



New skills for a new world:

The INTEC experience

Global ICT Capacity Building Symposium (CBS 2018)
Developing Skills for the Digital Economy and Society

June 18-20, 2018
Santo Domingo, Dominican Republic

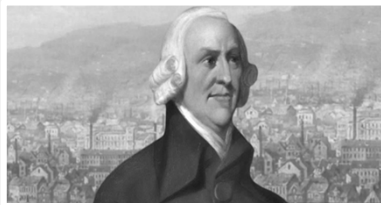
Rolando M. Guzmán/Rector

Innovation in historical perspective

1

Throughout three centuries, prominent thinkers have highlighted the innovation capacity as a distinctive feature of our economic system.

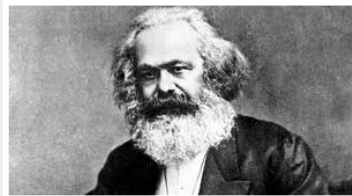
s. XVIII



Adam Smith

Innovation in processes as a basis for increasing productivity.

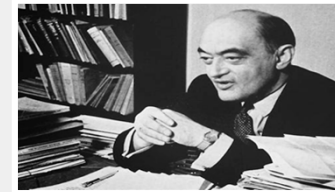
s. XIX



Karl Marx

The entrepreneurial attitude and the constant search for new markets as a basis for the expansion of capitalism.

s. XX



Joseph Schumpeter

The process of "creative destruction" as a source for investment and economic growth.



The role of higher education institutions

2

Since the mid-twentieth century, the analysis of innovation has established some principles:

1. The capacity for innovation depends not only on individual creativity, but also on the existence of a whole system.
2. Universities are essential actors in national innovation systems, as incubators of new discoveries and capacity building.
3. To fulfill this mission, universities must transform their educational and operational model based on three key questions:

Why to teach? **What** to teach? **How** to teach?

This presentation describes the experience of INTEC (a small university in the Dominican Republic) in the search for answers to these challenges.



Development challenges for the DR

3

In the Dominican context, universities are called to contribute to the achievement of four great aspirations established by society ...

Social

"A Society with Equal Rights and Opportunities"

Economy

"A Sustainable, Integrated and Competitive Economy"

Institutions

"A Democratic Social State ruled by Law"

END 2030*

Environment

"A Society with Production and Consumption Patterns which are Environmentally Sustainable and which Adapts to Climate Change"

* Based on National Development Strategy (END) 2010-2030

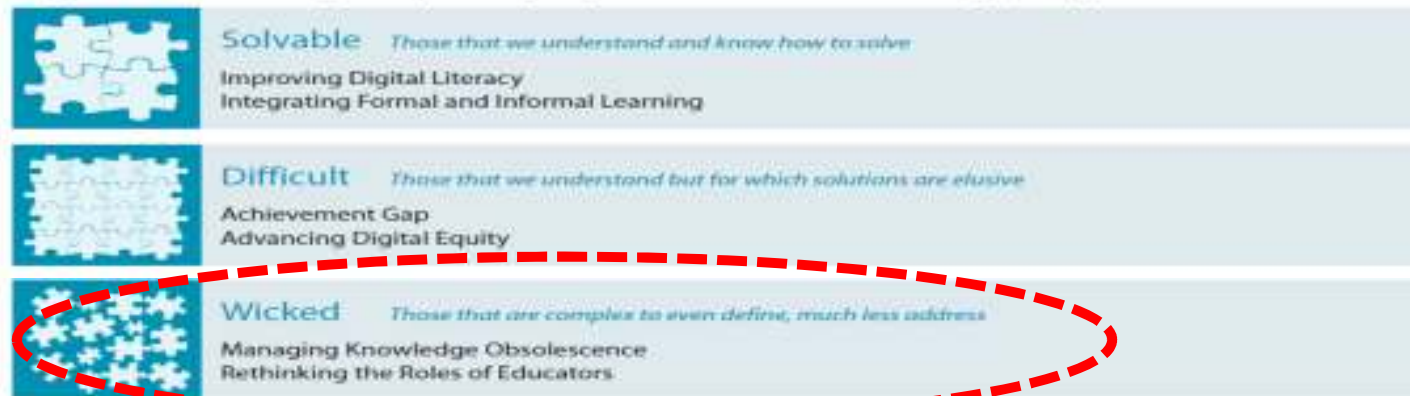
The technological environment for XXI century

5

NMC Horizon Report > 2017 Higher Education Edition at a Glance Key Trends Accelerating Higher Education Technology Adoption



