5TH BLACK SEA PORTS & SHIPPING 2016

Cooperation on Education & Scientific Research for Promoting Ecoinnovation in Transport & Logistics in the Black Sea Region

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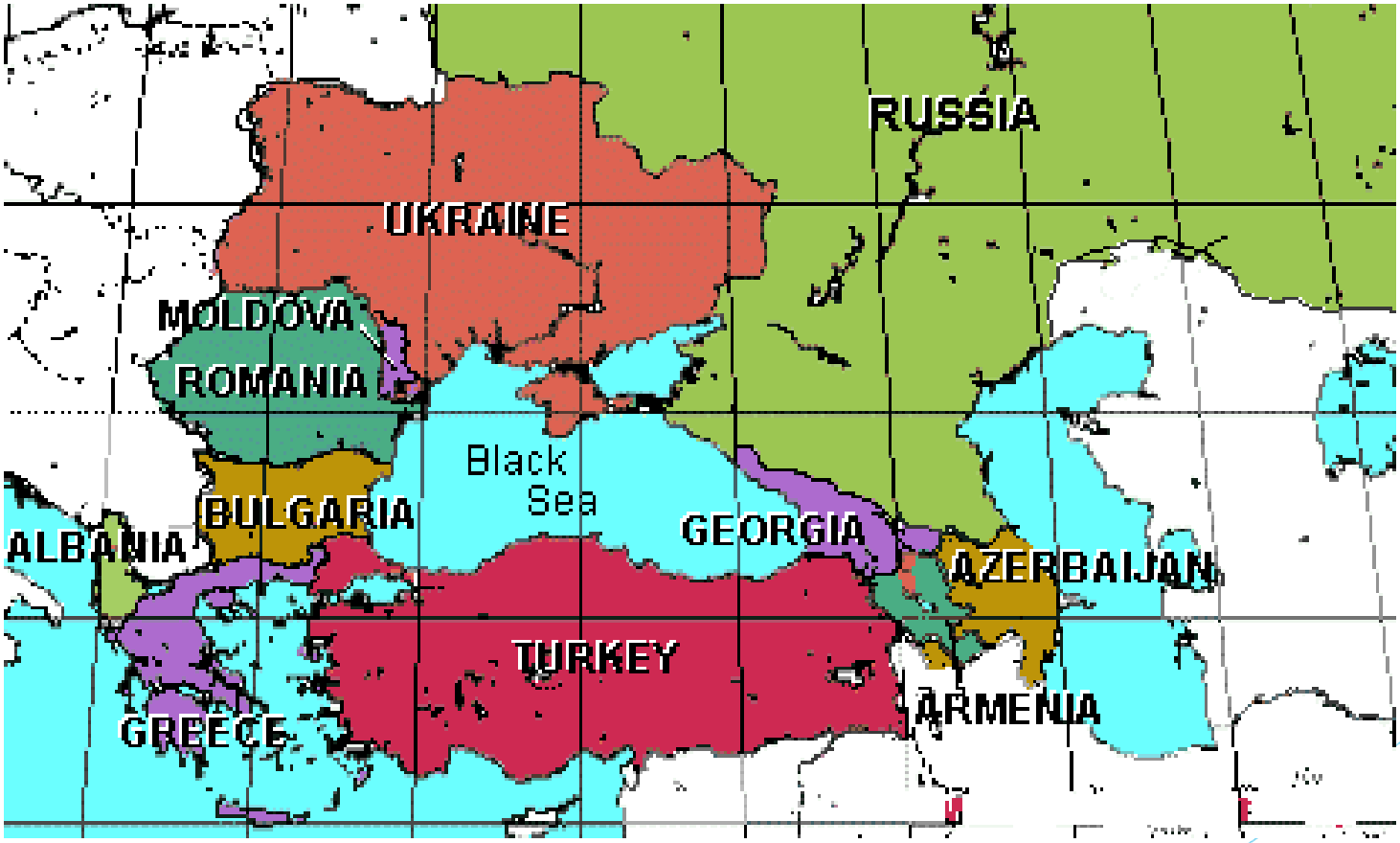
Black Sea Universities Network

Outline

- The Black Sea Region
- The Black Sea Universities Network
- Priorities in the field Transport, Energy and Environment Protection
- The Concept of Ecoinnovation
- Generic Projects
- Cooperation examples
- Conclusions

The Black Sea Region



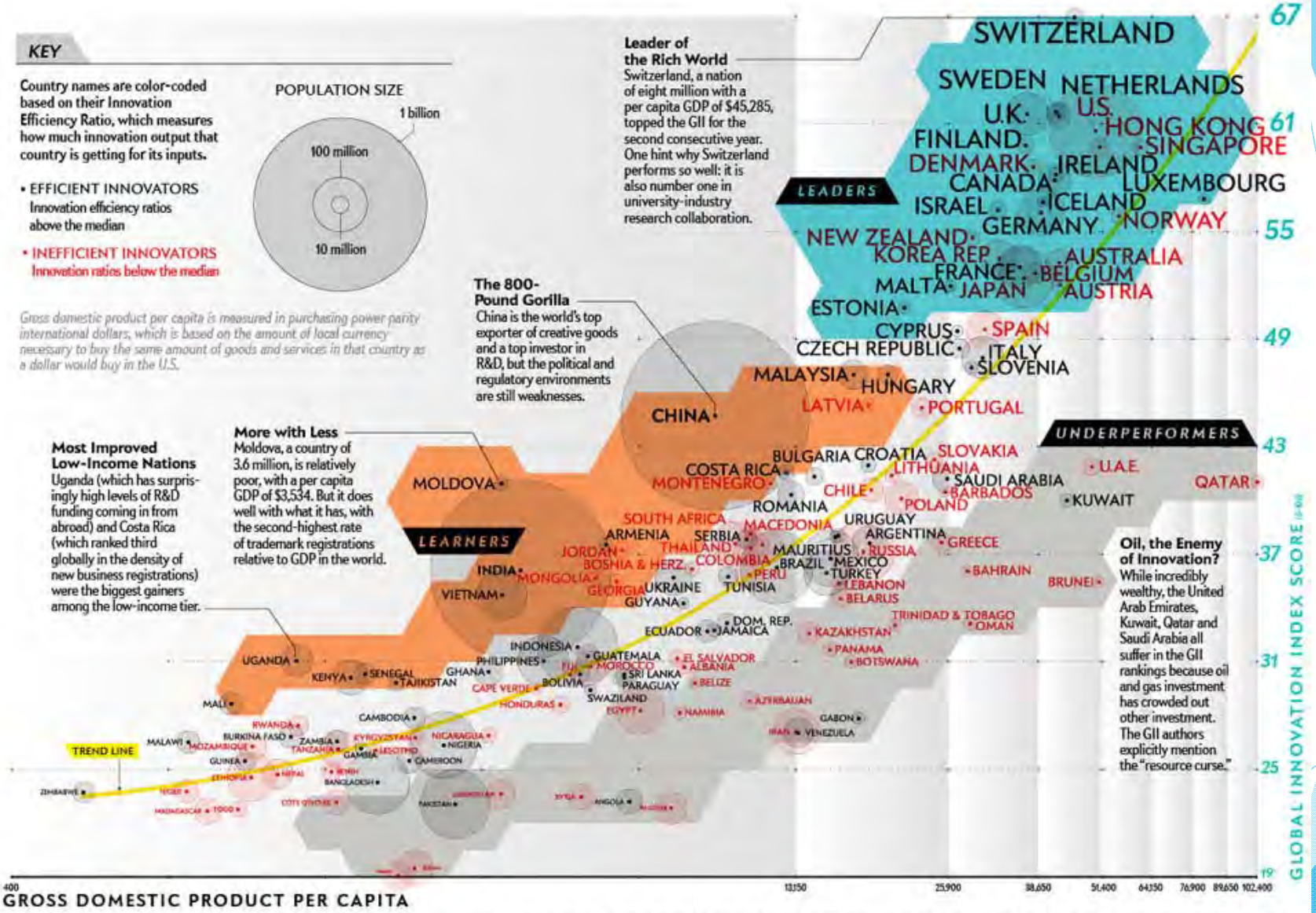
Inherited Problems

- Centuries of confrontations
- Inherited non-cooperative mentality
- Long lasting environmental problems
- Major economical imbalances
- Scarcity of investment resources
- Instability and insecurity
- Ethnical segregation

