DIGITAL TRANSFORMATION OF FIRMS IN LAC
The role of public policy
The Digital Economy

The LAC region

CTI’s work and portfolio
NUMBER OF CONNECTED DEVICES

0.5 bn 16 bn 29 bn
2003 2016 2022

Source: Cisco (2010), Ericsson (2016)
90% of all digital data was created in the last 2 years.
DIGITAL ECONOMY

It’s the economic activity that results from billions of everyday online connections among people, businesses, devices and data.
Changes markets

Global value chains and sectors are being transformed
Transforms and creates new firms

Flexible vs traditional structures

From mass production to mass customization

Revolutionary business models

Knowledge & Innovation driven

Smart operations
Improves productivity
Enables the creation of local innovation ecosystems
It’s not exempt of risks

Increasing gaps between those with and w/o access to technology
It’s not exempt of risks

Impact on the labor force

<table>
<thead>
<tr>
<th></th>
<th>Hilton</th>
<th>Airbnb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation</td>
<td>$20bn*</td>
<td>$31bn</td>
</tr>
<tr>
<td>Number of employees</td>
<td>169,000</td>
<td>2,400</td>
</tr>
</tbody>
</table>

* Market cap as of 08/09/2017
It’s not exempt of risks

Potential for automation of labor force

Employee weighted overall % of activities that can be automated by adapting currently demonstrated technologies

McKinsey, 2017
It’s not exempt of risks

New regulatory concerns: Competition

Amazon’s Growing Mentions On Earnings Calls
Number of mentions on earnings calls and other corporate events

- 30 days
- 90 days
- 1 year

Amazon: 1.8k
- 165.0
- 635.0

Trump: 1.0k
- 32.0
- 162.0

Wages: 406.0
- 22.0
- 111.0

As of July 30, 2017
So why is the digital transformation not achieving its full potential on its own?
Firms have difficulties adopting and using new technology

- Inadequate supply
- Information deficiencies
- Lack of financing
- Weak complementary investments
The new digital disruptive startups that fail to exist
Demand for new public goods

- Regulations for competition, interoperability, cybersecurity, standards
- Infrastructure for connectivity and beyond
- Skills
- Need for intense public-private coordination
Governments are already promoting digital transformation

Canada
Digital Canada 150
Venture Capital Action Plan
Canada Accelerator and Incubator Program

Denmark
Digital Strategy 2016-2020
Infrastructure and digital skills mapping

Estonia
Digital Agenda 2020 for Estonia
Open data and e-government

USA
Manufacturing USA
Smart Manufacturing Innovation Institute

Germany
INDUSTRIE 4.0
Plattform Industrie 4.0

China
Digital China
Made In China 2025
The Digital Economy in LAC
Strong recent progress in terms of access but not with regards to quality

Closing the access gap with the OECD...

Internet Users 2006-2015 (% of total population)

... but not the quality gap

Average Internet speed (Mbps)

Source: Cepal, 2016

Source: fastmetrics
Low adoption and usage by firms

Source: IDB, based on data extracted from the Global Innovation Index, 2017
Incipient e-Commerce
Few unicorns

North America: 124
Europe: 22
Asia: 116
Latam: 1
Africa: 1

Venture Capital Activity (US$ bn deployed by VC funds in 2016)
69.1 EEUU
3.9 Israel
0.5 LAC

Source: TechCrunch “Today’s Unicorns” List as of August 2017
But Latin American economies are not innovating enough

Investment in R&D as a share of GDP and the proportion that is funded by the business sector.

- Funded by Business
- Funded by Other Sources

Sources: OECD and RICYT.
Scarcity of specialized technicians and engineers

Researchers per 1,000 in the labor force

LAC

OECD

USA

Source: Approximate figure based on RICYT and MISTI, accessed December, 2014.
Underdeveloped ICT Sector

Source: * The Little Book on Information and Communication Technology, World Bank, 2017
** WDI, 2015
Some pioneering policy initiatives
Incentives for digital transformation: adoption, usage and innovation
Financing the creation and growth of digital startups: accelerating disruption
Fostering skills for the digital economy
Supporting ICT sector development: towards higher value added services
Enabling digital infrastructure and regulation
Improving public-private coordination
Promoting digital-based innovation ecosystems
CTI’s portfolio in digital transformation

3,345 projects in the ICT sector, applied to existing firms and start-ups have been funded since 2010, for a total amount of USD 281 M

- **Costa Rica**: Rolling out in 2017.
- **Brazil**: Including new FINEP program expected to start execution in 2018.
AgTech
Argentina
DIGITAL START-UPS BACKED
### Components for NRG-A40C (Nuts Are Good 40 oz Jar Almonds, Cinnamon.)

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Units</th>
<th>Revision No</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALMD-RAW</td>
<td>Raw almonds</td>
<td>2.5</td>
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<tr>
<td>FLVR-C</td>
<td>Cinnamon Flavor</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>JAR40</td>
<td>40 oz plastic jar</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>NRG-A40H</td>
<td>Nuts Are Good 40 oz Jar Almonds. Honey Flavor</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Elements**

- **Item ID**: NRH-LBL1
- **Description**: Nuts are good jar label.
- **Units**: 1.0
- **Revision**: 445
STRAIGHTIC AGENDA

1. Knowledge and diffusion
2. Pilot projects
3. Increased impact on traditional operations