International Comparative Assessments
This session will focus on:

- Description of the Innovation Union Scoreboard Framework.
- Main results of the Innovation Union Scoreboard 2015 report.
- Innovation Performance Indicators of the EU Member States.
- Similar evaluation mechanisms used in Eastern Partnership Countries.
01. Introduction
02. Measurement Framework
03. Innovation Union Scoreboard 2015 Report
04. Similar Mechanisms with Eastern Partnership Countries
01. Introduction
Background

• The Innovation Union Scoreboard (IUS), produced by the European Commission (EC), was developed under the Lisbon Strategy and revised according to the Europe2020 Strategy. It substitutes the European Innovation Scoreboard established in 2001.

• Together with the Regional Innovation Scoreboard and the pilot European Public Sector Innovation Scoreboard (under development), IUS forms a comprehensive benchmarking and monitoring system of research and innovation trends and activities in Europe.

What is the IUS?

“The annual IUS provides a comparative assessment of the research and innovation performance of the EU Member States and the relative strengths and weaknesses of their research and innovation systems. It helps Member States assess areas in which they need to concentrate their efforts in order to boost their innovation performance.”

- European Commission
02. Measurement Framework
Methodology

• All fourteen editions (2001-2015) of the IUS, since the introduction of the European Innovation Scoreboard in 2001, follow a similar methodology.

• Innovation performance is measured using a composite indicator – the Summary Innovation Index – which summarizes the performance of a range of different indicators.

• The Innovation Union Scoreboard distinguishes between three main types of indicators:
  - Enablers
  - Firm activities
  - Outputs

and Eight innovation dimensions, capturing in total 25 indicators.
Methodology

**Enablers**
- Capture the main drivers of innovation performance external to the firms and differentiate between 3 innovation dimensions:
  1. *Human resources*;
  2. *Open, excellent research systems*;
  3. *Finance and support*

**Firm activities**
- Capture the innovation efforts at the firm level and differentiate between 3 innovation dimensions:
  1. *Firm investments*;
  2. *Linkages & entrepreneurship*;
  3. *Intellectual assets*

**Outputs**
- Capture the effects of firms’ innovation activities and differentiate between 2 Innovation dimensions:
  1. *Innovators*;
  2. *Innovation effects*

Source: IUS 2014 report
National vs Regional IUS

Regional Innovation Scoreboard (RIS) “provides a comparative assessment of innovation performance across 190 regions of the European Union, Norway and Switzerland. The RIS accompanies the Innovation Union Scoreboard (IUS) which benchmarks innovation performance at the level of Member States.”

- European Commission
Advantages of implementing the IUS

• Assesses the **innovation performance of the EU Member States** and the relative strengths and weaknesses of their research and innovation systems.
• Monitors innovation trends across the EU Member States.
• IUS 2015 analysed **innovation performance for an eight-year period**.
• **Benchmarking innovation performance** with non-EU countries and global competitors.
• Does an analysis at the country level (Country Profile):
  • development of the country’s **innovation index over time**.
  • growth performance for each indicator highlighting which **indicators** have been **driving a country’s innovation performance** change over time.

Source: RIS 2014 report
03. Innovation Union Scoreboard 2015 Report
Background

- Uses latest statistics from Eurostat and other recognized sources (OECD and the United Nations) as available at the time of analysis with the cut-off day by the end of November 2014.
- Data availability is good for 19 Member States with data being available for all 25 indicators.
- For 9 Member States data is missing for only one indicator including Venture capital investment data for 8 Member States and SMEs innovating in-house for the United Kingdom.
**Member States’ innovation performance**

Based on 2015 Summary Innovation Index, the Member States fall into the following four performance groups:

1. **Innovation leaders**
   
   MS in which the innovation performance is well above that of the EU, i.e. more than 20% above the EU average.
   
   Countries: Denmark, Finland, Germany and Sweden.

2. **Innovation followers**
   
   MS with a performance close to that of the EU average i.e. less than 20% above, or more than 90% of the EU average.
   
   Countries: Austria, Belgium, Cyprus, Estonia, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK.

Source: IUS 2014 report
Member States’ innovation performance

3. Moderate innovators

Member States where the innovation performance is below that of the EU average at relative performance rates between 50% and 90% of the EU average:

Countries: Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Slovakia and Spain

4. Modest innovators

Member States that show an innovation performance level well below that of the EU average, i.e. less than 50% of the EU average.

Countries: Bulgaria, Latvia and Romania.

Source: IUS 2014 report
Member States’ innovation performance

Figure 1. EU Member States’ innovation performance

Source: IUS 2014 report
Innovation dimensions

Figure 2. Country groups: innovation performance per dimension

Source: IUS 2014 report
04. Similar mechanisms with Eastern Partnership Countries
Global Innovation Index

• Collaboration between Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO).
• Addresses the Human Factor in Innovation.
• Tool for action’ for decision makers aiming to improve countries’ innovation performances.
• Explores the role of the individuals and teams behind the innovation process.
• Covers 143 economies around the world and uses 81 indicators across a range of themes. Including Eastern Partnership Countries.

