



SENA'S INNOVATION ON TRAINING



Panamá, October 17th 2011

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Servicio Nacional de Aprendizaje - SENA

¿What is SENA?

Servicio Nacional de Aprendizaje

Is a tripartite public entity:
Government, Company and Workers
that contributes to the **competitiveness** of
Colombia through:

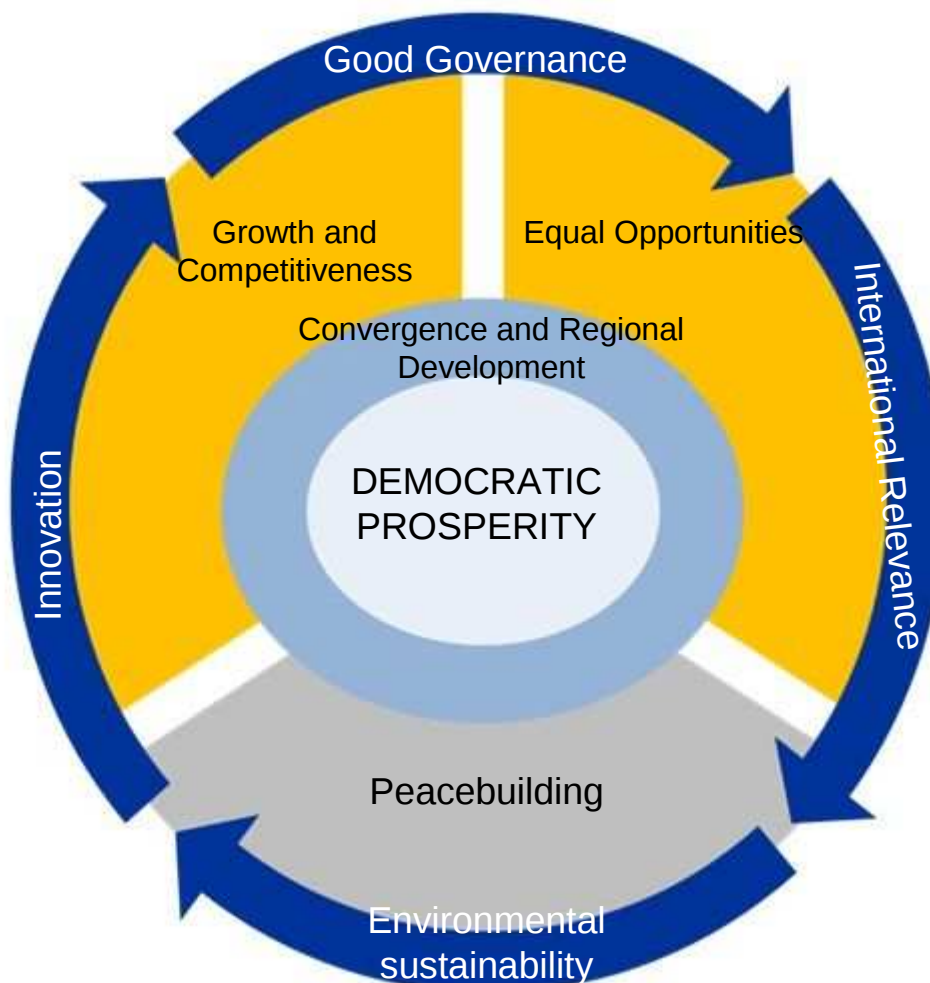
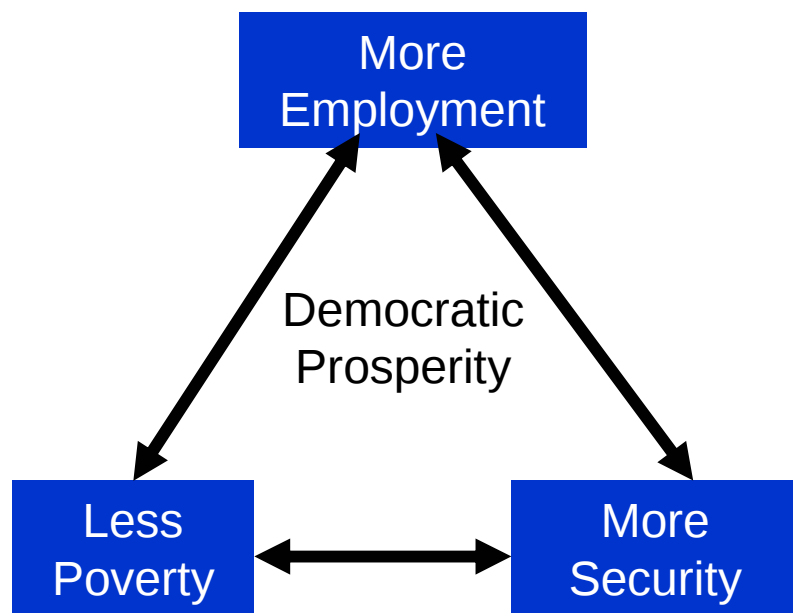
Increasing the
productivity of
companies and regions

The Social Inclusion of
vulnerable individuals
and communities

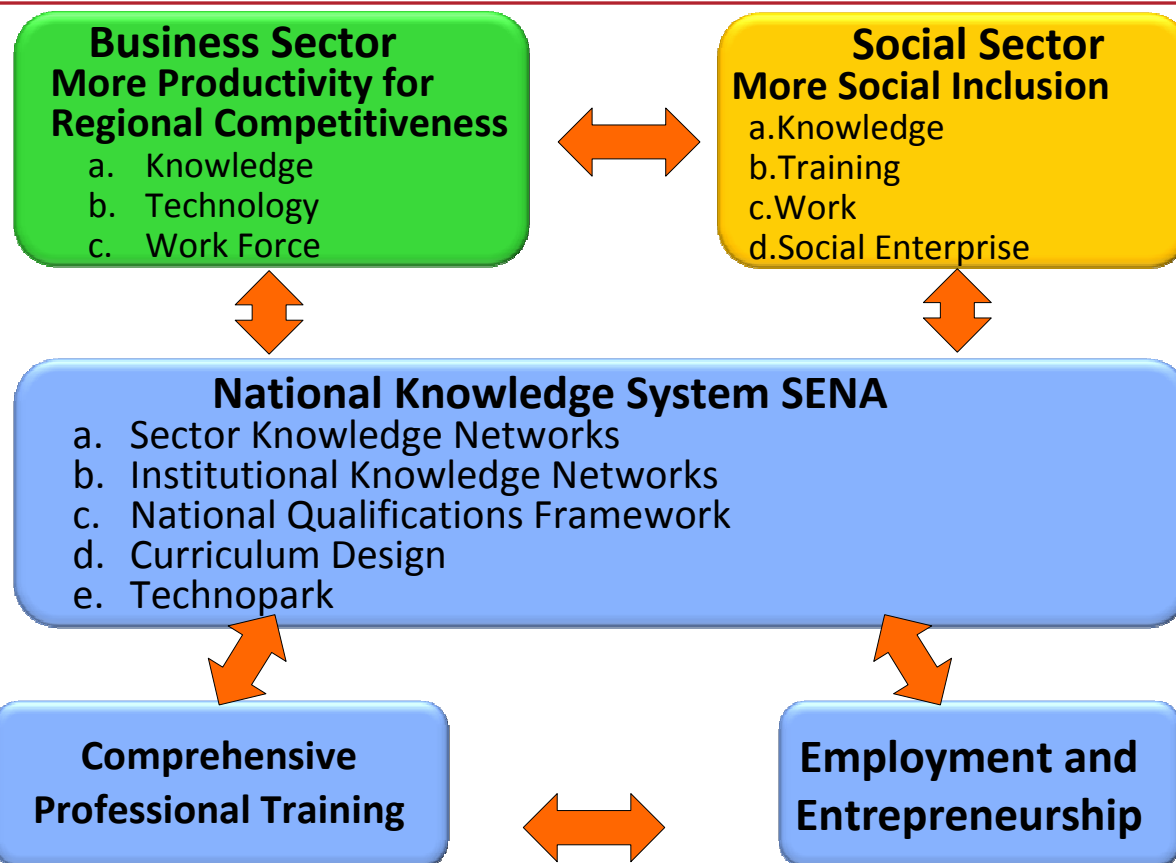
through transfer of **knowledge** and
technology