Black Sea Universities Network

- **Aim:** The Network was founded for the purpose of developing scientific, cultural and educational cooperation and exchanges among the Universities of the Black Sea Economic Cooperation Participating States and other institutions with similar concern for the sustainable development of the BSR
- **Members:** 114 Universities of 12 BSEC member countries
- **Bodies:** Conference of Rectors of BSR, Executive Board, President, IPS
- **Centers:** Center for Advanced Engineering Sciences (Romania), “B. S. Cobanzade” Research Center on Turkology, Baku State University, Center ACADEMICON (Turkey), Center for Coordination of Common Graduate Programs (Greece), Center for Coordination of Summer Schools & Short Term Certificate Courses (Ukraine), Center for Joint Research Projects (Azerbaijan), Center for BSUN Publications (Bulgaria),
- **Consortia:** BSUN Consortium on Economics & Business, Consortium on Oral Health, Consortium on Tourism, Consortium on RES.
- **Web site:** Http://www.bsun.org

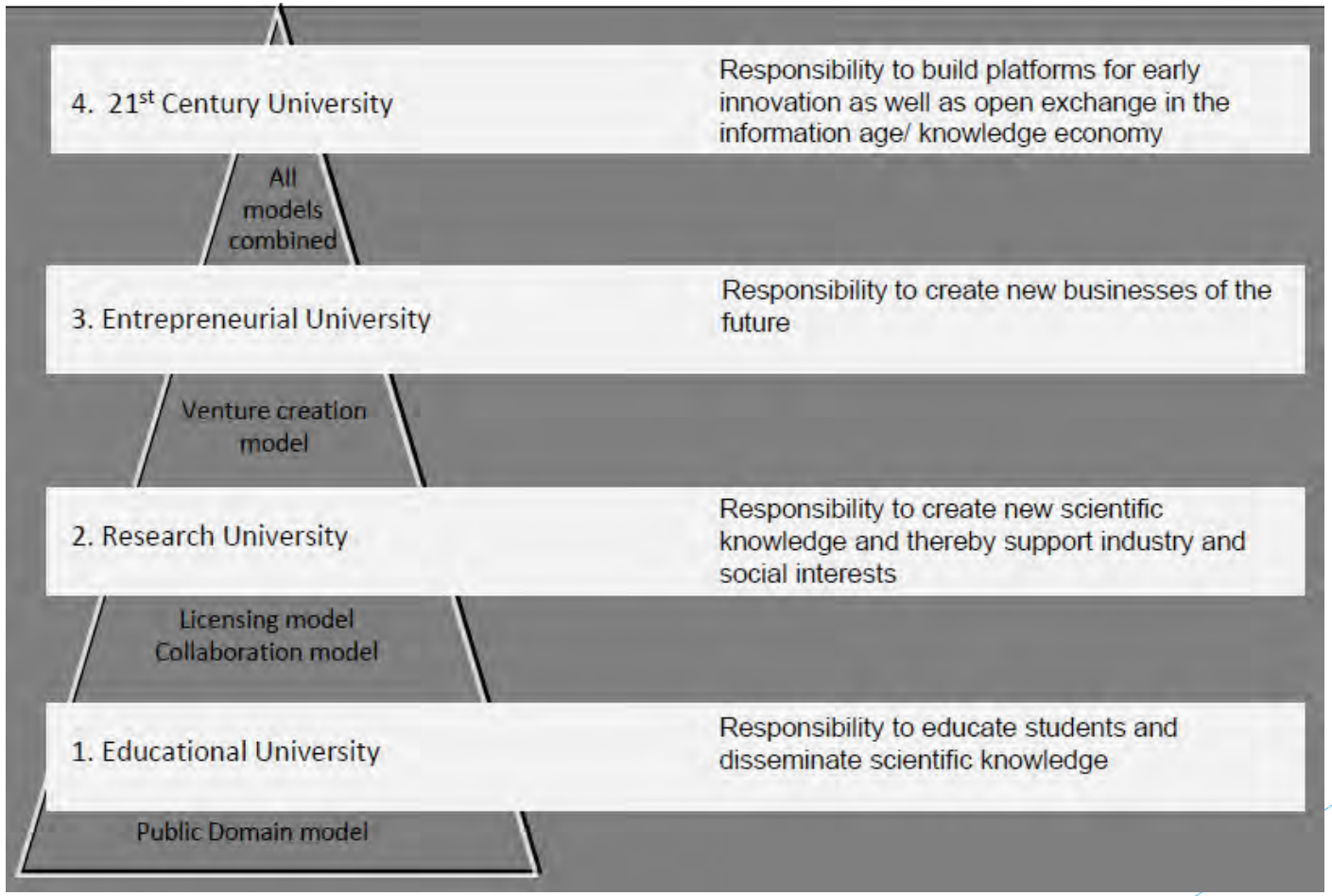

Poland
Belarus
Prague
Czech Rep
Vienna
Slovakia
Ukraine
Hungary
Croatia
Serbia
Black Sea
Georgia
Caspian Sea
Azerbaijan
Turkey
Syria
Lebanon
Mediterranean Sea



