IoT trends in the Americas and considerations on the importance of National IoT plans

An overview of the activity in the APAC region

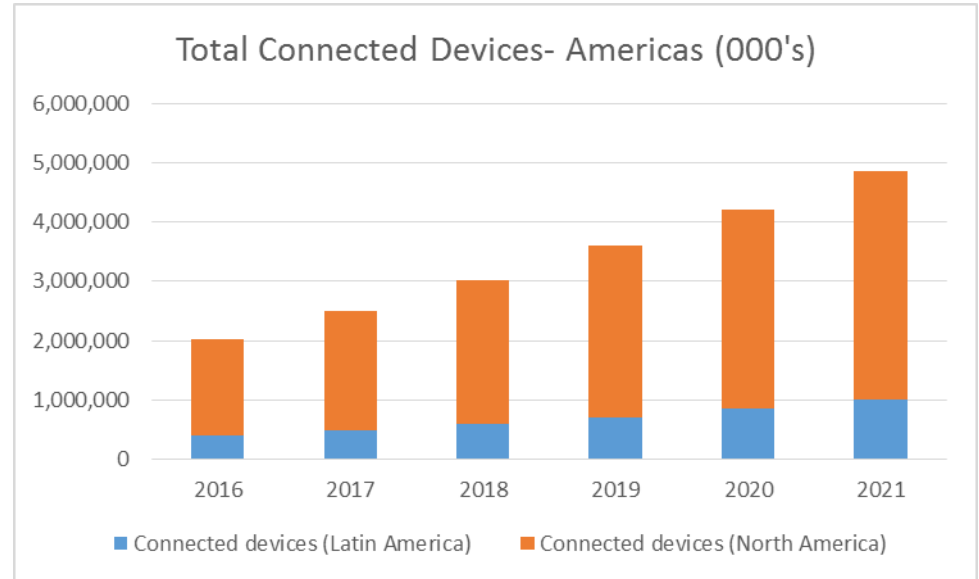Lucas Gallitto – Technology and Policy Manager
GSMA

Lima, Peru – August 2016

Total Connected devices

- **A strong growth trend in both North and Latin America**

- By 2021:
- 3.8 billion in NAM
- 1.0 billion in LATAM

- CAGR 20%

Total Connected Devices- Americas (000's)

Legend: Connected devices (Latin America), Connected devices (North America)

IoT Connected devices: any connection to remote sensing, monitoring and actuating devices, together with associated aggregation devices, Where there are multiple short-range sensors included in a complex single unit (e.g. a car or aeroplane) then they are counted as a single connection.
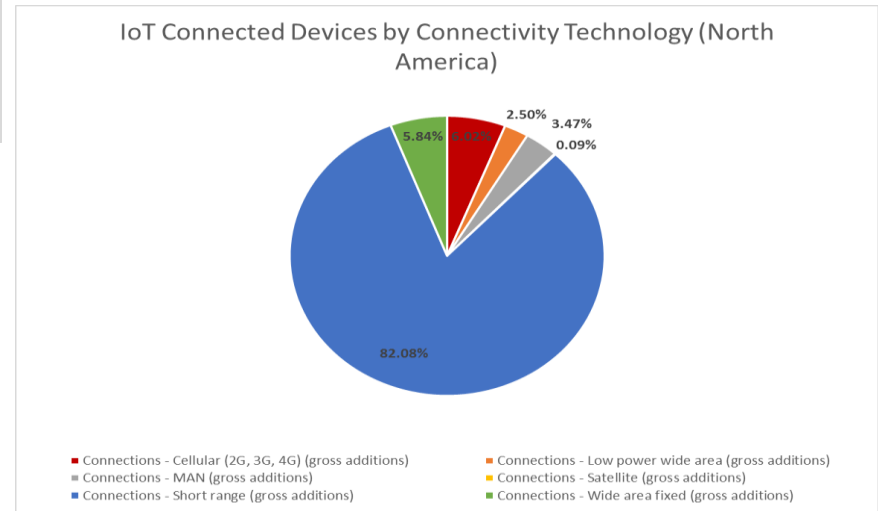
Source: Machina(2016)