Source: GII 2014 report
04. Similar Mechanisms in EaP

Global Innovation Index (average)

Innovation Efficiency Ratio (ratio)

Innovation Input Sub-Index
- Institutions
  - Political environment
  - Regulatory environment
  - Business environment
- Human capital and research
  - Education
  - Tertiary education
- Infrastructure
  - ICTs
  - General infrastructure
  - Ecological sustainability
- Market sophistication
  - Credit
  - Investment
  - Trade & competition
- Business sophistication
  - Knowledge workers
  - Innovation linkages
  - Knowledge absorption

Innovation Output Sub-Index
- Knowledge and technology outputs
  - Knowledge creation
  - Knowledge impact
  - Knowledge diffusion
- Creative outputs
  - Intangible assets
  - Creative goods and services
  - Online creativity

Source: GII 2014 report
Global Innovation Index

Results from the Global Innovation Index of Eastern Partnership Countries:

<table>
<thead>
<tr>
<th>Country/Economy</th>
<th>Score (0–100)</th>
<th>Rank</th>
<th>Efficiency Ratio</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azerbaijan</td>
<td>29.60</td>
<td>101</td>
<td>0.58</td>
<td>120</td>
</tr>
<tr>
<td>Armenia</td>
<td>36.06</td>
<td>65</td>
<td>0.83</td>
<td>28</td>
</tr>
<tr>
<td>Belarus</td>
<td>37.10</td>
<td>58</td>
<td>0.83</td>
<td>27</td>
</tr>
<tr>
<td>Georgia</td>
<td>34.53</td>
<td>74</td>
<td>0.68</td>
<td>90</td>
</tr>
<tr>
<td>Moldova, Republic of</td>
<td>40.74</td>
<td>43</td>
<td>1.07</td>
<td>1</td>
</tr>
<tr>
<td>Ukraine</td>
<td>36.26</td>
<td>63</td>
<td>0.90</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: GII 2014 report
# Global Innovation Index

<table>
<thead>
<tr>
<th></th>
<th>Azerbaijan</th>
<th>Armenia</th>
<th>Belarus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Strengths</strong></td>
<td><strong>Rank</strong></td>
<td><strong>Main Strengths</strong></td>
<td><strong>Rank</strong></td>
</tr>
<tr>
<td>Ease of starting a business</td>
<td>13</td>
<td>Ease of starting a business</td>
<td>6</td>
</tr>
<tr>
<td>Ease of protecting investors</td>
<td>21</td>
<td>Ease of protecting investors</td>
<td>21</td>
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<tr>
<td>ICT use</td>
<td>48</td>
<td>Domestic resident patent app./tr PPP$ GDP</td>
<td>16</td>
</tr>
<tr>
<td>Microfinance gross loans, % GDP</td>
<td>15</td>
<td>Comm., computer &amp; info. services exp., % total trade</td>
<td>23</td>
</tr>
<tr>
<td>FDI net outflows, % GDP</td>
<td>8</td>
<td>Domestic res trademark app./bn PPP$ GDP</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: GII 2014 report
## Global Innovation Index

<table>
<thead>
<tr>
<th>Main Strengths</th>
<th>Rank</th>
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<th>Rank</th>
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<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of redundancy dismissal, salary weeks</td>
<td>1</td>
<td>Non-agricultural mkt access weighted tariff, %</td>
<td>1</td>
<td>Domestic res utility model app./tr PPP$ GDP</td>
<td>1</td>
</tr>
<tr>
<td>Ease of starting a business</td>
<td>4</td>
<td>Domestic res utility model app./tr PPP$ GDP</td>
<td>1</td>
<td>GERD financed by abroad, %</td>
<td>17</td>
</tr>
<tr>
<td>Applied tariff rate, weighted mean, %</td>
<td>6</td>
<td>Expenditure on education, % GDP</td>
<td>4</td>
<td>Tertiary enrolment, % gross</td>
<td>11</td>
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<tr>
<td>Ease of getting credit</td>
<td>3</td>
<td>Domestic res trademark app./bn PPP$ GDP</td>
<td>1</td>
<td>Domestic resident patent app./tr PPP$ GDP</td>
<td>15</td>
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<tr>
<td>Pupil-teacher ratio, secondary</td>
<td>2</td>
<td>Madrid trademark app. holders/bn PPP$ GDP</td>
<td>1</td>
<td>Ease of getting credit</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: GII 2014 report
HEADQUARTERS

