



ARGENTINA
BUSINESS & INVESTMENT
FORUM

Argentina Business and
Investment Forum
Ministry of Communications

Buenos Aires, Argentina
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Contents

- **Global sector trends**
- Overview of the sector in Argentina
- Starting point and government plan
- Investment opportunities

Connectivity enables an ever accelerating digital future...



... evolving from 'just connectivity' to 'everything and everywhere'



From 'just connectivity' at home and 'on the go', to...



... Advanced robotics

- Offers potential to improve the lives of 50 million amputees and those with impaired mobility



... Autonomous vehicles

- Could save 30,000 – 150,000 lives from potentially fatal traffic accidents



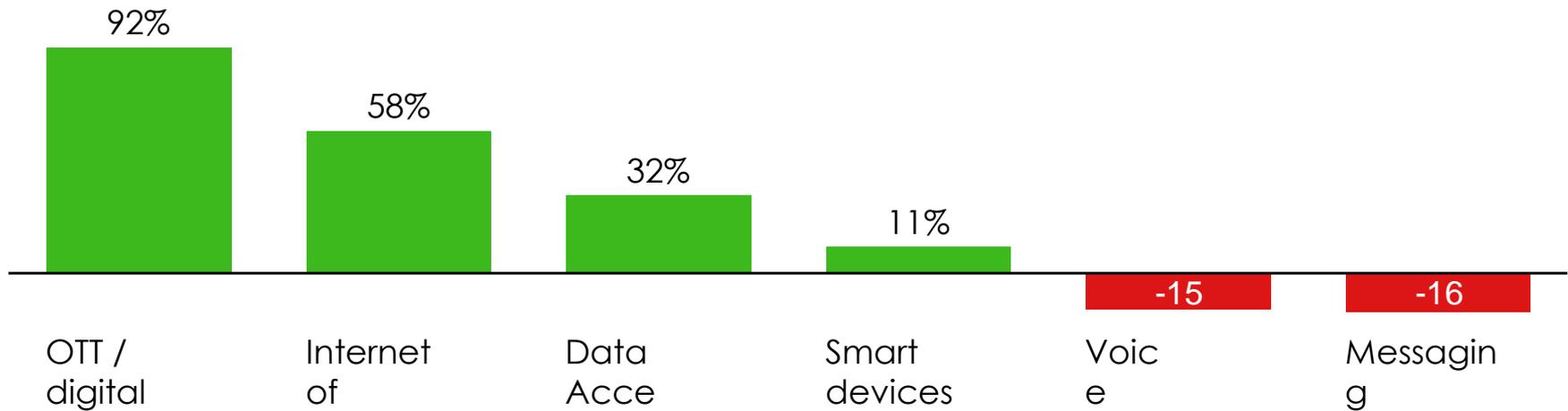
... Internet of things

- Offers potential to drive productivity across \$36 trillion in operating costs of most industries, e.g. manufacturing, health care, and mining



This transformation is having a profound impact for telecoms

US mobile example; Percent change 2014-2013



- 1 Mobile + landline voice less than **1/3** of total access **versus 55%** in 2010
- 2 Data revenue reaches **65%** of total revenue **versus 25%** by 2010
- 3 **55%** of connected home devices **versus** less than **30%** by 2010
- 4 **62%** of nets mobile adds is non-phone
- 5 Share of OTT revenue captured by telecom operators is less than **25%** **versus 70%** by 2010

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Overview of the sector in Argentina

SECTOR REVENUES are low and have been decreasing in real terms over the past years ...



... additionally, **INVESTMENT AS % OF REVENUES** has been low if compared to that of other countries within the region



In terms of **BASIC SERVICE PENETRATION** (fixed & mobile), Argentina is doing better than other countries in the region ...