Significant Challenges Impeding Higher Education Technology Adoption



Important Developments in Technology for Higher Education



INTEC strategic approach

6



The pillars of the strategy

6

Continuous curricular reform

Mechanism to detect and satisfy relevant needs on continual basis

Special bonding with industry, government and society

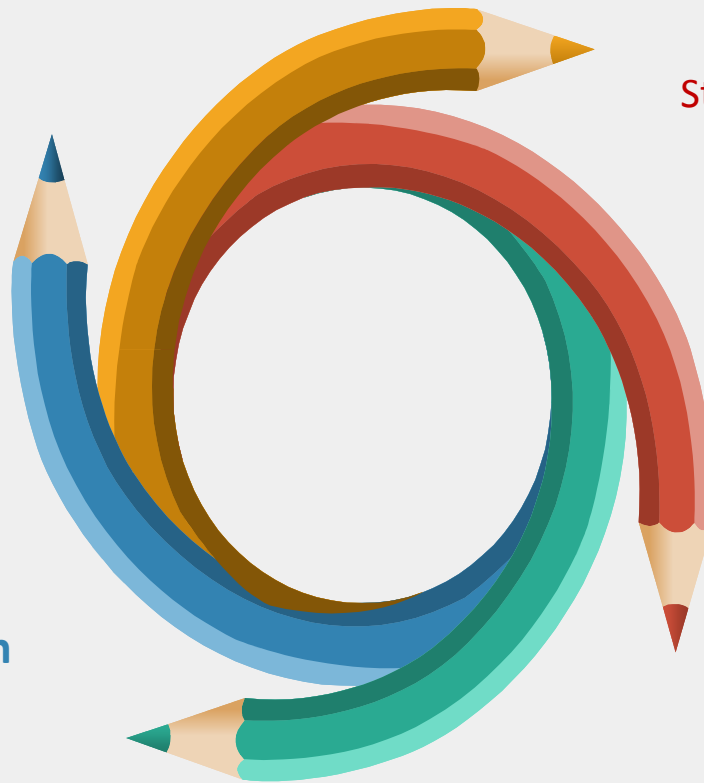
Strengthening spaces for dialogue and mutual enrichment

Research and innovation

Development of research and innovation capacities

Structural (Re)adaptation

Rethinking structure, processes and incentives



The implementation of the strategy:

7

Curriculum

Curricular reform based on skills and humanist fundamentals

Search for flexibility

New paradigms for learning evaluation

New degrees, related to science and digital skills

Virtuality as a learning tool

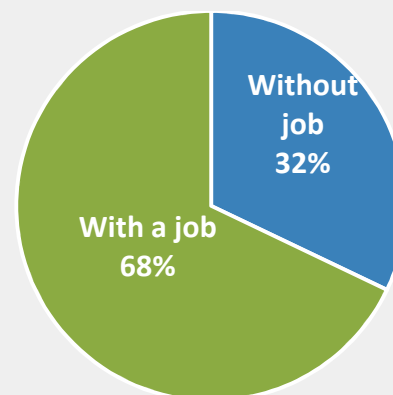
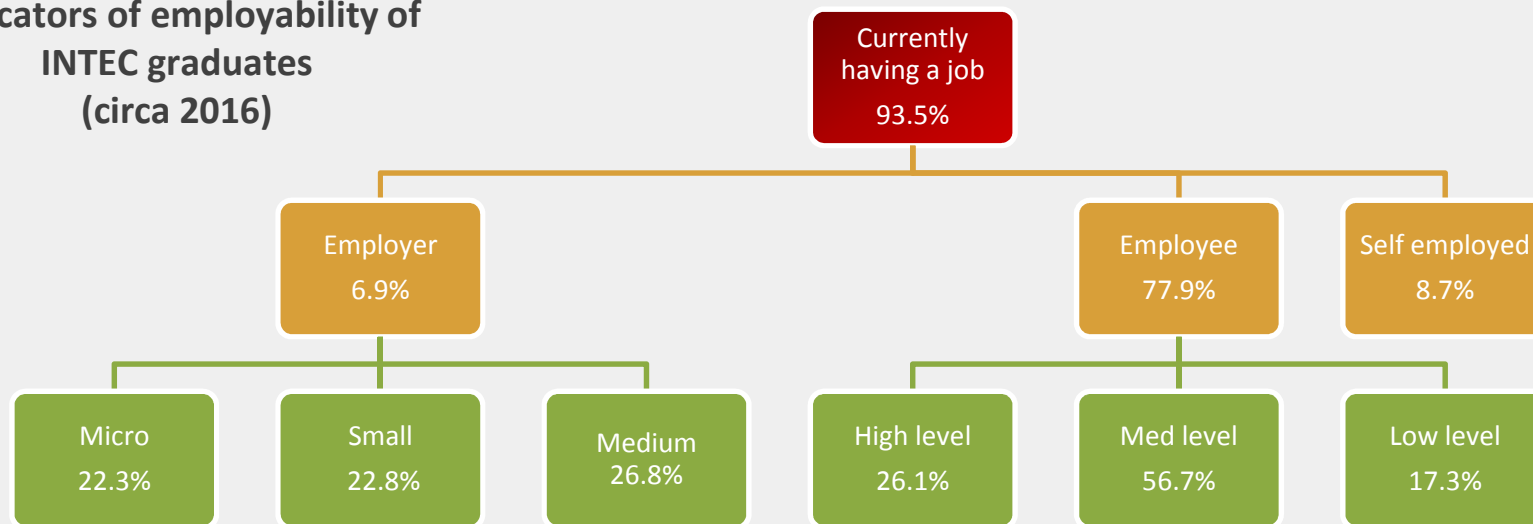


