# DIGITAL TRANSFORMATION OF FIRMS IN LAC

## The role of public policy

IDB
Inter-American Development Bank

The Digital Economy

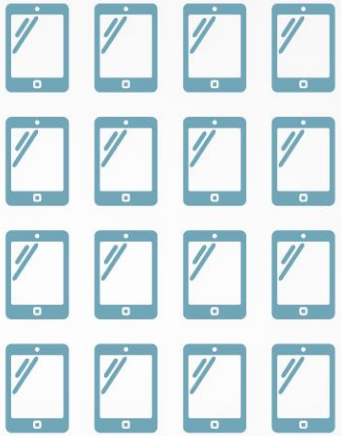
The LAC region

CTI's work and portfolio

# NUMBER OF CONNECTED DEVICES

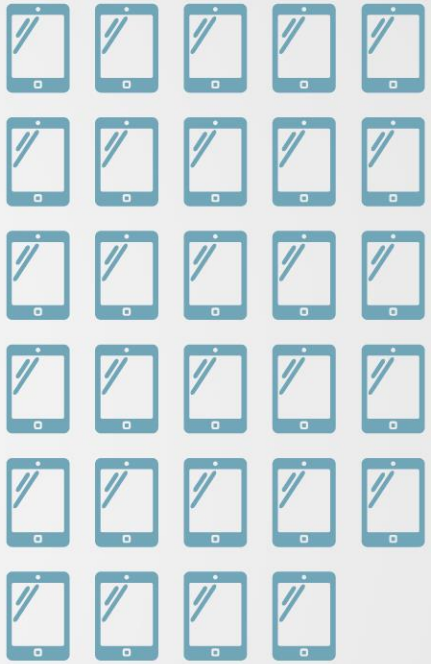
**0.5 bn**

2003



**16 bn**

2016



**29 bn**

2022

Source: Cisco (2010), Ericsson (2016)

