



JOINT RESEARCH CENTRE



ΠΕΡΙΦΕΡΕΙΑ ΑΝΑΤΟΛΙΚΗΣ  
ΜΑΚΕΔΟΝΙΑΣ-ΘΡΑΚΗΣ



ΕΝΔΙΑΜΕΣΗ ΔΙΑΧΕΙΡΙΣΤΙΚΗ ΑΡΧΗ  
ΠΕΡΙΦΕΡΕΙΑΣ ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ & ΘΡΑΚΗΣ  
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# EP Preparatory Action for Eastern Macedonia & Thrace Mobility Roadmap

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## Exploring Options for University-Industry Mobility Programmes in REMTh

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Final Draft of 2 February 2015

### I. INTRODUCTION AND SCOPE

This report was commissioned by the Institute for Prospective Technological Studies (IPTS) of the European Commission's Joint Research Centre (JRC) in the framework of a European Parliament Preparatory Action aiming to provide support to the refinement and implementation of the R2IS3 in the Region of Eastern Macedonia and Thrace (REMTh) that was launched in September 2014. It examines options for intervention for a University-Industry Mobility Programme (UIMP) in REMTh and proposes a plan of action for setting up and developing fars for intervention to set up university-industry mobility programmes in the Region.

### II. CONTEXT AND NEEDS ASSESSMENT

The mobility of skilled human capital (job-to-job, occupational, investment, education) is one of the fundamental mechanisms that create direct knowledge flows and indirect knowledge spill over. This explains why mobility has become a prioritised focus of science, technology and innovation policies, especially in less advantaged regions that apply catching-up strategies (see section 6.6 in [1]).

According to the evidence compiled in [2], the situation in REMTh with respect to mobility-related issues was, at the end of 2013, as follows:

1. The two Higher Education Institutions (HEIs) located in the Region, namely Democritus University of Thrace (DUT) and Technological Educational Institute of Xanthi (TEIKAV), provide undergraduates and graduates courses to a population of approximately 17000 students from all over Greece. This means that their scope, in terms of admission, is national rather than regional. There is no evidence to suggest that local secondary education graduates prefer the regional HEIs to other HEIs.
2. In addition to HEIs, two public research centres, in the regional branch of ATHENA Research and Innovation Centre, specialising on applied ICT, and the Peloponnes Research Institute, constitute an intermediate mobility target between academia and industry. They both diffuse knowledge through collaborative and applied research projects.
3. The evidence that is publicly available suggests that the two regional HEIs have put very limited effort to build relationships with their alumni. The absence of alumni professional career development tracking mechanisms in the regional HEIs inhibits any attempt to assess auto-funded mobility. According to the results of two surveys conducted by the Careers Office at DUT:

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## Report on Peer Review Event

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4 May 2015

### I. INTRODUCTION AND SCOPE

A European Parliament Preparatory Action (EPPA) centred on providing support to the refinement and implementation of the R2IS3 in the Greek region of Eastern Macedonia and Thrace (REMTh) has been launched in September 2014. The project is implemented by the Institute for Prospective Technological Studies (IPTS) of the European Commission's Joint Research Centre (JRC), in close cooperation with DG REGIO and the Managing Authority of Eastern Macedonia and Thrace, and with the support of selected independent experts.

One flagship activity of this preparatory action is to organise a R2IS3 peer review workshop, aiming to bring together peers and experts from other European Regions to share their expertise and help address issues, concerns and barriers raised by REMTh on their way to finalise and implement their R2IS3. This peer review workshop was held in Alexandroupolis on 12-13 February 2015.

This report was commissioned by IPTS/JRC in the framework of the EPPA, aiming to summarise the outcomes of the parallel table-discussions that were held during the above Peer Review Event. It is based on the notes taken by the moderators and the rapporteurs during the event.

The remainder of this report is structured as follows: in Section Error! Reference source not found, an overview of the Peer Review Event is provided, followed by the minutes and the conclusions of the parallel sessions in Section II.

### II. OVERVIEW

The Peer Review of the region of Eastern Macedonia and Thrace was held in the city of Alexandroupolis on the 12th and 13th of February 2015. This was the first smart specialisation peer review event to focus exclusively on one region.

With more than 60 participants, including peers and experts coming from regions across Europe, as well as representatives from the Greek General Secretariat for Research & Technology and the National Coordination Authority for the NSRF, an in-depth examination of issues central to the successful implementation of the R2IS3 of Eastern Macedonia and Thrace took place.

