



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

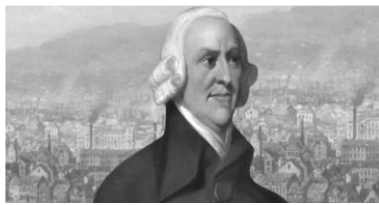
Rolando M. Guzmán/Rector

Innovation in historical perspective

1

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

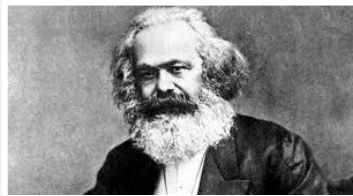
s. XVIII



Adam Smith

Innovation in processes as a basis for increasing productivity.

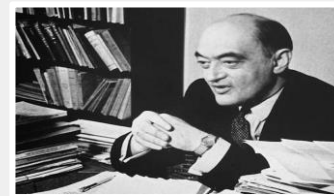
s. XIX



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 teach? 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"

Institutions

"A Democratic Social State ruled by Law"

Economy

"A Sustainable, Integrated and Competitive Economy"

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

Development challenges for the DR

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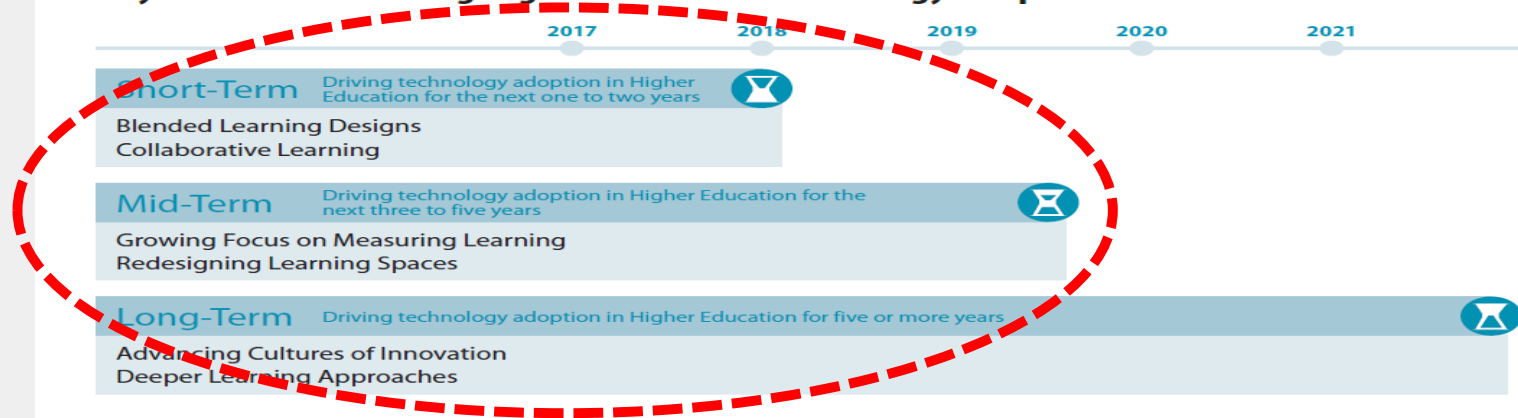
... which translate into specific social needs.

Latin America and Caribbean (25 countries): Lexicometric analysis of key concepts in National Development Plans