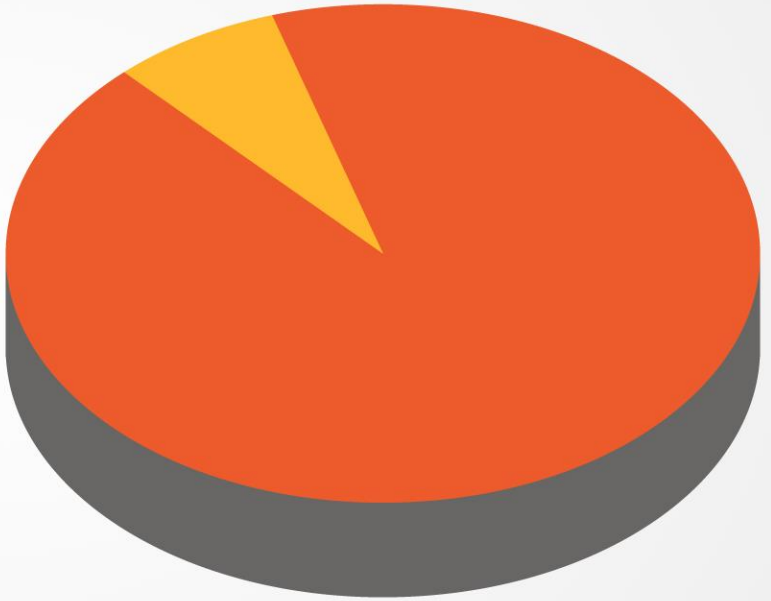
## NUMBER OF CONNECTED DEVICES

**0.5 bn**
2003

**16 bn**
2016

**29 bn**
2022

# 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

Hyperconnectivity

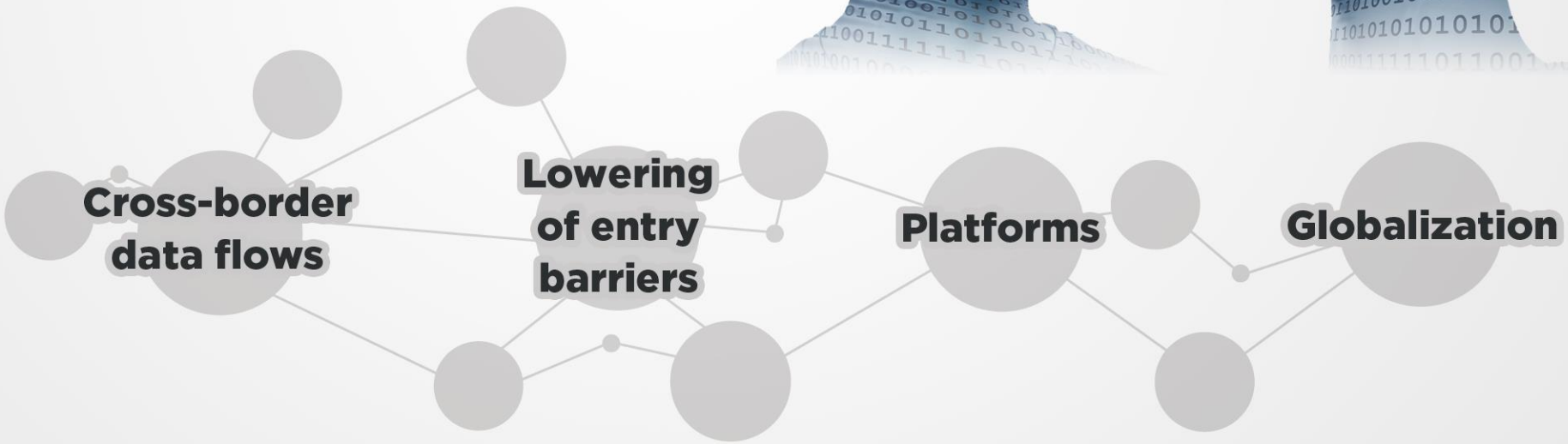
4th industrial revolution

Second Machine Age

Innovation driver

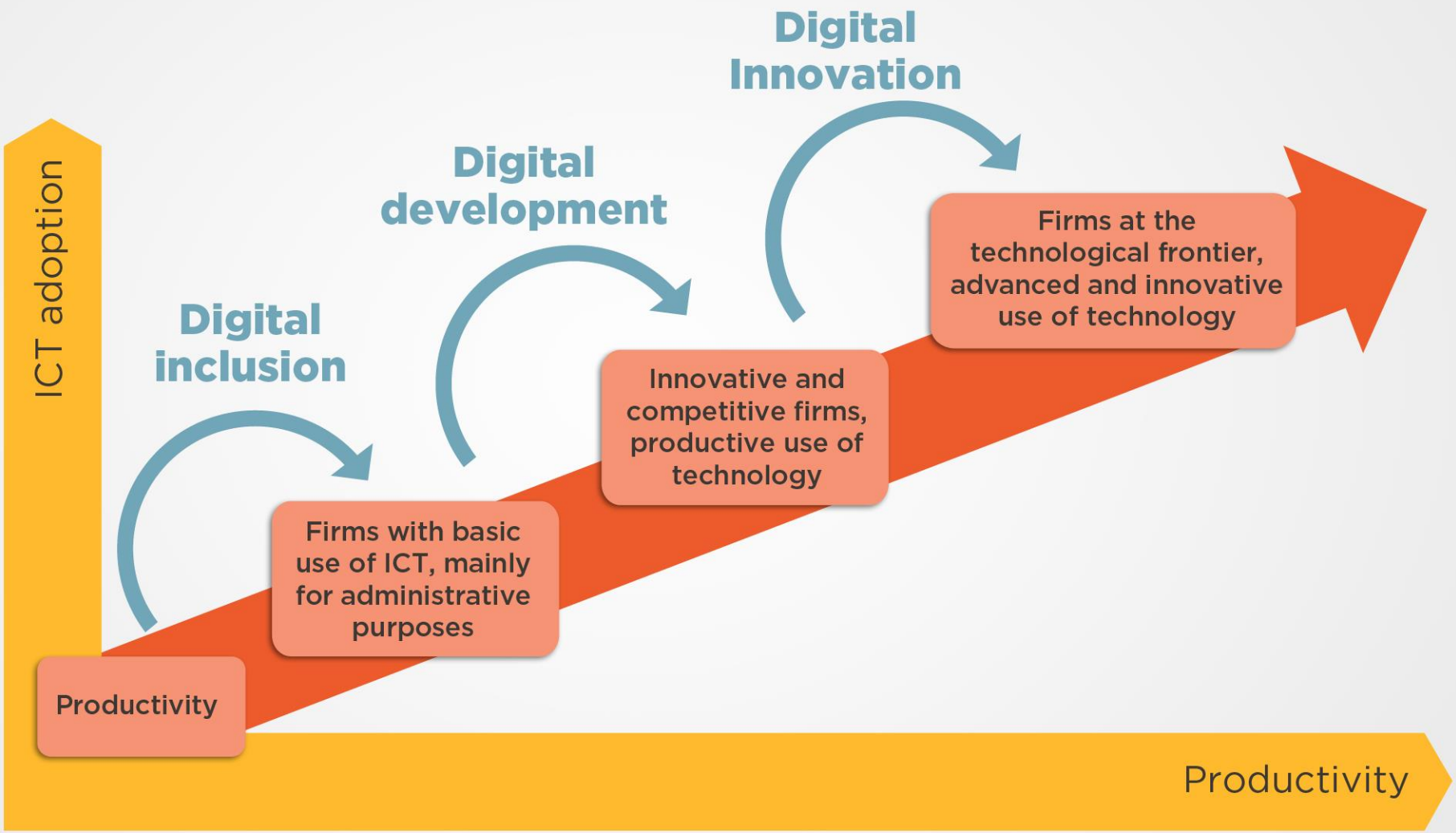
# Changes markets

Global value chains and sectors are being transformed



# Transforms and creates new firms

# Digital transformation of firms



# 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

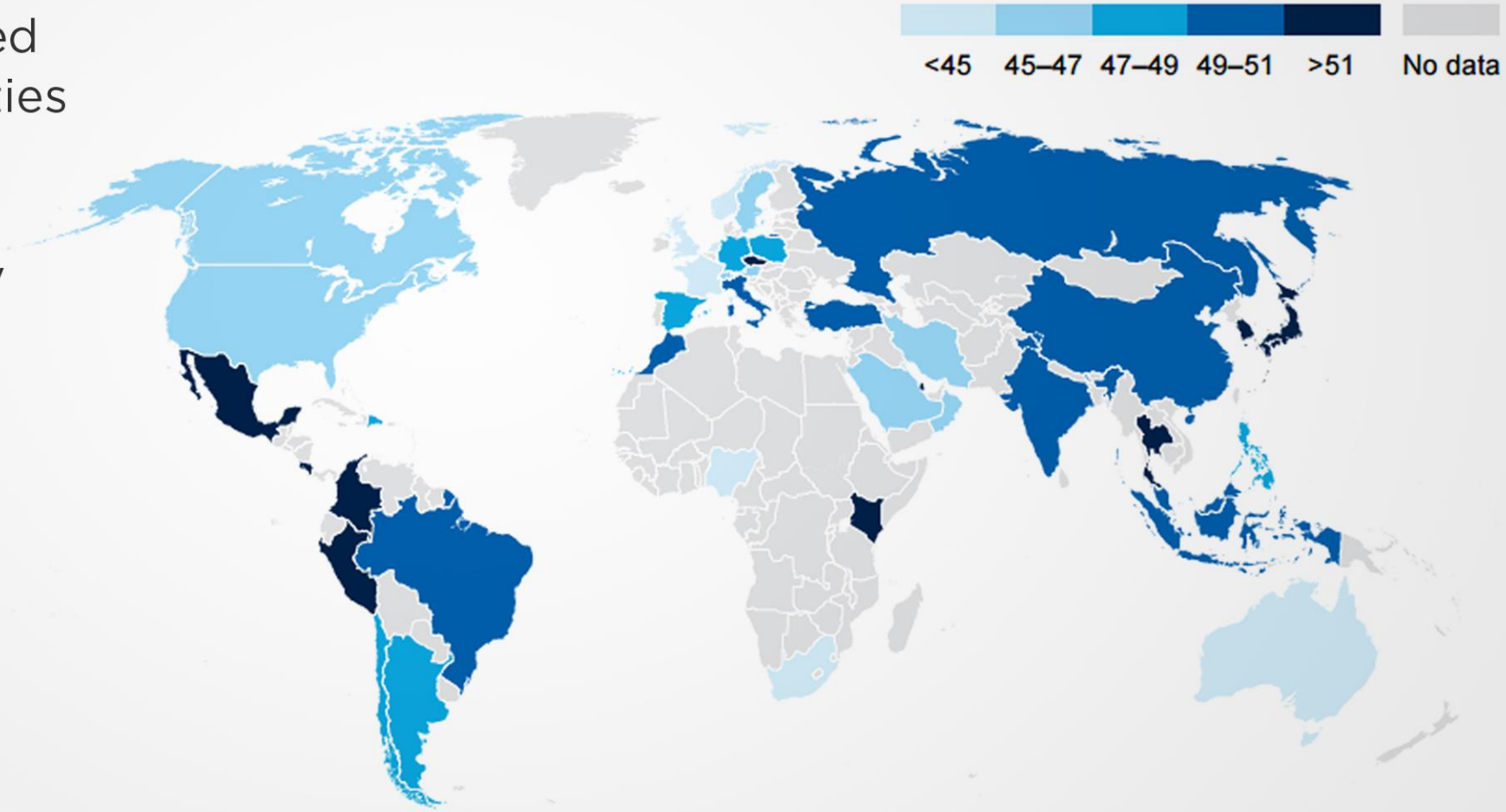
| | Hilton | Airbnb |
|---|---|---|
| Valuation | **$20bn*** | **$31bn** |
| Number of employees | **169,000** | **2,400** |

