

# Research and innovation challenges in Eastern Partnership Countries

**Info event on Smart Specialisation  
Kiev, 15 September 2016**

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# Centre for Social Innovation (ZSI) & EaP countries

- ZSI is one of the **largest social scientific research institutes in Austria** with **high international reputation**
- **Established in 1990**
- employees ~50
- **ZSI's key areas of activities:** Work and Equal Opportunities; Research Policy and Development, Technology and Knowledge
- Involved in many EaP related projects: coordinates BILAT UKR\*AINA and ener2i projects;
- Participates in INCO-NET EaP project

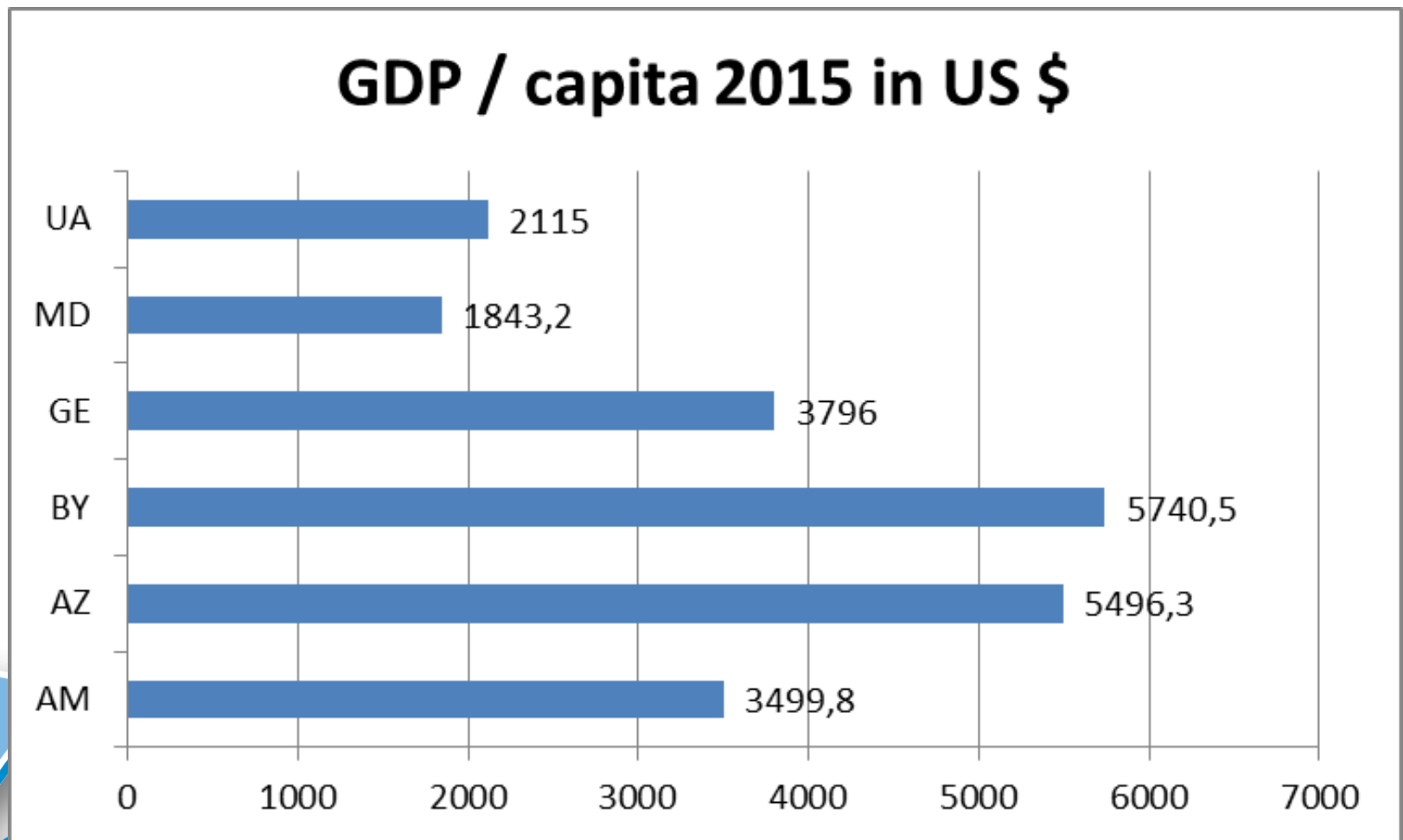


# Research and Innovation (R&I) in EaP countries

- Strong science base inherited from the times of the Soviet Union, but significantly downsized over the last 25 years
- Tradition of solid education, however some problems with quality (e.g. because of overload of faculty with teaching obligations, etc.)