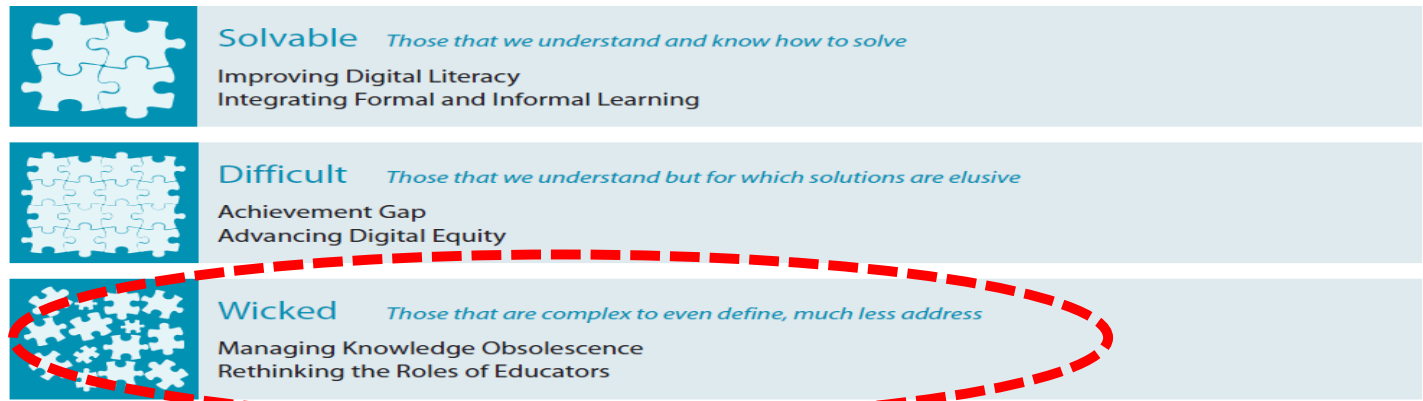


NMC Horizon Report > 2017 Higher Education Edition at a Glance

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

MISIÓN

Somos una comunidad universitaria plural e innovadora, que forma ciudadanos y profesionales éticos, emprendedores y competitivos a nivel internacional, y genera conocimiento en beneficio de la sociedad.

VISIÓN

Ser un espacio que inspira creación de conocimiento, innovación y excelencia, para contribuir al desarrollo sostenible de la sociedad.

VALORES

EXCELENCIA - PENSAMIENTO CRÍTICO Y CREATIVO - INNOVACIÓN - INCLUSIÓN - INTEGRIDAD - RESPONSABILIDAD SOCIAL

DIRECTRICES ESTRATÉGICAS

★ Aprendizaje Transformador

Desarrollamos un sistema de aprendizaje sustentado en un diseño curricular flexible, metodologías innovadoras y evaluación continua, en búsqueda activa de resultados socialmente relevantes.

★ Conocimiento, Innovación y Emprendimiento

Somos referente en innovación y búsqueda continua de oportunidades de emprendimiento, mediante la gestión productiva del conocimiento, basada en actitudes de curiosidad, hábitos de indagación y prácticas de experimentación, para la transformación de la sociedad.

★ Vinculación e Impacto Social

Actuamos como agentes de cambio e innovación, mediante alianzas estratégicas con sectores clave, incidencia en políticas públicas y aplicación de ciencia y tecnología a problemas relevantes de la sociedad.

★ Sostenibilidad y Expansión

Construimos una universidad que crece de manera sostenible, financieramente diversificada y ambientalmente responsable.

★ Capacidades Organizacionales

Somos un espacio que inspira el desarrollo continuo del talento y que fomenta una cultura orientada al servicio de calidad con transparencia y rendición de cuentas.

