

Microsoft® Research

Faculty Summit 2010

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Science in México and collaboration in the Latin American context

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Latin American Faculty Summit 2010



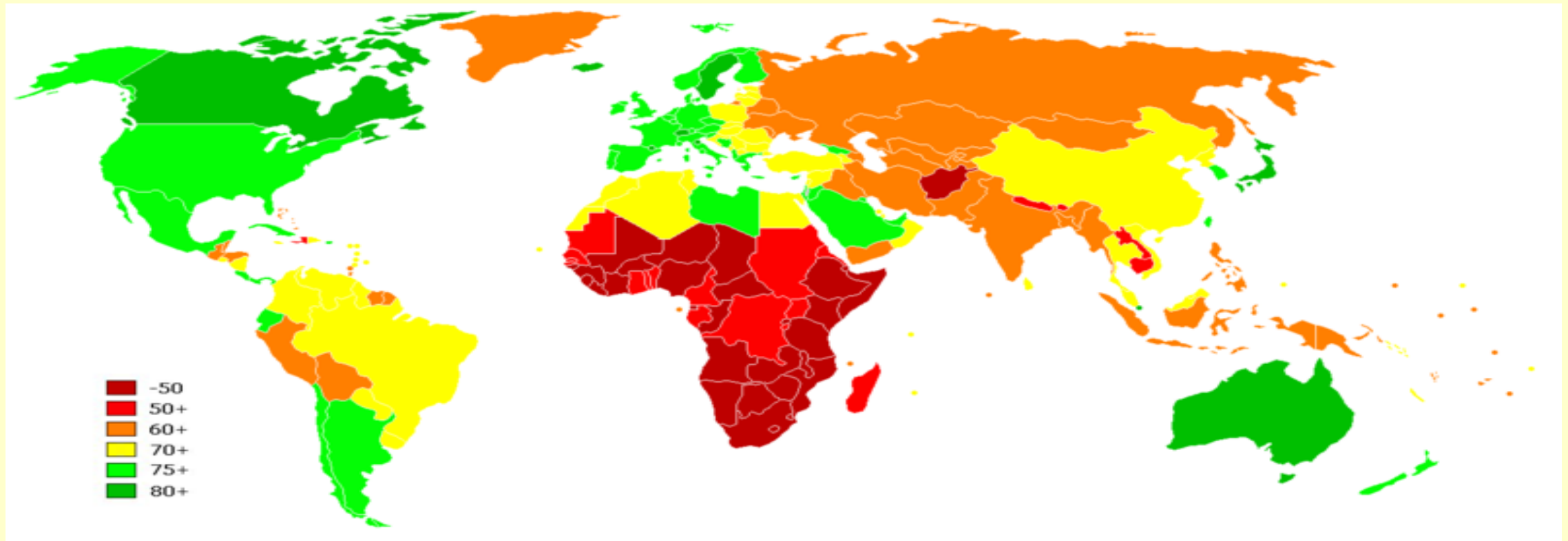
México as a developing-OECD country.

11 th economy in the world (by its size).

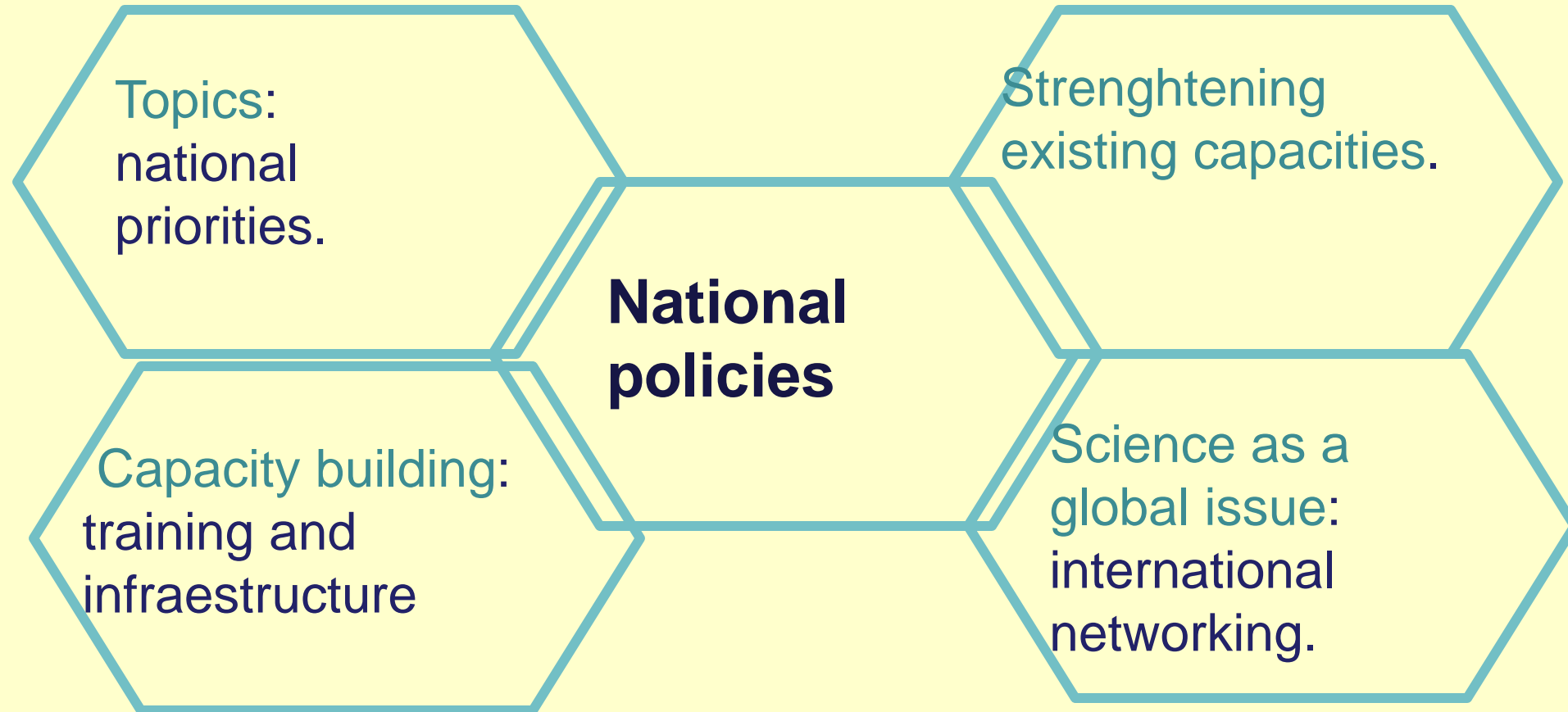
Belongs to the G8+5 group.

