



SHUTOKO

CUTTING-EDGE AI TECHNOLOGIES

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INTRODUCTION

**OPERATION & MANAGEMENT
ARE ALWAYS IMPORTANT**

**HOW CAN WE MAKE THEM
EFFICIENT & OPTIMIZED?**

FOCUSING ON...



TRAFFIC



EARTHQUAKE



**Artificial
Intelligence**



**TAKE YOU TO JOURNEY
OF
OPERATION & MANAGEMENT
WITH
MODERN TECHNOLOGY**

- > **About Us**
- > **Our Concerns**
- > **Traffic Management**
- > **Earthquake**
- > **Conclusion**

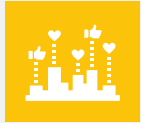
ABOUT US



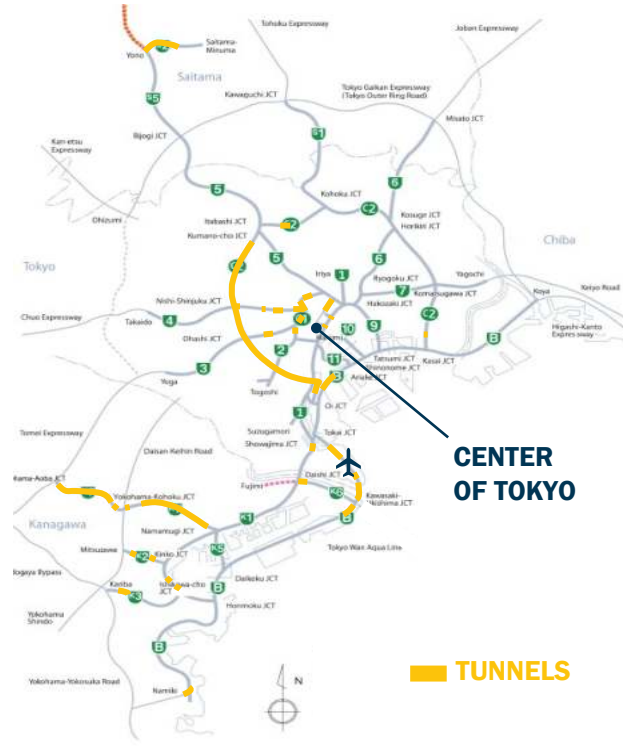
- > Metropolitan Expressway Company Ltd. (MEX)
- > Capital **\$93 million**
- > **18 Group Companies**
- > **1,126 Employees** (Approx. **5,000 Employees** in Group)



- > Established in **1959** as Public Corporation
- > Privatization in **2005**



- > Expressways around urban **Central TOKYO**
- > Building up the network for more than **60 years** since **1962**