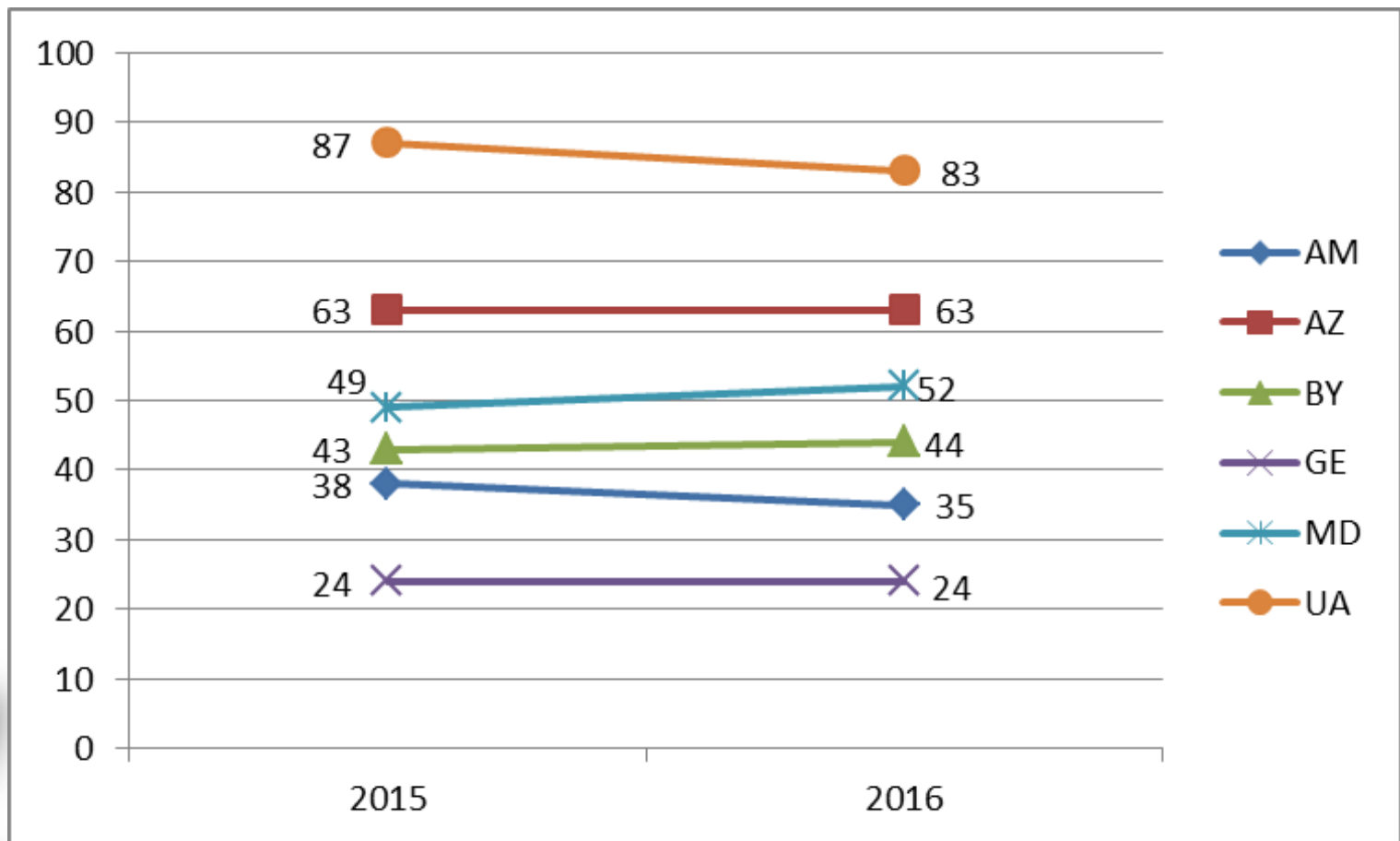


# Framework conditions for (R&I) in EaP; comparison BG 6,819.9; LT 14,172.2 US \$



# Framework conditions for (R&I) in EaP countries

## World Bank: Ease of Doing Business ranking



# Framework conditions for (R&I) in EaP countries

## World Bank: Ease of Doing Business ranking

- A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm.
- Aggregate/composite indicator, considering:  
Starting a Business, Dealing with Construction Permits, Getting Electricity, Registering Property, Getting Credit, Protecting Minority Investors, Paying Taxes, Trading Across Borders, Enforcing Contracts, Resolving Insolvency
- Important factors such as corruption levels or state intervention in the economy are not considered. Important to look into individual scores: Belarus getting credit 109, registering property 7