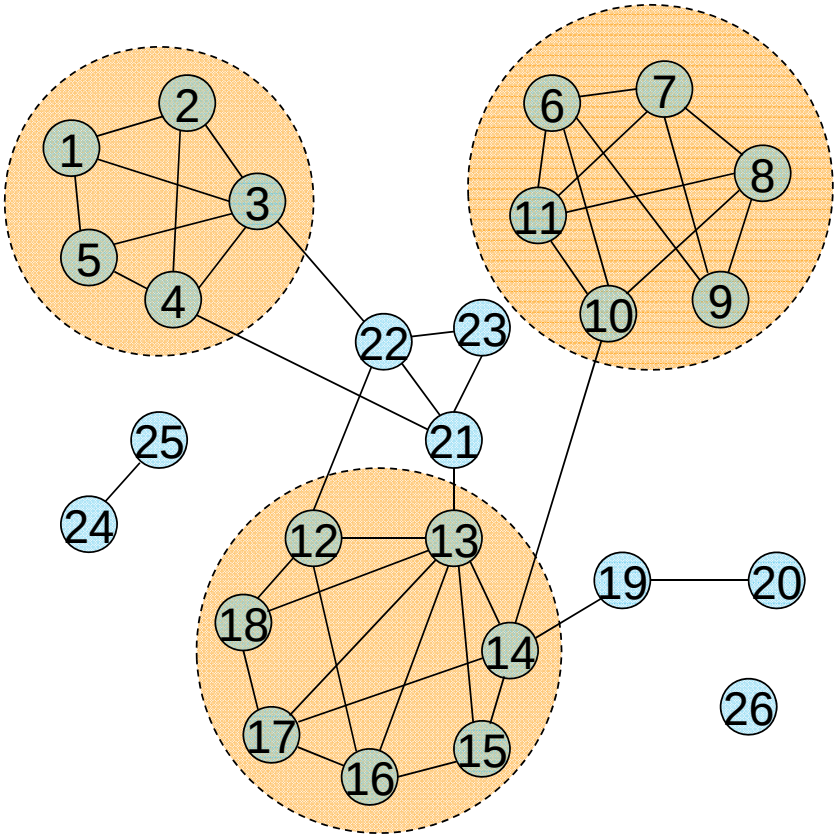
Graphic by Pitch Interactive

SOURCE: THE GLOBAL INNOVATION INDEX 2013: LOCAL DYNAMICS KEEP INNOVATION STRONG IN THE FACE OF CRISIS, BY SOUMITRA DUTTA, DANIELA BENAVENTE, BRUNO LANVIN, AND SACHA WUNSCH-VINCENT (CHAPTER 1, FIGURE 4, PAGE 24 IN *THE GLOBAL INNOVATION INDEX 2013*).

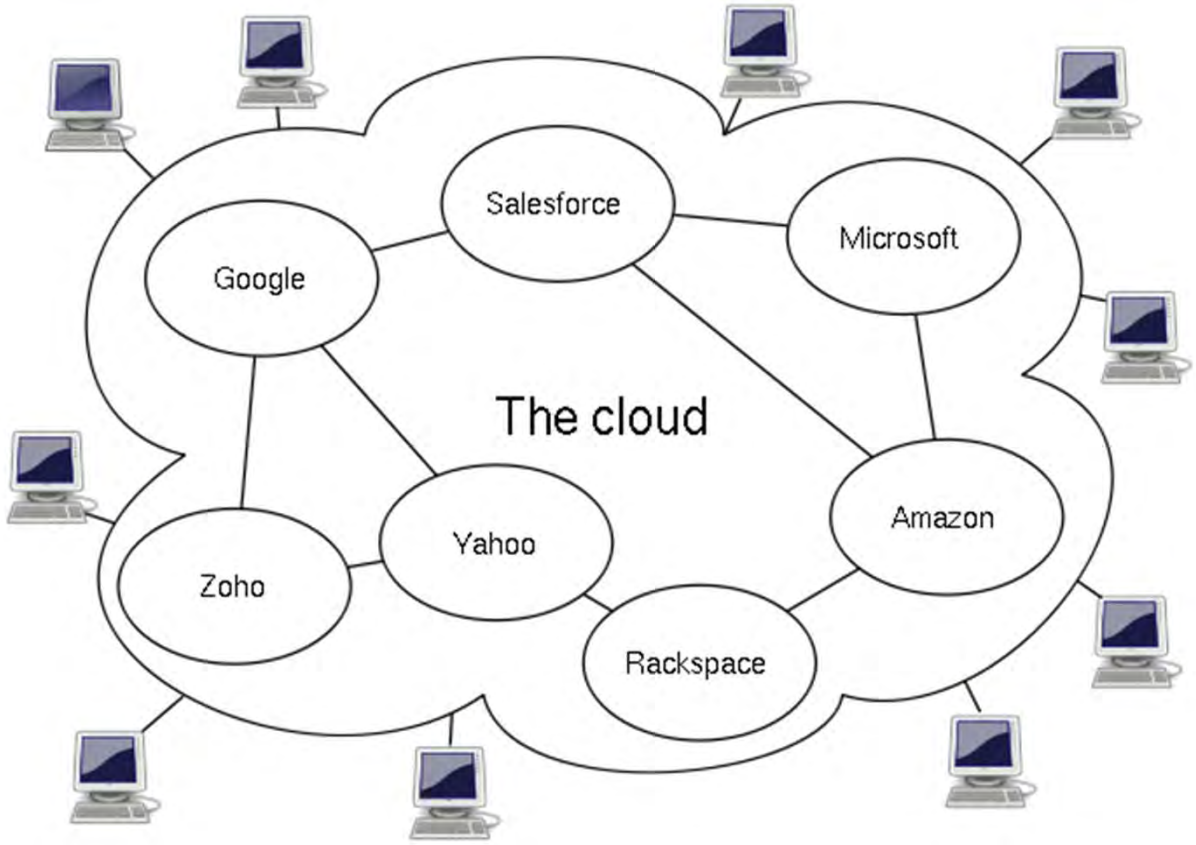
The Role of Universities



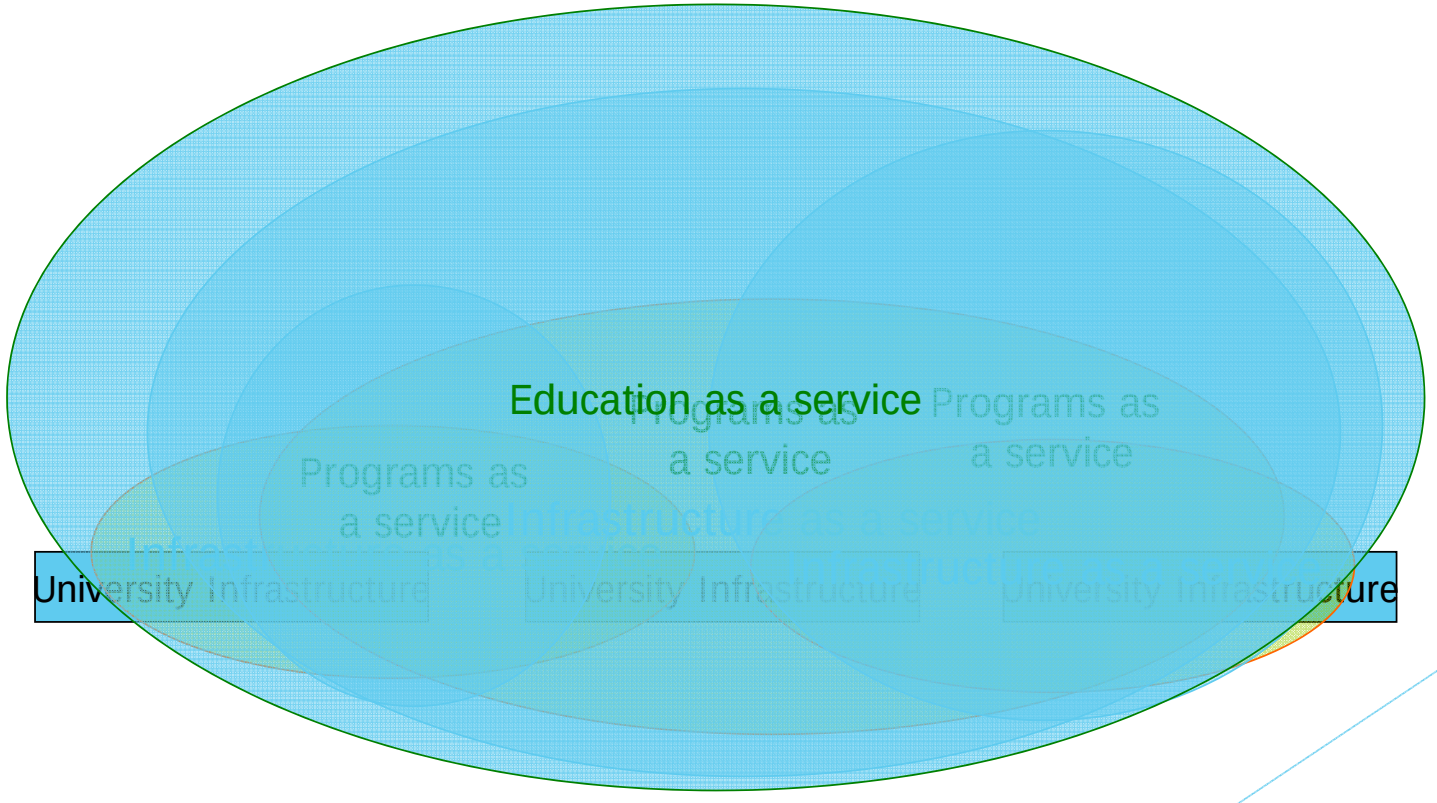
Network of universities / Network university



