

Armenia

2021–2041

Overview

September 2021

Executive Summary

Over the course of the past 10–15 years, Armenia’s macro parameters (e.g., GDP CAGR of ~6%) have evolved in line with global and regional trends, which has not allowed the country to make a breakthrough given the low starting baseline.

Moreover, overly relying on consumer spending to drive economic growth cannot be sustainable and sufficient in the future. Three main levers need to be addressed to grow sustainably:

- Closing the import gap and becoming a net exporter of goods and services
- Boosting labor productivity (i.e., human capital)
- Attracting sizeable investments (e.g., for infrastructure)

To that end, various economic sectors have been prioritized, based on (a) addressing the above levers, (b) opportunities linked to global trends and disruptions, (c) learnings from successful small economies

- **Agriculture:** exports could grow 5x based on data that shows output can grow by improving yields (e.g., adopting new technologies) and land utilization
- **Education:** plays a dual role in the country: first, data shows that there are opportunities to improve its GDP contribution (e.g., by attracting foreign students); and second, the quality of human capital needs to be improved for all sectors
- **Healthcare:** also plays a dual role. Trends and data show that Armenians can achieve higher life expectancy and quality of life by adopting new technologies (e.g., telemedicine) and further developing primary care to both improve quality and reduce costs
- **High tech:** there is potential to grow output by 4x with a focus on exports. Boosting output further would require rapid growth in labor productivity and in the workforce; to achieve this full potential, the education system must produce much-needed high-skilled professionals
- **Tourism:** data and trends show that Armenia’s tourism industry could generate 3–8x more revenue by focusing on certain growth drivers (e.g., direct flights, targeted marketing in select regions and countries)

Unlock the full potential of these sectors and others could have a multiplier effect to their GDP contribution in the next 20 years. Once the right initiatives are identified, they need to be prioritized and executed with the right talent, processes and governance.

A distinct source of talent to enable this broad vision and enable execution resides with the Armenian diaspora. To this end, new mechanisms for engaging the diaspora needs to be developed.

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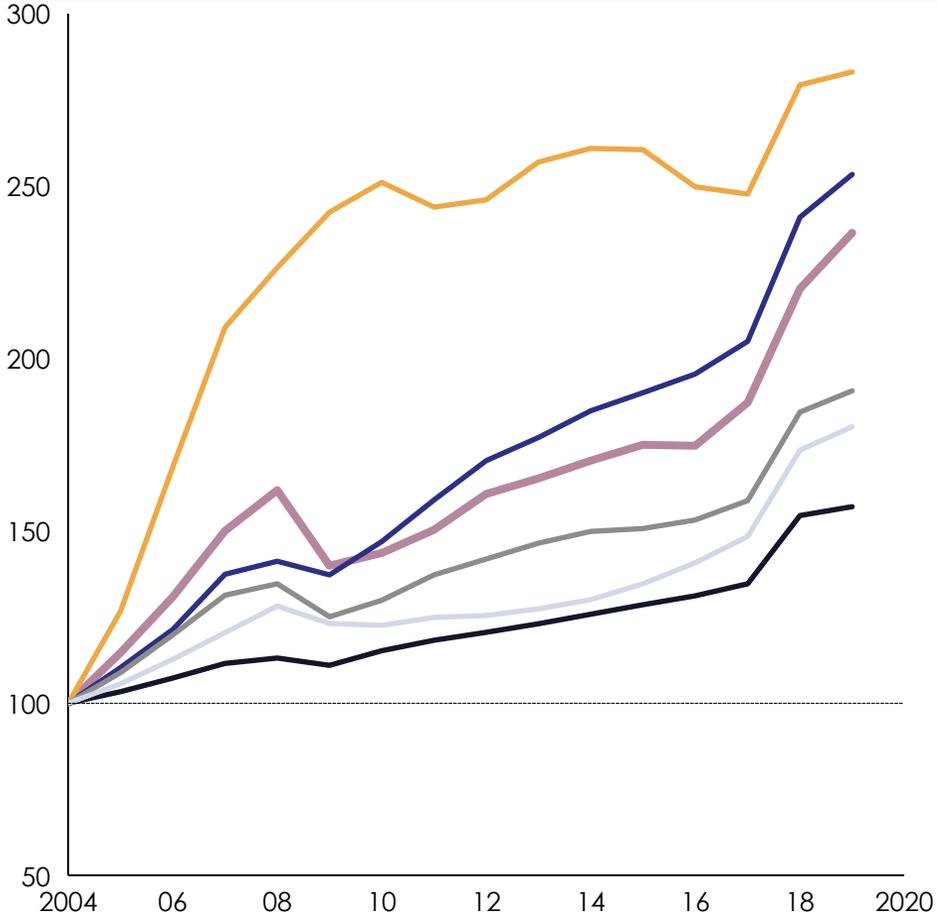
Overview of current situation and approach

Prioritized sectors

Implementation roadmap

In the last 15 years Armenia's economy has grown at ~6% per annum, which has not been sufficient to make a leap

Cumulative GDP per capita PPP growth, Index to 2004



CAGR, percent	04-'19
Azerbaijan	+7.2%
Georgia	+6.4%
Armenia	+5.9%
FSU ¹	+4.4%
Eastern Europe ²	+4.0%
World	+3.1%

Key takeaways

Armenia has grown faster than many other Former Soviet Union countries

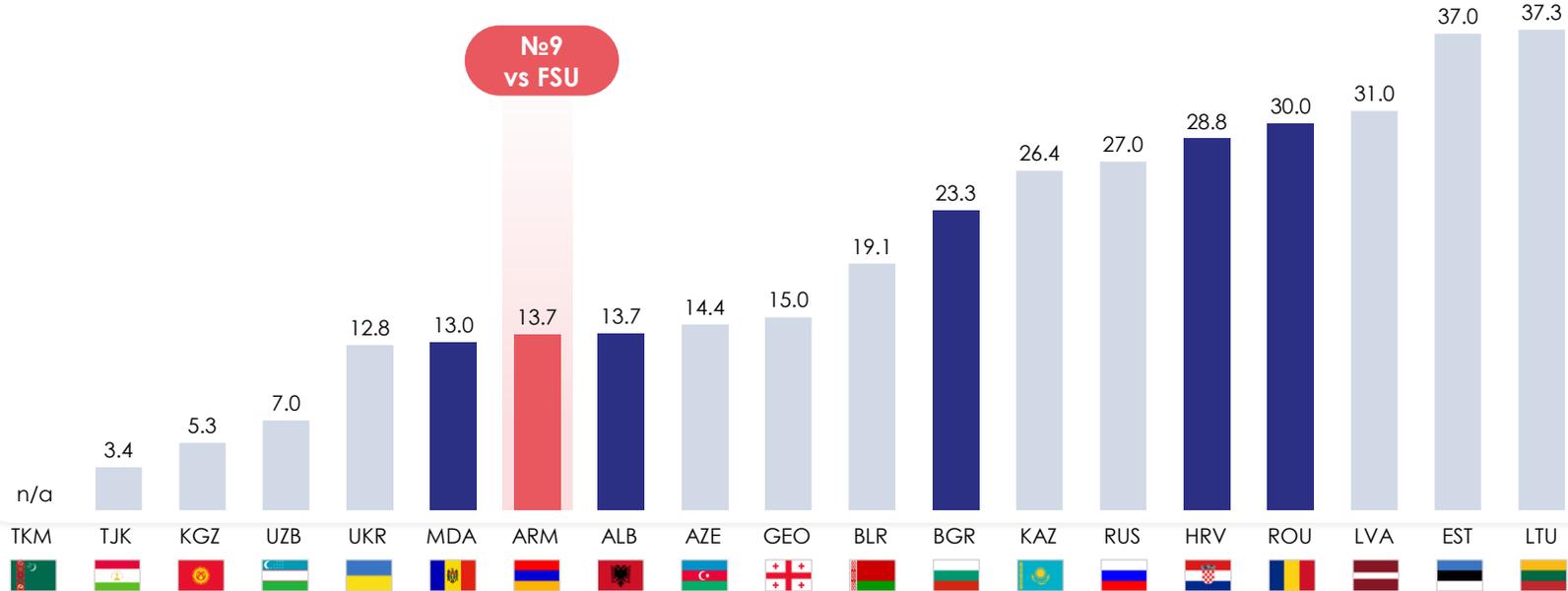
However, regional neighbors have managed to grow faster than Armenia in the same period