North America: Connected devices and Cellular connections

Total Connected Devices v Cellular connections- North America (000's)

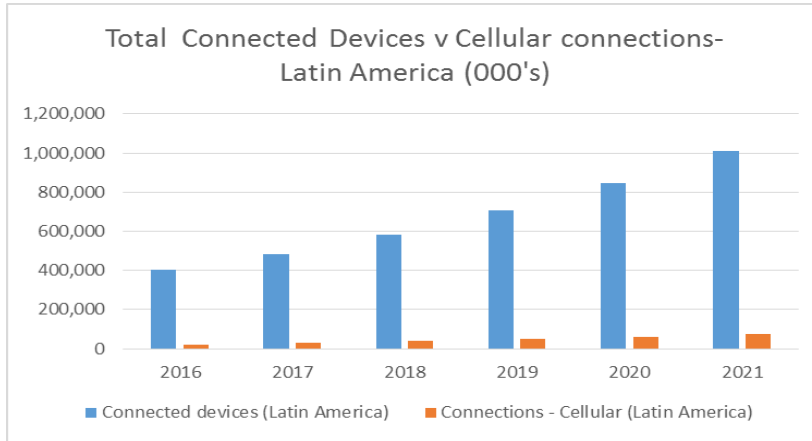Legend: Connected devices (North America) ■ Connections - Cellular (North America) ■
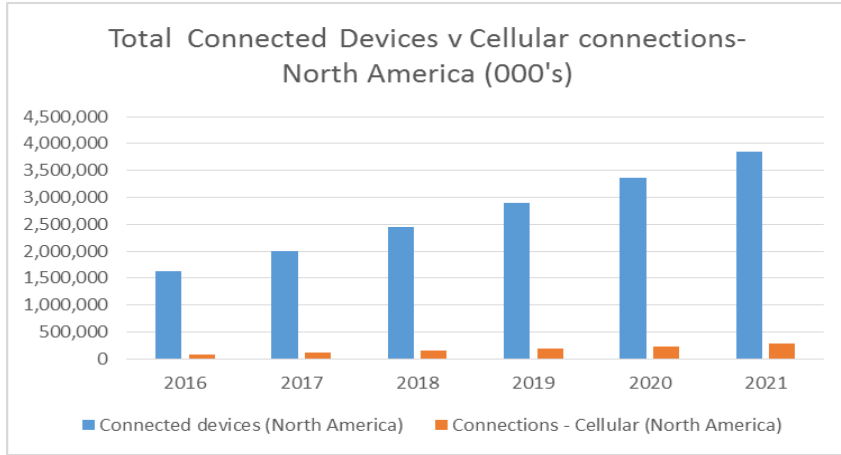
- **Cellular IoT connected devices in 2016 represent 6% of total IoT connected devices**

  - Others include: short range (82%), Wide area fixed (5.8%), MAN, (3.5%), LPWA (2.5%), Satellite (0.09%)

- **Cellular IoT connectivity will grow in N. America**
  - By 2021:
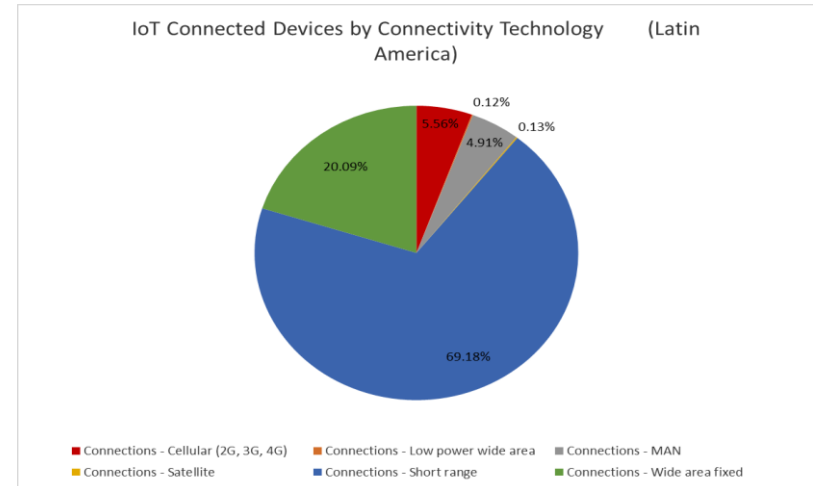 - 277 million cellular connected devices
  - CAGR 26%