# Framework conditions for (R&I) in EaP countries

## International Linkages & Integration

- Association of the EaP countries to the Framework Programme for Research and Innovation
- Moldova has been the frontrunner in these integration efforts, and became associated to the FP7 in 2012, and to H2020 from the outset in 2014
- Ukraine and Georgia have been following with association to H2020 in 2015 and 2016 respectively.
- Armenia is still in the process of finalising the association to H2020 in 2016
- Eurasian Economic Union & its innovation programme: Armenia, Belarus



# Framework conditions for (R&I) in EaP countries

## Resource Base – some indications

- **Armenia** – mining, alcoholic beverages
- **Azerbaijan** – oil and gas
- **Belarus** – industry, machinery and transport
- **Georgia** – agriculture, tourism, renewable hydroenergy
- **Moldova** – agriculture, alcoholic beverages
- **Ukraine** – agriculture, aviation





# Framework conditions for (R&I) in EaP countries

## R&I potential – some indications

- **Over all countries: ICT**
- **Armenia** – physics, health/medicine
- **Azerbaijan** – oil and gas
- **Belarus** – physics
- **Georgia** – biology, biomedicine
- **Moldova** – nanotechnologies, microelectronics
- **Ukraine** – aviation



# R&I Governance in EaP countries

- Ministries are gaining in importance in policy making for R&I (Min of Education and Science, Min Economy)
- In some countries still a very strong role for Academy:  
**Moldova** – ASM fulfils role of Ministry and R&I funding agency  
**Armenia, Azerbaijan, Belarus, Ukraine** – significant role, although lesser one than in MD  
**Georgia** is different here: most Academy institutes either dissolved, merged with HEI, or independent; Academy remains as voluntary club of scientists

# Strategy Development and R&I Priority Setting in EaP countries

- Strategy development is well established in EaP countries
- Weaker is strategy implementation, as well as monitoring and evaluation of the strategy implementation
- Priority setting often done not systematically enough, and in a top-down approach
- Consultations, involvement of broader society has no tradition yet; some examples - Moldova

# Strategy Development and R&I Priority Setting in EaP countries

- Priorities examples: [Armenia Strategy of Export-led Industrial Policy \(2011\)](#)
- 1. Resource-based sectors, including: food production (particularly brandy making, canned food production, wine, mineral water and juice production, fish breeding, fruit and vegetables), metal and non-metal mining and processing, tourism and related cultural products;

# Strategy Development and R&I Priority

## Setting in EaP countries

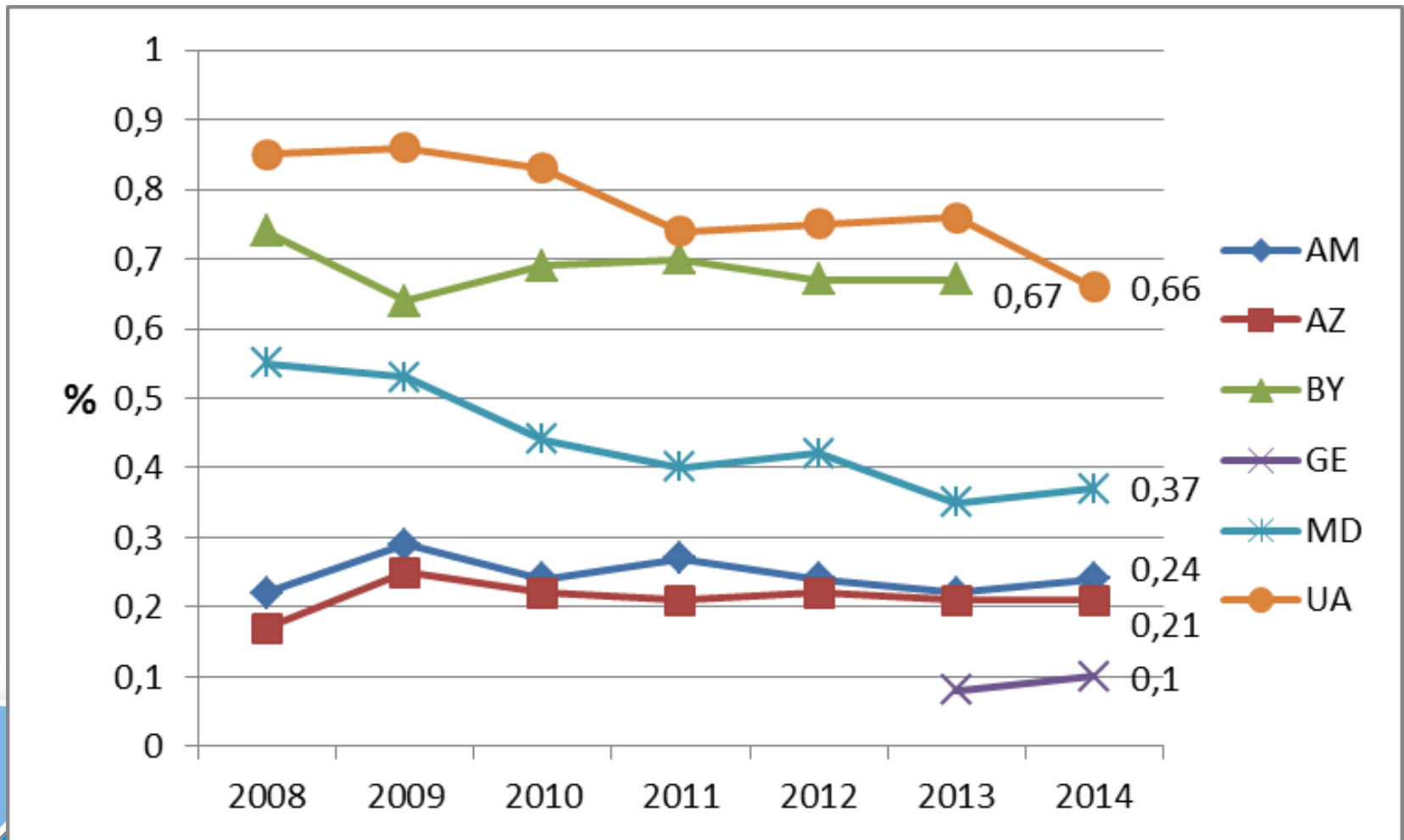
- Priorities examples: [Armenia Strategy of Export-led Industrial Policy \(2011\)](#)
- 2. Skills-based sectors, including: diamond processing, jewellery manufacturing, watch manufacturing, pharmaceuticals, light industry (textile industry), health services, medical equipment and materials;
- 3. Knowledge-based sectors, including: precision engineering (machine building, instrument making, electrical and optical production), information technologies, engineering services, applied physics and biotechnologies.