327
km

- > **410 Entries & Exits**
- > **Tokyo to Kyoto**

18

- > **Group Companies**
- > **Various Fields**

970
Units/km

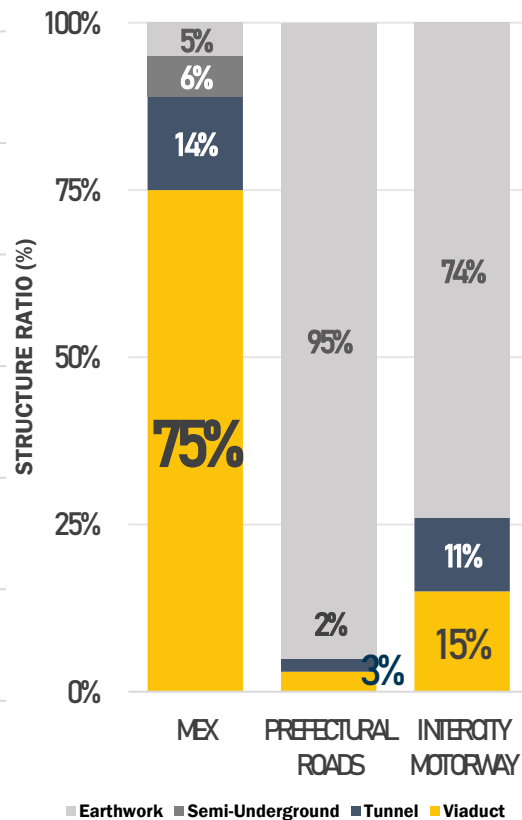
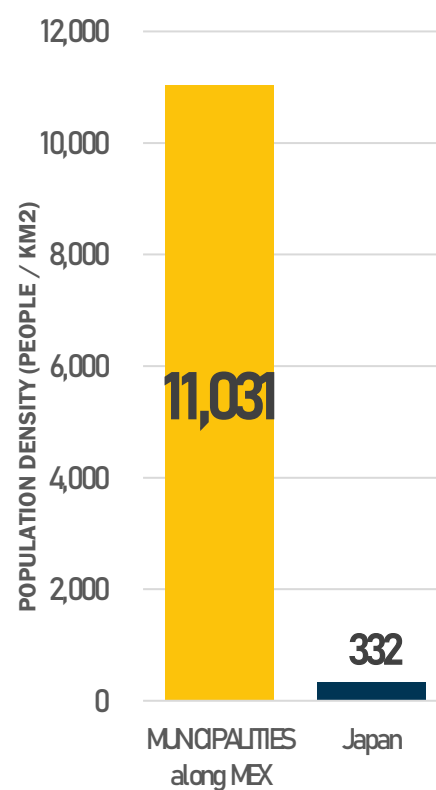
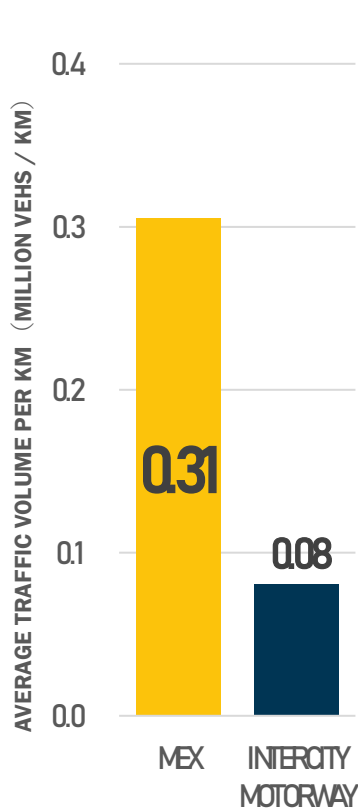
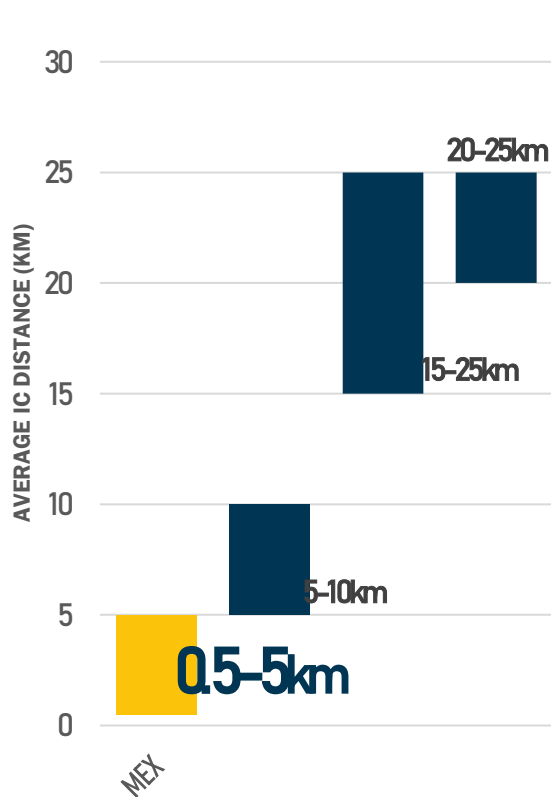
- > **Units Installed**
- > **310,000 Units** in total
- > **350 Types**

1M
Cars/Day

- > **Cars Running**
- > **5 Times greater** the Large Traffic than Ordinary Roads