53 th place in global competitiveness.

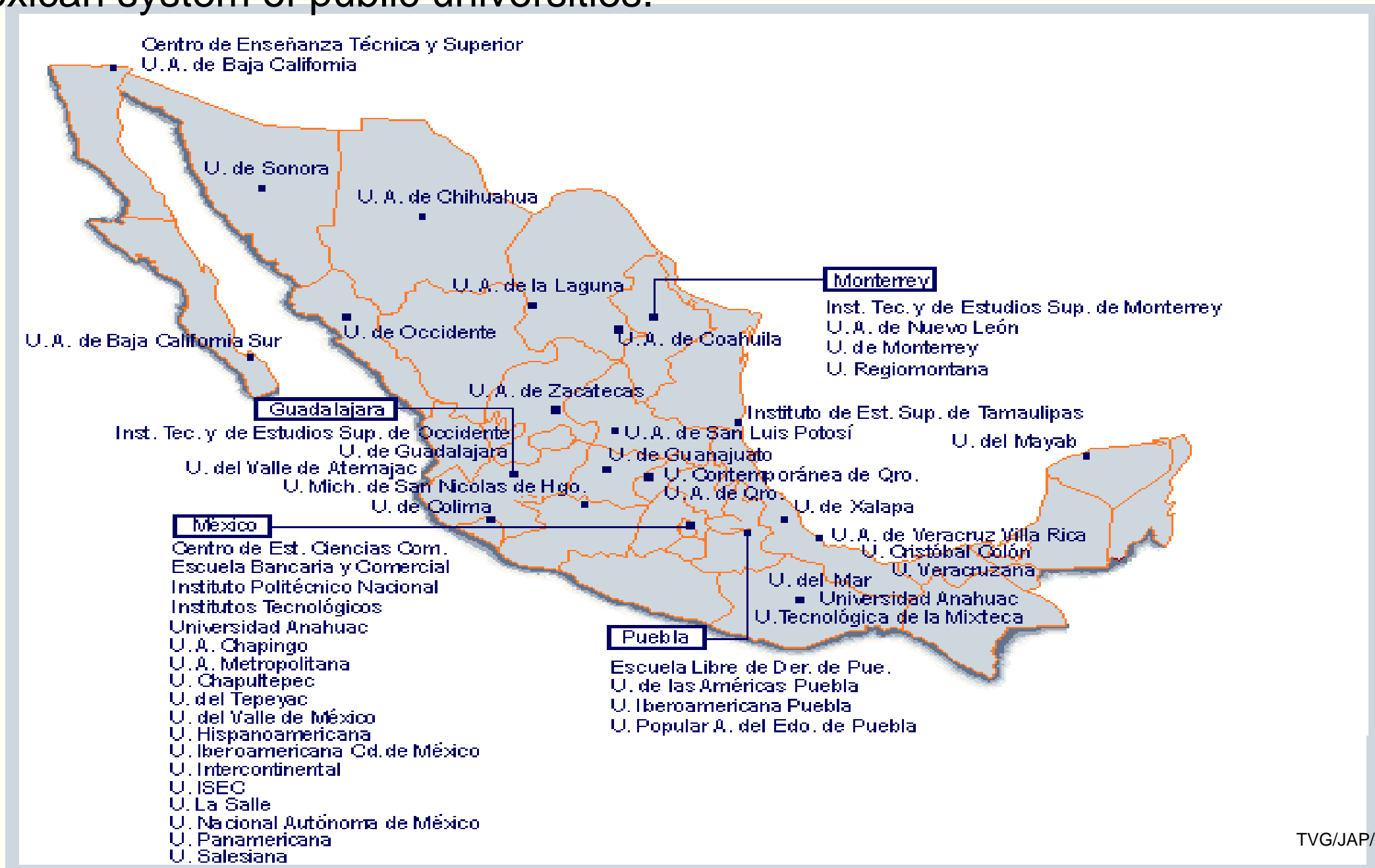
Life expectancy at birth:



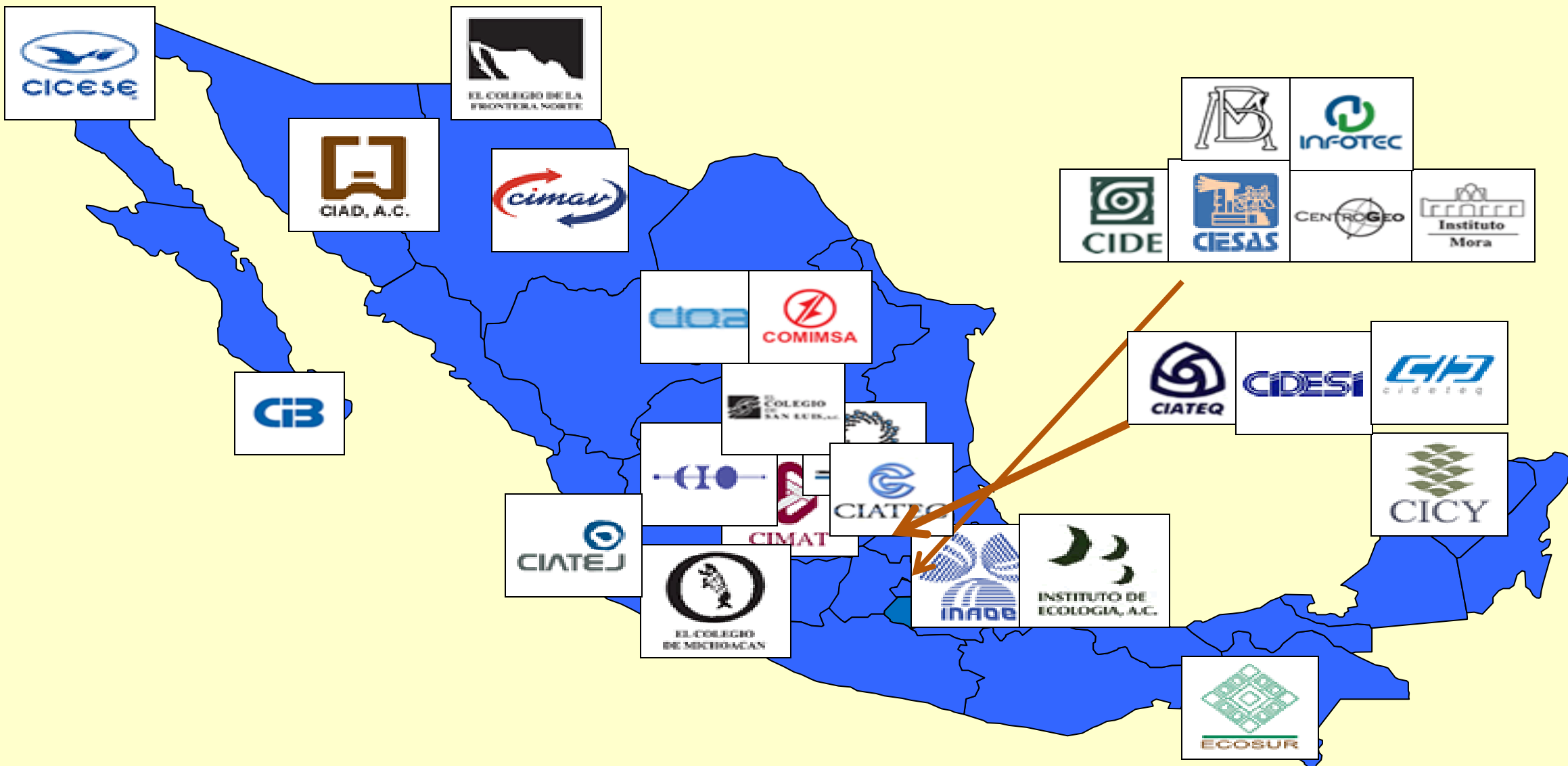
Defining a national policy for S&T.



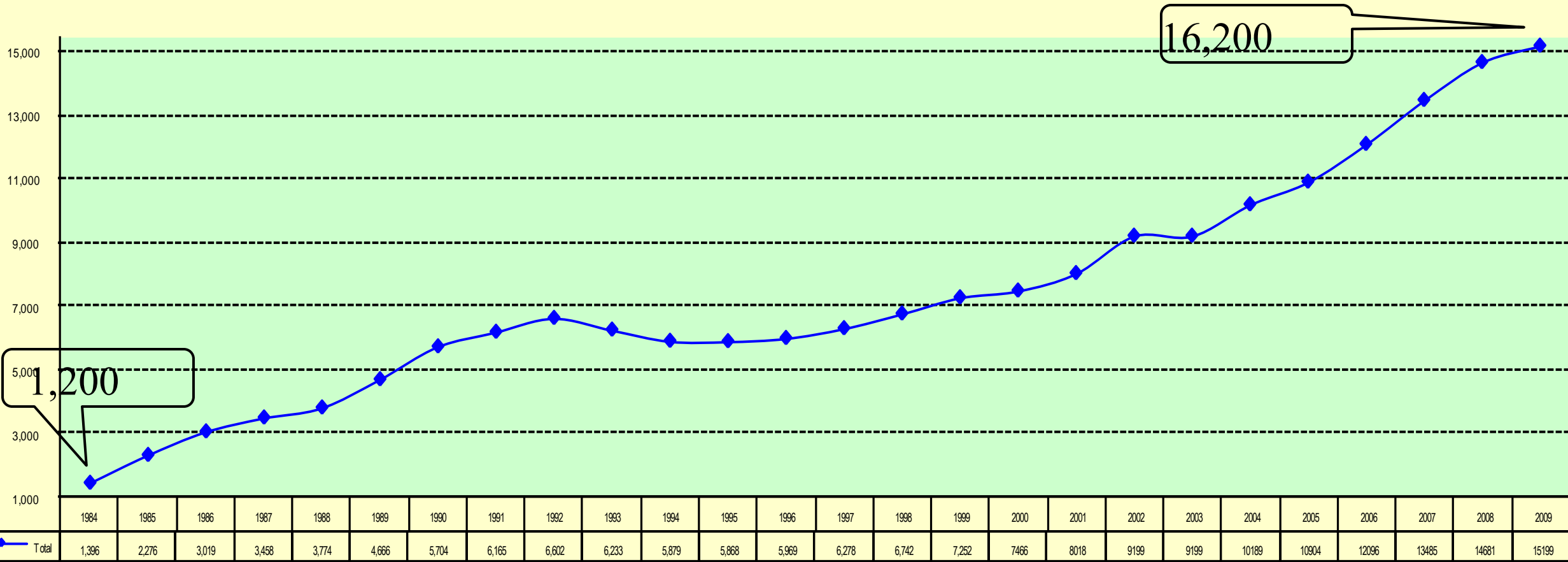
Mexican system of public universities.



CONACyT system of research centers.