... however, Argentina is lagging behind in terms of **QUALITY AND ADVANCED SERVICE PENETRATION**



Finally, Argentina shows **SIGNIFICANT LEVELS OF INEQUALITY** among provinces and income classes



This situation was generated by restrictions on the demand and supply side

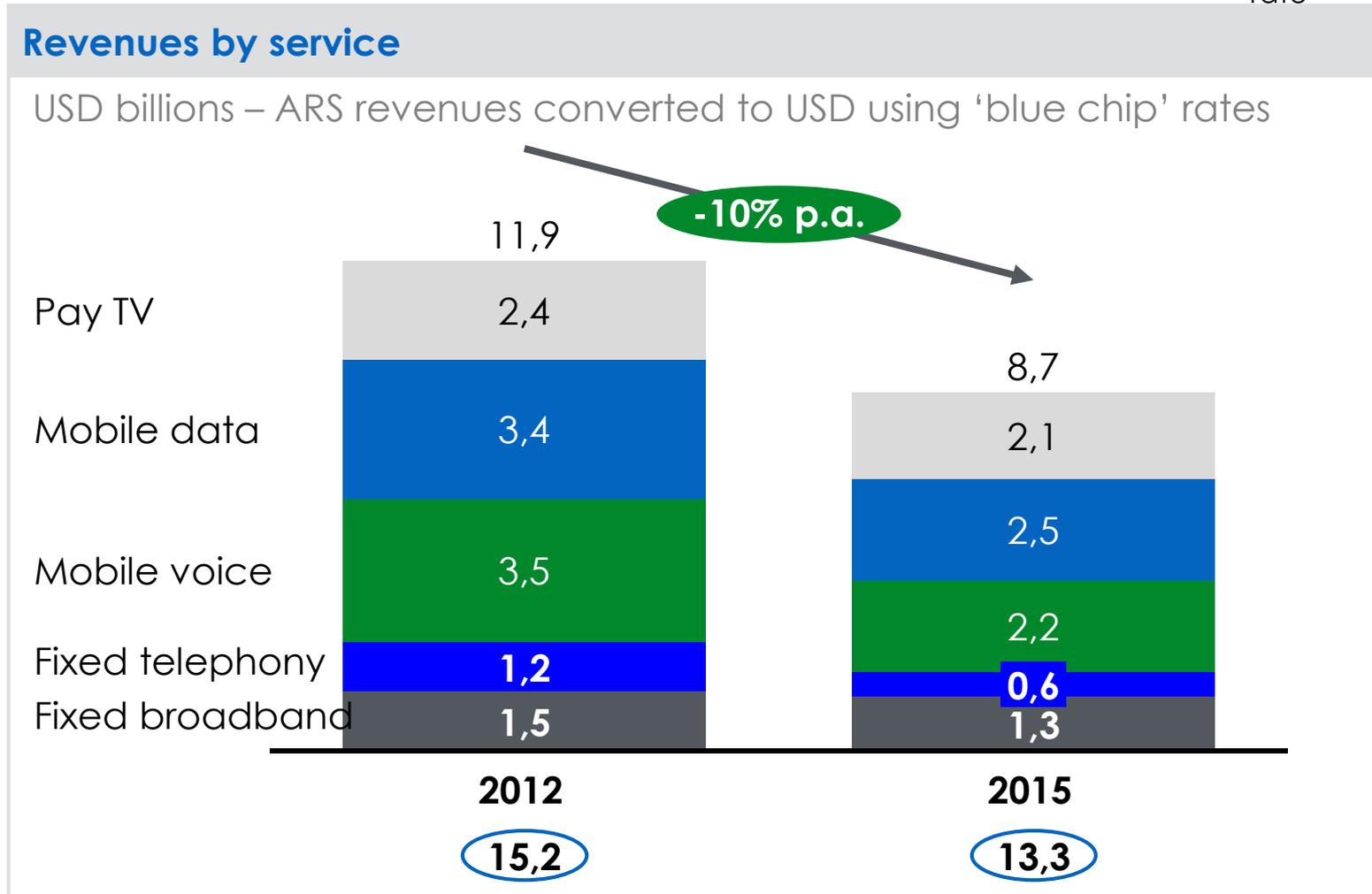
		Description
Supply	1 Price controls in fixed telephony	<ul style="list-style-type: none"> Tariff controls reduced revenues in core business, limiting resources available to invest in advanced technologies.
	2 Reduced competition in residential market	<ul style="list-style-type: none"> Limitations to bundling reduced competition and options for consumers in the residential market
	3 Inefficient allocation and use of spectrum	<ul style="list-style-type: none"> 15 years without new spectrum auctions Reduction in available spectrum between 2005 and 2015
	4 Weak execution by the regulator	<ul style="list-style-type: none"> Delays in 4G spectrum auction and allocation Regulator failed to enforce quality targets as well as drive competition through portability and unblocking of devices
	5 Difficulties to build infrastructure	<ul style="list-style-type: none"> Complicated processes and delays for municipal approvals slowed down network deployments
Demand	6 High prices for consumers	<ul style="list-style-type: none"> High prices of devices for end consumers led to low penetration of 3G/4G enabled devices
	7 Barriers for ICT adoption by businesses and government	<ul style="list-style-type: none"> High prices of hardware and other restrictions led to low investment in ICT by companies and governments

