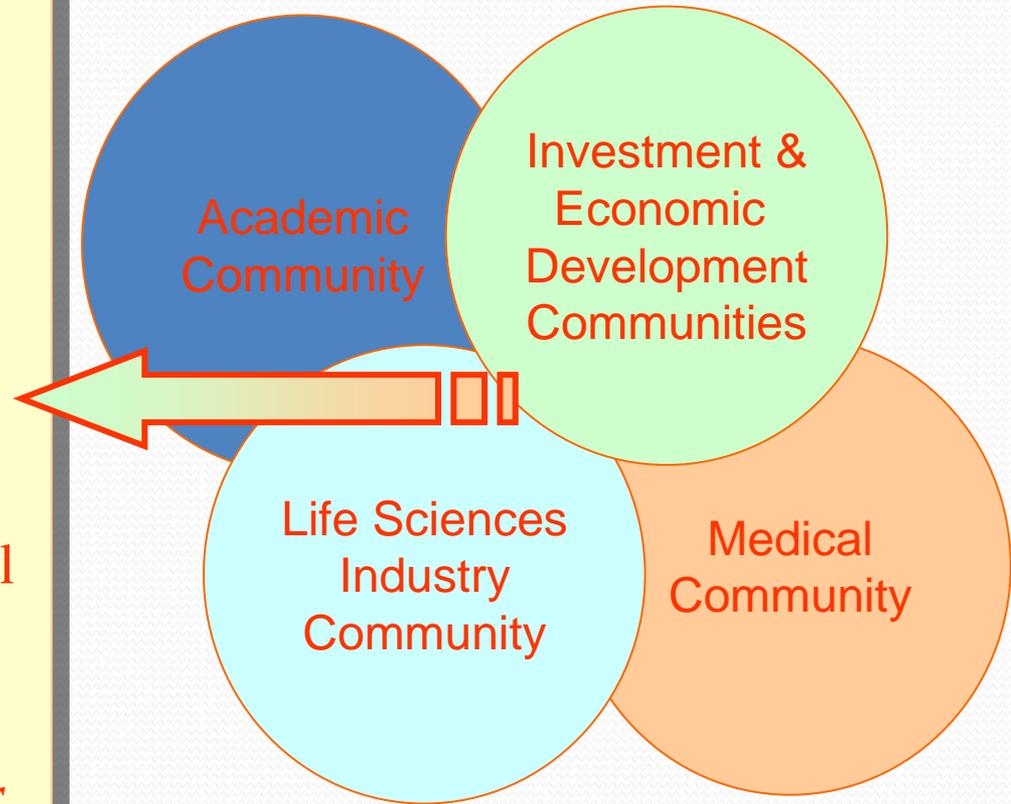
 Large, established biotech industry

 High-growth biotech industry



Strategic Priorities

- Create a World-class **Biotech Cluster** in SE Europe located in Greece
- Establish a Clinical Investigation Center and an Environmental Sciences Institute and as the nucleus of the Cluster
- Strengthen the Competitive Position of the Regional Biotech Academic and Research Community
- Support Regional Human Capital development
- Fund Early-Stage Companies to improve Innovation Capacity
- Serve as a Convener, Coordinator & Facilitator for the SEE Life Sciences Industry