* Market cap as of 08/09/2017

# It’s not exempt of risks

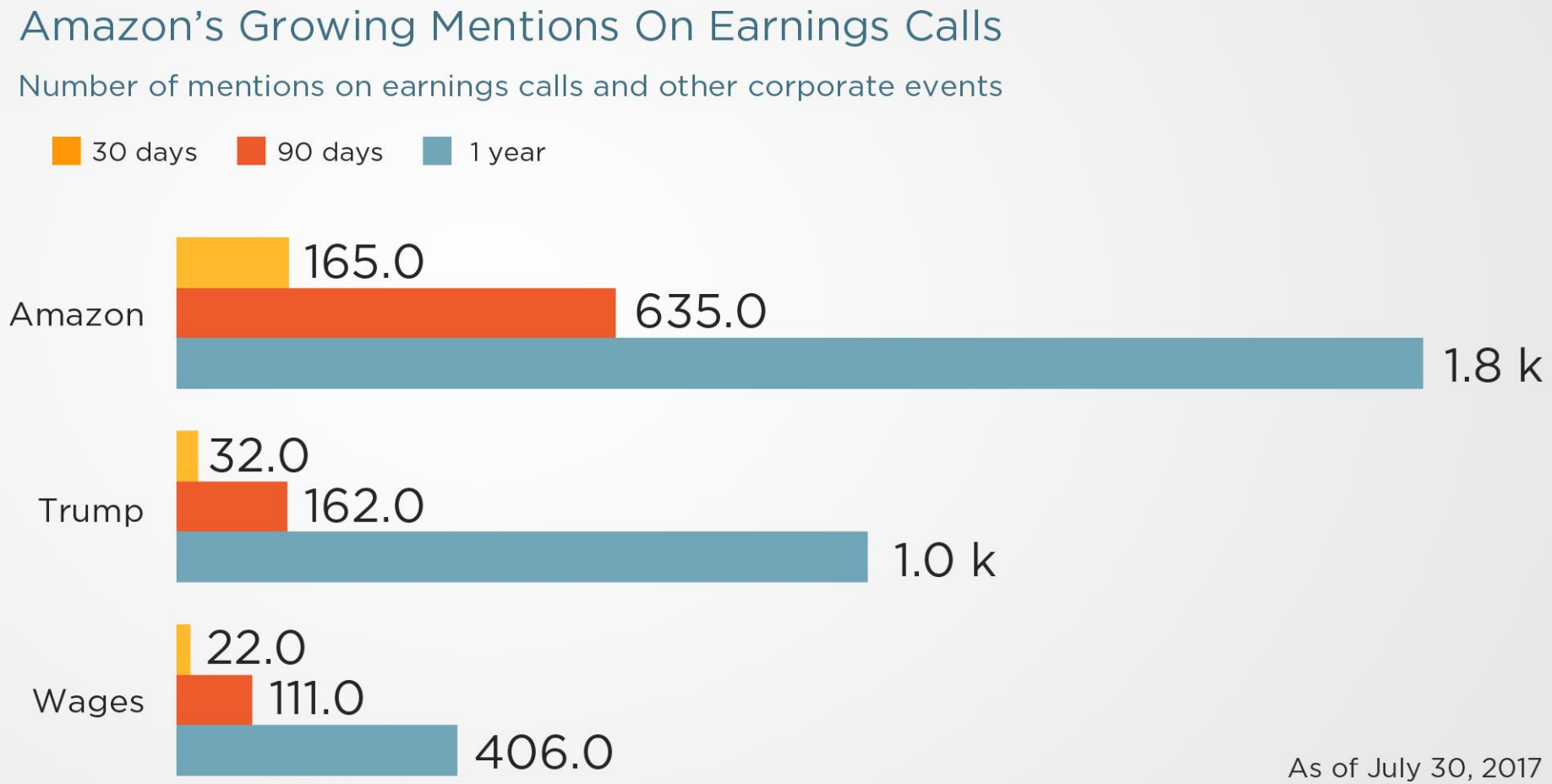
## Potential for automation of labor force

Employee weighted overall % of activities that can be automated by adapting currently demonstrated technologies
**McKinsey, 2017**