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Total sector revenues have declined in recent years

(x) Revenues in USD at official exchange rate



Argentina has high service penetration when compared to other countries in the region ...

Mobile

% of lines / population



57

146

126

129

Fixed telephony

% of lines / households



77

79

69

59

Fixed broadband

% of subs / households



8

54

40

47

Pay TV

% of subs / households



62

74

30

50

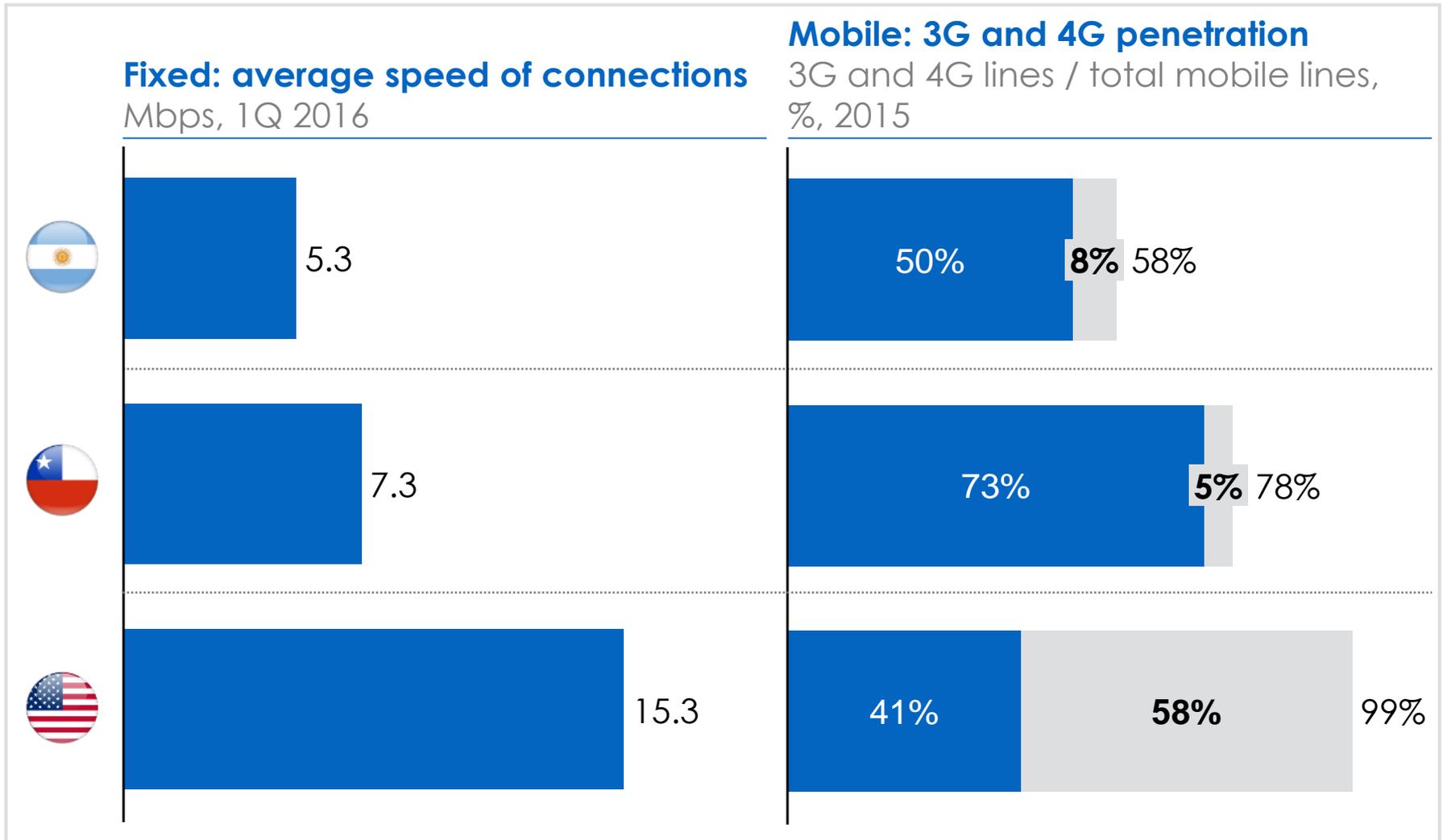


2005

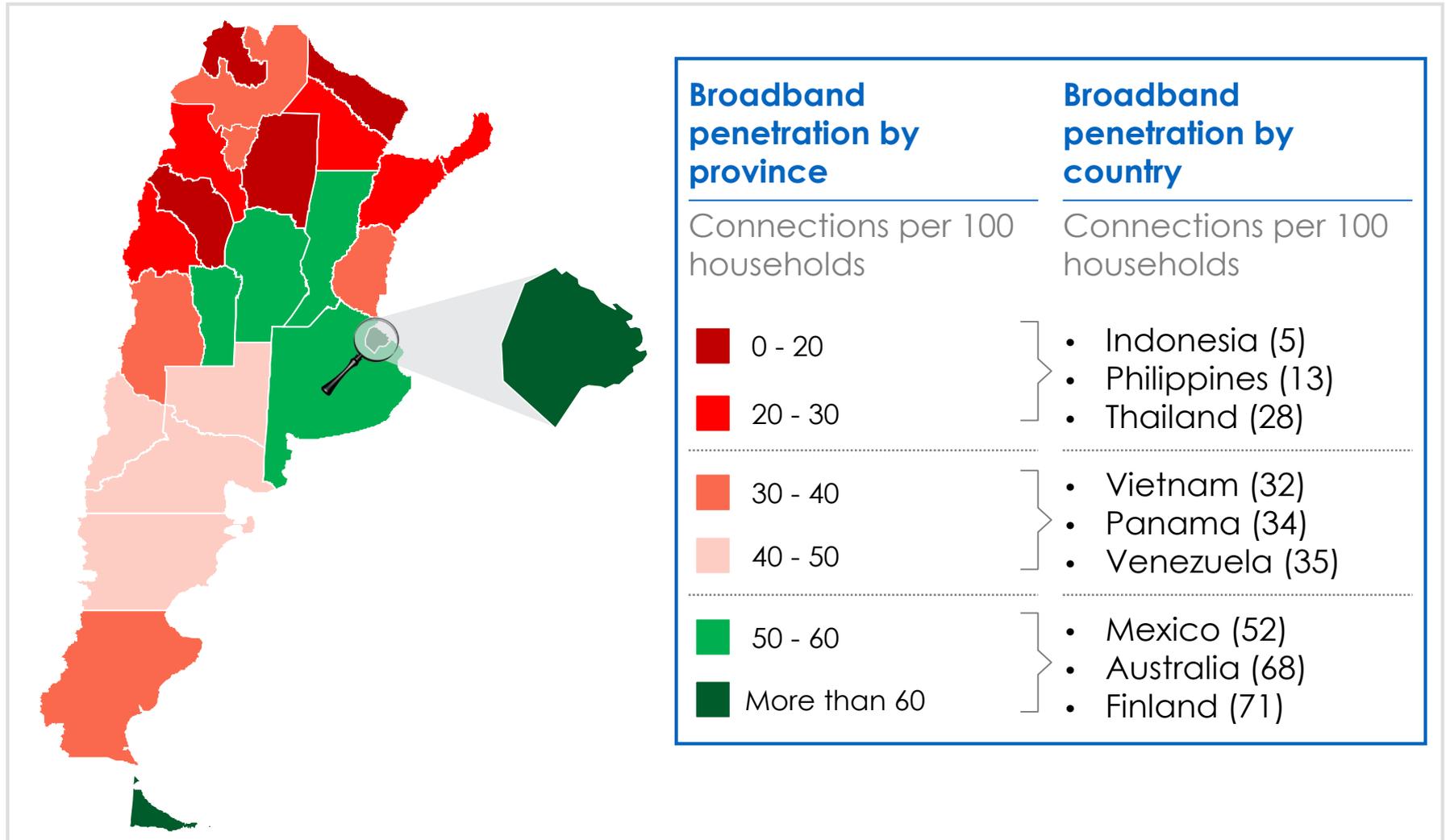
2015