IoT Connected Devices by Connectivity Technology (North America)

Pie chart values: 2.50%, 3.47%, 0.09%, 5.84%, 82.08%

Legend:
- ■ Connections - Cellular (2G, 3G, 4G) (gross additions)
- ■ Connections - Low power wide area (gross additions)
- ■ Connections - MAN (gross additions)
- ■ Connections - Satellite (gross additions)
- ■ Connections - Short range (gross additions)
- ■ Connections - Wide area fixed (gross additions)

Source: Machina(2016)

Latin America: Connected devices and Cellular connections

Total Connected Devices v Cellular connections- Latin America (000's)

- **Cellular IoT connected devices in 2016 represent 5.5 % of total IoT connected devices**

    - Others include: Short range (69%), Wide area fixed (20 %), MAN, (5 %), LPWA (0.1%), Satellite (0.09%)

- **Cellular IoT connectivity will grow in LATAM**
    - By 2021:
    - 76 million cellular connected devices
    - CAGR 28%

IoT Connected Devices by Connectivity Technology (Latin America)

- Connections - Cellular (2G, 3G, 4G)
- Connections - Low power wide area
- Connections - MAN
- Connections - Satellite
- Connections - Short range
- Connections - Wide area fixed

Source: Machina(2016)

IoT revenues

- **IoT has a complex value chain and enables revenue generation in many different segments:**
  - Devices
  - Installation
  - Enablement platform
  - Connectivity
  - Data monetisation
  - Middleware
  - Systems integrations project

- **Revenue opportunity in strong growth both in N. AM and LATAM**

IoT Revenues* (USD Millions)

* Source: Machina Research ,2016

Legend: ■ Latin America ■ North America
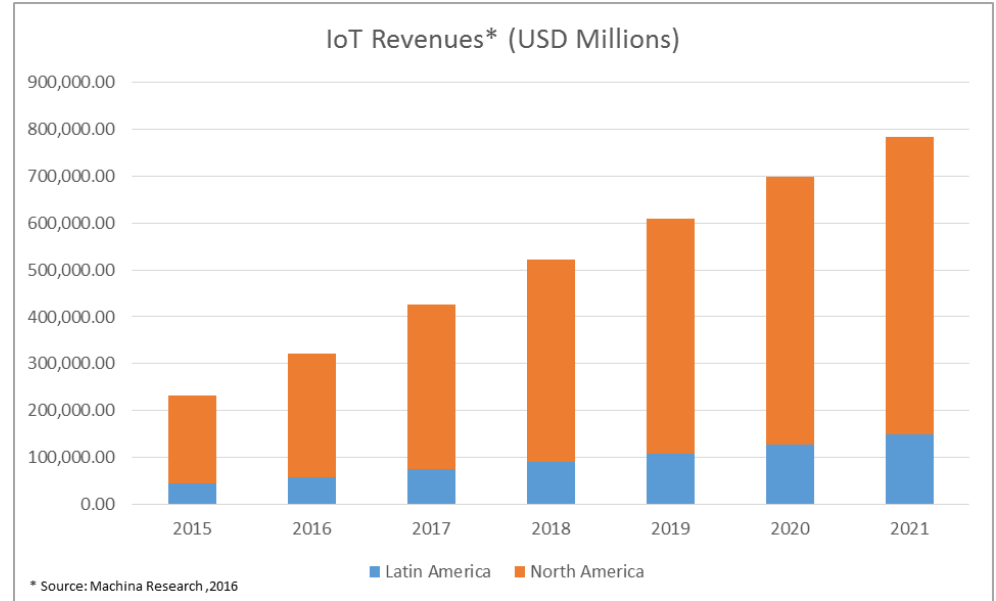
IoT Revenues : Income from the sale of devices or services. Includes device costs where connectivity is integral, module costs where devices can optionally have connectivity enabled, monthly subscription, connectivity and traffic fees.