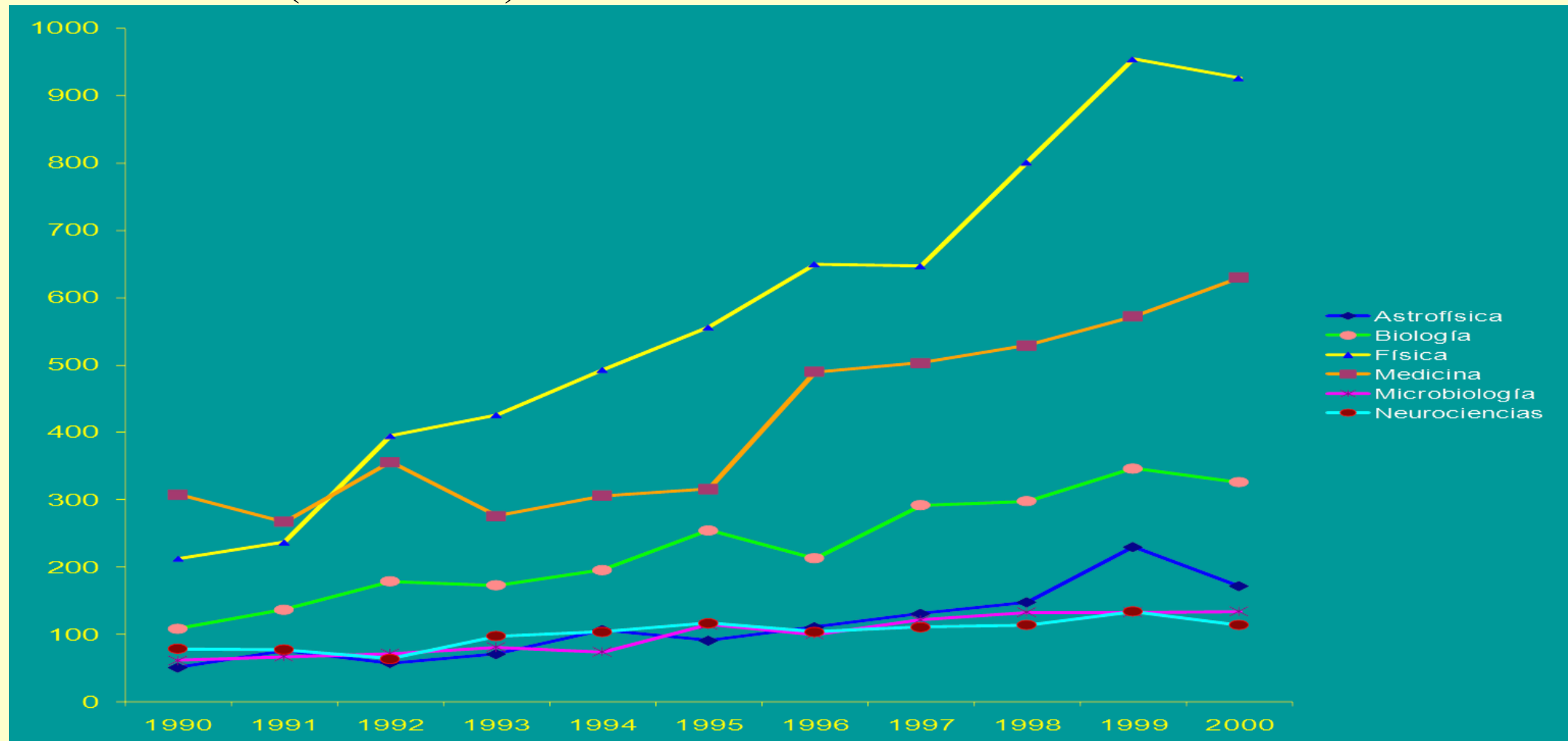
CONACyT National System of Researchers.



Total growth 1984-2009 989 %
Mean annual growth 10 %

Mexican scientific production.

- 0.65 of world production.
- 6 th in the world by anual growth rate of volume: 8.6AGR
- Articles (1990-2005) in different fields:



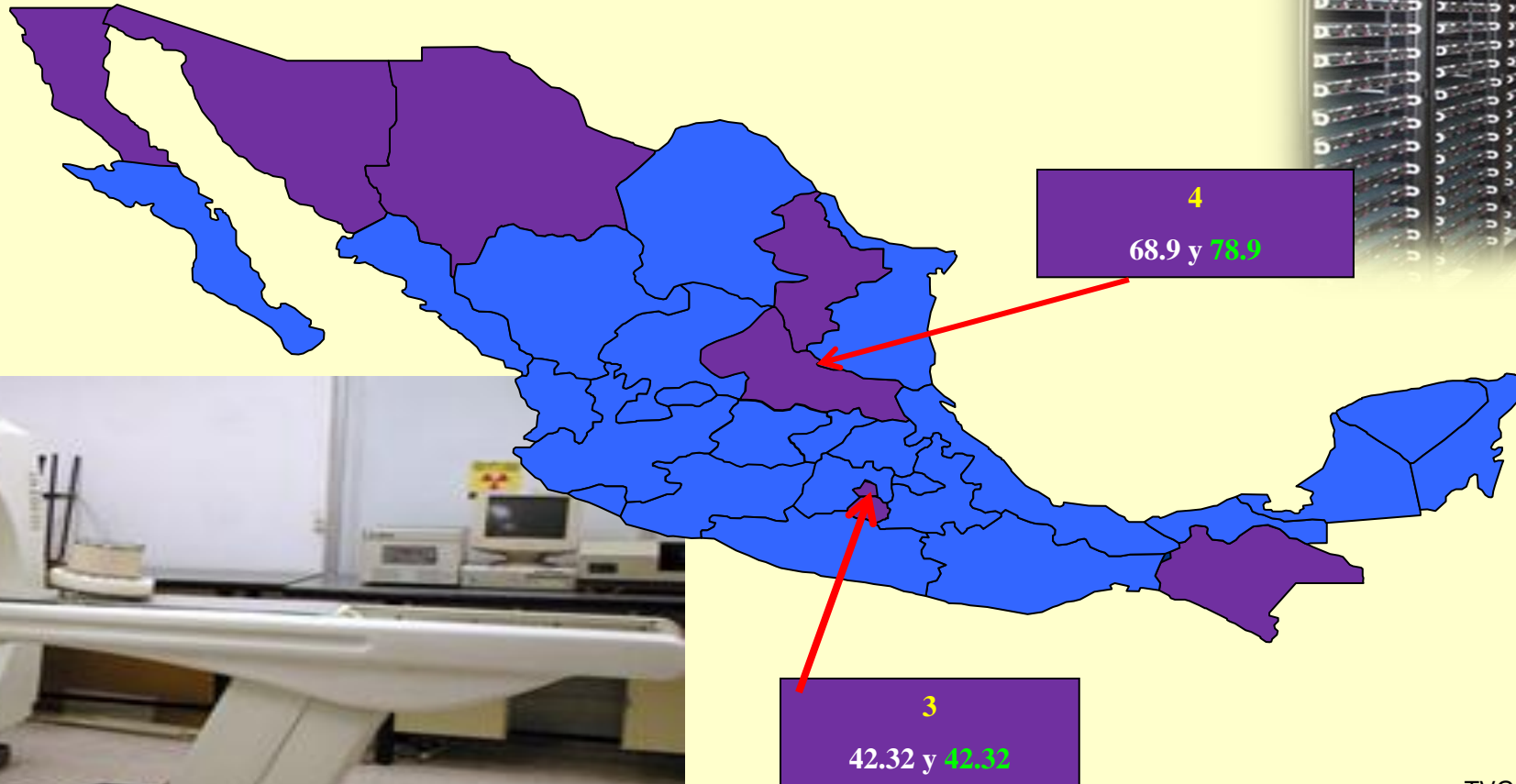
Building mexican infraestructure: LMT

In 1997 the construction of LMT initiated as a binational initiative between INAOE and UMass. It is expected to see First Light this year. This is the most ambitious infraestructure project in LA.

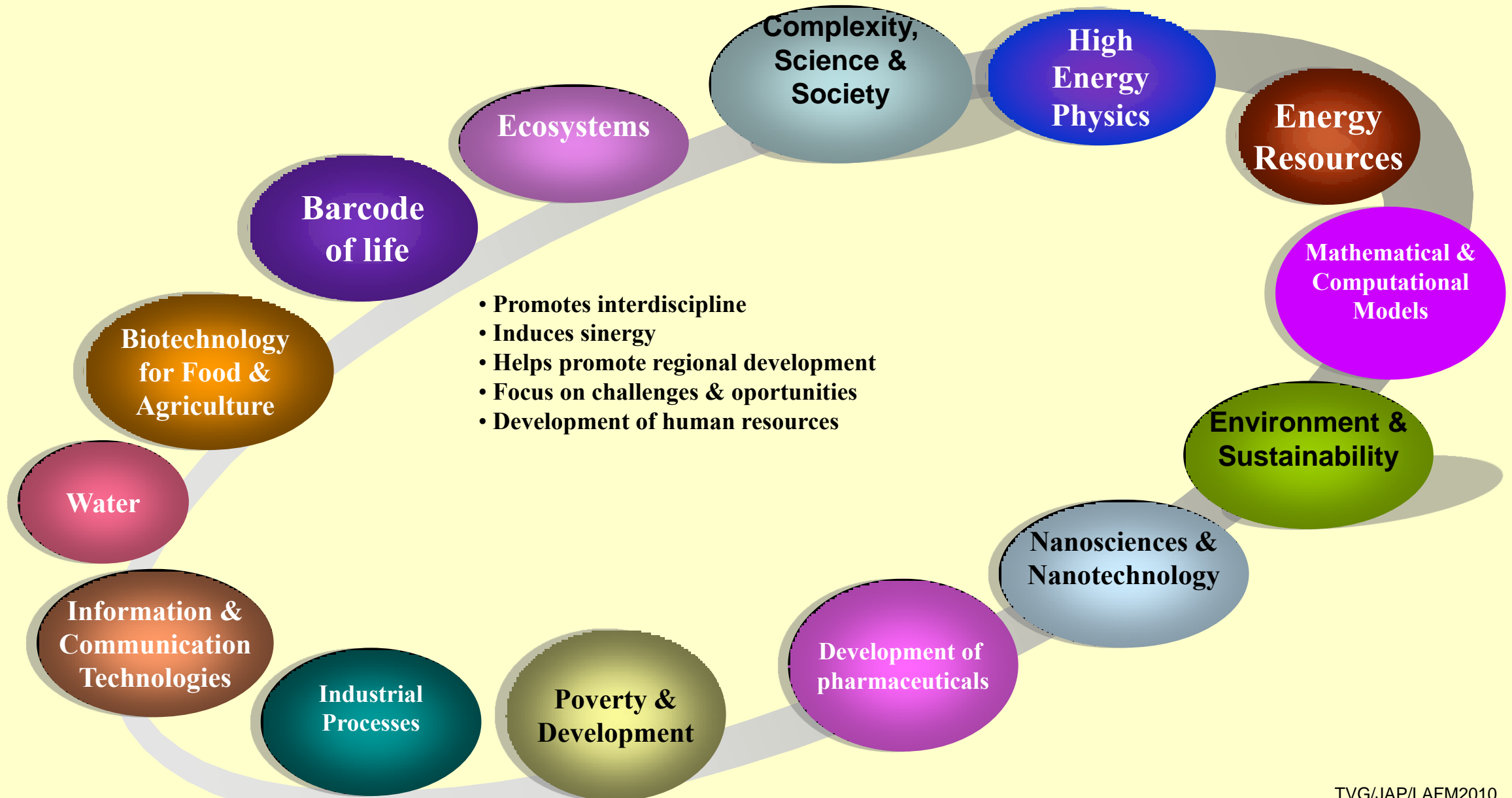


Building mexican infraestructure: regional laboratories.