Life Sciences-Biotech Cluster

A Knowledge Cluster in Greece – Multi-disciplinary Approach



Health Sciences & Environment

Molecular Medicine – Gene Therapy

Clinical Investigation - Pharmacology

Immunotherapy – Targeted Therapies

Environmental - Air Pollution Health Effects



Biotechnologies

Stem Cells - Transplants

Medical Devices, Small Molecule Pharma

Biosensors - Diagnostics



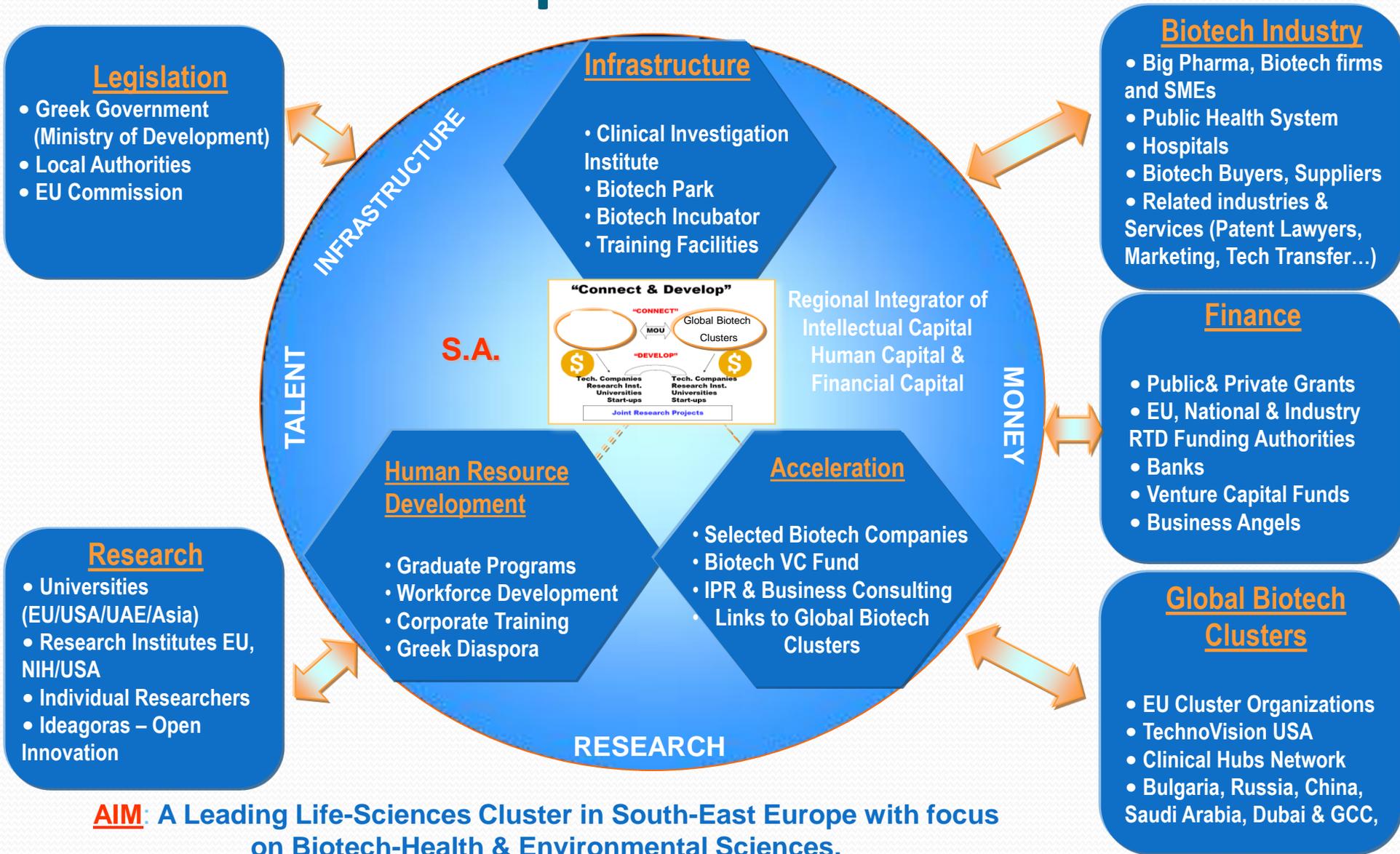
Information Sciences

Bio-informatics

Biomedical Signal Processing

Micro-Array Development

Participants in the Cluster

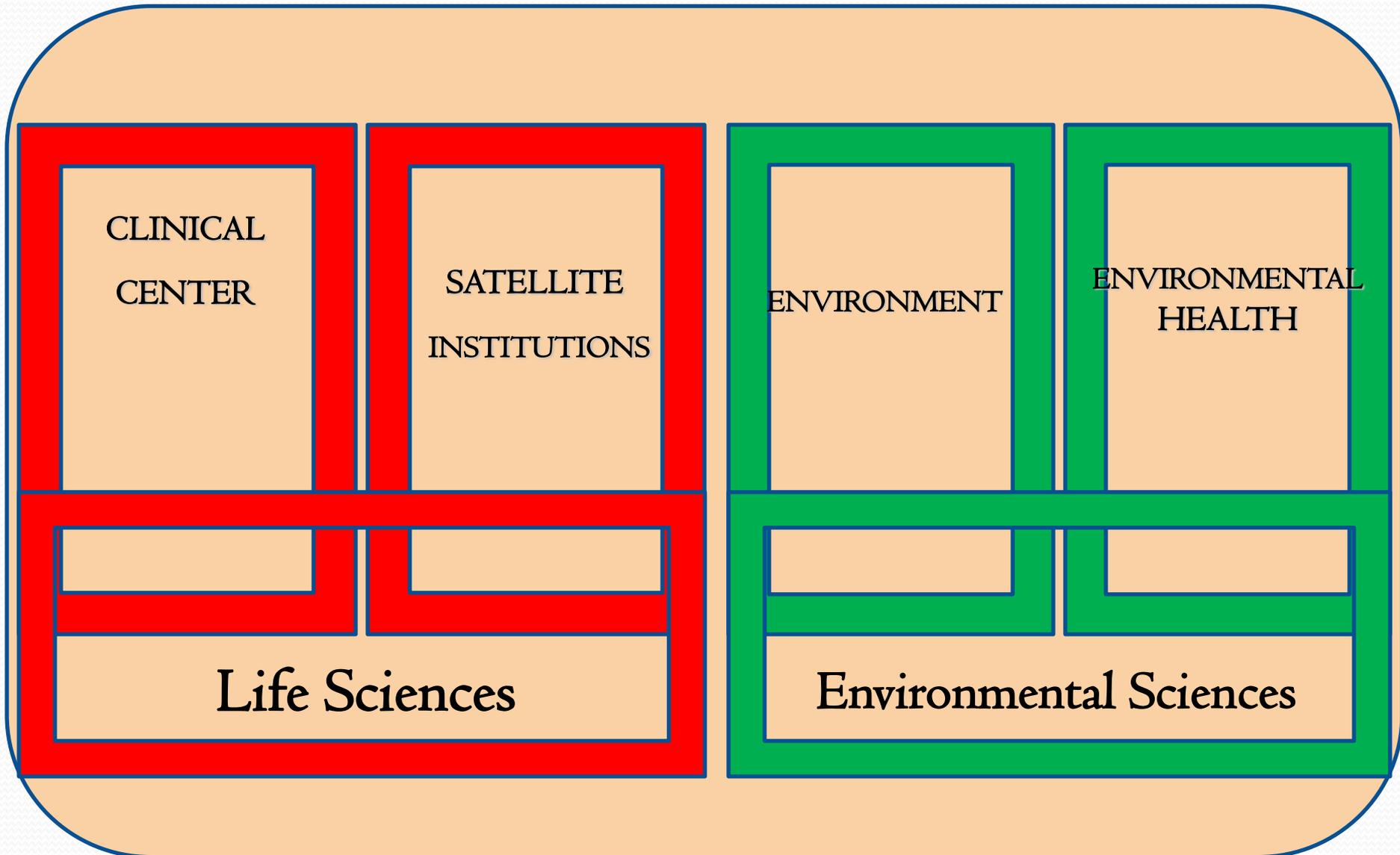


AIM: A Leading Life-Sciences Cluster in South-East Europe with focus on Biotech-Health & Environmental Sciences.

National and International Presence

- The leading brand name in Biotechnology in Greece and Southeast Europe
 - *Society for Biotechnology – Biosciences and Culture*, <http://www.biosbbc.org/>
- National Contact Point in the EU-funded projects for Health and Biotechnology
- Exclusive Greek representative in
 - EuropaBio (EU) – Member in the Board of Directors
 - European Federation of Biotechnology (EFB) – Regional Office
 - BiO (US)
- Partnerships and MoUs with major Biotech firms, Clusters and Academic and Research Institutions worldwide
- Organization of the only International Biotechnology Conference (IGBF) in Greece for the last 5 years, the highest quality scientific Congress in the region, attracting Nobel laureates and the world's most prominent figures in Science
- Outstanding Board of Scientific Counselors devoted to Cluster development
- Excellent prospects of expansion and potential for development based on dynamic presence, fruitful multilateral collaboration and fine reputation

