



Hui Weng Cheong - President

AIS Annual Investor Day 2017

17th November 2017



The Change and Development of Thailand in the past 6 months

2X mobile internet usage from last 6 months

Mobile internet usage per person grew 2 times from 3GB – 6GB

2X internet video consumption

Time spent on mobile contributes for 49% vs 36% TV

+400 new start-ups launched in Thailand

In all industries, start-up company grew from 600 -> 1,000 in 1H17

30 smart farming started

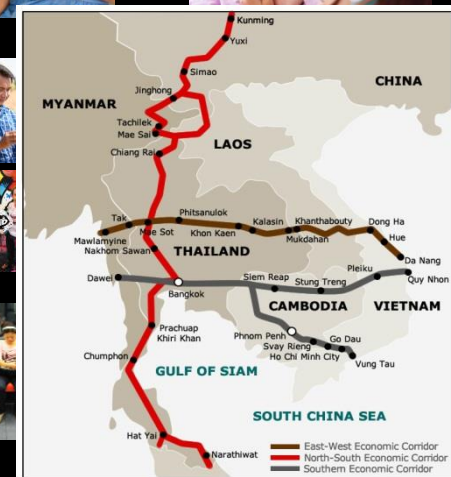
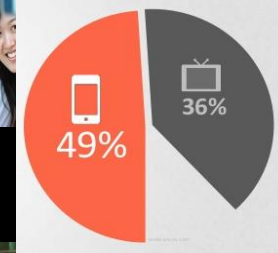
Started in every province and contributing 3% of the industry

Eastern Economic Corridor started

13,000 sqr km of land for the new hub started

High speed trains will start in 2020

Connected all major provinces of Thailand and the CLMV





THAILAND 4.0

Prosperity, Security, Sustainability



Thailand 1.0
Agriculture



Thailand 2.0
Light Industry



Thailand 3.0
Heavy Industry

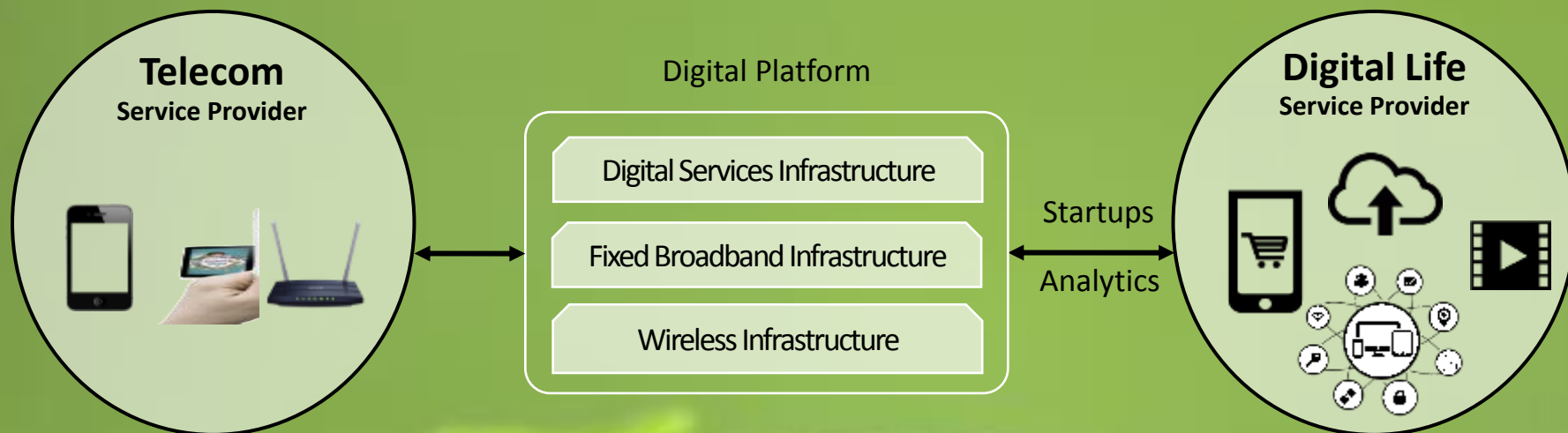


*Middle Income Trap
Inequality & Imbalance*

Innovative/Value-based Industry
High Income Country

- Economic Prosperity,
- Social Well-Being,
- Raising Human Value,
- Environment Protection

AIS Transformation



LEAN PATH

Culture Transformation

SMART PATH



DIGITAL TRANSFORMATION

Next Generation
Network

Next Generation
Economy

Next Generation
Xperience

Next Generation
Team

Overview of AIS digital transformation toward 2020



Next Generation **N**etwork

Network Function
Virtualization &
Cloudification



- Future-proof and 5G-Ready networks
- Transform legacy IT systems to Cloud friendly network architecture
- AI for network operation

Next Generation **E**conomy

Contents and
Enterprise Segments



- Capturing new opportunities in:
- IoT
 - SME & R-SME
 - Managed Security
 - Mobile Digital Marketing
- Maximize value of contents:
- Branding
 - Retention
 - Revenue

Next Generation **X**perience

Customer Value
Management



- Data-driven analysis based on customer insights:
- SOC, a tool to empower using network analytics
 - Segmentation and targeted offerings
- Converged Mobile, Fibre & Content bundling

Full Service
Digitization



- Digitization of all customer journeys
- AI/Chatbots embedded into all self-service channels
- Full deployment of OMNI channels

Next Generation **T**eam

Organization
Transformation



- Organization readiness for digital disruption
- Leverage capabilities and create synergies in value chain supporting digital business objectives

Target of AIS digital transformation



Next Generation Network

Network Function
Virtualization &
Cloudification



Next Generation Economy

Contents and
Enterprise Segments



Next Generation Xperience

Customer Value
Management



Full Service
Digitization



Next Generation Team

Organization
Transformation



Target 2020

- > 90% cloudification
- Network virtualization ready for 5G

- Expand revenue contribution of enterprise business from 9% to 25%

- Move from ARPU to ARPH
- Improve revenue assurance and increase proportion of valued users

- Provide shops & services that never sleep

- Data driven organization & culture

Savings/benefits

- Capex savings due to higher network capacity per footprint
- Improve opex efficiency

- Potential new revenue stream, serving emerging market needs

- Enhance customer satisfaction
- Potential margin expansion and efficient cost structure from effective marketing offerings
- Strengthen customer loyalty and stickiness through convergence

- Provide more options for customers including full control of service 24/7
- Improve cost efficiency from reducing service cost per head & human touch points
- Improve revenue generation from staff focusing more on sales activities

- Ability to proactively service and exceed the expectations of the new generation of digital customers

Next Generation Team

TEAM, the most important element in digital transformation



Digital Disruption Disrupts the Unprepared



- **Technology** swiftly changes
- **Customers** are more sophisticated and have many choices
- **Products** and services come in new business models
 - Shorter time to market
 - Online and customized

Leverage TEAM Capability to Support Digital Business



- **Strengthen** existing competitive advantage
 - Telecoms stay in the center of change
 - High employee engagement
- **Create** synergies with partners
 - Embed outside expertise into inside know-how

Expand Beyond Traditional to Digital



- **Build digital environment and enhance new skillsets**
 - Innovation-driven
 - AIS ACADEMY/IC/D.C.
 - Job rotation
- **Cultivate fair culture**
 - Less hierarchy
 - Rewards based on merit

Online library of
trainings & seminars



AIS Academy

Coaching of mindset
and skillset



Courses on business
management



Innovative Space



THE SPACE 4th Floor



THE PLAYHOUSE 6th Floor



THE DISCOVERY 8th Floor



Note: Located in SC Tower

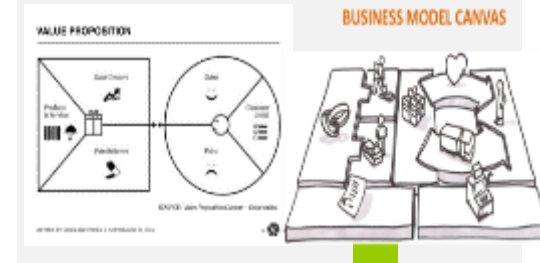
INNOVATION TEAM SYNERGY



INSPIRATIONAL INNOVATION



PRACTICAL INNOVATION



JUMP
WORKSHOP

Budget
Bt100mn



PRESENTATION & PITCHING



PROTOTYPING & TESTING







Kriengsak Wanichnatee - Chief Technology Officer

AIS ANNUAL INVESTOR DAY 2017

17th November 2017



Next Generation Network

AGENDA

- **Our Success Story in 2017**
- **Road to 5G**
- **Service Excellence Era**

AGENDA

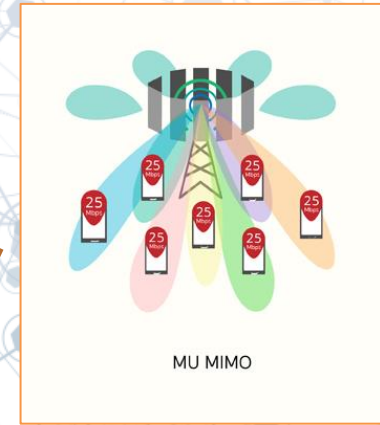
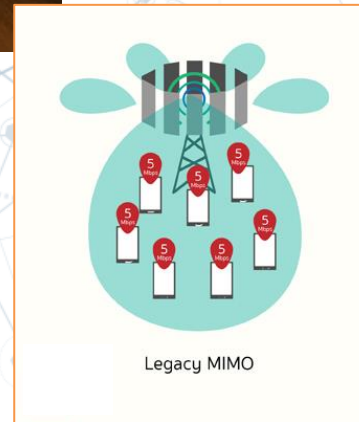
- **Our Success Story in 2017**
- **Road to 5G**
- **Service Excellence Era**



Massive MIMO

JANUARY 2017, AIS ANNOUNCED

World first FDD Massive MIMO 32T32R
"Cell level" capacity increases around **5 times** compared with 2x2 MIMO.



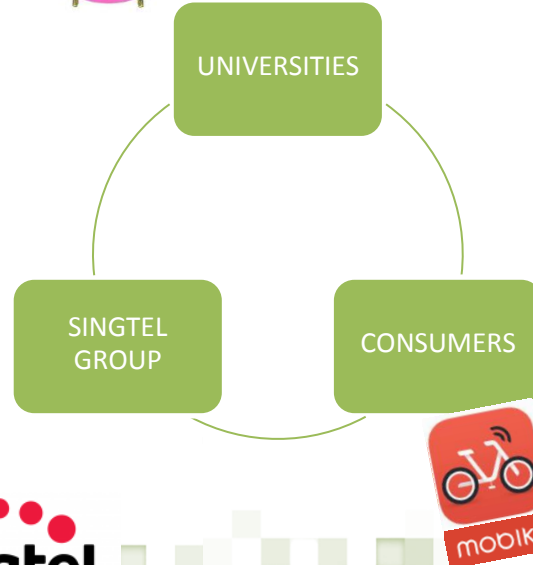
1st LIVE NB-IoT Network in South East Asia

เอไอเอสเปิดตัวเครือข่ายอัจฉริยะ

Internet of Things - Narrow Band IoT

จุดประกายสมาร์ทซิตี้ หุ่นประเทศไทย 4.0

FEBRUARY 2017, AIS ANNOUNCED



Street light control

Prince of Songkhla University



NEXTG

LTE
ADVANCED

ที่สุดของเทคโนโลยีสูงสุด 3CA, 4x4MIMO และ
DL 256QAM ช่วยทำให้รับส่งข้อมูลได้เร็วกว่า 4G

ให้ความเร็วได้สูงสุด 700 Mbps*

*บนมือถือ Samsung Galaxy S8 | S8+

AIS
SUPER
WiFi

รวมกับสุดยอดความเร็ว
จาก AIS SUPER WIFI
ที่ให้ความเร็วได้สูงสุด 650 Mbps



NEXTG

MAXIMUM SPEED 1GBPS

AUGUST 2017, AIS ANNOUNCED



NEXTG

MAXIMUM 10 GBPS

AUGUST 2

Let's test
it live!

AGENDA

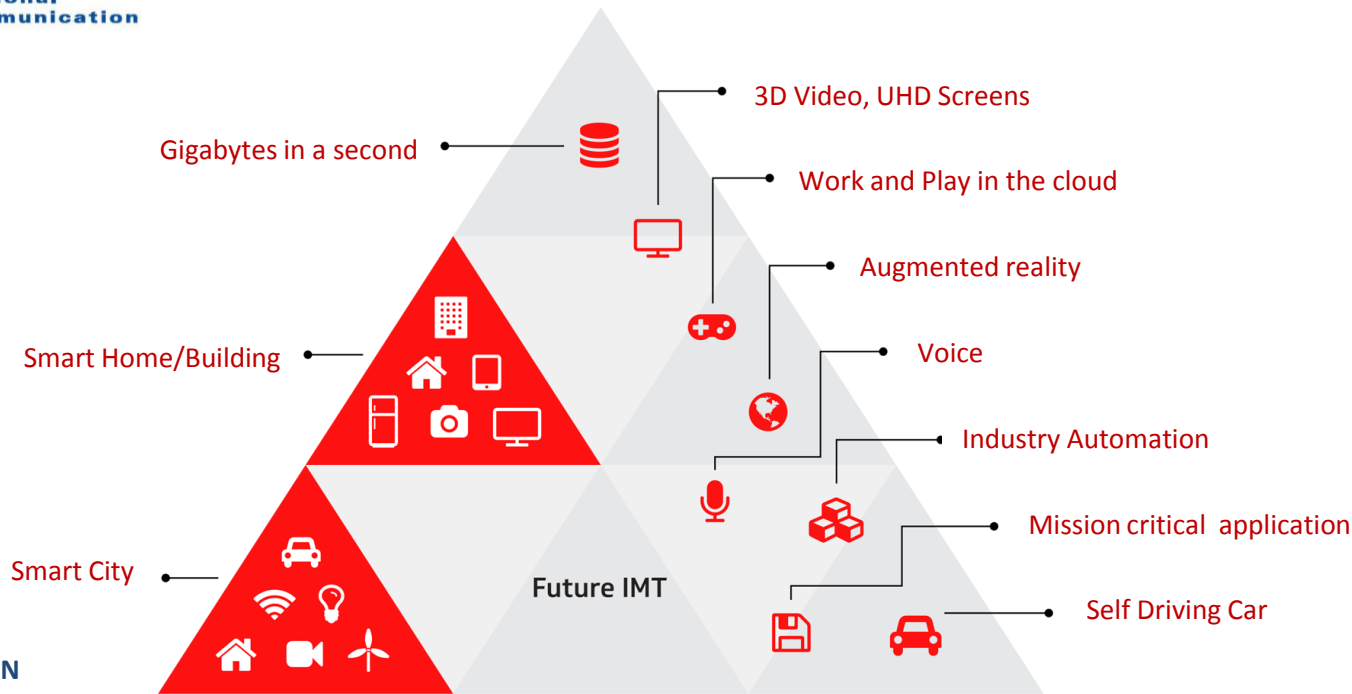
- Our Success Story in 2017
- Road to 5G
 - What is 5G?
- Service Excellence Era

5G Driven



Enhanced Mobile Broadband

HIGH CAPACITY, HIGH USER EXPERIENCE



MASSIVE CONNECTION
DEEP COVERAGE
POWER SAVING
LOW COST

Massive Machine Type
Communications

Ultra-reliable and Low Latency
Communications

LOW LATENCY
HIGH RELIABILITY

eMBB : enhanced Mobile Broadband



720p



1080p



HIGH CAPACITY

Throughput
5Mbps

Throughput
25Mbps

Throughput
100Mbps

5G speed up to 10Gbps

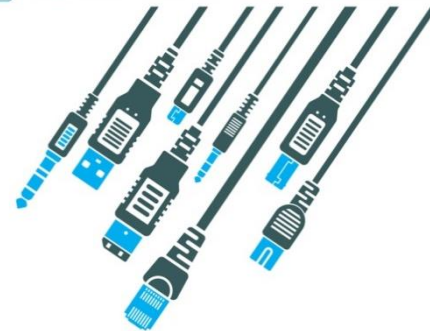


eMBB : enhanced Mobile Broadband

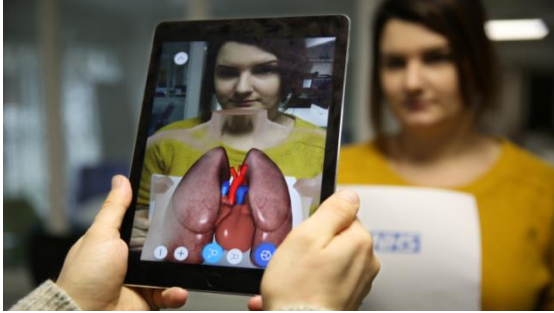


HIGH CAPACITY

Cloud Technology allows people store all their data anywhere anytime without physical storage and able to access to them all the time



eMBB : enhanced Mobile Broadband



Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment whose elements are "augmented" by computer-generated or extracted real-world sensory input such as sound, video, graphics, haptic or GPS data.