DATA DESCRIBES US

THE EXPRESSWAY AROUND TOKYO THE CAPITAL OF JAPAN



OUR CONCERN I

Large Traffics cause Incidents like

- Big Traffic Jam
- Accidents
- Damage to Pavement
- Falling Objects
- Wrong Entries

**WE NEED TO PREVENT
BUT WE ALSO NEED**

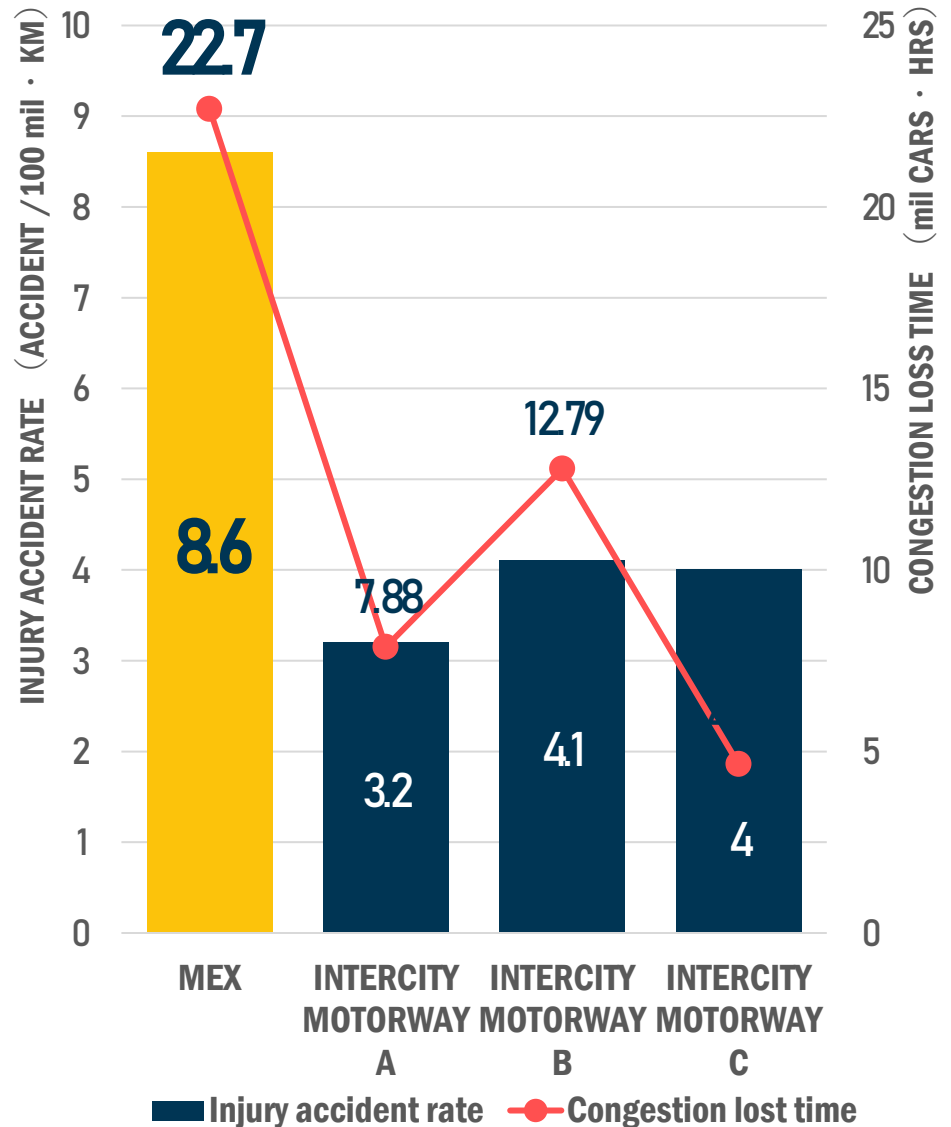
**EARLY
DETECTION**

**QUICK
RESPONSE**

**SMOOTH
OPERATION**

**FOR SAFE AND SECURE
+SMOOTH TRAFFIC**

BIG TRAFFIC JAM AND HIGH ACCIDENT RATE



TRAFFIC

OUR CONCERN II

In the case of emergency, our expressway will be “EMERGENCY ROUTE”