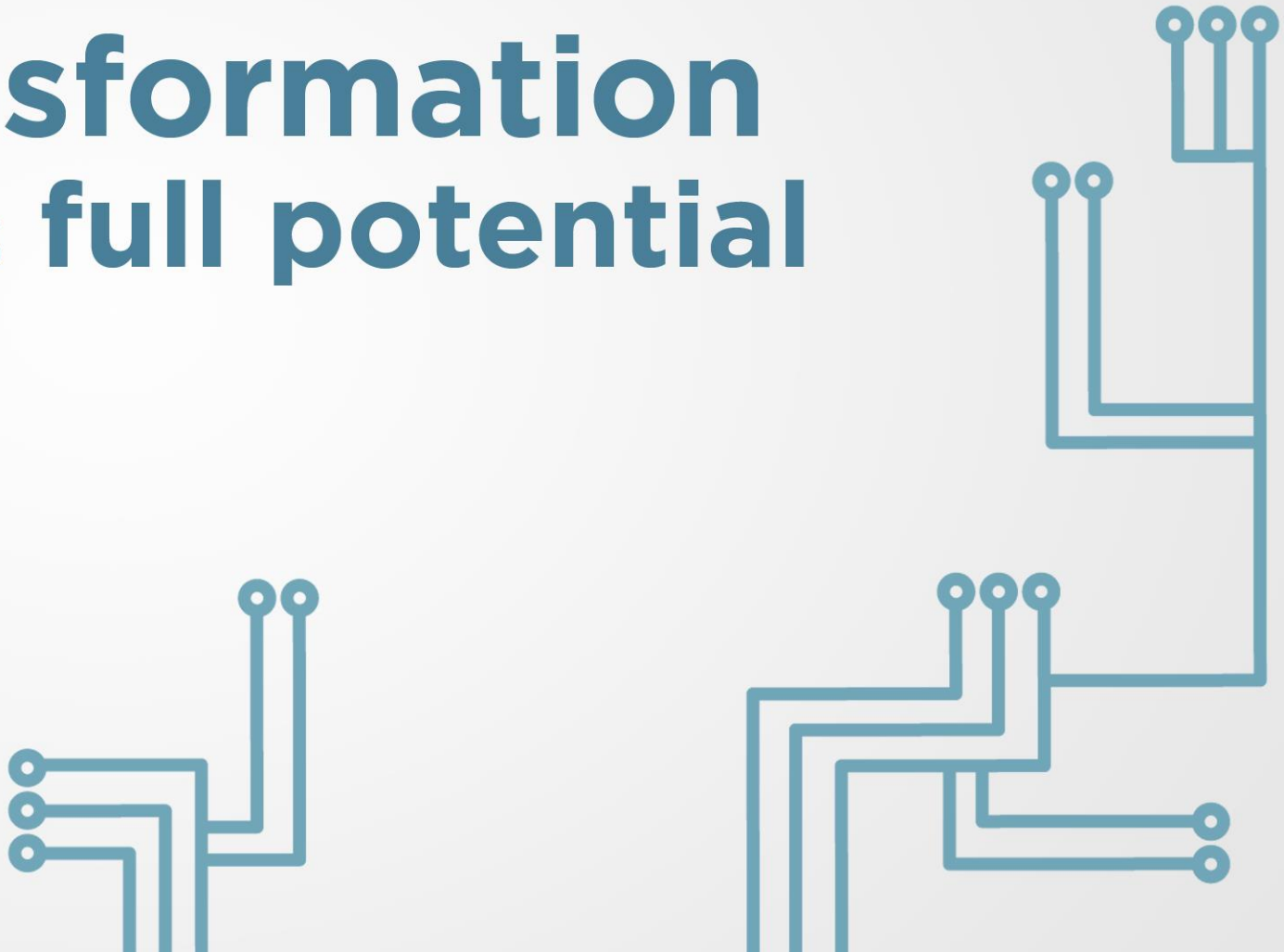


# It's not exempt of risks

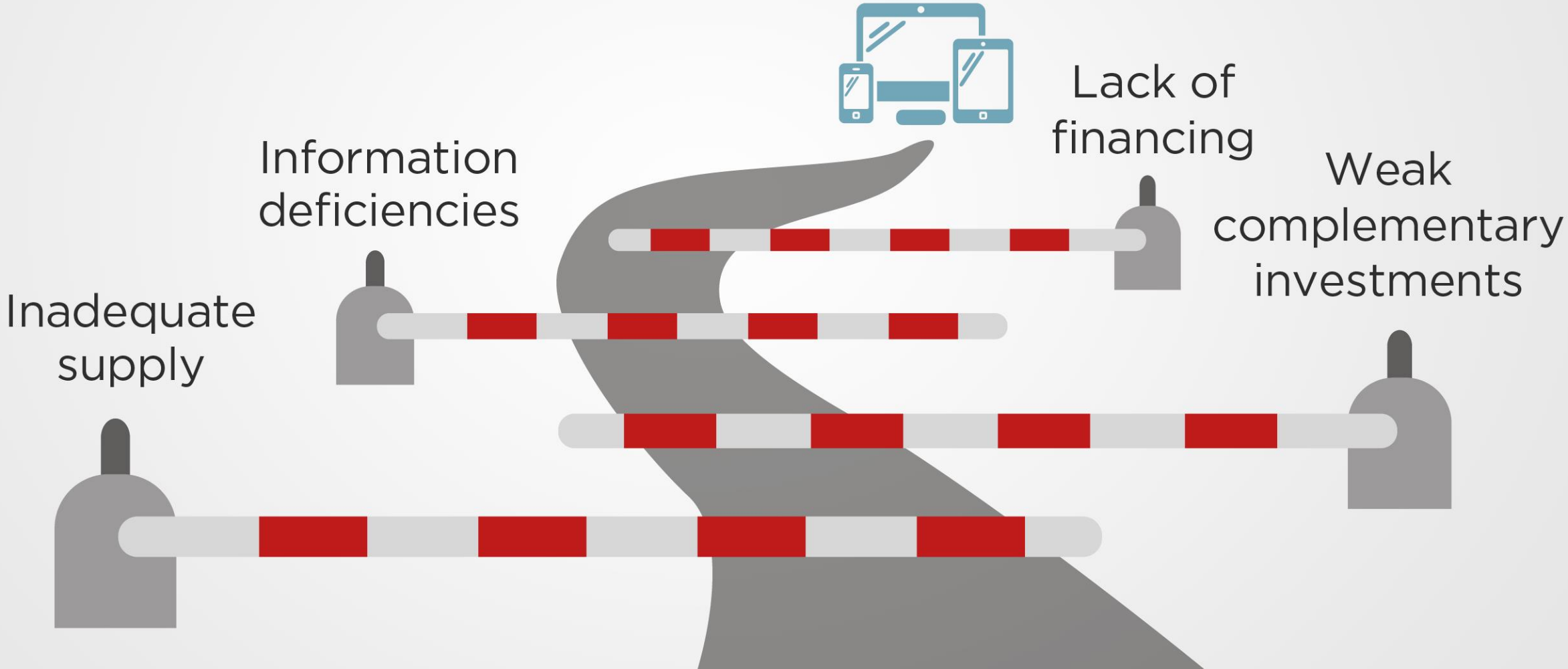
## New regulatory concerns: Competition

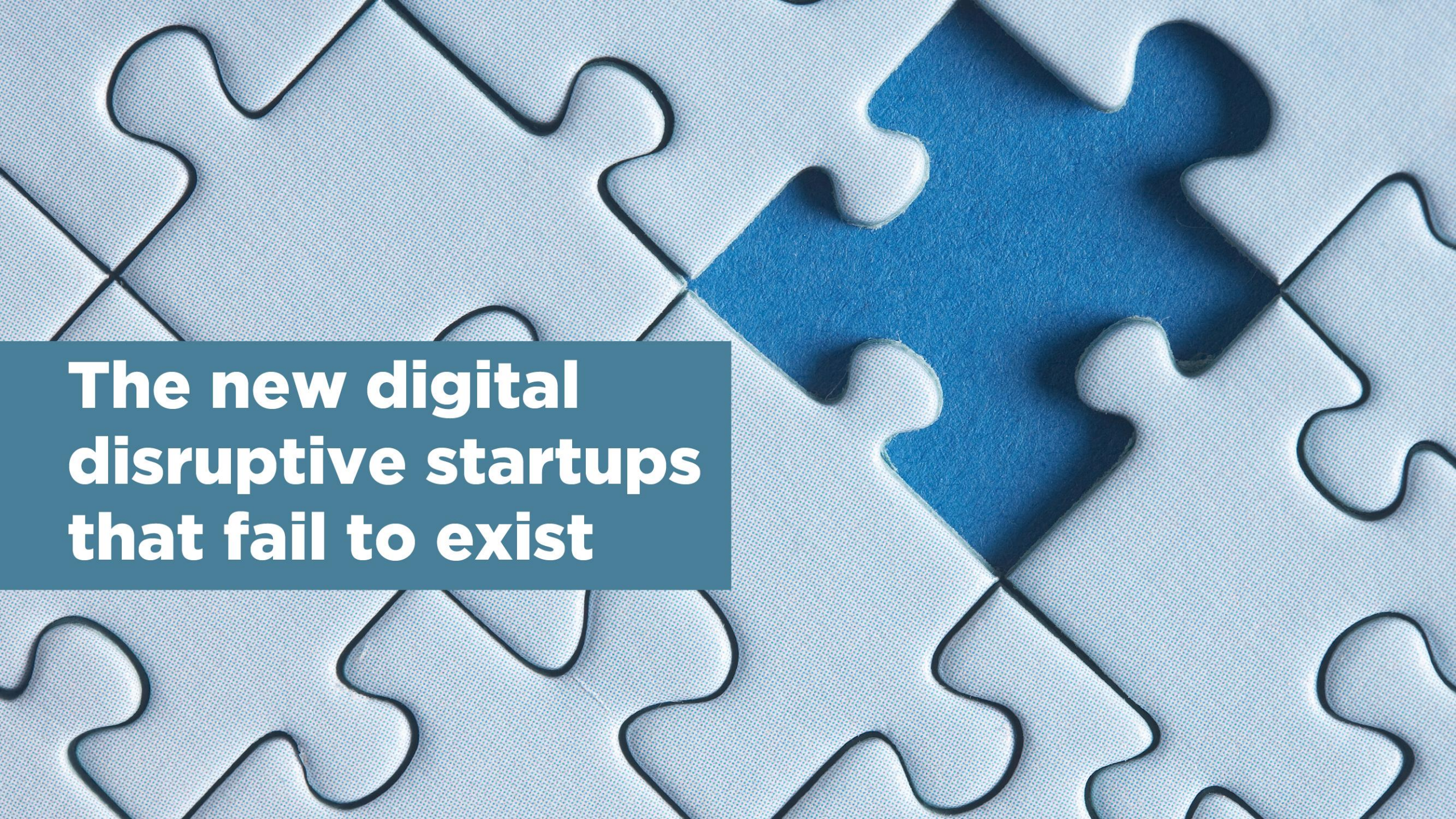


So **why** is the
**digital transformation**
not achieving its **full potential**
**on its own?**



# Firms have difficulties adopting and using new technology





# 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

Republic of Estonia
Ministry of Economic Affairs and Communications