HIGH USER EXPERIANCE

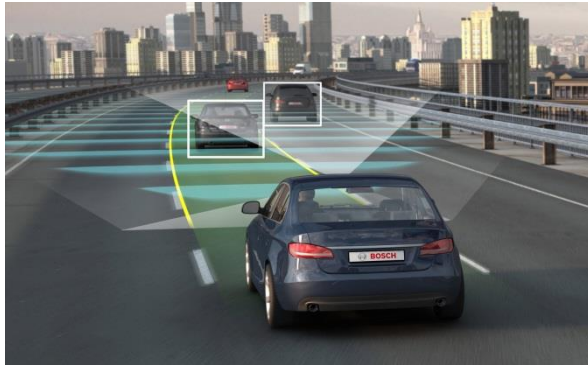
VR WIRELESS GAMING REQUIRE 1 Gbps

Virtual reality (VR) is a computer **technology** that uses **virtual reality** headsets or multi-projected environments, sometimes in combination with physical environments or props, to generate realistic images, sounds and other sensations that simulate a user's physical presence in a virtual or imaginary environment.



uRLLC : Ultra-Reliable and Low Latency Communications

Self Driving Car



Wireless VR (Ultra Low Latency)



Machine Controller



**REQUIRED LIVE RESPONSE,
LOW LATENCY.**

5G response within 1 ms

mMTC : Massive Machine Type Communications



SMART HOME



INTERNET OF THINGS

mMTC : Massive Machine Type Communications



SMART CITY



More than 10,000 connections/cell in 5G

AGENDA

- **Our Success Story in 2017**
- **Road to 5G**
 - **Roadmap**
- **Service Excellence Era**

ROAD TO 5G : RELEASES

EVOLUTION (eLTE)

3GPP
R10 ~ R12



3GPP
R13 ~ R14



3GPP
R15 ~ R16



Base on
LTE air interface
(eLTE)



Base on
New Radio air interface
(5G NR)



2015

2017

2017

2018

2019

2020

Rel-15
(5G Phase 1)

Rel-16
5G Phase 2
(Full IMT-2020 NR)

LTE Evolution to 5G



Enhanced Mobile Broadband

HIGH CAPACITY
HIGH USER EXPERIENCE



Gigabytes
in a second

3D Video, UHD Screens

Work and Play in the cloud

Augmented reality

Voice

Industry
Automation

Mission
critical
application

Self
Driving
Car

Future IMT

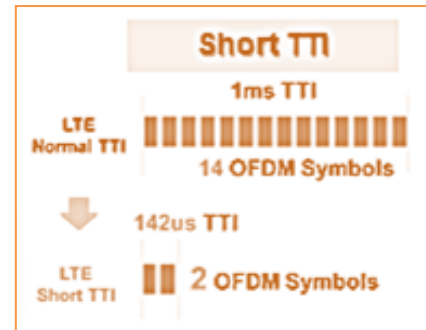
Smart Home/Building

Smart City

Massive Machine Type
Communications

MASSIVE CONNECTION
DEEP COVERAGE
POWER SAVING
LOW COST

Short Transmission Time Interval



Ultra-reliable and Low Latency
Communications

LOW LATENCY
HIGH RELIABILITY

AGENDA

- Our Success Story in 2017
- Road to 5G
 - Frequency for 5G
- Service Excellence Era

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave

**There are 3 frequency bands
allocated for 5G**

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave

GLOBAL HARMONIZATION

5G

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave



B41 (2500-2690MHz) as TDD Mode



**B7 (2500-2570MHz/2620-2690MHz) as FDD Mode
and B38 (2570-2620MHz) as TDD Mode**



B41 (2500-2690MHz) as TDD Mode



B41 (2500-2690MHz) as TDD Mode

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave



B41 (2500-2690MHz) as TDD Mode



B7 (2500-2570MHz/2620-2690MHz) as FDD Mode
and B38 (2570-2620MHz) as TDD Mode



B41 (2500-2690MHz) as TDD Mode



B41 (2500-2690MHz) as TDD Mode



2600 MHz

- Available for both **FDD (B7)** and **TDD (B41)**
- Suitable for **4G** than 5G due to less bandwidth (< 100 MHz)

B7

FDD-LTE 2600MHz = **2 x 30 MHz**

(2535 - 2565 MHz & 2655 - 2685 MHz) Or (2540 - 2570 MHz & 2660 - 2690 MHz)

B41

TDD-LTE 2600MHz = **40 MHz**

(2575 - 2615 MHz)

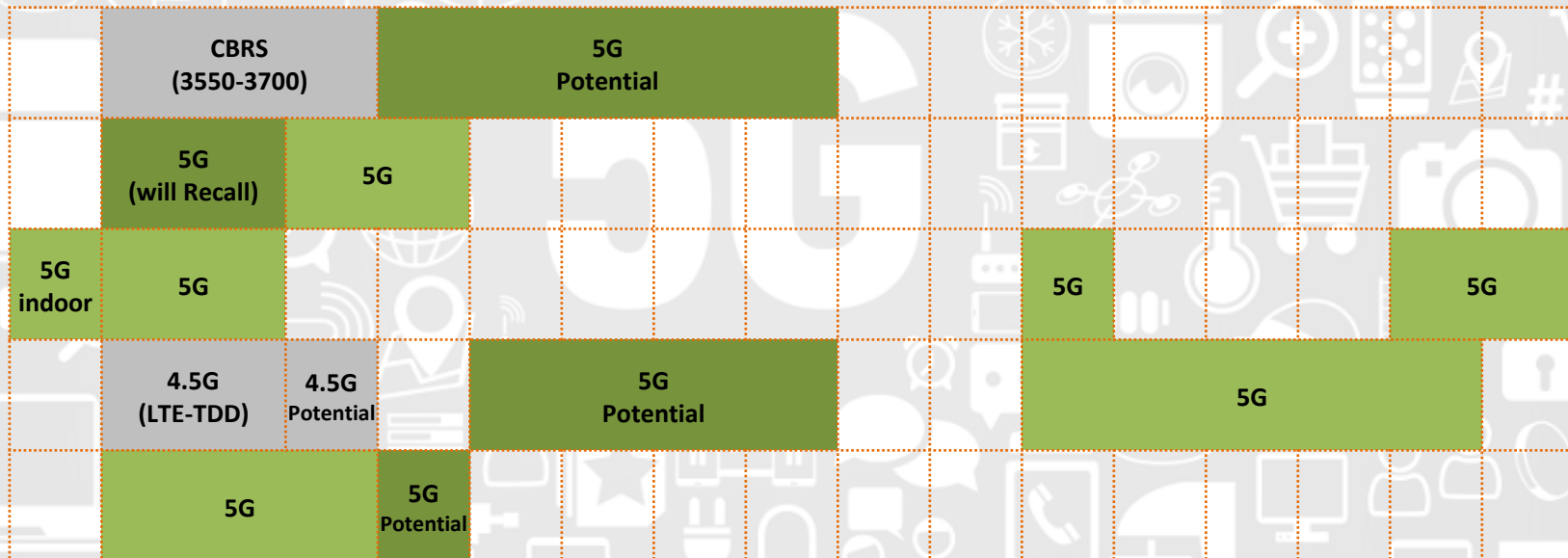
Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave

3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000



Currently use for 5G

5G in the future

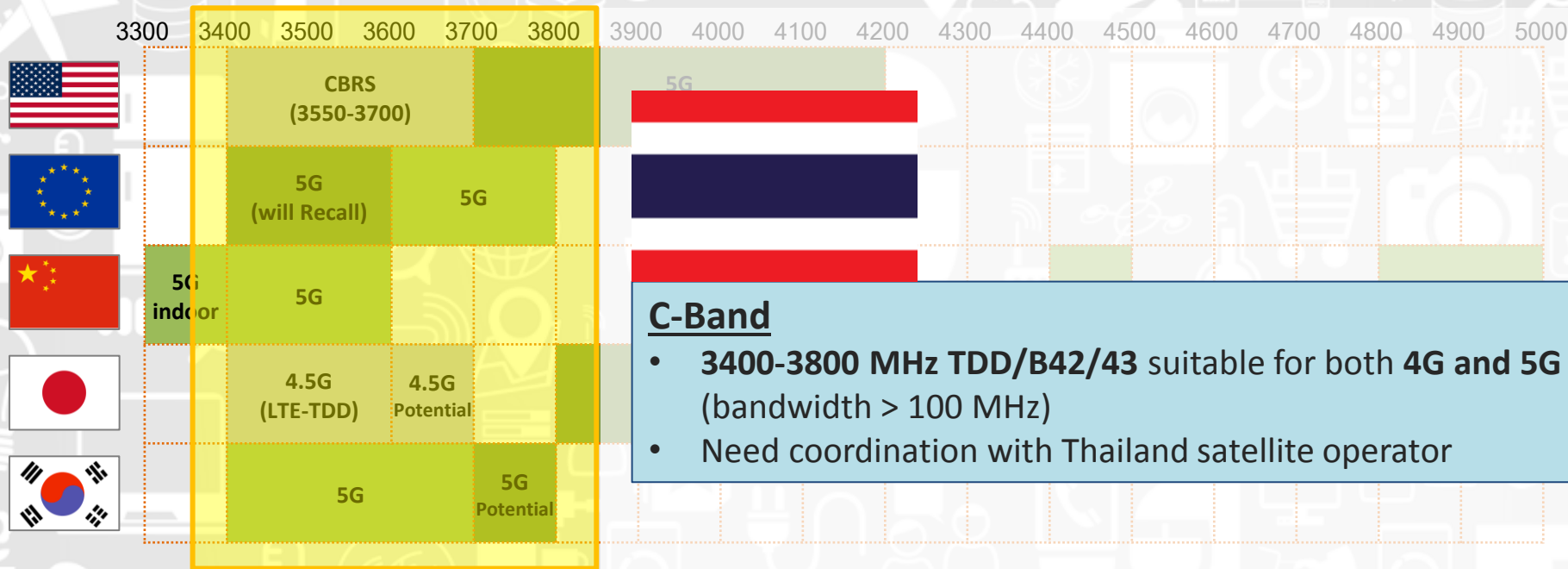
Other Technology

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave



C-Band

- **3400-3800 MHz TDD/B42/43** suitable for both **4G and 5G** (bandwidth > 100 MHz)
- Need coordination with Thailand satellite operator

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave

24.25 26.5 27.5 29.5 31.8 33.4 37.0 40.5 42.5 43.5



confirm

confirm



confirm

TBD

TBD



TBD

TBD



Likely



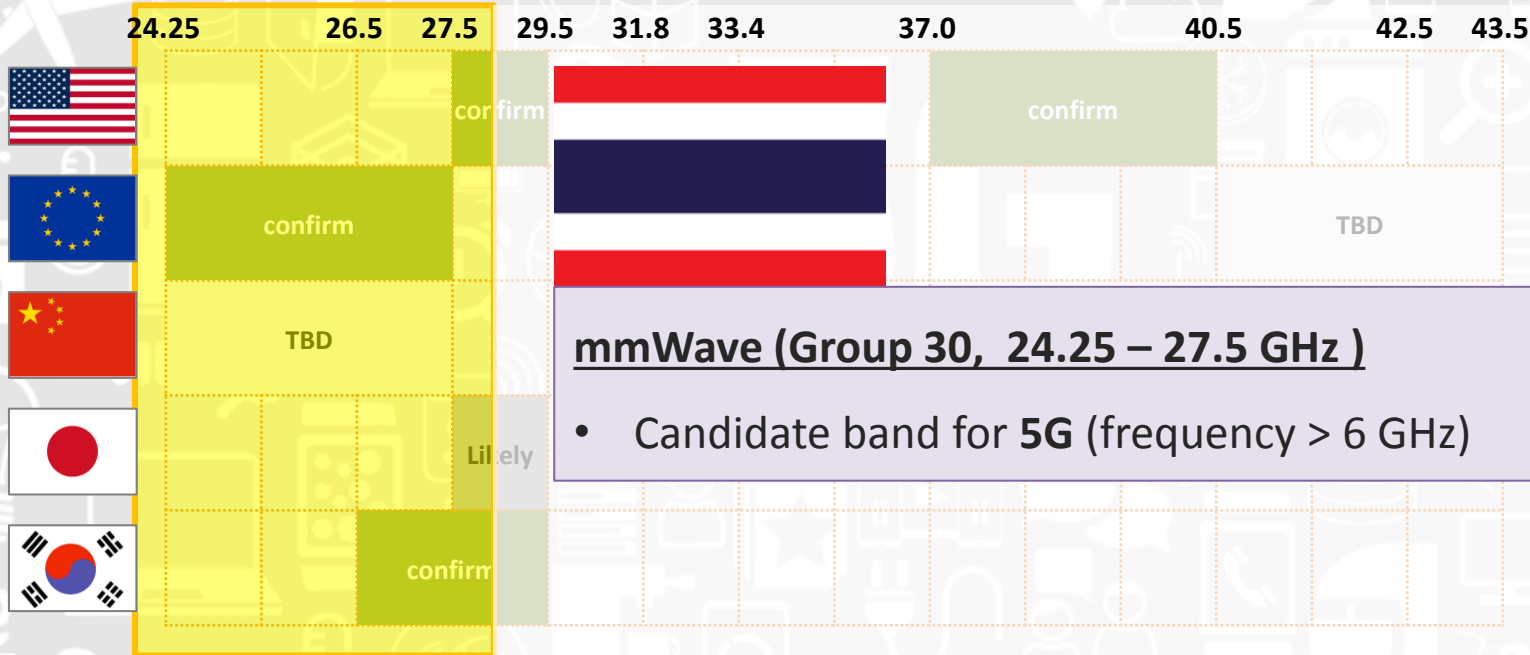
confirm

Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave



Global expected frequency bands for 5G

Sub3GHz

C-Band

mmWave

C-band 3400 - 3800MHz (bandwidth > 100 MHz)

- ✓ Suitable for 5G macro cell and small cell
- ✓ Can support 5G services e.g. *AR and High Quality VDO streaming, Vehicle-to-Vehicle Communication* which need high speed, low latency and mobility of users



mmWave band 24.75 – 27.5 GHz (bandwidth > 100 MHz)

- ✓ Suitable for 5G pico cell
- ✓ Can support 5G services e.g. AR, VR and High Quality VDO, Smart Office/Factory/Hospital which need very high speed, low latency and limited mobility due to coverage



In-Building

AGENDA

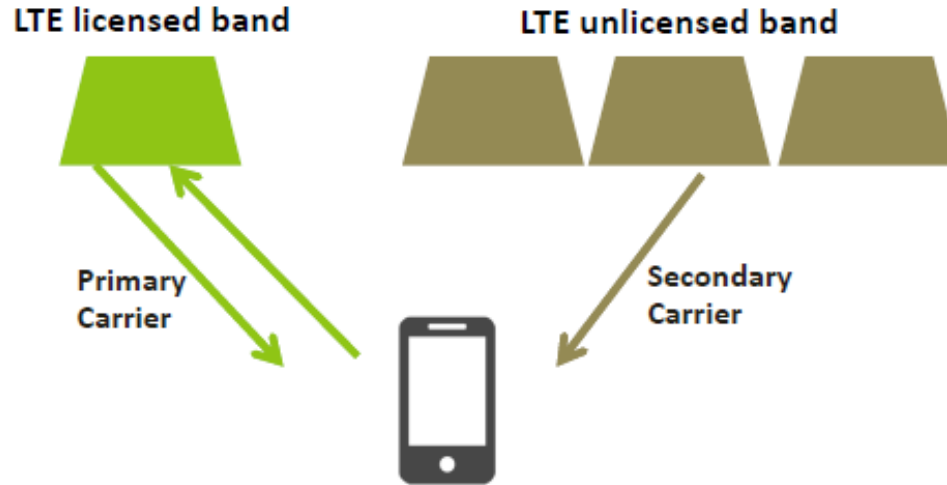
- Our Success Story in 2017
- Road to 5G
 - Network Preparation
- Service Excellence Era

LAA : License Assisted Access

LTE Licensed + LTE Unlicensed

LTE in unlicensed spectrum

would allow cellphone carriers to boost coverage in their cellular networks, by using the unlicensed 5 GHz band



- Limited commercial LAA-supported smart phones in the market and less operators announcement for commercial rollout
- Expect more commercial LAA supported smart phones in Y2018

Network Preparation **LTE Evolve Existing**



RRU - Remote Radio Unit
BBU - Baseband Unit

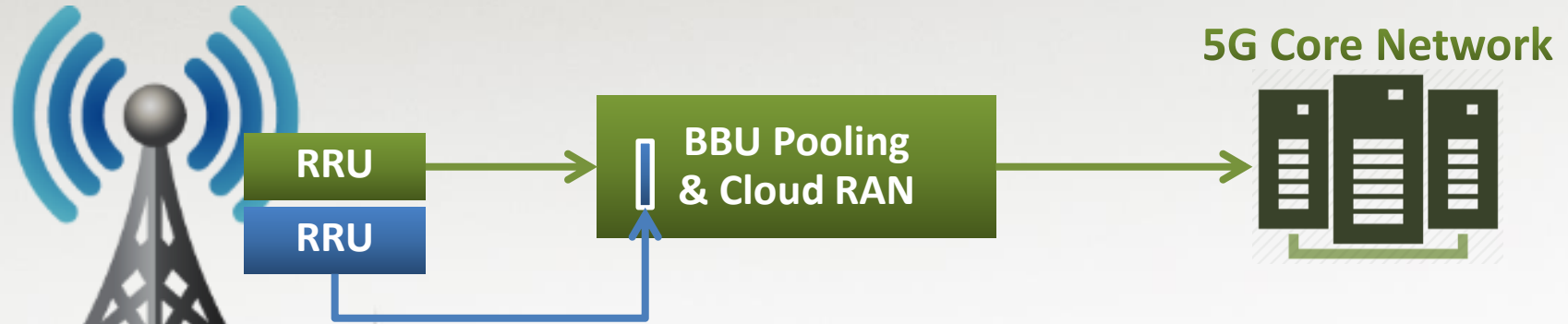
4G

4G Element

Network Preparation **LTE Evolve Existing**



Network Preparation 5G Environment



RRU - Remote Radio Unit
BBU - Baseband Unit

4G

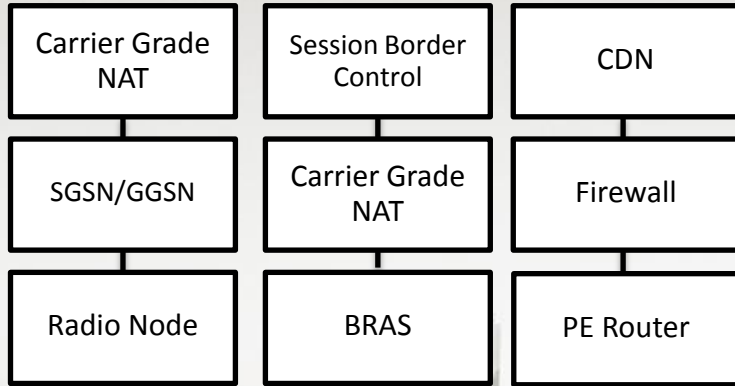
4G Element

5G

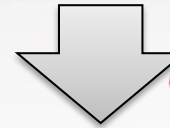
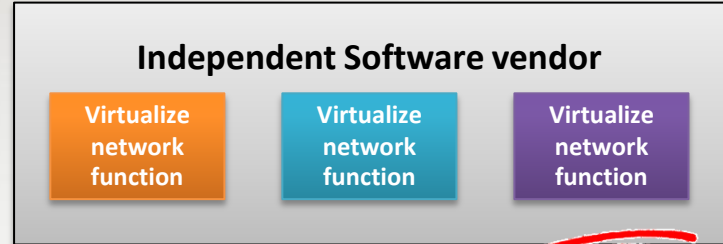
5G Element

