

Monterrey, International City of Knowledge Program

1st Phase Progress and Master Plan for the 2nd Phase



Monterrey
Ciudad Internacional del



Conocimiento



TECNOLÓGICO
DE MONTERREY



Monterrey, International City of Knowledge Program (MICK) 1st Phase Progress and Master Plan for the 2nd Phase Index

Chapters:

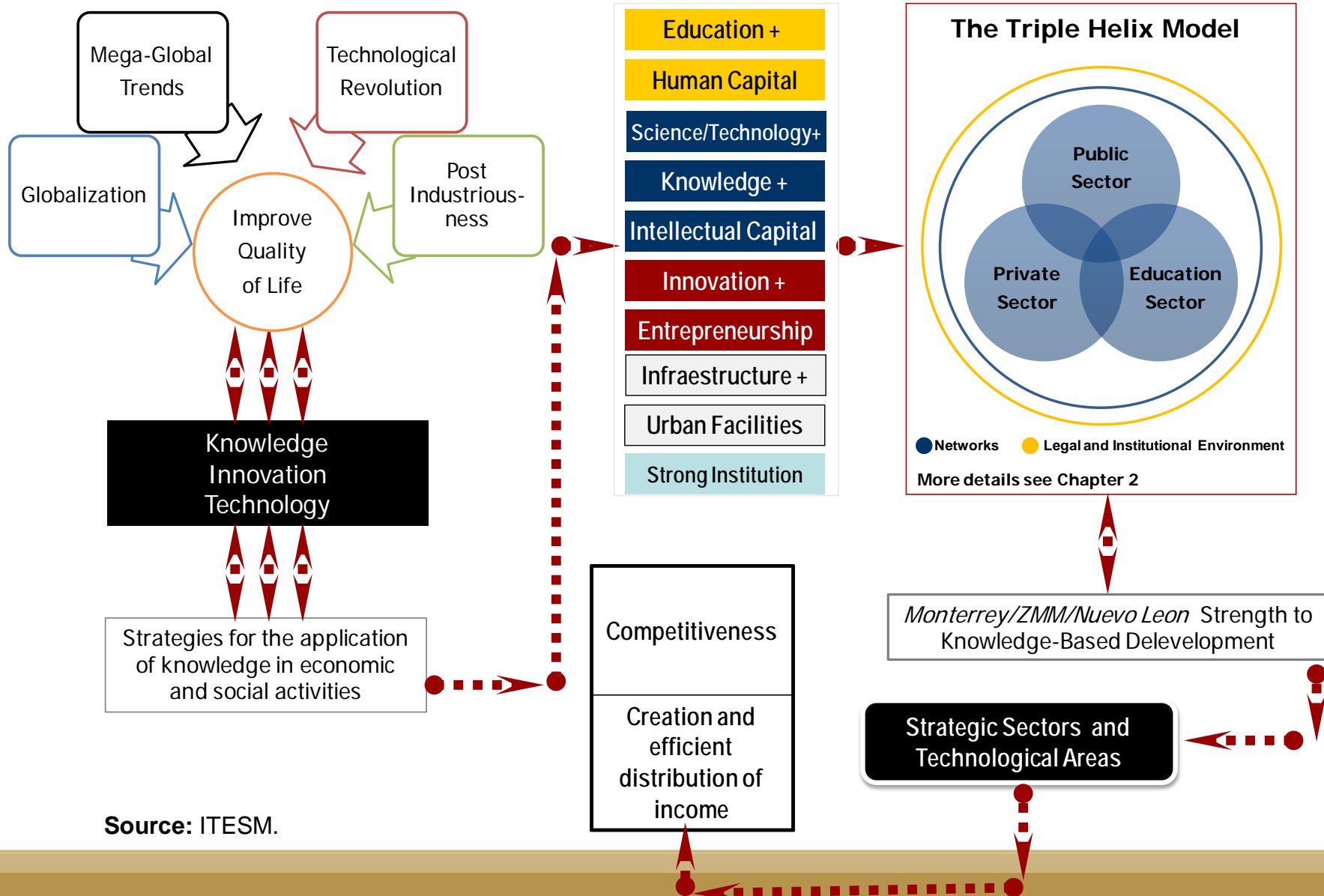
1. **Backgrounds of a Visionary Program.**
2. **Start of the MICK Program.**
3. **First Phase Progress of MICK.**
4. **MIKC: Evolution to the Second Phase.**
 - Strategies, Public Policies, Programs, Projects, Institutions and Resource Investment (Public/Private Budget).
 - Road Map 2025.
 - Indicator and Measuring System (*20 PIKS*).
5. **The MICK Experience in Benefit of the Other Regions/Cities.**
6. **Conclusions and Acknowledgements.**

Annexes (*Complete Versions*):

- I. Progress and challenges of MICK (Leader's opinions).
- II. Proposal and Master Plan for the second phase of MICK.
- III. Road Map and Plan 2009-2025.
- IV. Indicator and Measuring System (20 PIKS).
- V. Success Cases of Knowledge Regions/Cities (Benchmarking).
- VI. Nuevo Leon and Monterrey Diagnosis in the Knowledge Context.
- VII. Regional Innovation Systems.
- VIII. Work Methodology.

Chapter 1: Backgrounds of a Visionary Program

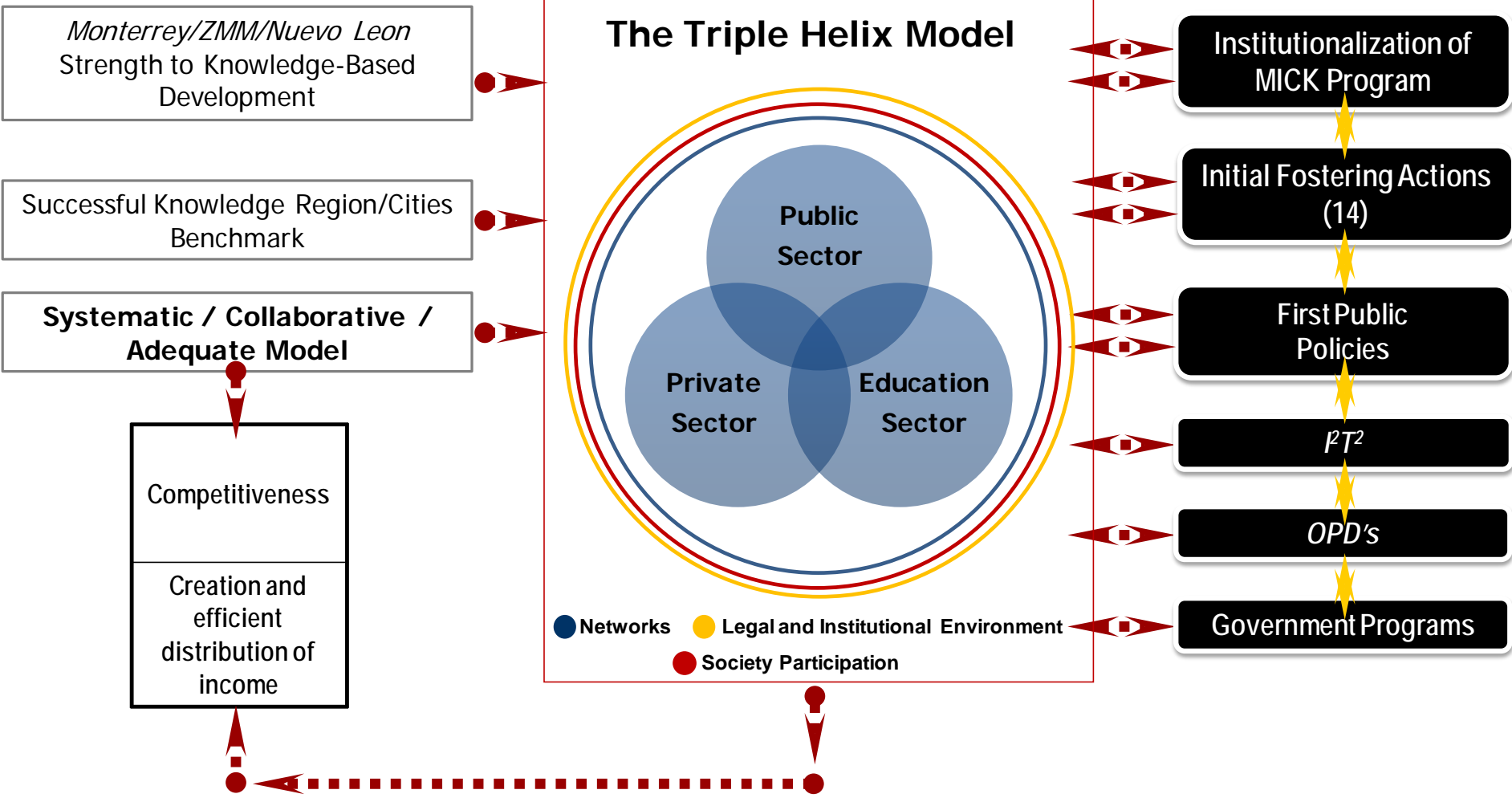
Summary Chart



Source: ITESM.

Chapter 2: Start of the MICK Program.

Summary Chart



Source: ITESM.