EJES TRANSVERSALES

CALIDAD - VIRTUALIZACIÓN - INTERNACIONALIZACIÓN

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

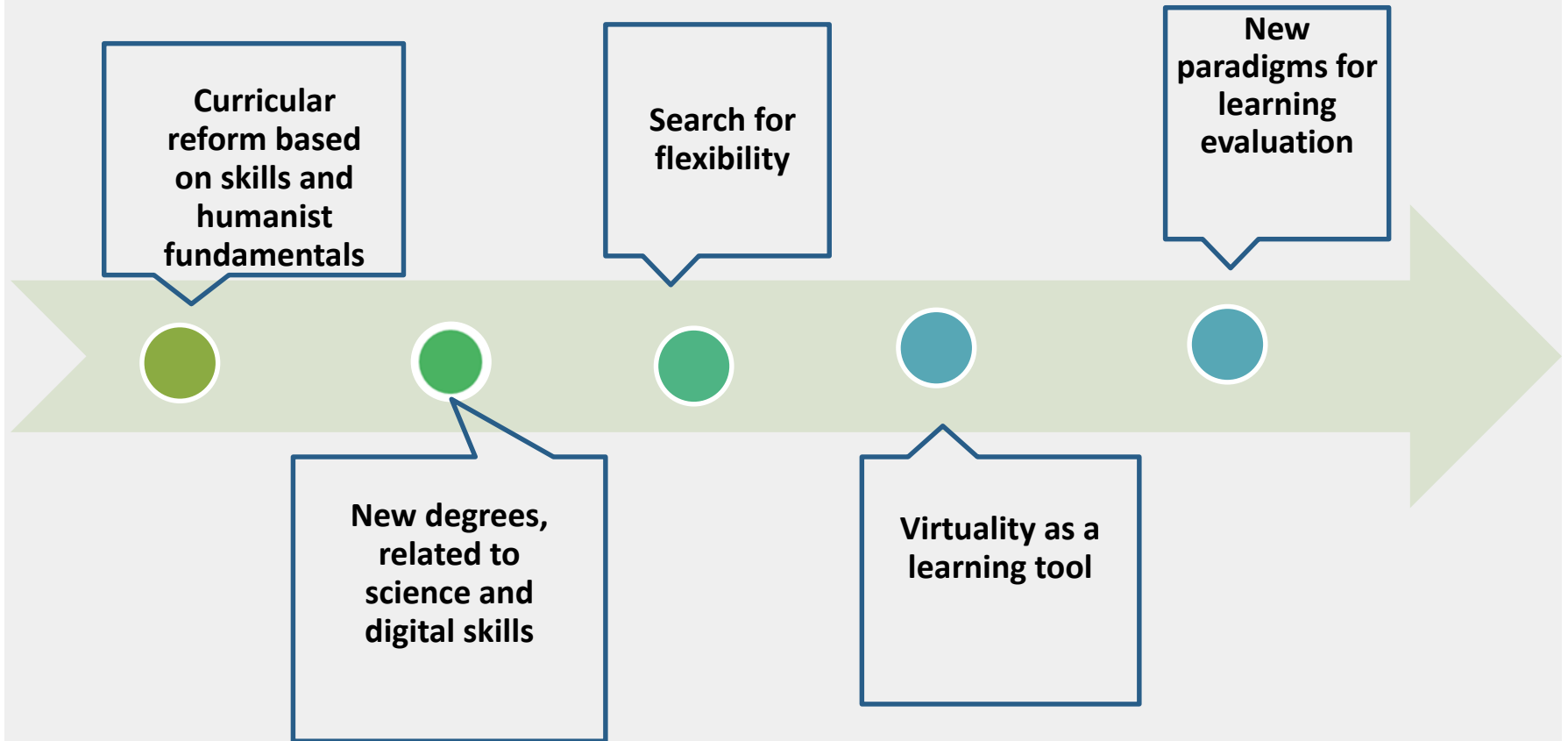
Rethinking structure, processes and incentives



The implementation of the strategy:

7

Curriculum

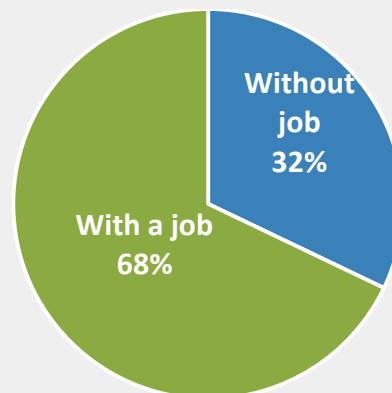
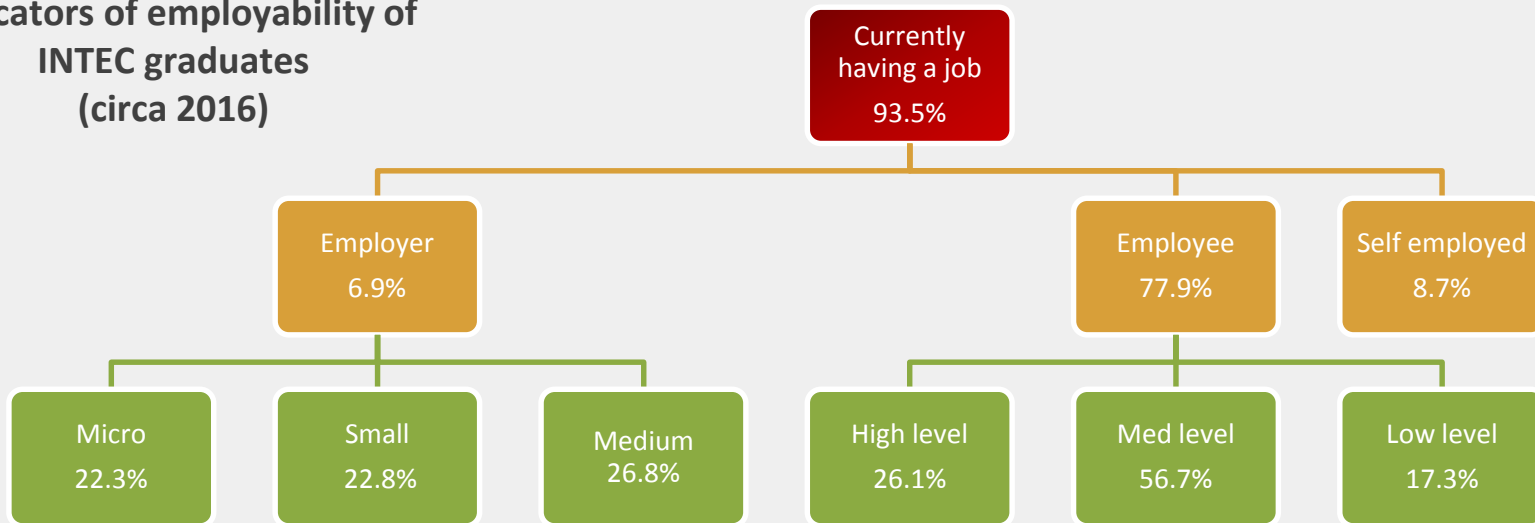