Network Function Virtualization

Classical Network Equipment



Independent Software vendor



**Programmable
Automate
Remote installed**

Standard Hardware



Benefit of NFV

- 1) Capacity per footprint is higher (CAPEX saving)
- 2) Save power consumption (OPEX saving)
- 3) Resource sharing
- 4) Faster time-to-market
- 5) Programmable operations

AGENDA

- Our Success Story in 2017
- Road to 5G
- Service Excellence Era

NOC

Network Operation Center



SOC

Service Operation Center



Network
Elements
Alarm &
Performance

Customer
Complaint
Handling

Network
Insight
Focus



Customer
Insight
Approach

Proactive
Customer
Experience

End-to-End
Service
Monitor
Management

SOC

Service
Operation
Center



- Customer Segments
- Services prioritized based on Value
- User Device Monitoring
- Service Monitoring
- Service Events linked to Network Events

NOC

Network
Operation
Center



Network Assurance

- Technology Based
- Availability and Capacity focused
- Platform Monitoring
- Network Events

Benefits

Marketing

- Unleash the power of customer insight
 - Targeted marketing



Customer Engagement

- Provide prediction on CEI
- Customer experience uplift with Enhanced Analytical Capability and Network Insights



Customer Care

- Handle network complaint smartly
- Improve first call resolution rate
- Deliver personal treatments and campaigns

Engineering

- Smart planning
- Excellent network experience/quality



Cost Efficiency

- Utilize tools and resources across teams
- Maximize potential for outstanding business outcomes

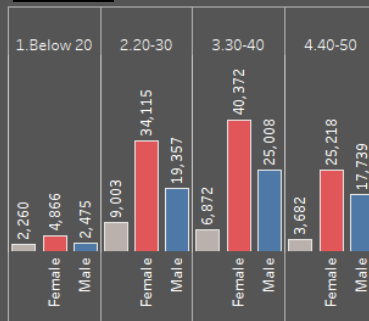
Consumer Insight

Video OTT Audience Overview-Female are major audiences



Female
Male

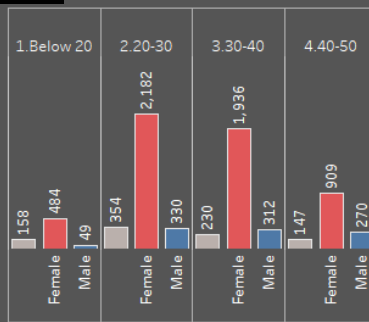
App A Young Girls



App B -More Ladies

App C -Mature Gentleman Best Choice

App D Girls Favorite













- Female consume Video OTT service more than Male
- Majority of **App C** is Gentleman customer
- Main customer of **App F** are not over 40 years old


















Consumer Insight

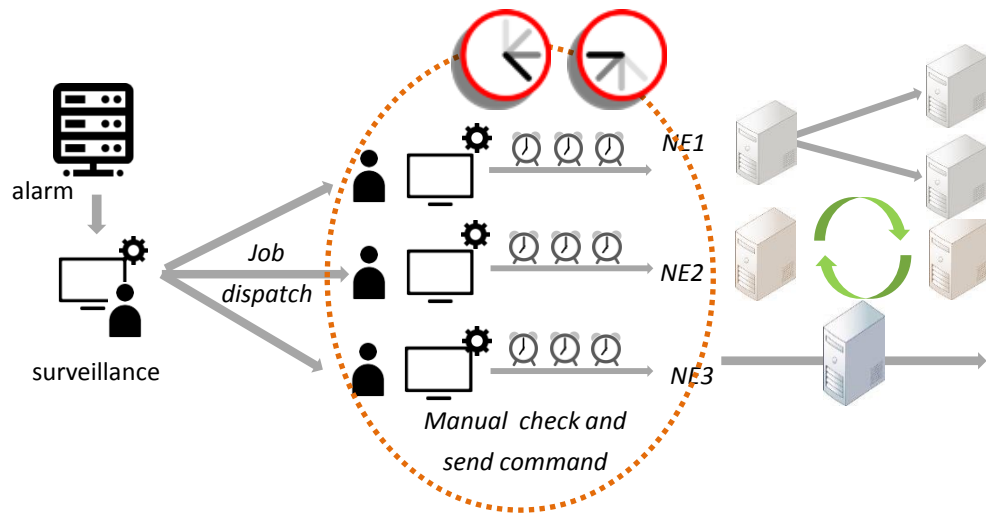
Top Travel App Ranking

(know which App is the best for Roaming Promotion)

TripAdvisor	Expedia	Booking	Agoda	AirAsia
				
706,374	387,167	352,538	209,464	111,840
SkyScanner	AirBnB	Trivago	Ctrip	Trivago
				
56,179	37,714	23,032	21,651	18,062

The outbound roaming country for 1st day travel visitors

Japan	Hongkong	Singapore	China	Korea	Malaysia	France	Germany	United King..
								
414	328	243	221	211	132	129	121	115
Myanmar	Taiwan	Italy	USA	India	Switzerland	Philippines	Nepal	
								
110	109	97	92	78	73	66	33	

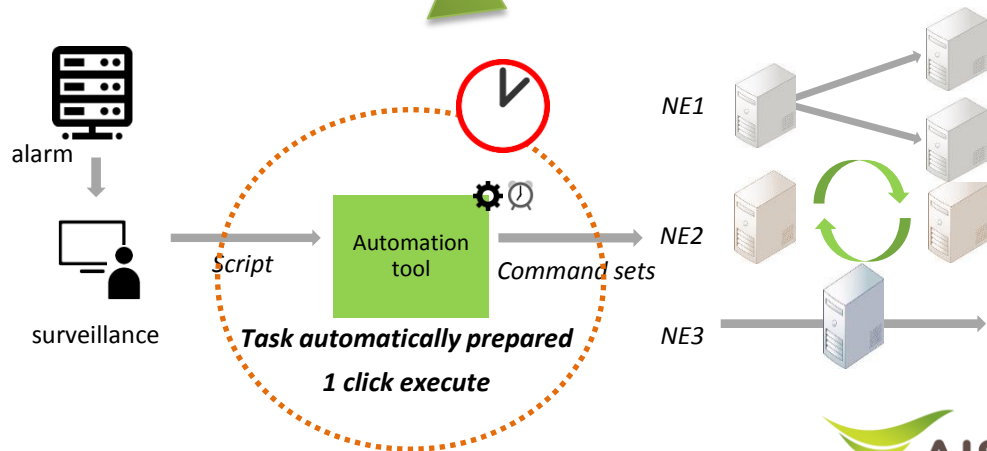


Boost Operation Efficiency

Boost Operation Efficiency by using Robotic Process Automation

Benefit

- 400% downtime reduction
- Minimize error during action
- Improve operation efficiency



CONCLUSION

- **5G Driven**
- **5G Spectrum Allocation**
- **Turn NOC to NSOC for Service Excellence**

NETWORK SELECTION

?





Pratthana Leelapanang

Act. Chief Consumer Business Officer

AIS Annual Investor Day 2017

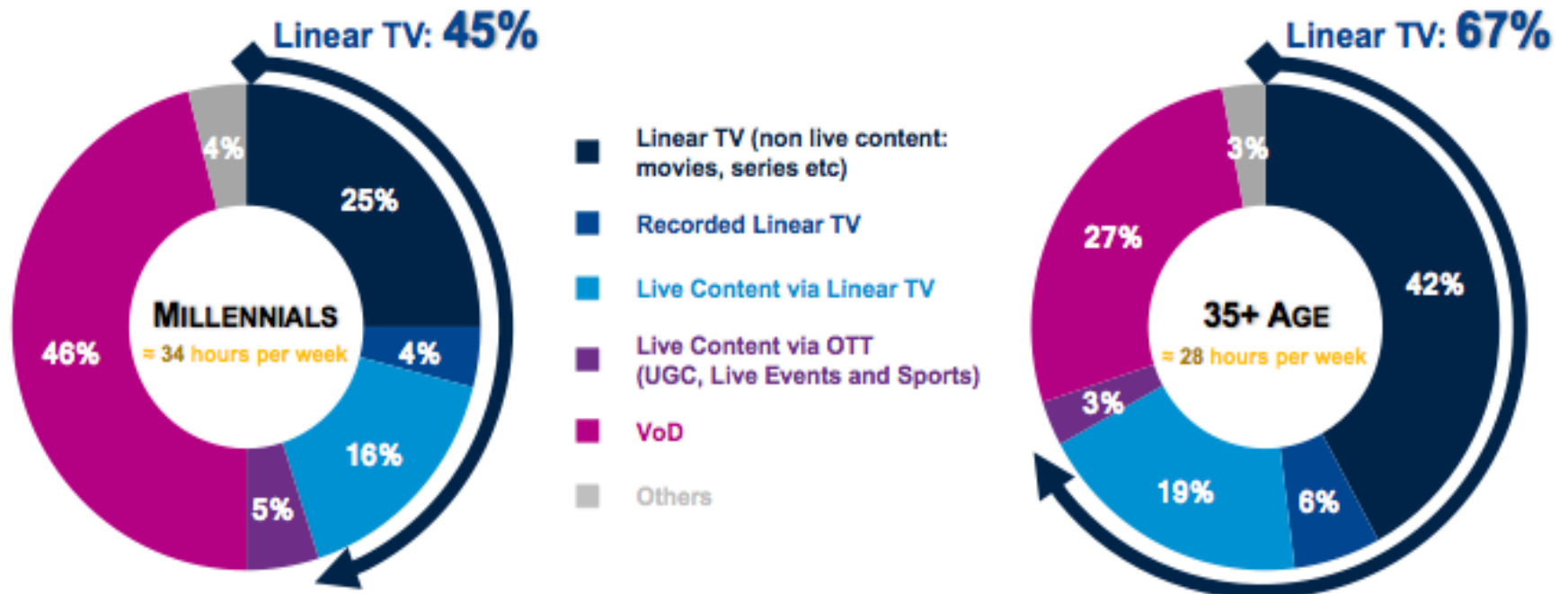
17th November 2017



Next Generation Economy

Digital Entertainment

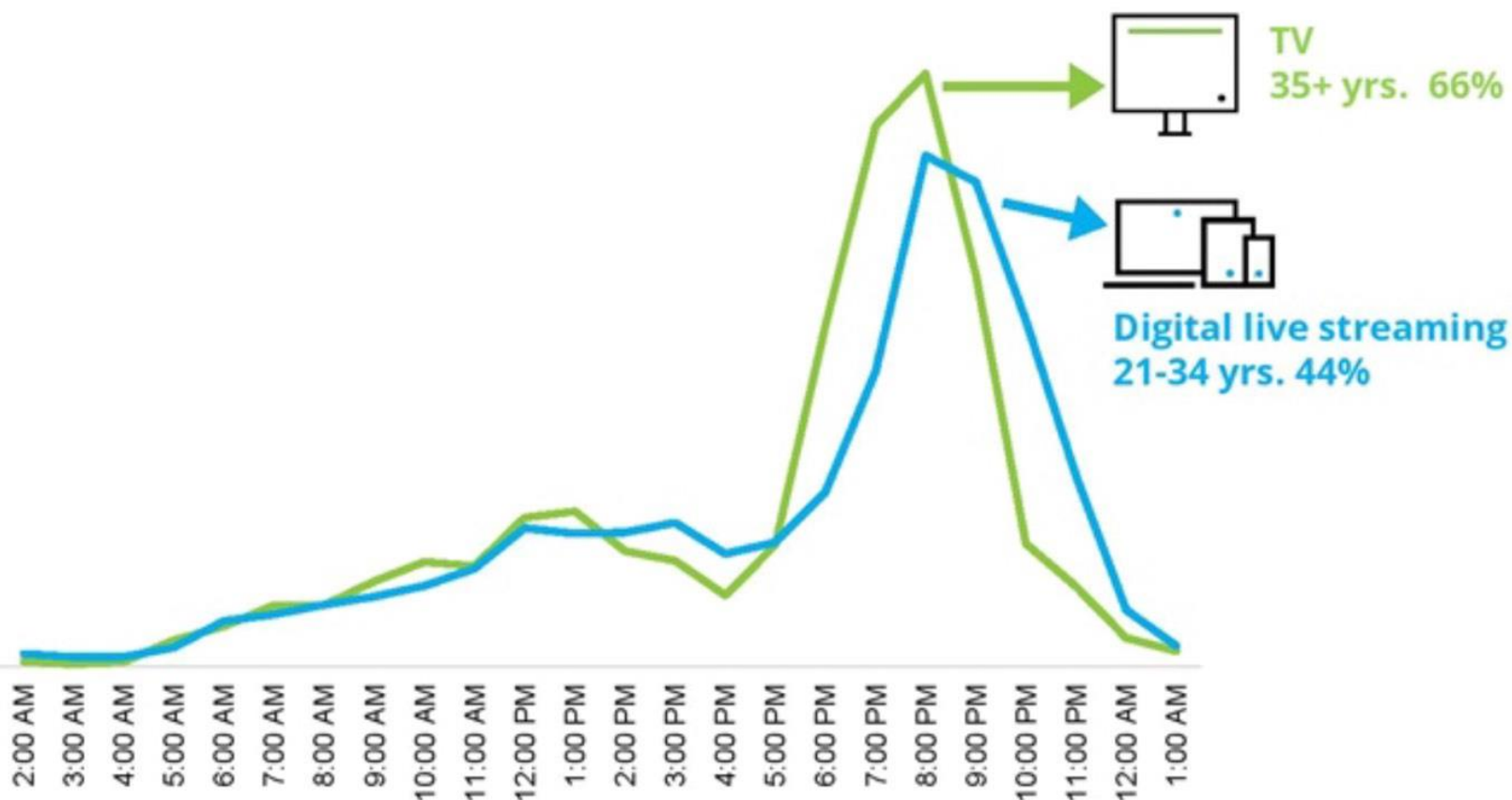
Share of Content Consumption by Type and Age Group



LIVE STREAMING PEAKS ON DIGITAL SCREENS




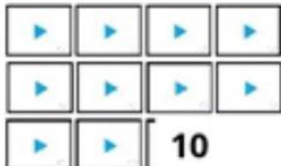




7PM TO 10PM



Source: Nielsen TV Audience Measurement / Aged 4+; Nielsen Digital Content Ratings, May 2017

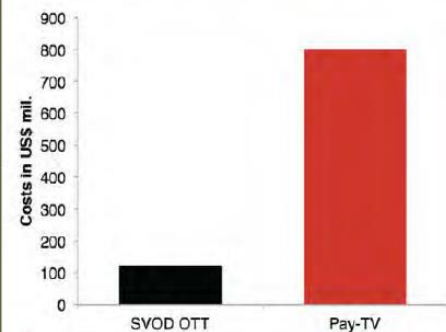
EACH PROGRAM CATEGORY CAPTURES A DIFFERENT TARGET AUDIENCE

	THAI SERIES	NEWS PROGRAM	SPORTS COMPETITION
Profile	 Female 67% 21-34 yrs 59%	 Male 54% Female 41% 21-34 yrs 42% 35-50 yrs 34%	 Male 68% 21-34 yrs 48% 35-50 yrs 24%
Average time spent per week	69.54 mins	1:24 mins	20:40 mins
Average frequency weekly per unique audience	 10	 1	 3

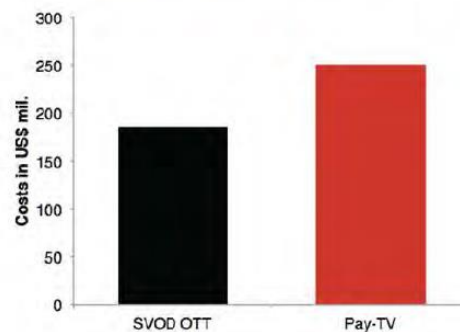
Source: Nielsen Digital Content Ratings Report, Feb – May 2017

Content spends: OTT is reaching parity with Pay-TV in emerging Asia

Comparison of content spends in Developed SEA (2017)



Comparison of content spends in Emerging SEA (2017)

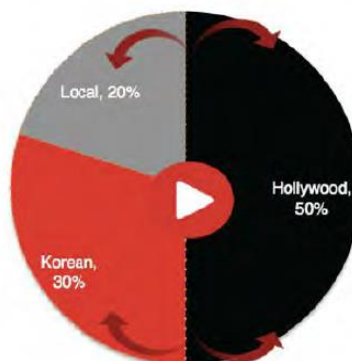


Typical content consumption on online video platforms in SEA

At launch



Now



As exclusive local productions make its way to OTT, consumption patterns on SVOD/OTT are likely to change

OTT/ Streaming content spend is soaring, Asian premium IP is on the up, and OTT aggregators are likely to emerge as the new centre of the subscription universe, says Media Partners Asia (MPA)

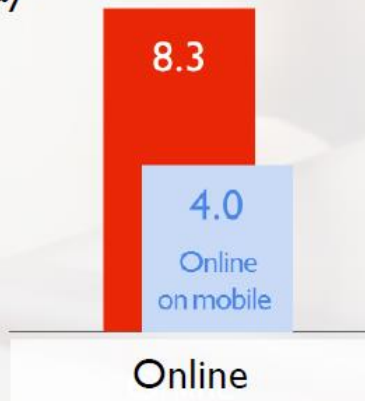
“Already, typical consumption on online video platforms in Southeast Asia has shifted

from 80% Hollywood/ 20% Asian to 50% Hollywood/ 20% Local / 30% Korean”