The event centred on a moderated parallel discussion approach, designed to ensure detailed examination of five core themes selected by the region:

- the R2IS3 governance mechanism in the region;
- the development of action plans for the implementation of R2IS3;
- human resources mobility and training needs;

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## Section I

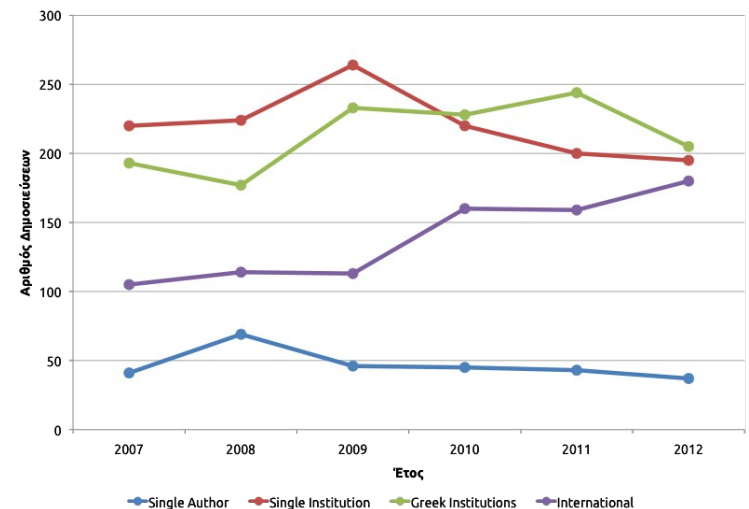
# CONTEXT & PEER REVIEW RECOMMENDATIONS

# Context (1)

- 2 HEIs, 2 PROs
  - 25500 students at regional HEIs (~1750 PhD students); limited alumni relationships
  - Careers & Innovation Offices have been recently established
- Limited internationalisation wrt research publications & projects

TABLE 1 HEADCOUNT OF R&D PERSONNEL AND RESEARCHERS BY SECTORS OF PERFORMANCE IN REMTH, 2011. (SOURCE: EUROSTAT)

Sector of Performance	Total R&D Personnel	Researchers
Higher Education	3 044	1 994
Business Enterprise	355	128
Government	136	48
<b>Totals:</b>	<b>3 535</b>	<b>2 170</b>



# Context (2)

- Low-tech industry >> limited mobility between academia & enterprise
- Low performance in Greek mobility programmes during the last programming period

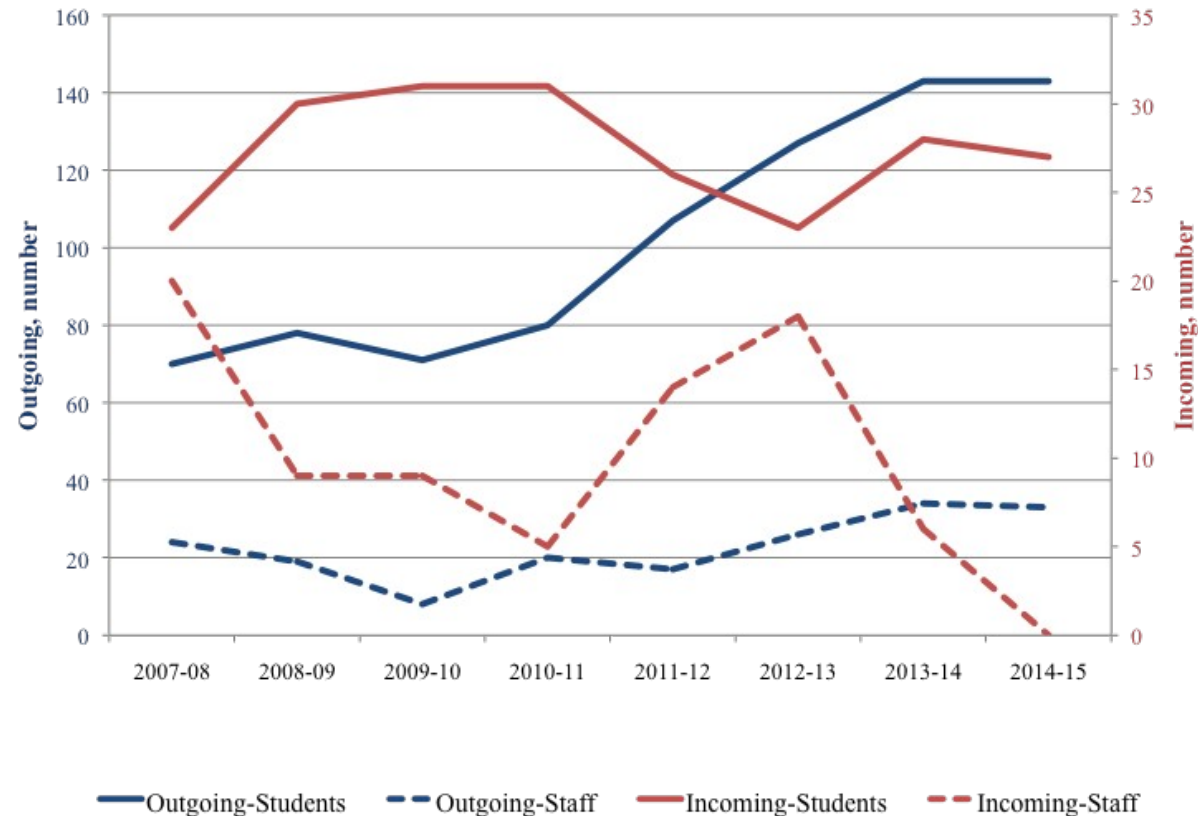
TABLE 2 REMTH PERFORMANCE IN MOBILITY PROGRAMMES 2007-2013 (SOURCE: GSRT).