**WHAT WE NEED IS
TO KEEP EXPRESSWAY SAFE
AND
CLEARING TRAFFICS ASAP**

Impacts of Earthquakes are

- Economy of the Metropolitan Area
- Logistics Suspension
- Damage to Structures
- Accidents
- Injured Drivers
- Traffic Jams

**GET ACCURATE
SITUATION
IS OUR PRIORITY**



STOP TRAFFIC



EMERGENCY INSPECTIONS



PATROL/CAR INSPECTIONS



EMERGENCY REPAIRS

EARTHQUAKE

TRAFFIC MANAGEMENT

OUR OPERATION AND ASSETS

DAILY OPERATIONS



TRAFFIC DETECTOR

- ✓ Traffic Volume & Speed



CCTV CAMERA

- ✓ Traffic Monitoring
- ✓ Car Type Detection



PATROL CAR

- ✓ Operate Traffic Accidents, Breakdown Cars, Fallen Objects, and Other Incidents



PATROL MOTORCYCLE

4,842

Detectors/ 327km

2,644

Cameras/ 327km

75

Patrol Cars

9

Motorcycles

↑ CURRENT

↓ FUTURE

0

Detectors



FUNCTION IMPROVED

- ✓ Traffic Monitoring
- ✓ Car Type Detection
- ✓ Traffic Volume & Vehicle Speed
- ✓ Traffic Accidents, Breakdown Cars, Fallen Objects, and Other Incidents



0

Patrol Cars

9

Motorcycles for Operation

OUR OPERATION AND ASSETS

DAILY
INSPECTIONS



INSPECTION CARS

- ✓ Experts in Inspections
- ✓ Patrol, Inspects roads + Structure Conditions via Installed Camera on Top, and Report the Incidents via Network



INSPECTION DRONES

- ✓ Experts in Inspections of Difficult Places to Check
- ✓ Inspects Structures Where Cars and Humans cannot enter or access

115

Inspection Cars

5

Active Inspection Drones

↑ CURRENT

↓ FUTURE

0

Inspection Cars

XXX

Inspection Drones

+

FUNCTION IMPROVED

- ✓ Experts in Inspections of Difficult Places to Check
- ✓ Inspects roads + Structure Conditions via Installed Camera
- ✓ Operate Traffic Accidents, Breakdown Cars, and Fallen Objects Like Patrol Cars