Estonia

**Digital Agenda 2020 for Estonia**

Open data and e-government

ManufacturingUSA

USA

**Manufacturing USA**

Smart Manufacturing Innovation Institute

Industrie 4.0

Germany

**INDUSTRIE 4.0**

Plattform Industrie 4.0

MADE IN CHINA 中国制造 2025

China

**Digital China**

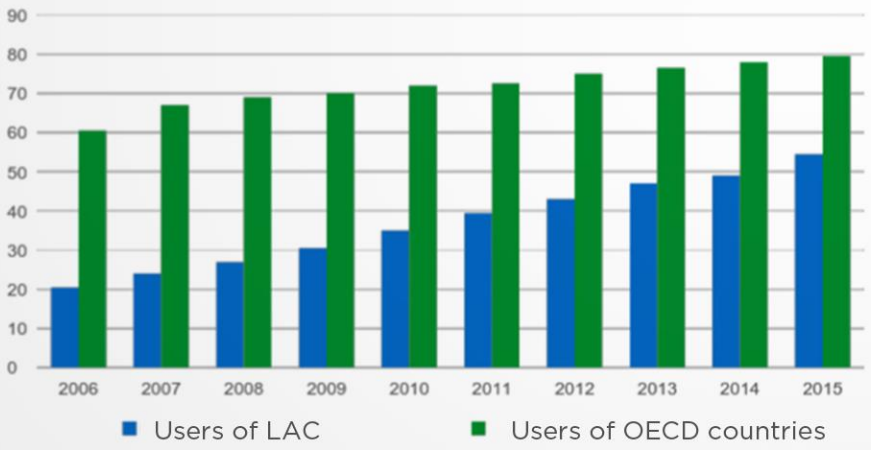
Made in China 2025

# 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...

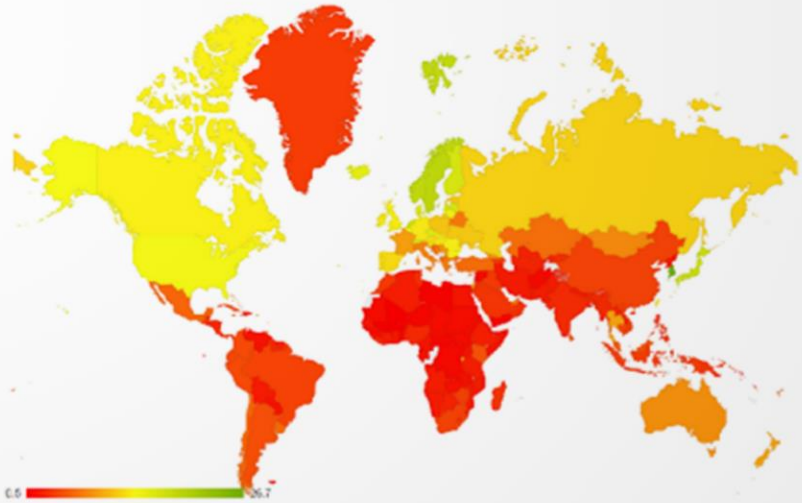
Internet Users 2006-2015
(% of total population)




