SMART+
SAFE CITY

**NCS Smart & Safe City
Centre of Excellence**

Smart Transport Requires Real-time Data

Sing Mong Kee
Practice Director, Transportation
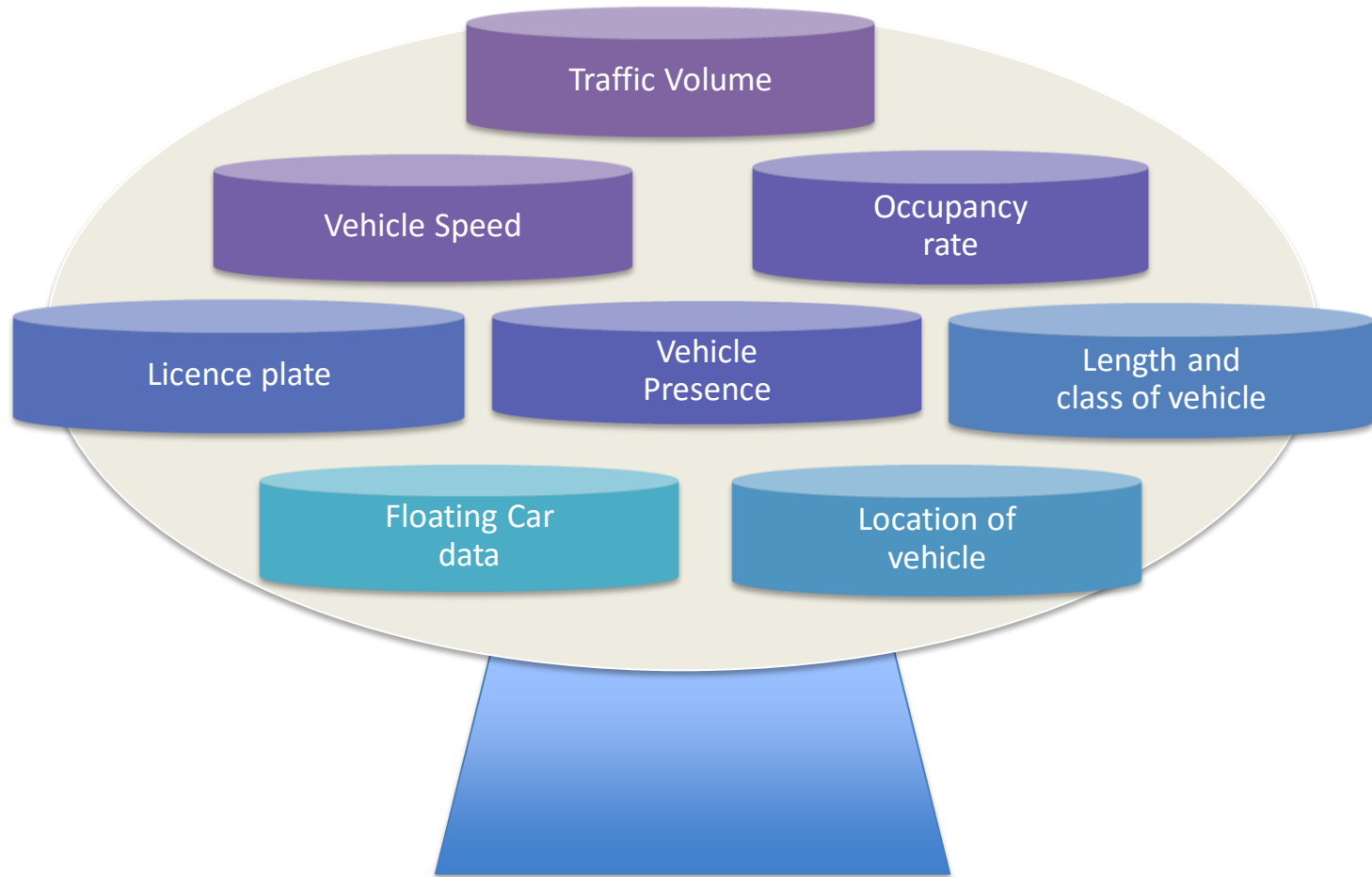
26 May 2016

Intelligent Transport Systems (ITS)

Operation Efficiency

Real-time Information

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ITS Deployment Statistics

Source: Land Transport Authority 2014

Types of Data

Traffic Volume

Vehicle Speed

Occupancy rate

Licence plate

Vehicle Presence

Length and class of vehicle

Floating Car data

Location of vehicle

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Should you encounter any issue with this Interactive Map, please report it to us via the Feedback Form. Thank you!