Chapter 2: Start of the MICK Program

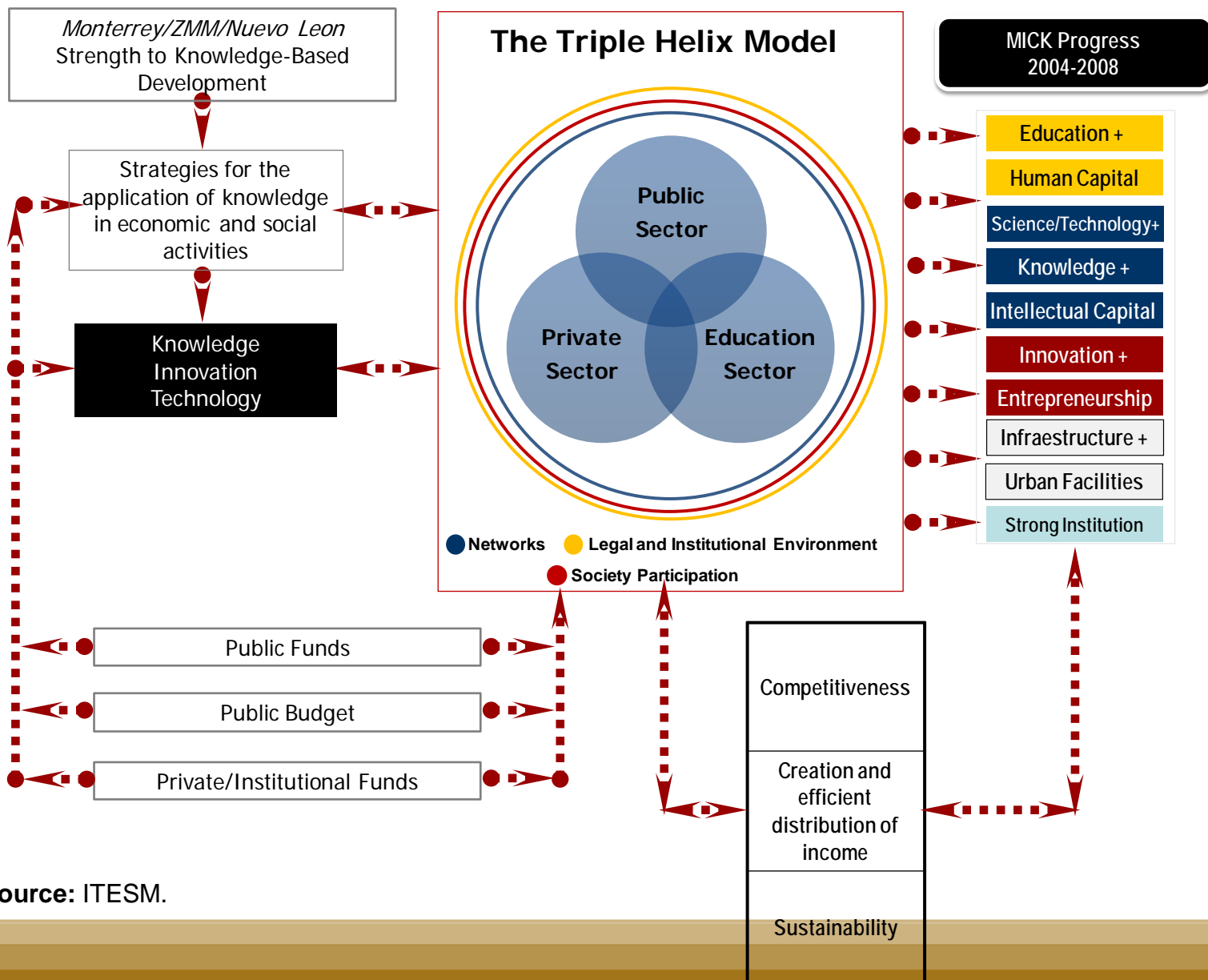
The 14 Initial Fostering Actions

#	Initial Fostering Actions
1	Law for the Fostering of Knowledge-Based Development
2	Institutionalization of the Triple Helix Model
3	Creation of P^2T^2 and <i>COCyTE</i>
4	Strengthening of public budget for Science and Technology
5	Increase of (public/private) expenditure in R+D+i (% NL GDP)
6	Definition of the 5 strategic technological areas
7	Support of the New Business Incubator network
8	Creation of Technological Research and Development Centers
9	Research and Innovation Technological Park (<i>PIIT Monterrey</i>)
10	Fostering of foreign investment in the areas of technology and innovation
11	Collaboration within competition (<i>Coopetencia</i>)
12	Seed Capital and Risk-Venture Capital funds
13	Fostering of Intellectual Property
14	Fostering of education at all levels

Source: ITESM and *Nuevo Leon* State Government.

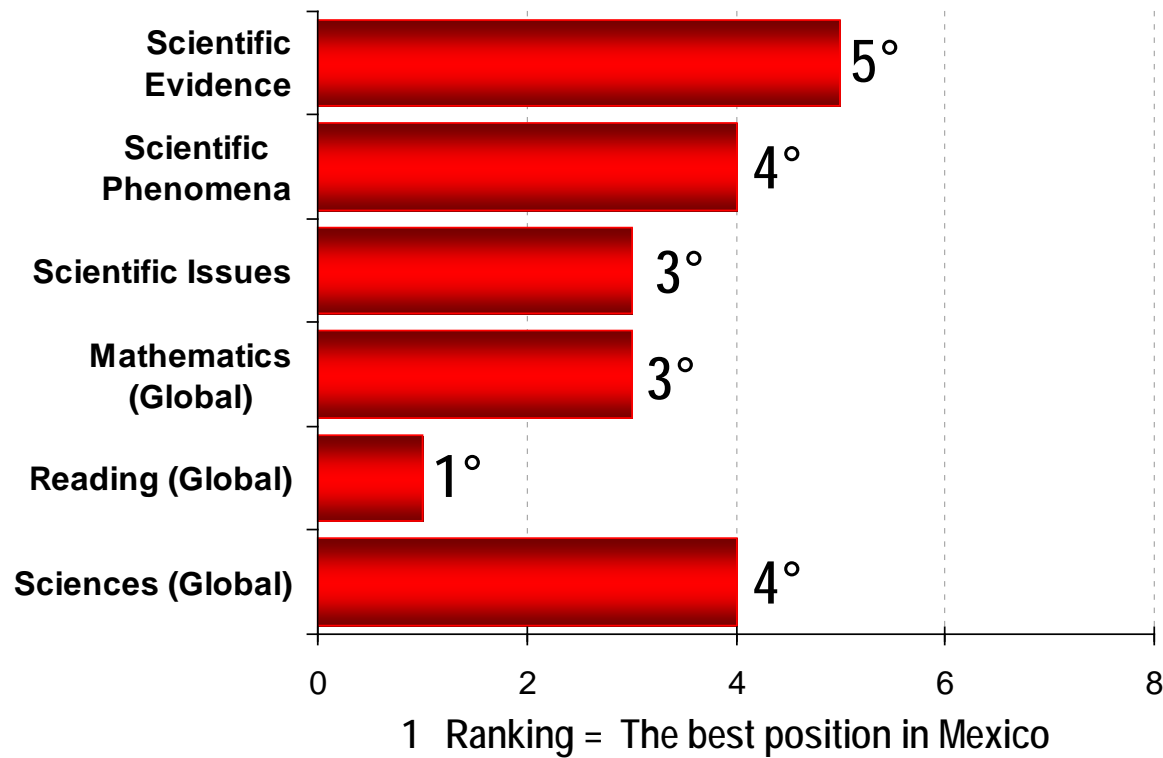
Chapter 3: First Phase Progress of MICK

Summary Chart



Source: ITESM.

Education and Development of Human Capital
Educational System in *Nuevo Leon*
PISA 2006 Results
National Ranking



Source: ITESM and INEE.

Education and Development of Human Capital

- INNOVEC Program. Operates in 11 municipalities of *Nuevo Leon* state with the participation of 16,328 students (2008).
- Science in the Family Program.
- Institute for High Studies and Innovation in Education.
- Strengthening of State Technological Universities.
- Document: Demand for professionals and technicians in *Nuevo Leon*. Trends and perspectives.
- Institute for Educational Credit in *Nuevo Leon*.
- World Interactive Network (Competition certification).
- Institute for the Development of Talent in *Nuevo Leon*.
- Messages and contents related to Knowledge Societies on NL Radio and NL TV.
- Review and update of study programs offered by local Universities.

Source: ITESM and *Nuevo Leon* State Government.

Science and Technology/Knowledge/Intellectual Capital

- Creation of 37 R+D+i Centers at PIIT and strengthening of those that already exist at public and private Universities in *Nuevo Leon*.
- Increase of public (federal / state) and private R+D+i expenditure. It will represent 1% of *Nuevo Leon* GDP in the next years.
- Increase of *Nuevo Leon* Government and CONACYT resources in the Mixed Science and Technology Funds (*Fondos Mixtos*).
- Granting of seed capital funds for projects and businesses based on science and innovation.
- Institutions that foster knowledge (Coordination of Science and Technology, and the Science and Technology Council).
- Universal Forum of Cultures 2007.
- Global Knowledge-Based Development Week.
- *BioMonterrey*. International Biotechnology Congress.
- Strengthening of the Information Technology sector through the *PROSOFT* program.

Source: ITESM and *Nuevo Leon* State Government.

Culture of Innovation and Entrepreneurship

- Research and Innovation Technological Park (*PIIT Monterrey*) with a public and private investment around of \$2,000 million of pesos.
- Constitution and start-up of Strategic Knowledge Clusters: Aerospace; Automotive and Auto-Parts; Domestic Appliance; Agro-Business; ITC and Software; Health Sciences, Biotechnology and Nanotechnology.
- Regional Competitiveness and Innovation Program.
- INVITE Program (Regional Technology Commercialization Program).
- Business Incubators and Accelerators installed and operating in Nuevo León (13).
- Diverse Technology Parks fostered by Universities to attract private investment and consolidate businesses based on technology and innovation.
- Project for the creation of the Monterrey Fund, promoting private investment in risk capital for innovative, high-technology companies.

Source: ITESM and *Nuevo Leon* State Government.

Infraestructure and Urban Facilities

- Aerotechnopolis: Project in the airport area of MMZ (Monterrey Metropolitan Zone).
- Update of the Metropolitan Plan for Urban Development: Considering the Urban Polygons.
- *Regia Metropoli* Program.
- Urban Integration: *Macro Plaza-Santa Lucia-Parque Fundidora*
- Sectorial Program for Transportation and Road Systems in MMZ with an approach of sustainability.
- Metropolitan Road Ring and Radial Road System.
- Ecological Road Arch infrastructure of the Southeast.
- Modern infrastructure and fast-track border-crossing lanes.
- Monterrey Interport.
- *Nuevo Leon Digital* (NL Digital), free wireless network.