Source: Cepal, 2016

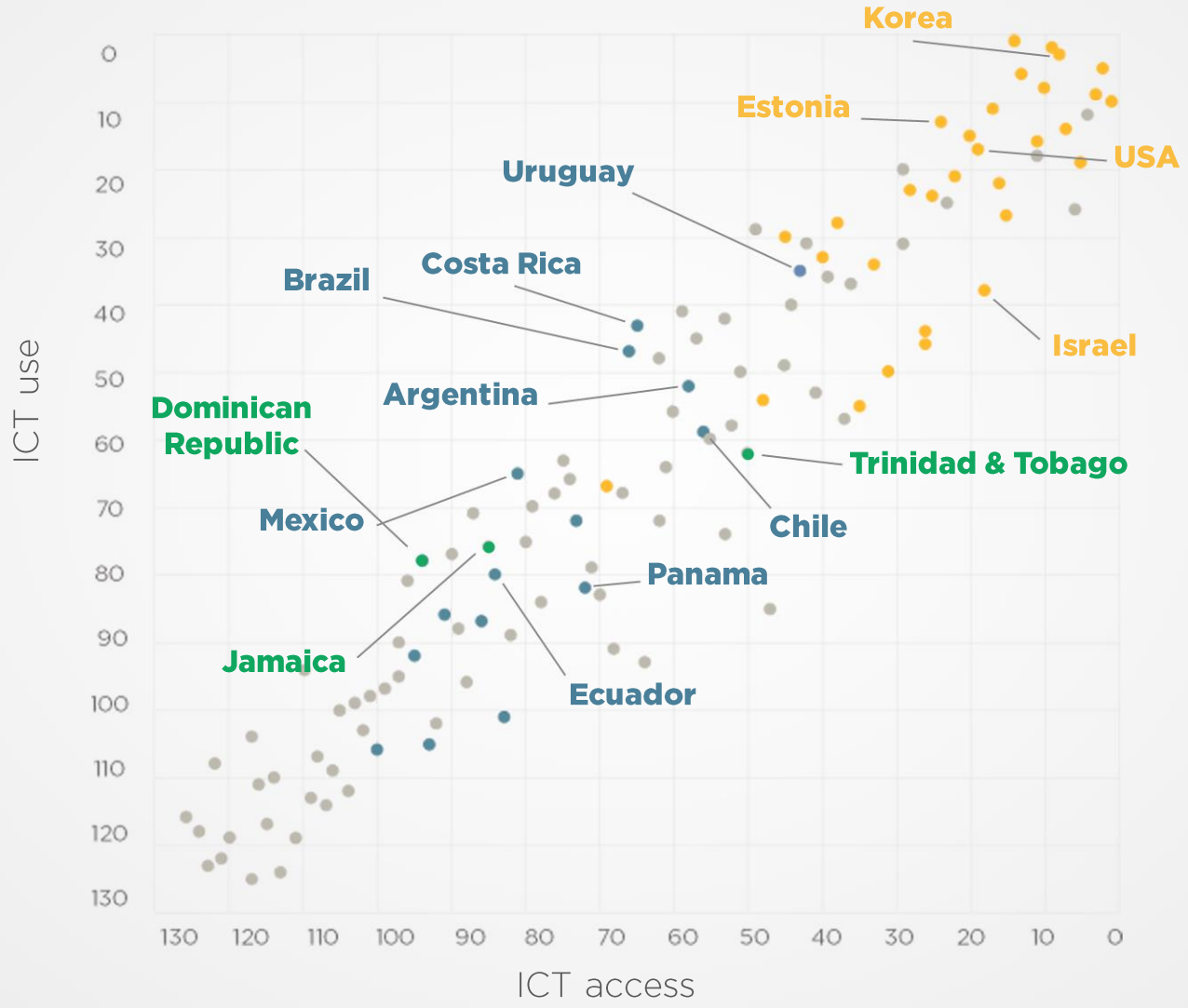
## ... but not the quality gap

Average Internet speed (Mbps)