The Nucleus of the BIONIAN Cluster



BIONIAN Life Sciences Cluster

Operational Strategy and Business timeline

2012 - 2024



Cluster Programs At-a-Glance

Cluster Infrastructure Development Program

Biotechnology Park

Clinical Investigation & Environmental Health Institutes

Biotechnology Incubator

Educational Facilities, Conference, & Hosting



Life Sciences Acceleration

Biotech VC Fund
Investor Risk Reduction

IPR & Business Consulting Services

Product/Prototype Development

Alliances with Global Biotech Clusters



Education & Workforce Development Program

Graduate Programs

Cooperative Research

Workforce Development

Technology Transfer



Horizontal Management Activities

Coordination, Facilitation, Cluster-Factor Alignment, Global Marketing & Reach

BIONIAN Cluster Strategic Objectives

	Today	...in 5 years	...in 12 years
Number of Biotechnology Jobs in Greece	Over 800	1600	~5000
Innovative Biotech start-ups	~15	50	At least 150 new Biotech start-ups with growth potential
IPR Development No. of Patents	196 (EU & US Patents)	400	~1200
Self-sustainability of the cluster	€5 m Seed Funding	Fully funded Cluster Investment	Financially sustainable, self-sufficient cluster



Revenue Streams

Predictable Income	High Risk – High Reward
Clinical Investigations & Trials	Revenue from Technology Transfer & IPR
Revenue from Incubator	Revenue from VC Fund
Real estate income	Research (EU projects, National & Industry-funded)
Education, Corporate Training & Certificate Programs	Environmental Research
Revenue from Business Consulting	Renewable Energy Sources (RES) RTD
Environmental Studies, Products & Services	Other
Renewable Energy Sources (RES) Studies & Applications	

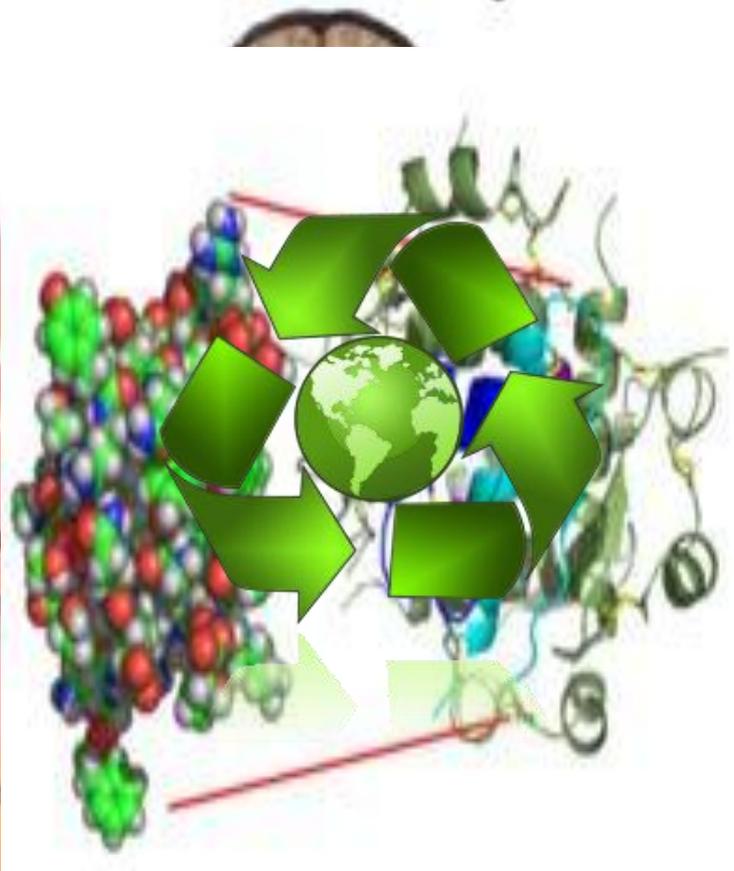
Cluster Structure

Health effects of pollution

Air pollution



Nerve damage
Lead
Particulate
Oz
Volatile organic compound

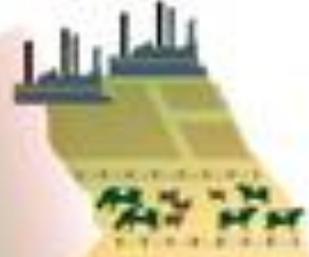


Water pollution



Microbes
Pesticides

Soil contamination



Nausea
Skin irritation



BIONIAN - Life Sciences Cluster

*The Integrated Hellenic Pathway to
Excellence and Innovation in
State-of-the-Art Medical Research &
Multidisciplinary Applied Biosciences*

Society for Biotechnology - Biosciences and Culture

<http://www.biosbbc.org/>