

***Innovations and emerging technologies for the  
prosperity and quality of life in the Polish and EU  
regions***



**Innovation in transport, infrastructure  
and energy and their key impact on  
economic growth and quality of life**

Conceptual, philosophical and practical thoughts of  
the day

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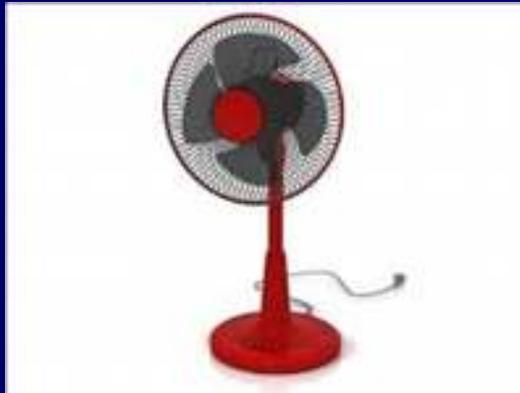
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# The Concept

- **U.S. – EU perspective**
- **The role of transport, infrastructure, and energy in the World economy**
- **Definition of Innovation in Transport, Energy**
  - What is this innovation all about?
  - Interdisciplinary character
  - Deliver
- **Clusters?**
- **Small firms?**
- **How do we measure innovation?**
- **Innovation is a litmus test of the state of economies**
- **Poland great ideas – innovation**

# The Concept

- From an electric fan to a wind farm



# U.S. – EU Perspective

- Economic Freedom vs. Regulations
- Why is U.S. more effective
- U.S. spends more
- U.S. spends more efficiently
- U.S. has an institutional framework
- Triple helix in the U.S. – natural not regulated

# U.S. – EU Perspective (2)

- Yollies and Jellies syndrome
- Many small firms is a standard
- Large innovators from a garage
- Tax system
- Systemic support for establishing SME
  - Tax
  - Credit
  - State support
  - Legal framework

# U.S. – EU Perspective (3)

- Transport and infrastructure – do not take it for granted
  - Invest – Maintain – Modernize – Be Innovative
- The same under-appreciation in EU and the U.S.
- Free trade zone in danger because of limitations in transport and infrastructure

# The role of transport, infrastructure, and energy

- The World – directly 10 -20 percent GDP
- Indirectly – 70 percent GDP
- Energy has become a geopolitical factor
- Transport and infrastructure is but has not received proper attention
- What about IT infrastructure?

# The role of transport, infrastructure, and energy

- Economies are fully IT dependent
- No nuke – just hackers!
  
- Economies are fully transport dependent – a critical part of globalization
- Logistics – started in the Roman Empire – how to destroy supply lines

# Definition

- Innovation in Transport and Infrastructure are activities involving significant improvement of the **existing solutions or introducing new solutions (in a given environment), products or processes, addressing all aspects of change** (interdisciplinary process) contributing to the increased economic, financial, technical, environmental **efficiency**, increasing the effectiveness of management and organization of transport and infrastructure systems, **contributing to the overall economic growth and quality of life of the society through maximizing economic effects of the public and private sectors activities**. These are scientific, technical, organizational, finance, business, and also **political and economic strategy activities**.
- **They base on stimulation and creating environment for innovative thinking.**

# Innovation in transport, infrastructure and energy

- Idea versus innovation
- Interdisciplinary process – not only technology
- Innovative idea versus innovation
- Innovation and quality of life are economic tools (how to measure them)
- VfM

Figure 1. | Value for Money, Project Assessment Tools, and Marketing for Public Transport Investments

*Value for Money Approach*



# Clusters - Computers

- A computer cluster consists of a set of loosely connected or tightly connected computers that work together so that in many respects they can be viewed as a single system.
- The components of a cluster are usually connected to each other through fast local area networks ("LAN"), with each *node* (computer used as a server) running its own instance of an operating system.
- Computer clusters emerged as a result of convergence of a number of computing trends including the availability of low cost microprocessors, high speed networks, and software for high performance distributed computing.
- Clusters are usually deployed to improve performance and availability over that of a single computer, while typically being much more cost-effective than single computers of comparable speed or availability.
- Computer clusters have a wide range of applicability and deployment, ranging from small business clusters with a handful of nodes to some of the fastest supercomputers in the world.

# Innovation Clusters

- An innovation cluster consists of a set of loosely connected or tightly connected public and private entities that work together so that in many respects they can be viewed as a single system.
- The members of a Innovation cluster are usually connected to each other through various measures to achieve effective transactions in the network, with each member running its own instance in creating and delivering a innovative project.
- Innovation clusters emerged as a result of convergence of a number of trends and needs resulting from the availability of various management and financial solutions.
- Clusters are usually set to improve performance and availability of options and better development of innovation transactions over that of not-organized and inexperienced individual entities. This is much more cost-effective and result-oriented scheme than the standard approach.
- The innovation clusters have a wide range of applicability and deployment, ranging from small projects to large investments in all areas.

# Clusters – Before, During and After implementation

- Long-term cooperation - not necessarily focused on one project.
- Development of projects and mechanisms
- Understanding of public and private perspectives
- Informal cooperative form – no permits required
- Concrete deals are the measure of effectiveness
- Stimulated by EU but not fed by EU

# Clusters – Before, During and After implementation

- Stimulated by EU but not fed by EU
- Poland's Concentration of Management
- Cluster or clusterfucks?

# Philosophy or practical comments?

- Horizon 2020 is an oxymoron
- Innovation cannot be regulated and planned
- Innovation develops when the environment is there
- Innovation is an economic phenomenon

# Poland – observations

- 70 – 80 percent of innovative technological ideas not implemented
- U.S. 80 – 90 percent innovative technological programs implemented
- Poland has strategies – U.S. has innovation
- The Americans will not teach us innovation
- Stimulation human brain in economic categories

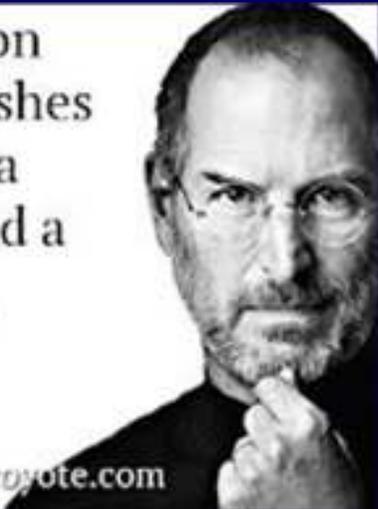
# Pendolino – Exhibit One

- Great idea
- Wrong Implementation
- Pendolino with no pendulum
- HSR Program
- Usage for wrong purpose
- Magic numbers 3:10 – 2:55
- Innovation is an activity of long-term implications

Innovation  
distinguishes  
between a  
leader and a  
follower.

*Steve Jobs*

[www.quote-coyote.com](http://www.quote-coyote.com)



**Life is a one big  
innovation –  
provided it  
delivers!**

WE CANNOT SOLVE OUR PROBLEMS  
WITH THE SAME THINKING  
WE USED WHEN WE  
CREATED THEM  
-Albert Einstein