Source: fastmetrics

# Low adoption and usage by firms




OECD

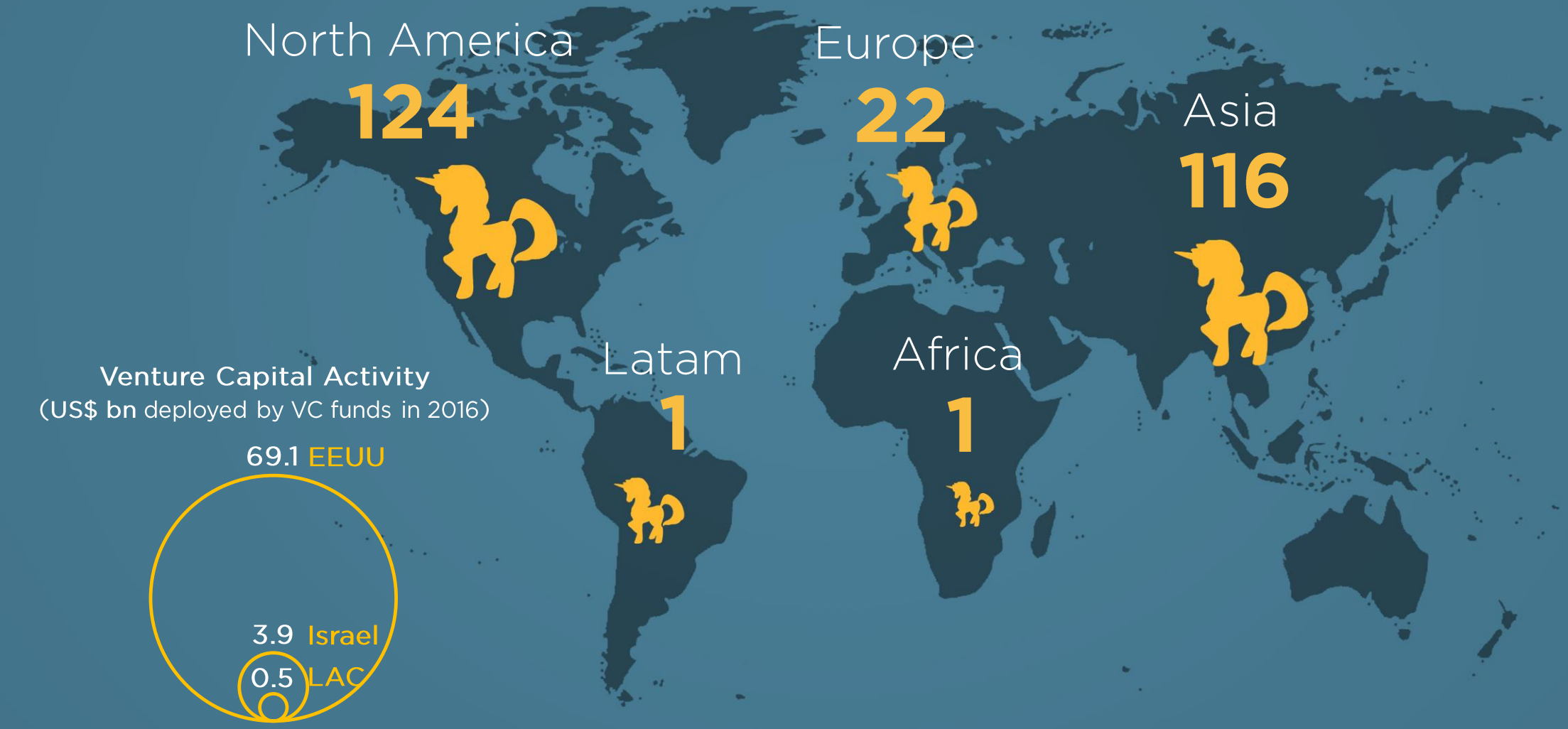
LATIN AMERICA

CARIBBEAN

Source: IDB, based on data extracted from the Global Innovation Index, 2017

# Incipient e-Commerce

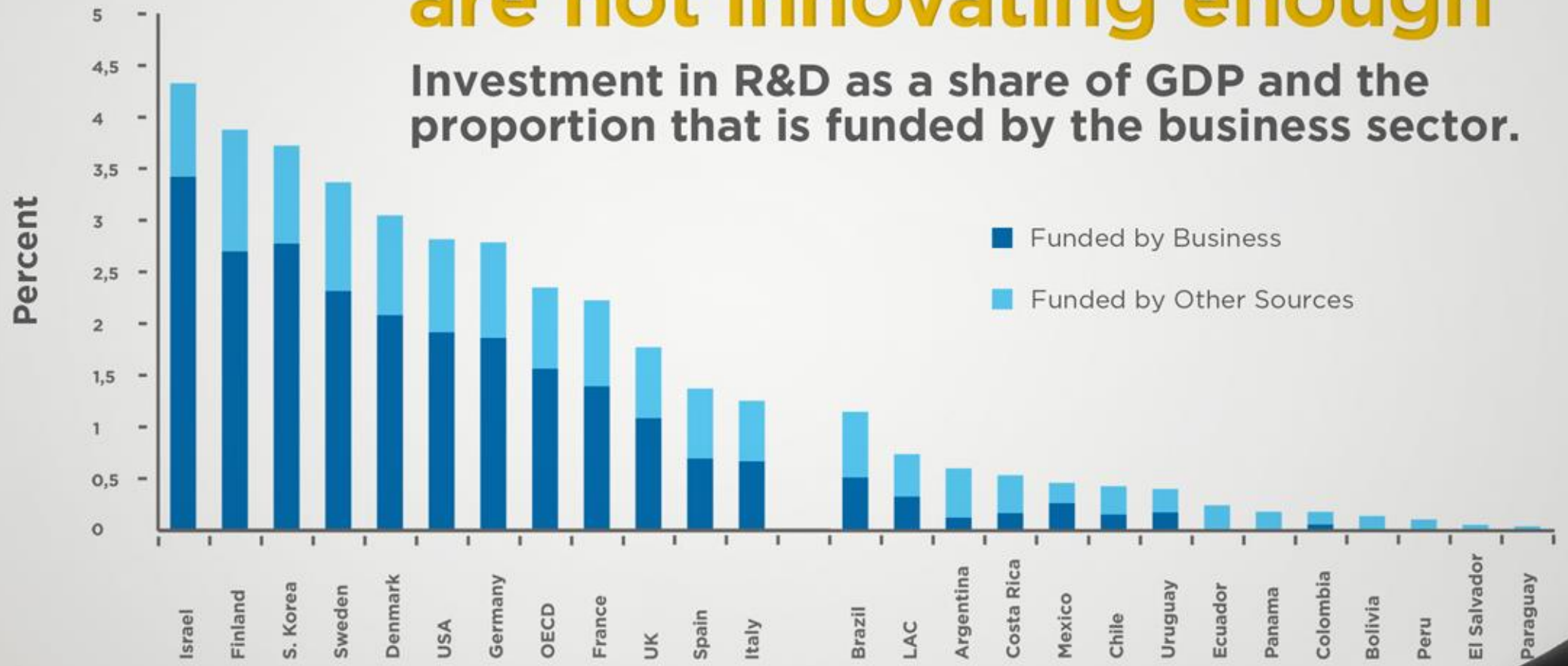
# Few unicorns




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.



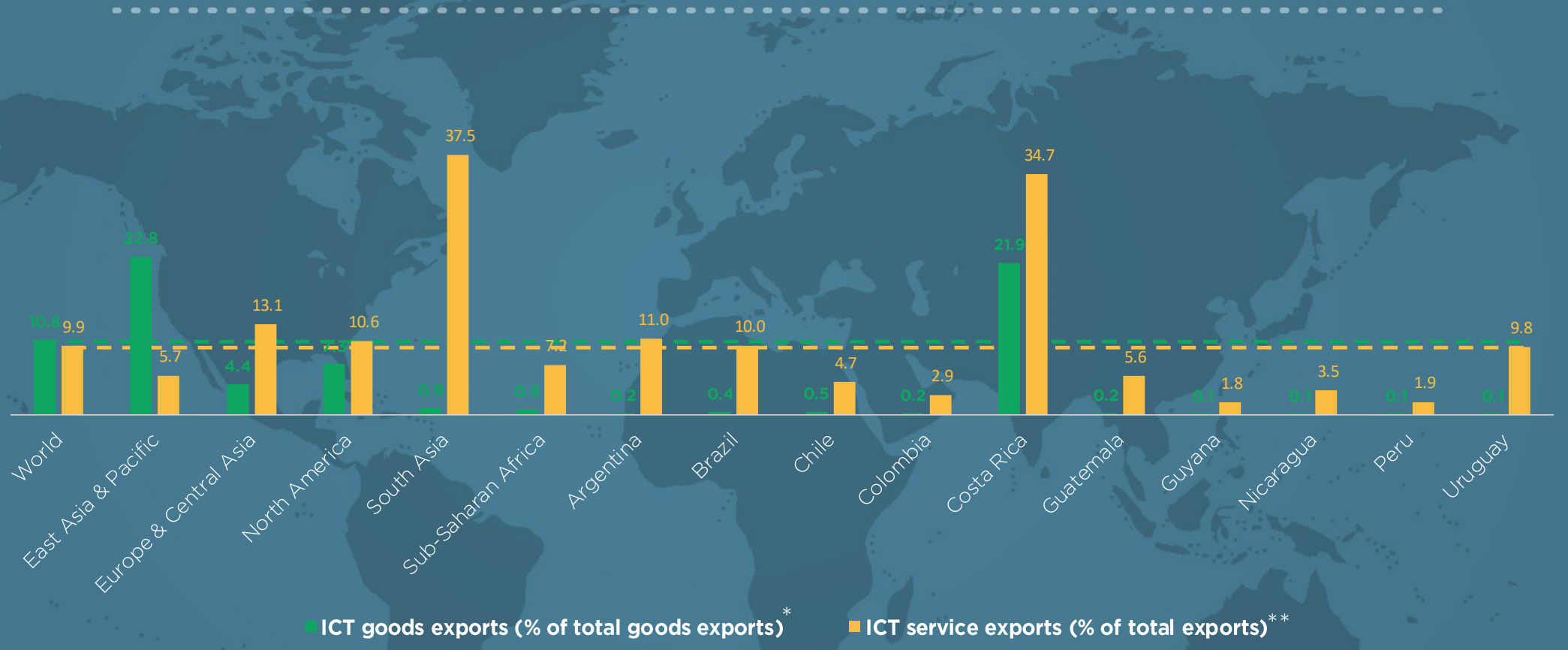

Sources: OECD and RICYT.