1. Former Soviet Union; 2. Eastern Europe consists of Bulgaria, Romania, Croatia and Albania
Source: World Bank

Due to the low starting base, Armenia's growth has not been enough to significantly change its position relative to peer countries

■ Armenia ■ Eastern Europe ■ FSU

GDP per capita PPP 2019, constant USD thousands 2017



Armenia moved from 10th place in 2003 to 9th place in 2019

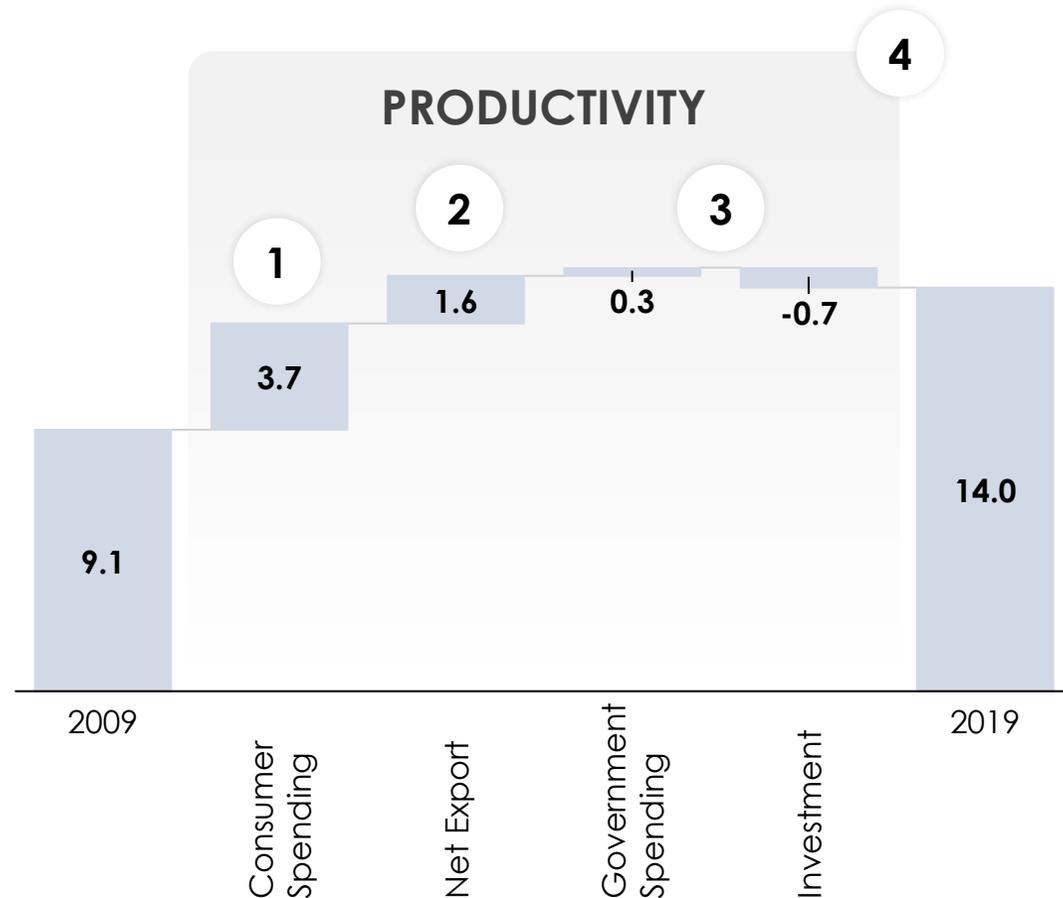
Key takeaways

Despite Armenia's growth rate, its **low starting base for GDP per capita did not enable the country to significantly improve its position** vs. its FSU peers

Armenia could aspire to accelerate its development to reach the GDP per capita levels of Eastern European countries

Certain factors have limited Armenia's further growth

Armenia GDP growth drivers, constant USD bn



Source: World Bank

1 Unsustainable growth engines

1 The main growth engine has been consumer spending, driven by increasing debt levels

2 Imports exceed exports

2 Armenia's exports are growing faster than its imports but not enough to overtake them

3 Lack of investment

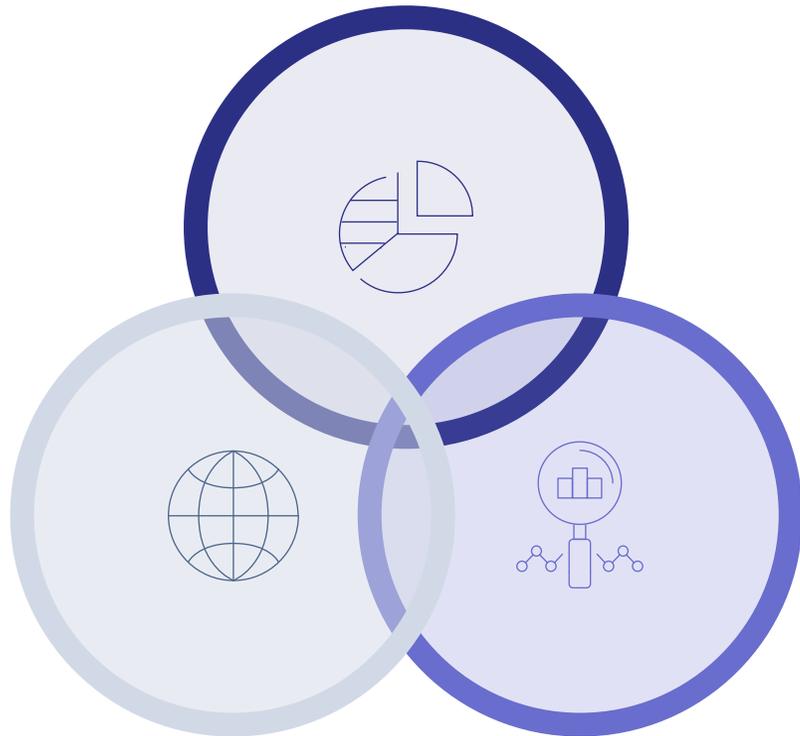
3 Armenia has a low investment share of GDP vs its peers, and investment growth has stalled in the last decade

4 Low labor productivity

4 Though productivity has grown, it remains below peer level and continues to hinder Armenia's economic growth

Addressing these 3 challenges first could help unlock Armenia's potential in the mid-to-long term

Three lenses were used to prioritize economic sectors for deep dives



1



Export and investment potential & opportunity to increase productivity

Analysis of the current state and recent dynamics of the economy, identifying strengths & opportunities to improve productivity, export and investment potential

2



Learnings from successful small economies

Insights from successful small economies, their strategic priorities and main archetypes

