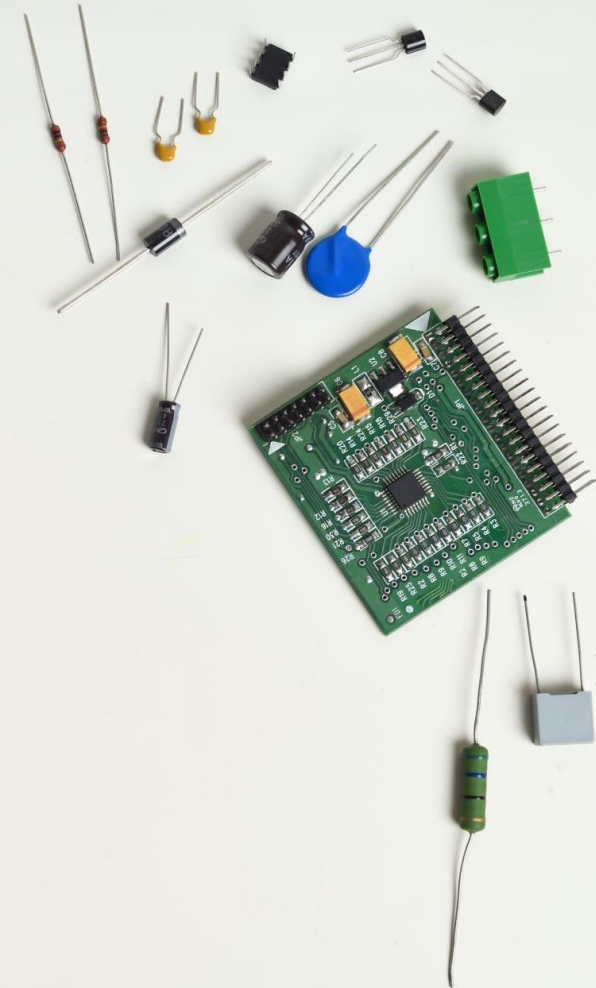


# TOWARDS INDUSTRIAL POLICIES TO SUPPORT TECHNOLOGY UPGRADING FOR SUSTAINABLE DEVELOPMENT IN CENTRAL ASIA (SPECA REGION)

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# Aim and outline

- A new industrial policy approach (NIP) through technology upgrading, which can be implemented in the SPECA sub-region
- Why NIP?
- What is the NIP?
- Key features of SPECA region from the NIP perspective
- What would be the NIP approach to SPECA?
- Strategic NIP options for the SPECA region countries

# Why new industrial policy approach? I

- Structural reforms are not sufficient
- Old industrial policies do not work in the conditions of fragmented value chains
- A need for softer market friendly approach
- NIP are oriented towards all sectors including services, agriculture, natural resources and manufacturing



# New industrial policies I

- **Pro-active and targeted** focused on technology application areas ('sectors' and 'capabilities' cf. **ICT in agriculture**)
- 'Smart' because they recognize that the ultimate limits to growth and **the relevant solutions are not known ex-ante**;
- '**Market friendly**' because they show respect for comparative advantages and export transformation;
- Use '**soft**' policies to embed **FDI and GVC** as levers and linkage mechanisms for domestic technology upgrading

# Common structural features of RDI in SPECA Region

- Very low share of manufactures export ('premature deindustrialization')
- Low production sophistication and management quality
- Very weak business and public sector R&D
- Outside of Global Value Chains except resource-based activities



## Very low R&D intensity is driven by low share of manufacturing (not industry) and a low share of medium and high-tech industry in manufacturing

**Research and development expenditure (% of GDP) 2018**

AZE	KAZ	TJK	UZB	MIC	ECA
0.2	0.1	0.1	0.1	1.6	2.0

**Share of medium and high-tech industry (% manufacturing value added) 2018**

UZB	AZE	KAZ	AFG	KGZ	TJK
19.9	15.6	14.5	9.5	2.8	2.8

- SPECA economies have weak public R&D and similar share of active R&D firms as their income groups but intermittently and marginally active.
- BES links with higher education are informal but strong through joint affiliation of researchers of Academy that are also teachers though the biggest number of teachers are not involved in organised R&D.
- A contribution of R&D is largely in facilitating absorption of foreign knowledge through contracts of Academy institutes and universities with enterprises in a wide range of downstream services like consulting, metrology, testing and problem solving.
- MIC-middle income; ECA Europe Central Asia (low-income part)