National Development Plan 2010-2014

"Prosperity for all"



Strategic Model SENA

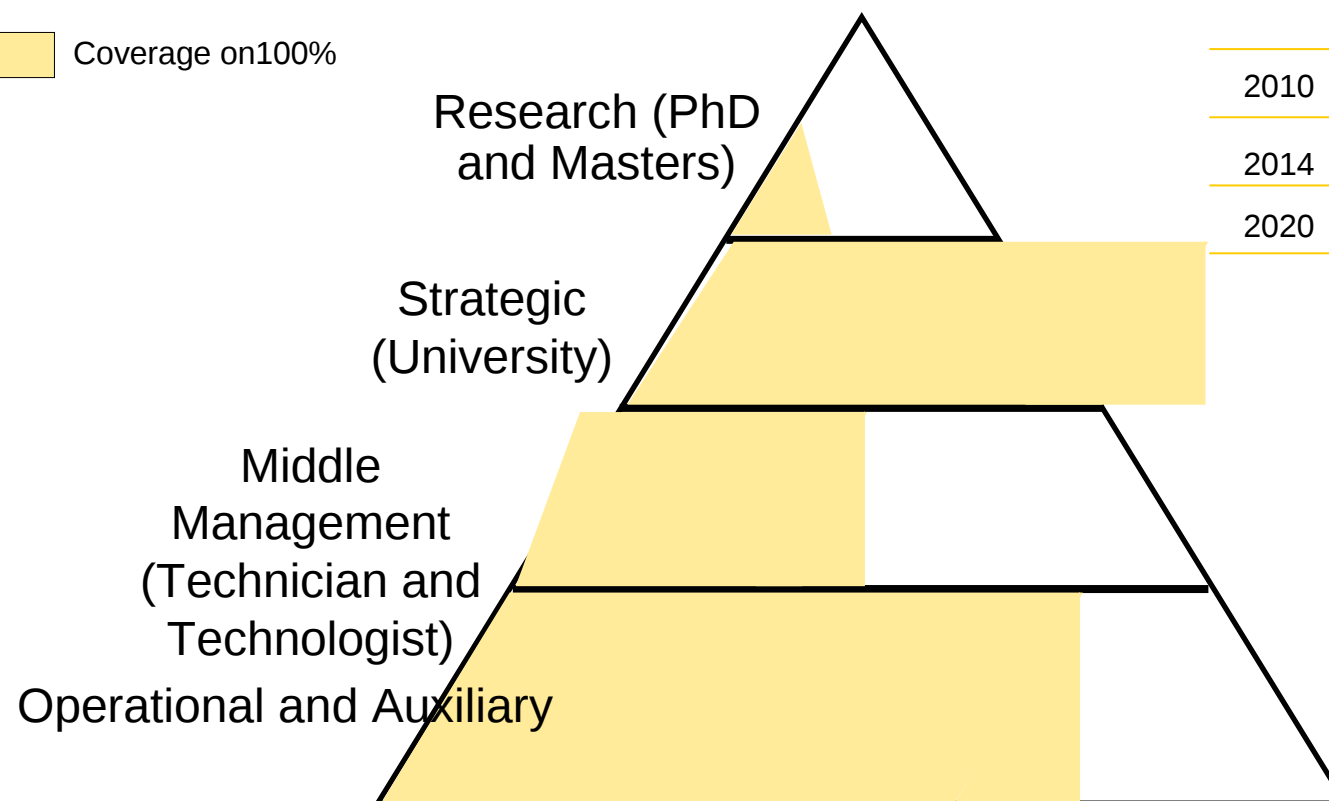


Apoyo

Planning and Leadership	Human Resources	Technology Resources	Financial and Physical Resources	Legal Issues	Communications	Internal Control	
Planning Dir.	General Secretariat	Technology Services	Administrative Financial Dir.	Legal Dir.	Communications Ofc.	Internal Control Ofc.	Internal Disciplinary Control Ofc.