Cloud computing and ……



Cloud Universities

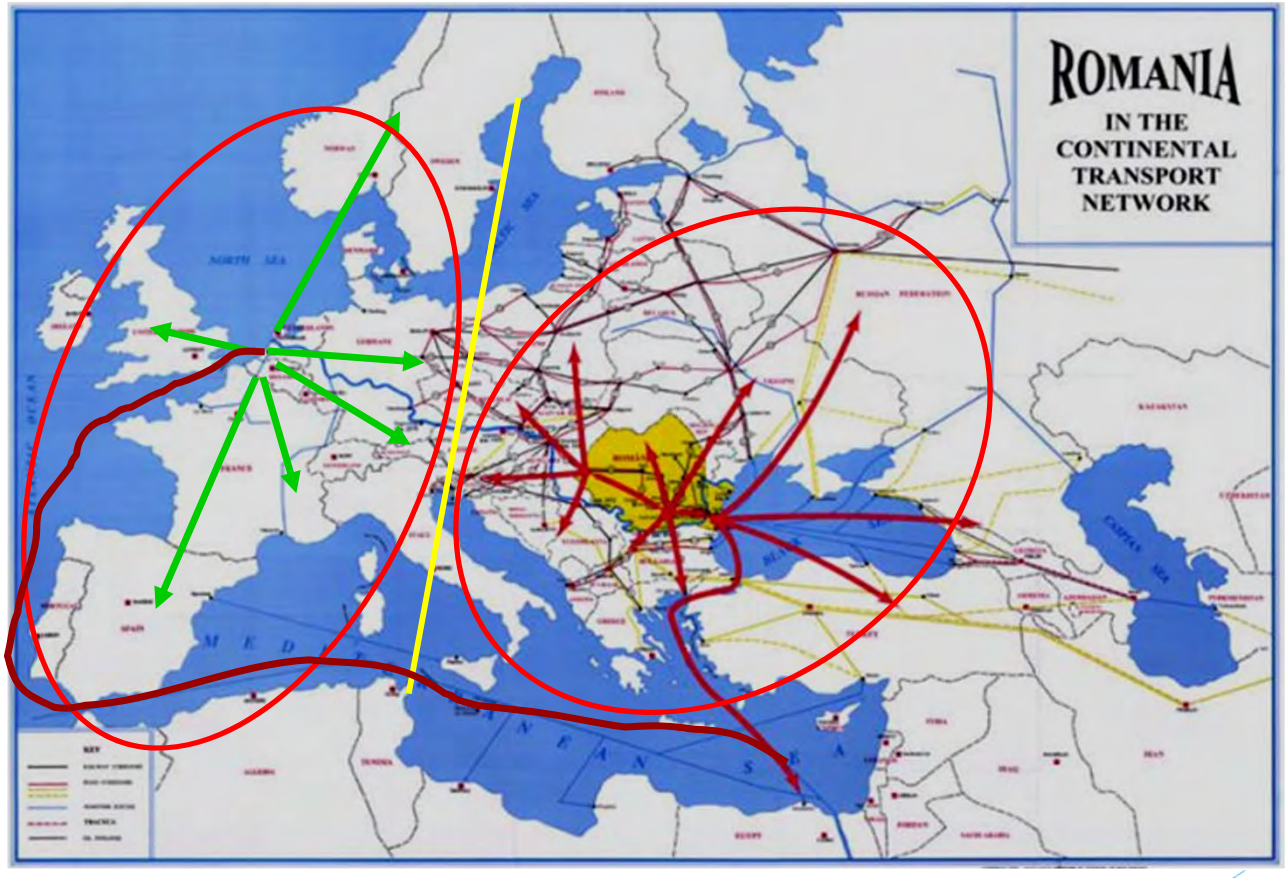


Intellectual Social Responsibility

- Multivalent logic
- Synthetic thinking
- Integrative learning
- Focus on results
- Generate Synergies
- Be part of a team!
- And Try to MAKE ….a little bit BETTER on Earth!