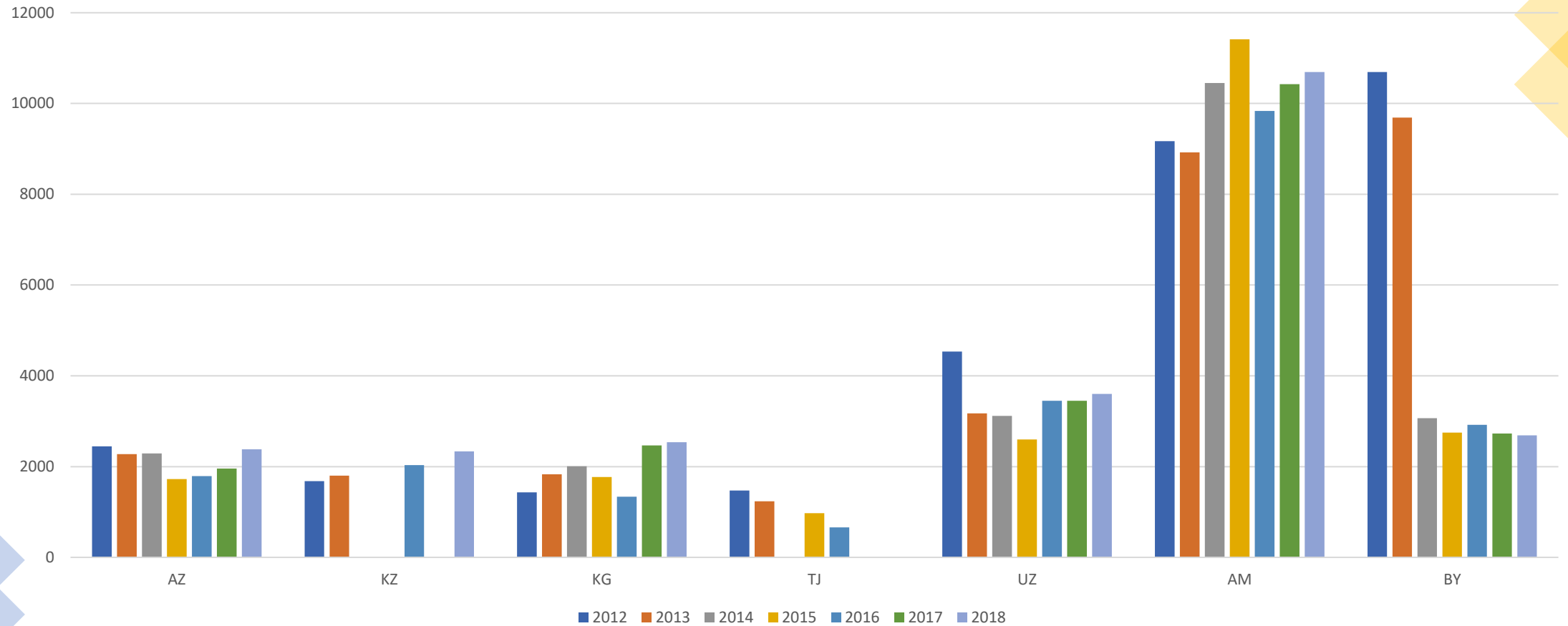
## Quality certificates in SPECA economies 2019

	AFG	AZE	KAZ	KGZ	TJK	TKM	UZB
ISO 9001:2015 Quality management systems	7	269	452	9	2	0	481
ISO 14001:2015 Environmental management systems	0	72	181		3	7	33
ISO/IEC 27001:2013 IT -- Security techniques -- Information security management systems -- Requirements	0	3	11	0	1	0	0
ISO 50001:2018 Energy management systems -	23	0	42	0	0	0	9