Source: Machina(2016)

The importance of National IoT plans to promote growth – the example of the APAC region
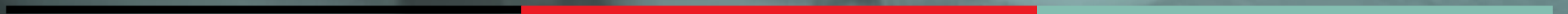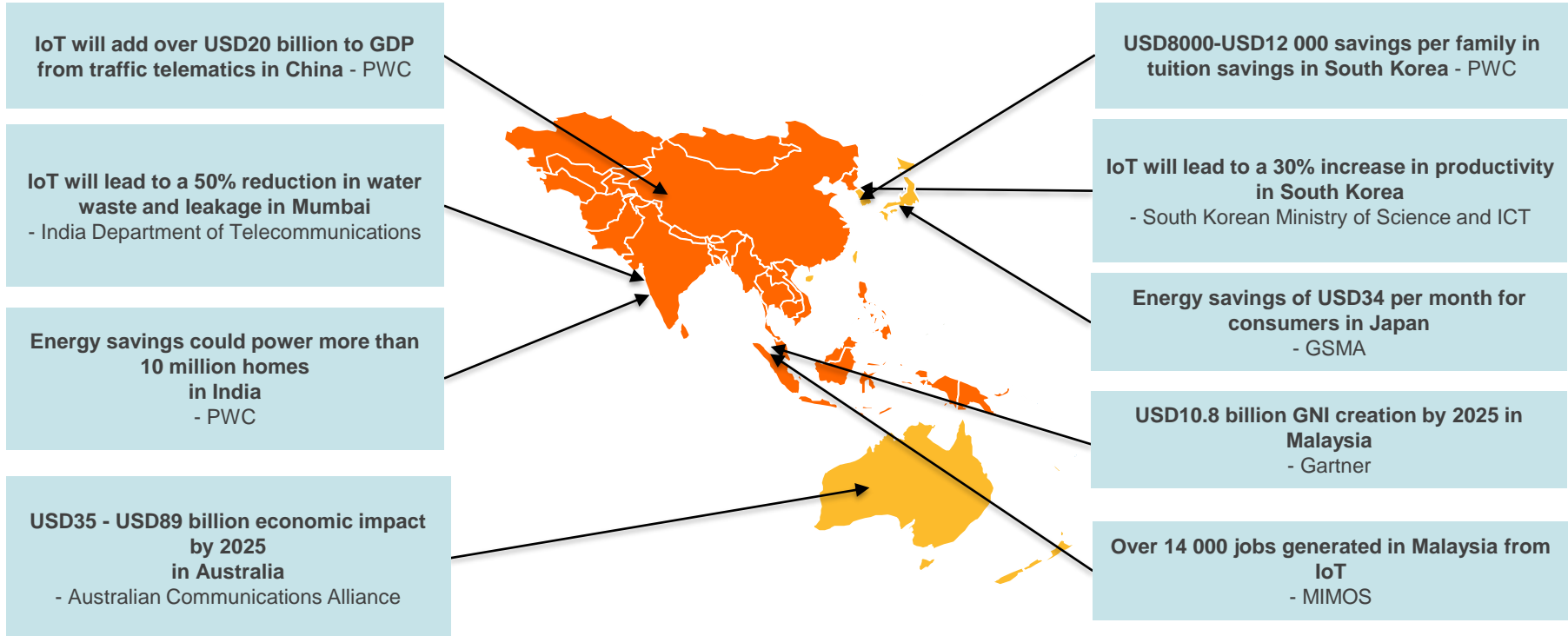
The role of governments in promoting IoT – the example of APAC