Says MPA executive director Vivek Couto

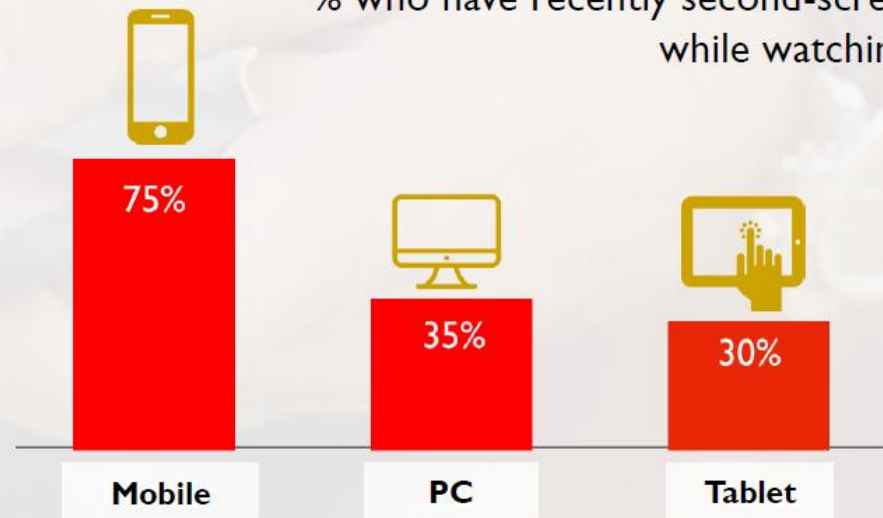
Time Spent in Thailand

hours per day



Second-screening in Thailand

% who have recently second-screened while watching TV

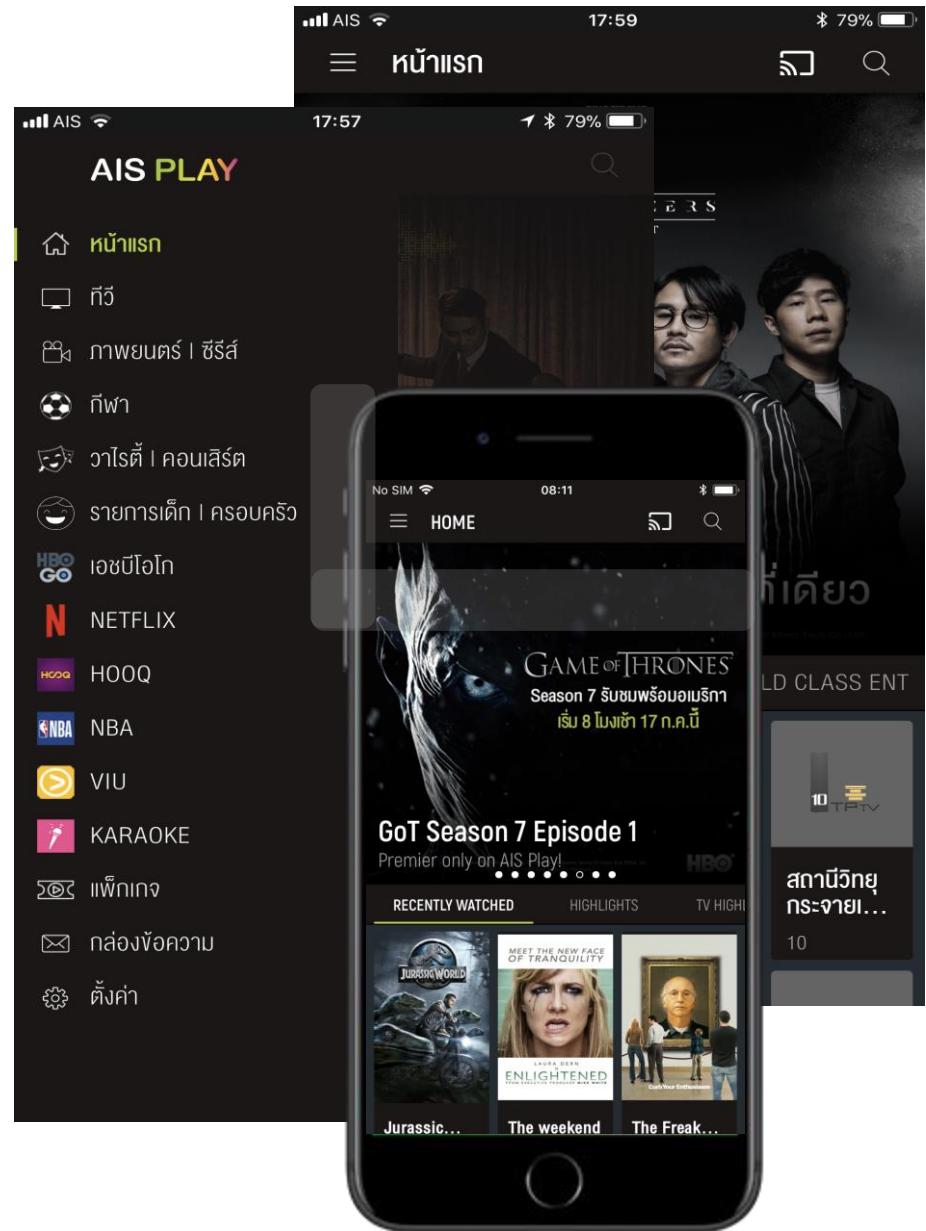


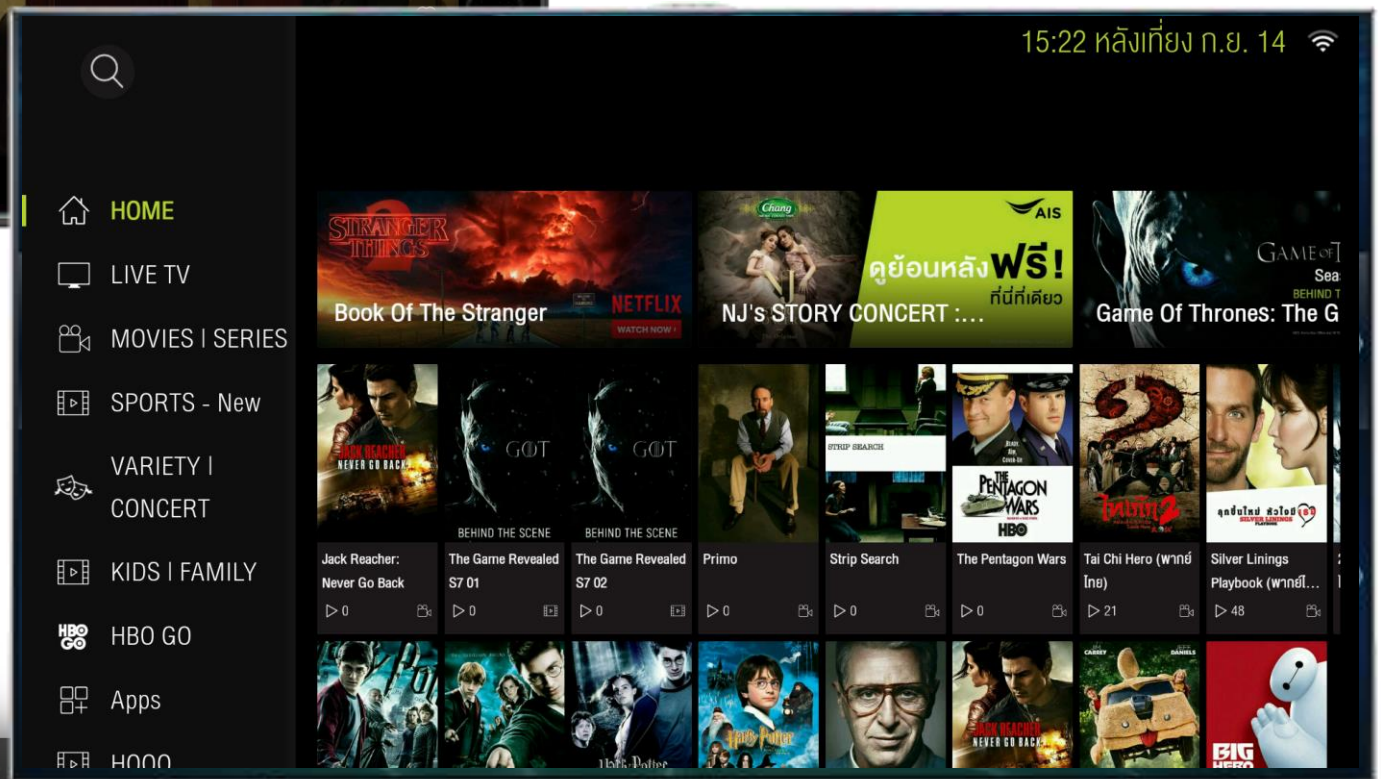
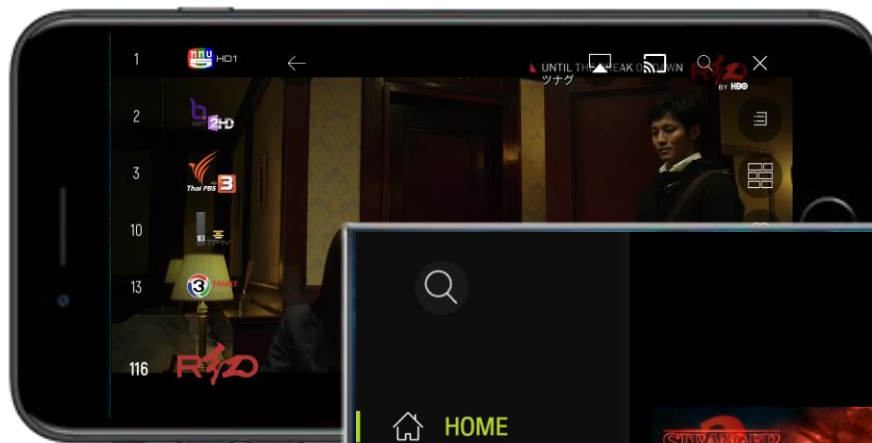




The New Experience

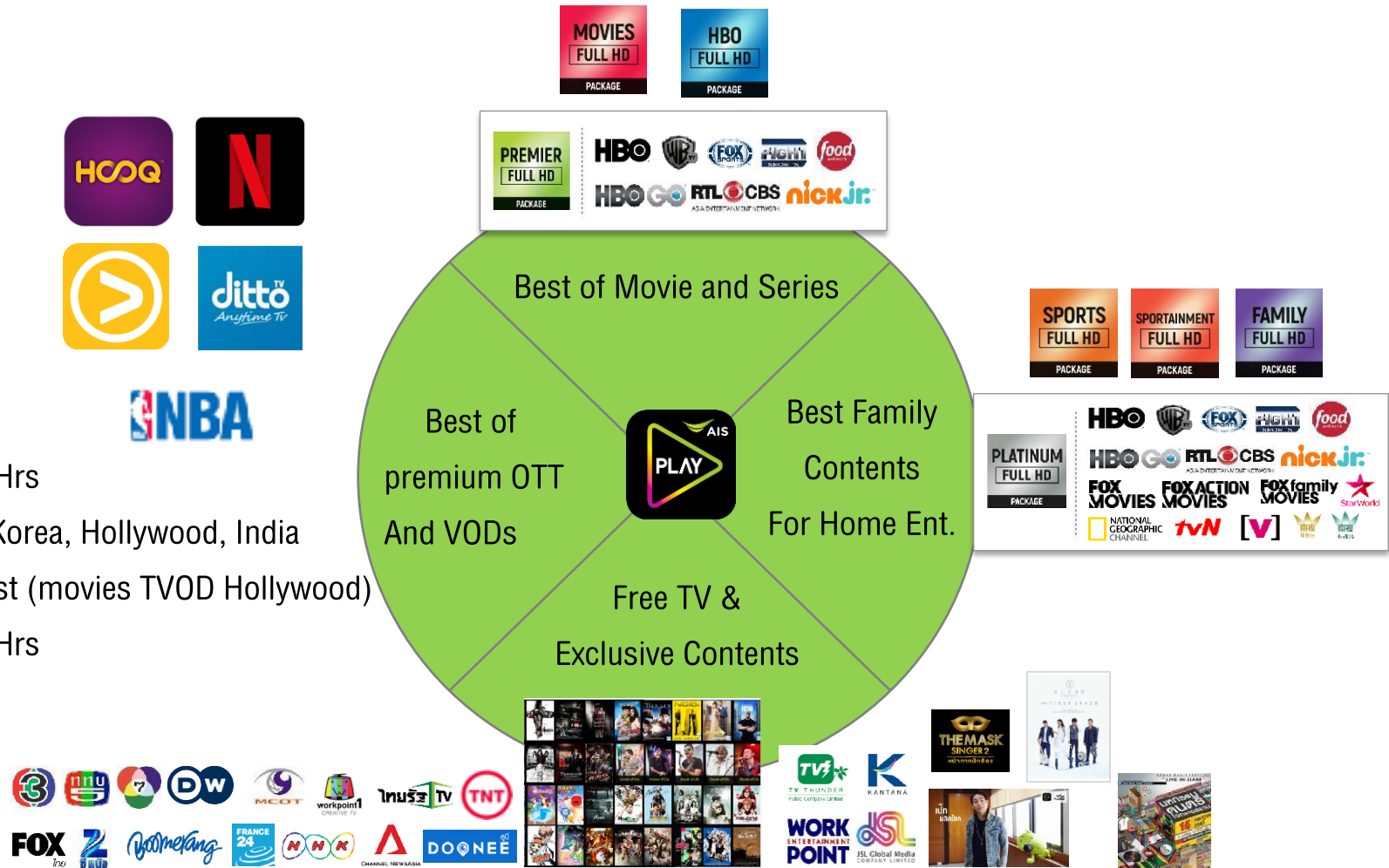
- > 100 Live channels
- 4000+ Video on Demands
- Windows to the Premium Content
- Concerts, Karaoke, and more





The Content Portfolios for wide variety of Audience

- 20k+ Hrs
- Best Korea, Hollywood, India
- Newest (movies TVOD Hollywood)
- 20k+ Hrs



ICT & Digital Enterprise

The Country Telecom Market Overview

Mobile

243Bn ▲ 5.3% YoY
(or \$6.7Bn)

- 3-players market
- 132% penetration
- Growing mobile data but declining voice
- Aggressive price competition (one of the lowest data price/MB in the world) and heavy device subsidy leading by TRUE
- Expecting industry to grow 4-5% for the next 5 year

Broadband*

47Bn ▲ 10-15% YoY
(or \$1.3Bn)

- 7M+ subscribers
- Connections expect to grow 10% per annum
- In the period of changing technology from copper technology to fiber
- Leading by TRUE and 3BB

ICT Solution*

40Bn ▲ 10% YoY
(or \$1.1Bn)

- Multiple players vary from mobile operators, fixed and solution providers
- Market expects to grow in cloud and managed services

Digital Enterprise

Adjacent Industries may grow strongly due to digital transformation

- E-commerce & Banking
- Video & Entertainment
- Transportation
- Logistic



AIS

> 720 Gbps

international bandwidth

- **Domestic/International Data Circuit**
PoPs at Singapore, Hong Kong, Malaysia, UK and US (with connecting to Microsoft, Facebook, Google, SingTel, NTT etc.) and Gateway to all neighbor countries
- **Hybrid Fixed-Mobile MPLS**
- **Corporate Internet**
- **Microsoft Edge Node on AIS**
Network Partnership for Microsoft Cloud Services

Enterprise Data Network Customer References

> 18,000

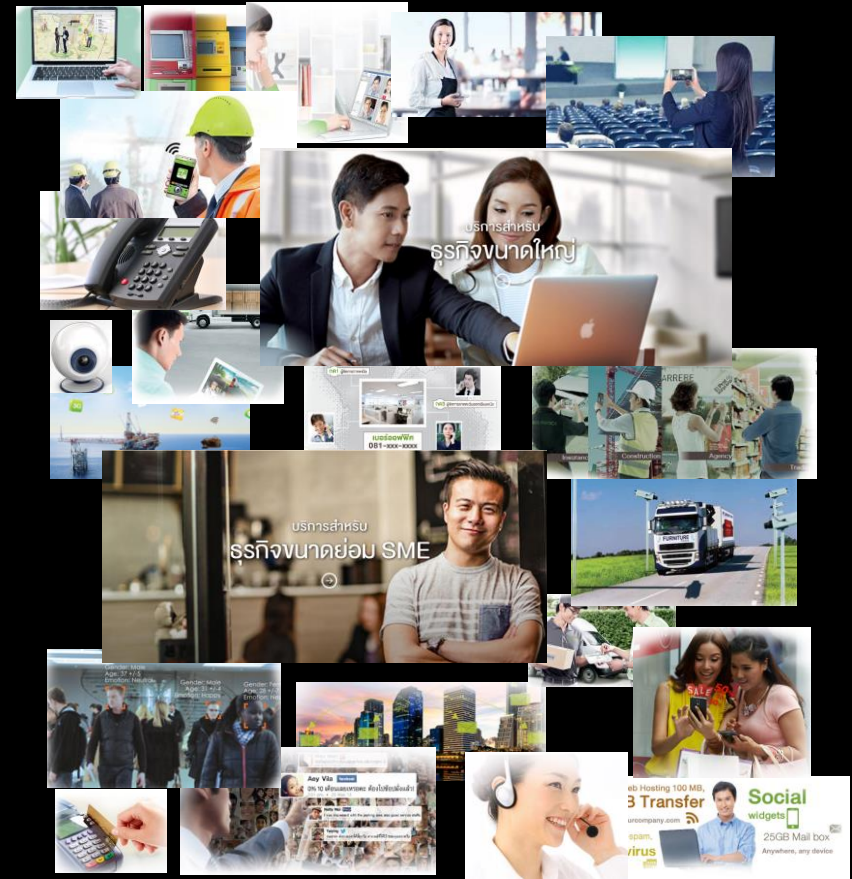
Local & Global links





> 1,200,000 Business Connectivity

500+ cloud customers, > 20,000 licenses





**Complete
to
Compete**

**For Digital Enterprise
& Business in Thailand**



Managed Cloud Services

End-to-End Services from Consultancy, Setup, Migration, & Managed Services



Software as a Service

Digitally Transform Your Business Communication & Collaboration



Security Service

International Cloud Service Certified with more Network Security Services



Infrastructure / Platform as a Service

Enhanced Infrastructure of Multiple Cloud Platforms for Your Business Efficiency



Data Centers

More Regional Data Centers with Trusted Global Security Certification



Networks of Businesses

Largest Nationwide Network with Flexibility to Scale up for Your Cloud Usage

Networks of Businesses

Extensive Capacity

Flexibility to Upgrade Cloud Scalability

- Owned Network Infrastructure
- 100Gbps Backbone Capacity
- Full Redundant Core Network Topology
- 150K+ km. Fiber Optics Nationwide