# Strategy Development and R&I Priority Setting in EaP countries

- Priorities examples: Moldova National R&D Strategy of 2014 – H2020 priorities specified
- Parliament 2013:
  - 1) Materials, technologies and innovative products;
  - 2) Energy efficiency and use of renewable energy;
  - 3) Health care and biomedicine;
  - 4) Biotechnology; and
  - 5) National heritage and development of the society



# R&I Funding in EaP countries: GERD as % of GDP (EU 28: 2.03% in 2014)



Data: UNESCO UIS, <http://www.uis.unesco.org/Pages/default.aspx>

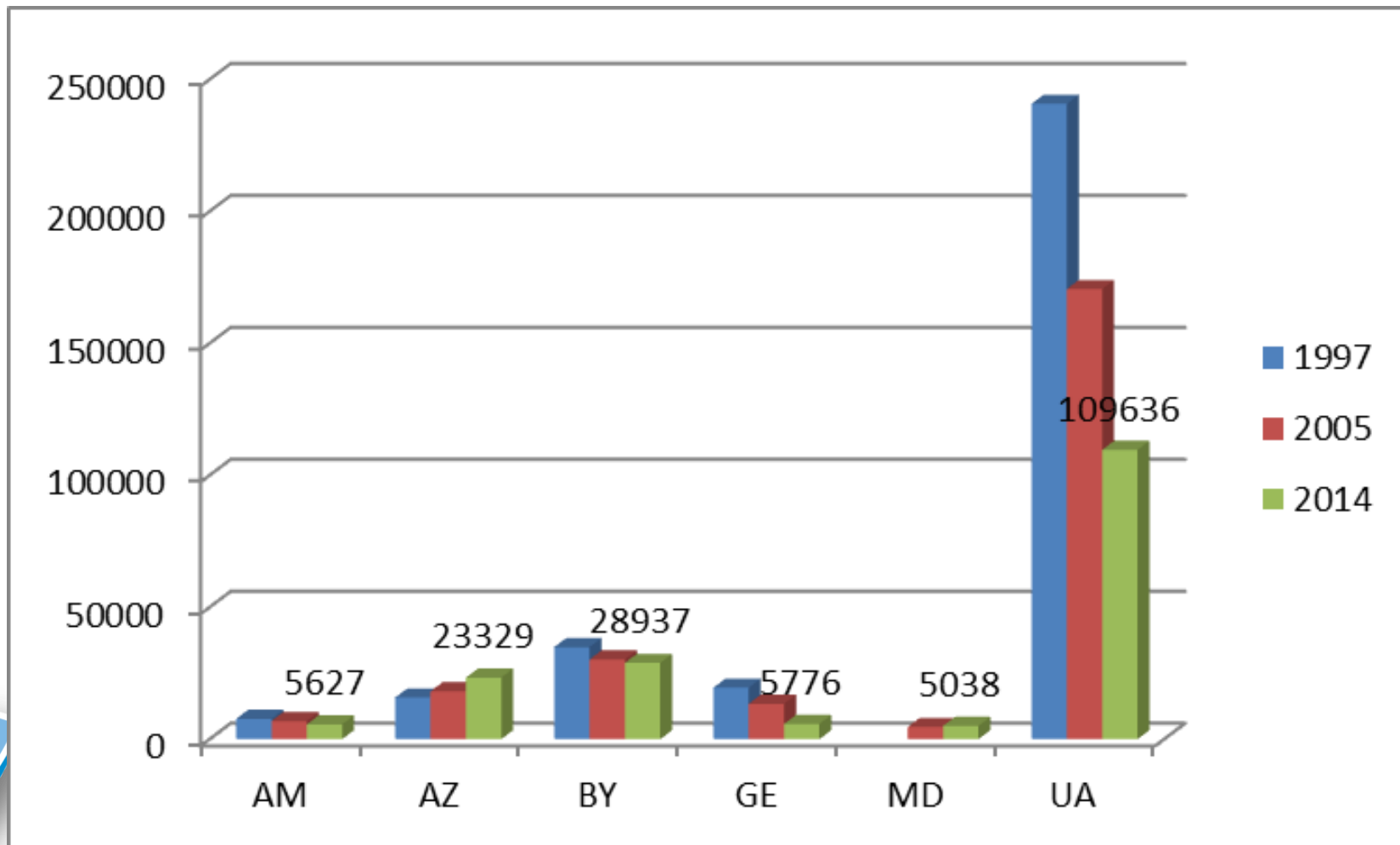