The implementation of the strategy:

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:

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 workplace.

Amphibious Vehicle for people with reduced mobility

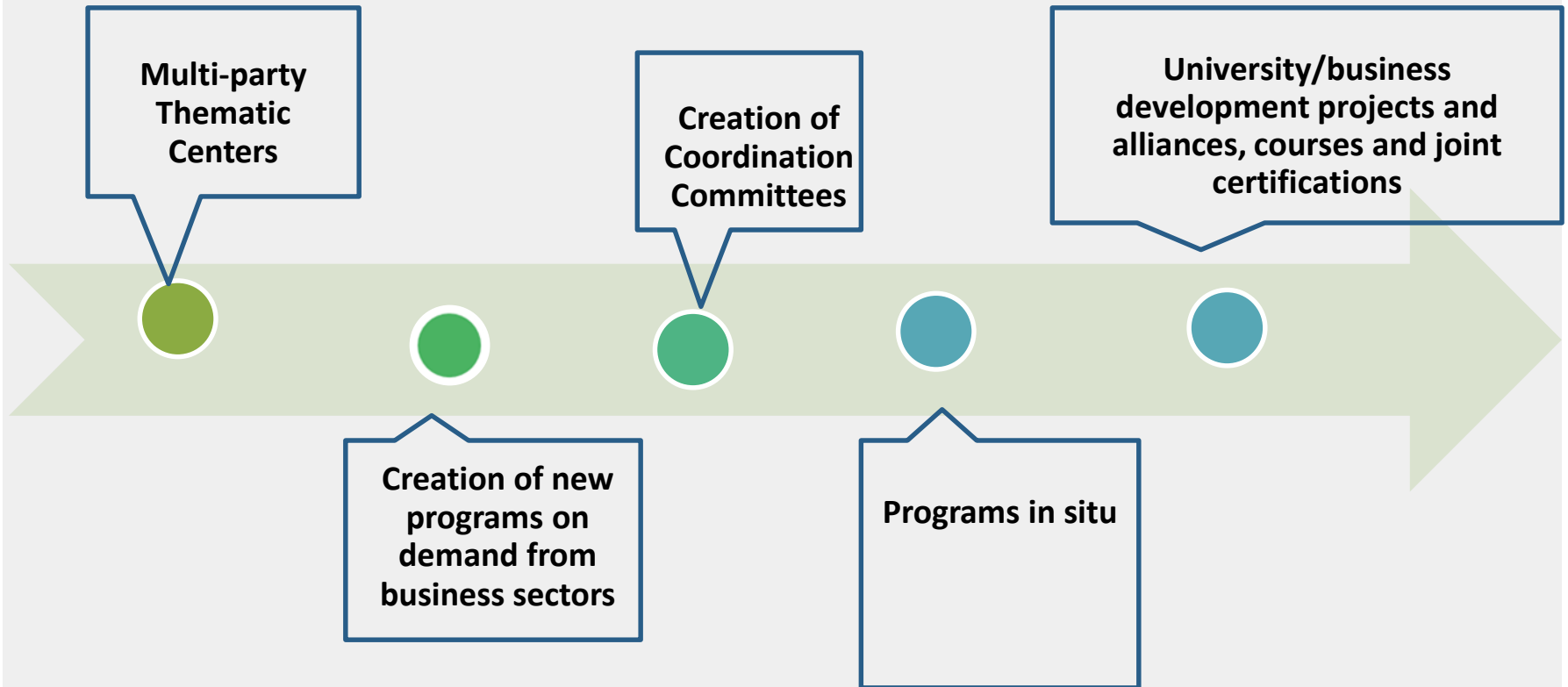
It allows people with reduced mobility to bathe while sitting on the vehicle in the sea, pool or lake, without any type of impediment and without the help of a third party. It works by means of a motorized or mechanical system that allows the movement through the sand and water, where the user has control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