1   **Why IoT is it important? Socio economic benefits estimates for APAC**

2   **APAC National IoT plans**

3   **APAC Smart metering plans**

4   **Rapid Urbanisation drives Smart cities interest in India and China**

5   **Fitness tracking devices to promote healthy living in Singapore**

Why IoT is it important? Socio economic benefits estimates the example of APAC – are there similar studies available in the Americas?

Selected data on potential socio-economic benefits in APAC

IoT will add over USD20 billion to GDP from traffic telematics in China - PWC

IoT will lead to a 50% reduction in water waste and leakage in Mumbai
- India Department of Telecommunications

Energy savings could power more than 10 million homes in India
- PWC

USD35 - USD89 billion economic impact by 2025 in Australia
- Australian Communications Alliance

USD8000-USD12 000 savings per family in tuition savings in South Korea - PWC

IoT will lead to a 30% increase in productivity in South Korea
- South Korean Ministry of Science and ICT

Energy savings of USD34 per month for consumers in Japan
- GSMA

USD10.8 billion GNI creation by 2025 in Malaysia
- Gartner

Over 14 000 jobs generated in Malaysia from IoT
- MIMOS

# Government interest in IoT is higher in APAC than anywhere else in the world

National IoT and M2M plans of selected countries in APAC

China Directive on IoT industry development and IoT Action Plan (2013)

- Government commitment to USD1.6 billion annual funding
- USD240 million investment in national smart grid project over 2016-2020

South Korea IoT Master Plan (2Q 2014)

- Government commitment to invest USD350 million in 300 companies over 2016-2020 to develop an IoT ecosystem
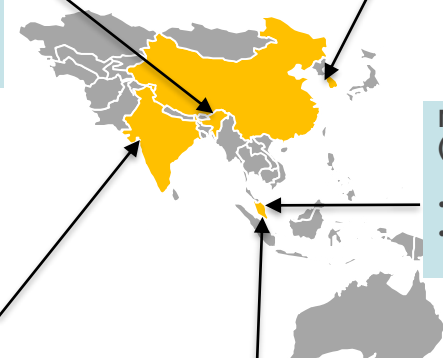
Malaysia National IoT Strategic Roadmap (3Q 2015)

- IoT to generate up to 14,000 jobs
- Government plans for pilots projects in healthcare, smart villages and environment

India National M2M Policy Roadmap (2Q 2015)

- Government plan for 100 smart cities
- Establishment of 14 smart grid pilots

Singapore Smart Nation (2014)

- Government commitment to USD13.8 billion investment by 2019 to drive economic growth through value creation

Smart metering plans: adoption is driven by the need to reduce energy theft and manage usage

**National smart metering plans of selected countries in APAC**

China
'Smart Grid' announced plan in 2012, including the rollout of 380 million smart electricity meters plan by 2020. Around 300 million smart meters had already been deployed by 2015
Driver: Construction of a smart grid to embrace energy efficiency and clean energy

India
National plan announced in 2015 to rollout over 130 million smart meters by India's public electricity utilities by 2021
Drivers: Unbilled power consumption due to energy theft, meter tampering, poor records and technical issues

