Smart City Project Initiative at NECTEC

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Thailand

NECTEC
a member of NSTDA
สวทช NSTDA

ABOUT NECTEC

- The National Electronics and Computer Technology Center (NECTEC) was established on 16 September 1986 under the Ministry of Science, Technology and Energy (the former name of Ministry of Science and Technology).

- On 30 December 1991, following the enactment of the Science and Technology Development Act of 1991, NECTEC was transformed into a national technology center under the National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology.
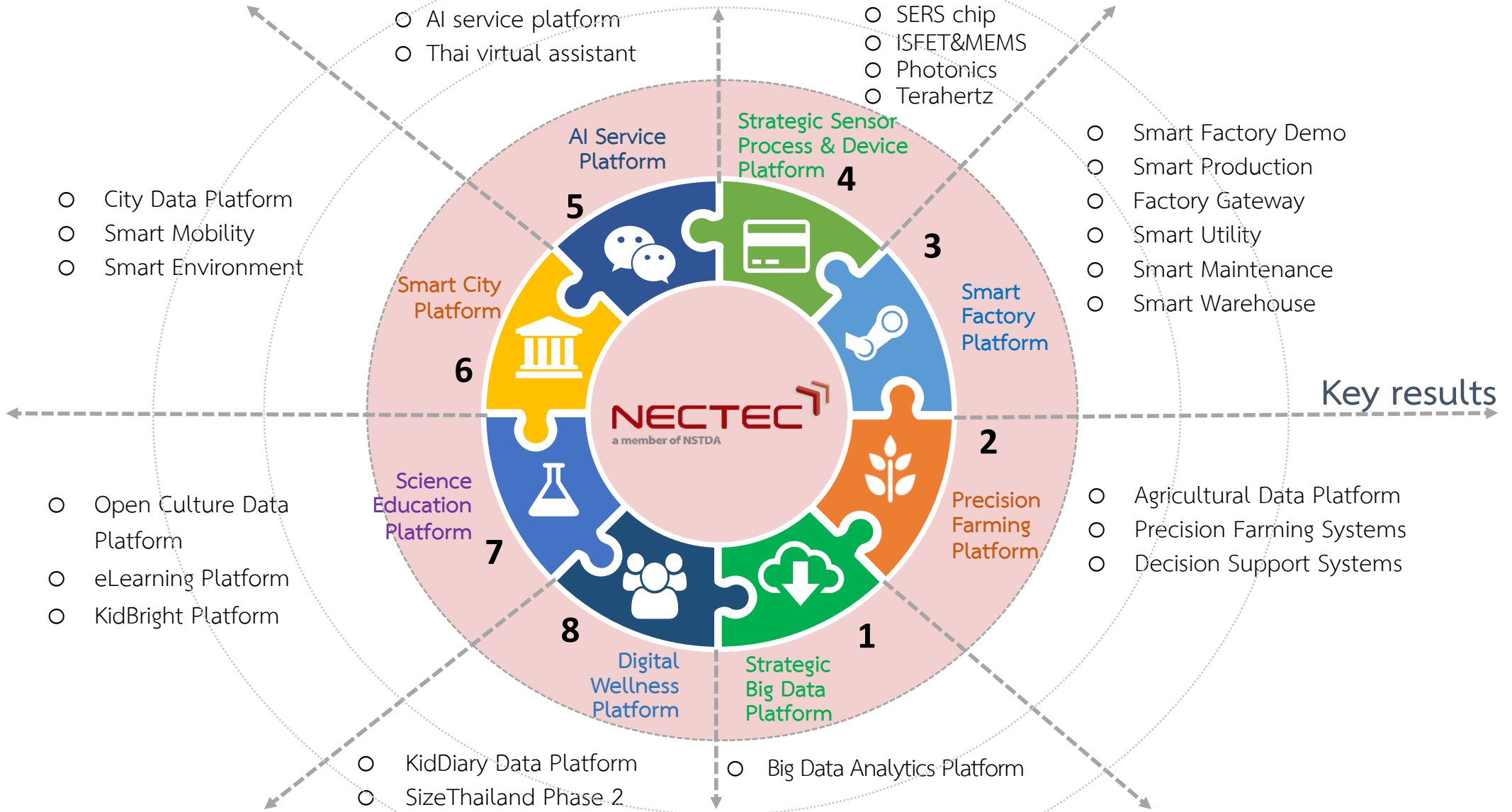
VISION

To be the foundation for advanced electronics and information technology development in Thailand.

MISSION

- To build technology foundation for the country.
- To foster the development of technology ecosystem together with our strategic alliances.
- To get ready for the development of frontier technology.

