



AI CAMERA SOLUTION

Empowering Security. Protecting Possibilities



AI CAMERA CENTER
Viettel High Tech Industries Corporation



Part 1. About Viettel High Tech

- Overview of Viettel Group
- Overview of Viettel High Tech
- Business sectors
- Partners and customers

Part 2. Highlight solutions

- Overview
- Smart Home
- Smart Building
- Smart Traffic

Part 3. Business Model



ABOUT US
VIETTEL HIGH TECH

SINCE 2011

▶ VIETTEL GROUP

(Military Industry and Telecoms Group)

Founded in 1989, after more than 3 decades, **Viettel** has opened a new chapter, transforming from the leading telecommunications operator in Vietnam to an industrial and technological corporation reaching out to the world. The promise of "caring innovator" will last as the journey goes on.

Vision **Caring
Innovator**

Mission **Lead the way
to create
a digital society**

Brand philosophy **Diversify to create
difference**

NOTABLE FIGURES

#1

The most valuable brand in Vietnam

#1

The most valuable brand in Southeast Asia

#17

The most valuable Telecommunication brand worldwide

8.9

Billion USD-worth brand

Revenue (2024)

13.2 billion USD

Profit (2024)

2 billion USD

International markets

11 countries

Total global customers

270 million

Scale

55.000+ employees

▶ VIETTEL HIGH TECHNOLOGY INDUSTRIES CORP (VHT)

Viettel High Technology Industries Corporation is a branch of Viettel Group and is the Viettel's key research and production unit, specializes in the military, telecommunications and civil fields, , mastering the entire process from research, design, manufacture, production, and brings products to customers.

Vision

“Pioneer Technology - Accompanying the world”

Mission

“Making life easier and more convenient and smarter through technologies.”

BUSINESS SECTORS



MILITARY

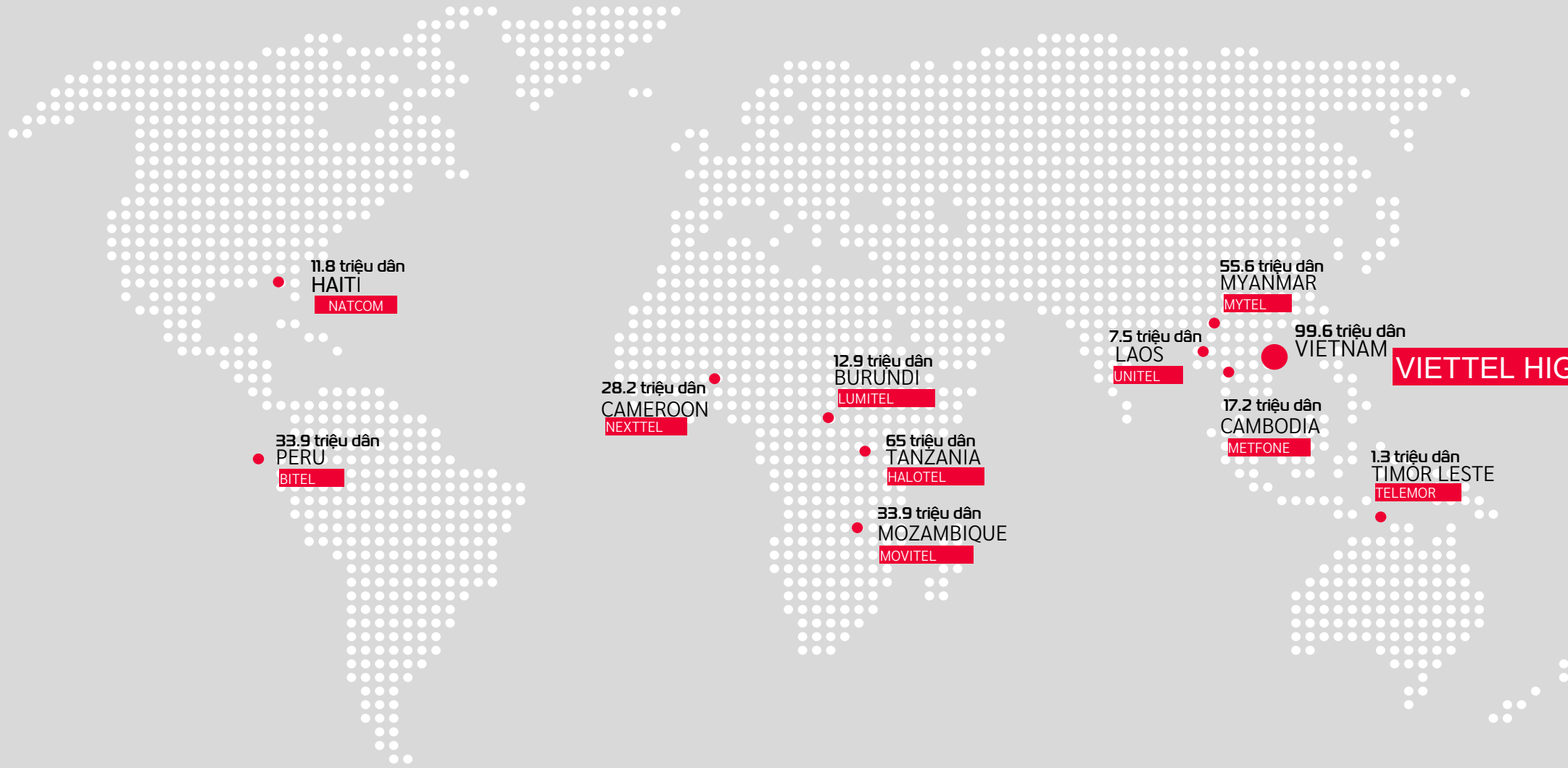


CIVIL



TELECOMMUNICATION

▶ ABOUT VIETTEL HIGH TECH



▶ GLOBAL NETWORK

11 international markets Comprehensive cooperation with the United States, Germany, France, Canada, Israel, Norway, Russia, Belarus, Ukraine, India, South Korea, Turkey, Singapore, Australia.