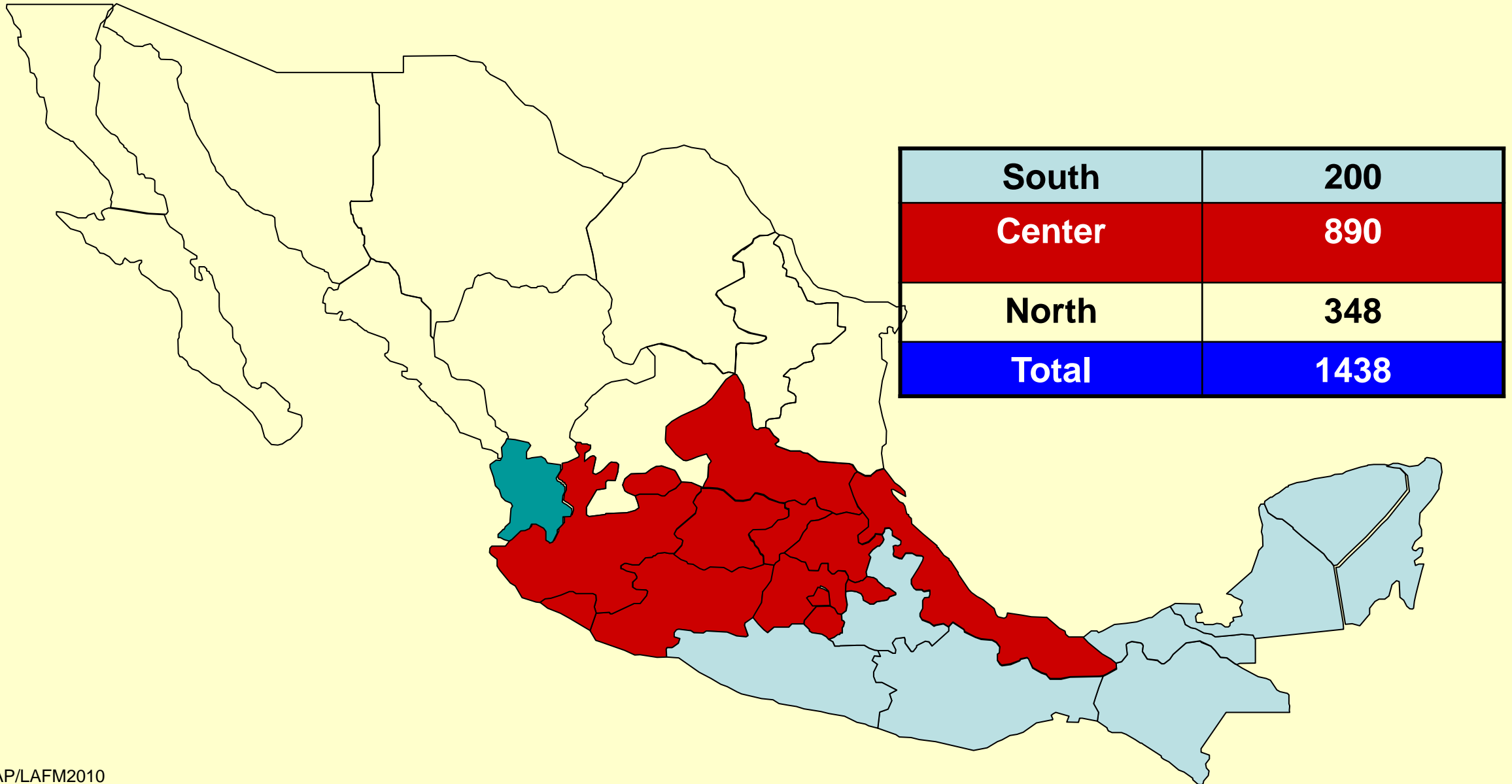
- 16 laboratories in 2007-2010 (45 mdd.)
- 25 laboratories 2010-2012 (55 mdd)



Networking the mexican scientific community.