Source: ITESM and *Nuevo Leon* State Government.

Institutions, Articulation of the Process

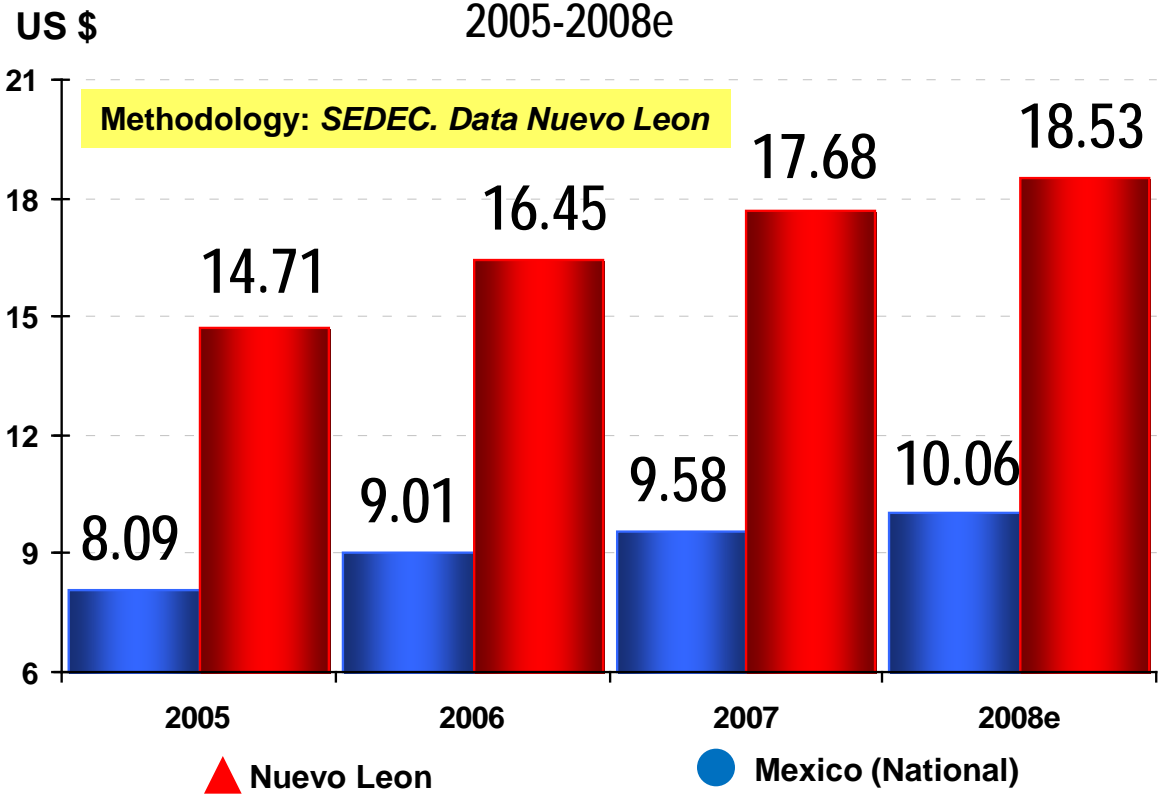
- Innovation and Technology Transfer Institute.
- Strategic Project Corporation.
- Labor Relations and Productivity Council.
- Institute for Work Training and Education.
- State Consultation Council for Citizen Participation in Education.
- Urban Development Agency of *Nuevo Leon*.
- Agency for the Rationalization and Modernization of the Public Transportation System.
- Social Development Council.
- Citizen Participation Coordination in *Nuevo Leon*.
- Agency for the Protection of the Environment and Natural Resources
- Parks and Wildlife in *Nuevo Leon*.
- Corporation for Tourism Development in *Nuevo Leon*.
- Corporation for the Development of Agriculture and Livestock in *Nuevo Leon*.
- Corporation for Development of the Border Zone of *Nuevo Leon*.

Source: ITESM and *Nuevo Leon* State Government.

Chapter 3: First Phase Progress of MICK

Main Achievements and Impacts

Local Income Per Capita (*Nuevo Leon*)
National vs *Nuevo Leon*
Thousand US Dollars
2005-2008e

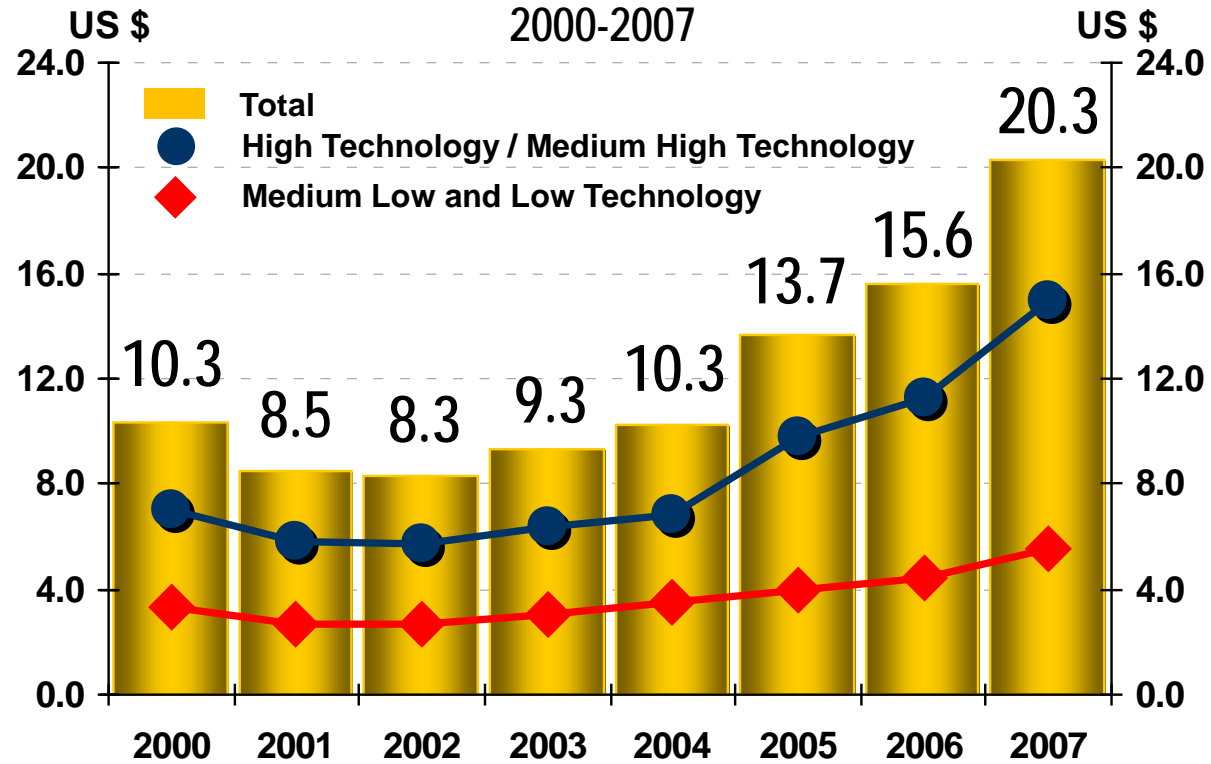


e) Estimated
Source: ITESM and *Nuevo Leon* State Government.

Chapter 3: First Phase Progress of MICK

Main Achievements and Impacts

Total Exports of *Nuevo Leon* Knowledge Sectors Billion US Dollars 2000-2007

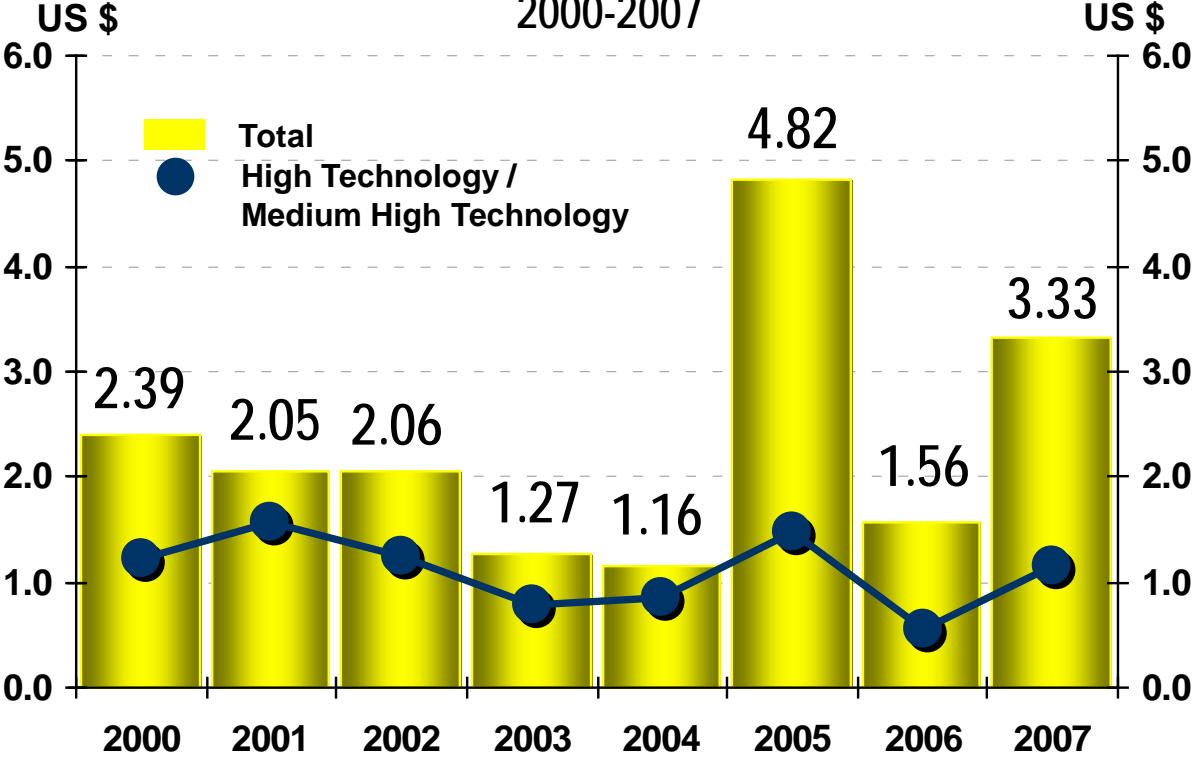


Source: ITESM and *Nuevo Leon* State Government.
Knowledge Sector classified by Organization for Economic Cooperation and Development (OECD) 2004 .