▶ RESEARCH CAPACITY

- 479** Industrial property rights registered
- 135** Patents, designs and useful solutions
- 17** Patents are protected exclusively in the US

▶ HIGH-QUALITY EMPLOYEE

- 1300+** High-quality Employee
- 20%** Employees are Master/PhD



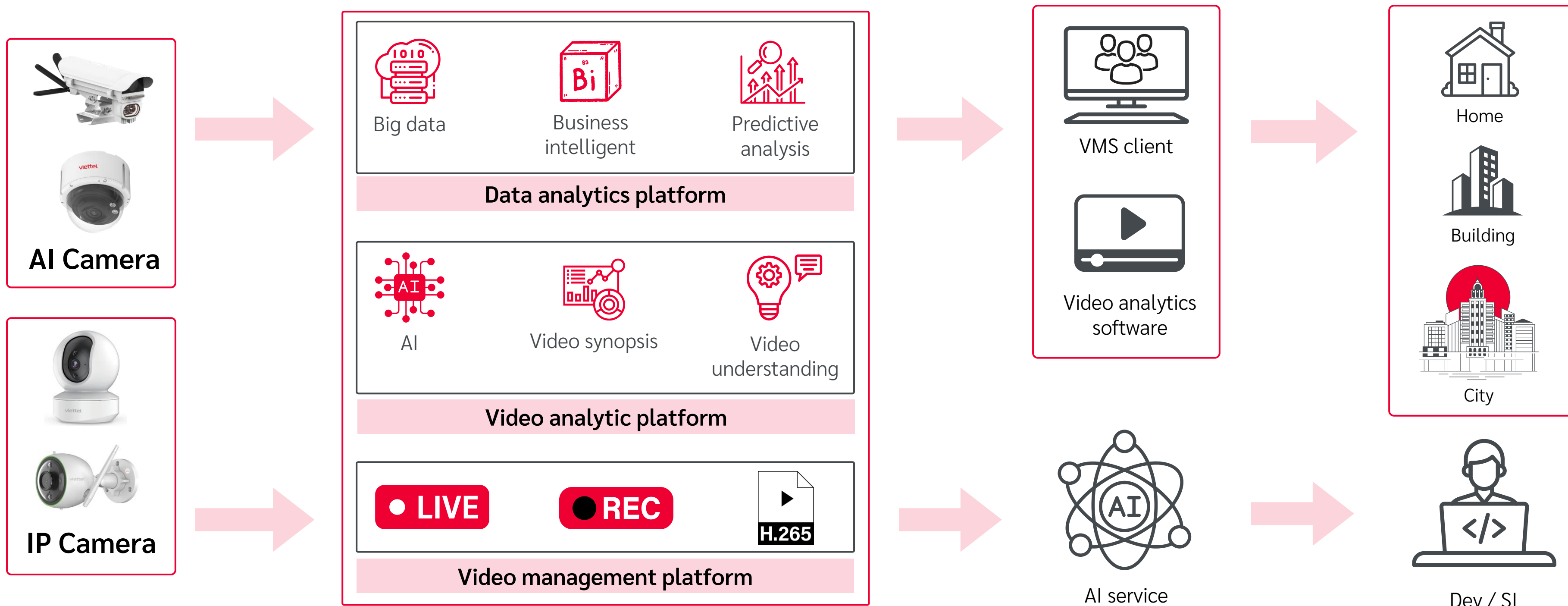


OVERVIEW OF AI CAMERA

OVERVIEW

PRODUCTS & SOLUTIONS

- Security equipment: Home camera (indoor & outdoor), AI camera, Traffic camera
- Platform: Video management platform, Video analytics platform, Data analytics platform
- Services: VMS client, Video analytics software and AI services



PRODUCT

HIGH LEVEL

HB2L



4MP@30fps
CPU: 2Tops
IR: 30m

HB2Q



5MP@30fps
CPU: 2Tops
IR: 30m
People and vehicles:
intrusion, boundaries,
entering/exiting areas,
wandering, gathering
large numbers of
people.

HB2Y



4MP@25fps
CPU: 2Tops
IR: 10m
Motion Detection
Regional Infiltration
Human Detection
Facial recognition

MID LEVEL

CB4



4MP@25fps
CPU: 1Tops
IR: 10m
Face Detection
Secondary screen
2-way conversation

BASIC LEVEL

K345E



2304×1296 @ 20fps
IR: 10m
2-way conversation

HC24



3MP @ 20fps
IR: 10m
2-way conversation

CE4



4MP @ 25fps
IR: 10m
2-way conversation

S2E-M3



3MP @ 25fps
IR: 10m
2-way conversation

HC22



2MP @ 25fps
IR: 10m
2-way conversation

HC23



2MP @ 25fps
IR: 15m
2-way conversation

▶ PRODUCT PORTFOLIO



VIETTEL SMART ITS HUB

Chipset	Qualcomm SoC
RAM	4GB
Internal memory	64GB
Input/Output RTSP stream	FHD@30fps
Coverage	Support up to 2 lanes
Feature	Convert IP camera into a Smart traffic camera



VIETTEL FLAGSHIP CAMERA

Chipset	Qualcomm SoC
Resolution	2448x2048
Ram	8GB
Internal memory	64GB
Video compression	AI streaming H264/H265
Coverage	≥ 2 lanes
Feature	Vehicle classification; VHD/LPD/LPR; Violations Detection; Flow metering; Estimated moving speed