SPI PORTO
Avenida Marechal Gomes da Costa, 1376
4150-356 Porto - PORTUGAL

e-Mail: spiporto@spi.pt
P: +351 22 607 64 00
F: +351 22 609 91 64
www.spiurope.eu

EUROPE

PORTUGAL

SPI PORTO & SPI VENTURES
Avenida Marechal Gomes da Costa, 1376
4150-356 Porto - PORTUGAL

e-Mail: spiporto@spi.pt
P: +351 22 607 64 00
F: +351 22 609 91 64
www.spi.pt / www.spi-ventures.com

SPI COIMBRA
Instituto Pedro Nunes - R. Pedro Nunes, Ed.D
3030 - 199 Coimbra - PORTUGAL

e-Mail: spicentro@spi.pt
P: +351 239 09 08 54
F: +351 239 09 08 55
www.spi.pt

SPI LISBON
Avenida 5 de Outubro, n.º 12
4º Direito, 1050-056 Lisboa - PORTUGAL

e-Mail: spilisboa@spi.pt
P: +351 21 421 22 49
F: +351 21 421 12 01
www.spi.pt

SPI AZORES
Avenida da Principe da Monaca, Bloco 5, 2º Ori
1950-236 Ponta Delgada - PORTUGAL

e-Mail: spiacores@spi.pt
P: +351 22 607 64 00
F: +351 22 609 91 64
www.spi-acores.pt

SPA

BELGIUM

EBN - BRUSSELS
Avenue de Tervurens, 1688
1160 Brussels - BELGIUM

e-Mail: ebn@ebn.be
P: +32 2 772 89 00
F: +32 2 772 96 74
www.ebn.be

NORTH AMERICA

UNITED STATES OF AMERICA

SPI CALIFORNIA
2522 Chambers Rd.,
Suite 204
Tustin CA 92780 - USA

e-Mail: spusa-invite@spusa.com
P: +1 714 879 40 62
www.spusa.com

SPI WASHINGTON D.C.
1010 17th Street, NW,
Suite 600
Washington DC 20036 - USA

e-Mail: spusa-washington@spusa.com
P: +1 202 879 29 90
www.spusa.com

ASIA

CHINA

SPI BEIJING
1626B, Floor 16, Tower A, Top Electronic City, No.3
Haidian Avenue, Haidian District, Beijing - CHINA

e-Mail: spicchina@spi.pt
P: +86 105 982 21 43/45
F: +86 105 982 21 44
www.spi-china.cn

SPI MACAO
Avenida de Prata Grande, nº 759, 5º andar
Macau - CHINA

e-Mail: spicchina@spi.pt
P: +86 105 982 21 43/45
F: +86 105 982 21 44
www.spi-china.cn

SINGAPORE

SPI SINGAPORE
Science Park Road
Block/Building No 21, Unit No 02 - 02
The Aquarius - SINGAPORE
Singapore Science, 117628

e-Mail: spis@spis.com
P: +65 67 74 40 48
www.spiurope.eu
Member States’ growth performance

Figure 3. EU Member States’ growth performance

Source: IUS 2015 report
Benchmarking innovation performance with non-EU countries

Global Competitors

• IUS 2015 takes into consideration of the EU´s main global economic partners including Australia, the BRICS countries (Brazil, Russia, India, China and South Africa), Canada, Japan, South Korea and the United States.
• South Korea, the US and Japan have a performance lead over the EU.
• The performance lead has been increasing for South Korea as its growth over 2007-2014 has been more than double that of the EU.
• Innovation performance for the EU has been improving at a higher rate than that for the US and Japan. As a consequence, the EU has been able to close almost half of its performance gap with the US and Japan since 2008.
Benchmarking innovation performance with non-EU countries

Global Competitors (cont.)

• South Korea, the US and Japan outperform the EU in the following indicators: R&D expenditures in the business sector, Public-private co-publications and PCT patents, and educational attainment as measured by the Share of population having completed tertiary education.

• EU continues to have a performance lead over Australia, Canada and all BRICS countries (Brazil, Russia, India, China and South Africa).

• Among these countries, only China has managed to grow at a higher rate than the EU.

• EU has become more innovative and is closing its innovation gap with the United States and Japan.

Source: IUS 2015 report
Benchmarking innovation performance with non-EU countries

Global Competitors (cont.)

Figure 5. Global innovation performance

Figure 6. Global innovation growth rates

Source: IUS 2015 report
GERD - Gross domestic expenditure on R & D

- Gross domestic expenditure on R&D (GERD) includes expenditure on research and development by business enterprises, higher education institutions, as well as government and private non-profit organisations.
GERD - Gross domestic expenditure on R & D

Source: IUS 2015 report
GERD - Gross domestic expenditure on R & D

Source: IUS 2015 report
R&D expenditure by source of funds as a percentage of total

- BES - business enterprise sector
- GOV - government sector
- ABR - abroad

Source: IUS 2015 report