The implementation of the strategy:

8

Curriculum

Indicators of employability of
INTEC graduates
(circa 2016)



Distribution of INTEC graduates
by labor condition at the time of
graduation



The implementation of the strategy:

9

Research and innovation

Creation of
Research
Vice-
Rectorcy

New
Research
Policy and
Creation of
Research
Groups

Attraction of
new
researchers
with doctoral
degree

Creation of
Entrepreneurship
and Innovation
Center

Intellectual
Property
Regulation



The implementation of the strategy:

10

Research and innovation

Automatic heating catalyst

It reduces the pollution of the gases emitted by the vehicles in a shorter time compared to those existing in the state of the art. Bases entirely its operation on the catalysis achieved through three precious metals: palladium, rhodium and platinum

Patent
U-2014-0190

Patent
U-2017-0012

Automated wheelchair

Automated wheelchair with omnidirectional movement and erection mechanisms. It includes an operating system with Internet access, being able to communicate with any device, and allowing linking the chair to a home automation system implemented in the home or work place.

Amphibious Vehicle for people with reduced mobility

It allows people with reduced mobility to bathe while sitting on the vehicle in the sea, pool or lake, without any type of impediment and without the help of a third party. It works by means of a motorized or mechanical system that allows the movement through the sand and water, where the user has control of the mobility of the vehicle.