HIGHLIGHT SOLUTIONS

▶ LIST OF SOLUTIONS



Smart home



Smart building



Smart traffic



SMART HOME

▶ SMART HOME SOLUTION

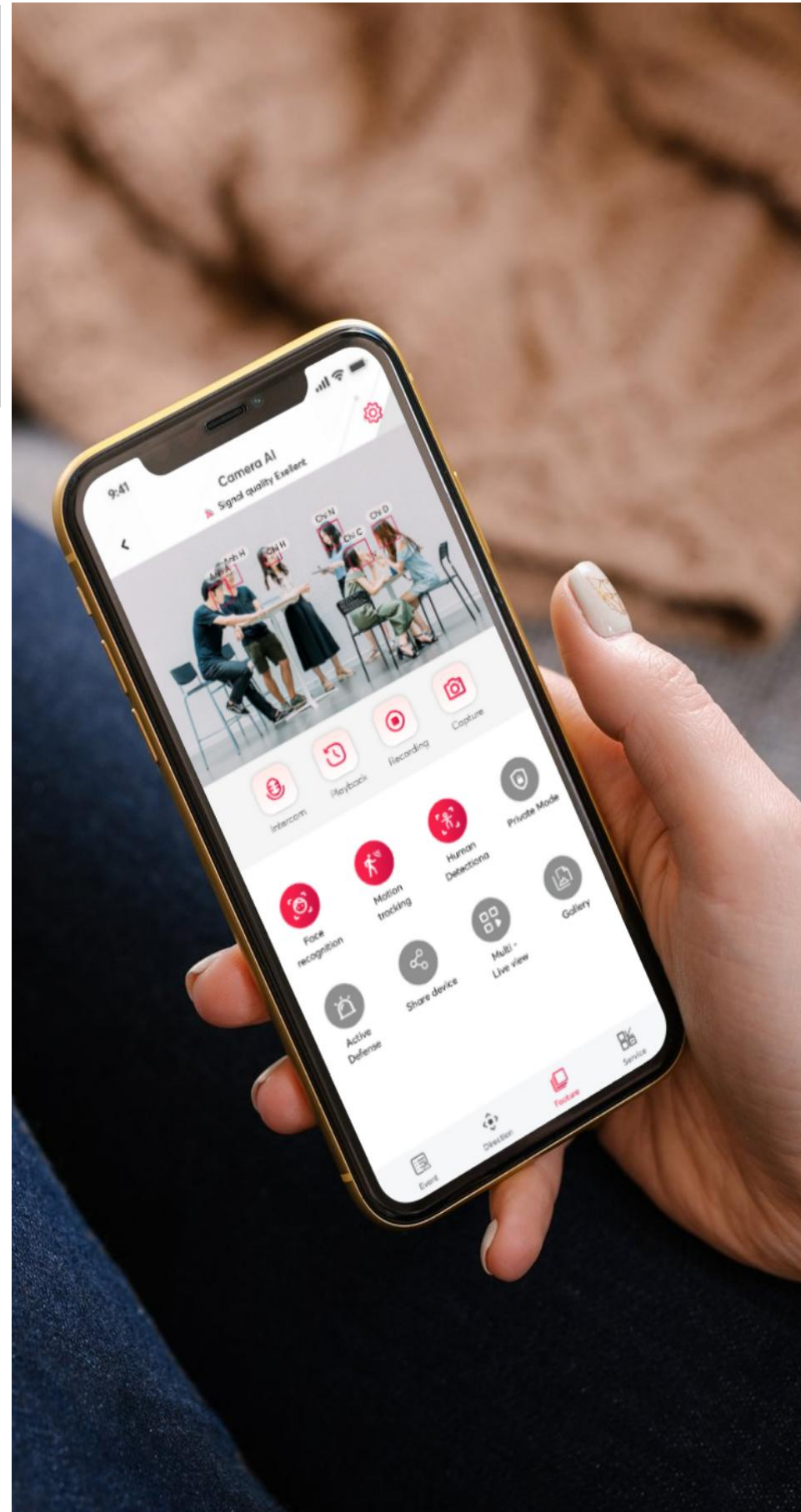
viettel

SMART HOME

Technology for everyone

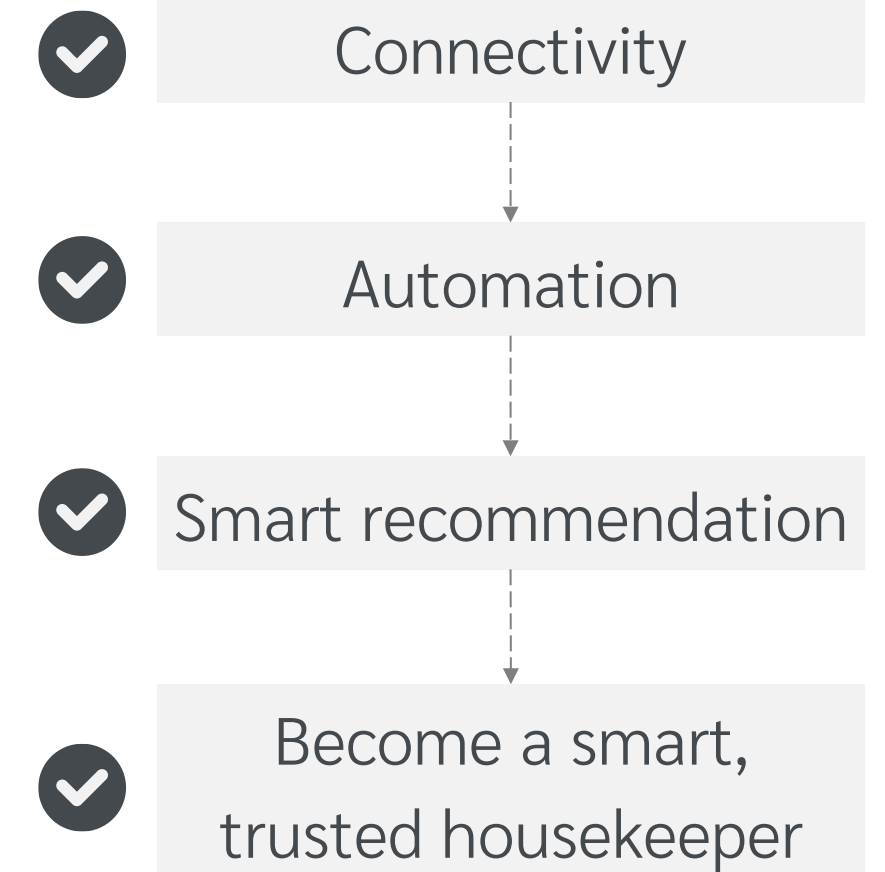


Safe
Secured
Smart



Offering a smart home control and management solution. Creating a secured, modern, comfortable and creative living experience

Evolutionary philosophy



▶ SMART HOME SOLUTION



Control your home comprehensively

Connect all devices (WIFI, Zigbee). Easy control via app. Every time everywhere. Manage devices real-time and receive on-time maintenance notifications.

Customize home automation scrips

Set up unlimited on/off scenarios. Automatically warn when strangers intrude. Automatically identify strangers and acquaintances.



Voice interaction with diverse services

Analyze family members' living habits and suggest appropriate solutions. Control home devices by voice. Interact and chat 24/7.

Experience a variety of integrated services such as e-commerce, house cleaning, and maintenance on a single application..



▶ SMART HOME SOLUTION

Smart Home Ecosystems



Super app

Devices

Service

CAMERA

DIY WIFI/NB-IOT DEVICES

THIRD-PARTY OTHER SMART THINGS

AI SERVICE

Smart detection (human, face, vehicles, pets)

Cloud storage

Smart alert (fall, baby cry, fire)