BSR as a Transportation Platform

Addressing a challenge on T&L



Connectivity

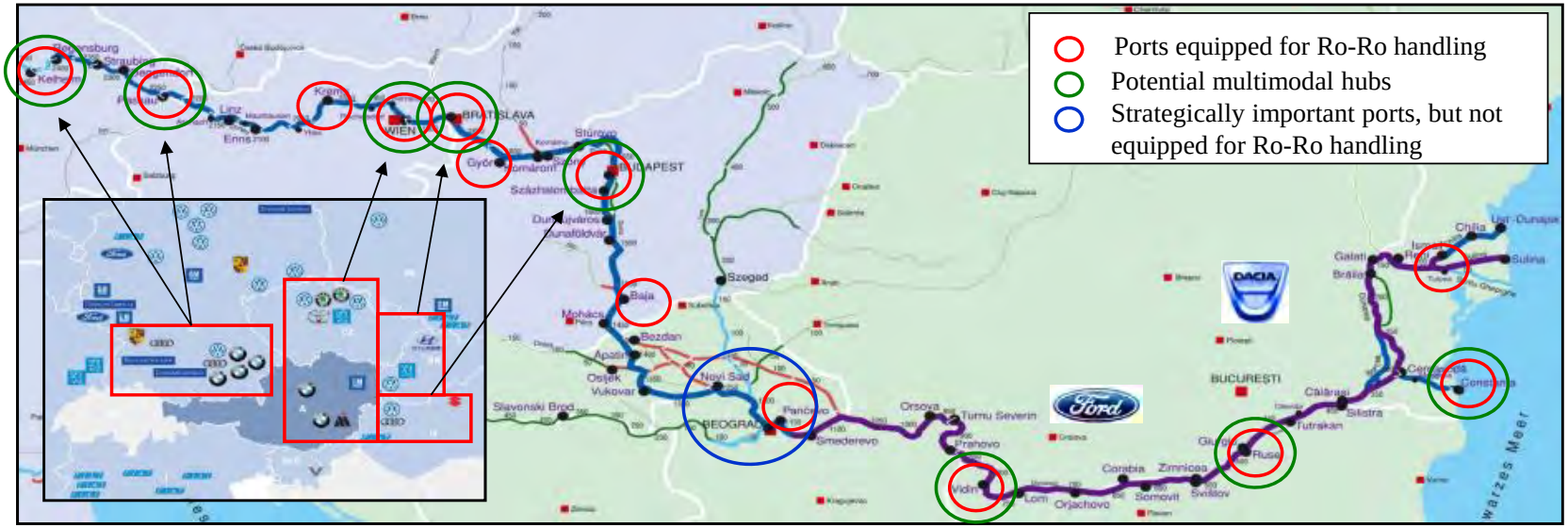


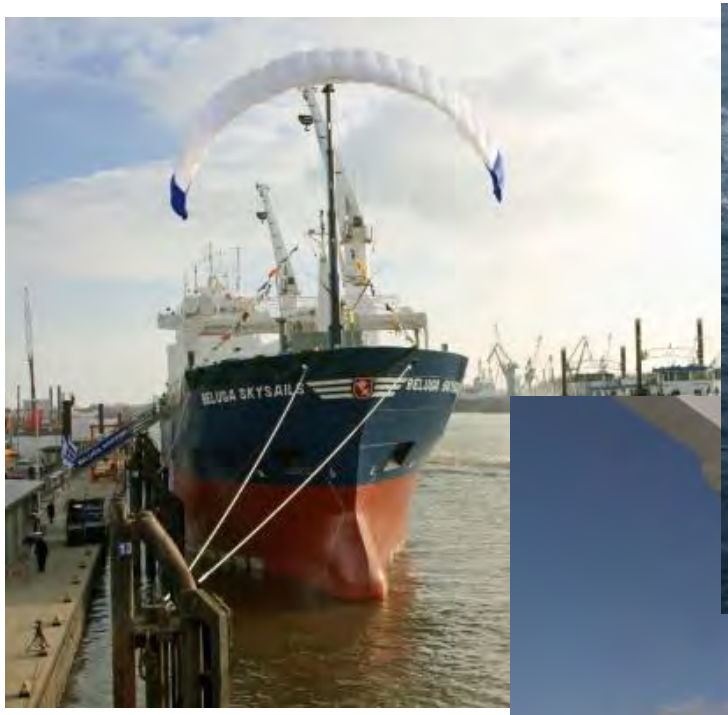
Figure above shows position of auto industries and their potential multimodal hubs in the Danube region that could be relevant for the development of an intermodal transport on the Danube.

Green Economy

- Emphasis on renewable sources but not limited to this topic;
- Minimal use of resources;
- Minimal release of emissions on a Life Cycle approach;
- Generation of new business opportunities;
- Generation of sustainable new jobs.

The Ecosystem Centered Approach

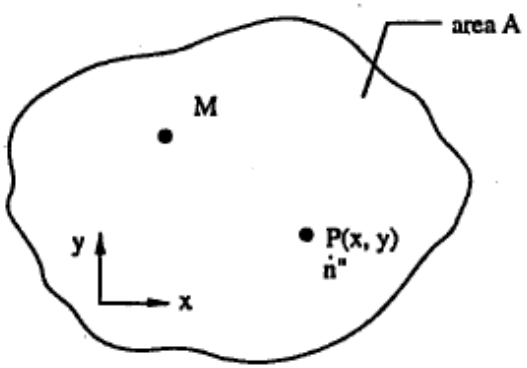
New wings



New Concepts for Terminals

New options for distribution

Constructal Theory

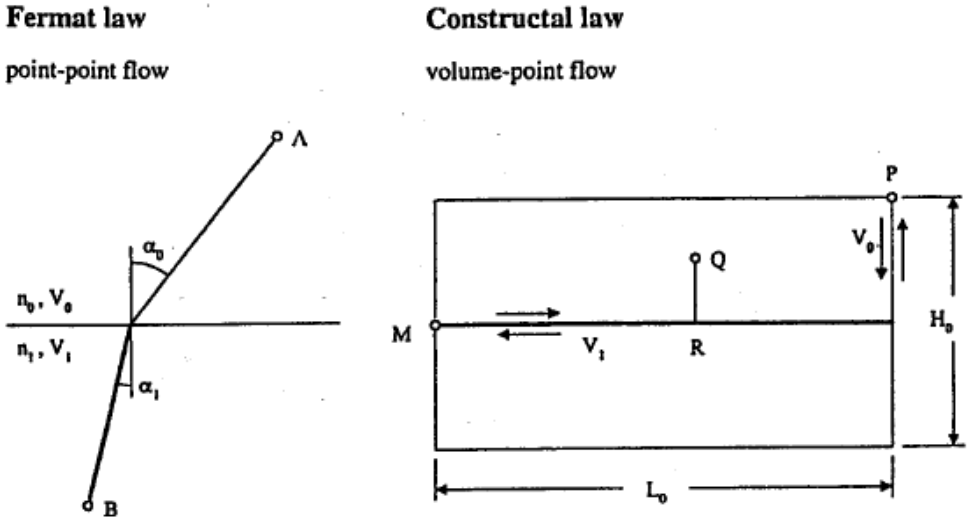


$$t_0 = \frac{H_0}{2V_0} + \frac{L_0}{V_1}$$

$$(t_0)_{\min} \vee \frac{H_0}{L_0}$$

$$A_0 = H_0 L_0$$

$$\left(\frac{H_0}{L_0}\right)_{opt} = \frac{2V_0}{V_1}$$



Minimum Time Problem

(A. Bejan, 2000)

Constructal Theory

$$t_1 = \frac{L_1}{V_1} + \frac{f_1 H_1}{2 V_0},$$

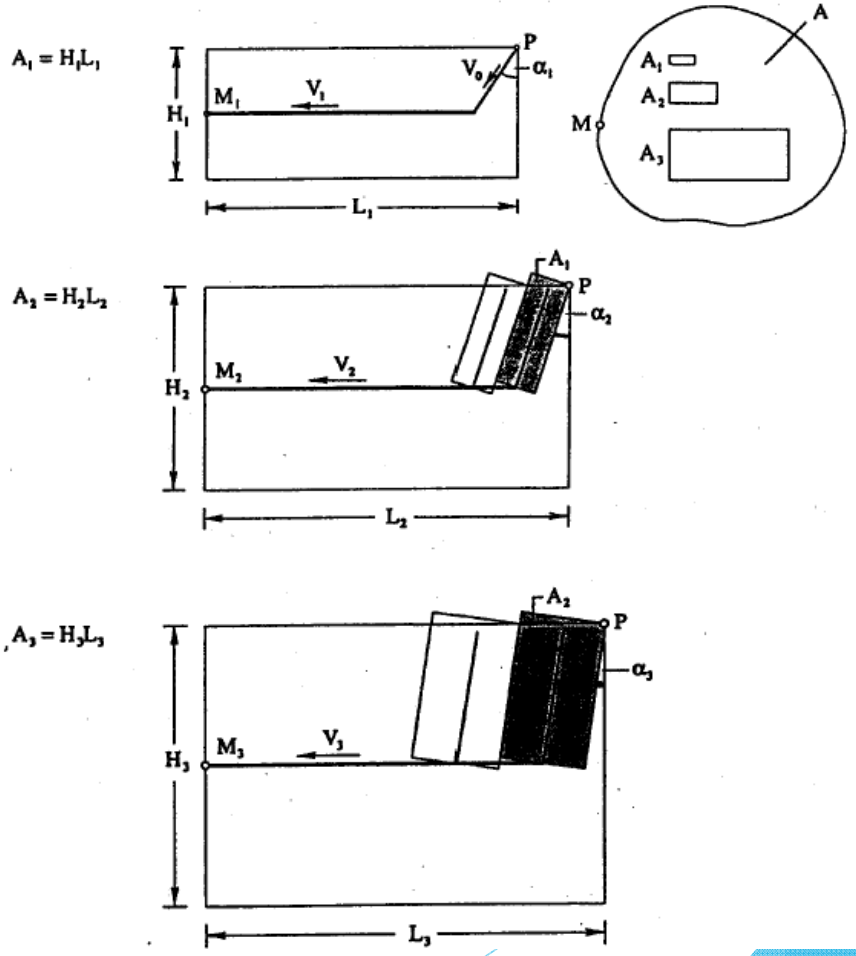
$$f_1 = \frac{1}{\cos \alpha_1} - \frac{V_0}{V_1} \tan \alpha_1.$$