Australia
Government mandated rollout of smart electricity meters in the State of Victoria over 2007-2014.
Drivers: Aim of reducing energy consumption
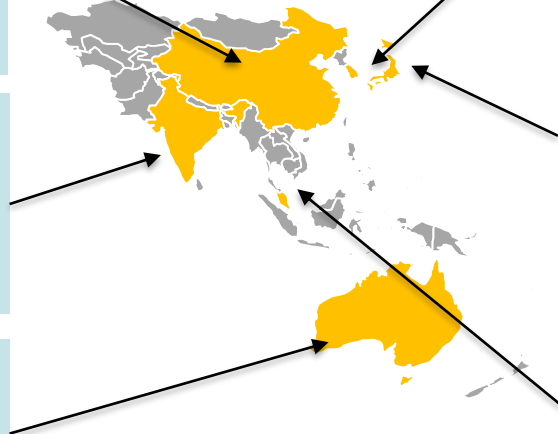
South Korea
National plan announced in 2010 by the government to rollout smart electricity meters to all households by 2020
Driver: Aim of reducing energy consumption

Japan
National plan announced in 2014 by the government to install smart electricity meters in all households by 2025
Driver: High cost of electricity after Fukushima nuclear plant failure in 2011

Malaysia
National plan announced in 2015 by state utility Tenaga Nasional Bhd to install 8.5 million residential smart electricity meters over the next 10 years
Driver: Aim of reducing energy consumption and unbilled power consumption due to energy theft

Rapid urbanisation is a key factor driving government interest in massive smart city plans in India and China

**National smart metering plans of selected countries in APAC**

China
200 cities selected by the government to pilot smart city projects, including Beijing, Shanghai, Guangzhou and Hangzhou

India
Development of 100 smart cities by 2022 by the government of India (Smart Cities Mission programme). In January 2016, first 20 cities selected and allocated with a USD7.5 billion funding

Indonesia
'Smart Nation' government initiative, including smart city programmes being rolled out in Jakarta and Makassar
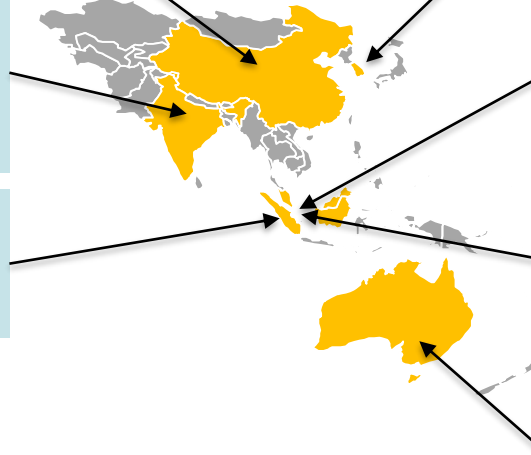
South Korea
Greenfield smart city project (Songdo International Business District) near the city of Incheon. 14 further such cities planned or in the process of being constructed

Malaysia
Development of initiatives pushed by the Malaysian government to turn the Greater Kuala Lumpur / Klang Valley area into a 'smarter' region

Singapore
Development of smart city policies included in Singapore Smart Nation's vision to create a better living for citizens through tech-enabled solutions

Australia
Development of smart city initiatives, with major urban areas such as Adelaide, Brisbane and Melbourne having formed smart city boards to define and implement smart city solutions

As part its IoT plan, the Singaporean government is using connected devices to promote physical exercise

Description

☐To encourage students to take exercise, the Singaporean government (through the Health Promotion Board) launched a series of challenges, with fitness tracking devices monitoring activity

☐Students record their step count by syncing step tracker with mobile App via Bluetooth

☐The number of steps accumulated can be turned into rewards (cash prizes, funds raised for charities)

☐20 000 students and 27 schools are taking part in on-going "Rep with steps" challenge which will reward the school with the highest daily average number of steps per student

How the solution is delivered

☐Partnership with tracker manufacturer Actxa

☐Development of Health Promotion Board's application Health 365 for iOS and Android