24/7 emergency service

HOME SERVICE

E-Commerce

Cleaning

Repair & Maintenance

Healthcare

Food order

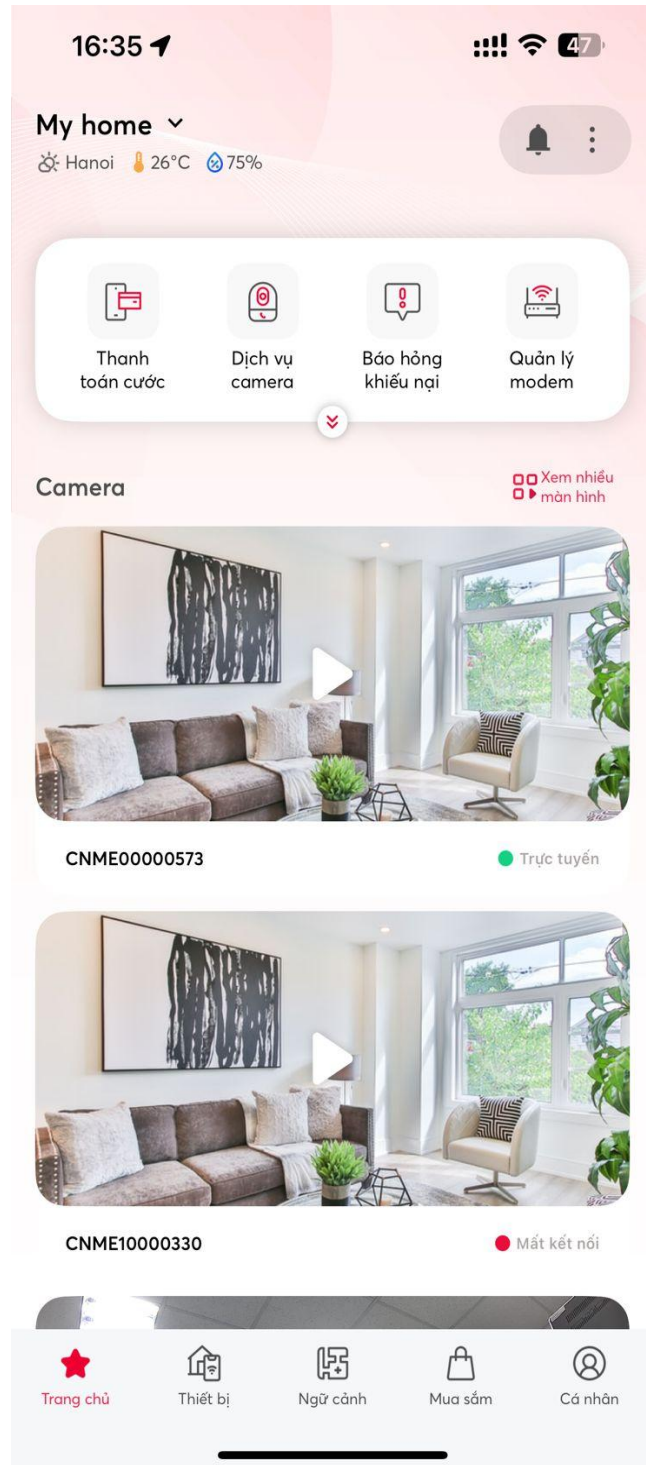
Online education

Finance

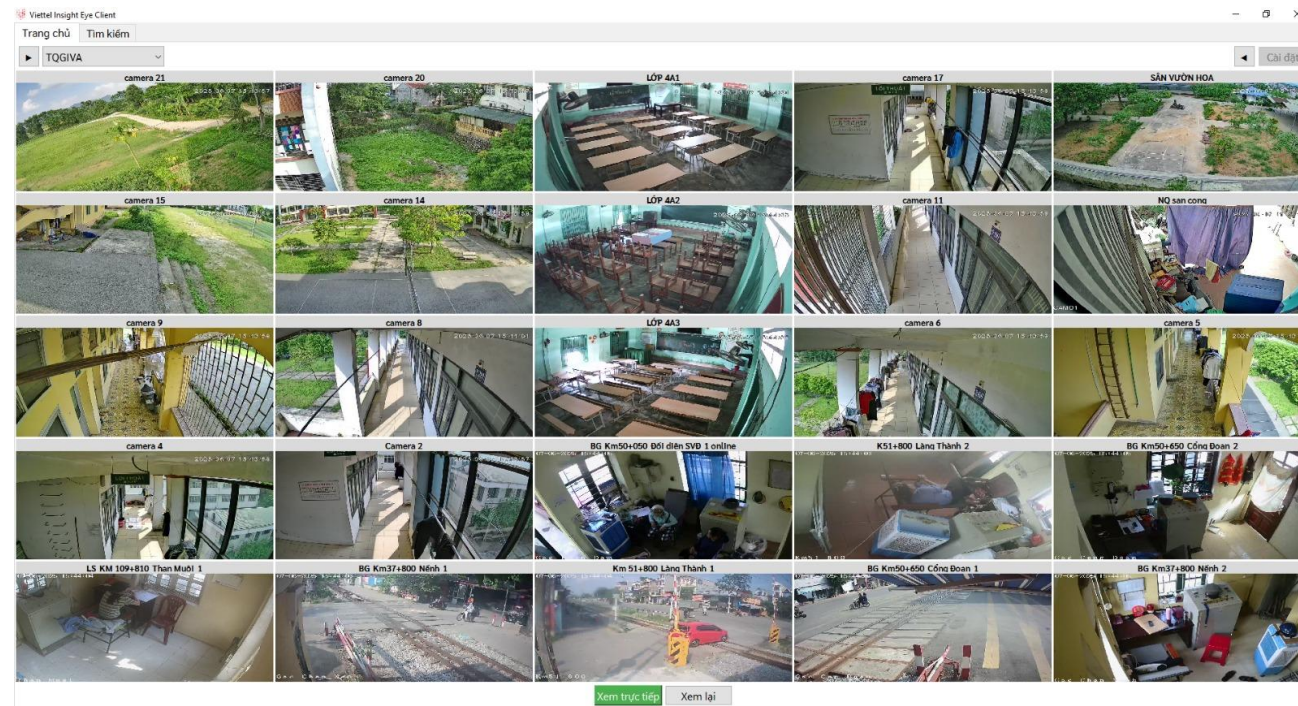
Information

SMART HOME SOLUTIONS

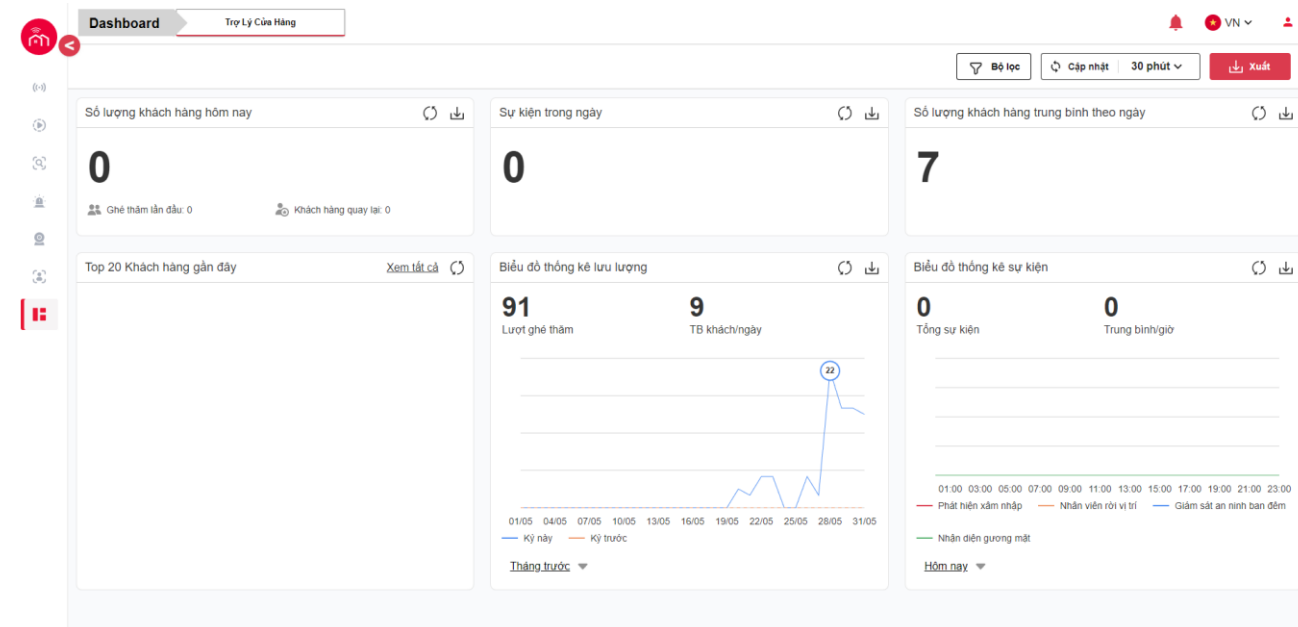
Smarthome APP runs on multiple platforms: Mobile app, Android TV/Box, Desktop App, Web App that is easy to deploy for the Household and SME segments