Networks of Businesses

Bandwidth on Demand

First **Self-Service Bandwidth Upgrade** in Thailand

- Network Scalability for Domestic and Internet VPNs
- On-Demand Bandwidth Flexibility up to 150 Mbps
- Ease of 4-Step Self-Service Ordering Portal
- Choices One Time or Monthly Recurring Schedule



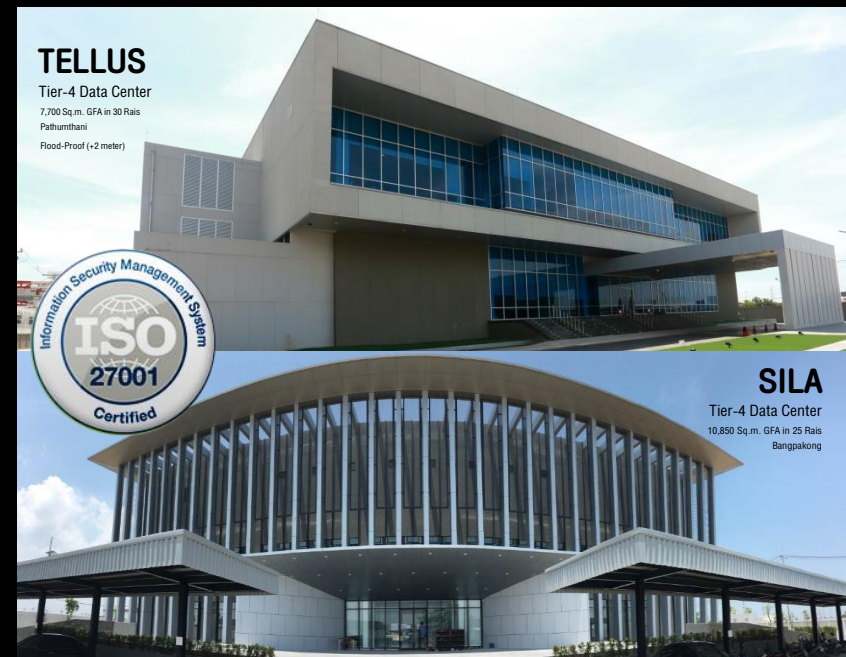
Data Centers

Data Centers

Secured Cloud Infrastructure for Business

Tier-4 by Design

First Data Center is Almost Fully Occupied within a Year



Data Centers

Regional Data Center

Kaennakhon

Tier-4 Data Center

1,788 Sq.m. GFA in 10 Rais
Khon Kean



Data Centers

Regional Data Center

Singkhon

Tier-4 Data Center

6,680 Sq.m. GFA in 8 Rais

Hat Yai



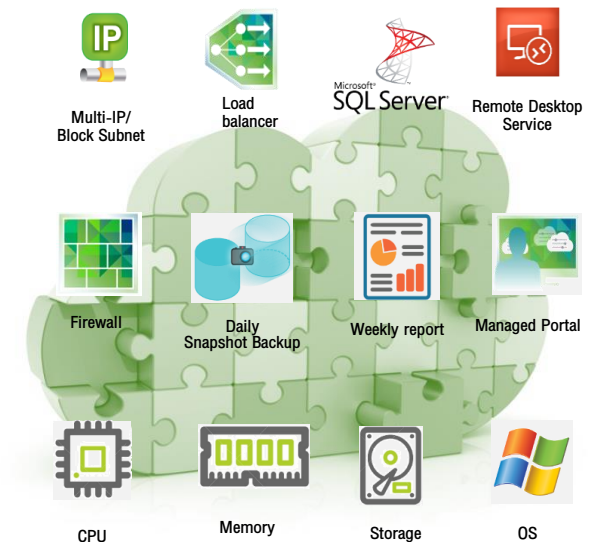
Infrastructure / Platform as a Service

Enterprise Cloud

Powered by
vmware

The **FIRST** in Thailand **Secured Build-in** Network Virtualization

Serve 50+ of Thailand's leading enterprises, IoT service providers, and MNCs.



Infrastructure / Platform as a Service

Backup on Cloud

Fully & Flexible Backup Solutions

Powered by
VEEAM

- Supports Off-Site Backup
- From Customer Data Center To AIS Cloud Data Centers
- Charged by the number of backup and storage usages



Managed Cloud Services

DR as a Service

Turn-key Solution of Managed Disaster Recovery Service

- AIS as an End-to-End DR Service Provider
- Reduced up-front capital expenditure with safe and secure solutions
- Ensure that your system & service can continue delivery at all times
- Rapid response, well-prepared system and processes

Visit DR booth for initial consultancy



Infrastructure / Platform as a Service

DataBase Platform

as a Service Powered by TIBERO

Effective DataBase Management System Cloud Platform

- Compatibility with other DataBase Systems
- Scalability & Security on AIS Enterprise Cloud Service
- Cost Reduction in Long Term
- Full Major Functions for Organization



Infrastructure / Platform as a Service

Microsoft Azure

Global, Trusted, and Hybrid  Microsoft

- Truly consistent hybrid cloud platform
- Achieve global scale, in 40 local regions
- Comply with industry and regional requirements
- Advanced workloads: IoT, Intelligence & Analytics



Microsoft Azure

Global, Trusted, and Hybrid

Azure preview services

Compute

Virtual Machines	Virtual Machine Scale Sets
Azure Container Service	Azure Container Registry*
Functions	Batch
Service Fabric	Cloud Services

Networking

Virtual Network	Load Balancer
Application Gateway	VPN Gateway
Azure DNS	Traffic Manager
ExpressRoute	

Databases & Storage

SQL Database	SQL Data Warehouse
SQL Server Stretch Database	DocumentDB
Redis Cache	Data Factory
Storage: Blobs, Tables, Queues, Files, Disks	StorSimple

Web & Mobile

Web Apps	Mobile Apps
Logic Apps	API Apps
Content Delivery Network	Media Services
Search	Mobile Engagement

Intelligence & Analytics

HDInsight	Machine Learning
Cognitive Services*	Azure Bot Service*
Data Lake Analytics	Data Lake Store
Power BI Embedded	Azure Analysis Services*

Monitoring & Management

Azure Portal	Azure Resource Manager
Azure Advisor*	Azure Monitor*
Log Analytics	Automation
Azure Backup	Scheduler

Security + Identity

Security Center	Key Vault
Azure Active Directory	B2C
Domain Services	Multi-Factor Authentication

Developer Services

Visual Studio Team Services	Azure DevTest Labs
VS Application Insights	API Management
HockeyApp	Developer Tools
Service Profiler*	

Internet of Things & Enterprise Integration

Azure IoT Hub	Event Hubs
Stream Analytics	Notification Hubs
BizTalk Services	Service Bus
Data Catalog	Site Recovery

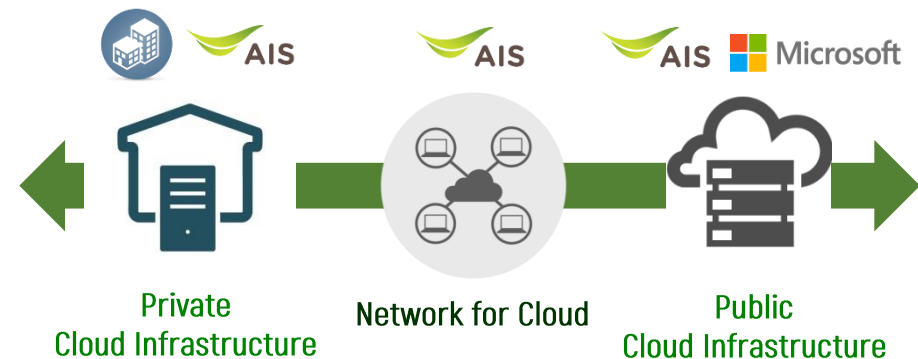
Infrastructure / Platform as a Service

Hybrid Cloud

Seamlessly Connected Cloud Infrastructure

- Enable your Hybrid cloud model
- Monitor and analyze the availability and performance of different resources including physical and virtual machines.

- Minimal cost and complexity of deployment
- Ability to **Scale Your Transformation**



Infrastructure/Platform as a Service

Enhanced Infrastructure of Multiple Cloud Platforms for Your Business Efficiency

- Enterprise Cloud
- Backup on Cloud
- DR as a Service
- DataBase Platform as a Service
- Microsoft Azure
- Hybrid Cloud



Security Service

Experiences of **> 13,000** licenses
Mobile Security deployed

> 300 ports of Enterprise Network Service
 have **Firewall implemented**



 MobileIron

IBM MaaS360

SAMSUNG Knox

 Check Point
 SOFTWARE TECHNOLOGIES LTD.

Security Service

Trusted Cloud Security

Global Standard: Cloud Security Certified

- ISO 27001 for Data Center: 4 AIS Data Centers
 - Infrastructure, Network Infrastructure, Rack Management, Network Monitoring for Co-location
- ISO 27001 for Cloud Services: AIS Enterprise Cloud
- CSA STAR Certification
[100% conformity within the first audit]



Security Service

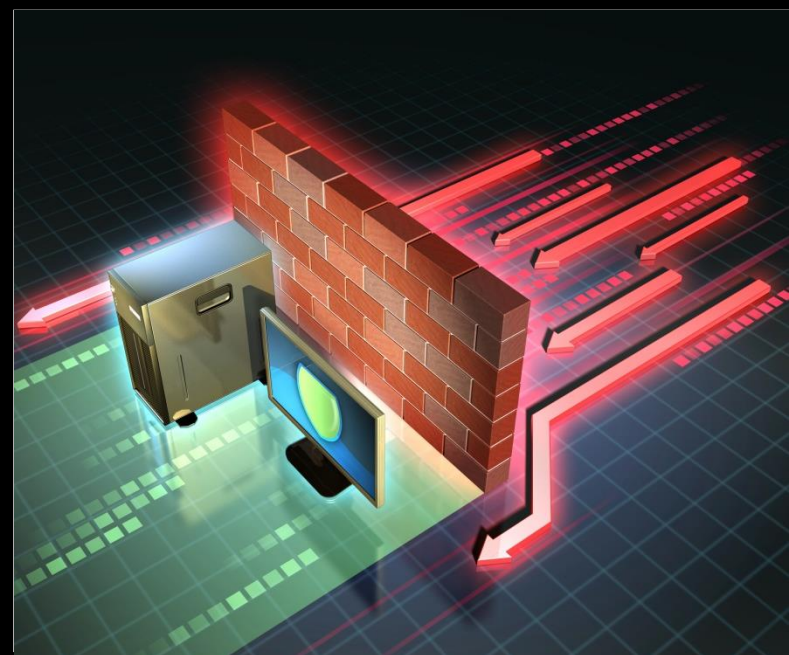
Centralized Firewall

Complete Visibility into and **Precise Control**
over their Network Traffic

Powered by



- Protect all your branches with a single subscription of our service
- Improve & Simplify Security Management
- Carrier Grade Redundancy
- Flexible & Scalable
- Rapid response, well-prepared system and processes



Security Service

DDoS Protection

Mitigate the impact of **DDoS attacks**
from the Internet

- Protection Based on Corporate Internet Bandwidth
- Clean Traffic & Attack Report
- Proactive Monitoring



**DDOS
ATTACK**

Security Service

International Cloud Service Certified
with more Network Security Services

- ISO 27001 Certification
- CSA STAR Certification
- Centralized Firewall
- DDoS Protection



Software as a Service

MS Office 365

Your **One-Stop-Service** on the best network
 The fastest growing
 Microsoft Cloud Solution Provider in Thailand



Software as a Service

Cloud Direct Connect

To Microsoft Data Centers



- Direct connect to 2 Microsoft Data Centers in Singapore and Hong Kong
- Delivering highest 99.9% Services availability
- Support all Microsoft Cloud products Office 365, Azure, Dynamic 365, EMS



Software as a Service

Unified Communication (UC)

**Cost Saving with
Operational Excellence**

Powered by  **broadsoft**

- All-in-one collaboration tool (IM, Conference, Desktop Sharing)
- Full range of Cloud PBX features
- Business mobilization from FMC (Fixed & Mobile Convergence)



Software as a Service

mForm

Mobilize Workforce Any Time Anywhere

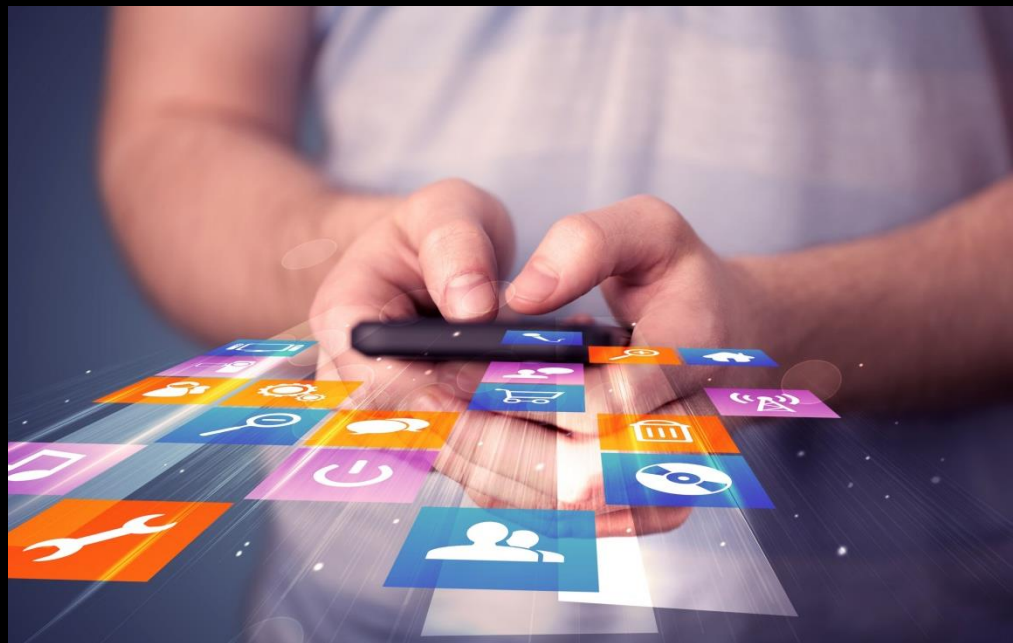
- Create your mobile form in a minute with no coding required
- Work online or offline and do even more than paper forms
- Online process flow and real time approval



Software as a Service

Digitally Transform Your Business
Communication & Collaboration

- Microsoft Office 365
- Unified Communication (UC)
- mForm





**Complete
to
Compete**



Managed Services

Partnership of E2E Cloud Service Invention



Software as a Service

OPEX Model of Various Business SaaSs



Security Service

International Cloud Security Certified



Infrastructure / Platform

Owned Infra / Platform for Cloud Ecosystem



Data Centers

Owned Carrier-Graded Secured Data Center



Networks of Businesses

Owned Wireless, IoT, & Fixed Network Infra



AIS Ecosystem

AIS as Your Digital Service Provider

- Faster Time to Market
- Lower Cost of Ownership
- Better Security
- Open Ecosystem for Partner

**Enable Business to Focus on
Value Creation**

E2E Cloud Services



Manage Cloud Service

We manage the cloud-based systems, including service delivery.

Operate & Maintain

We maintain the cloud environment operation.

Migrate

We migrate workloads to the cloud environment

Setup

We setup a secure cloud environment based on workload requirements

Consultancy, Assess and Plan

We define cloud strategies and create a cloud migration plan.

Emerging Sharing Economy

Bike Sharing

The Sharing Economy



Bike Sharing

The Sharing Economy

- 1 RMB / 30 min (in China)
- 300M users per month (in China)
- 10Bn ride per month (in China)
- Launch first in Kasetsart University (in Thailand)

Start-up Economy

6 Years with....

Our AIS THE StartUp

What is needed to be a **CREATOR**?