... however, there is low penetration of advanced services

■ 3G ■ 4G

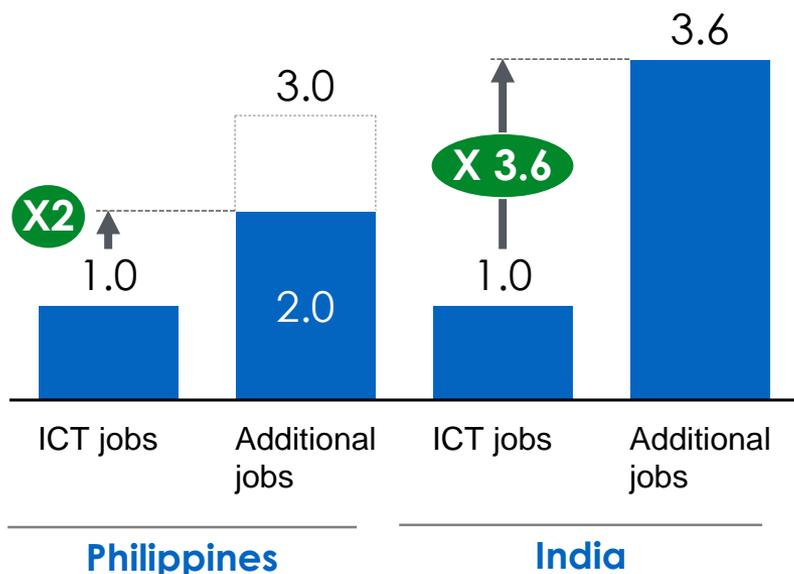


In addition, there are significant differences in service penetration among provinces



The ICT sector is a priority for Argentina as a key driver of economic and social progress