Chapter 3: First Phase Progress of MICK

Main Achievements and Impacts

Foreign Direct Investment Flows in *Nuevo Leon* Knowledge Sectors Billion US Dollars 2000-2007



Source: ITESM and Ministry of Economic.
Knowledge Sector classified by Organization for Economic Cooperation and Development (OECD) 2004 .

Chapter 3: First Phase Progress of MICK

Main Achievements and Impacts

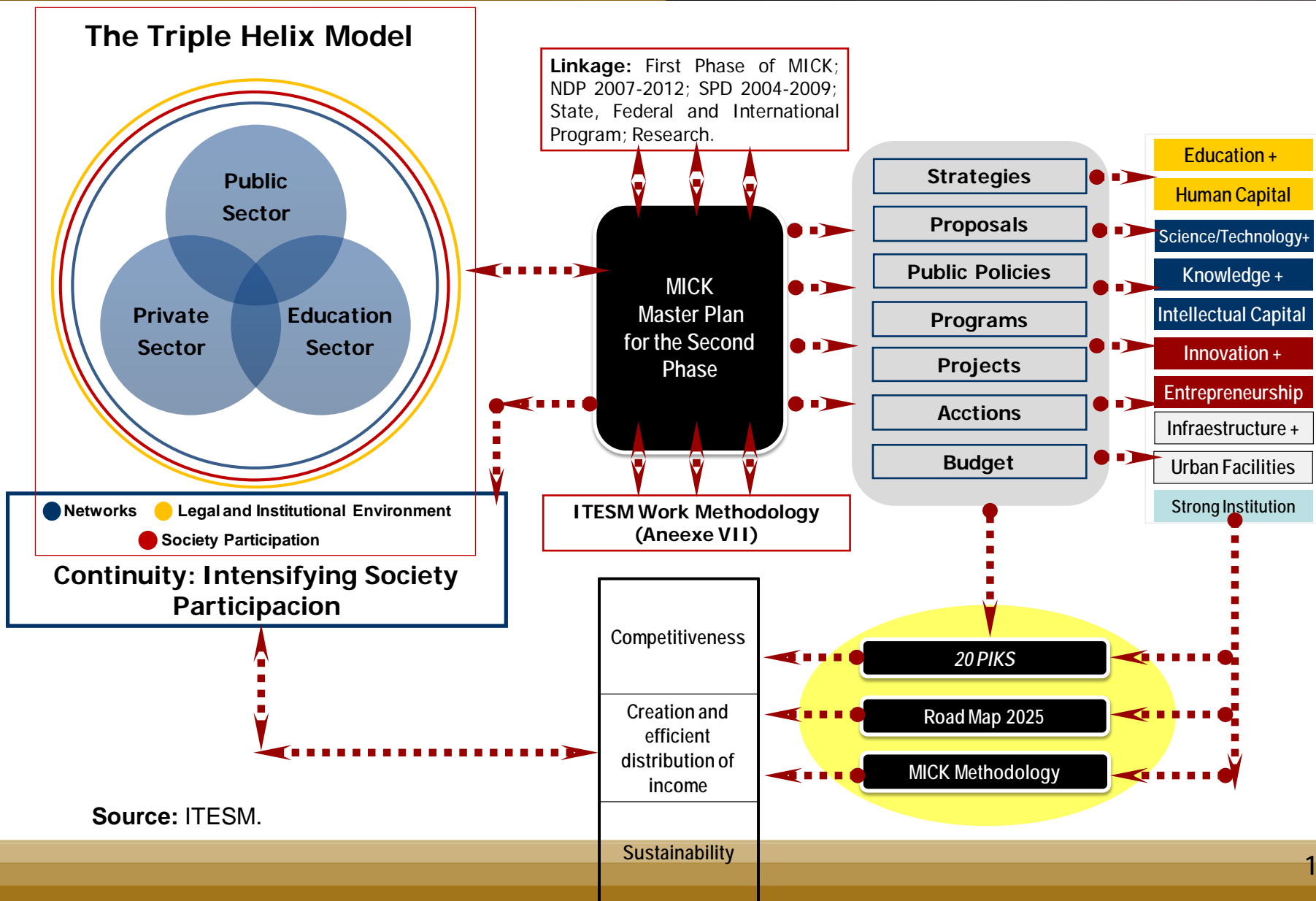
National Competitiveness Ranking Competitiveness in *Nuevo Leon* 2006-2008

Competitiveness Factor	Ranking 2006	Ranking 2008	Change	Position Change
Global	2°	2°	--	--
<i>Legal System</i>	1°	1°	--	--
<i>Environment</i>	2°	2°	--	--
<i>Educated Society</i>	2°	3°	▼	-1
<i>Steady Economy</i>	7°	11°	▼	-4
<i>Political System</i>	11°	11°	--	--
<i>Factor Markets</i>	15°	13°	▲	+2
<i>Leader Economic Sectors</i>	2°	2°	--	--
<i>Efficient Government</i>	6°	1°	▲	+5
<i>International Affairs</i>	4°	5°	▼	-1
<i>Economic Sectors</i>	2°	2°	--	--

Source: IMCO.

Chapter 4: MICK, Evolution to the Second Phase

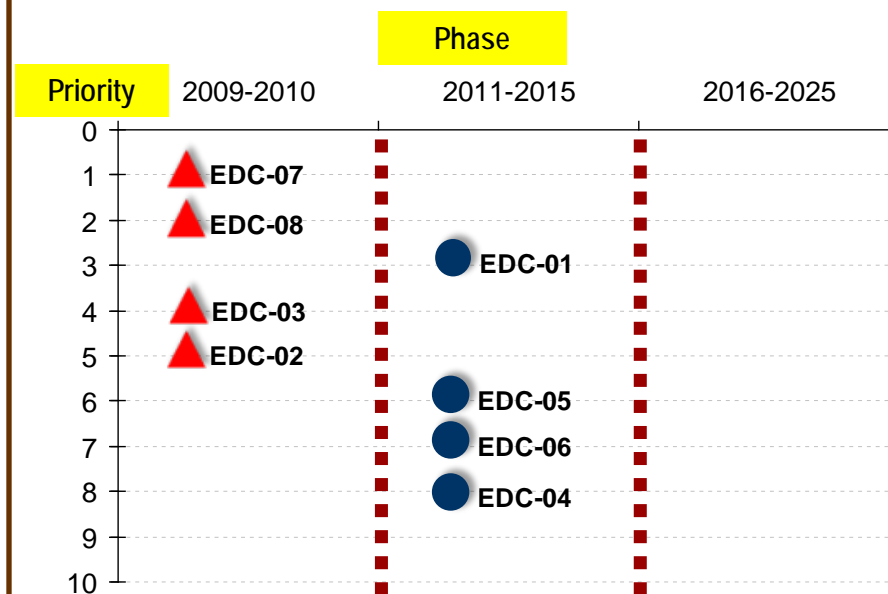
Summary Chart



Education and Development Human Capital

- **Project:** Education ecosystem for knowledge societies (*EDC-01*).
- **Project:** Educational media content workshops related to MICK (*EDC-02*).
- **Program:** Math that is easy for everybody (*EDC-03*).
- **Program:** Programming and playing (*EDC-04*).
- **Integrated Program:** Communication for knowledge (*EDC-05*).
- **Integrated Program:** Quality education for knowledge societies (*EDC-06*).
- **State Program:** Career advising and the relevance of education (*EDC-07*).
- **Program:** Development of capabilities and work competence and abilities (*EDC-08*).

Education and Development of Human Capital Master Plan Proposals for 2nd Phase of MICK Road Map 2025

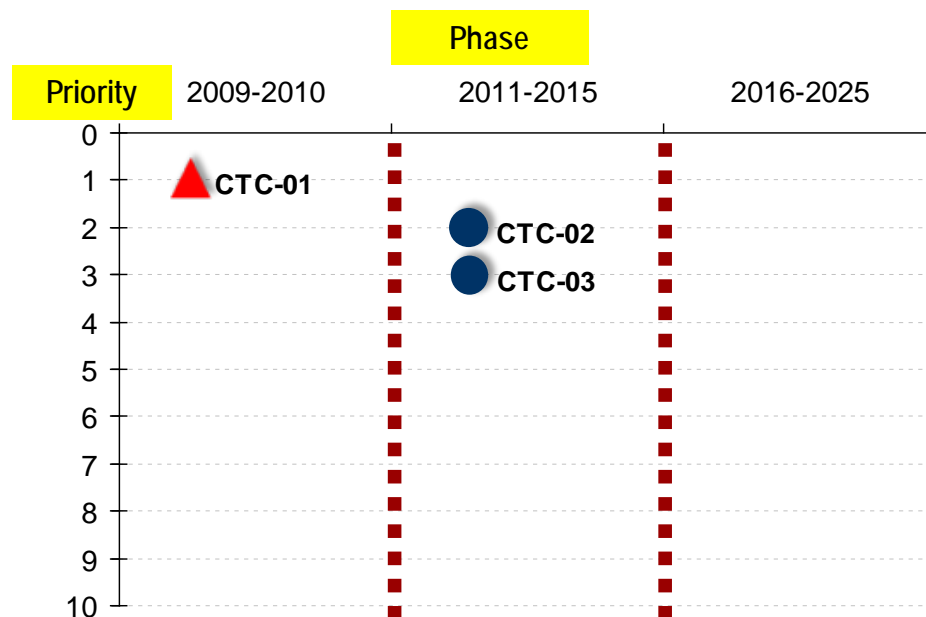


Source: ITESM.