CCTV with AI

HOW AI MANAGE THE TRAFFIC INCIDENTS

1 DATA ACQUISITION

**AUTOMATIC
&
PRECISE
INCIDENTS
DETECTION**

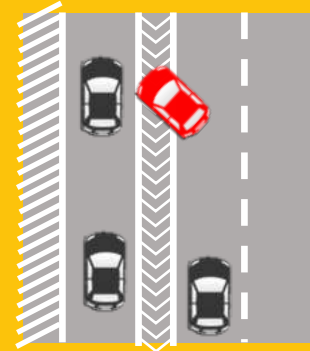


2 DATA ANALYSIS

AUTOMATIC analysis on what causes accidents

CAUSE

- Unexpected and Sudden Lane Changes
- Inattention to the Road Ahead



4 EVALUATION



AUTOMATIC Evaluation Based on Analysis

3 COUNTERMEASURES

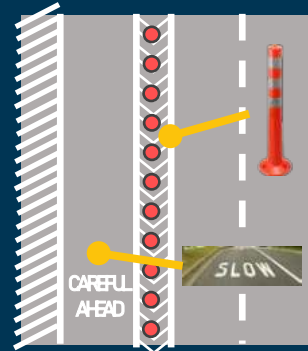
Countermeasure suggestions

MEASURE 1

Poles to Prevent Lane Changes

MEASURE 2

Road Marking to give attentions to drivers







EARTHQUAKE

EMERGENCY INSPECTION

AFTER EARTHQUAKE

OUR PRIORITY

☞ TO KNOW WHAT IS HAPPENING IN ORDER TO REDUCE THE **SOCIAL IMPACTS** BY EARTHQUAKE

1 TRAFFICS

Cars stacked, Accidents, Injured Drivers

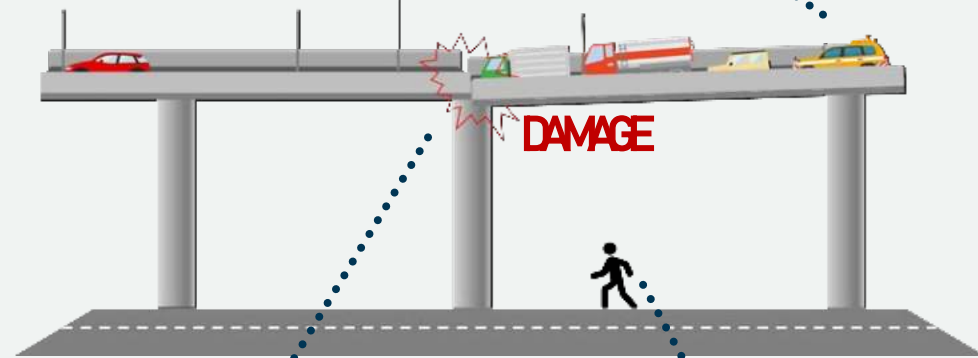
2 SURVEY

Check Damages to Pavements & Structures

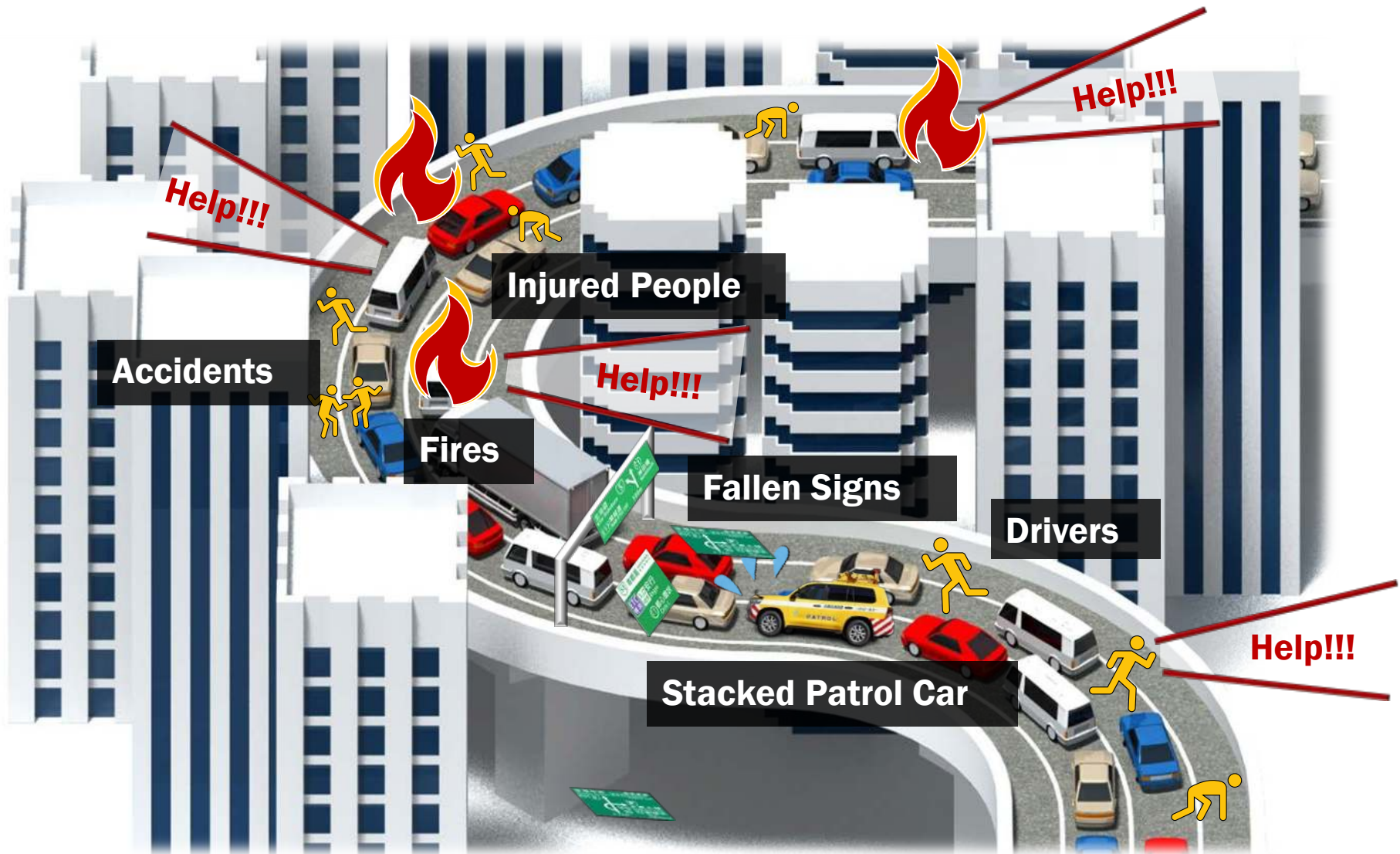
3 OTHERS

Any other incidents we should know

4 WAYS TO GRASP THE SITUATION



BUT... Imagine the Moment After Earthquake



FUTURE INSPECTIONS WITH AI