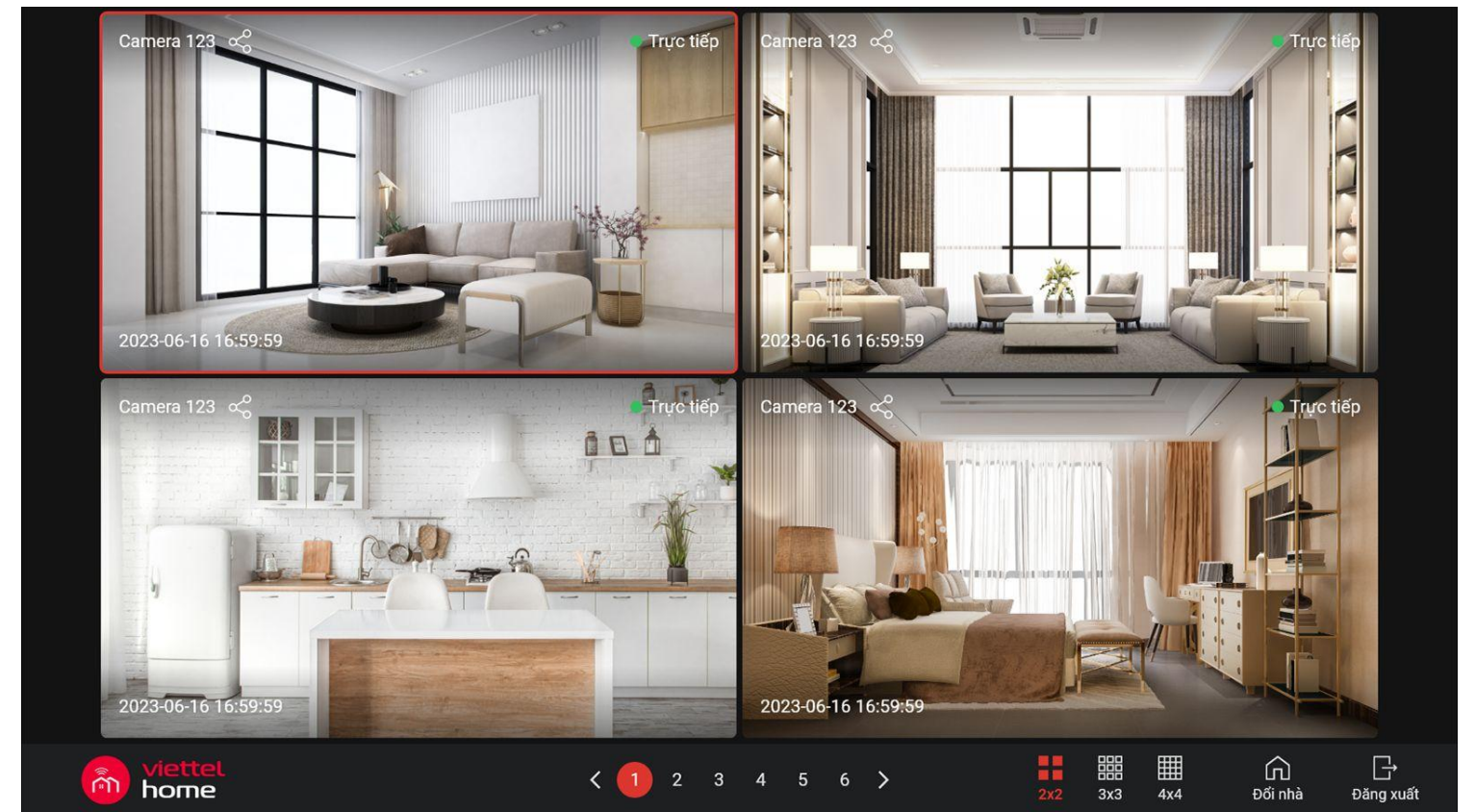
MOBILE APP



DESKTOP APP

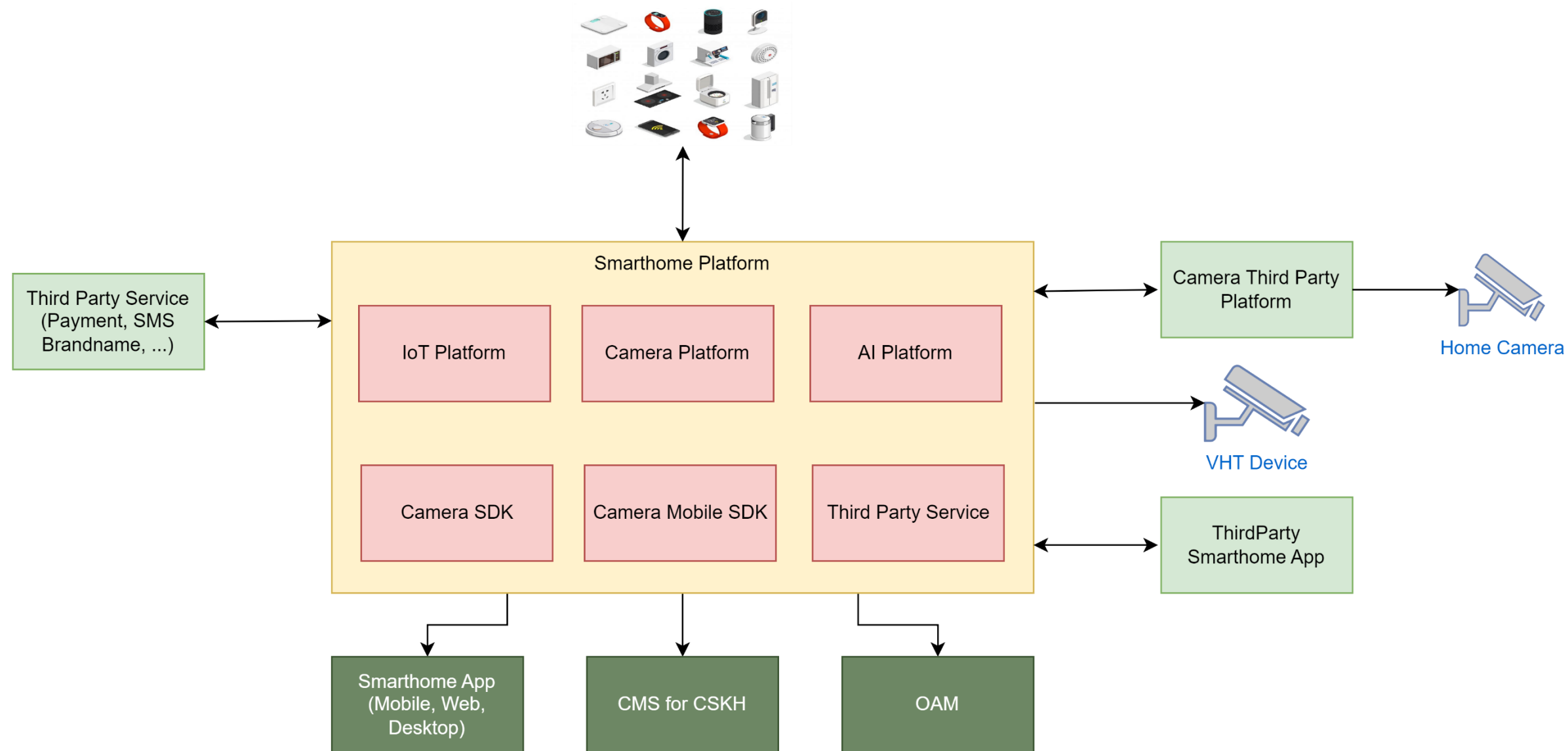


WEB APP



ANDROID BOX

▶ SMARTHOME PLATFORM ARCHITECTURE



The platform is designed according to the Micro-Service architecture running on Cloud Native infrastructure to help the system easily expand and upgrade according to business needs:

"In particular, the Camera platform is designed according to the Open SDK architecture to help quickly and diversify device lines on the platform (1-2 months/1 device lines) without having to deploy many Camera platforms."



SMART BUILDING

▶ SMART BUILDING SOLUTION

Viettel provides customers with a complete solution designed and developed by Viettel, including equipment, AI features and storage infrastructure to meet the increasing demands in the digital transformation, smart management, monitoring, and operation, bringing a new look to the building.

PRODUCTS INCLUDED



AI Camera



IP Camera



PTZ Camera



Access control
(human)



Access control
(vehicles)



Security monitoring



Smart management



▶ SMART BUILDING SOLUTION

Security monitoring

Send alert when strange people / vehicles enter the monitoring area immediately.



Access control - human

Control in/out access, automatic timekeeping, alert when identify stranger using FR.



Access control - vehicles

LPR, FD to automatically open/close the door.



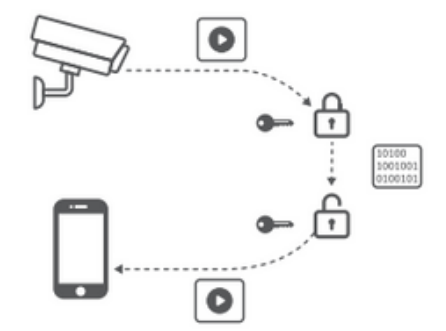
Smart management

Summarize videos and enable smart searching. Remote monitoring and management.



Data encryption

Video transmission is secured with 3-layer encrypted



Building



Office



Residential area



Government buildings



SMART TRAFFIC

▶ SMART TRAFFIC SOLUTION

With the desire to ensure traffic safety and security at highways, urban areas, making the process of monitoring traffic more efficient and easier, the team of engineers of VHT has researched and developed a comprehensive smart traffic solution that can be applied in Vietnam and many other countries.

PRODUCTS INCLUDED



Flagship camera



Smart ITS Hub



Viettel Flagship Camera

High-speed smart cameras, equipped with the most advanced technologies to deliver **outstanding features and performance**.

Thanks to the latest AI processor, the product allows users to **classify vehicles, recognize number plates, detect traffic violations and traffic situations** processed directly inside the camera without the needs for centralized server.

Viettel Flagship Camera is capable of recording clear images of vehicles with moving speeds of up to 250km/h and with option to connect 4G/5G.



Breakthrough quality, optimal investment efficiency



Advanced AI view



Easy integration and expansion

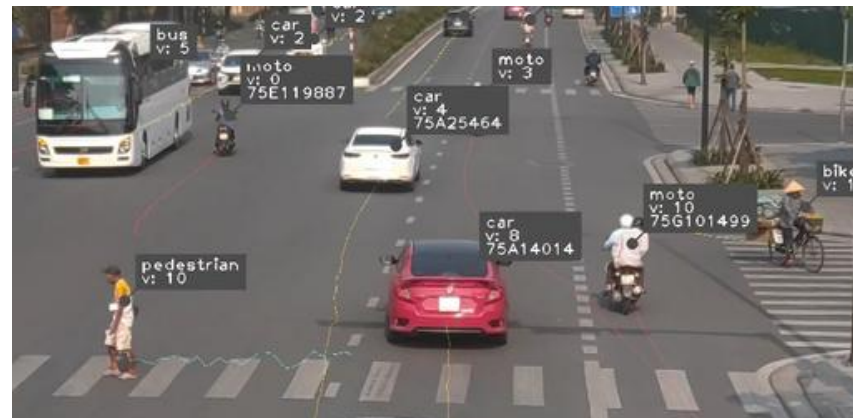


Integrate radar module for speeding violations

▶ SMART TRAFFIC SOLUTION

License plate recognition, Vehicle classification

Number plate recognition and vehicles classification: bus/truck/ car/motorcycle/tricycle/pedestrian.



Violations Detection Customizable scenario

Running red-light; Wrong way driving; Wrong lane driving; Wrong turn (left, right, U-turn); User define



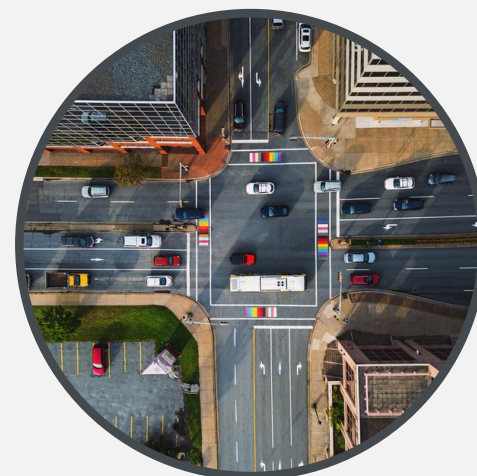
Traffic situation recognition and analysis

Average moving speed, density of vehicles, number of vehicles at the intersection



Visually display data directly on camera

Total object, total violations, total vehicles, total number of traffic violations by types