- Very low number of quality certificates => a **sign of isolation from global value chains** as well as an indicator of the huge **scope for improvements** towards best practice in the management of production capabilities
- Example: Food industry is quite important for Tajikistan but **no Tajik company** has certified for ISO2200 food safety certificate in the last few years.
- ISO data show that there were only **two Tajik companies** in 2008 and 2009 that were sites covered by ISO 22000 certificates
- Source: UNECE Report 2015

# A very low degree of product differentiation even when compared to AM and BEL

Resident trademarks per 100 billion USD GDP (PPP) (by origin)(2012-2018)





# Logistical and ICT infrastructure lags behind the income level group

## Logistics performance index: Overall (1=low to 5=high)

ECA	KAZ	MIC	UZB	KGZ	TKM	TJK	LIC	AFG
3.2	2.8	2.6	2.6	2.6	2.4	2.3	2.3	2.0

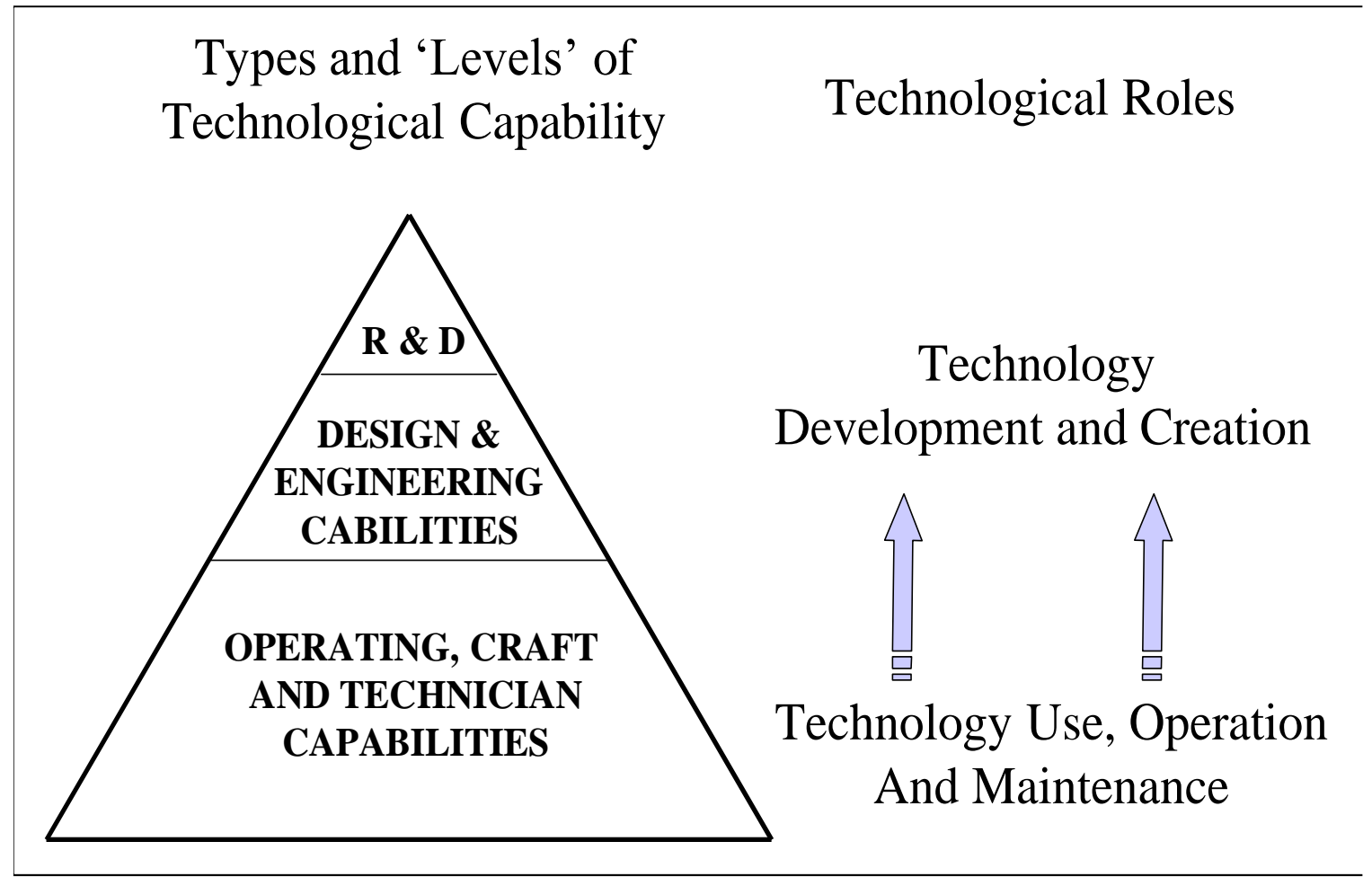
Only Kazakhstan ranks above the average of middle-income economies while other economies are behind their respective income level group.