Programme	REMTh Projects	REMTh Budget (€)	Available Budget (€)	Budget: REMTh / GRC (%)
Support for Post-Doctoral Researchers	7	911 000	13 562 000	6.72
Support to enterprises for employing highly qualified personnel	1	151 360	7 140 000	2.12
Support to enterprises for employing R&D personnel	1	110 180	8 584 000	1.28
Totals:	9	1 172 540	29 376 000	4.00

# Context (3)

- Placement & ERASMUS programmes active in HEIs
- TEIEMTH has competitive advantage in placement programmes due to longer duration (6 months)

Student & Staff Mobility Trends (DUTH)



# Needs assessment

- Participation of HEI/PRO researchers in global networks is low
- Take-up of Key Enabling Technologies is negligible
- Limited use the regional stock of scientists/researchers as enabler for the diffusion of innovations
- Joint ventures and creative copying are the most common approaches to fill knowledge gaps in industry
- ERDF collaborative research projects is the most 'advanced' technology transfer mechanism between HEIs/PROs and industry
- The mid-term outlook for institutional investments in HEIs/PROs is negative >> shrinking researcher population
- High unemployment among young graduates >> brain drain

# Peer Review Recommendations

- Researchers: Long-term mobility
  - Highly needed
  - Difficult to achieve
    - Excellent research, place-building, local support, local career development opportunities
    - Language barriers
- Researchers: Short-term mobility
  - PhD, Post Docs & Staff exchanges are easier and cheaper
  - Build formal and informal relationships
  - More value is created when linked to industry at the receiving end

# Peer Review Recommendations

- Intersectoral (HEI/PRO <> Industry) Mobility:
  - A 3-tier approach should be considered:
    - Top tier aims at moving PhDs and Post-Docs (Industrial PhDs, incentives to hire PhDs, infrastructure sharing, research consortia, ...)
    - Middle tier for MSc level: single- or multi-student / graduate placements in industry or public administration, targeted skills upgrade for enterprises' staff
    - Low tier: placements, internships, needs aggregation, vocational training, competitions.

# Peer Review Recommendations

- Enablers for success
  - HEI/PRO policy review & policy updates on TT, IPR, conflicts of interest/commitment
  - Modest investments in TTO infrastructure and staff
  - Communicate success stories

Part II

# APPROACH

# Pathways to change through mobility

- Improve the integration of the regional research base in international research networks
- Improve the absorptive capacity of the regional research base (and industry) in terms of KETs through inbound knowledge flows
- Attract new talent, improve researchers' headcount
- Establish effective, efficient and relevant knowledge flows between academia and industry
- Reduce brain-drain (young graduates & researchers)

# A Theory-of-Change Process

- Define **Long-Term Outcomes** & associated **Key Performance Indicators**
- **Backward mapping** through causal pathways:
  - Necessary and sufficient preconditions to achieve LTOs & overcome barriers
    - Repeated 2-3 times to identify outcomes, outputs, and inputs
  - Check the assumptions between causal links
- Finally, discuss **interventions** & associated **funding sources**

# Theory of Change

Project title: .....