$$H_{1,\text{opt}} = \left(\frac{2 A_1 V_0}{f_1 V_1} \right)^{1/2},$$

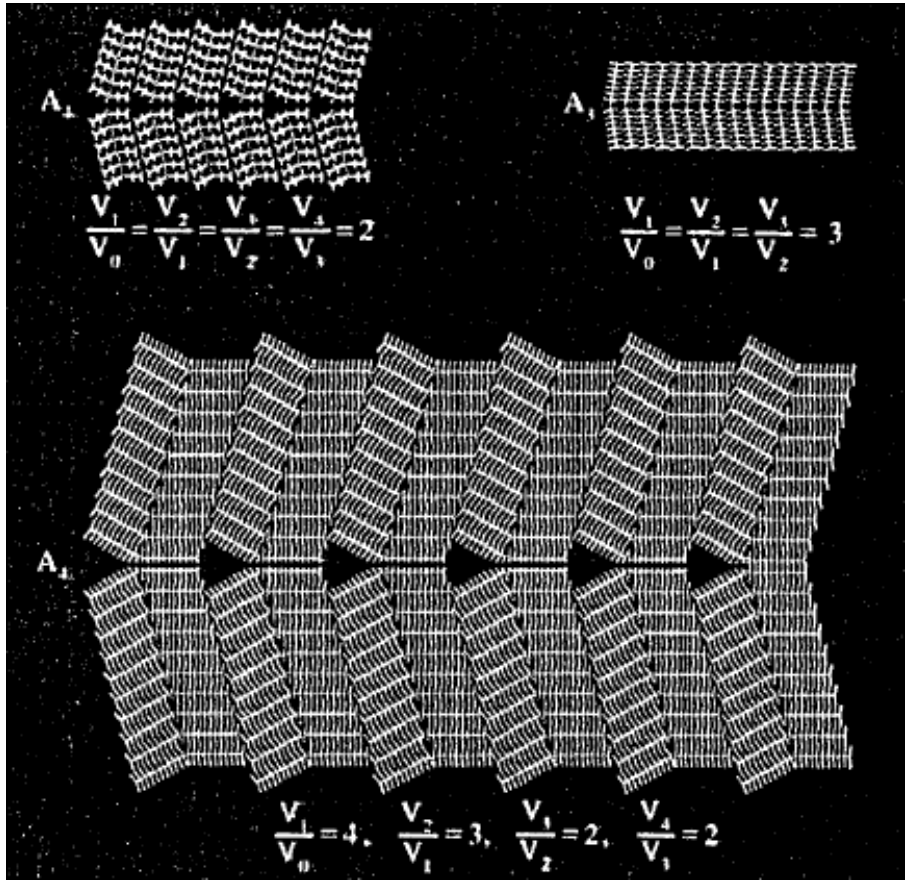
$$\left(\frac{H_1}{L_1} \right)_{\text{opt}} = \frac{2 V_0}{f_1 V_1},$$

$$t_{1,\min} = \left(\frac{2 f_1 A_1}{V_0 V_1} \right)^{1/2}.$$

$$\alpha_{1,\text{opt}} = \sin^{-1} \left(\frac{V_0}{V_1} \right), \qquad f_{1,\min} = \cos \alpha_{1,\text{opt}}.$$



Constructal Theory



The Danube Green Corridor

The Vision - Eco-innovation for Green Economy

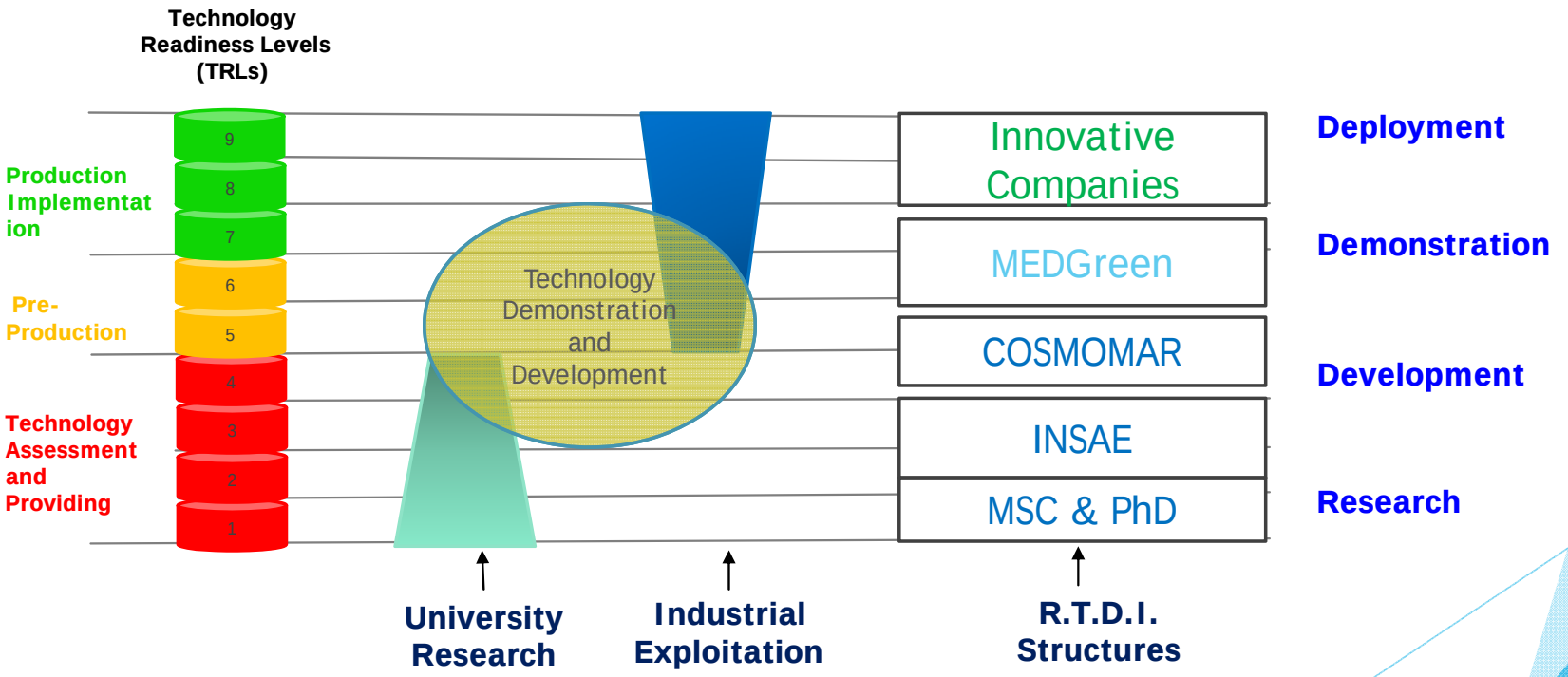
Improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

Eco-innovation is "the creation of novel and competitively priced goods, processes, systems, services, and procedures designed to satisfy human needs and provide a better quality of life for everyone with a life-cycle minimal use of natural resources (materials including energy and surface area) per unit output, and a minimal release of toxic substances".