THE PROBLEM OF EDUCATION STRUCTURE

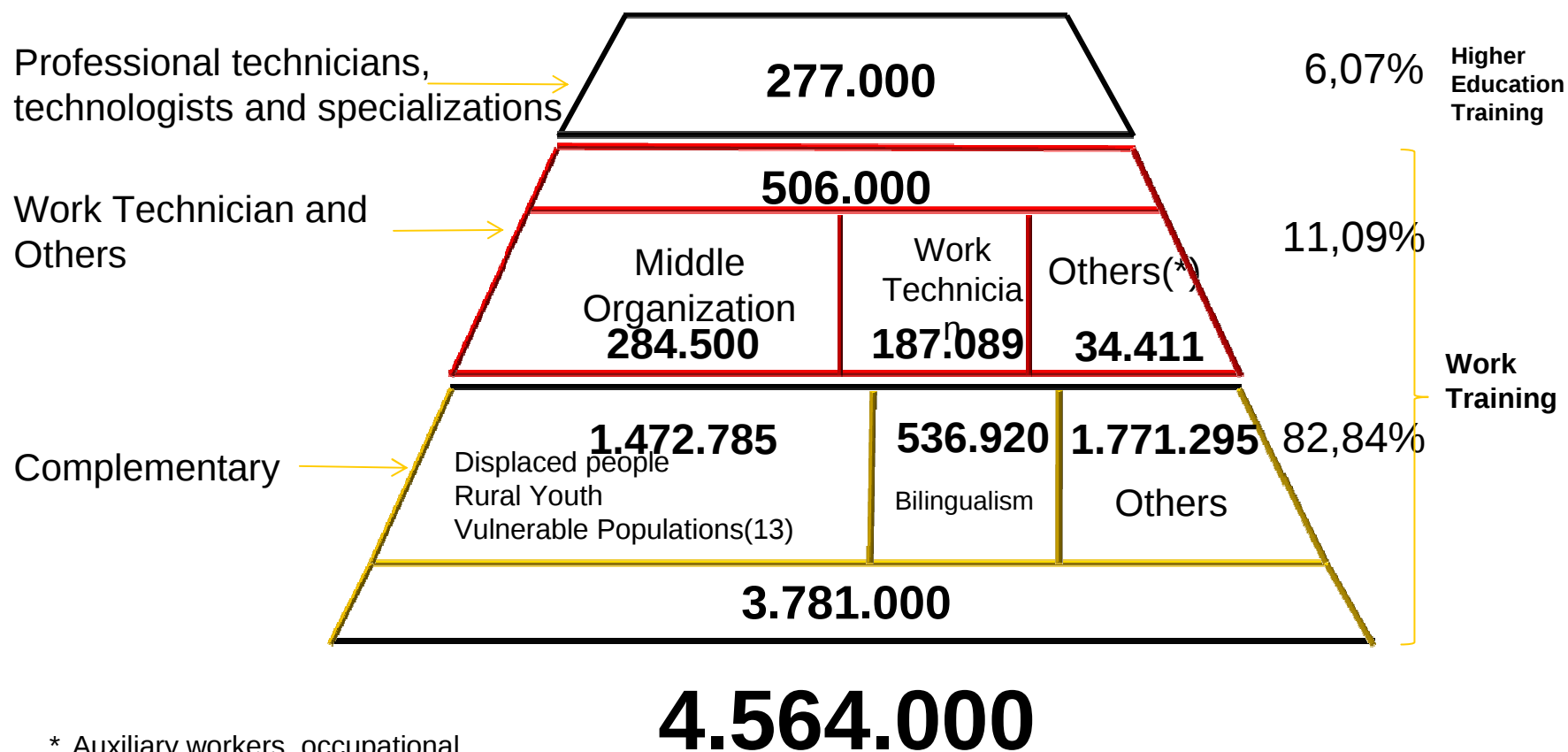
 Coverage on 100%



	University	Technical and Technological
2010	65%	35%
2014	50%	50%
2020	25%	75%

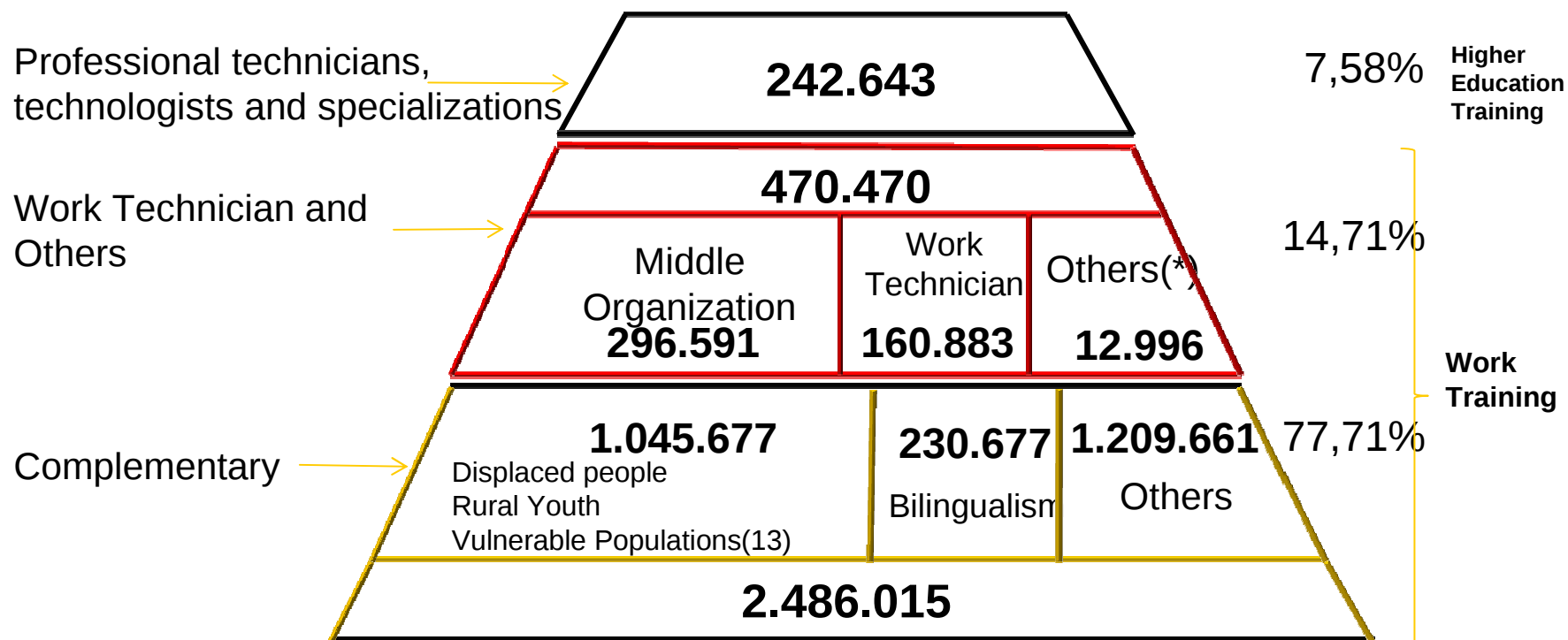
COMPREHENSIVE PROFESSIONAL TRAINING SENA

APPRENTICES GOALS, SENA 2011



COMPREHENSIVE PROFESSIONAL TRAINING SENA

APPRENTICES TO AUGUST 2011



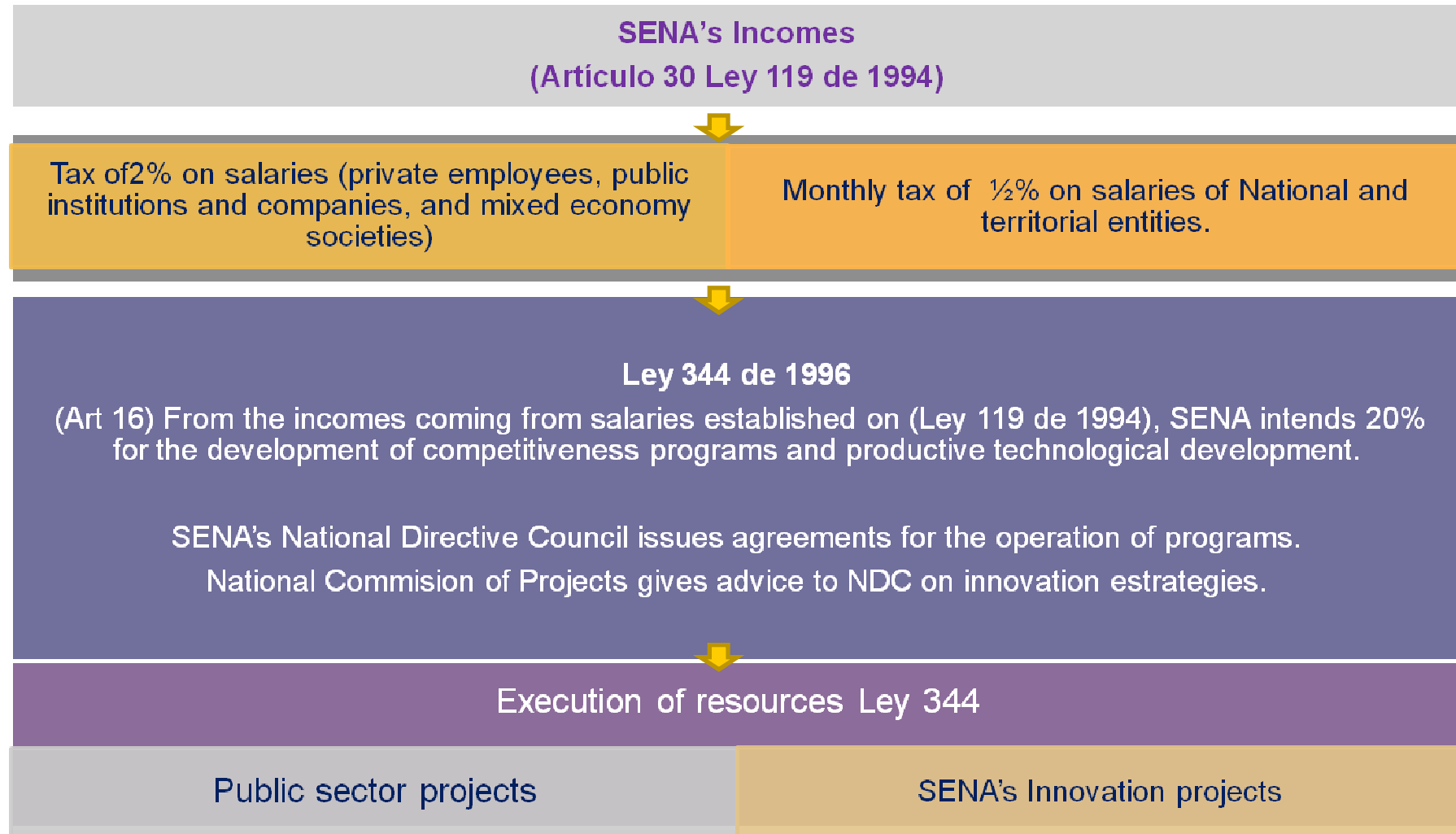
General Fulfillment 71%

* Auxiliary workers, occupational



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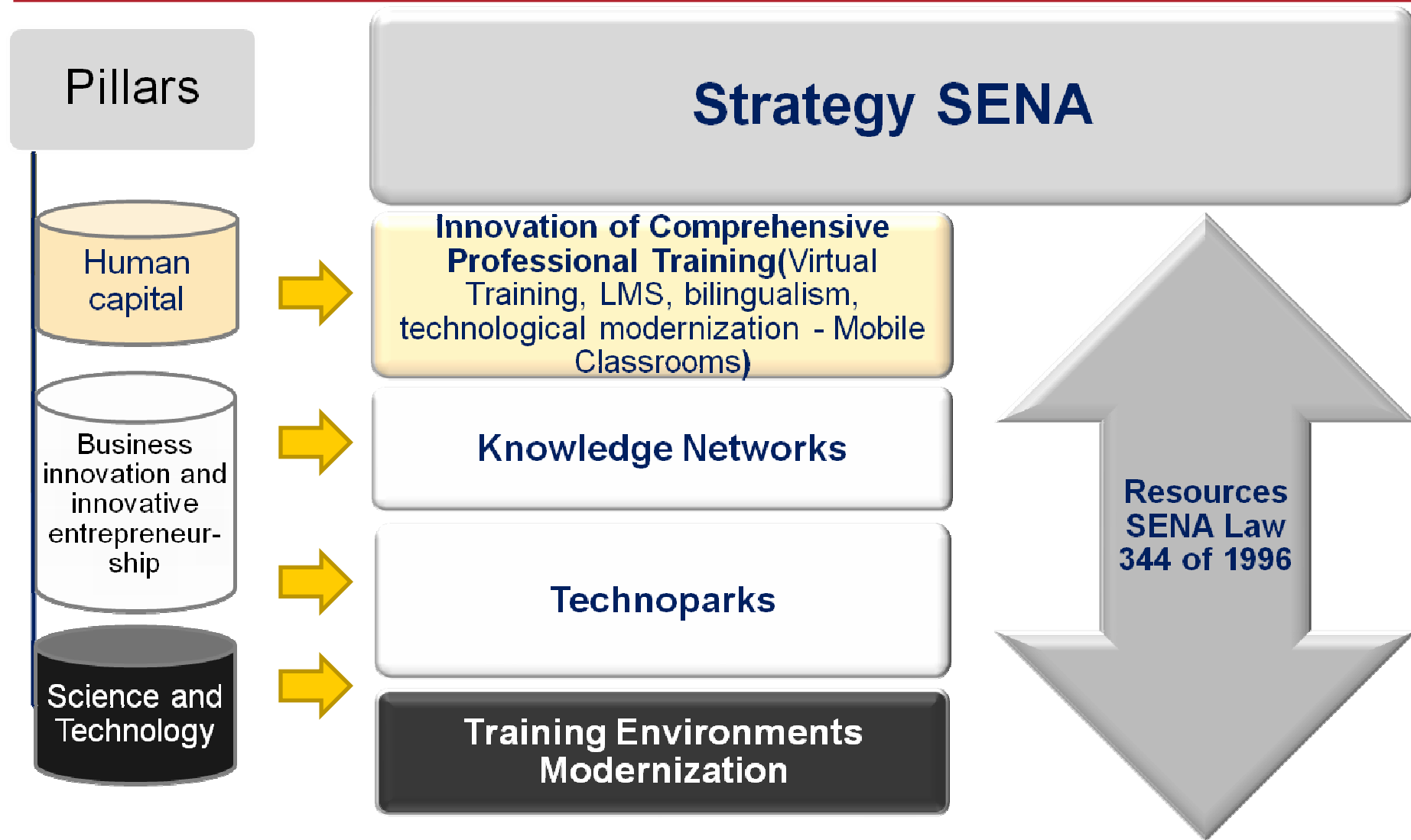
SENA'S FINANCING FOR INNOVATION





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PUBLIC POLICY INNOVATION AND TECHNOLOGY DEVELOPMENT



VIRTUAL TRAINING

It's a training alternative for colombians, using virtual learning environments.

- Alliances with international companies for: content access, didactic material, simulators, evaluation and online tools.



Microsoft®
Live@edu

Microsoft
IT Academy Program

ORACLE®

WORKFORCE
DEVELOPMENT
PROGRAM



redhat
ACADEMY



- Alliances with platforms to strengthen specific training areas.



VIRTUAL TRAINING OFFER

Offered courses on complementary training by knowledge areas.

Industrial equipment, operation and transportation.
Social and Educative Sciences, and governmental services.
Processing, manufacturing and assembly.
Art, culture, entertainment and sports
Primary and extractive exploration.
Information technologies
Finance and management
Sales and services
Languages
Health

STRATEGY 2012 – 2014 VIRTUAL TRAINING

Short-Term Challenges

- Virtual Training Courses / Combined
- Quality Assurance
- Virtual Learning Object Repository
- Virtual Training processes with emphasis on synchronous components