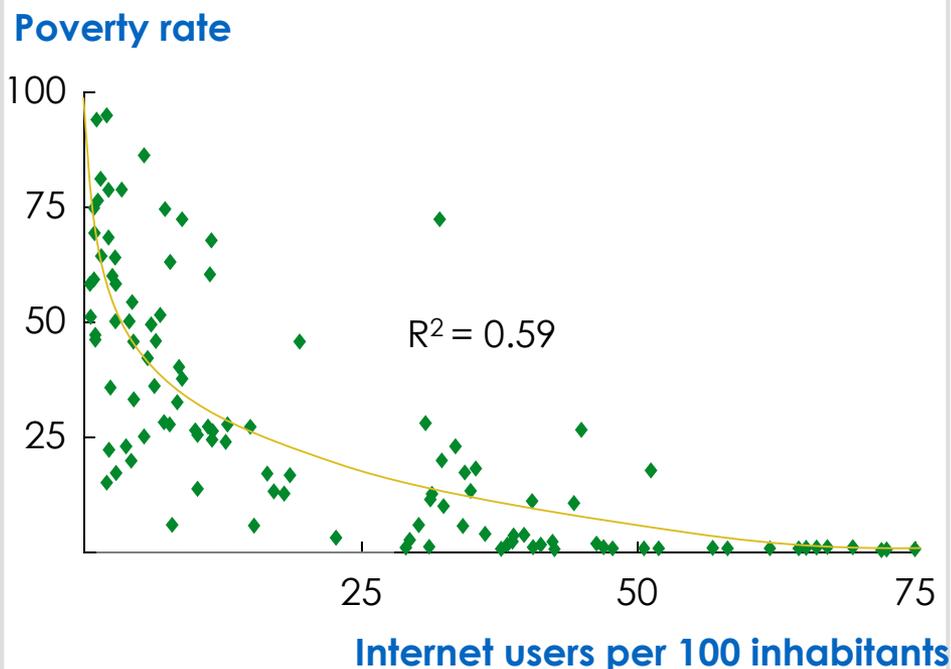
ICT employment has a multiplier effect on the economy



“In Chile, increasing broadband internet penetration by 10% led to a ~2% decrease in the unemployment rate”

Columbia, R. Katz

Connectivity as a driver to integrate the country and reduce poverty



The Ministry has defined a program for the sector centered around 5 priorities

Regulatory framework (Miguel de Godoy)	1	Build a modern high-speed broadband infrastructure
	2	Improve 3G and 4G mobile network quality
	3	Develop a modern framework for the digital age
Demand stimulation (Clarisa Estol)	4	Stimulate demand for advanced services
	5	Eliminate The Country's Digital Gap ("Zero Digital Poverty")

1 Build a modern high-speed broadband infrastructure

- **Enable revenue opportunities** that will allow players in the sector to increase their investments
 - Evaluate and consider flexible **fixed telephony** prices (with **'social' rates** for low income families)
 - **Authorize bundling of TV and telecom services**
- Protect and facilitate **the deployment of infrastructure**
 - Define **limits for access to infrastructure**
 - Establish **rules that reduce the cost of deploying networks** (wired new buildings, access to pipelines, simple approval processes, etc.)
- Create **transparency about the quality of fixed services**
 - **Define quality standards** for broadband and establish mechanisms to measure quality of services
 - Establish **mechanisms for fault reporting and compensation** to users

2 Improve 3G and 4G mobile network quality

- Create a **multi-year plan for spectrum** (e.g., including 5G)
 - Establish **guidelines for spectrum allocation**
 - Develop a **plan to clean up and make available** more spectrum
 - Anticipate future **spectrum demands**
 - Define policies for **efficient use of spectrum**
- **Simplify the process to invest in infrastructure**
 - **Remove municipal regulatory barriers**
 - Encourage **infrastructure sharing**
- Create **transparency about coverage and quality**
 - Define **coverage and quality targets**
 - Establish **penalties** in cases of non-compliance
- Facilitate **number portability** and **unlocking of devices**

3 Develop a modern regulatory framework for the digital age

- Establish a **modern regulation** for (non-exhaustive):
 - Media (e.g., licenses attribution, content rules, advertising)
 - OTTs
 - Net neutrality
 - Use of universal service funds
 - Interconnection and access to networks
 - Carrier registration
- Create a plan for the **transition to digital TV**