3



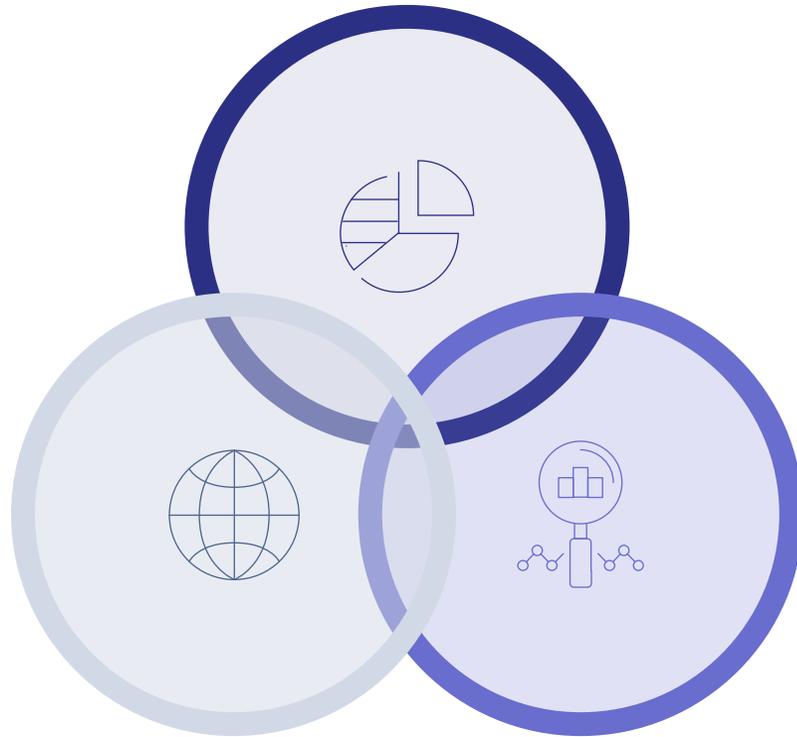
Future-back view based on global trends and potential disruptions

Understanding of the key shifts and changes in the global economy

Five priority sectors were identified to accelerate Armenia's growth

THREE LENSES

1 Export and investment potential & opportunity to increase productivity



3 Future-back view based on global trends and potential disruptions

2 Learnings from successful small economies

FIVE PRIORITIZED SECTORS

- A**  **Agriculture**
- B**  **Education**
- C**  **Healthcare**
- D**  **High-Tech**
- E**  **Tourism**

Comprehensive set of sectors and sub-sectors were analyzed to determine top 5 prioritized sectors for Armenia 2041 vision

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Overview of current situation and approach

Prioritized sectors: Agriculture

Implementation roadmap

A 2041 vision for Armenia's agricultural sector: food security within the country and trade value optimization

2020 2031 2041

\$1.5 → \$2.4 → \$3.5 bn

Target gross output of agricultural sector by 2041

2031 2041

 **233 → 91 thou**

 **\$0.5 → \$2.4 bn**

required workforce target export

Food security

100%

Self-sufficiency in critical crops and livestock products:



Wheat



Potatoes



Fodder (maize, oats, barley)



Poultry



Pork

Export excellence

5x

Potential for growth in agricultural exports with focus on the following products and trading partners:



Fruits & vegetables



Cigarettes



Dairy products (milk, cheese)



Wine



Meat (cattle, pork, lamb)



Spirits



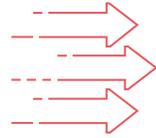
A To understand how to grow Armenia's agricultural sector, 5 dimensions across the value chain must be considered

Agriculture value chain

Input sourcing
(seeds, chem, nutrition)



Input distribution



Farming



Processing



Aggregation & storage



Sales & export



Enabling dimensions

1. People & talent

Ensure sufficiency, qualification and expertise of people employed in the agricultural sector

2. Infrastructure

Enhance existing infrastructure (irrigation systems, machinery, roads and storage) to drive output in the agricultural sector

3. Tech & innovation

Leverage digital & analytics capabilities, biotech advances and cutting-edge hardware to improve agricultural productivity

4. Ecosystem

Formalize legal environment and expertise sharing communities to support farming

5. Capital & investments

Expand access to financing and resources for new venture establishment and development

A Supporting levers for agricultural development in Armenia

Less Critical Most Critical

	Input sourcing (seeds, chem, nutrition)	Input distribution	Farming	Processing	Aggregation & storage	Sales & export	
1 People & talent	Expertise in chemistry, biotech and agtech to source required inputs		Household & SME farming				
2 Infrastructure	Easy access to imported or internally produced inputs		Labor force qualification				
3 Tech & innovation			Machinery	Cold storages			
4 Ecosystem			Drip irrigation systems	Processing facilities	Warehouses		
5 Capital & investments			Roads				
			Route optimization & tracking	Digital tools, predictive analytics, advanced hardware (drones, sensors and robots)			Digital marketplaces to connect producers with PGCs and retailers
			Expertise sharing & agricultural accelerators				
	Research labs and nurseries adjusting and modifying certified seeds & seedlings	Agricultural law (land and input use legislation), farming SME regulations					
	Investment in input R&D		Access to financing for private household & SME farmers				
			Land banks				

A Six strategic moves in agriculture for Armenia to consider

Prioritized initiatives



Recultivate fallow land - expand land utilization through consolidation incentives to boost production



Focus on production of critical produce - ensure self-sufficiency and food security (e.g., for cereal, fodder, animal protein)



Expand Armenian exports - target exports of fruits, tobacco and wine products to target countries (e.g., Russia, Ukraine, UAE, Saudi Arabia)

Sector-specific enablers



Leverage advanced seeds, agtech - e.g., use bacterial inoculants to fix nitrogen and boost farming productivity



Develop agricultural hubs - educate and support farmers on modern agricultural techniques (e.g., cover crops), industrialization and commercialization of production



Develop country-wide irrigation systems - use modern technologies (e.g., drip irrigation) to improve productivity of water usage

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Overview of current situation and approach

Prioritized sectors: Education

Implementation roadmap

2041 vision for Armenia's education sector: aligning with national priorities and improving access and quality