Science and Technology/Knowledge/Intellectual Capital

- **Program:** Nuevo León, a magnet for talents (*CTC-01*).
- **Project:** Center for the promotion and commercialization of technology (*CTC-02*).
- **Project:** Two large annual scientific and technological events (*CTC-03*).
- **Annex:** Technological research and development opportunities and their links to technological areas and sectors (*A-CTC-01*).

Science and Technology/Knowledge/Intellectual Capital Master Plan Proposals for 2nd Phase of MICK Road Map 2025

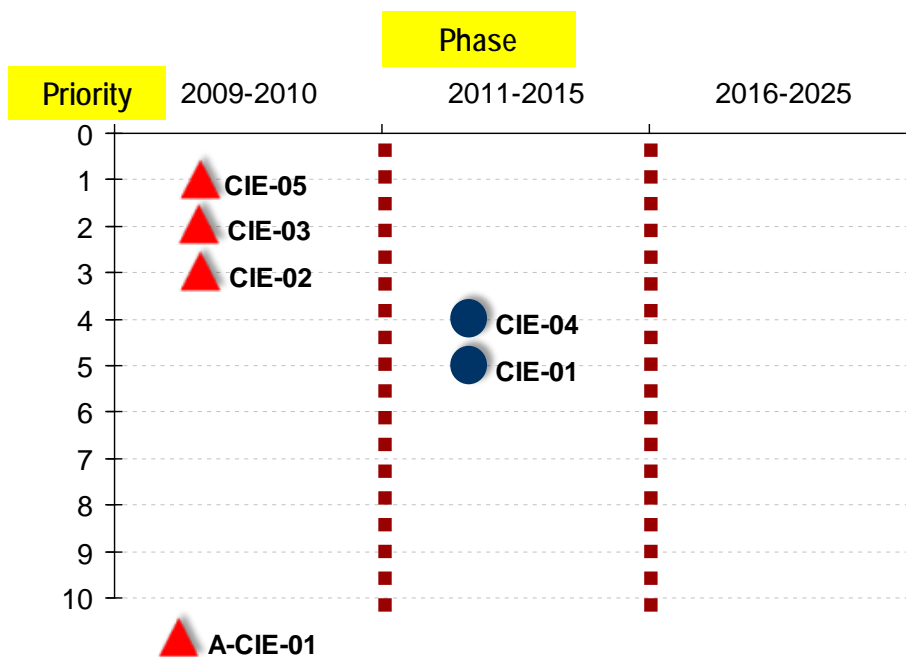


Source: ITESM.

Culture of Innovation and Entrepreneurship

- **Program:** Education for innovation and entrepreneurship (*CIE-01*).
- **Program:** Intellectual ownership for knowledge-based development (*CIE-02*).
- **Program:** Technological businesses, finding opportunities (*CIE-03*).
- **Program:** Capital for innovating companies (*CIE-04*).
- **Program:** Collaboration for competition: *Coopetencia* (*CIE-05*).
- **Annex:** Recommendations for the strengthening of the current Law for the fostering of knowledge-based development (*A-CIE-01*).

Culture of Innovation and Entrepreneurship Master Plan Proposals for 2nd Phase of MICK Road Map 2025



Source: ITESM.

Program: Technology-based businesses, finding opportunities

Objective: Foster an ecosystem supporting entrepreneurs and businessmen in *Nuevo Leon*, granting them **better tools for the identification and assessment of business opportunities with higher technological content and innovation level.**

Main Components:

- Promote more **seminars, diploma courses and events.**
- Promote the participation of state entrepreneurs and businessmen at **international events.**
- Permanently **monitor** the identification of **strategic sectors with high value added, and their technological niches.**
- Implement an **Observatory of Technology and Market Opportunities.**
- Promote the creation of **more Angel Investor Clubs.**
- Create a **Center for the Assessment and Valuation of Technology-based Businesses and Intangible Assets.**

Program: Capital for innovative businesses

Objective: To foster economic growth in *Nuevo Leon*, gradually channeling it toward the creation and expansion of businesses in sectors with higher value added, innovation and technology content. The program is to be **implemented through a mixture of tools allowing for a larger participation of private investors, (initially) supported by government contributions granting both seed and risk capital.**

Main Components:

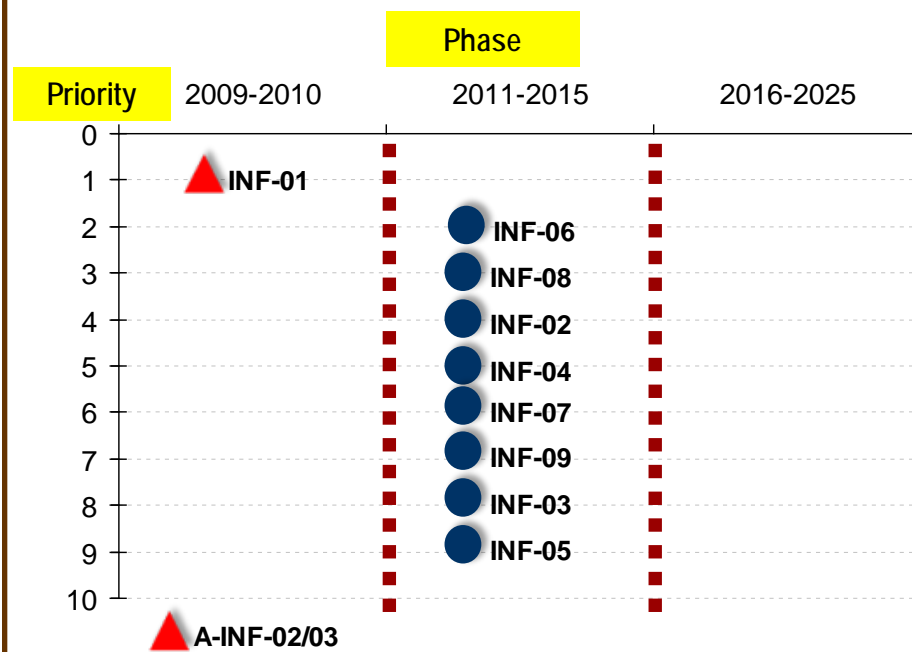
- **Increase efforts aimed at the fostering and strengthening of incubators and accelerators for high value-added and innovative businesses.**
- **Create a fund (operated by SEDEC and I²T²) that, according to best international practices, shall work as a fund of funds, performing only second-floor operations depending on the demand of investment projects that may as well be financed by angel investor clubs and specialized risk capital funds.**
- **The fund shall have a minimum initial government contribution of \$250 million pesos.**
- **Enable the federal government to consider the implementation of a tax incentive for profits generated by Angel Investor Clubs that invest in businesses and projects in their first phases of operation.**

Infraestructure and Urban Facilities

- **Institutional reform:** For the improvement of metropolitan development (*INF-01*).
- **Program:** Sustainable mobility (*INF-02*).
- **Program and project proposal:** New urban coexistence (*INF-03*).
- **Program and project proposal:** A sustainable and healthy city (*INF-04*).
- **Program and project proposal:** Urban identity and image (*INF-05*).
- **Program and project proposal:** Regional and urban facilities and infrastructure for MICK (*INF-06*).
- **Infrastructure:** High-performance computing center (*INF-07*).

Continue ...

Infraestructure and Urban Facilities
Master Plan Proposals for 2nd Phase of MICK
Road Map 2025



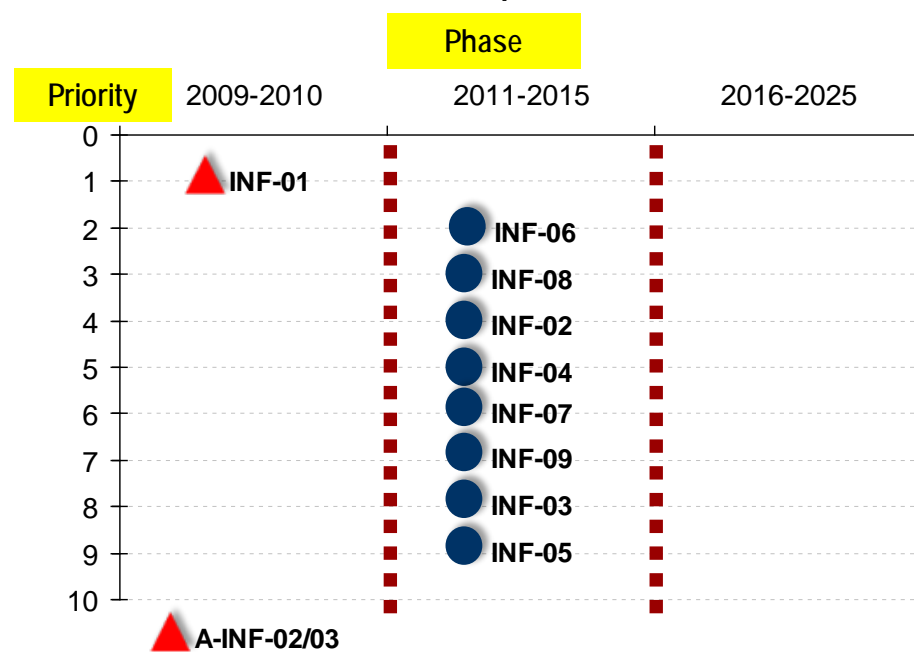
Source: ITESM.

Infraestructure and Urban Facilities

Follow ...

- **Program:** Computer and Internet for everybody (*INF-08*).
- **Project:** Construction of shopping and cultural centers (*INF-09*).
- **Annex:** Fostering of the construction of more theme parks and recreational parks in MMZ (*A-INF-01*).
- **Annex:** Project proposal to be fostered in the second phase of the *Paseo Santa Lucia* Project (*A-INF-02*).
- **Annex:** Legal opinion on public policy proposals and on the initiative for the amendments of the Urban Development Law of *Nuevo Leon* state (*A-INF-03*).