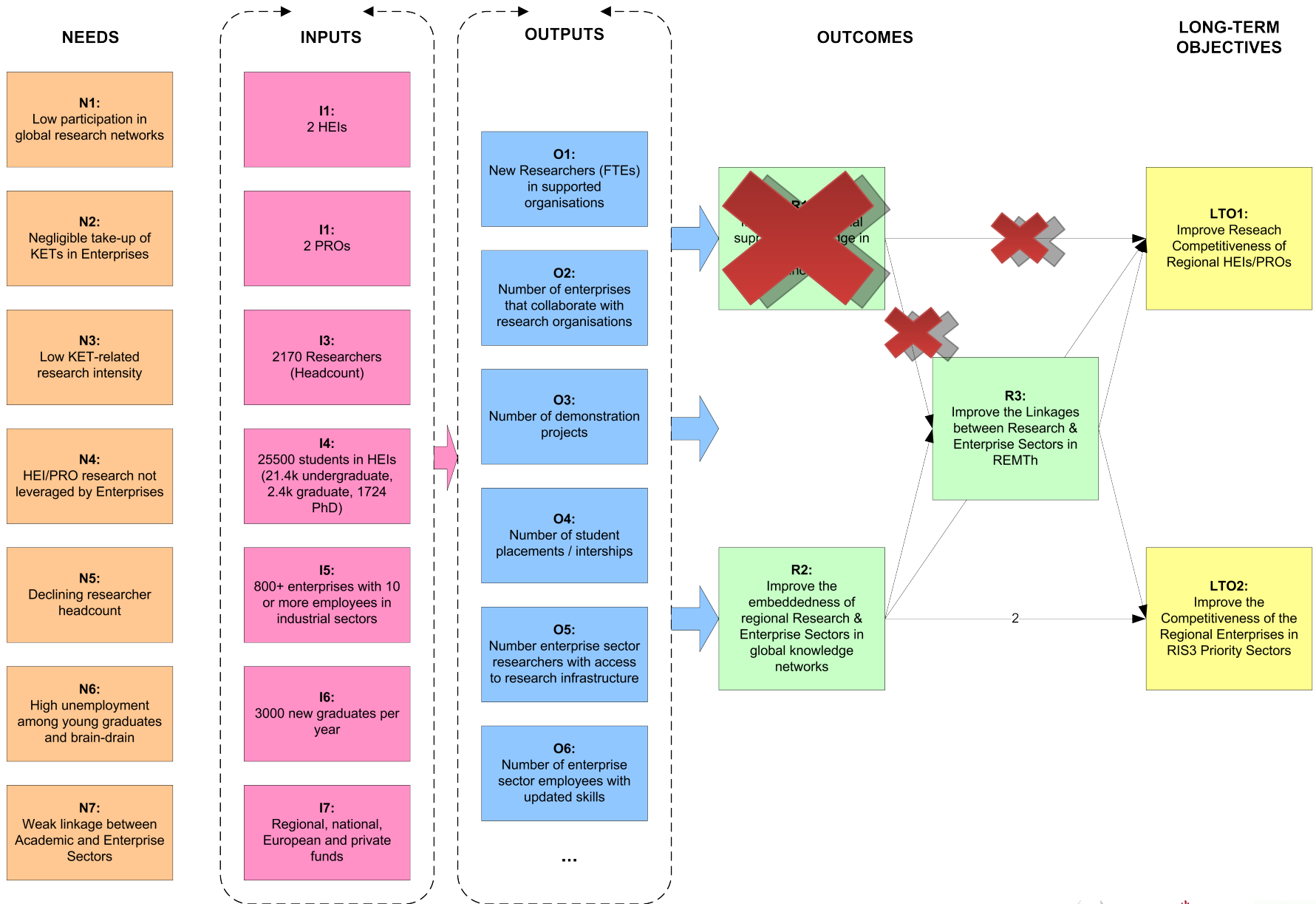


21 Oct 2015

EP PA Final Event / Xanthi



# Post-Kavala meeting ToC map



Part III

# OUTCOMES

**R1:**  
Improve the  
embeddedness of  
regional Research &  
Enterprise Sectors in  
global knowledge  
networks

# Action Plan

## Fast wins

- HEIs & PROs to introduce quotas for inbound researchers in all funded research projects by end 2015
- Post all newly created research positions on EURAXESS
- HEIs/PROs administration to raise awareness and stimulate participation of their staff in the various instruments of MSCA in close co-operation with the NCPs.
- Pursue opportunities through LIFE, CoFASP and COST multiannual projects to reinforce international networks, acquire, adopt and disseminate new production technologies in the Region's environmental and agro-food sectors.