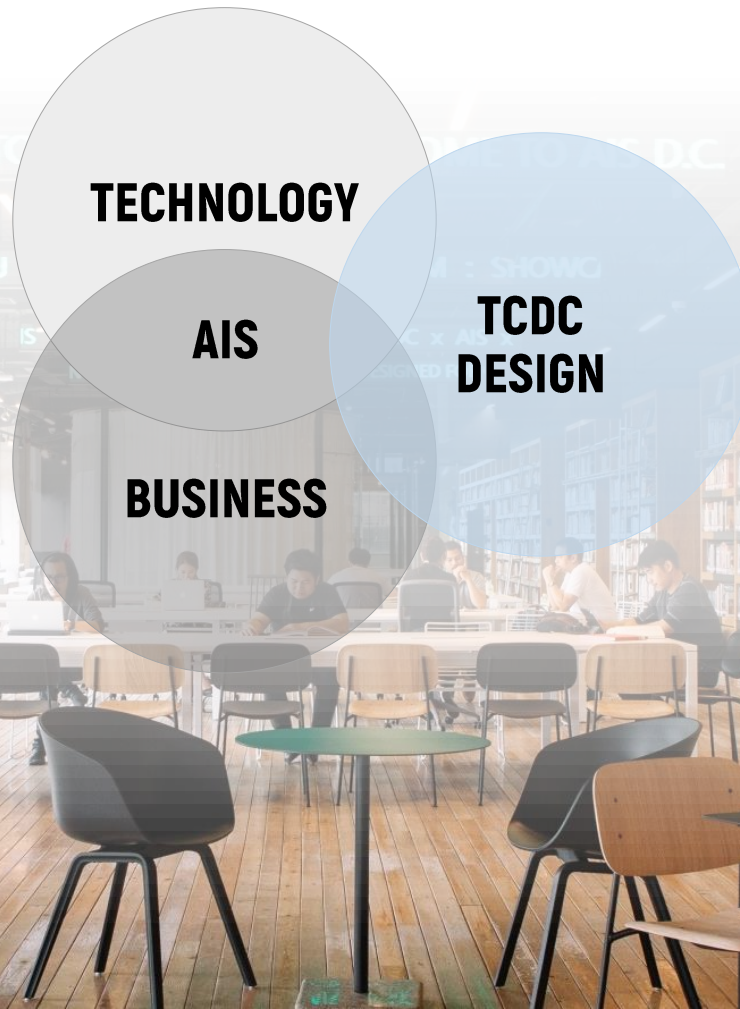




AIS DESIGN CENTRE



Partnership to Create Community



The Community —



LIBRARY



MEETING ROOM



SHOWCASE



COURSE



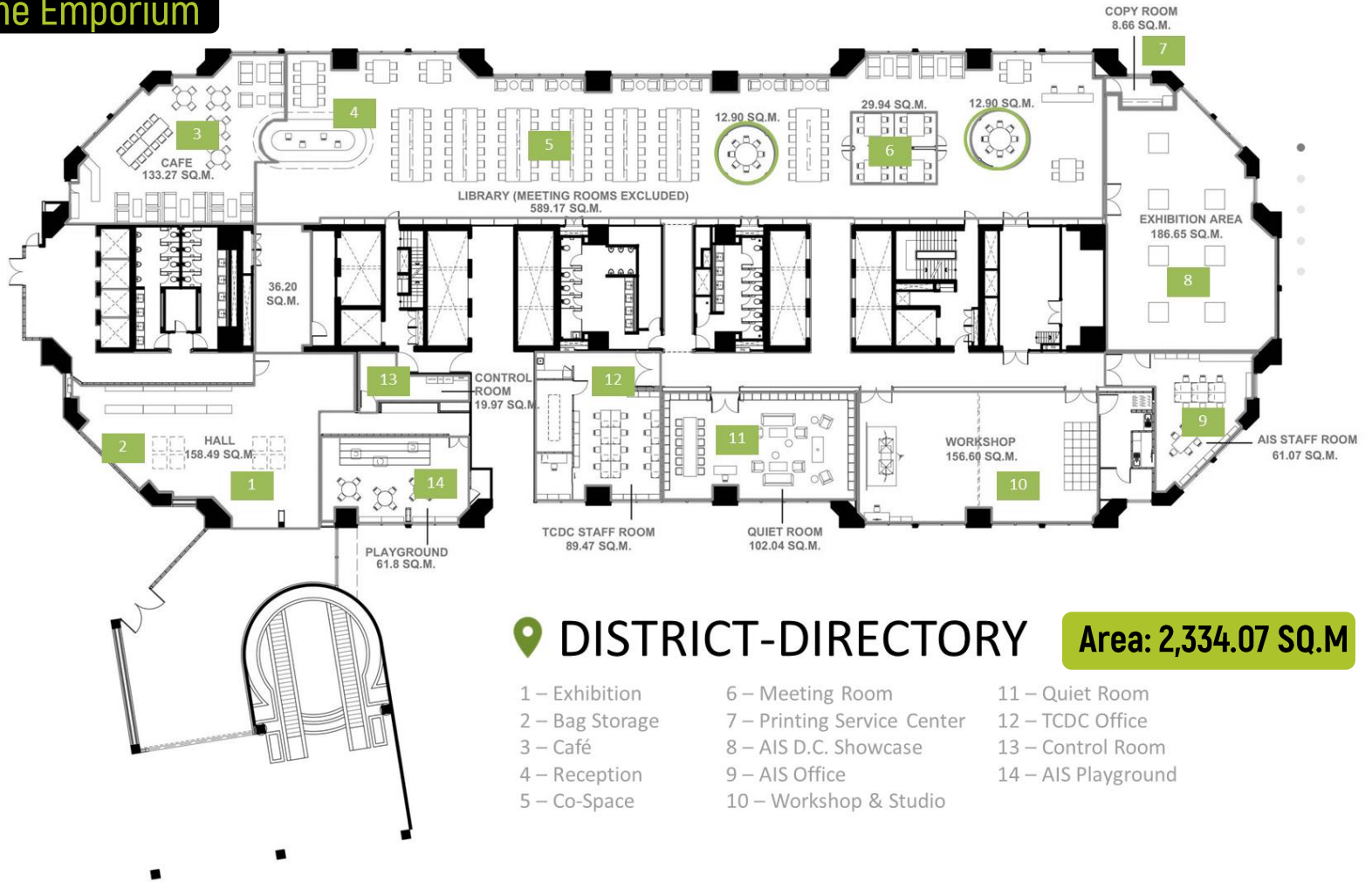
PLAYGR





5th Fl The Emporium

FLOOR PLAN



DISTRICT-DIRECTORY

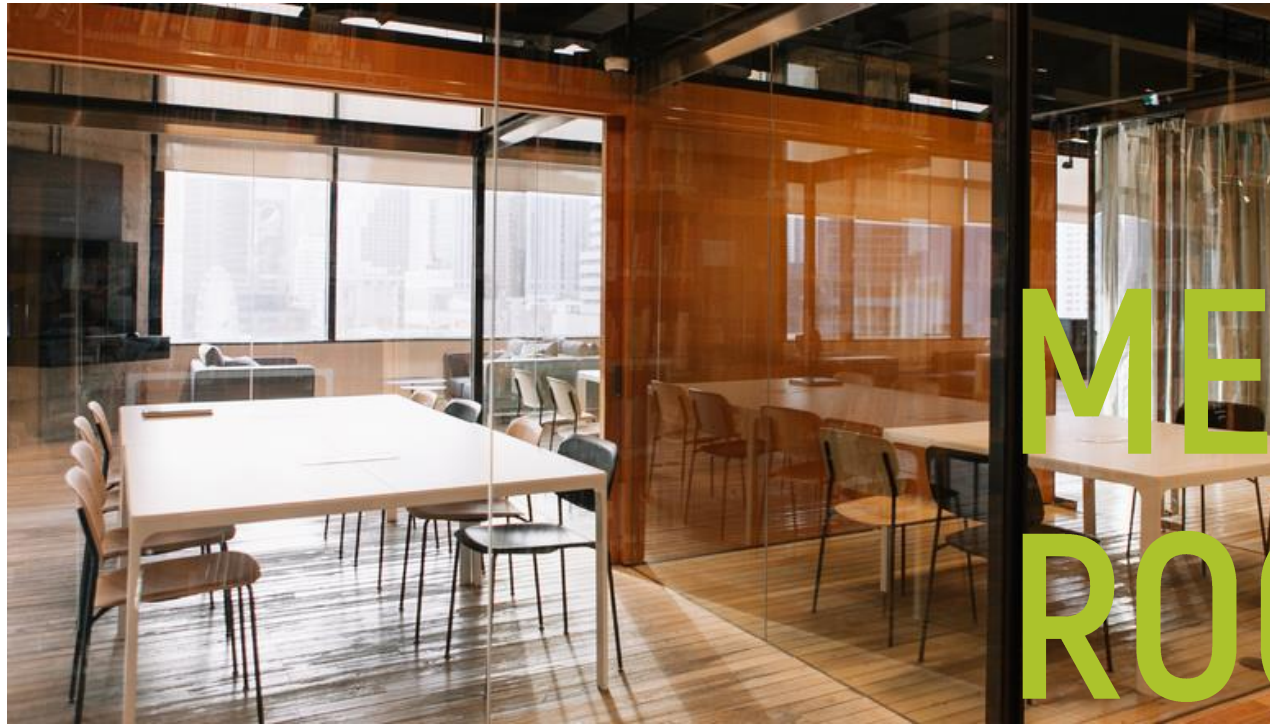
Area: 2,334.07 SQ.M

- | | | |
|-----------------|-----------------------------|---------------------|
| 1 – Exhibition | 6 – Meeting Room | 11 – Quiet Room |
| 2 – Bag Storage | 7 – Printing Service Center | 12 – TCDC Office |
| 3 – Café | 8 – AIS D.C. Showcase | 13 – Control Room |
| 4 – Reception | 9 – AIS Office | 14 – AIS Playground |
| 5 – Co-Space | 10 – Workshop & Studio | |



CO-SPACE

A place to cooperate with your team and find more than 10,000 design and technology magazines and e-books from all over the world



MEETING ROOM

ROUND 1-2
SAND 1-4
SANDBOX

Private meeting rooms that can accommodate 2-10 people and with high-speed internet and facilities

D.C. SHOWCASE




Professional production studio rental services



STUDIO

COURSE



There are a number of intensive courses, forums, events, inspirational talks from Thai & International experts on **technology, design, business** and etc. We will also bring you the talks with the successful startups.

- **FREE FOR ANYONE!**
- **EXCLUSIVE FOR D.C. MEMBER!**
- **EXTENDED COURSE!**



AIS D.C. is the first to let the creators try the API connection system on their products and services with AIS Digital Platform whereby varieties of digital businesses are supported, along with close consultation from AIS experts.

PLAYGROUND

10+ APIs TO PLAY!





Bussaya Satirapipatkul

EVP-Customer Service Management

AIS Annual Investor Day 2017

17th November 2017



Next Generation **X**perience

Next Generation of Customer Service with Digital Experience

Promote **SERVICE EXCELLENCE** by equipped all touch points with the better customer insights, generated though the powerful big data analytic tools.



2017

**Promote Self-service Touch Points
& Enhance Digital Experience**

Enhance Digital Experience by Self-service Touch Points

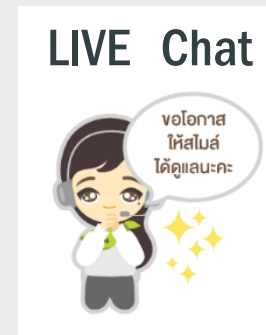
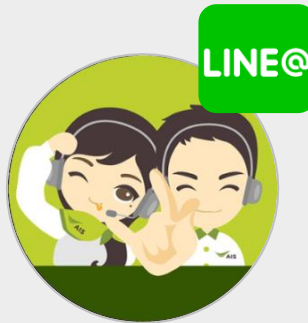
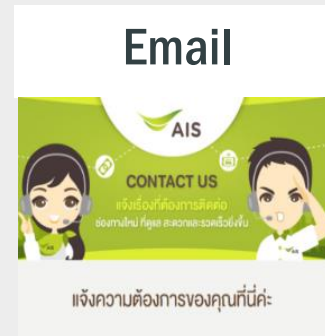
My AIS



IVR



Digital & Social Media Channels

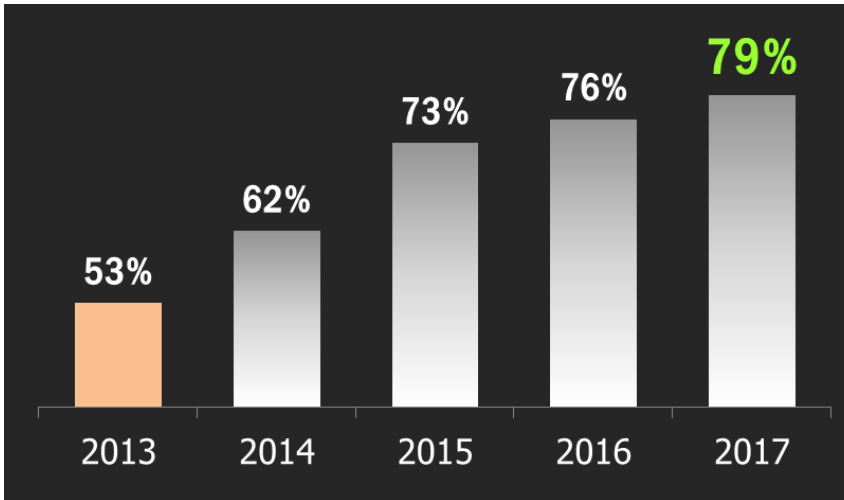


Social Media

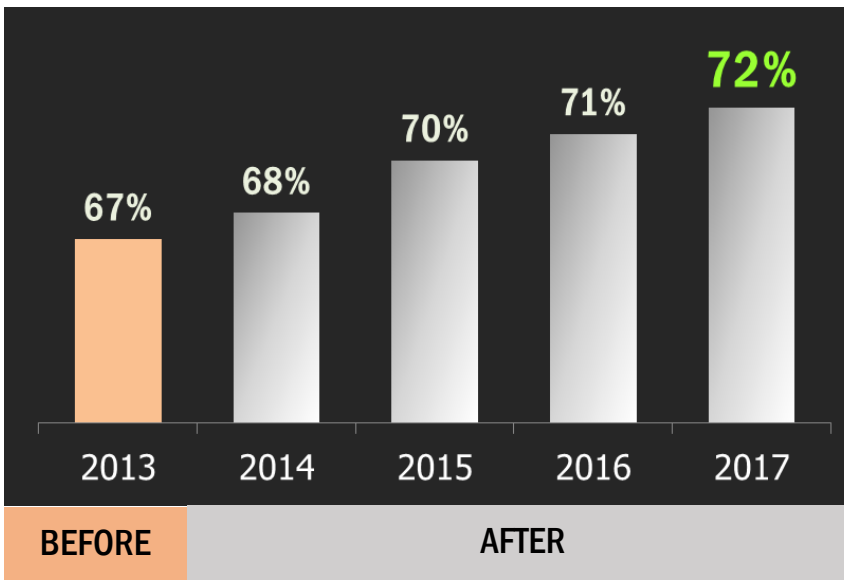


Intelligent & Conversational IVR

**%IVR
VS Total
Contact**

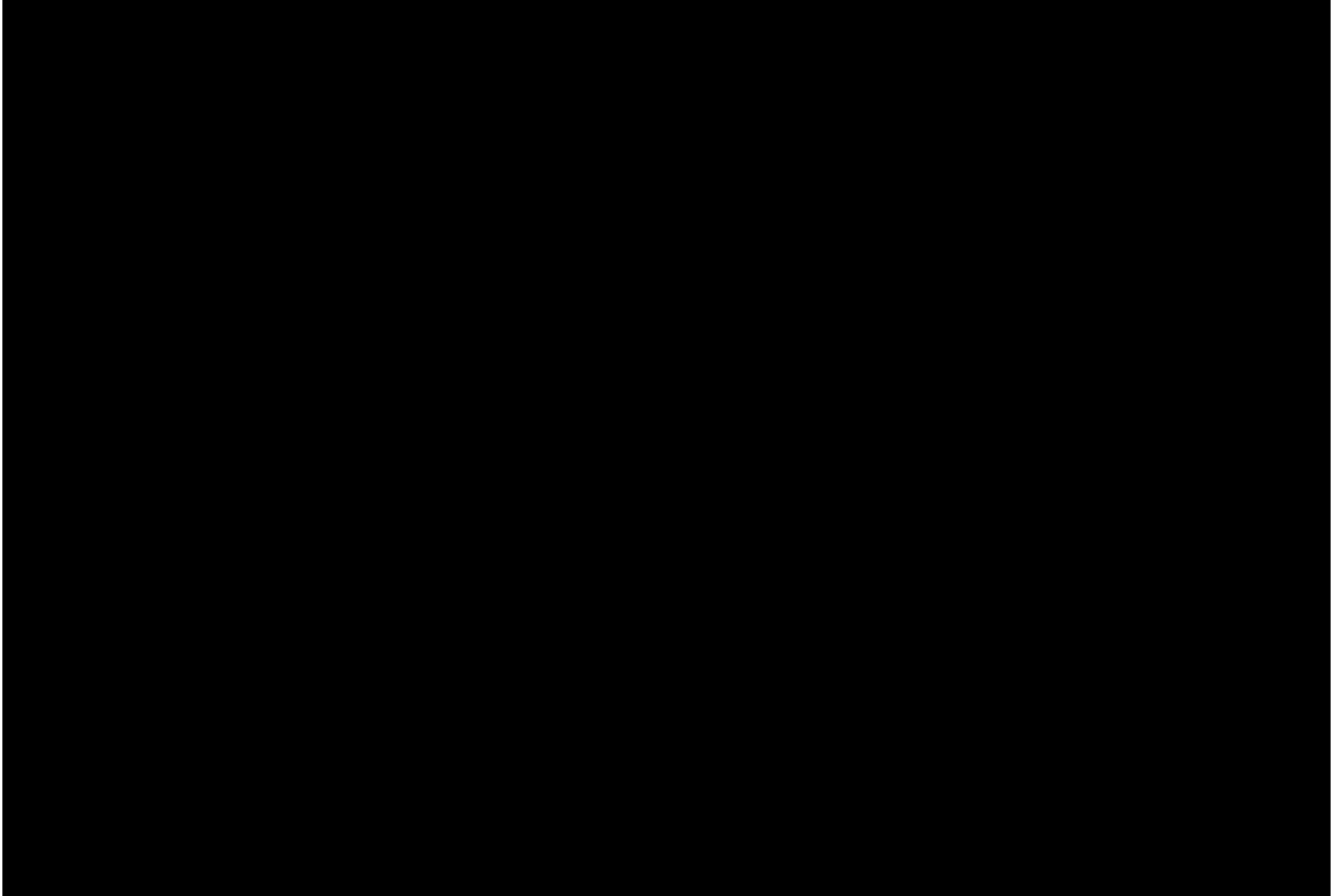


%CSI



- Continuously **simplify call flow** to match needs & reduce time in IVR
- **Personalized** greetings & menus
- **Speech recognition**, go straight to topics using voice command within 15 secs.
- Agents **focus on sales & providing digital service consultations**