Intersections



Highway



City entrance checkpoints

▶ **PRODUCT PORTPOLIO**



ITS CAMERA



SPEED CAMERA



4/5G ITS CAMERA



LPR CAMERA



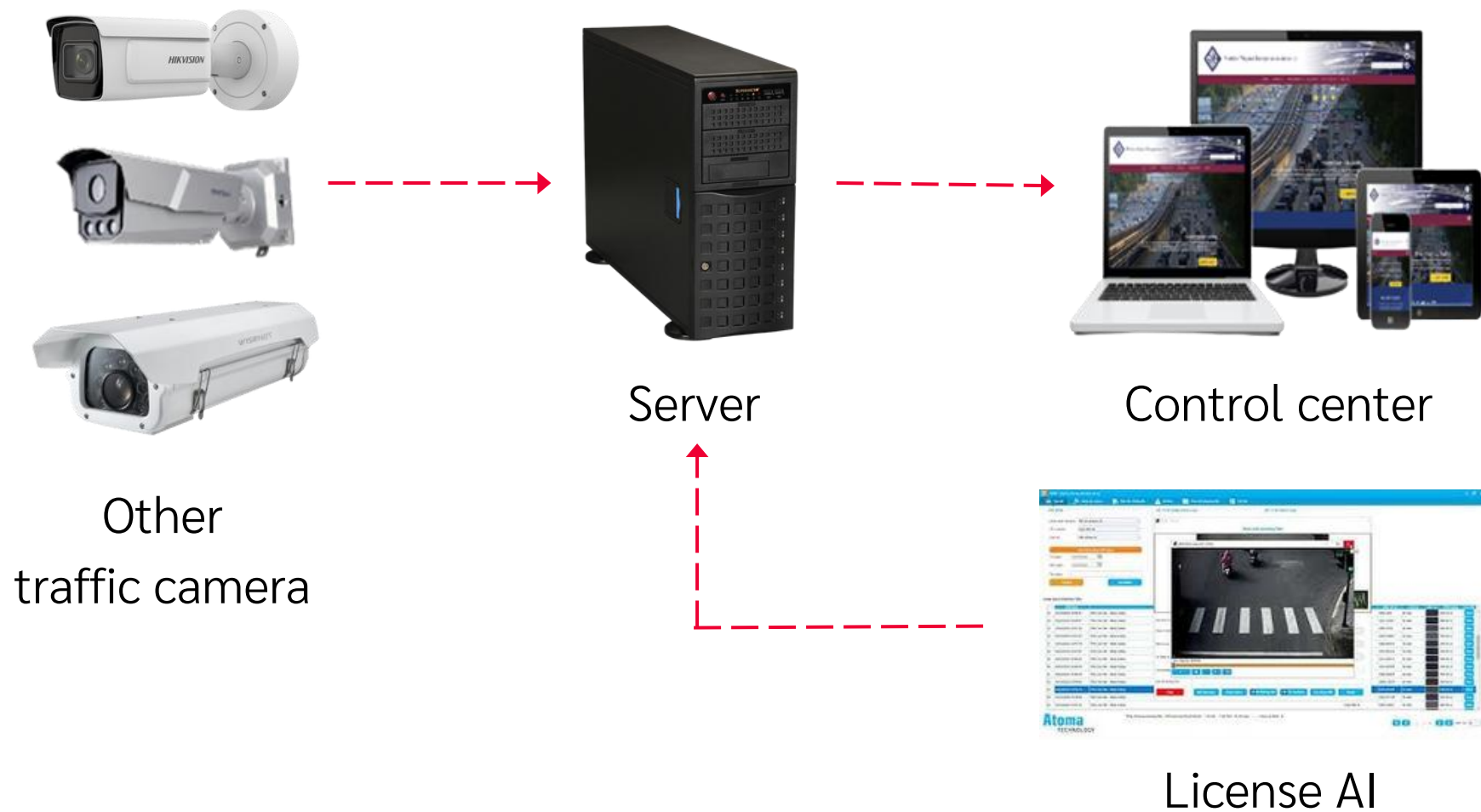
AI ITS HUB

▶ PRODUCT ADVANCED

TRADITION CAMERA SOLUTION

Camera acts as a tool for information and data collection. The data will be sent to the **server** via the **leased line** to process, and then send it to the operating center.

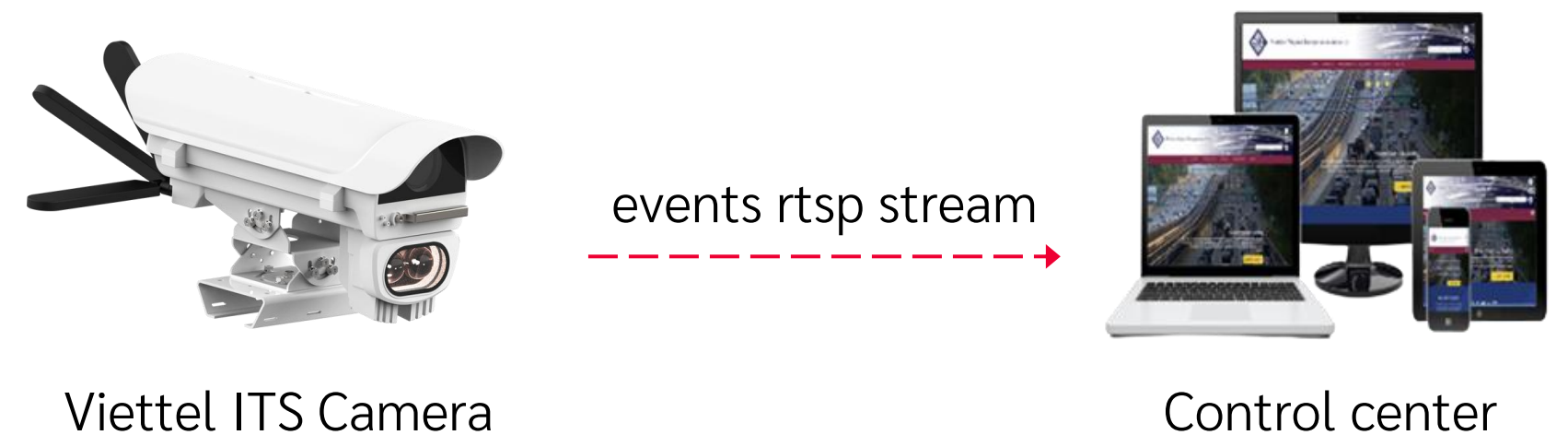
The camera used is a regular camera. To have additional AI features (advanced traffic violation detections,..), software license is required.



VIETTEL'S ITS CAMERA SOLUTION

The data will be processed directly at the Camera and then sent to the operating center via 4G/5G, or leased line, helping to **minimize initial investment costs and operating costs**.

The camera is equipped with built-in AI features, so there is **no need to purchase additional software licenses**.



▶ PRODUCT ADVANCED

- AI processing at the Camera, data is sent directly to the Control center
- 4G/5G connection available



Initial cost and operating cost savings

- Detect complex traffic violations
- Customize traffic violations scenario
- User-friendly drag-and-drop interface



Unlimited customization

- Allow integrating radar module for speeding violations
- Expand easily, plug and use instantly