## Medium- and Long-term

- Sustain and improve incoming and outbound student and HEI Staff mobility through Erasmus+
- Promote ERASMUS for Young Entrepreneurs and stimulate applications by beneficiaries
- Promote Marie Skłodowska-Curie Actions (MSCA) within HEIs/PROs and stimulate proposals by faculty/researchers
- Exploit any research funding opportunity (ROP, National and EU / International Projects) to attract new talent by introducing quotas for inbound researchers

**R2:**  
Improve the linkages  
between Research &  
Enterprise sectors in  
REMTH

# Action Plan

## Fast wins

- New procedures to be introduced by HEIs to capture innovation and skills needs from enterprises participating in the student placement programmes by the end of 2015
- Undergraduate student participation in research projects will be encouraged in a voluntary basis
- A Researchers' Night type of event to be jointly organised by HEIs & PROs in all campuses (autumn 2015)
- 2knowUsBeta: A proactive technology transfer roadshow for promoting HEI/PRO intellectual property, mature research outcomes, services and infrastructure to regional enterprises.
- The main vehicle for funding capacity building in technology transfer and HR mobility will be the Regional Operational Programme (Axis 1, Specific Objective 2).

## Medium- and Long-term

- HEIs will examine options for providing LLL&VT services tailored to the needs of regional enterprises
- HEIs will introduce Industrial MSc Degrees within existing postgraduate programmes starting in academic year 2016-17
- ERASMUS+ KA2 Cooperation for Innovation: Knowledge Alliances
- Pursue all funding opportunities from national sources (OPs)

# Governance

- **A Joint Technology Transfer & HR Mobility Committee (JTT&HRC)** will be established by the four regional public research actors at the Vice Rector level
- Mandate:
  - Co-ordinate policy initiatives within institutions
  - Design and implement joint projects
  - Co-ordinate shared resources / data and monitoring of TT & mobility through a common set of indicators in all four institutions
- Operational management by the institutions' Research Committees

# Funding

<i>Action Area</i>	<i>Improve the Embeddedness of Regional Research &amp; Enterprise Sectors in Global Knowledge Networks</i>	<i>Improve the Linkages between Research and Enterprise</i>	<i>Totals (M€)</i>
Own Funding (HEIs/PROs)	0.10	0.15	0.25
ROP/REMTh	0.00	4.00	4.00
National OPs	1.30	15.00	16.30
EU Programmes <sup>(e)</sup>	2.00	1.50	3.50
<b>Totals (M€):</b>	<b>3.40</b>	<b>20.65</b>	<b>24.05</b>

# Monitoring – Leading Indicators

## R1:

Improve the embeddedness of regional Research & Enterprise Sectors in global knowledge networks

- R1.1 Number of publications with international co-authors
- R1.2 Number of patent applications with international co-inventors
- R1.3 Number of international research projects
- R1.4 Number of international innovation projects

## R2:

Improve the linkages between Research & Enterprise sectors in REMTH

- R2.1 Number/Value of new HEI/PRO research contracts paid by industry
- R2.2 Number/Value of new collaborative research contracts
- R2.3 Number/Value of new consulting/service provision contracts between HEIs/PROs and enterprises
- R2.4 Number of new HEI/PRO spin-offs
- R2.5 Number of new jobs for PhD holders in enterprises
- R2.6 Number of job offerings to interns/apprentices following internship/apprenticeship

# Monitoring – Lagging Indicators

## LTO1:

Improve Research  
Competitiveness of  
regional HEIs/PROs

- LTO1.1 Research funding to regional HEIs/PROs from non-Greek sources
- LTO1.2 Average number of citations per publication
- LTO1.3 Number of patents granted by international patent offices
- LTO1.4 Research funding to regional HEIs/PROs from Greek enterprises.

## LTO2:

Improve the  
Competitiveness of  
regional enterprises in  
RIS3 priority sectors

- LTO2.1 Gross Value Added in current prices in RIS3 priority sectors.
- LTO2.2 Value of exports in current prices in RIS3 priority sectors.

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“If you don't change  
direction, you may end up  
where you're heading”

*-Lao Tzu*