In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.
Practically speaking, a green economy is one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services.

UNEP, 2012

Implementing an Ecoinnovation Culture



The MEDGreen Cluster

The MEDGreen Cluster is a cluster of innovative companies and stakeholders for promotion of eco-technologies and alternative sources of energy.

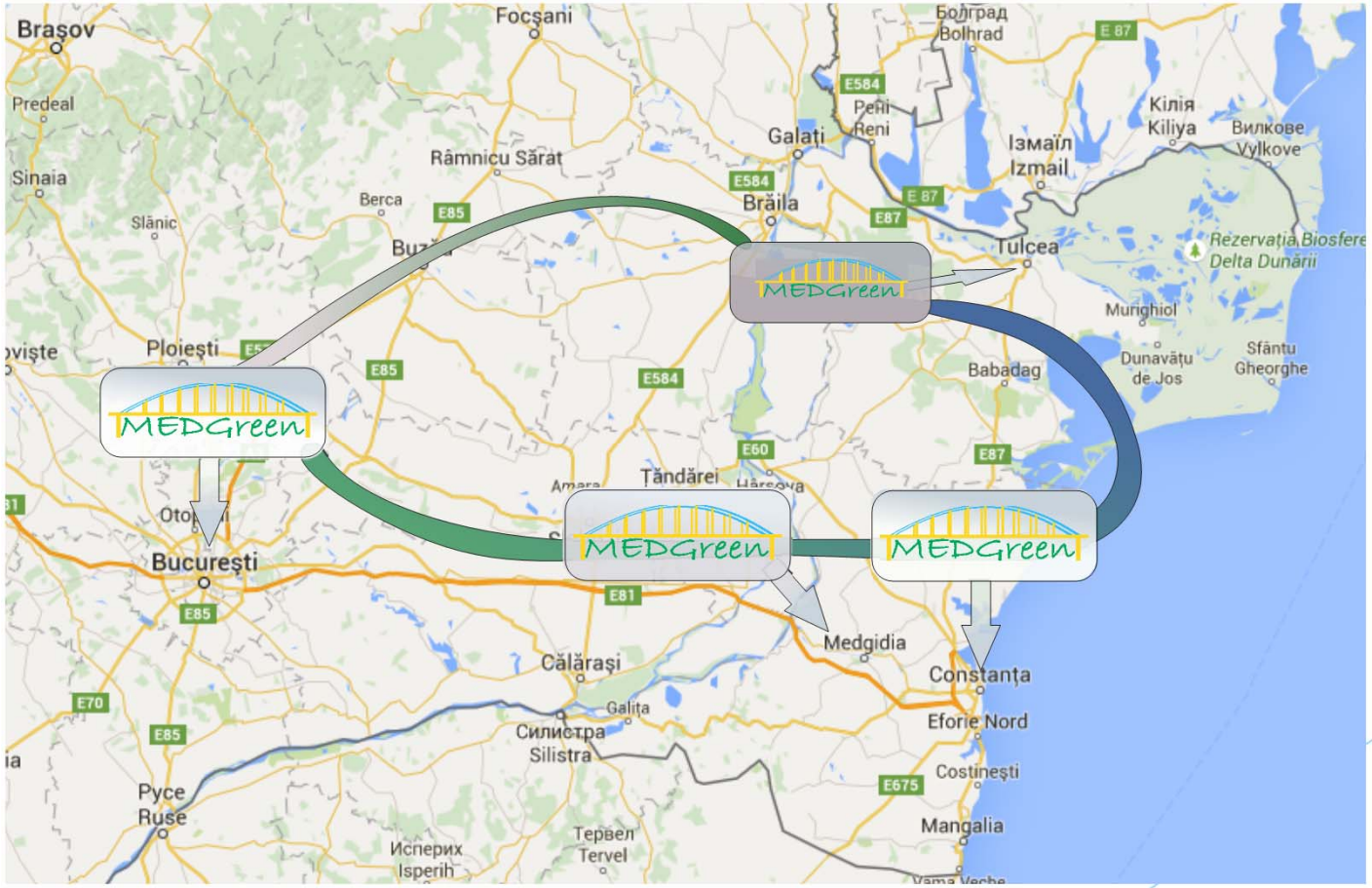
In 2012, it has been established a National Pole of Competitiveness on Green Economy involving the most relevant partners as companies, research organizations, universities and local authorities.

The grouping has been registered in 2013 as the Association MEDGreen-Innovative Cluster of companies specialized on ecotechnologies and alternative sources of energy.

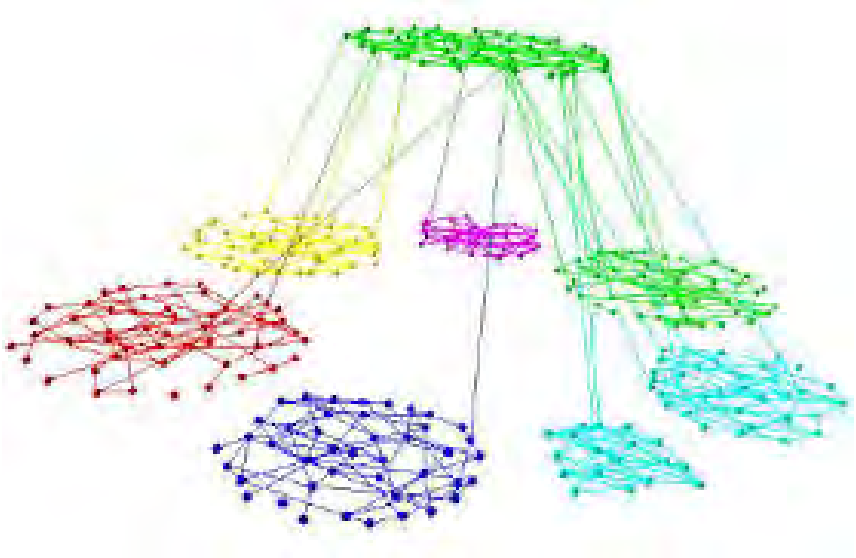
The association has been granted with the financial support for the implementation of the project “The development of solutions innovative products and services that will enhance the competitive advantages of companies associated in the cluster MEDGreen".