x3

Annual education
direct GDP
contribution by 2041

2021	→	2041
 5k	→	15k
 0	→	6

Foreign students in Armenia

Armenian universities in Global Top 1000 list

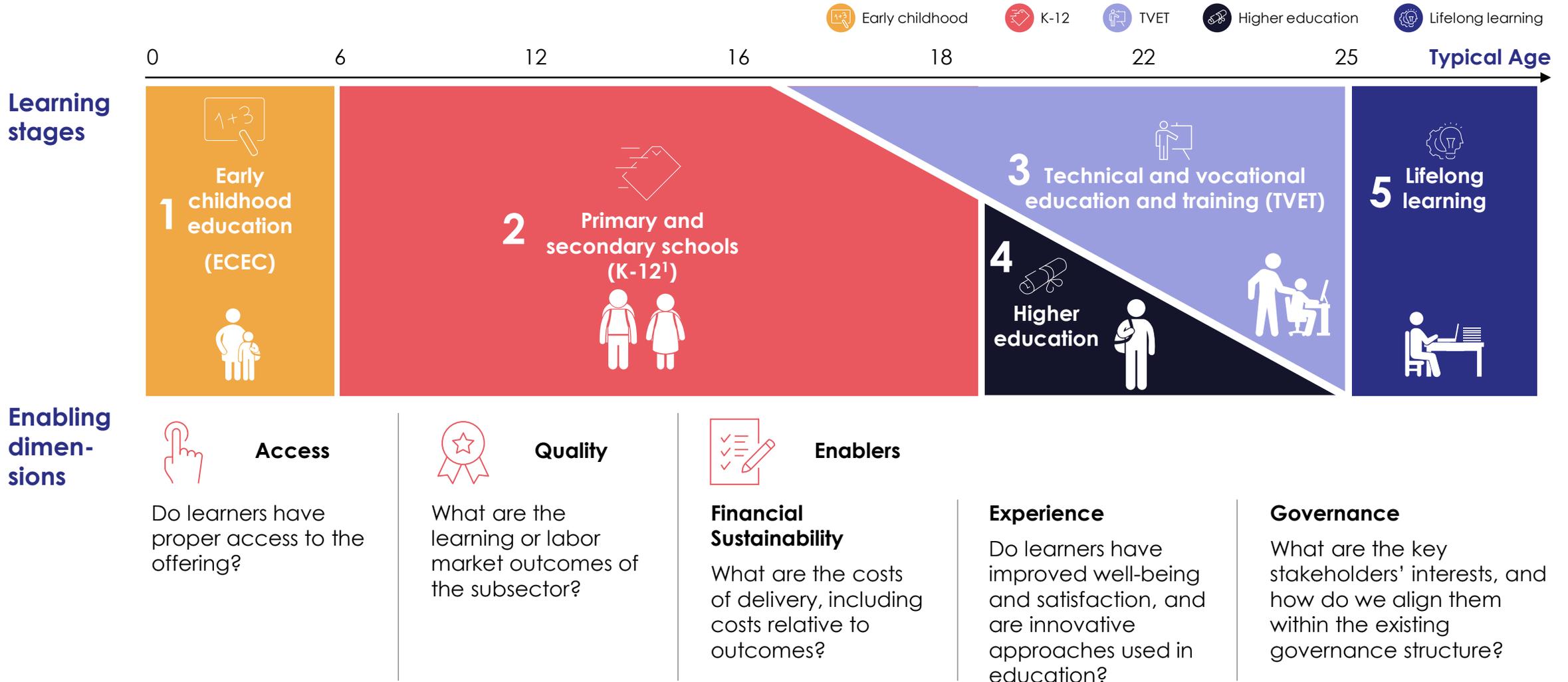
Alignment with national priorities

- Identify and develop talent to their full potential
- Drive Armenia's productivity growth and competitiveness by focusing on developing talent for prioritized sectors
- Attract more international students to enhance global reputation and increase funding

Improved access and quality of education

- Ensure equal access to high-quality education in all regions of Armenia
- Make an education career attractive and prestigious
- Focus on early childhood development
- Develop STEM education centers and creative hubs in all regions

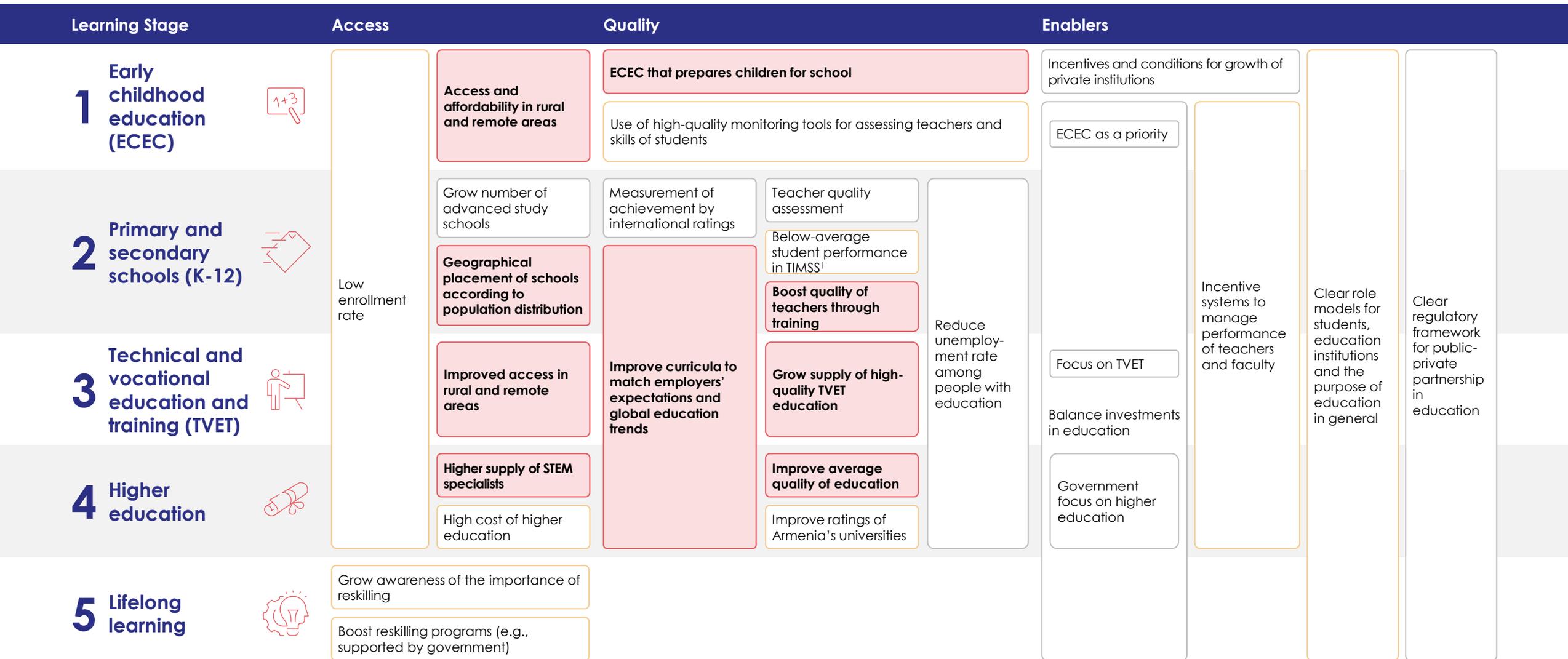
B To understand how to grow Armenia's education sector, multiple dimensions across the 5 learning stages must be considered



1. K-12 is an abbreviation for "Kindergarten through 12th grade"

B Supporting levers for education system development in Armenia

Less Critical Most Critical



1. TIMSS (Trends in International Mathematics and Science Study) is a series of international assessments of the mathematics and science knowledge of students around the world

B Seven strategic moves in education for Armenia to consider

 Early childhood
  K-12
  TVET
  Higher education
  Lifelong learning

Countries with Best Practices

Prioritized initiatives



Amplification of early childhood education



Continuous development of school leadership and teachers



Development of centers of excellence in K-12



Matching education with future labor market needs (incl. focus on STEM)



Enhancement of lifelong learning programs



Sector-specific enablers



Development of digital enablers and e-learning



Increase attractiveness of education career using both financial and non-financial levers

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Overview of current situation and approach

Prioritized sectors: Healthcare

Implementation roadmap

C 2041 vision for Armenia's healthcare sector: preemptive medicine, digitization and high-quality care for all

75 → 80 years

Life Expectancy at Birth
in Armenia by 2041

Preemptive medicine

- **Focus on disease preemption and early detection** vs. traditional “sickcare”
- **Fully address behavioral risks** (e.g., smoking, alcohol) through education and preemptive interventions
- **Ensure equal access to high-quality primary care** for all Armenian citizens

Digitization and high-quality care

- **Potential to fully digitize health system** to enhance patient interaction, care delivery and monitoring
- **Optimize healthcare talent development and deployment** across the country
- **Drive end-to-end transformation of health systems** to improve quality of care without significantly increasing costs

C COVID-19 has given rise to changes that can be further leveraged in healthcare systems of the future

The **COVID-19 crisis** has stretched the **healthcare system** in most countries, including Armenia

This pressure has led to a **dramatic acceleration of changes in key levers of the health system** that were previously seen as important but not urgent, or difficult to scale

Key changes observed during COVID-19 that can strengthen Armenia's health systems when scaled



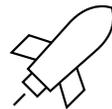
Increasing recognition of the **importance of strong public health systems and focus on prevention**