# R&I Funding in EaP countries

- Who is allocating the (limited) R&I funding? Some trend developing for establishing agencies for R&I funding
- **Armenia** – research funding allocated by State Committee, NAS-RA gets block grant
- **Belarus** – block grant to Academy, Belarusian Republican Foundation for Basic Research (BRFFI), State Committee on Science and Technology
- **Moldova** – ASM allocated all public R&I funding until 2016, now also line ministries, agency solution envisaged
- **Georgia** – Shota Rustavel Foundation since 2010





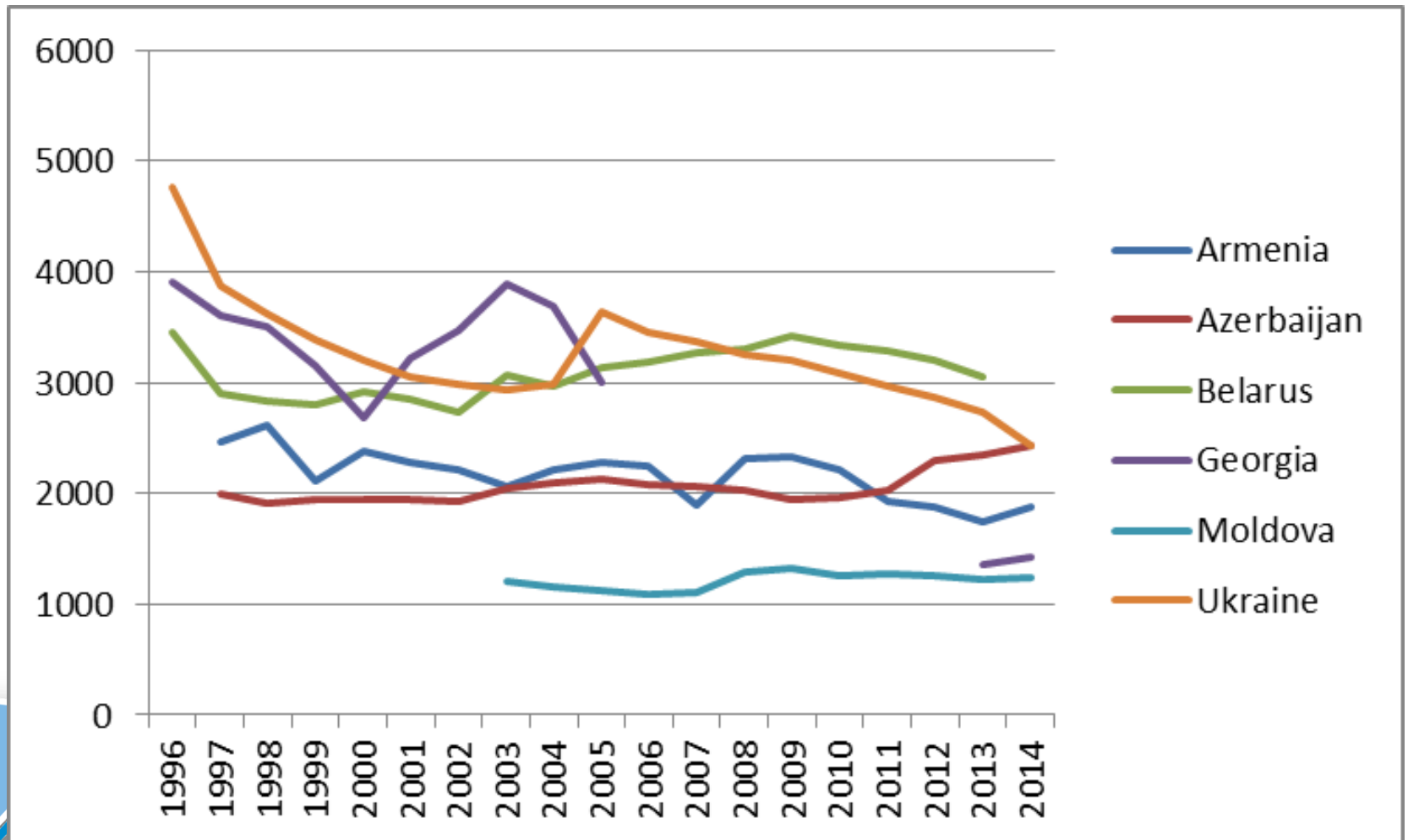
# Human Resources in EaP countries: Total R&D Personnel in HC & trends