On-the-Roads Directory

Traffic Speed

Expressway

	> 60 km/hr		< 40 km/hr
	40-60 km/hr		No Data

Arterial Road

	> 40 km/hr		< 20 km/hr
	20-40 km/hr		No Data

Incidents/Alerts

Accident · Breakdown · Heavy Traffic

Road Work · Other Incidents

Traffic signal down

Traffic Camera and ERP

Camera

ERP ERP

Click here for details of ERP Rates.
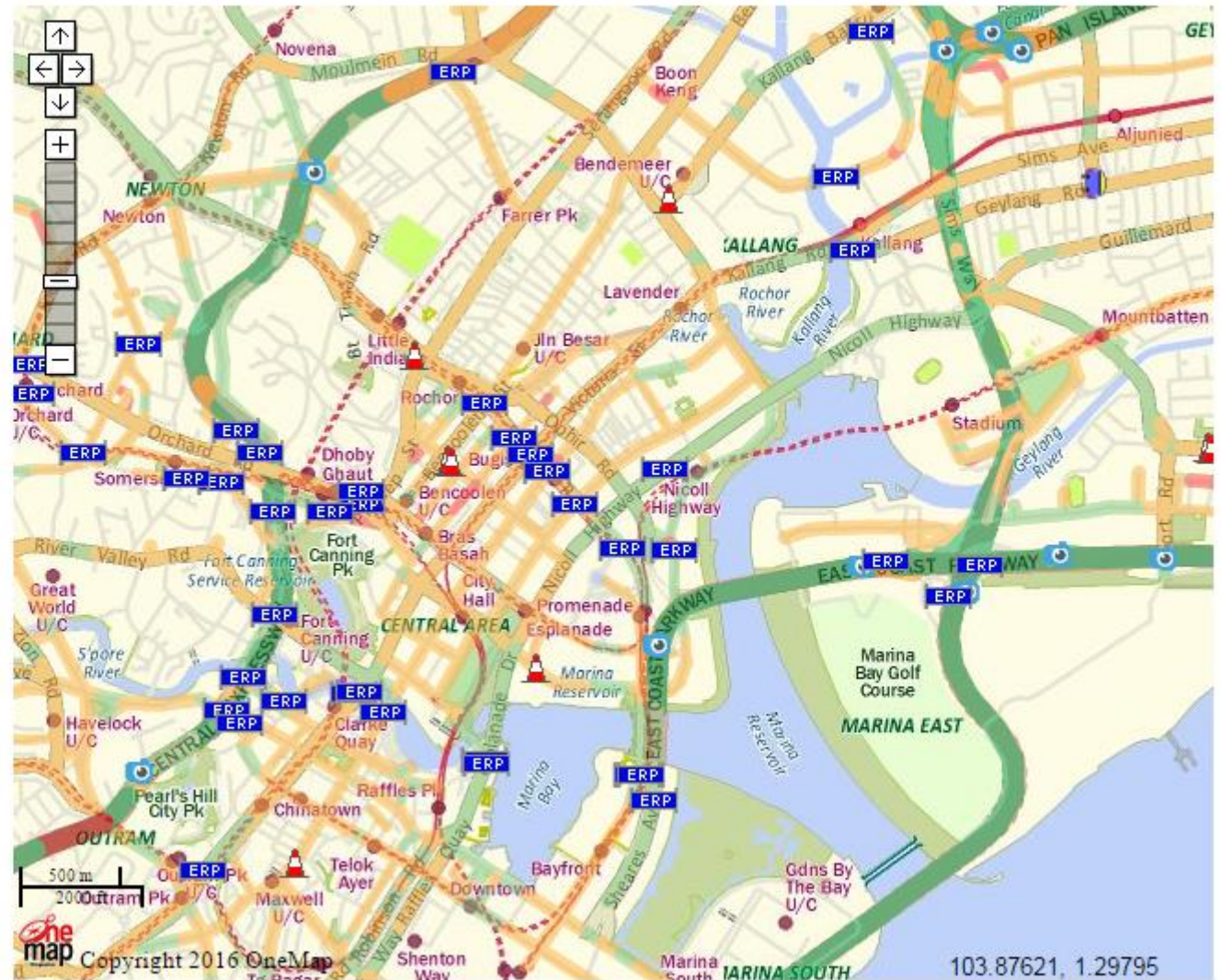
Parking Lots Availability

P

Traffic News

(17/5)9:58 Roadworks on Thomson Road (towards SLE) after Chancery Lane. Avoid right lane.