STRATEGY 2012 – 2014 VIRTUAL TRAINING

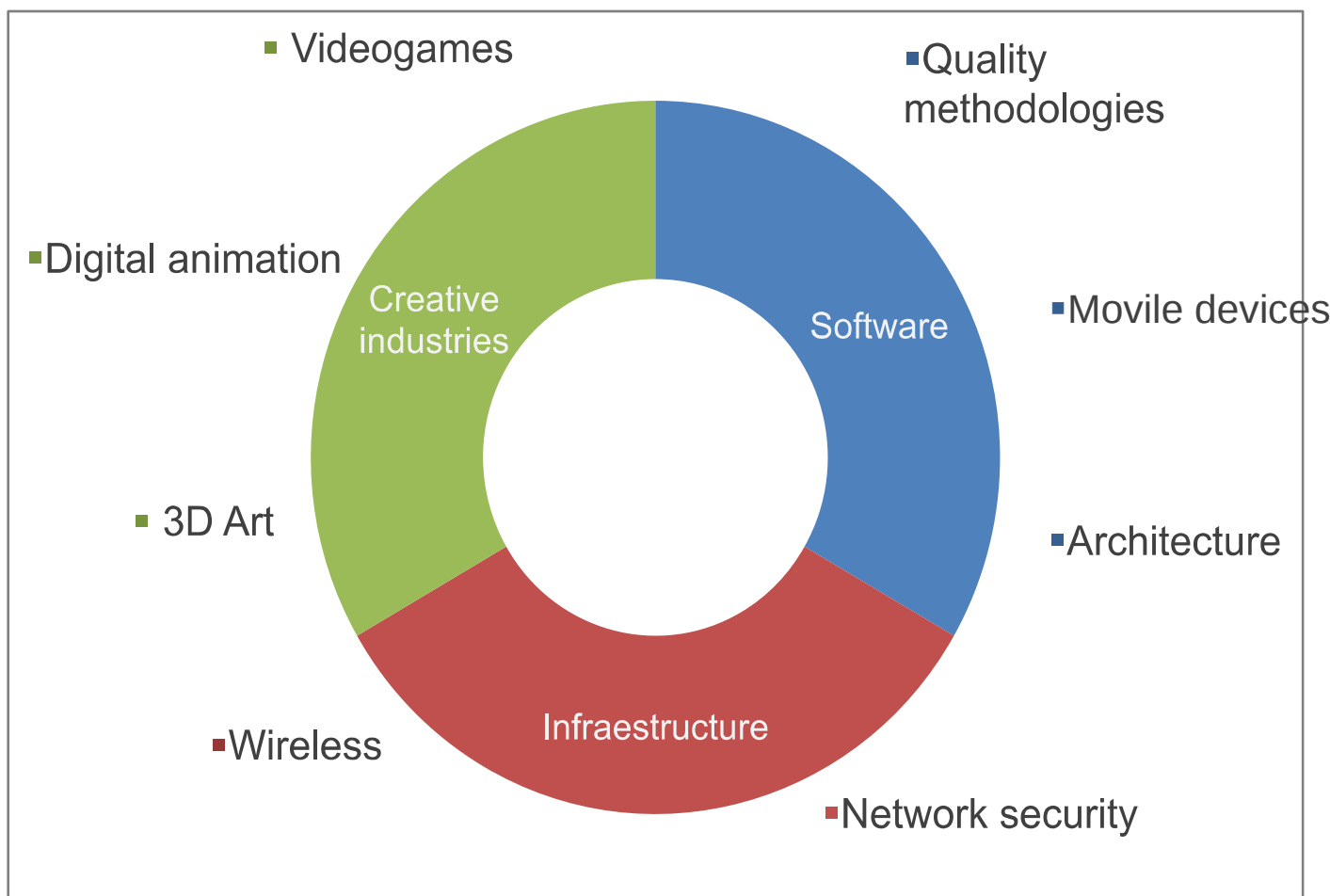
Medium-Term Challenges

- Pilot training through mobile devices
- Intensive use of the Internet combined with TV, video conference.
- Center of Virtual Educacion Training
- Tools Web 2.0 y Web 3.0
- Augmented Reality - Virtual Reality



TRAINING PROGRAMS ON ITs

-Áreas



TECHNOLOGICAL MODERNIZATION

Mobile classrooms

Under the Program of Technological Modernization of Training Centers communications, SENA, in order to bring training and education to the country's most remote populations, which, for reasons of time and space do not have access to regular programs taught, expanded its coverage through Mobile Classrooms in different regions and economic sectors to developing skills in research, planning, development and project evaluation.

This mechanism of innovation in the creation of opportunities for learning, reaches the most remote areas of the country by land and water, with technology, connectivity, knowledge, quality and relevance.



**Mobility-Flexibility
Opportunity**

MOBILE CLASSROOMS SENA





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MODALITIES

EXAMPLES – SPECIALITIES IN MOBILE CLASSROOMS

■ AGRICULTURE:

- FRUVER
- MEAT
- DAIRY
- BIOTECHNOLOG
- ANIMAL NUTRITION
- BAKERY



■ TRADE & SERVICES:

- COMPUTER SCIENCE
- GASTRONOMY
- HEALTH AND SANITATION

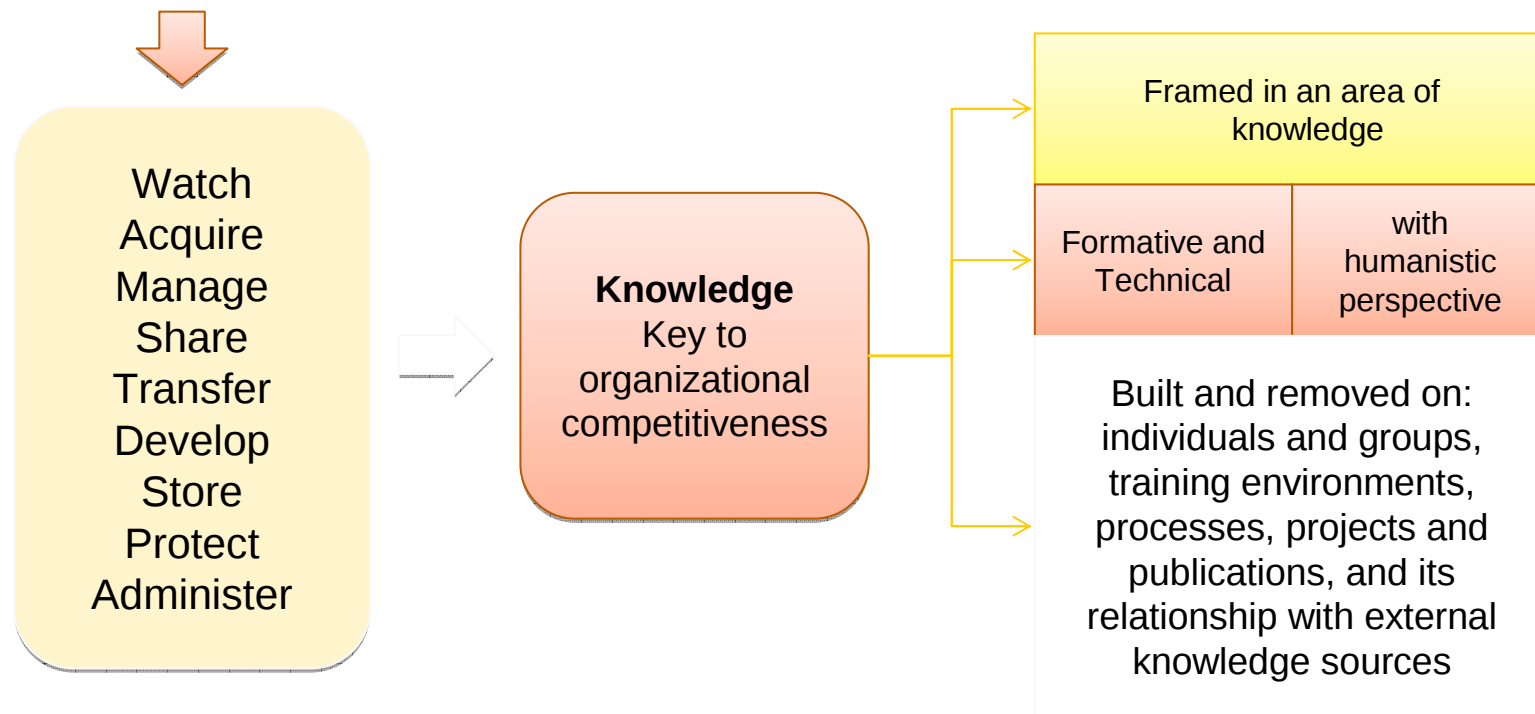
315 Classrooms in
operation

83 Classrooms under

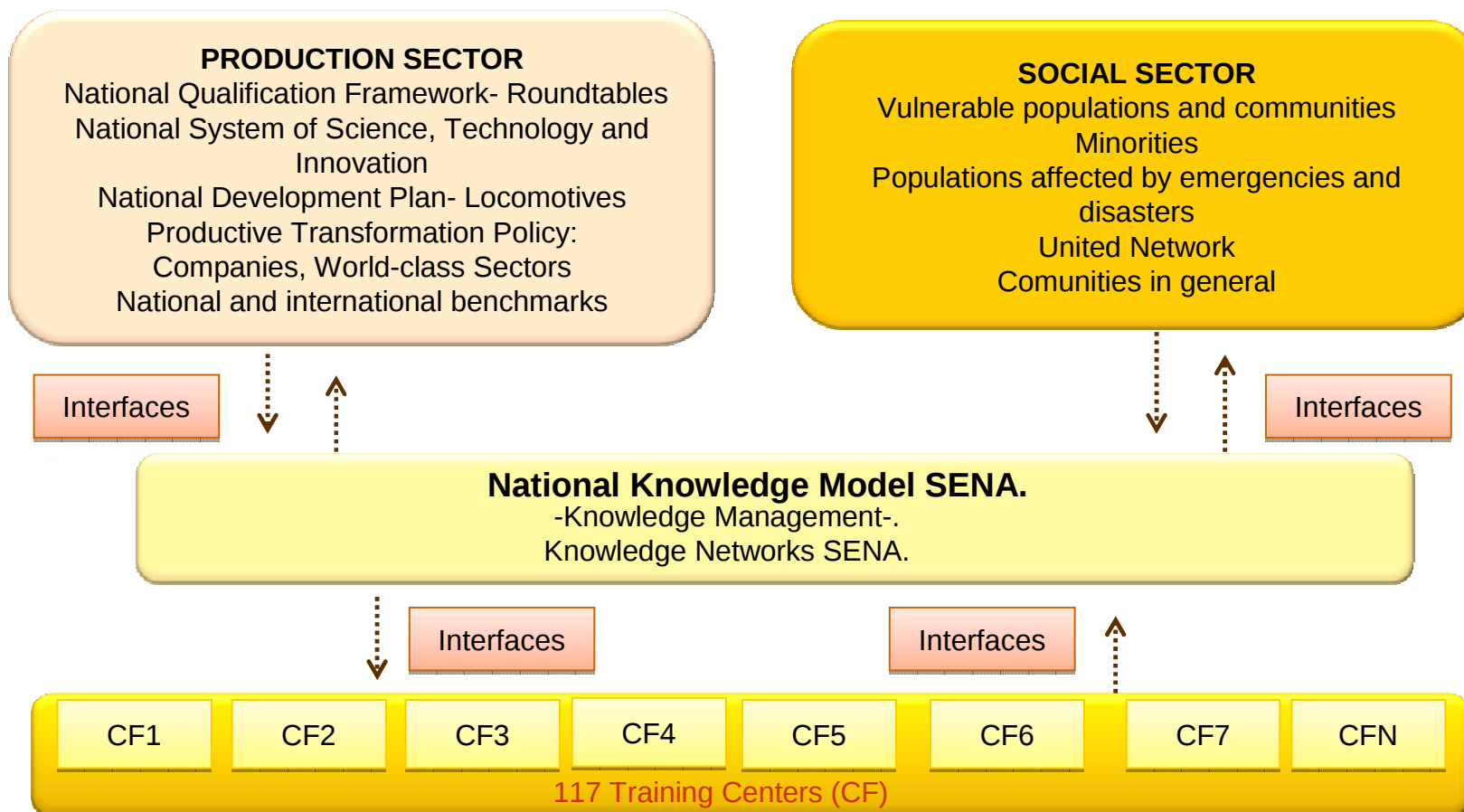


KNOWLEDGE NETWORKS

They is a **knowledge management** strategy



STRATEGY OF THE KNOWLEDGE NETWORKS SENA



¿HOW IS A NETWORK OF KNOWLEDGE SENA?

National Knowledge Model SENA.
Knowledge Management SENA.
Knowledge Networks SENA.



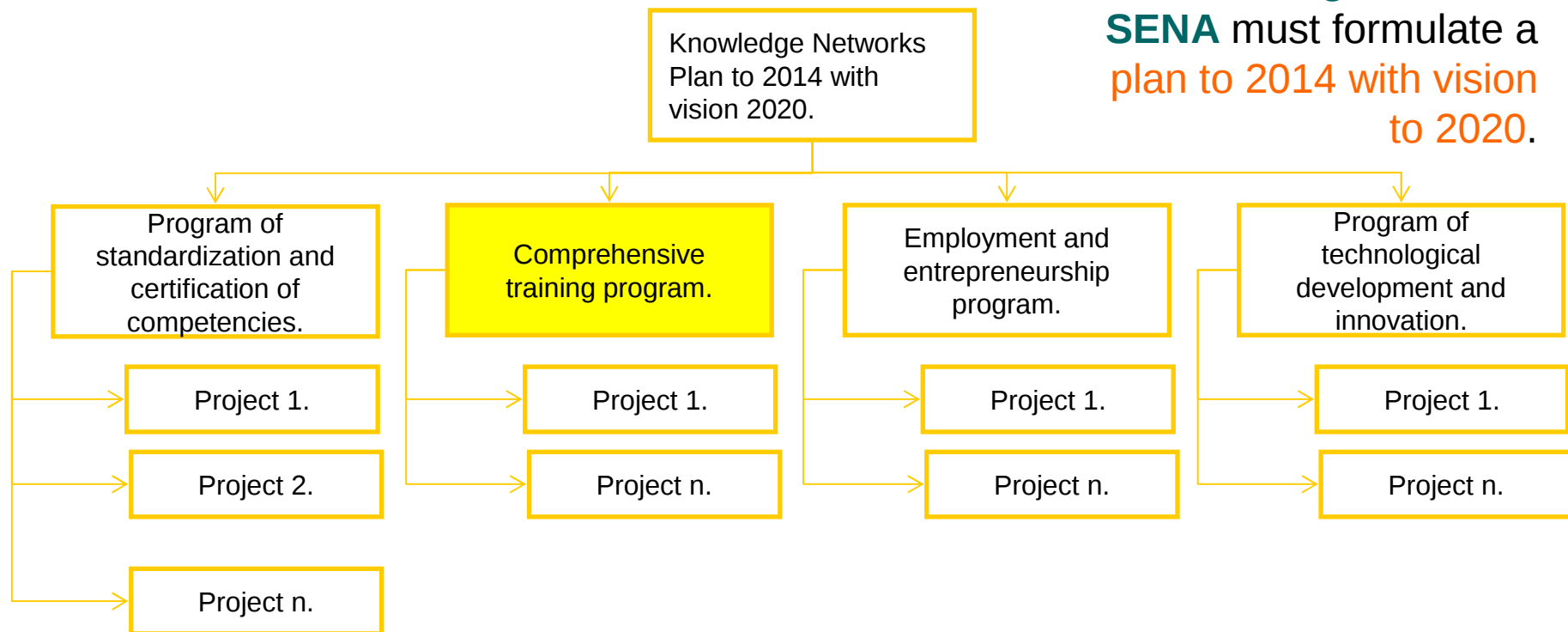
Criteria to form knowledge networks SENA:

- Pertinence to the productive sector and relevance to the social sector..
- Affinity with national and regional government policies (Currently: locomotives and world-class sectors).
- Classification by knowledge fields –ISCED– in which becomes visible the classification by occupation –NOC–and industrial activities –ISIC– to ensure coordination with the Education System, Employment System and Production System, simultaneously.
- Flexibility to favor work within the network and simultaneously work among different networks through interfaces.