4 Stimulate demand for advanced services

- Facilitate **access to technology** by reducing the cost of internet-enabled devices
 - **Explore reductions in tariffs and taxes** for **smartphones, PCs and tablets**
 - **Explore reductions in import duties** on other technology and software
 - **Work with operators** to provide accessible **prepaid data plans**
- **Create incentives for the creation of digital clusters**
 - **Provide connectivity to government offices and buildings** (supporting the plan of the Ministry of Modernization)
 - Promote the **creation of digital start-ups** (in cooperation with other Ministries)
- **Promote connectivity and use of ICT by SMEs** (for example: access to high-speed broadband)
- Encourage **investments in the IT sector** (for example: hardware, software, services)

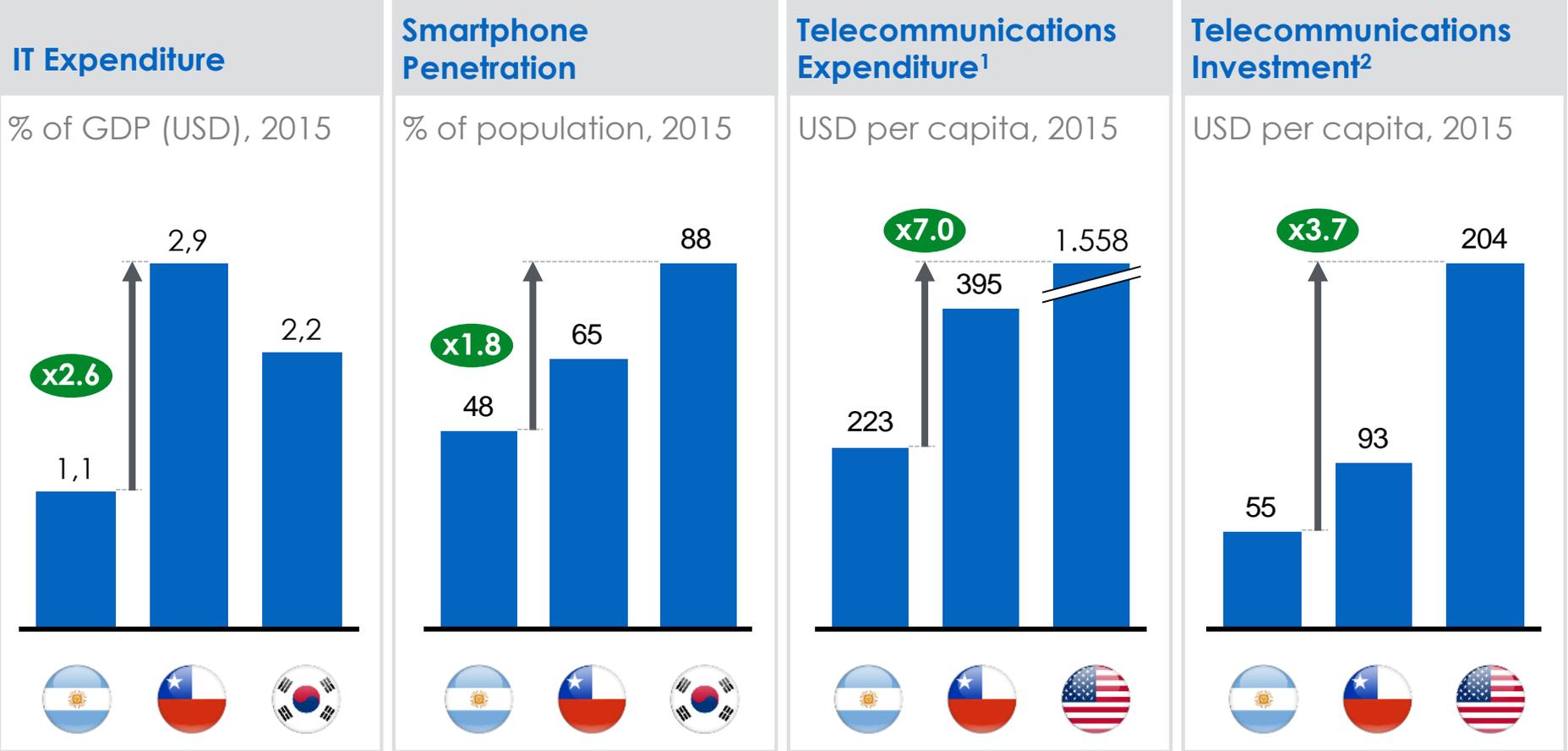
5 Eliminate the country's digital gap (“zero digital poverty”)