IVR Speech Recognition: Intelligent and conversational



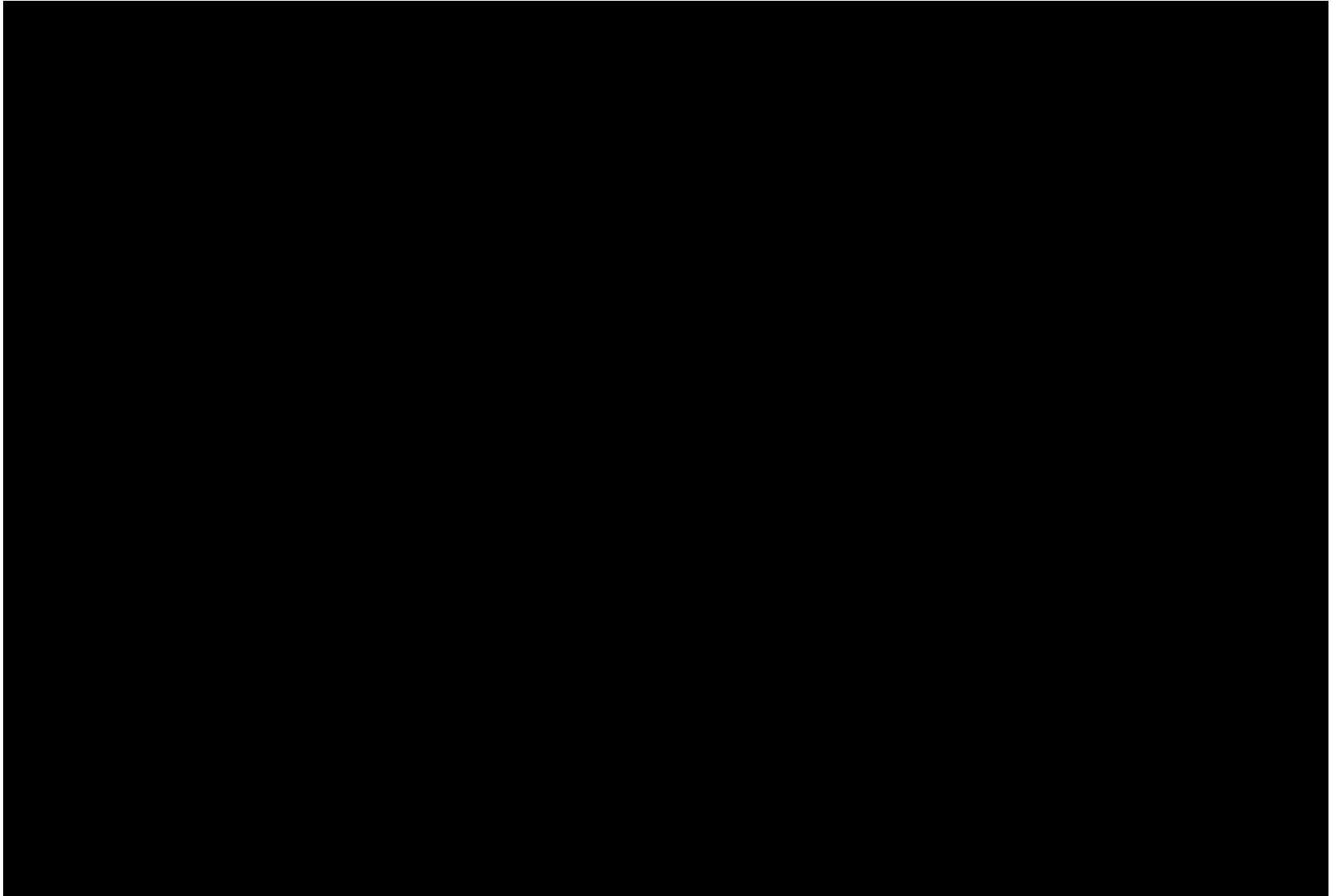


Ask Aunjai Virtual Agent: Chatbot

Natural Dialogue and Emotional Response by Aunjai's Stickers

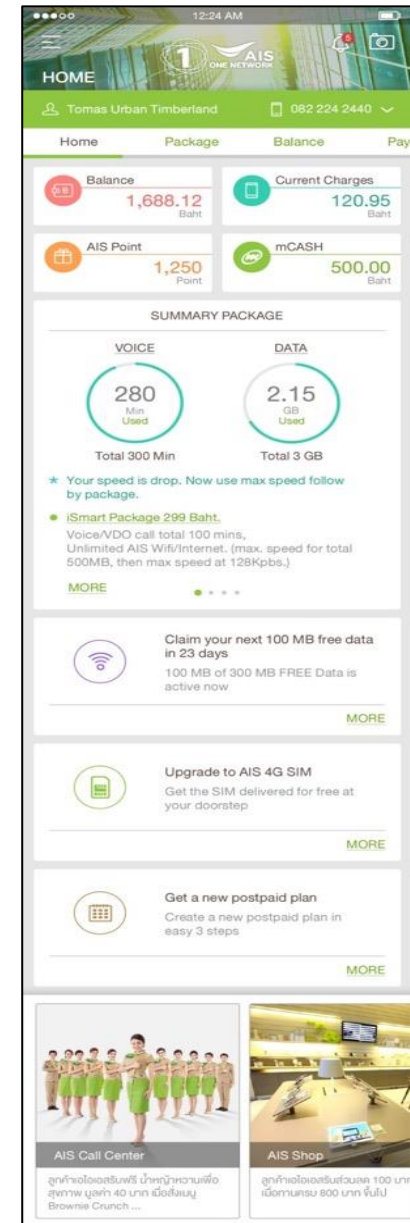


ASK Aunjai



My AIS

- Boost 'My AIS' as 'AIS Shop' with new features delivering delightful digital experiences
- Promote 'MY AIS' both online and offline channels eg. Call Center, AIS Shop, Social Media, etc.





AIS Shop : Digital & Experience Shop

- Redesign **shop visibility & service interact** to deliver digital service experiences
- Deploy **OMNI-Channel** in product purchase across AIS Shops, Call Center & Online Store



142 Shops nationwide

Bangkok 58 | Upcountry 84

0.7M

contacts / month

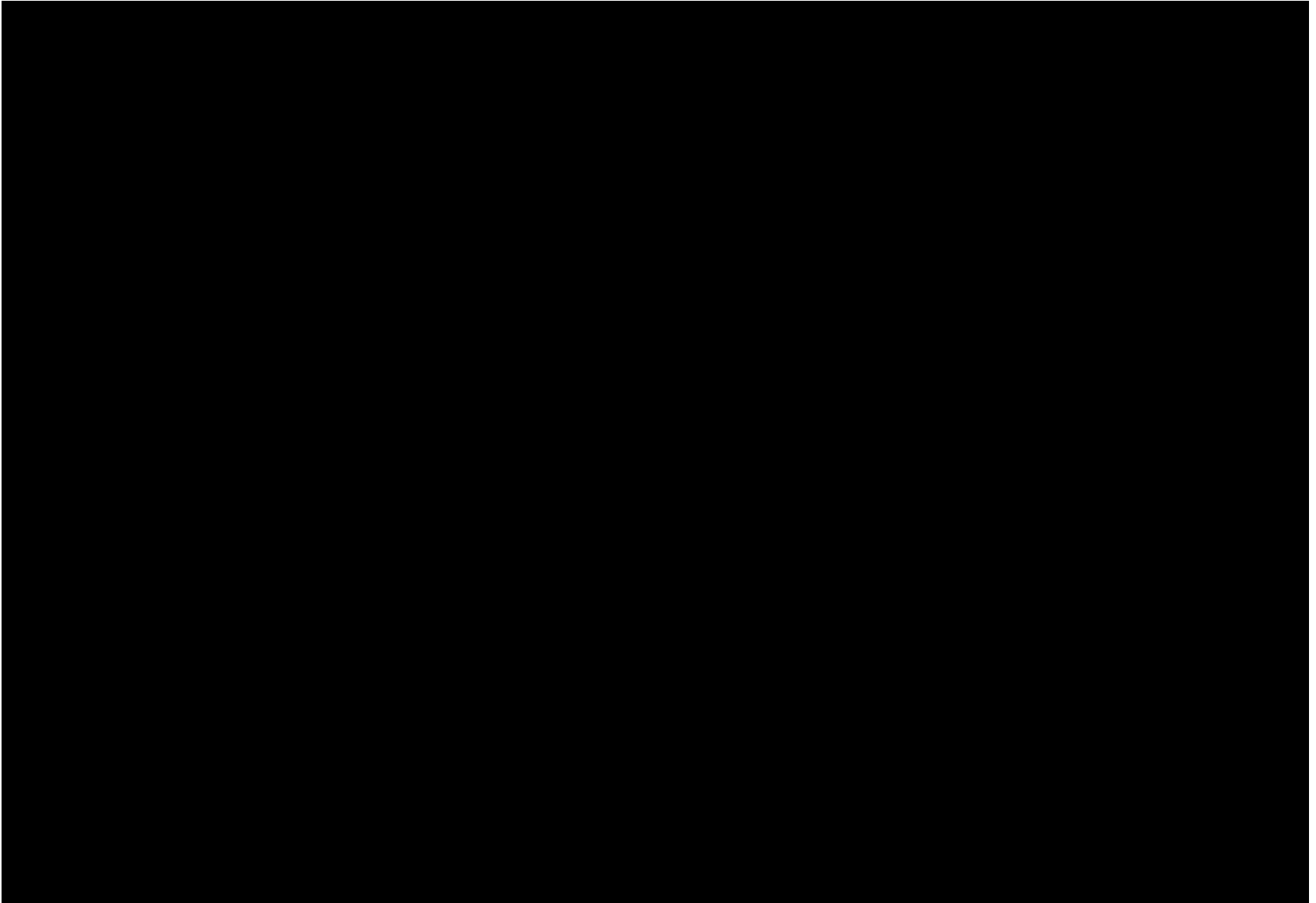
87%

served within 15 mins.