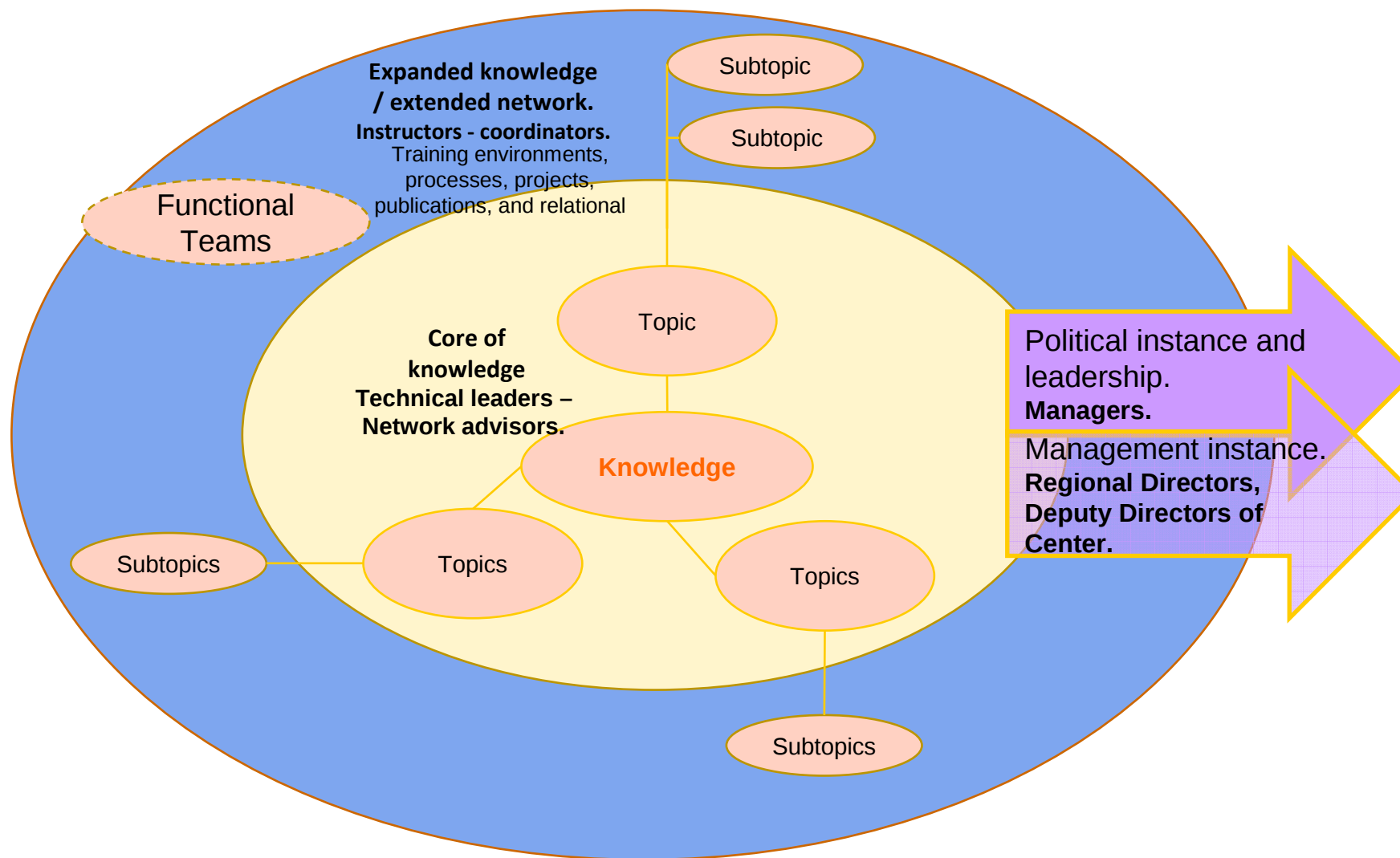
OPERATION OF A KNOWLEDGE NETWORK SENA

**The knowledge networks
SENA**
operate through project work.

Therefore, each
**knowledge network
SENA** must formulate a
**plan to 2014 with vision
to 2020.**



OPERATION OF A KNOWLEDGE NETWORK SENA - STRUCTURE



KNOWLEDGE NETWORKS CONFORMATION SENA

ISCED: Humanities and arts.
NOC: Occupations in art.
ISIC: Recreational and cultural activities.

1. Culture network.
2. Graphic arts network.

ISCED: Business education.
CNO: Occupations in sales, administration and finance.
ISIC: Trade, financial intermediation and business act.

3. Trading and sales network.
4. Financial management network.
5. Administrative management network.

ISCED: Engineering, manufacturing and construction.
NOC: Occupations in applied natural sciences..
ISIC: Manufacturing industries and others.

6. Mechanics network.
7. Electricity network.
8. Electronics and automation network.
9. Telecommunications network.
10. Applied chemistry network.
11. Network of computing, software design and development.
12. Automotive network.

ISCED: Engineering, manufacturing and construction (industry and production).
NOC: Occupations in processing, manufacturing and assembly.
ISIC: Manufacturing industries and others.

13. Textiles, clothing, design and fashion network
14. Leather, footwear and leather goods network.
15. Materials for industry network.
16. Mining network.
17. Hydrocarbons network.
18. Logistics and production management network.
19. Construction network.

ISCED: International Standard Classification of Education

NOC: National Occupational Classification

ISIC: International Standard Industrial Classification of Economic Activity

CONFORMACIÓN DE REDES DE CONOCIMIENTO SENA

ISCED: Agriculture.
NOC: Occupations of the primary and extractive exploitation
ISIC: Agriculture, livestock, hunting and forestry.

20. Agricultural network.
21. Cattle network.

ISCED: Health, and social services.
NOC: Health occupations.
ISIC: Health and social services.

24. Health network.

ISCED: Life sciences.
NOC: Occupations in applied natural sciences.
ISIC: Other business activities and other community services.

22. Ambiental network.
23. Biotechnology network.

ISCED: Services.
NOC: Service occupations.
ISIC: Other community service activities.

25. Hotel and tourism network.
26. Network of sport, physical activity and recreation.
27. Transport network.
28. Personal services network

TECHNOPARKS

Is a **technology-based innovation** strategy of SENA
That contributes to country **productivity** through formulation
of projects of:

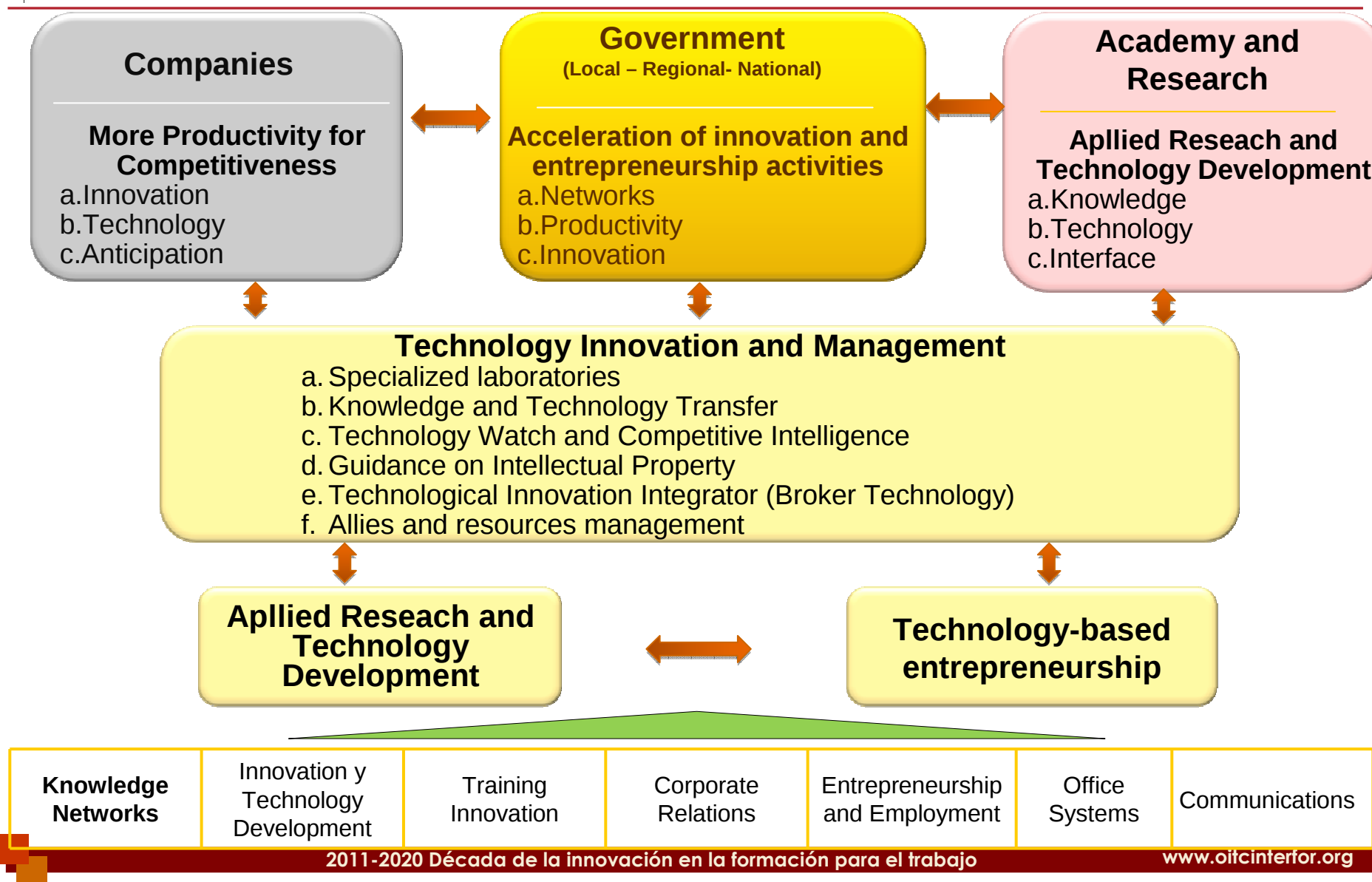
**Applied Research and
Technology Development**

**Technology-based
entrepreneurship**

Develops actions of technology and knowledge transfer through
counseling and ***specialized technology labs***

It behaves as an instrument of technological innovation
among the Government, the Company and the Academy

TECHNOPARKS MODEL



SERVICES

- Technical and technological management assistance for projects of:
 - Applied Research
 - Technology Development
 - Technology-Based Entrepreneurship
- Specialized laboratories
- Technology Transfer
- Interface between Government, Company and Academy



DEVELOPMENT LINES

- **Biotechnology**
- **Agroindustry**
- **Nanotechnology** applied to Clean Technologies, New Materials and Electronics
- **Virtual Technologies:** Software Development + Digital Animation
- **Electronics and Telecommunications**
- **Design and Engineering**

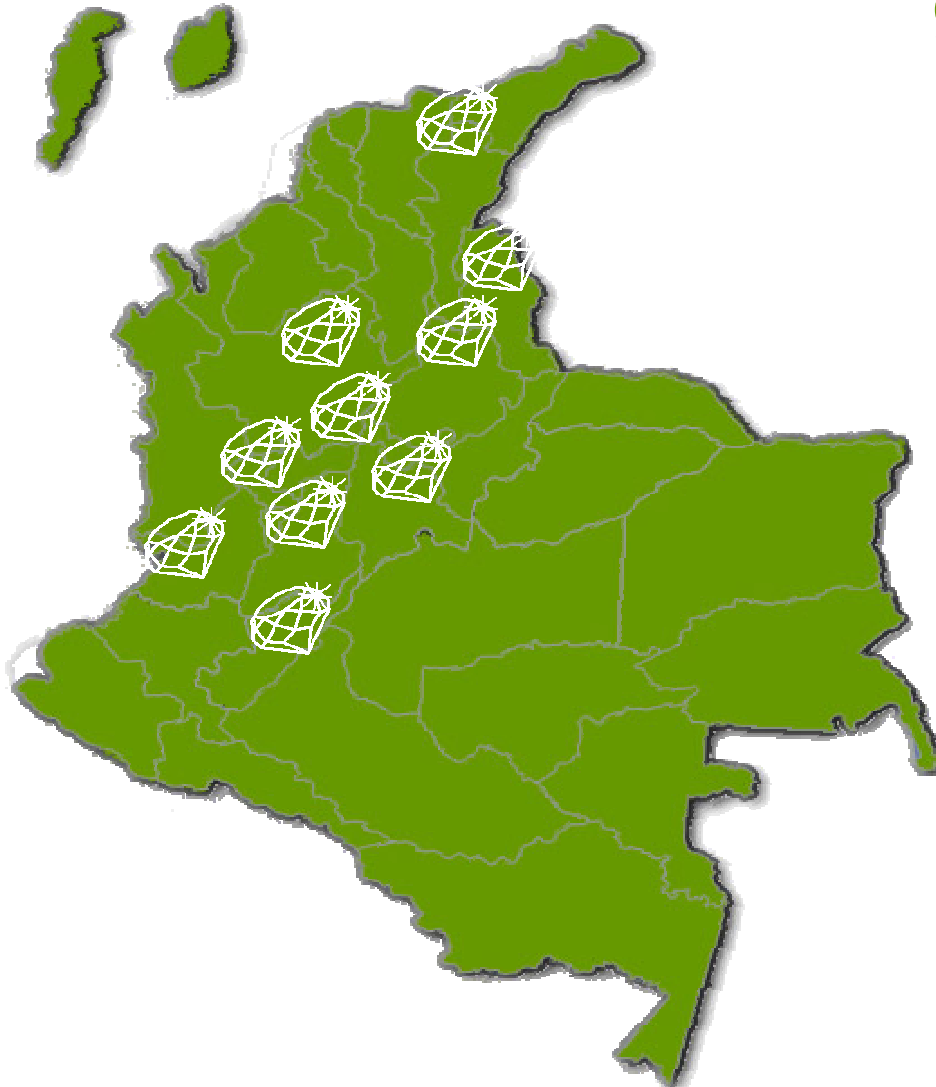




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NODES- BRANCHES

9 nodes in operation



1. Bogotá
2. Medellín (Antioquia)
3. Pereira (Risaralda)
4. Rionegro (Antioquia)
5. Neiva (Huila)
6. Manizales (Caldas)
7. Cazucá (Cundinamarca)
8. Valledupar (Cesar)
9. Ocaña (Norte S/tander)

Being implemented

1. Angostura (Huila)
2. Bucaramanga (S/tander)
3. Espinal (Tolima)
4. Cali (Valle)



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INNOVATION SKILLS GENERATION IN PROFESSIONAL TRAINING

Pilar

Science and Technology

Training environments update SENA

Infrastructure modernization, training materials and wireless networks contribute as a tool to the comprehensive training.

EXAMPLE

**Training
environments
update SENA**

- Update on irrigation and drainage technologies (Boyacá, Cauca, Cesar, Meta, Nariño y Santander)
- National School of confectionery and sweets of Buga.
- Oil refinery environment in Bolivar.
- Heavy machinery operation, to meet the training needs associated with building infrastructure of the Ruta del Sol

*"We need to dream and be willing to take risks
with new ideas and working methods."*

Mr. Juan Somavía, 2009,
Director General ILO



Thanks for your attention

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