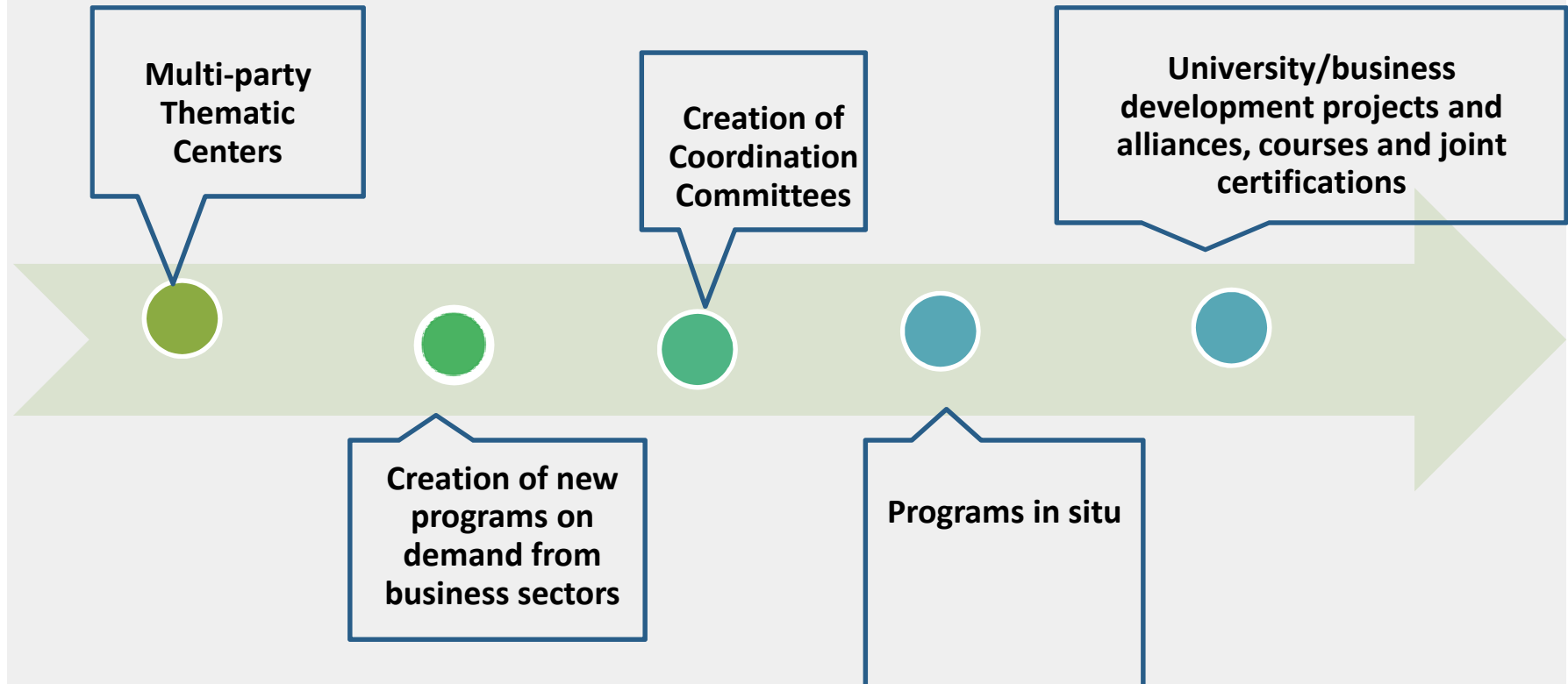
Patent
U2017-0011

Students' Projects in patent process

The implementation of the strategy:

11

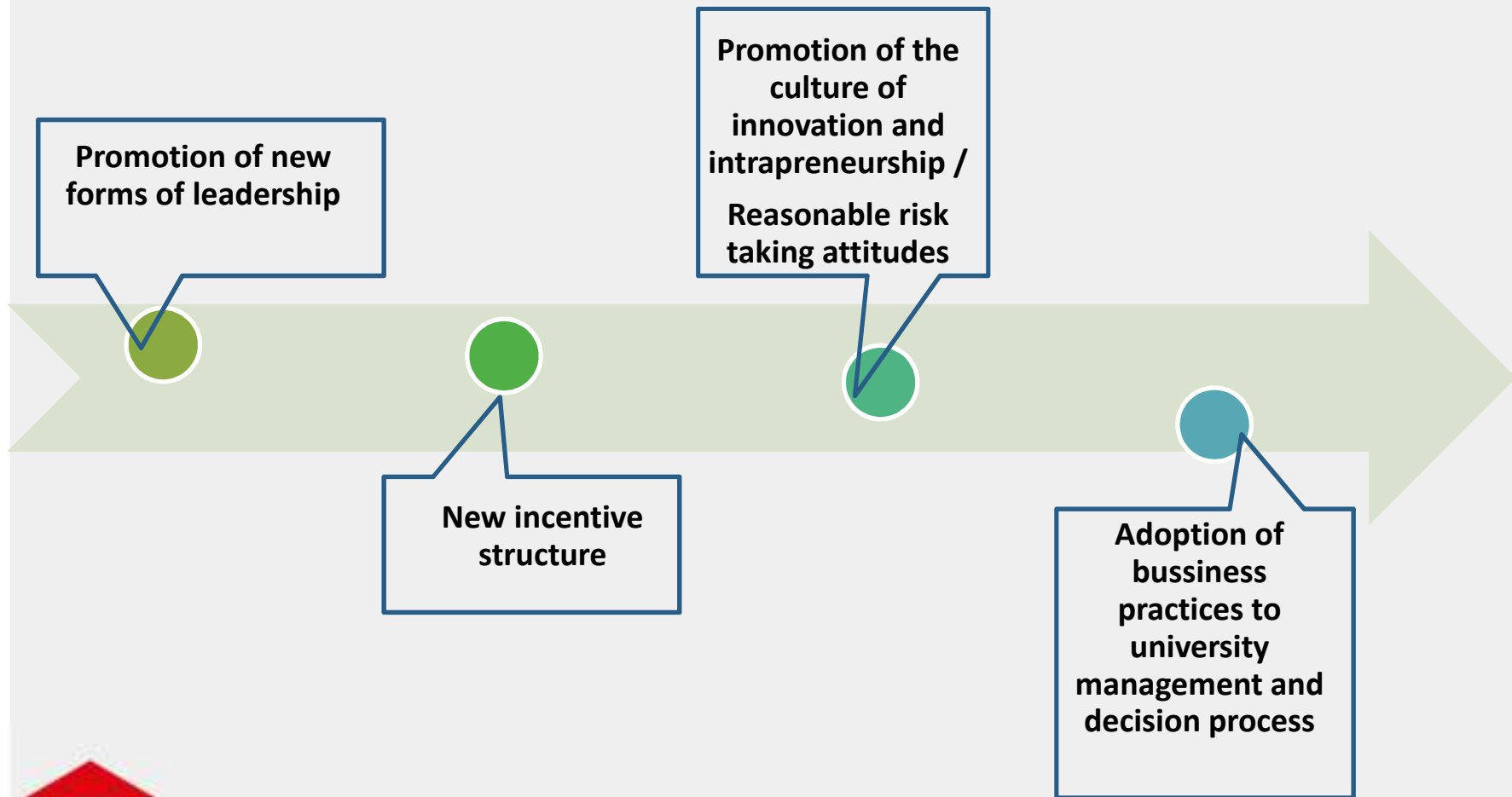
Institutional networks



The implementation of the strategy:

12

Structure, process and incentives



An Agenda for the Future

13

"Universities have been a historical synonym of the generation of knowledge, as well as essential and irreplaceable pillars of scientific progress. However, the way of doing research has changed and universities should adapt to it.

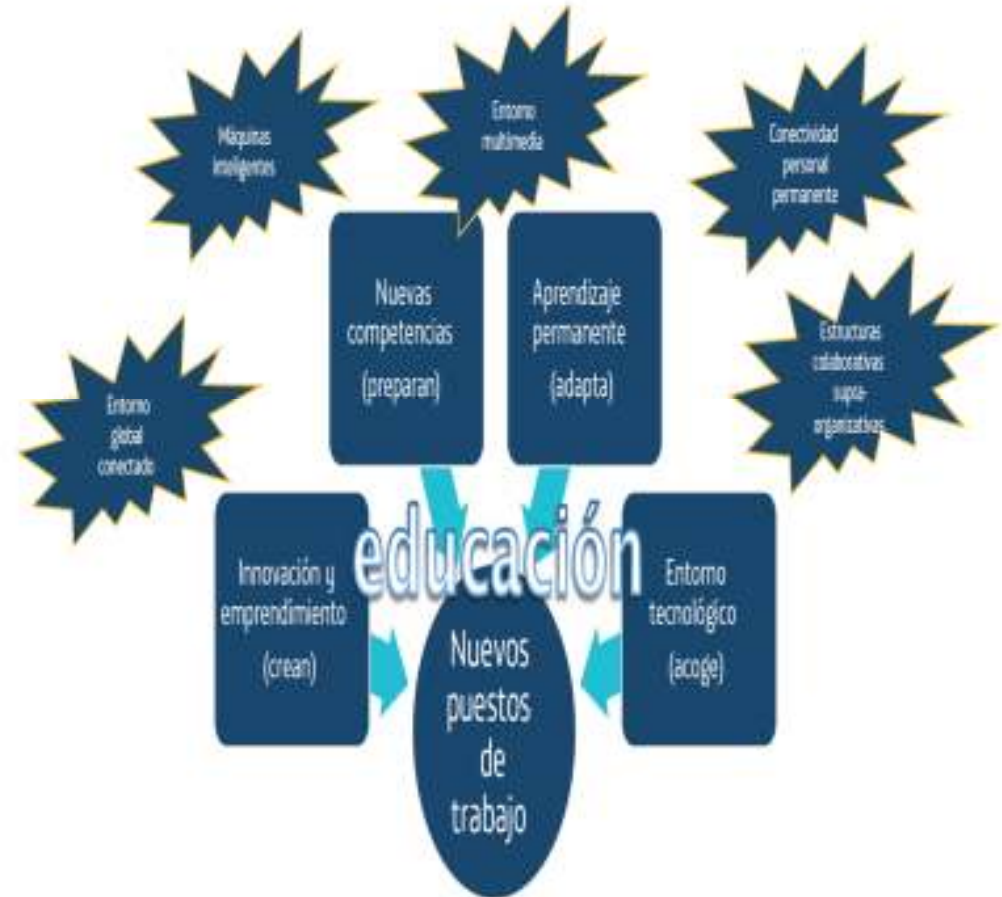
It is fundamental to self-reflection, the constant search for good practices and new ideas, and a willingness to adapt and change.

It is a priority that leaders education not only know but lead this revolution, anticipating paradigm changes based on new realities".

Salamanca Declaration (2018)



An environment full of opportunities (*)



(*) Reproduced from *El Trabajo en un Mundo Inteligente*.
Fundación Telefónica. 2015.



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