Target Output Profile (2019 – 2021)

What Drives Smart City Project?

Challenges of Urbanization

Overall pressures on **Infrastructure, Sustainability and Livability**

GSC-21
VIENNA, AUSTRIA

Public safety | Heavy traffic | Pollution | Surplus capacity | Energy shortage

26-27 September 2017

IEEE STANDARDS ASSOCIATION

ที่มา: https://www.itu.int/en/ITU-T/gsc/21/

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National Smart City Master Plan (Led by MDES, MOT, and MOE)

6 Smart city domains

Ease of doing business
Business agility

Networking
Business connectivity

Innovating
Business innovation and transformation

Safe and accessible
Accessibility, convenience, and safety

Efficient
Efficient transportation and logistics management

Sharing
Ride sharing and green mobility

Healthcare services
Healthy people

Public safety
Public safety

Living comfort
Intelligent living facilities

Smart Economy
Competitiveness

Smart Mobility
Transport and green vehicles

Smart Living
Quality of life

Thailand Smart city

Efficient
Efficient energy consumption

Green
Alternative green energy

Environmentally friendly
Effective waste management and environmental monitoring

Digital awareness
Knowledgeable and digital citizen

Life long learning
Creative learning environments

Citizen centric
Inclusive society

Smart Energy and Environment
Natural resources

Smart People
Social and human capital

Accessible
Government services accessibility

Citizen centric
Citizen participation

Transparent
Transparency

Smart Governance
Participation

NECTEC
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NSTDA

Phuket Smart City (2016-2018)
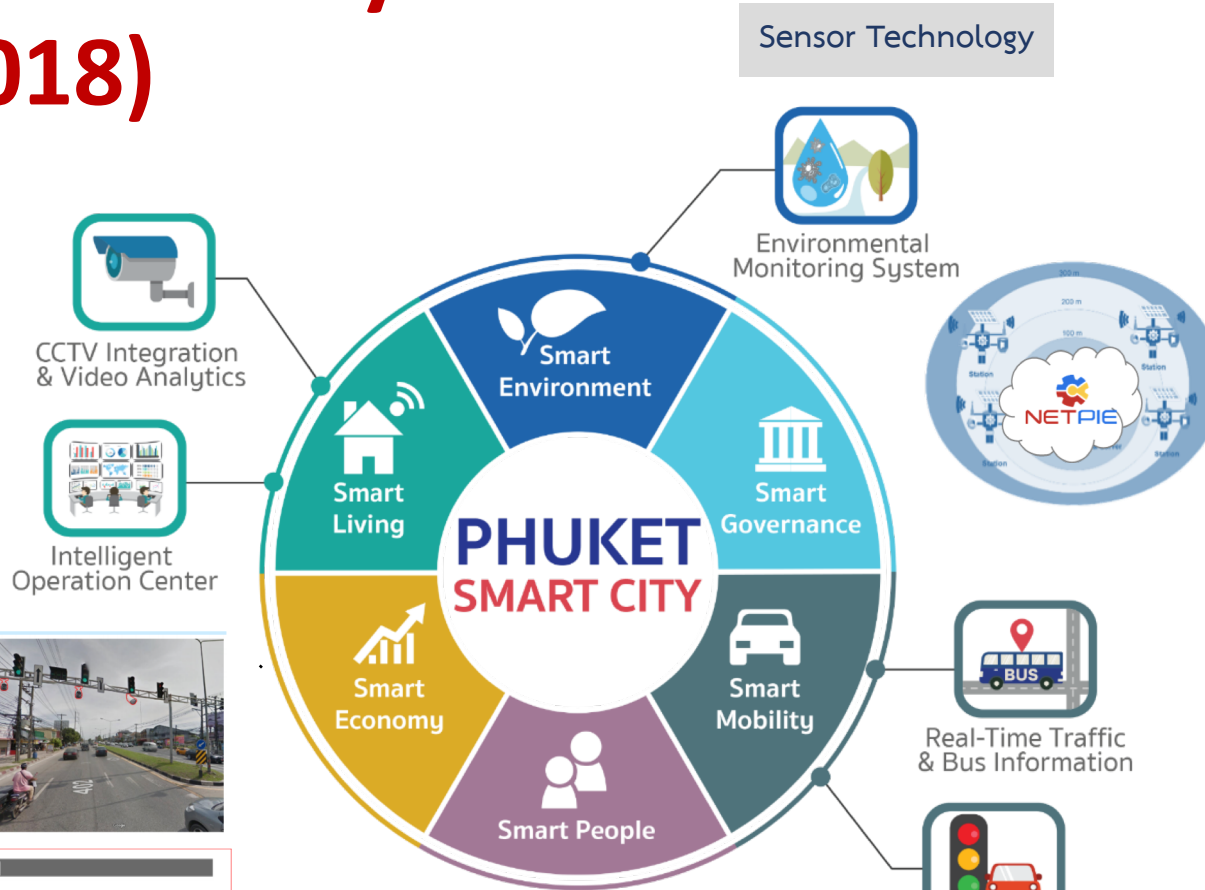
Landslide Monitoring System
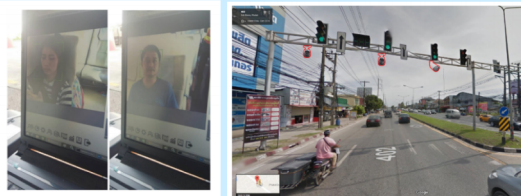
Sensor Technology