Patent
U2017-0011

The implementation of the strategy:

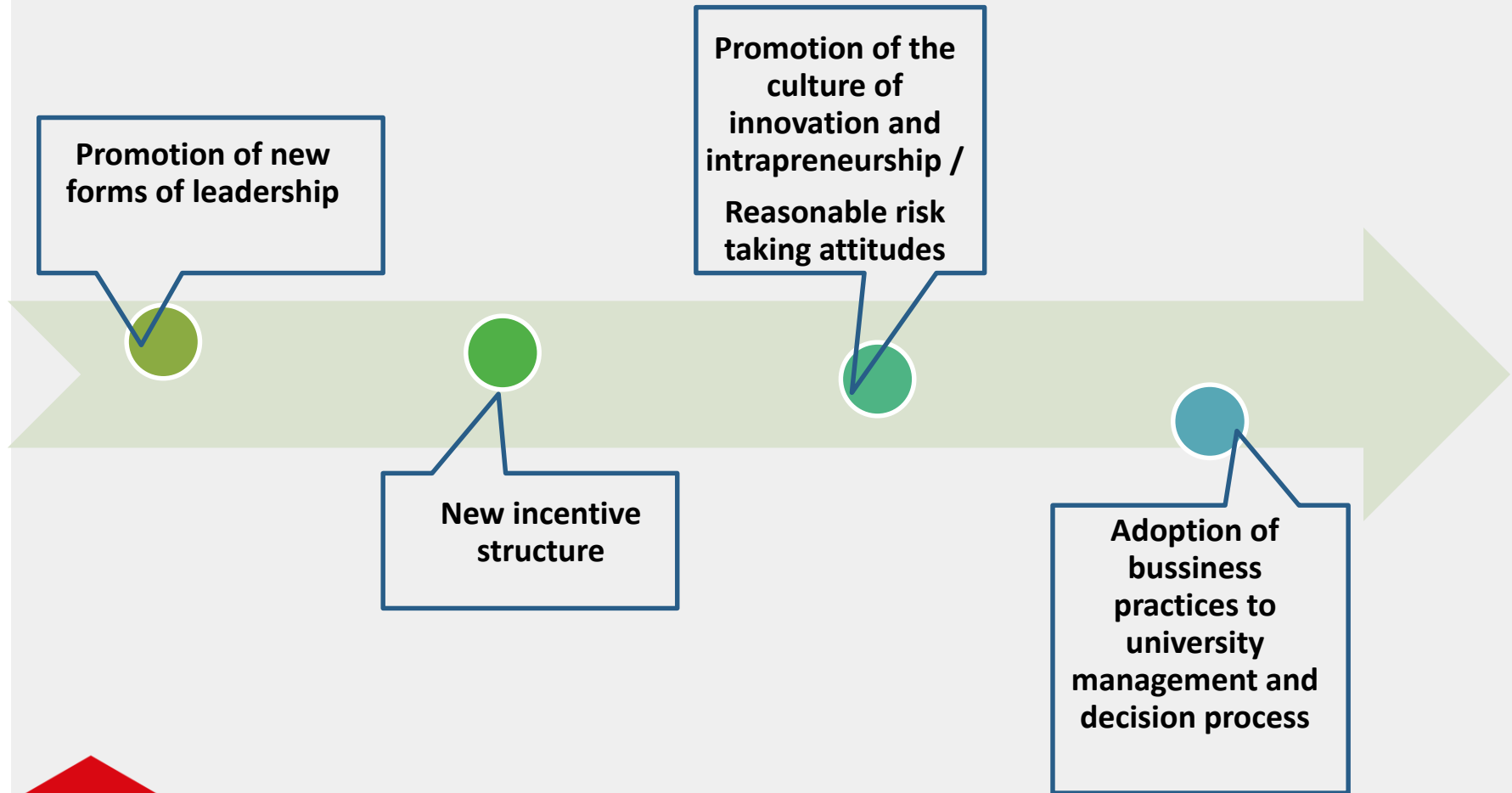
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Social networks