Infraestructure and Urban Facilities
Master Plan Proposals for 2nd Phase of MICK
Road Map 2025



Source: ITESM.

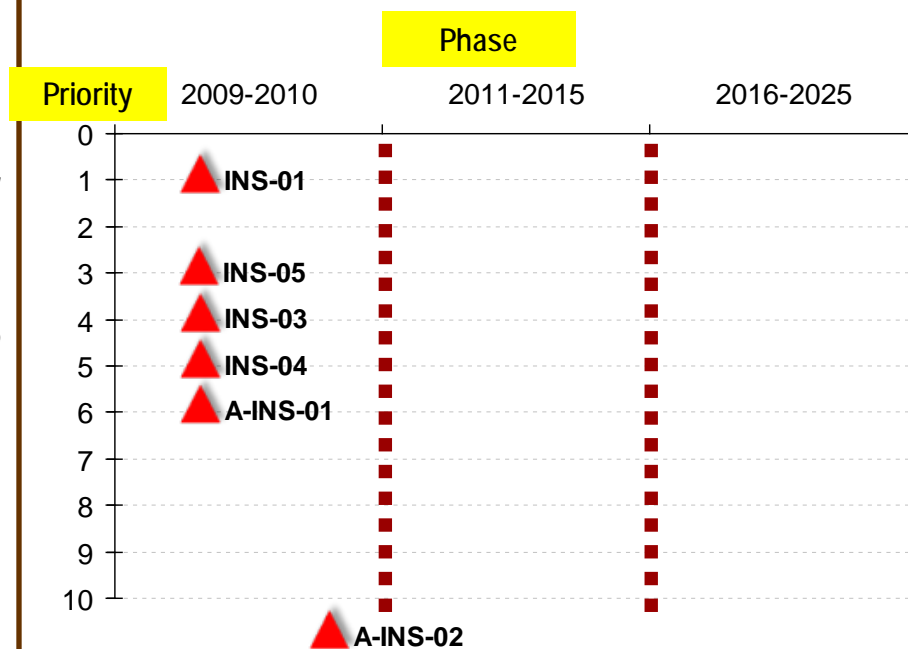
Chapter 4: MICK, Evolution to the Second Phase

Master Plan Proposals and Road Map 2025

Strong Institution

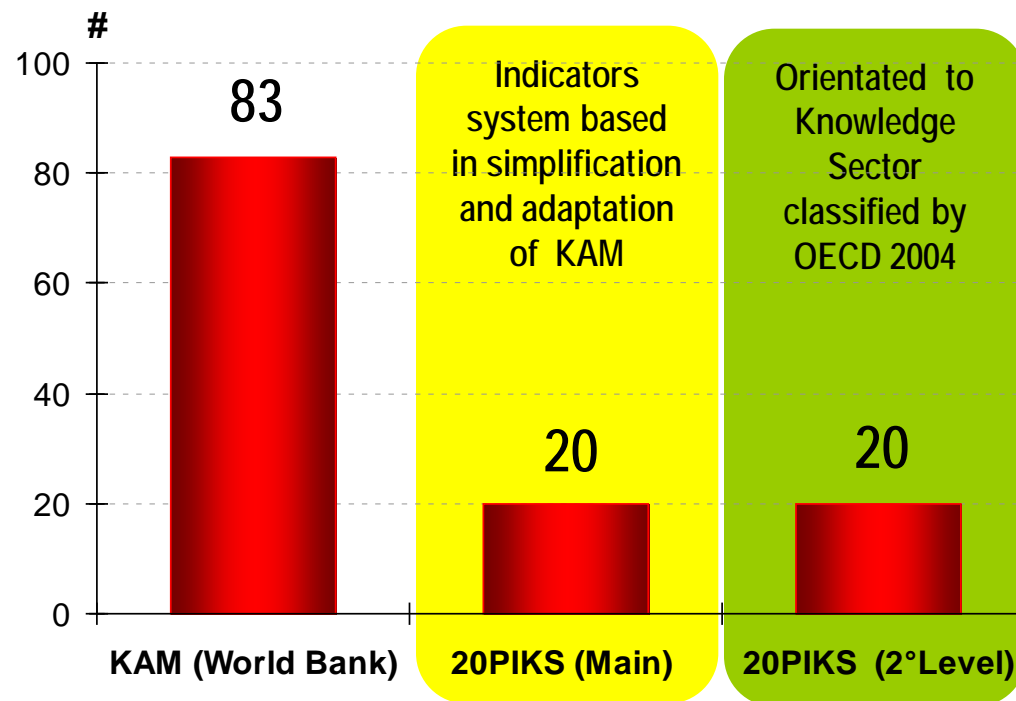
- **Program:** Creation of the Integrated Information and Intelligence System of *Nuevo Leon* (*Si³NL*) (*INS-01*).
- **Project:** Creation of the Integrated Financing System of *Nuevo Leon* (*INS-02*).
- **Project:** Accelerating the creation of the Educational Credit / Scholarship Institute (*INS-03*).
- **Project:** Fostering the creation of the Agency for the efficient use of energy in *Nuevo Leon* (*INS-04*).
- **Project:** Integrated budget establishment for the fostering of MICK (*INS-05*).
- **Annex:** Strengthening of addiction prevention and control programs (*A-INS-01*).
- **Annex:** Federal proposals to be fostered for MICK and for other cities or regions that wish to achieve development based on knowledge (*A-INS-02*).

Strong Institutions Master Plan Proposals for 2nd Phase of MICK Road Map 2025



Source: ITESM.

20 Prime Indicators for Knowledge Societies Indicators and Methodologies Comparative



Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

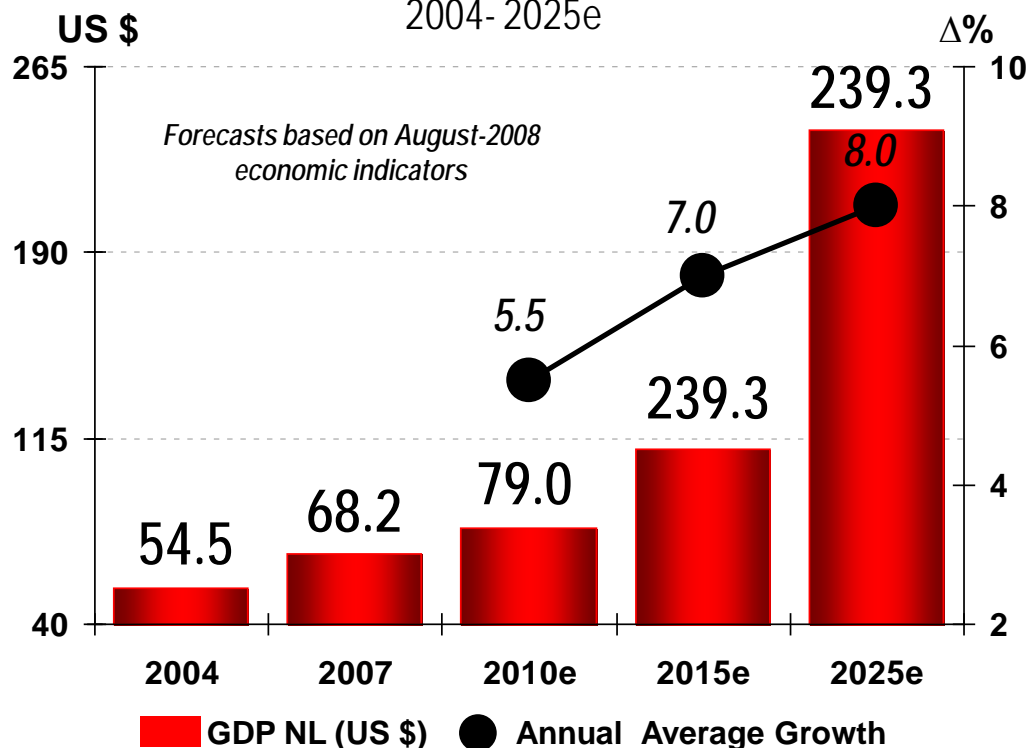
20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies Gross Domestic Product of Nuevo Leon

Forecast / Trends

Billion US Dollars

2004- 2025e



e) Data estimated to the end of the period.

Exchange Rate Peso-US Dollar \$10.64 (August, 2008).

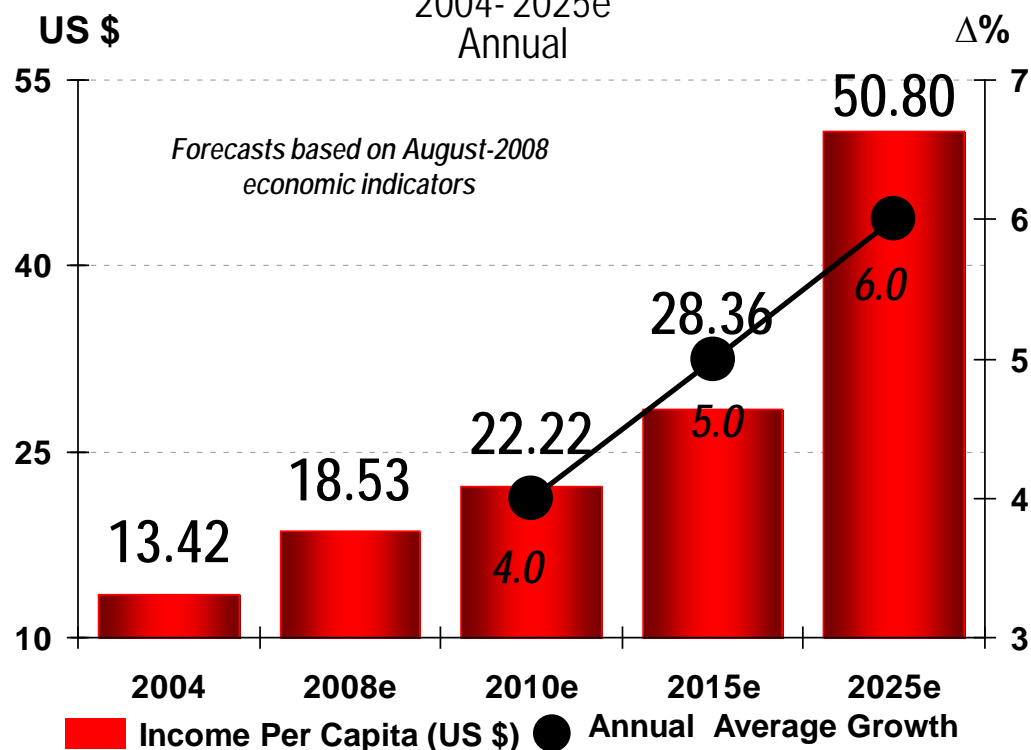
Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies Local Income Per Capita (Nuevo Leon)

Forecast / Trends
Thousand US Dollars
2004- 2025e
Annual



e) Data estimated to the end of the period.