# Scarcity of specialized technicians and engineers

## Researchers per 1,000 in the labor force

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

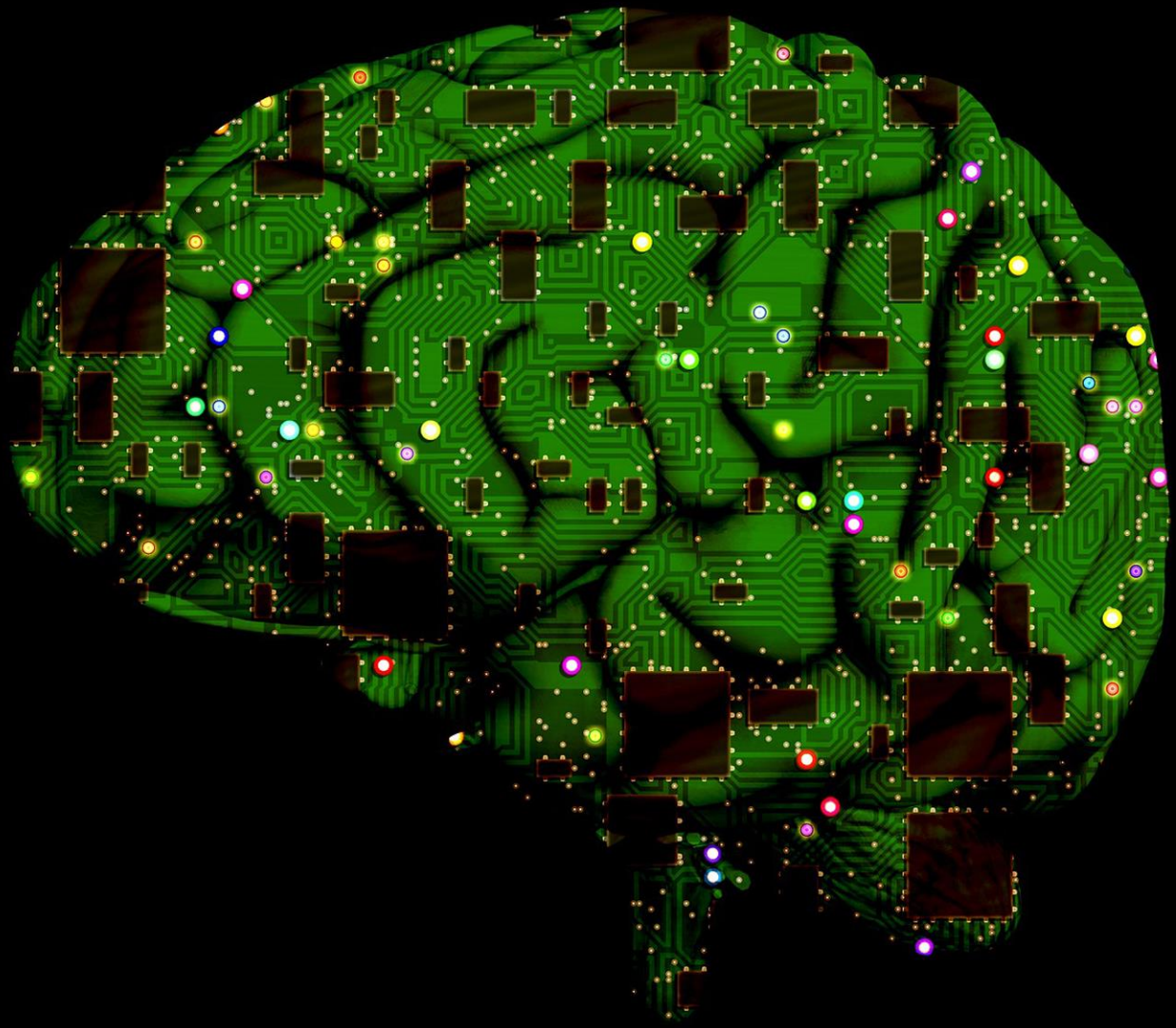
# Some pioneering policy initiatives

IDB
PRIORITY
AREAS

# **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**

Digital innovation in firms

Digital start-ups

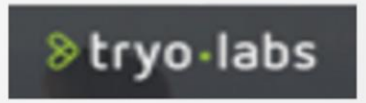
* **Costa Rica:** Rolling out in 2017.

** **Brazil:** Including new FINEP program expected to start execution in 2018.

# AgTech
Argentina

# Infodrive
## Peru

# DIGITAL START-UPS BACKED



# ICT4V
# Uruguay

**Campinas**
Brazil

**Ruta N**
Colombia

# Laboratoria
Peru

# Digital Technology Extension

Argentina

# STRATEGIC AGENDA

**1**

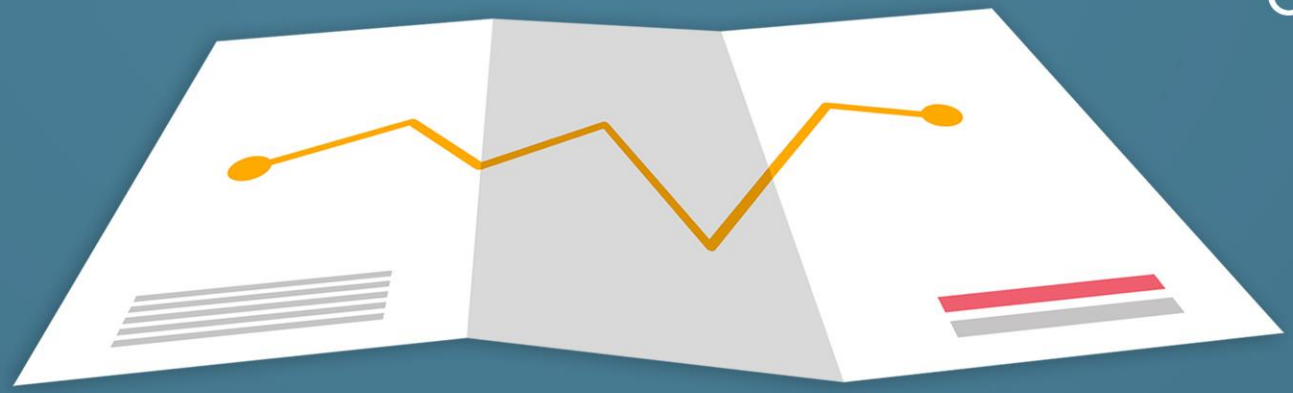
Knowledge and diffusion

**2**

Pilot projects

**3**

Increased impact on traditional operations



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