PHUKET SMART CITY
- Smart Environment
- Smart Governance
- Smart Mobility
- Smart People
- Smart Economy
- Smart Living

Environmental Monitoring System

NETPIE

CCTV Integration & Video Analytics

Intelligent Operation Center

Real-Time Traffic & Bus Information

Image Processing & Machine Learning Technology

GNSS Tracking

Web app and Mobile app
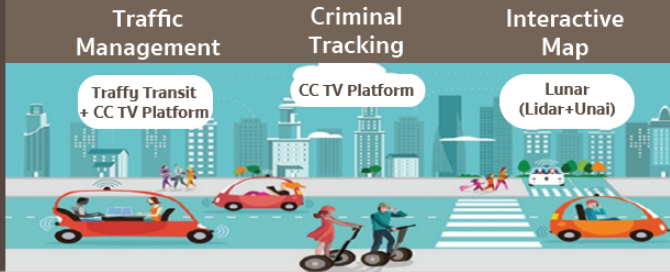
- Locate bus stops — 01
- Predict bus arrival time — 02
- Locate buses in a desired route — 03
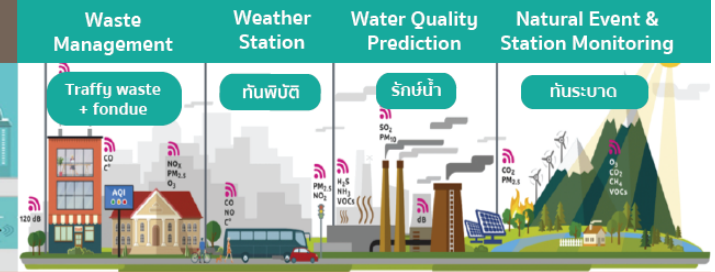- Analyse bus routes and your trips — 04

NECTEC Smart City Framework

Application

Smart Mobility
- **Traffic Management** — Traffy Transit + CC TV Platform
- **Criminal Tracking** — CC TV Platform
- **Interactive Map** — Lunar (Lidar+Unai)

Smart Environment
- **Waste Management** — Traffy waste + fondue
- **Weather Station** — ทันพิบัติ
- **Water Quality Prediction** — รักษ์น้ำ
- **Natural Event & Station Monitoring** — ทันระบาด

Technology Integration
- **AI + Machine Learning**
- **Geo Informatics** — Mapping & Location Service
- **Embeded System**
- **Low Power Wide Area Sensor Network**
- **Data Fusion /Assimilation**
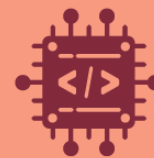
Technology
- Data Analytics
- Image Processing
- LiDAR
- Localizatioin
- Sensors
- Data Stream Management
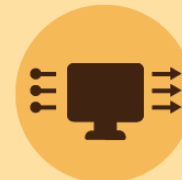
Infrastructure
- **Cyber Security**

Soft Infra
- IoT Platform
- Cloud Platform
- AI Service Platform
- City Data Platform

Hard Infra
- High Performance Computer
- Connected Digital Platform
- Data storage
- Command Center

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Key Results

KR1: City Data Platform

KR2.1: Fleet Management

KR2.2: CCTV Integration and Video Analytics

KR2.3: LiDAR-based Indoor Localization

KR3.1: Disaster Monitoring System

KR3.2: Pandemic Monitoring System

KR3.3: Waste Collection Management System

KR3.4: Sea Water Erosion Prediction System

Partnerships

Private Sector

Issues to Be Considered

- Data Security and Privacy
- Sustainability

Thank You

http://www.nectec.or.th