Participants in the country



Information & Communication Technologies Network



ICT Challenges

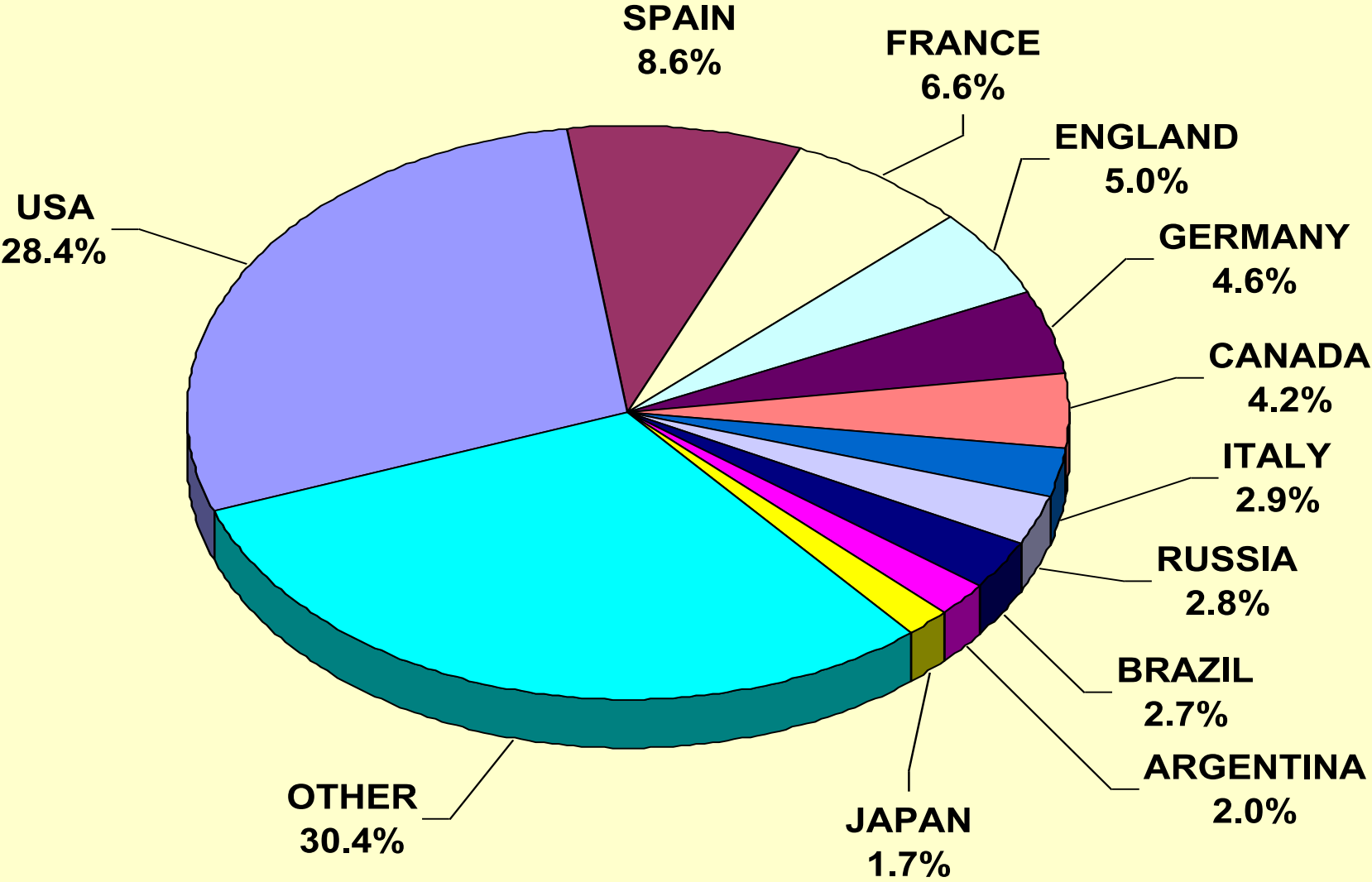
- i) From Data to Information to Knowledge
- ii) Improving National Health
- iii) ICT & Education in the XXI century
- iv) Safety & Oppenness in Information & Services
- v) Intelligent Environments in Big Cities
- vi) ICT for everybody

Science as a global issue

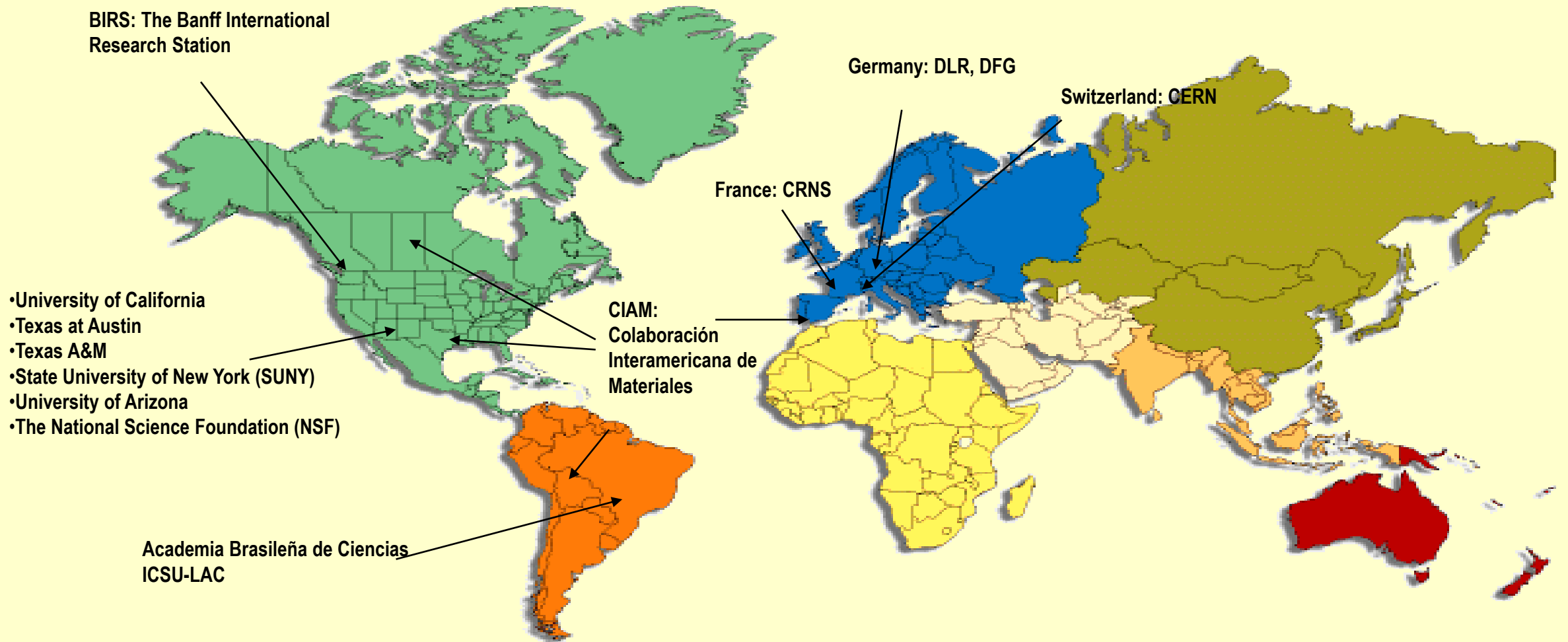
- ❑ Global questions currently on the scientific agenda require increased multidisciplinary and international collaboration;
- ❑ Intrinsic nature of science is universal, its success depends on cooperation, interaction and exchange, often beyond national boundaries;
- ❑ Scientists must have open access to each other and to scientific data and information.