Data: UNESCO UIS, <http://www.uis.unesco.org/Pages/default.aspx>

# R&D Personnel per mio inhabitants

## MD 1200 - BY 3000.



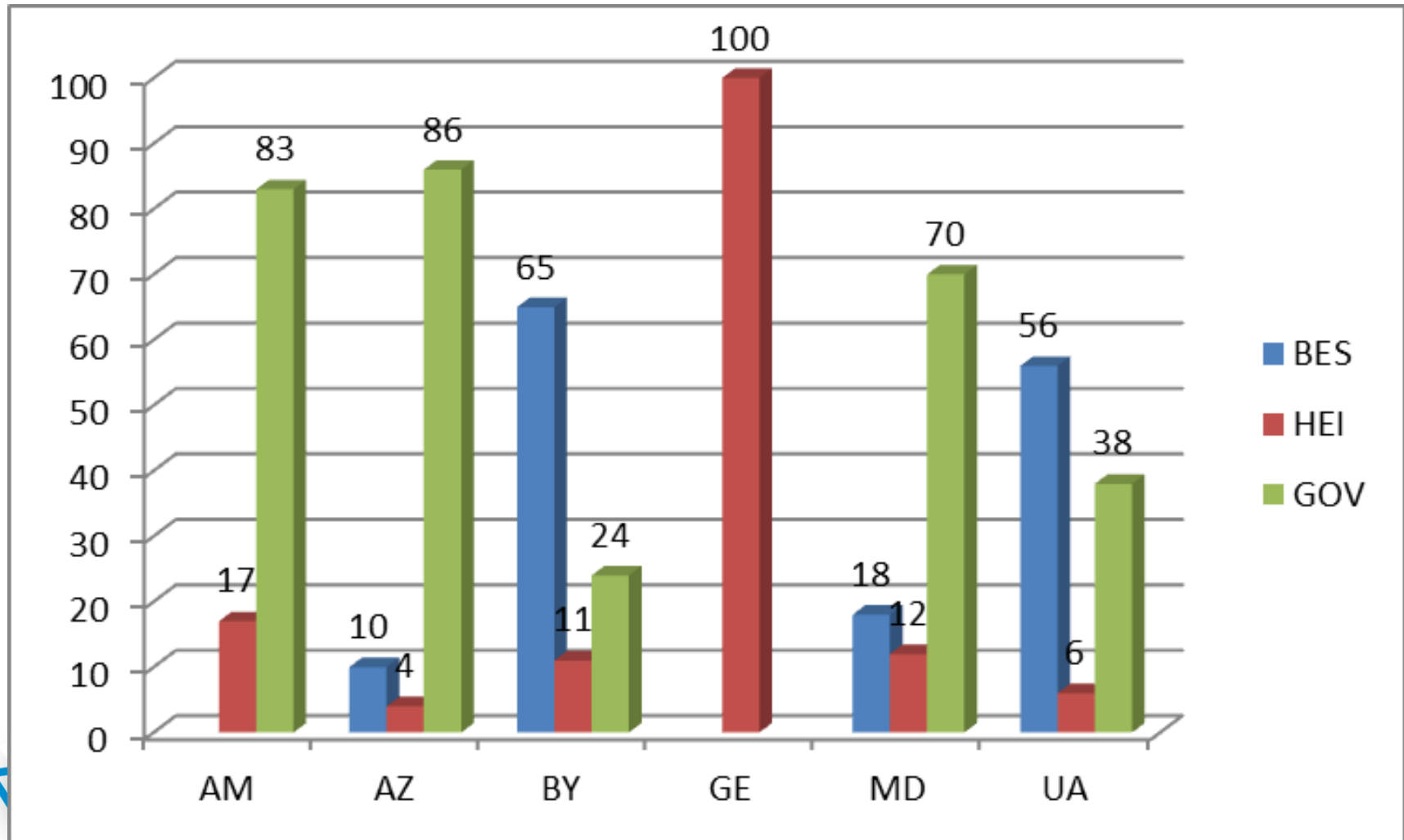
Data: UNESCO UIS, <http://www.uis.unesco.org/Pages/default.aspx>