Exchange Rate Peso-US Dollar \$10.64 (August, 2008).

Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

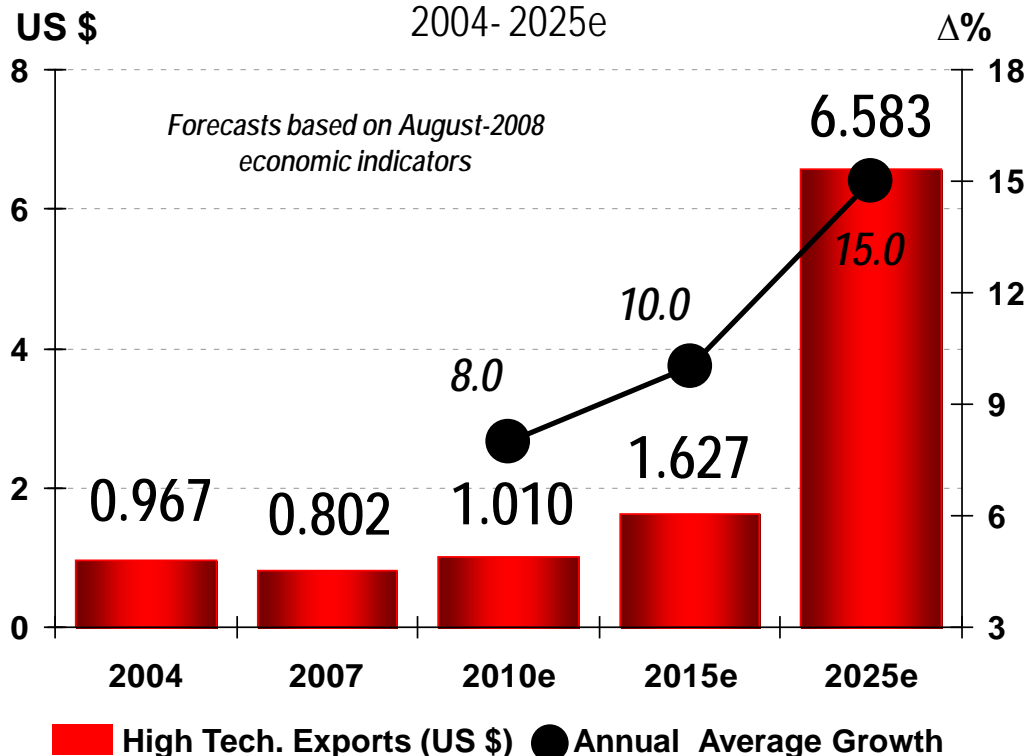
20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies High Technology Exports of Nuevo Leon

Forecast / Trends

Billion US Dollars

2004- 2025e



e) Data estimated to the end of the period.

Exchange Rate Peso-US Dollar \$10.64 (August, 2008).

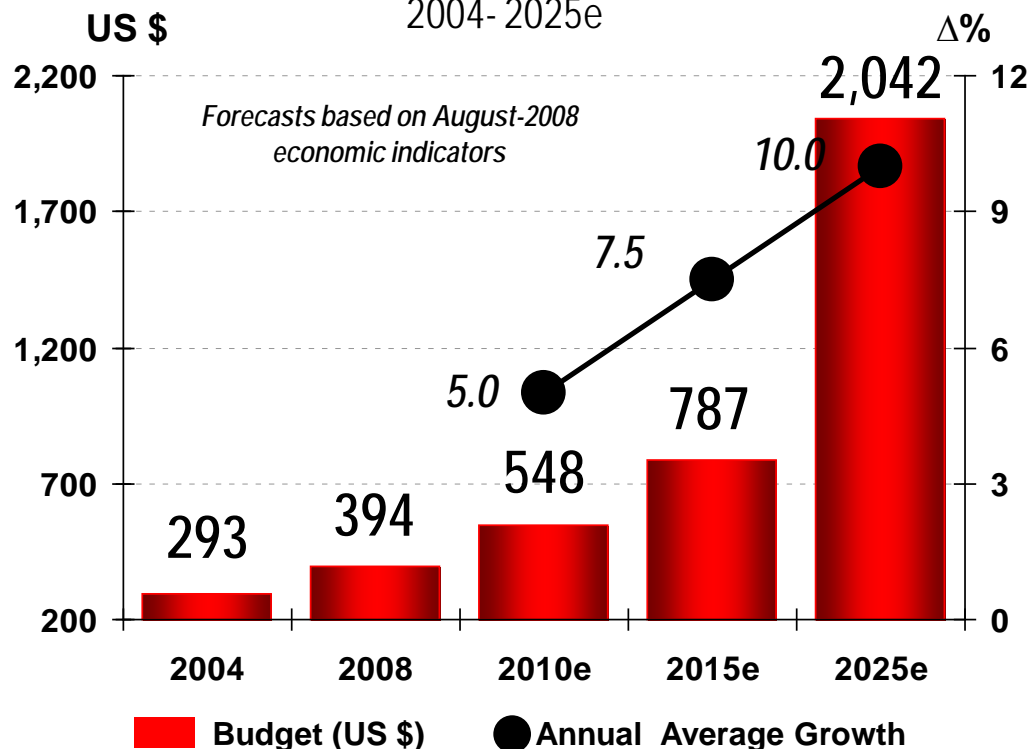
Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies Public Budget for MICK

Forecast / Trends
Million US Dollars
2004- 2025e



e) Data estimated to the end of the period.

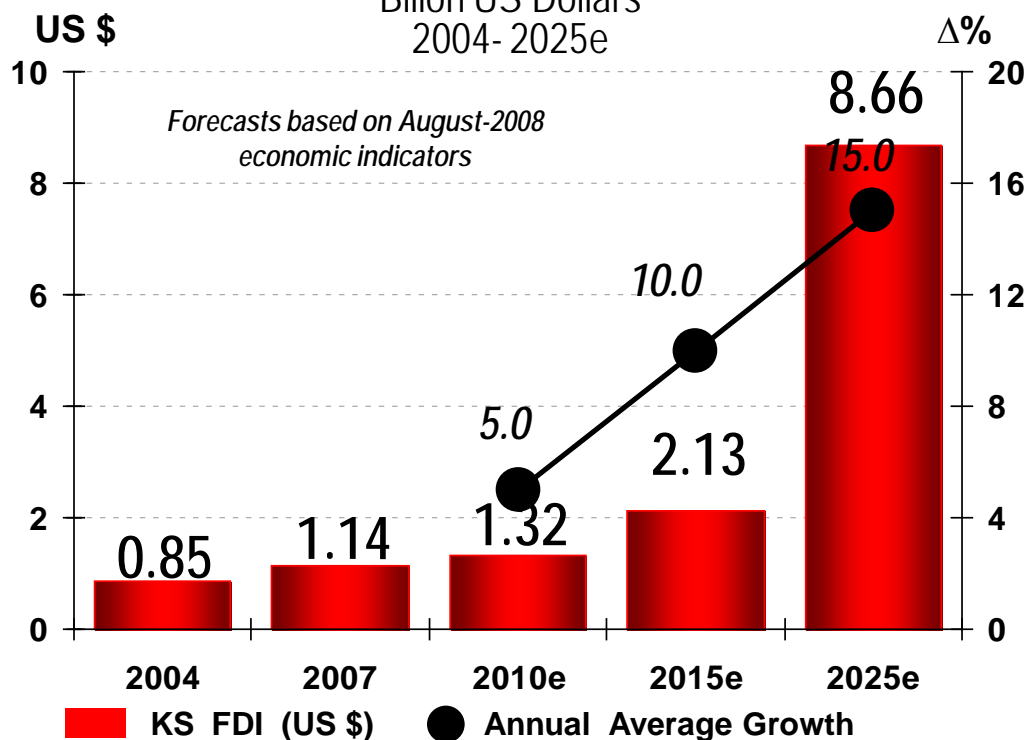
Exchange Rate Peso-US Dollar \$10.64 (August, 2008).

Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies FDI Flows in Nuevo Leon Knowledge Sectors (KS) Forecast / Trends Billion US Dollars 2004- 2025e



e) Data estimated to the end of the period.