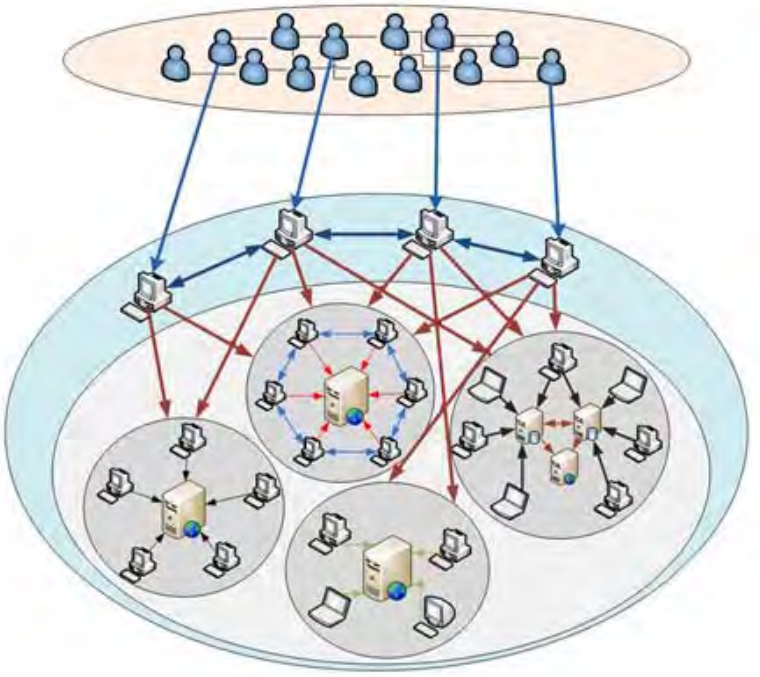
MEDGreen Cluster is collaborating with the other national and European associations specialized on the promotion of bio-energy on the Romanian and European market.

The MEDGreen Cluster



Clustering





ARGOS Project

ISS on PEMFC


European Commission
Institute for Energy and Transport (IET)
INTERNATIONAL SUMMER SCHOOL
ON
PEM FUEL CELLS
ACCREDITED
ACCORDING TO THE
EUROPEAN CREDIT TRANSFER SYSTEM (ECTS)
17 - 22 JUNE 2013
BURSA TECHNICAL UNIVERSITY
BURSA, TURKEY
For detail information please visit: www.bsun.org
New Energy World JU


INTERNATIONAL SUMMER SCHOOL
ON
PEM FUEL CELLS
ACCREDITED
according to the
European Credit Transfer System (ECTS)
16 – 20 July 2012
Nevsehir, Turkey

Involving Students in Joint Research

academic impact

Sharing a Culture of Intellectual Social Responsibility

United Nations Academic Impact

In recognition of the demonstrated global vision, insights and academic rigor in their paper presented at the First UNAI Collegian Research Paper Competition and Global Development Conference, and in light of our special priority for global engagement and transformation in pursuit of peace, development and human rights, United Nations Academic Impact and Korean Association in Support of UNAI hereby grant this award to

DAN IOACHIM, OLESEA CARABINOVICI, NYKYTA SHUMSKYKH
OF BLACK SEA UNIVERSITY NETWORK

First Prize

The First UNAI
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Dated: August 23, 2013

ACADEMIC IMPACT KOREA

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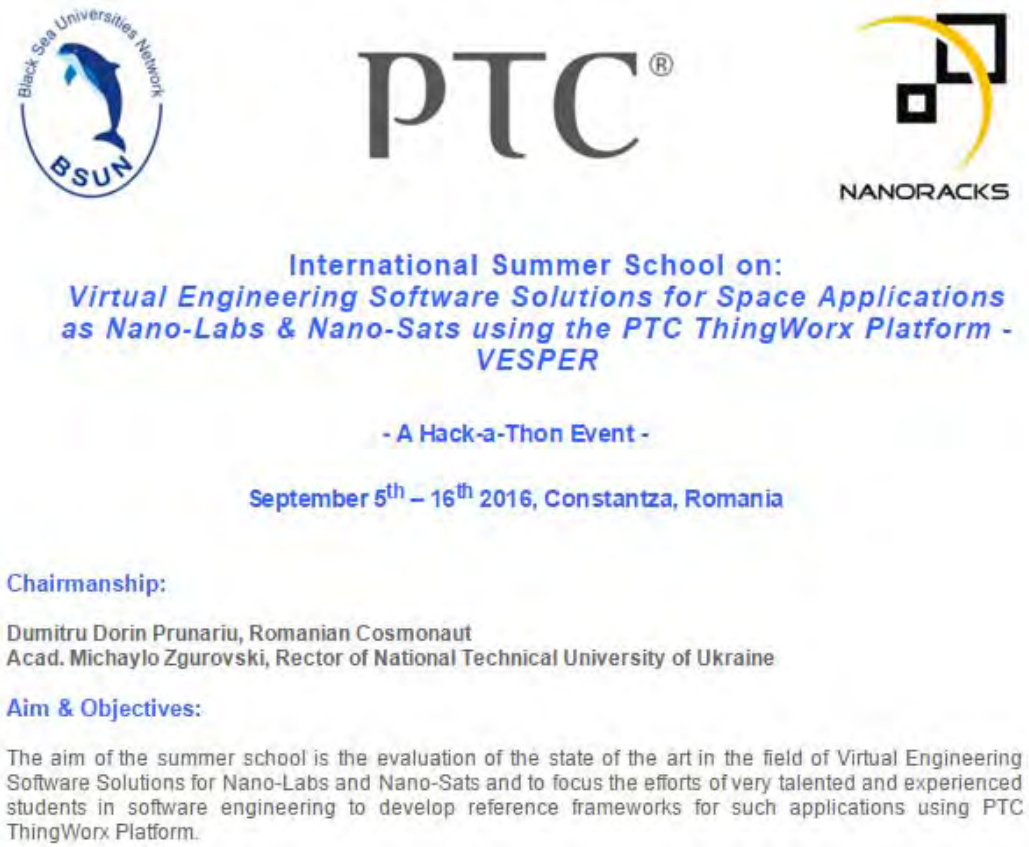
Hack-a-thons


Black Sea Universities Network
BSUN
PTC®
NANORACKS
International Summer School on:
Virtual Engineering Software Solutions for Space Applications as Nano-Labs & Nano-Sats using the PTC ThingWorx Platform - VESPER
- A Hack-a-Thon Event -
September 5th – 16th 2016, Constantza, Romania
Chairmanship:
Dumitru Dorin Prunariu, Romanian Cosmonaut
Acad. Michaylo Zgurovski, Rector of National Technical University of Ukraine
Aim & Objectives:
The aim of the summer school is the evaluation of the state of the art in the field of Virtual Engineering Software Solutions for Nano-Labs and Nano-Sats and to focus the efforts of very talented and experienced students in software engineering to develop reference frameworks for such applications using PTC ThingWorx Platform.

Conclusions

- **The competitiveness of the Black Sea Region is depending fundamentally on the understanding, learning and implementing ecoinnovation as a fundamental principle of corporate culture and in such a way to be able to cope with the complexity of the factors connected to sustainable transport & logistics and green economy.**

- **The Universities could be partners with high potential to contribute to the development and consolidation of the innovation capacity of the highly competitive suppliers of T&L services from the region.**

- **For the promotion of clustering there is a fundamental need for a framework based on principles, transparency, trust and a functional market economy.**


Thank you for your attention!
and pleased, send your comments at:
emamut@univ-ovidius.ro