Accelerated **adoption of innovation in digital** and analytics-based solutions



Increased **flexibility in the deployment of staff** and use of assets



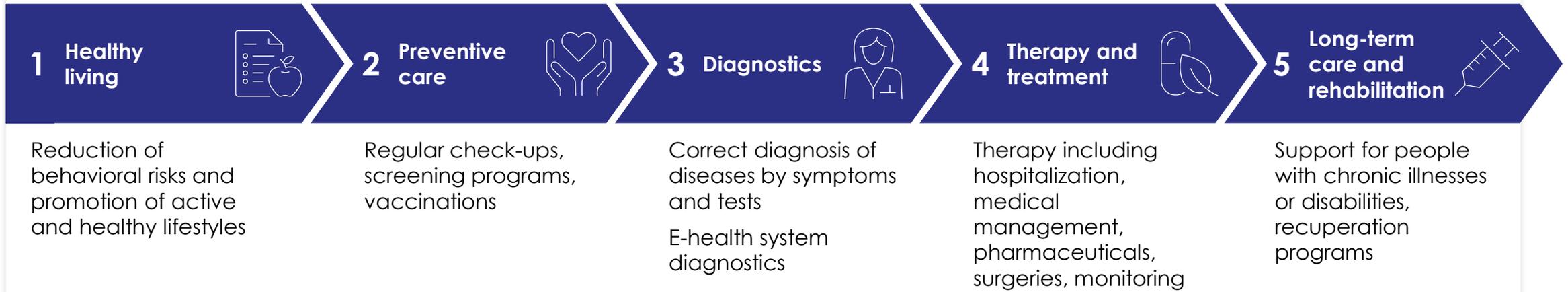
Accelerated R&D and dissemination process, e.g., testing, vaccine administration



Rapid adoption of **best practices care pathways**

C To understand how to grow Armenia's healthcare sector, multiple dimensions must be considered across the value chain

Healthcare system value chain

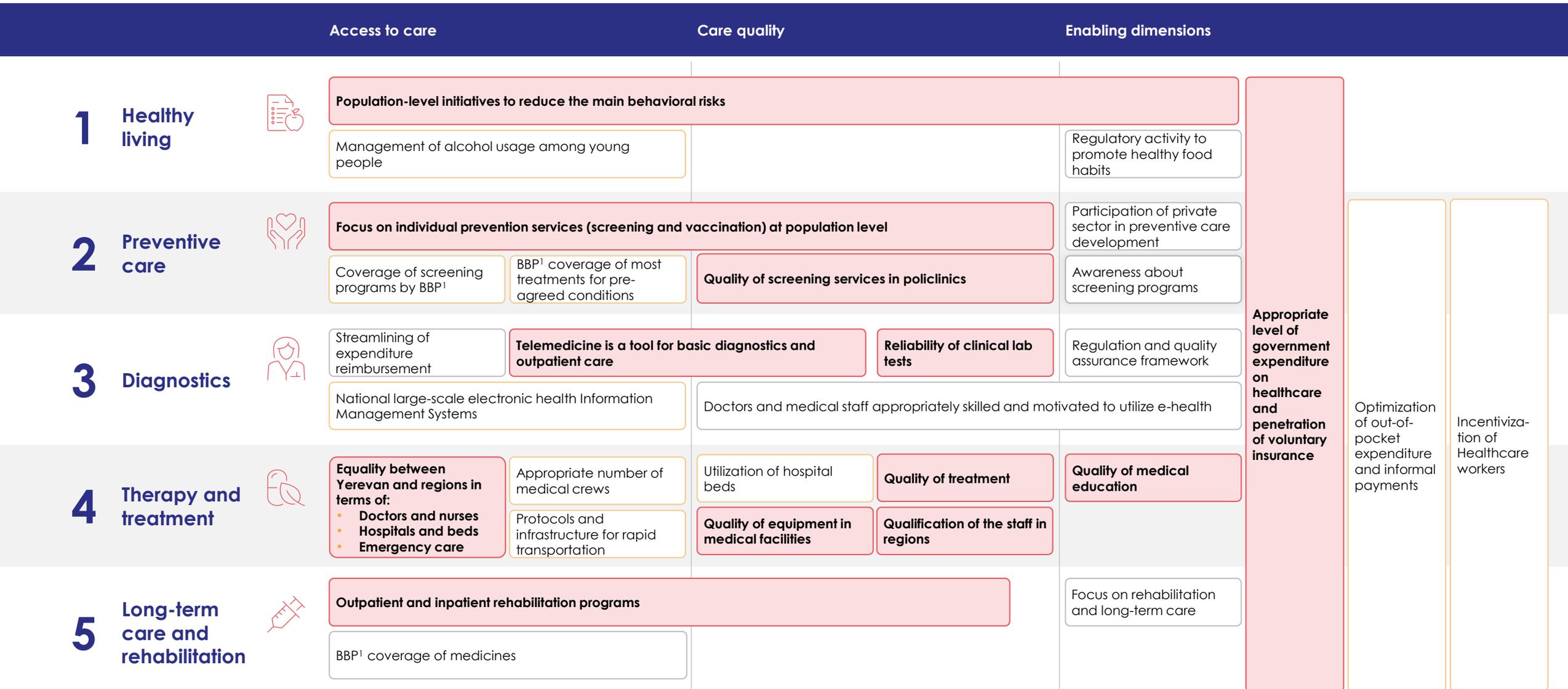


Enabling dimensions



C Supporting levers for healthcare system development in Armenia

Less Critical Most Critical



Appropriate level of government expenditure on healthcare and penetration of voluntary insurance

Optimization of out-of-pocket expenditure and informal payments

Incentivization of Healthcare workers

1. Armenian healthcare system is centered on the Basic Benefits Package (BBP) program

C Six strategic moves in healthcare for Armenia to consider

 Can be started by private sector

Countries with Best Practices

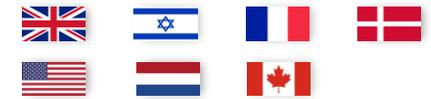
Prioritized initiatives



Healthy lifestyle promotion and support



Enhancement of primary care



Revision of incentives and funding models



Sector-specific enablers



Development of digital enablers: e-HIMS¹ and telemedicine



Enhancement of talent creation, development and deployment



Improvement of regulatory framework and standards



1. Electronic Health Information Management Systems (e.g., electronic medical records)

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Overview of current situation and approach

Prioritized sectors: High-tech

Implementation roadmap

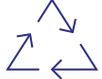
D 2041 vision for Armenia's high-tech sector: focus on export-oriented industries based on key technologies

2017 2031 2041 Target ICT export
\$0.5 → \$1.9 → \$10.2 bn  31 → 127 thou required workforce

Overarching principles

 **Focus on productivity growth** through high value-added products & process automation

 **Develop use-case specific solutions** for business functions (CMO, CXO, COO, etc.)

 **Shift the focus away from low-cost outsourcing model** to protect revenues

Main industries

-  Telecom & media
-  Healthcare
-  Financial services
-  Insurance
-  Industrials & manufacturing
-  Energy, resources & utilities
-  Retail
-  Agriculture

Potential target countries

>40%

Of global ICT imports are generated by 6 countries largely due to leveraging outsourced/outstaffed services by local IT companies



Key technologies

-  Advanced analytics and AI solutions
-  AR/VR business applications
-  Semiconductors and IoT devices design
-  Cloud computing services

D To understand how to grow Armenia's high-tech sector, multiple dimensions must be considered across the value chain

High tech
value
chain

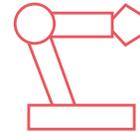
New venture
establishment



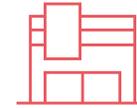
R&D and
product design



Product
development
and
manufacturing



Product
commerciali-
zation



Business
scaling



Enabling
dimensions

1. People
& talent



Ensure sufficiency, qualification and expertise of people employed in high-tech sector