## Secure Internet servers (per 1 million people) 2018

ECA	KAZ	MIC	UZB	AZE	KGZ	TJK	AFG	TKM	LIC
26678	2359	1237	453	369	288	71	28	20	11

Only Kazakhstan fare quite well fairing slightly behind the ECA average. However, all other SPECA economies have lower shares when compared to their respective income groups

New industrial policy focus is on sources of technology upgrading for increased productivity ... in **SPECA region** these are often at the bottom of pyramid



Martin Bell (2007) Technological Learning and the Development of Production and Innovative Capacities in the Industry and Infrastructure Sectors of the Least Developed Countries: What Roles for ODA?, UNCTAD The Least Developed Countries Report 2007 Background Paper, University of Sussex

## Main strategic options for new industrial policy.....

1. Increase R&D investments, engineering and innovation capacity in both private and public sector
2. Build strategic policy to attract and embed local supply chains into FDI and international supply chains
3. Prioritize structural reforms in sectors which are priorities for strategic FDI/GVC policy
4. Establish actions on building basic technology upgrading infrastructure services and training programs linked to export agenda
5. Public innovation procurement
6. Inclusive and pro-poor innovation programs

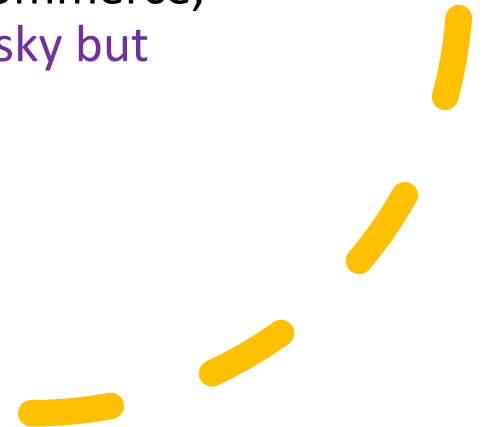
..... and  
considering  
country  
specific  
priorities

- **Resource based industries:** diversification related to resource-based industries\*
- **Labour intensive industries:** supply chain development programs
- **ICT intensive services:** clustering and collective promotion
- **Pockets of excellence** in engineering intensive and other activities

For example, **Kazakhstan:** *a concentrated effort to master the selected processing industries technologies: from large-scale commodity-based process innovations through medium-scale specialties (chemical, biotechnological, nanotechnological) to small-scale customized materials and special applications*

# Key challenges of NIP implementation in low institutional capacity environments

- **Capacity to coordinate actions** across public sector agencies and to effectively **engage in collaboration with private sector actors** is essential to new industrial policy.
- In states with weak institutional capabilities, **policy overreach** is a real possibility... the solution is in the **'best matches** ie policy solutions that **correspond to limited administrative capacities**.
- **Copying the 'best policy practice'** does not necessarily represent a response to the local context but more **compliance to external requirements**.
- Start NIP with the existing **'pockets of excellence'** (departments; agencies, NGO, chambers of commerce, business associations etc)... **and embark on risky but potentially rewarding trip**





Thank you