The implementation of the strategy:

Structure, process and incentives



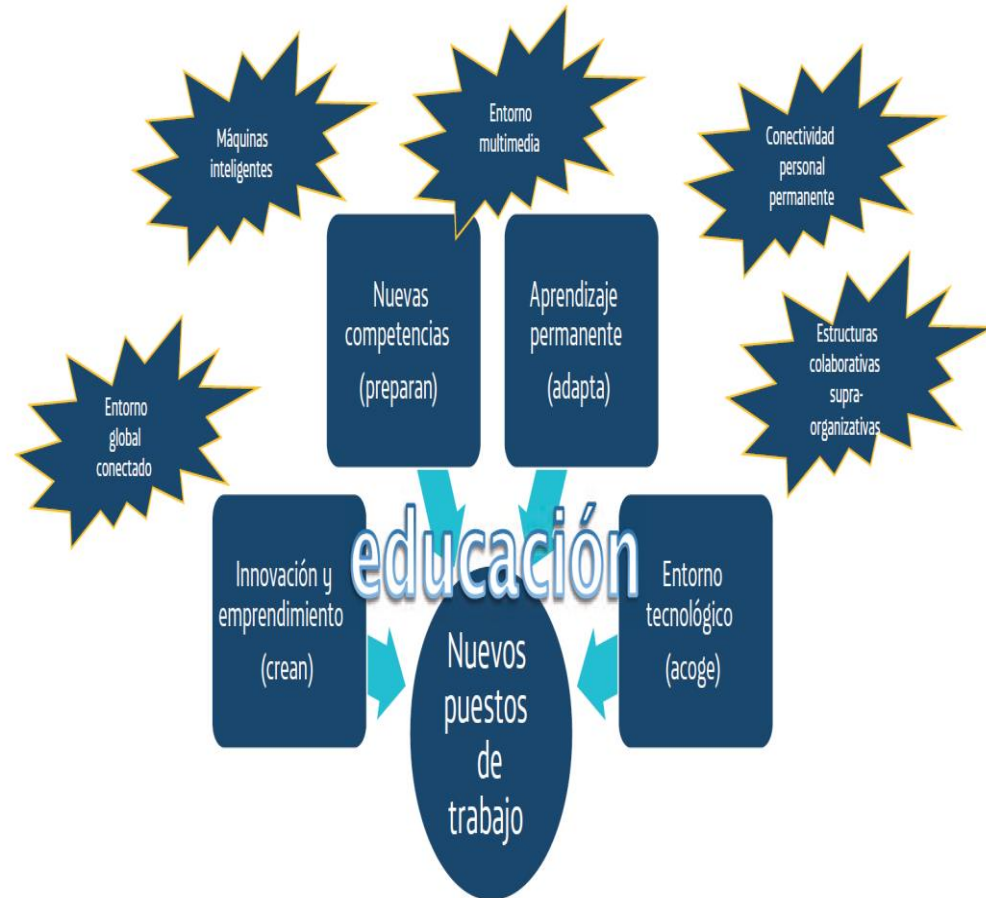
"Universities have been a historical synonym of the generation of knowledge, as well as essential and irreplaceable pillars of scientific progress. However, the way of doing research has changed and universities should adapt to it.

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.