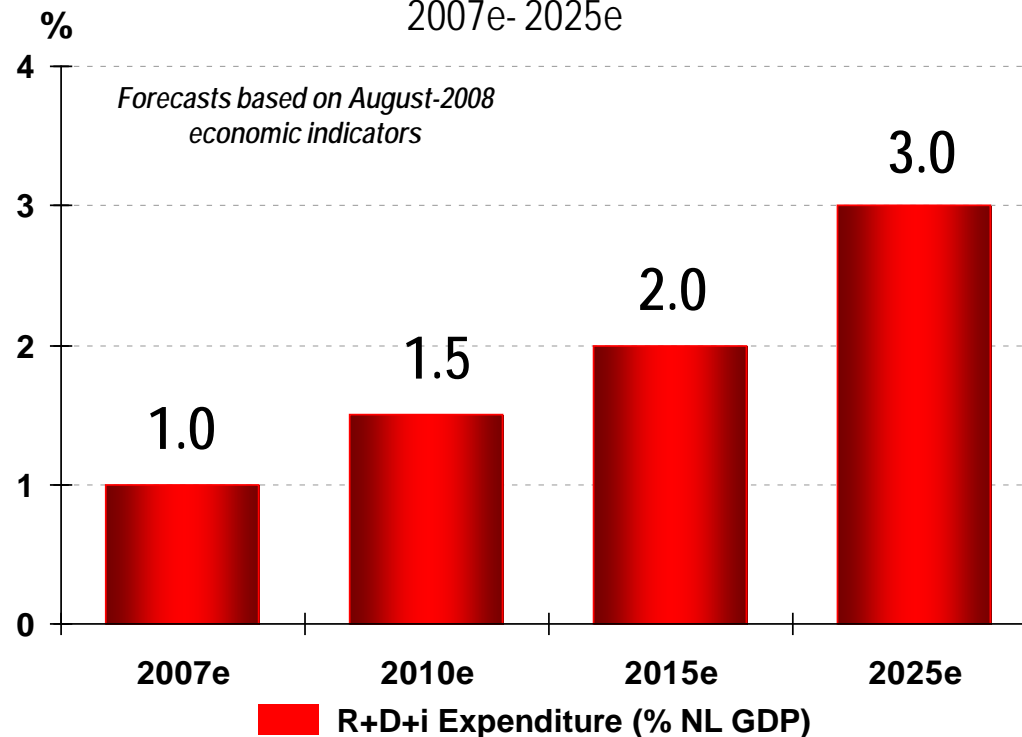
Exchange Rate Peso-US Dollar \$10.64 (August, 2008).

Source: ITESM.

Chapter 4: MICK, Evolution to the Second Phase

20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies R+D+i Expenditure in *Nuevo Leon* Percentage of NL GDP Forecast / Trends 2007e- 2025e



e) Data estimated to the end of the period.

Source: ITESM.

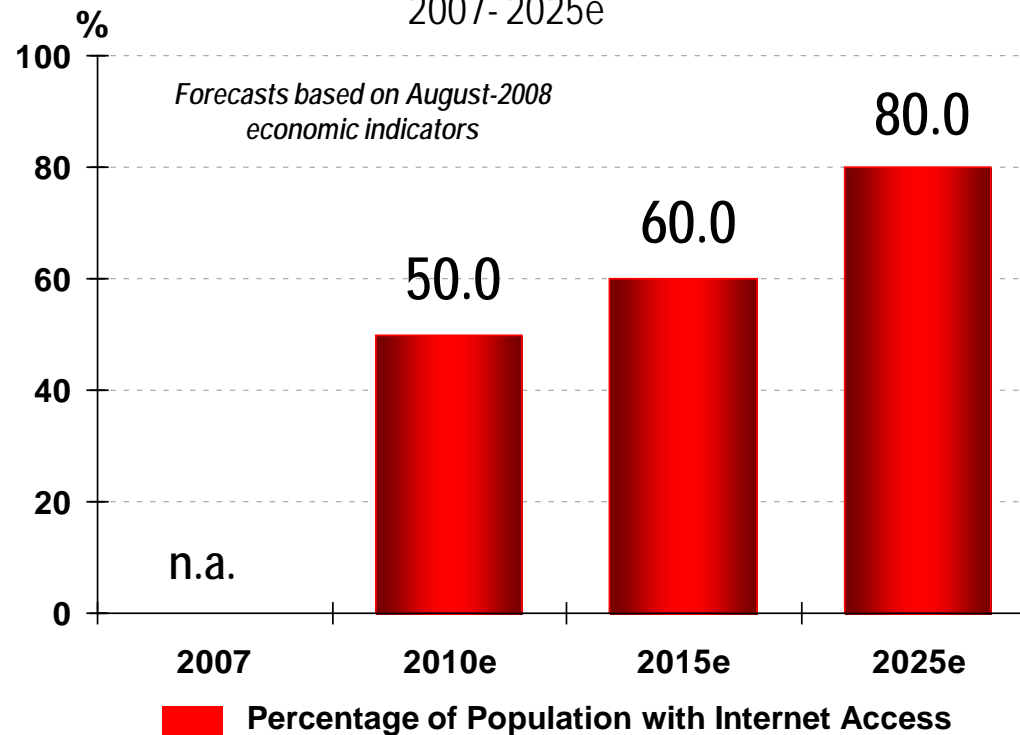
Chapter 4: MICK, Evolution to the Second Phase

20 Prime Indicators for Knowledge Societies

20 Prime Indicators for Knowledge Societies

Population with Internet Access

Forecast / Trends
Nuevo Leon State
2007- 2025e

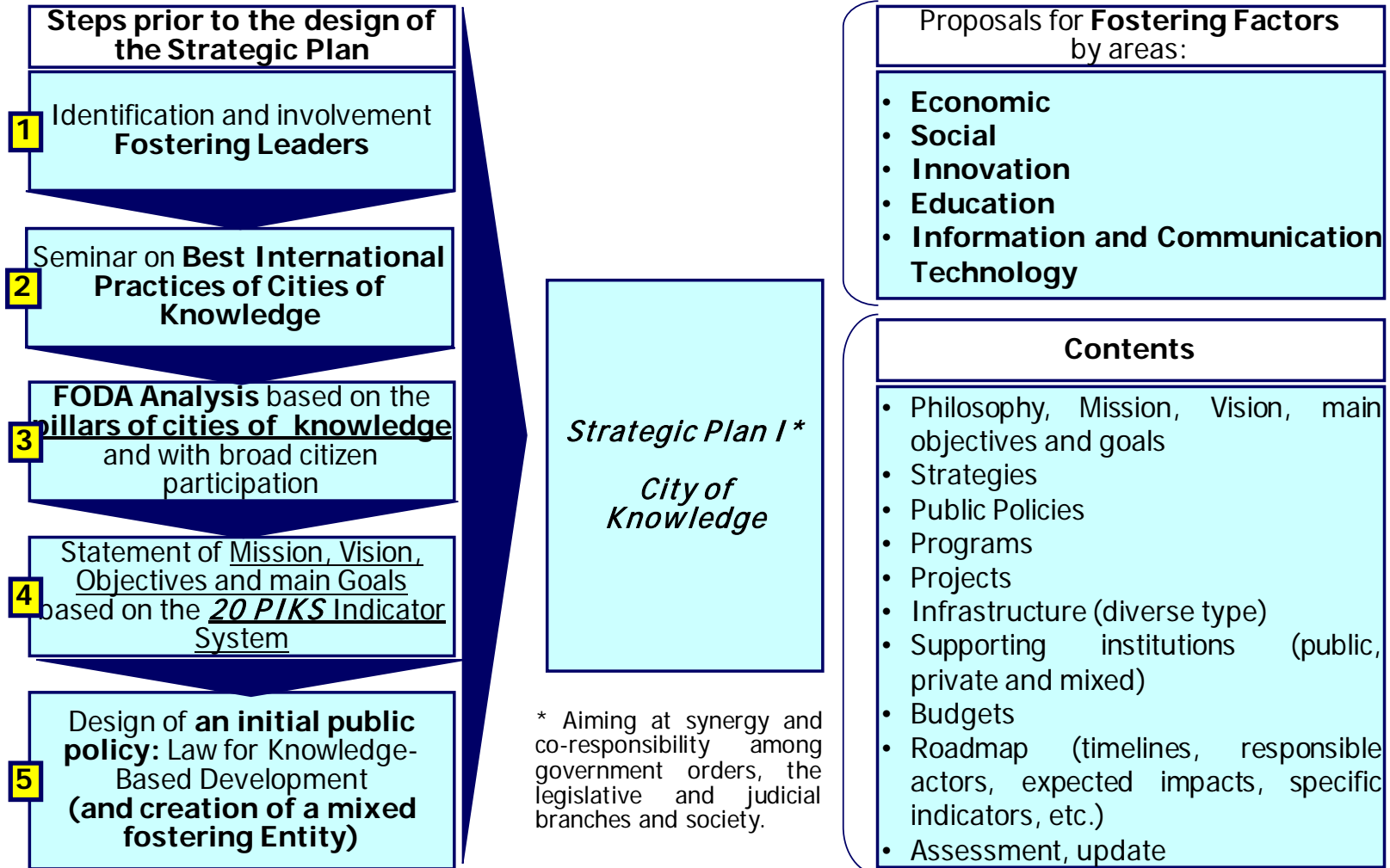


n.a. Not available data.

e) Data estimated to the end of the period.

Source: ITESM.

Methodology for the fostering of Knowledge Societies/Economies



Chapter 6: Conclusions

- **Strategy:** The bet on knowledge, in an integrated and systematic manner focused on strategic plans implemented with proper leadership concepts, accepting co-responsibility, recognizing their urgency, and congruent with the notion of time and resource investment, and with the necessary tenacity, leads to the best results in economic and social development in the benefit of communities.
- **Public/Private Budgets:** Within the international context, efforts and resources to be invested must increase in a significant and permanent manner, because the challenges to achieve the standards of living and the levels of development of the most widely recognized international cities or regions of knowledge are still great.
- **Coordination and work based on collaboration among governments are essential to achieve success in these types of programs.** It is also equally important to involve Municipalities as well as the Legislative and Judicial Branches of government to a greater degree.
- **Increase, even more, the participation of universities and other business organisms to guarantee continuity.**
- Take special care of the **balance between economic, social and environmental aspects**, to provide the program with greater opportunities of succeeding in the medium and long terms.

An abstract graphic design featuring a large yellow shape on the left side, a black silhouette of a mountain range in the center, and several thin, curved lines in yellow and black that sweep across the top and right portions of the image. The background is white.

Monterrey, International City
of Knowledge Program

Thanks!
The End