- **ARSAT as a vehicle to connect remote towns and cities that have deficient access to internet**
 - Provide access to **fiber optic backbone at competitive prices**
 - Connect **public schools, hospitals and universities**
- Provide **access in low-income and rural / remote locations**
 - **Facilitate access to internet-enabled devices** (e.g., smartphones, tablets and PCs)
 - Establish **internet community centers**
 - Establish a national **public Wi-Fi network**
- Design **initiatives to increase awareness and use** of digital services
 - Develop **training programs** to educate citizens in the different uses of the internet (e.g., parents, kids in schools)
 - Define **priority sectors where ICT** can be established as a **driver of growth and poverty reduction**

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In this context there will be ample opportunities for growth and investment, as Argentina will need to catch up to satisfy a latent demand



1 Including revenue derived from devices and telephones.

2 Not including spectrum licenses.

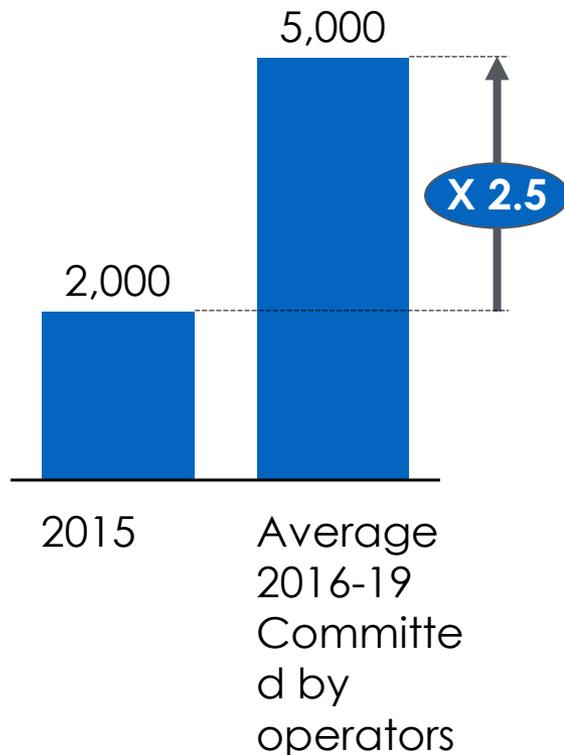
NOTE: Informal exchange rate as quoted on *Ámbito Financiero*

SOURCE: PEW Research, IDC, IHS, ITU, Ovum Research

Overview of investment opportunities

Investments already committed by operators ...

USD Billions, annual investments by main operators



... will provide significant opportunities for growth in the sector ...

- Fixed network equipment (upgrade in backbone and last mile)
- Mobile network equipment (current 4G rollout and future 5G rollout)
- Partner with ARSAT
- MVNOs
- Mobile towers
- Field services for network rollout and maintenance
- Upgrade to back office of operators (e.g., IT legacy systems)
- End-user devices (smartphones and tablets)

... as well as enable opportunities in adjacent sectors

- IT Services (e.g., cloud services)
- Software
- Hardware (computers, servers, etc.)
- Apps
- OTT content
- ICT-enabled industries
 - Health care (eHealth)
 - Education (eLearning)
 - Online banking
 - Connected home
 - Localization services
 - Logistics

Next: panel with sector players

- **Telecom:** incumbent telecom operator
- **Virgin:** new entrant (MVNO)
- **ARSAT:** national fiber backbone, digital TV, satellite services
- **OLX:** digital economy (ICT ecosystem)