# R&I Performers in EaP countries

- In EU28 universities (HEI) are very important research players (linking education and research); this approach of “research universities” is still in the developing phase in EaP countries
- Traditionally the government sector (GOV) plays the most important role, with Academy of Sciences and branch research institutes under Ministries
- Business-enterprise sector is hard to assess, because data are lacking. Less important usually than in EU28, in some EaP marginal. Data are not reliable, as some research institutes are organised as companies and counted to BES



# R&D Performers in EaP countries



# R&I in EaP countries

- R&D disconnected from the business sphere; perception that there is a lack of demand for R&D, and that state and companies do not give orders for R&D
- Often the approach is the following: research results are generated, which need then to be transferred to the companies – not enough consideration, what the local companies need in terms of R&D
- Challenge to integrate business in R&D activities



# R&I in EaP countries

- Innovation support structures being established in recent years, e.g.:
  - Moldova** – Agency for Innovation and Technology Transfer, Technoparks, SME agency – ODIMM
  - Georgia** – Georgian Innovation and Technology Agency (GITA) established in March 2014
  - Belarus** – Belarusian Innovation Fund
- Innovation funding tools
  - Support programmes for cooperation business – research: financial support for joint projects, competitive selection, evaluation



# MAIN ACTIVITIES OF BELINFUND:

## Financing of projects and works

- Innovative projects;
- Work on the organization and development of production;
- Venture projects;
- Vouchers and grants

## Formation of innovative infrastructure

- Founder of 4 science and technology parks;
- Representations of BIF in all regions

## Development and implementation of new financial mechanisms

- Creation of the mechanism of venture funding;
- Support of small innovative entrepreneurship (vouchers and granites)

## Organization and participation in scientific and practical actions

- Republican contest of innovative projects;
- Startup Tour with the Fund "Skolkovo"

## International cooperation

- LLC "Venture Company" CIT EurAsEU "
- 2 Innovation Center – with Lithuania and Czech Republic;
- 2 projects of the 7th EU Framework Programme;
- Creating venture funds - with Russia and China

**BELARUSIAN  
INNOVATIVE  
FOUNDATION**

# R&I in EaP countries: Evaluation and Reviews

- International reviews of national R&I policies have got underway; it is up to the countries to make most out of the results & recommendations
- **UNECE Innovation Performance reviews:**  
Armenia 2014,  
Belarus, 2011 & 2016;  
Ukraine 2013,
- **EU led**  
Armenia 2015 IncoNet EaP  
Georgia 2015 IncoNet EaP  
Moldova 2012 IncoNet EECA & 2015 EU H2020 PSF  
Ukraine 2016 EU H2020 PSF







**ener2i**

# **ENERgy Research to Innovation**

**Reinforcing cooperation with European Neighbourhood Policy (ENP) countries on bridging the gap between energy research and energy innovation**

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**<http://www.ener2i.eu/>**



# ener2i – basic facts

- **Project Coordinator** – Centre for Social Innovation (ZSI), Vienna, Austria
- **Duration** – 36 Months, October 2013-September 2016
- **EaP target countries** – Armenia, Belarus, Georgia, Moldova
- **EU partners** – Austria, Hungary, Germany; (and Netherlands, Norway and others through eseia network)
- **Budget** – around € 1 mio