Advertisement for 'Steps for Good' challenge
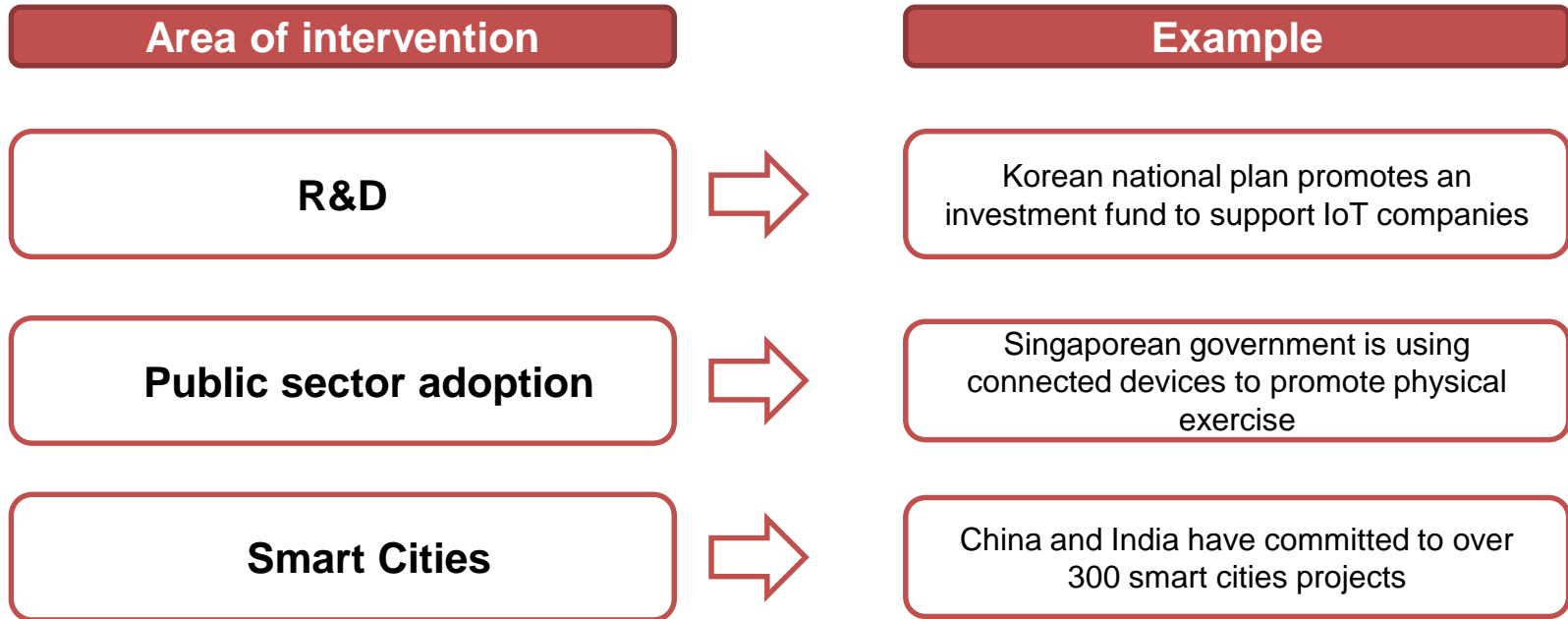

Overview of Actxa step tracker

Key implications for American governments

It is important that American governments foster innovation and promote adoption for all by encouraging IoT solutions in the public sector, funding research and development programmes and promoting an industry-led approach to interoperability

- **National IoT policy plans are an opportunity for governments to think long term and capture the opportunity that IoT offers to:**
  - Promote a long-term strategy and policy agenda setting in the region
  - Favour the co-ordination across different government departments
  - Promote an open regional industry-led approach to IoT policy

A national IoT plan does not mean new regulation for IoT

☐ **IoT does require a fresh approach; American Governments should promote policies that foster IoT take up such as:**

Area of intervention	Example
R&D	Korean national plan promotes an investment fund to support IoT companies
Public sector adoption	Singaporean government is using connected devices to promote physical exercise
Smart Cities	China and India have committed to over 300 smart cities projects

Thank you