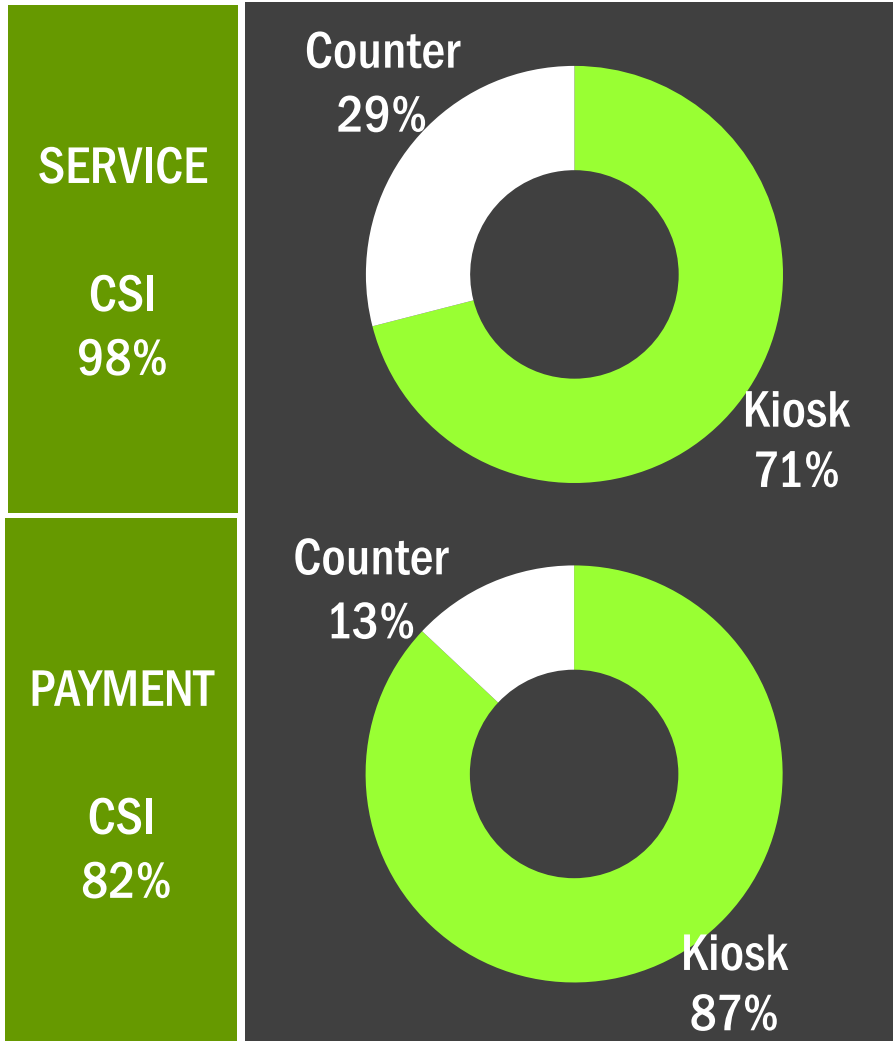
85%

CSI

AIS Flagship Store @ Central World



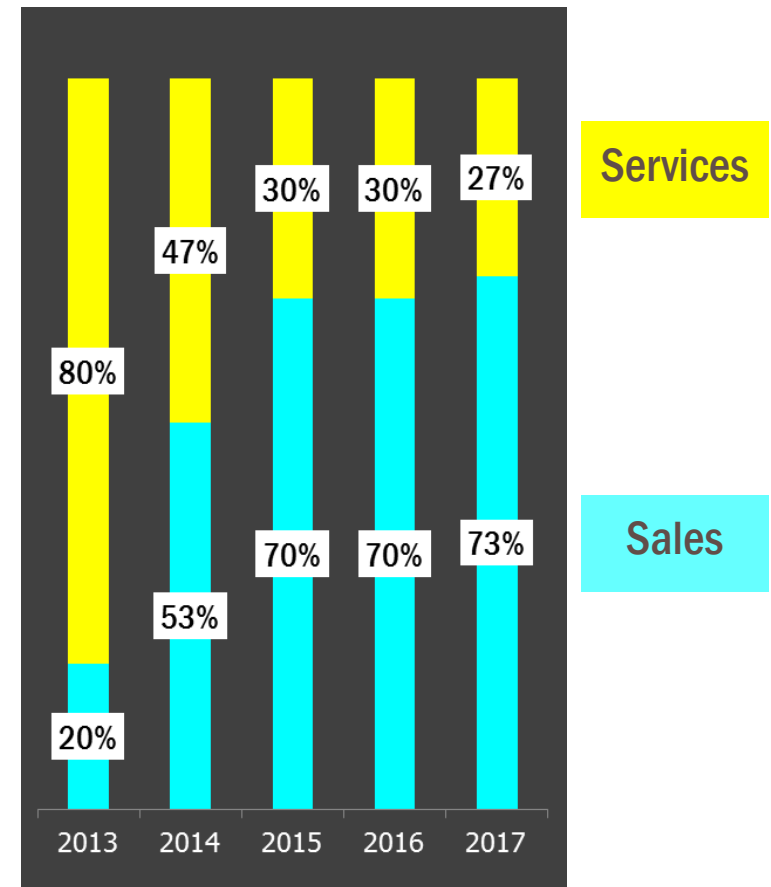
Service & Payment Kiosks



Frontline Staffs

Staffs seek **customer insights** to deliver more

- Sales opportunities
- Digital solution consultations
- Engage customers



Before 2000

2004

2010

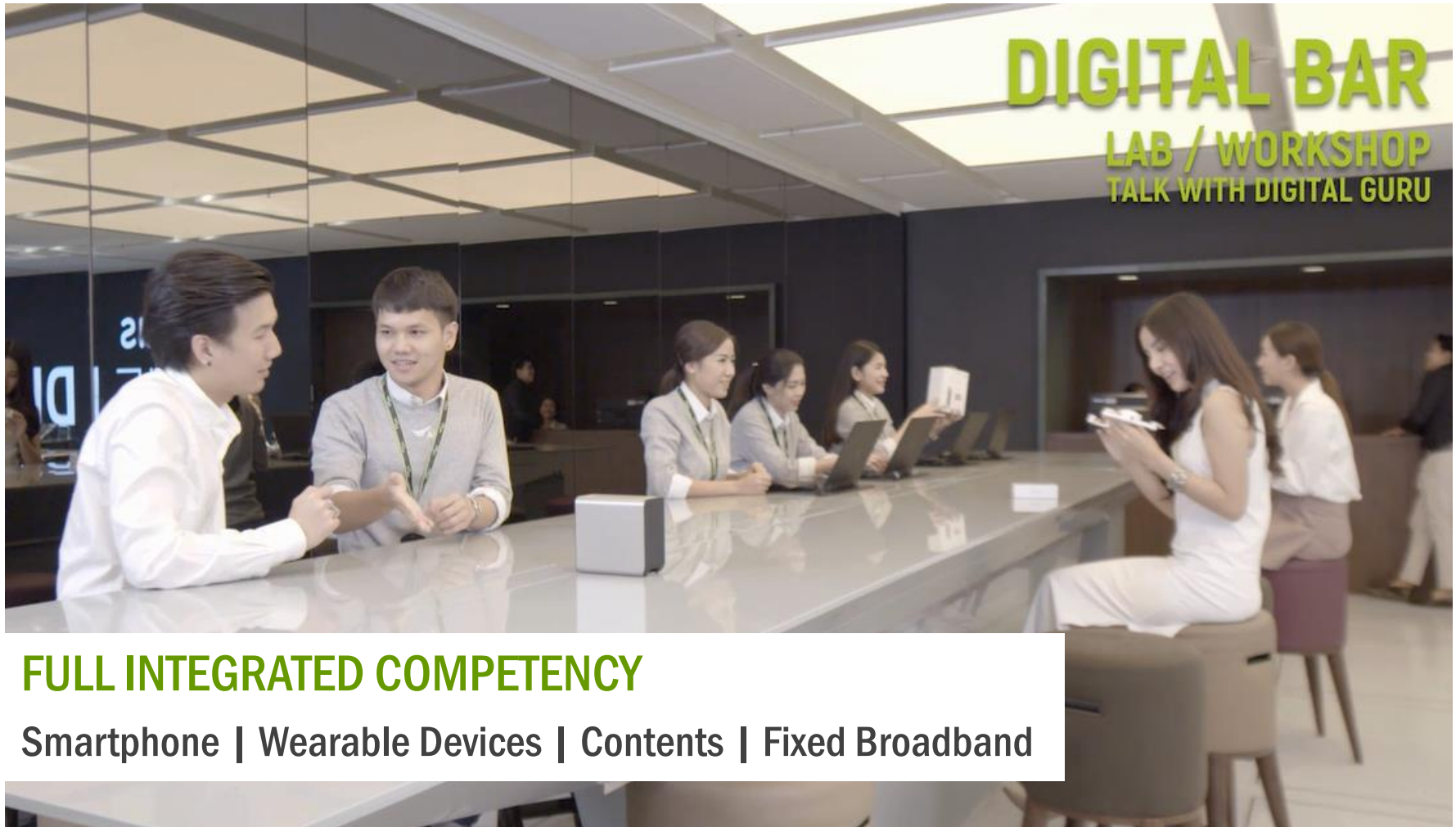
2015

Customer Care

Service Consultant

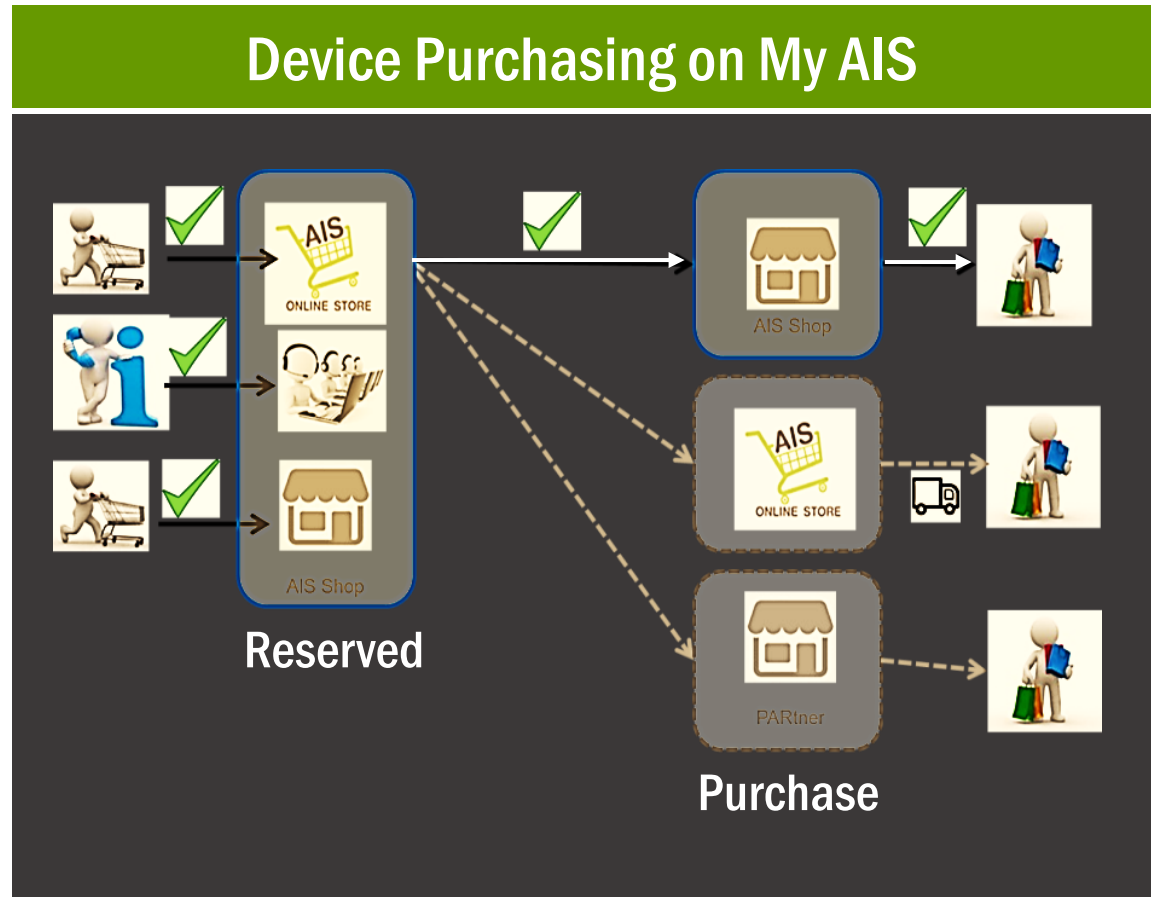
Device Guru

Digital Life Guru



OMNI Channel

Insightful & Consistent Online to Offline & Offline to Online



2018 & beyond

**Empowered Customer Service Excellence using
Analytic Tools to Gain Customer Insights**



INTEGRATED SYSTEMS

Customer Value Management (CVM)

Holistic view of integrated offering
in every stage of customer lifecycle

DIGITAL BRAIN

Online behaviors analytics

from **NOC** to **SOC**

Capture network quality
& guarantee Best CE in real time

Intelligent Knowledge Base (iKM)

Products & Services
Portfolio



CONTEXTUAL INSIGHTs

GATHERING A DEEP CONTEXTUAL INSIGHT by AI

Provide to all interaction platforms
& service channels



INTERACTION PLATFORMS



CHATBOTS

Embed into all self-service channels
for enquiries

(My AIS, Conversational IVR, Ask
Aunjai, LINE, etc.)



IM SCREEN

Total solutions service screen



MY CHANNEL APPS

Handy apps for mobility services

OMNI CHANNELS

Seamless flow of enquiries



I-MESSAGES RELATIONSHIP



CHATBOTS (AI)

&



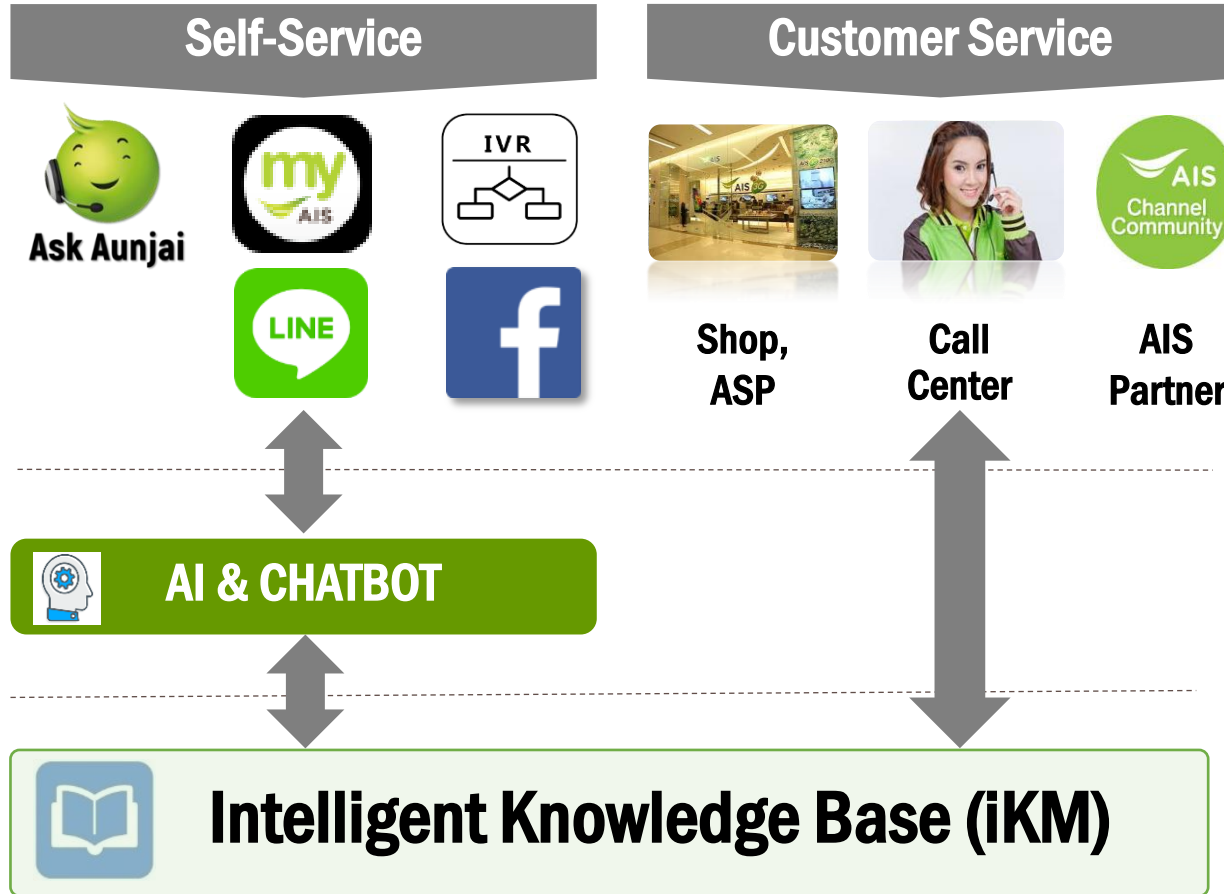
LIVE AGENTS (IA)

Seamlessly serve customers
...predictably ...accuracy
..faster...personalized

FOUR-I SERVICE EXCELLENCE

REVOLUTION OF PROCESS STARTING FROM **BRAIN** TO **HEART**

Digital Service Experience by “enabling AI & Chatbot”



Seamless Customer Interaction

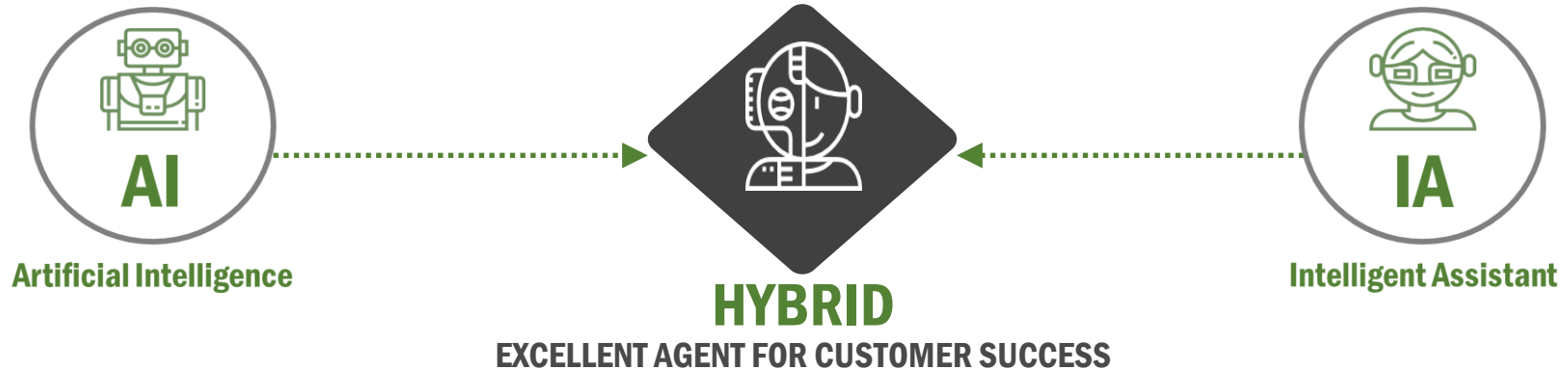
- Immediate & smart answer
- Enable personalize service
- Innovation customer service

- Smart agent both text and speech recognition with natural conversation
- Build Fast / Low cost

- Knowledge centralization
- Multichannel consistency
- Simplify data management

EXCELLENT HYBRID AGENT

THE BEST INTEGRATION OF **AI** AND **IA**



Contextual analytics & prediction	PROCESSING	Accuracy & insightful offering from AI
Holistic views for customer needs	PERSPECTIVE	Emotion detection & Sales motivation
Basic enquiries	COMPLEXITY	Mixed products & Complicated issues
Offload a number of repetitive calls	VALUE	Free up for high value customers
Avoid human errors	SKILL	Develop skills for new products

Seamless Experience from Online-to-Offline Purchasing

Help customers make decision on their interested products with seamless experience

USE CASE 1



SOLUTION

Online-to-Offline
Integration

“Omni Channel”

Proactive conversation:

- “We notice that you have Samsung Note 8 pending in your Shopping Cart”
- “Are you still interested? Would you like me to help you with more info?”
 - Inform special deals
 - Give consultation for decision making
 - Assist with purchasing or reserving if needed

Launch:
Jul 2017

Informing Network Incident on IVR (based on profile)

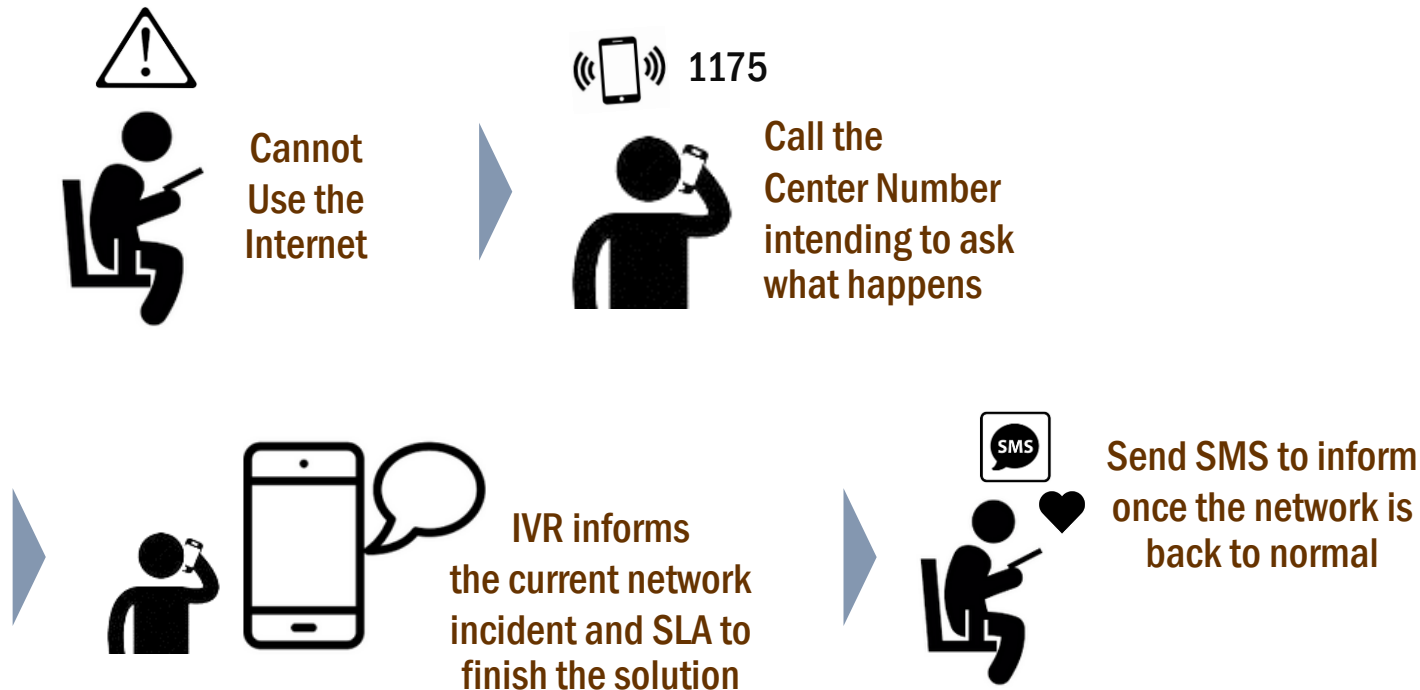
Notify customers of network incident and solution time based on customer's problem area

USE CASE 2

SOLUTION

SOC Solution

(Service
Operation
Center)



Proactive alert:

"There is network problem in Rama II area at the moment due to broken cables. We are fixing it asap and expected to be finished in 2 hours by 4 p.m. Sorry for the inconvenience."

Launch:
2018

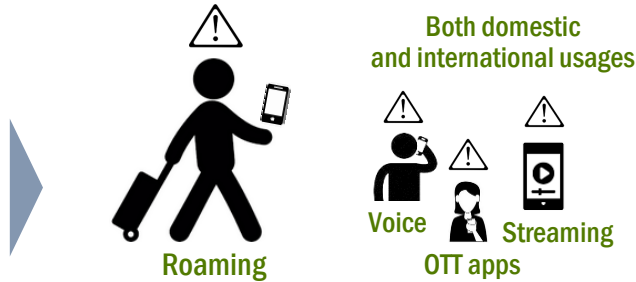
USE CASE 3

VIP Usage Monitoring – Expanded Scope

Ensure quality network experience for VIP customers with expanded scope of usages



Using Mobile Services



Experience Usage Difficulties
e.g., cannot use Internet while abroad



Alert Engineer Team
to quickly investigate
and fix the problem



Received SMS
informing solution

Proactive conversation:

“We notice that you have just experienced difficulties using Internet while roaming.
We have already fixed the configuration for you, and now you can use the Internet normally.”

SOLUTION

SOC Solution

(Service
Operation
Center)

Launch:
2018

Pre-Roaming Alert at Suvarnabhumi Airport

Reduce customer's pain point of High data roaming charges unknowingly

USE CASE 4

Passing Passport Control



Send location-based SMS to AIS customers, only after the passport control

Waiting for Flight



Customers normally play with phone, increasing chance to read SMS and thereby take preferred action

Home: Checking Out Bill



Peace of mind. No surprise

- ▶ Increase AIS integrity
- ▶ Reduce Waive Requests
- ▶ Generate Revenue from IR Package Subscription

SOLUTION

SMS Notification customized by location & profile

**right place,
right offer,
right time**

SMS Message:

"Using smartphones abroad may cause Internet roaming charges unintentionally. Subscribe Internet roaming packages before leaving by calling 1175. (If you do not wish to use Internet roaming, turn-off Internet by pressing *129*1#)."

Launch:
Dec 2015

Contextual Privilege Notification at the Airport

Travelling customer's awareness to enjoy privilege and get delightful experiences at the airports

USE CASE 5



Passing
Immigration
Point

Use location-based
to filter for travelers only



Using Mobile
While Waiting
at the Airport

Trigger the network by customer usage
or location update



Received
SMS
Notification

The system checks customer profile
and send SMS accordingly



Redeem and enjoy
themselves while
waiting for flight



Take Off
Happily

SMS Message:

“Enjoy AIS Privileges while waiting at the airport. **Check out privilege especially for you, dial *545*xx#.** To check out participating shops at **Suvarnabhumi Airport**, visit www.ais.co.th/airportprivileges”

SMS Features:

- Inform privilege by segment
- Real-time checking for remaining privilege quotas
- List of shops and restaurants with privilege offers specifically at this airport
- Visual Zone Map to easily locate specific shops & restaurants

SOLUTION

SMS Notification
customized
by location
& profile

right place,
right offer,
right time

Launch:
2018

Customer Insight for Right Offering : Customer's Complaints

Finding unspoken dissatisfaction & solve or offer solution before customer's complaints or churn

USE CASE 6



Customer Usage
Continue to Decline

300 THB ▶ 200 THB

800 THB ▶ 260 THB

3000 THB ▶ 50 THB

Group with
biggest drop



Analysts Seek for
Causes & Factors

Focus on the group with the biggest drop

SOLUTION

Customer Value
Management
(CVM) Solution

Utilizing data
analytics and
predictive
modelling

Details	Scenario 1	Scenario 2
Scope	Most subs use XYZ package	Most subs reside as cluster in XYZ district
Findings	Package does not match with customers usage behavior	Engineers finds weak signal in that area
Assumption	Customers are not satisfied, seeking to try the competitor's	
Action	<ul style="list-style-type: none">Offer best fitted packagePersonalized offer based on usage pattern using data analytic tools	Quickly fine tune and boost up network quality in the area

Launch:
Scenario1 - 2018
Scenario 2 - Q4 2017

Q&A

