



# IOT ROADMAP OF ASIANIA

GROUP H

# STAKEHOLDER IDENTIFICATION

- ▶ Ministry of Health
- ▶ Agriculture livestock & forest
- ▶ the electricity department
- ▶ the department of transport & logistic
- ▶ MICT
- ▶ Ministry of environment & forest
- ▶ ICT Industry (Telkom)
- ▶ Department of Finance

# GOALS

- ▶ Develop connected & smart IoT based system for “Asiania” economy & society
- ▶ Create a conducive IoT industry ecosystem to foster development
- ▶ Strengthen ICT human resources capabilities for IoT Development

# PRIORITIES

- ▶ mineral excavation
- ▶ Tourism
- ▶ Trading
- ▶ Manufacturing
- ▶ agriculture

# OUTCOMES

## GOALS

Develop connected & smart IoT based system for "Asiana" economy & society

Create a conducive IoT industry ecosystem to foster development

Strengthen ICT human resources capabilities in IoT Development

## OUTCOMES

- increasing the GDP rate 2% per annum
- providing 2000 jobs
- developing 20 smart cities in Asiana (each province 2 smart cities)

- Creating 500 IoT initiatives with collaboration frame between government, private and society sector (incubation ideas)
- Developing 100 IoT products specific to Asiana needs in the domains of agriculture, electricity, logistic, environment, trading, mineral excavation

- Creating 10,000 ICT digital talent (collaboration between government, industry and university)

# ASSESSING CURRENT ENVIRONMENT

(1)

- ▶ ICT Sector Status
  - ▶ The telecom sector has 4 mobile operators with over 90% rural broadband coverage.
  - ▶ The quality of mobile broadband service is very high in south and moderate nationwide. With the endeavour in last 4 years through USO fund, all the sub-district (block) headquarter in central and south have 4G LTE deployment.
  - ▶ Where post offices are located, there is now fibre connectivity.
  - ▶ E-government service booths are located in the Post Office premises, which is near the agriculture extension offices.
  - ▶ The extension offices, however, have only mobile telephones with voice and low speed data.
  - ▶ The northern area has 3G coverage.
  - ▶ The country has 97% mobile coverage by population and around 60% by area.
  - ▶ Smartphone penetration (currently 30%) is on the rise largely because most of the population is young and ICT literate.
  - ▶ The mobile operators and telcos have been building their own cloud and data platform to embrace the next revenue curve of digital services. With sensors and smart phones, they have been holding discussions with large entities to provide IoT, Big Data and related analytics.
  - ▶ All the telcos are preparing a migration plan to 5G by 2020 and is requesting regulators to allocate spectrum; The government has also its own application platform and the Prime Minister's Office is encouraging the government entities to use the platform;

# ASSESSING CURRENT ENVIRONMENT

## (2)

- ▶ IoT Environment and Technology Deployment
  - ▶ IoT has been used in several areas : health, agriculture, transport, smart grid, telecom, e-government
  - ▶ Mobile operator and telcos have been building their own cloud and data platform
- ▶ Content and apps
  - ▶ Local content in Asiana is at an early stage
  - ▶ Domain for developing is entertainment
- ▶ Economy
  - ▶ The income is largely driven by mineral excavation and exports, tourism and construction and int'l trade of oil and gas
  - ▶ The country has a very attractive regional financial and comodities
  - ▶ The mineral and industry and financial markets continue to grow
- ▶ Human Resources
  - ▶ The literacy is around 92%
  - ▶ Technical and business education is high in demand
  - ▶ The government has set up an incubation hub (IT park)

# ASSESS OPPORTUNITIES, GAPS , RISK , BARRIER

- ▶ Opportunities :
  - ▶ attractive investment on content & application,
  - ▶ most government now are connected to broadband & LAN,
  - ▶ the government of Asiana recognizes that encouraging the services sector is vital to grow demand establishing a digital Asiana & sees IoT services as a key driver not only for telecoms sector but the nation as a whole;
- ▶ Gaps:
  - ▶ The road infrastructure in the southern part of the country is very good as it serves the most important areas of business. In the central area, the transport infrastructure is moderate while it is poor in the northern area, southern & central have 4G, northern area has 3G
  - ▶ the majority of content is developed in the south where access to wireless broadband is higher.
  - ▶ The people in north have just started using internet for information access, communication & social exchange
- ▶ Risks: There is no guideline to store & share data;
- ▶ Barrier: most of the data is computerized but they are only for last 2 years

# Challenges & Solutions (1)

CHALLENGE	SOLUTIONS
There is very little awareness of e-commerce in the primary industry	Linking e-commerce sector to SME industry
The declining share of agriculture & manufacturing in the GDP composition	Strengthening of agriculture and manufacturing sector by prioritizing those sector in the country's program
Privacy & security of data	Drafting the act of privacy and security
Gap infrastructure (telecommunication & transport) between southern and northern areas	Accelerating development of infrastructure by project partnership program
Data limitation	Building data storage
Slow progress for transition from IPv4 to IPV6	Arranging a timeline and strategy to accelerate the migration from IPv4 to IPv6



# Challenges & Solutions (2)

CHALLENGE	SOLUTIONS
Net neutrality on OTT issues	Balanced regulation of OTT
Weak consumer protection	Drafting the act of consumer protection Establish a consumer and protection agency

# RECOMMENDATION

- ▶ Collaboration between all involved ministry to draft a comprehensive IoT regulation with specific target for each ministry
- ▶ Conducting pilot project for IoT initiatives in smart city based on the needs of each city (collaboration between local IoT developer/company, local government, university and global industry)
- ▶ Allocating specific budget for IoT National Development for Asia
- ▶ Driving local industry to produce IoT component in Asia and/or enforcing IoT global company to build RND center in Asia
- ▶ Building IoT workforce

# AICTA ACTION PLAN (2019 – 2021)

- ▶ 2019
  - ▶ Preparing of IoT certification for ICT human resources
  - ▶ Issued a policy about the using of certain spectrum for IoT development
  - ▶ Directing of industry to produce IoT product base on country priorities (mineral excavation, Tourism, Trading, Manufacturing, agriculture)
  - ▶ Giving incentive for IoT local developer
  - ▶ Smart city literacy
  - ▶ Smart city pilot project
- ▶ 2020
  - ▶ Smart city development
  - ▶ 5G trial (specific for IoT use case)
  - ▶ Drafting of local component level
  - ▶ Issued regulation which force telecommunication & ICT industry to migrate from IPv4 to IPv6
  - ▶ To regulate of IoT industry competition
- ▶ 2021
  - ▶ Auction of 5G spectrum to drive developing of IoT industry
  - ▶ Arranging the act of security and data protection

*Thank  
you*