2. Infrastructure



Enhance existing infrastructure (internet) to drive output in high-tech sector

3. Ecosystem



Formalize legal environment for IT companies, knowledge sharing communities and acceleration programs aiding startups to establish and grow

4. Capital & investments



Expand access to financing and resources for new venture establishment and development from government and private capital

D Supporting levers for high-tech development in Armenia

Less Critical Most Critical

 **New venture establishment**

 **R&D & product design**

 **Product design & manufacturing**

 **Product commercialization**

 **Business scaling**

1 People & talent

Local labor pool, compensation and incentives for IT/high-tech talent to work in domestic companies

Qualification of domestic talent within STEM and business field of knowledge

Leverage and attraction of international talent (entrepreneurs, specialists, experts) to speed up establishment and growth of businesses

2 Infrastructure

Roads and transportation

Urban infrastructure (housing, food and services) in Yerevan and remote locations

Cell & cable internet coverage, quality and reliability

3 Ecosystem

Start-up hubs: facilities and spaces for work, acceleration and incubation programs, coaching and mentorship

Start-up education and networking events

Technology roadshows & trade conferences

Start-up and SME legislation, ease of setting up and doing business

Legal framework & taxation of technology companies

4 Capital & investments

Government funding of research and technology commercialization

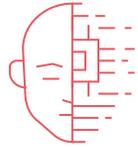
Access to commercial loans

Access to venture & business angel capital for entrepreneurs primarily driven by FDI

D Five strategic moves in high-tech for Armenia to consider

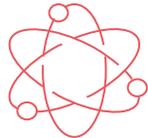
Selected countries with Best Practices

Prioritized initiatives



Develop Advanced Analytics/Artificial Intelligence solutions

to leverage existing knowledge and unlock new capabilities



Shift away from low-cost outsourcing to high-value added services/products

to improve labor productivity and increase overall value generation



Increase government spend on R&D to meet domestic needs (including agriculture and security) and expand revenue streams



Sector-specific enablers



Invest in strong STEM and CS education programs (e.g., teacher training) to nurture world-class talent



Attract expats through incentives & legislation



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Overview of current situation and approach

Prioritized sectors: Tourism

Implementation roadmap

E 2041 vision for Armenia's tourism sector: world class destination with unique travel experiences for target segments

2018 2031 2041
\$1.4 → \$5 → \$11.5 bn

Target annual tourism revenue by 2041  2031 2041
120 → 270 thou required workforce
1.7 → 14 mln tourist arrivals

Desirable international destination

Expansion into new and existing markets, focusing on:

- China and Southeast Asia
- Gulf countries
- Major European economies
- Russia

World class travel infrastructure and connectivity

Seamless connectivity to major tourist destination within the country

- More direct flights to and from Armenia
- Safe and convenient road network
- Larger capacity for hotel rooms

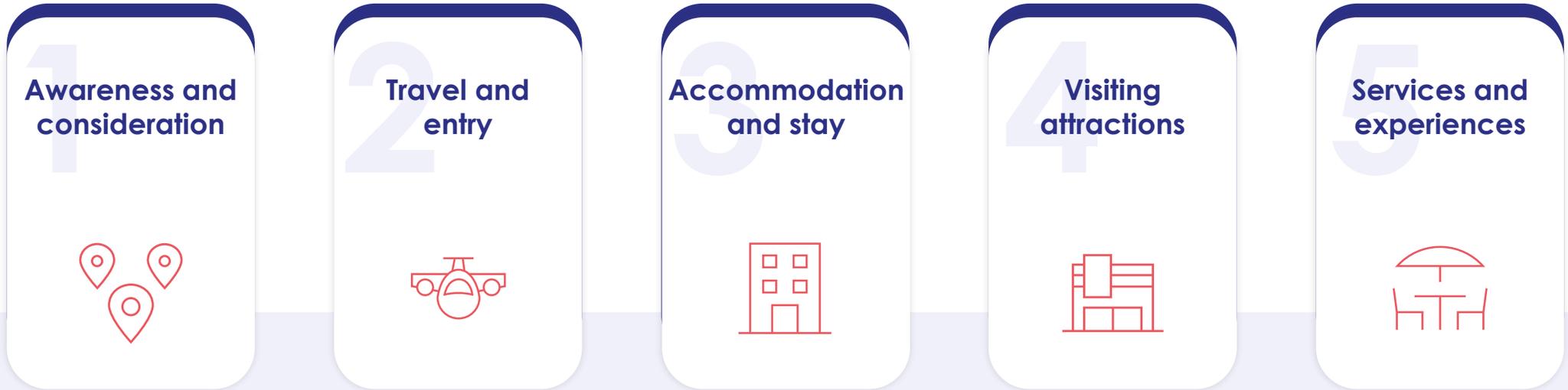
Unique experiences

Branded and rare experiences for tourists, particularly millennials

- Cultural tourism
- Ecotourism
- Religious tourism
- Adventure tourism

E To understand how to grow Armenia's tourism sector, multiple dimensions must be considered across the value chain

Tourism value chain



Enabling dimensions

People and talent 
Ensure sufficiency, qualification and expertise of people employed in tourism sector

Infrastructure 
Enhance existing infrastructure (roads, transportation, lodging) to drive output in tourism sector

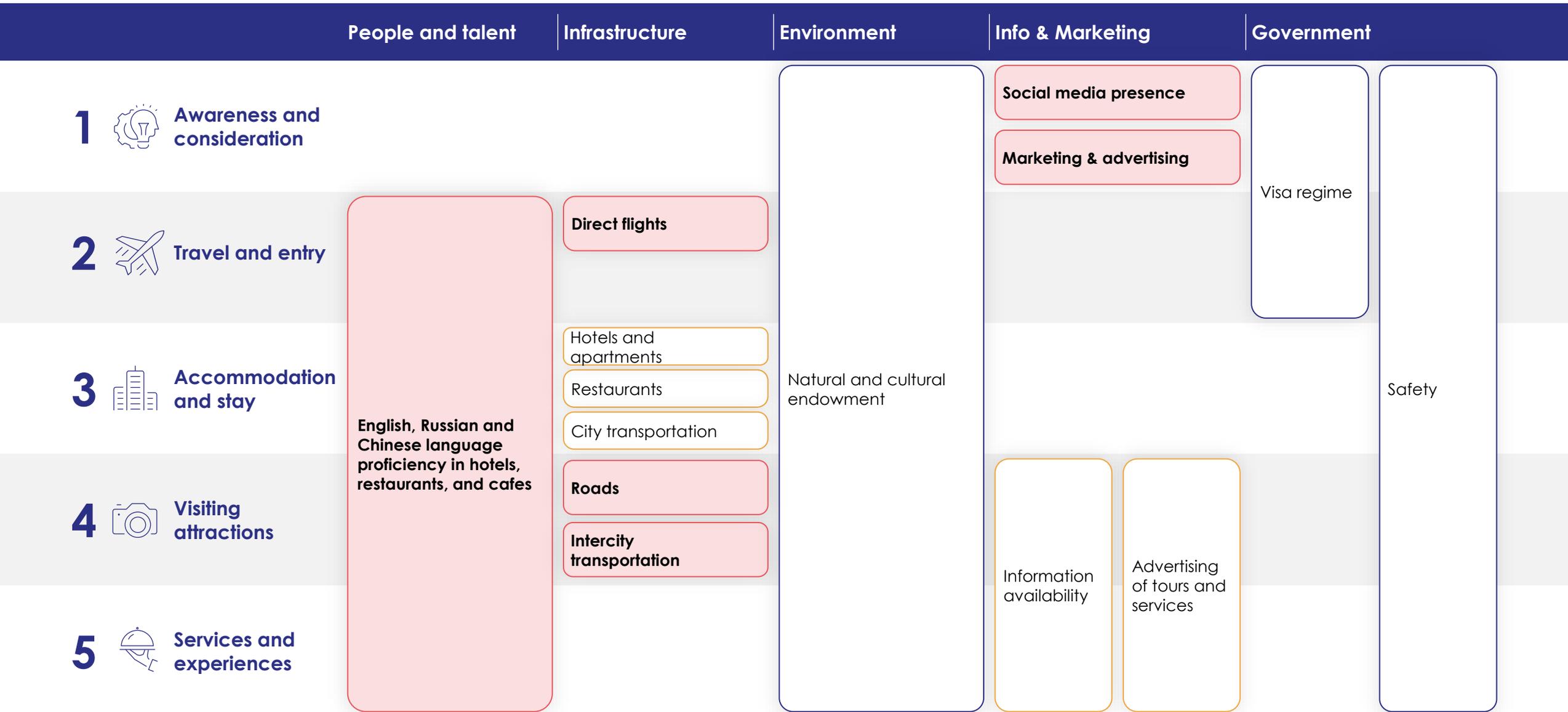
Environment 
Formalize legal environment and expertise sharing communities to support tourism