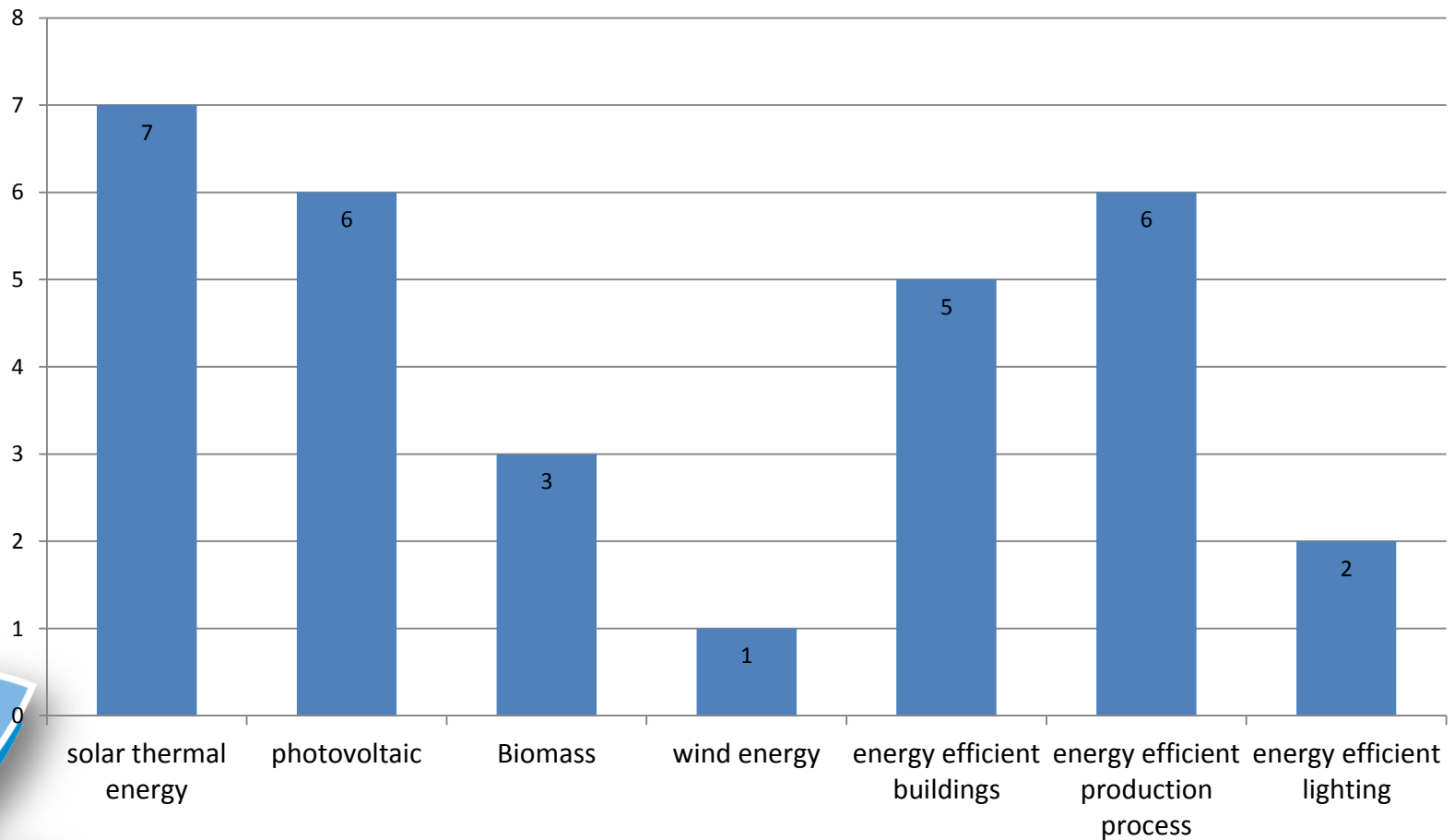
# ener2i Innovation Vouchers 2014-16

- **Bring businesses and research organisations in direct contact – SME will have to cooperate with research organisation**
- **30 innovation vouchers of €4,000 each:  
AM - 6, BY - 7, GE - 6, MD - 11**
- **allocated to SMEs, including start-ups, in the EaP countries as a result of a merit-based competition**



# Innovation Vouchers

Thematic distribution of all projects funded over Innovation Vouchers



# R&I in EaP countries: Challenges

- Increase the low R&I funding
- Allocate the available R&I funding in a transparent, objective, merit and evaluation based mode
- Systematic identification of priorities and setting of priorities with appropriate methodology
- Ensure appropriate stakeholder involvement in strategy development and policy implementation: business, researchers, NPO sector, society
- Ensure the quality of education and integrate education and research better
- Improve the linkages between research and business

**THANK YOU FOR YOUR ATTENTION!**

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