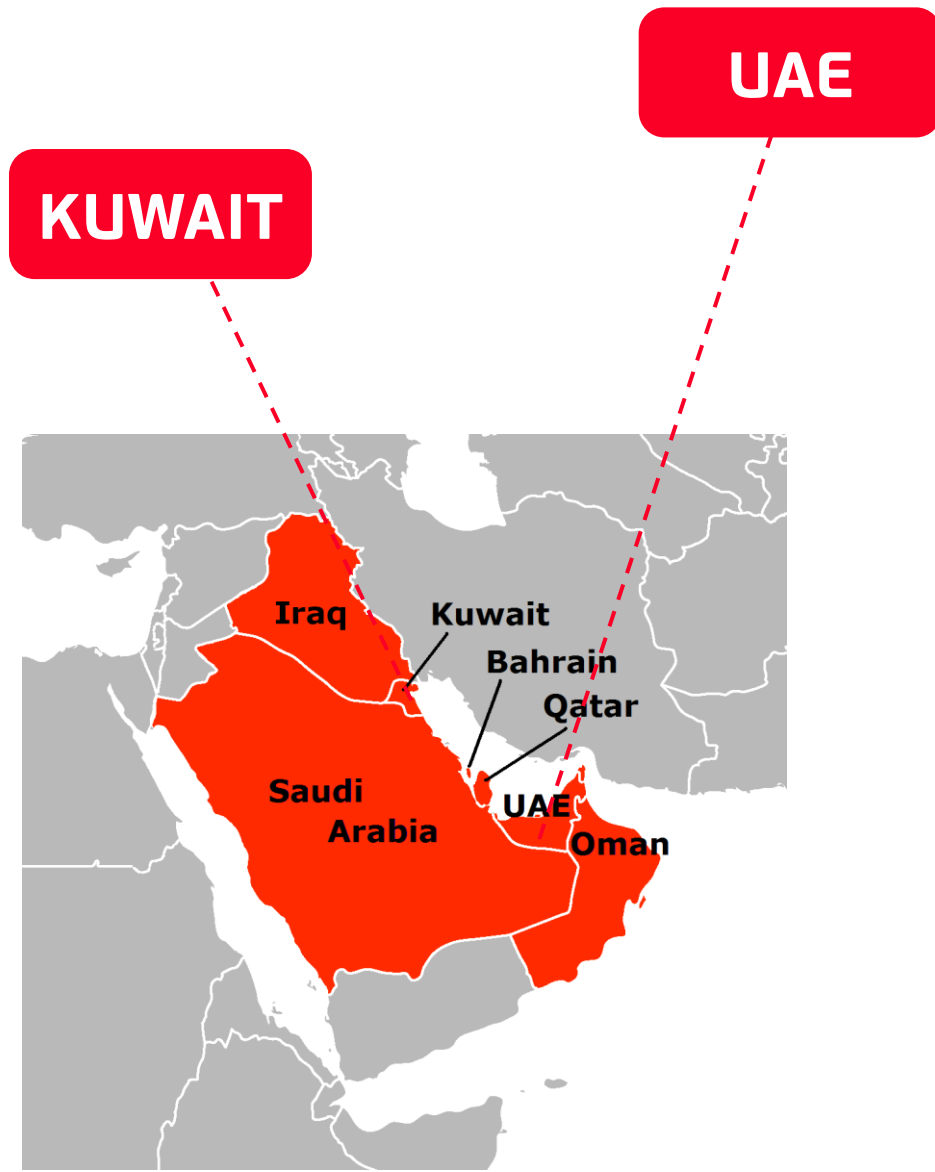
Easy integration and expansion

- Collect data about vehicle density to support adjusting light rhythms
- Statistical analysis of traffic compliance status



Data acquisition for actionable insights

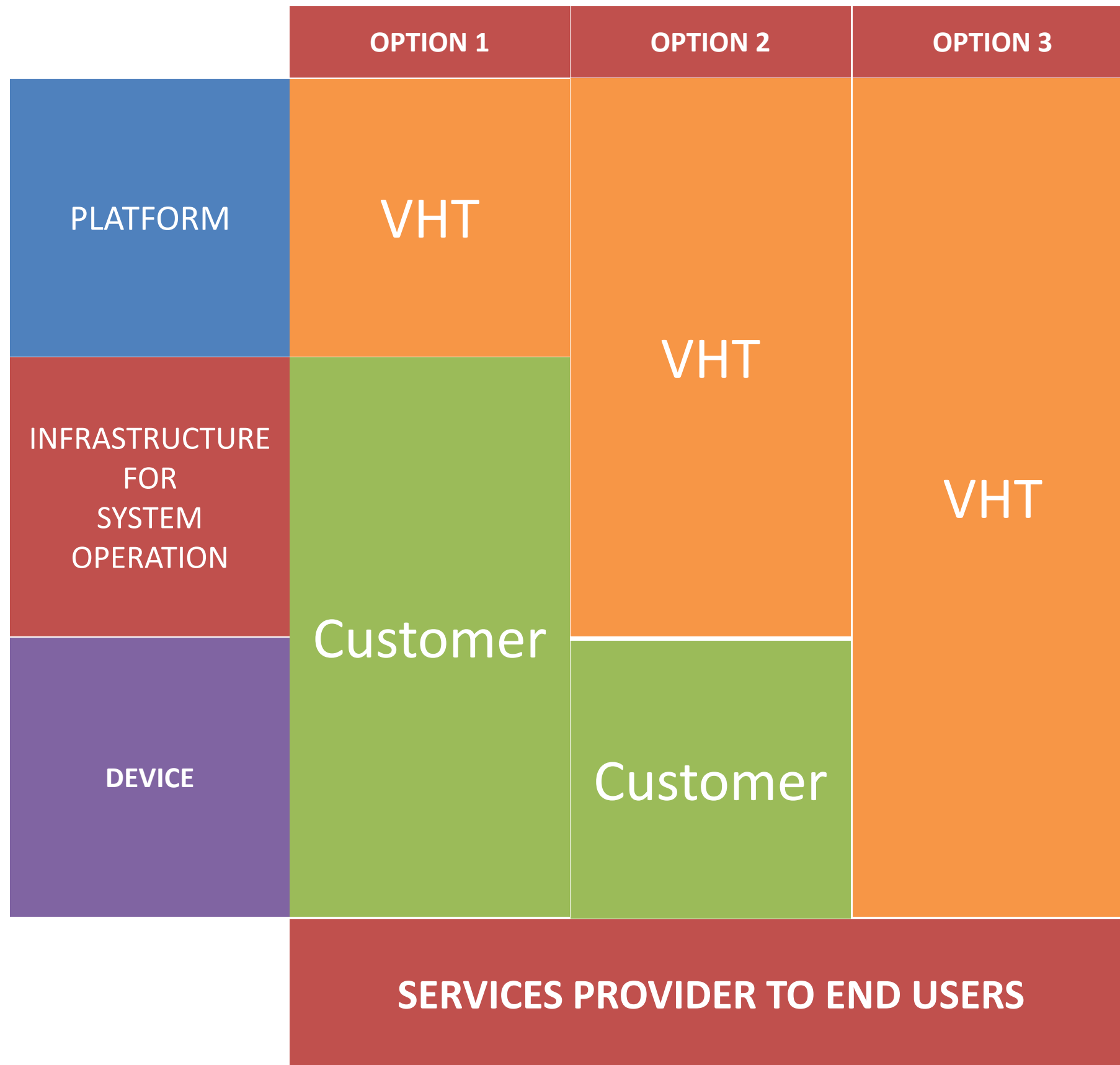
▶ USE CASES





BUSINESS MODEL

▶ BUSINESS MODEL



VHT provides a variety of business cooperation models depending on the capacity and number of users of the system:

- Smarthome platform
- Infrastructure and operation services
- ODM SuperApp Devices and Applications

Flexible business model by: licensing, revenue sharing or selling equipment

Business model to end customers: retail sales of equipment + services/bundled packages including FTTH, television, etc.

VIETTEL HIGH TECHNOLOGY INDUSTRIAL CORPORATION



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