Info and marketing 
Enhance Armenia's presence in various forms of global media, particularly online, to fuel interest in tourism industry

Government 
Ensure government provides core national services (e.g., visas, safety) to support tourism

E Supporting levers for tourism development in Armenia

Less Critical Most Critical



E Six strategic moves in tourism for Armenia to consider

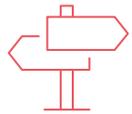
Prioritized initiatives



Become a desirable destination for target tourist geographies and segments (e.g., China, Gulf countries, Russia) through improved access and targeted promotional material (e.g., content in Chinese)



Implement social media strategy that drives global interest in Armenia through compelling visual content shared by travelers (e.g., through Instagram, YouTube)



Create unique adventure experiences by developing and promoting products and services to attract millennial travelers (e.g., paragliding, zip-lining, off-roading)

Sector-specific enablers



Promote religious tourism opportunities for culturally and religiously motivated travelers (e.g., from Russia, Germany, UK and France)



Develop roads and transport infrastructure to promote longer stay and domestic tourism



Promote language proficiency (e.g., English and Chinese) to improve service quality

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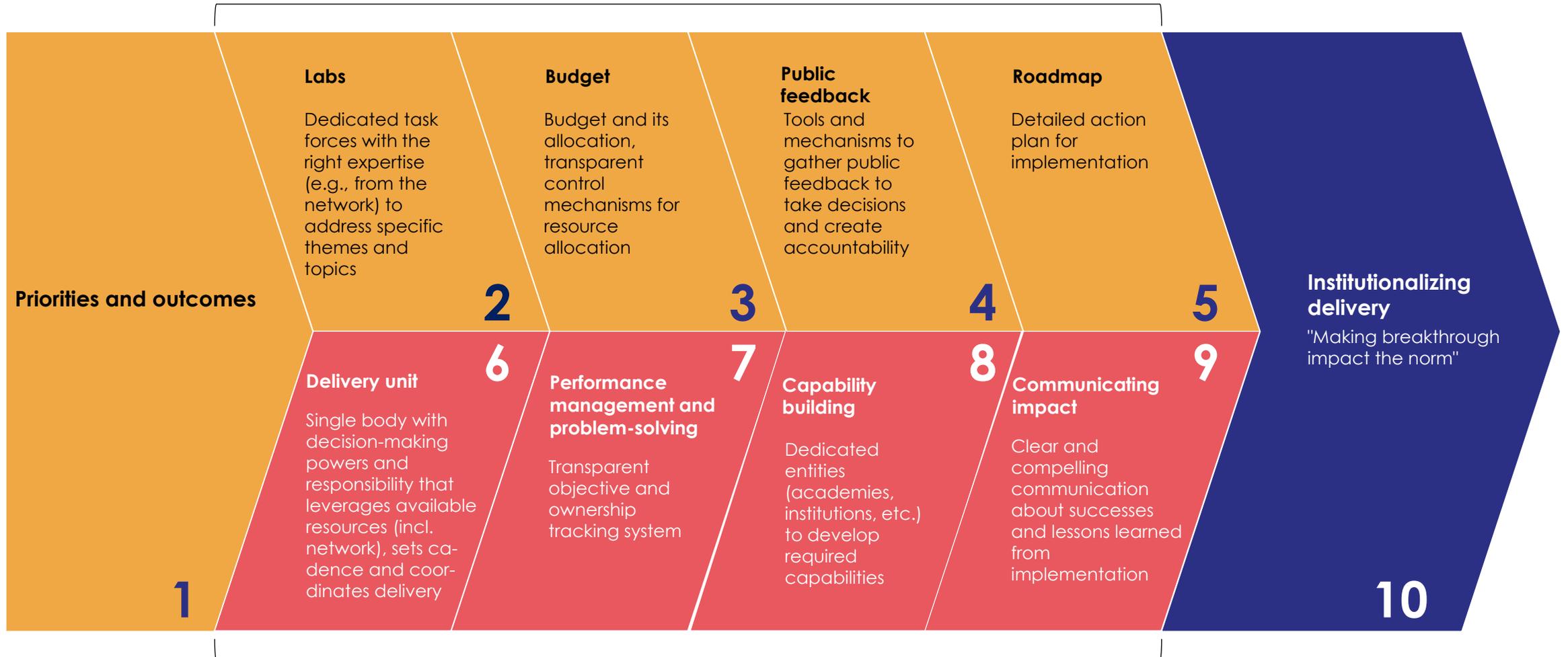
Overview of current situation and approach

Prioritized sectors: Tourism

Implementation roadmap

Ten success factors to be addressed in a country advancement journey

Participatory process for creating detailed action and resource plans owned by stakeholders



Establishing a high performing delivery system that turns plans into results

Armenian diaspora could play a significant role in all phases of the advancement journey

Category	Type	Description	Examples Non-exhaustive
International level 	Protection of interests	1 Establish a robust system that promotes Armenia's interests within international organizations and other countries	
	Scholarships	2 Streamline the development of short-term (1–3 months) and long-term (1–5 years) scholarships and exchange programs for researchers and academics from universities and national institutes with major international institutions	 
	Connectivity	3 Formalize and promote a network of contacts between experienced foreign professionals and Armenian industry through diaspora facilitation	
	International Promotion	4 Create a national agency responsible for attracting talent and strategic know-how, by promoting Armenia internationally and serving as a single point of contact for facilitating immigration	
National level 	Philanthropy	5 Facilitate the creation of a national philanthropic foundation that promotes the development of social causes within Armenia with financial support from abroad	 
	FDI attraction	6 Encourage the creation of Special Economic Zones and Industrial Parks to attract diaspora investors who develop an ecosystem of companies and boost the attraction, retention and training of talent	 
	Diaspora bonds	7 Promote the issue and sale of bonds exclusively to members of the national diaspora	  
	Policy Engagement	8 Assess and promote the development of fair and equitable government policy by allowing members of the diaspora to participate in nation building policy	 
Group / Personal 	Various activities	9 Initiate and/or facilitate the development of local households or specific projects	

Identified initiatives should be implemented through close coordination and collaboration among the government, private sector, diaspora and NGOs