EMERGENCY
INSPECTIONS



AGREGATE INTO DRONE with AI



AUTOMATION



DRONE with AI

EMERGENCY INSPECTIONS

INSPECTION DRONE

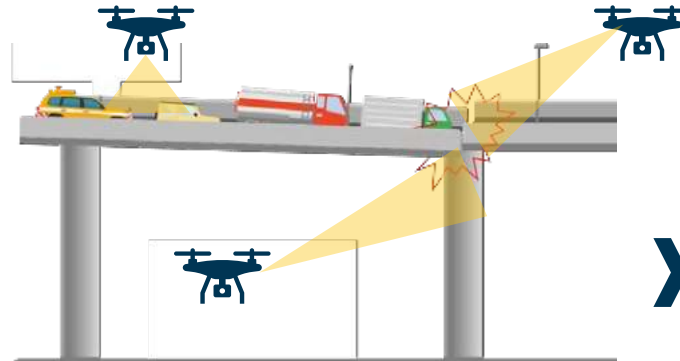


Automatically

- Launch
- Fly
- Inspect
- Detect
- Collect Data
- Reference Data
- Mapping
- Report



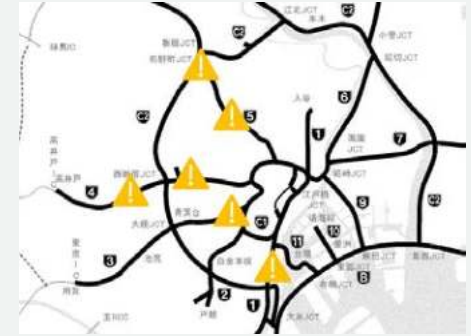
DRONE BASE



INSPECTIONS



MAPPING



COUNTERMEASURE



WHAT WE EXPECT



Wide + Broad Eyes to Watch and Detects Incidents



More Efficient + Optimized Operation and Management



Reduce the Costs for Operation and Management



Improvements in Accuracy and Data Analysis

MODERN TECHNOLOGY

Never Stop Running

and

We Never Stop

DEVELOPING + SEEKING



What we “**HUMAN**” will and need to do is to Find Out the Way to Create **ADDITIONAL VALUES** with **MODERN TECHNOLOGIES**



Future is always filled with Fun



OUR NEW TEAM IN THAILAND

SHUTOKO INTERNATIONAL THAILAND



ESTABLISHED IN JUNE 2024

COME VISIT US AND
FEEL FREE TO CONTACT US



02-017-5773



THANK YOU

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