Percentage of participation of most significant countries in collaboration articles (2002-2006)



CONACyT International Agreements



Mexicans abroad network

Starting this year the SNI is integrating distinguished mexican researchers working abroad (around 300 this year, most in US). Purpose:

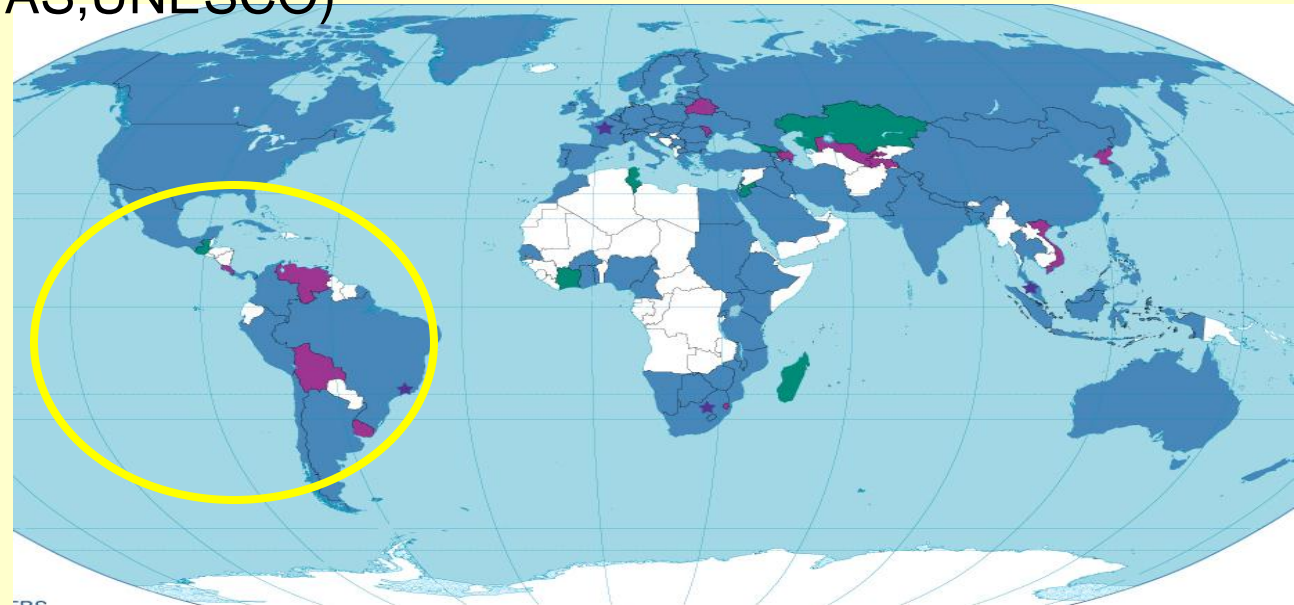
1. Identify and understand the situation of the intellectual diaspora of Mexico;
2. Atract (long and short term) mexicans abroad to national universities;
3. Integrate a global network of mexicans in academic institutions, as a version of 'brain circulation' process –instead of brain drain.

LA collaboration: context.

- ❑ Creation of IANAS an all Americas network of Science academies.
- ❑ Several Ministerial OAS Conference on S&T: last took place in Mexico in 2008 and set ambitious goals for collaboration in the american continent.
- ❑ The regional Fora on S&T organized by UNESCO and IANAS which prepared the *Declaration Science in LAC* for Budapest 2009.

Not only political declarations. More important is the *daily life collaboration* among LA scientists:

- Scientific collaboration higher than ever;
- Presence of global players in the region (ICSU, TWAS, UNESCO)
- Organization of regional disciplinary networks.



The LA context.

- Awareness of the importance of the *South-South collaboration* complementary to the usual North-South collaboration- There are countries that may contribute in important way (Brazil, México, Argentina, Chile).
- LA countries have already *identified issues* where collaboration may mark an important difference: access to scientific literature, electronic data bases, share of information...
- Interest in opening *joint* science centers in strategic topics: water, energy, natural hazards, materials (either virtual or otherwise);
- Awareness of the need to increase the public interest for science (*popularization*) and the *early teaching* of science;
- New role of traditional organizations (UNESCO, IAP, NAS...) and new organizations of scientists (IANAS, networks...)

The LA region is ready to launch ambitious initiatives and actions.

Developing regional scientific programs in priority areas for Latin America and the Caribbean



Biodiversity knowledge, scope of research and priority areas: an assessment for LAC



Mathematics Education in LAC: a reality to be transformed



Sustainable Energy in Latin America and the Caribbean: potentialities for the future.



Understanding and Managing Risk Associated with Natural Hazards: An Integrated Scientific Approach in LAC

Developing regional scientific programs
in priority areas for Latin America and the Caribbean



Action Plans to be published in Mexico and Brazil.

Research networking in Latin America

- **UNESCO network initiative (1992).**
- Biology and Mathematics have been the most successful networks
- *As a success example: UMALCA* is a network formed by the mathematical societies of the countries of the region with more solid communities:
Argentina, Brazil, Chile, Colombia, Cuba, México, Perú, Uruguay and Venezuela.
- Founded in July 1995 in Río de Janeiro.
- The societies members provide financial support for the activities of UMALCA.



LAC (recent and near future) collaboration for integration.

- Since 3 years ago the CONACyT scholarship system is open to students of any nationality registered at a high quality graduate program at mexican IHES;
- Agreement of creation of virtual centers of nanotechnology and biotechnology between Mexico and Brazil;
- Creation of research networks in different countries: Colombia, México...
- CAPES (Brazil consortia of electronic journals) gives support to Argentina.
- México opens collaboration program with Central America.

Looking for shared solutions.

Try to solve **together simple but essential** issues:

- **Knowing better our region**: who we are, what we have, what we know, what we need, what we can do together...
- General access to **information** (who gathers, analyzes, distributes information?);
- **Electronic journals** joint environment (buying, distributing, sharing...)
- Adequate **communication** (taking care of Internet 2 project, ICT centers...);
- Profit international **financial sources** (European framework 7, IDRC, ...);
- Stronger **participation** at international academic bodies (ICSU, disciplinary organizations...);

THANK YOU
OBRIGADO
GRACIAS