1. Government ■ 2. Private sector ■ 3. IFIs / NGOs ■ 4. Diaspora ■

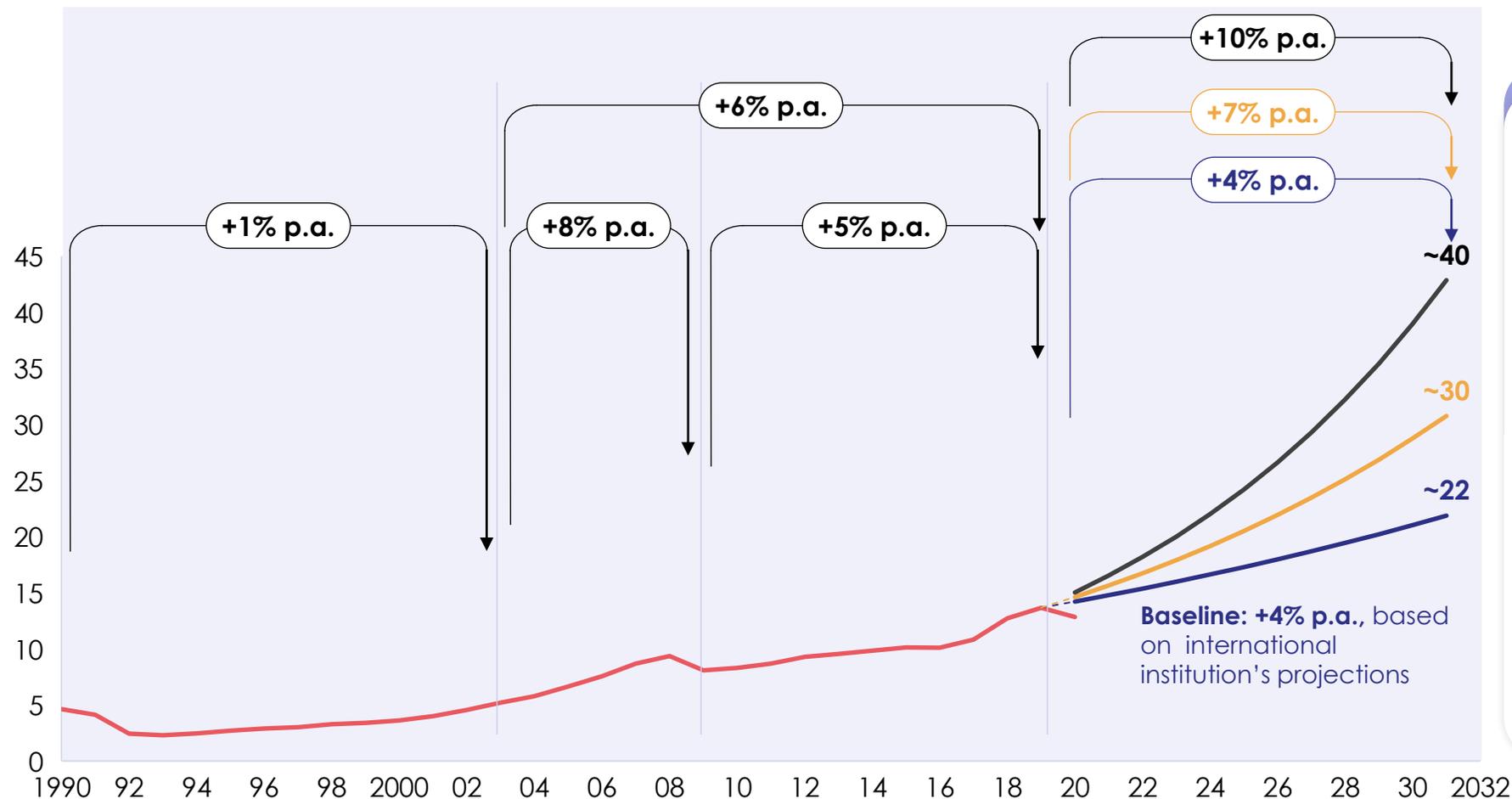
Prioritized sectors	Priority initiatives	Sector-specific enablers
Agriculture	<ul style="list-style-type: none"> Recultivation of fallow land to expand land utilization through consolidation incentives to boost production ■ ■ Focus on production of critical produce (cereal, fodder, pork) to ensure self-sufficiency and food security ■ ■ Expansion of Armenian exports to target countries (Russia, Ukraine, UAE, Saudi Arabia), including fruits, tobacco and wine products ■ ■ 	<ul style="list-style-type: none"> Leverage of advanced seeds and agtech ■ ■ Development of agricultural hubs to educate and aid farmers ■ ■ Development of country-wide drip irrigation systems ■ ■ ■
Education	<ul style="list-style-type: none"> Teacher and school leaders development to improve the quality of education ■ ■ Development of centers of excellence in K-12 for talented students and teachers ■ ■ Matching of education with future labor market needs (incl. STEM) ■ ■ Amplification of early childhood education to guarantee the best start ■ ■ Enhancement of lifelong learning programs to enable up- and reskilling ■ ■ 	<ul style="list-style-type: none"> Development of digital enablers and e-learning to ensure equal access and support sector growth ■ ■ Increase attractiveness of education career by both financial and non-financial levers ■ ■
Healthcare	<ul style="list-style-type: none"> Healthy lifestyle promotion and support to mitigate the main behavioral risks causing NCDs ■ ■ Enhancement of primary care as the first accessible point of contact and effective treatment ■ ■ Revision of incentives and funding models to determine the most effective and efficient healthcare model for Armenia ■ ■ 	<ul style="list-style-type: none"> Development of digital enablers (e-HIMS and telemedicine) ■ ■ Enhancement of talent creation and development ■ ■ Improvement of regulatory framework and standards ■ ■
High-tech	<ul style="list-style-type: none"> Develop Advanced Analytics/Artificial intelligence solutions to leverage existing knowledge capabilities and low infrastructure requirement ■ ■ Shift away from low-cost outsourcing to tailored high-value added services to improve labor productivity and protect the economy from MNC expansion ■ ■ Promote R&D and IoT solutions to meet domestic needs (including agriculture and security) and expand revenue streams ■ ■ 	<ul style="list-style-type: none"> Strong STEM & CS education to nurture world-class talent ■ ■ Attract expats through infrastructure & legislation ■ ■
Tourism	<ul style="list-style-type: none"> Become a desirable destination for Chinese tourists with direct flights and promotional content in Chinese ■ ■ Implement social media strategy to create more interest in Armenia through compelling visual content shared by travelers ■ ■ Create unique adventure experiences to attract millennial travelers ■ Promote religious tourism opportunities for culturally and religiously motivated travelers in Russia, Germany, UK and France ■ 	<ul style="list-style-type: none"> Development of roads & transport infrastructure to promote longer stay and domestic tourism ■ ■ Promotion of language proficiency (English and Chinese) to improve service quality ■ ■

Implementation of the initiatives can be supported by Macro Enablers

Regulation and legislation Establish the legislative agenda with the goals of incentivizing focused activities ■ ■	Standards and agreements Develop international trade deals , ensure high safety standards and adequate licensing by adopting international standards ■ ■	Human capital Gradual improvement of education, healthcare and general living environment to increase human capital quality and quantity ■ ■	Public administration Disseminate reforms and high-productivity mindset in the public sector , including nationwide digitization and anti-corruption activities ■ ■	Infrastructure Develop key types of infrastructure based on sectoral needs (energy, transportation and roads, water, communication) ■ ■	Ease of doing business Facilitate key business processes (e.g. one stop shop) and support SMEs in getting access to capital, talent and markets ■ ■	Investment promotion Provide access to financial resources by attracting FDI and promoting DDI with the help of a dedicated entity ■ ■	Export promotion Cross-cutting measures to promote and develop exports and country branding (e.g. export promotion agency) ■ ■
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Through collective efforts Armenia can leap towards achieving sustainable, high economic growth

Armenia's GDP per capita PPP, constant USD thousands 2017



2031 ASPIRATION:
10% growth p.a.

Through consistent policies, focused implementation of initiatives and close collaboration, **Armenia can become a mid-high income country**

1. Middle income

Source: World Bank; 2020 data is Armenia forecast as of February 2021