(17/5)9:58 Roadworks on TPE (towards SLE) after Tampines Ave 7 Exit.
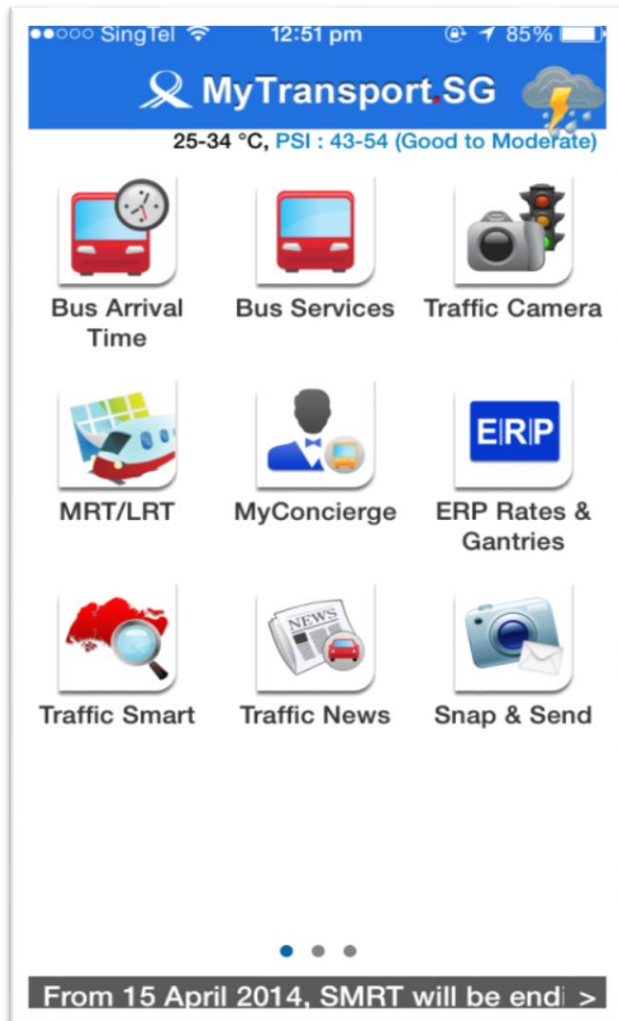
one map Copyright 2016 OneMap

103.87621, 1.29795

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MyTransport.SG – LTA's Mobile App

- **Traffic and transport information from multiple sources captured onto a single mobile site**

- **One-stop mobile site, simplifies the process of checking road conditions, traffic news, parking availability and public transport services**

- **A mobile transport companion to give motorists and commuters a smooth journey**

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Incident Management System

Detection → **Confirmation** → **Response** → **Dissemination**

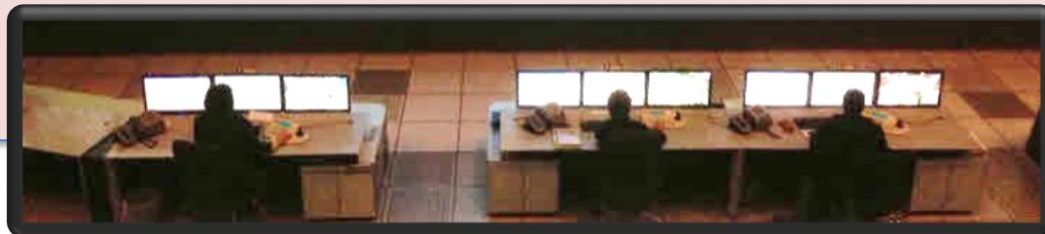Group Enterprise

Smart Card for Daily Transactions

Contactless Stored Value Card for Fare Payment

Electronic Road Pricing System

Extend Green Man Time (Green Man +)

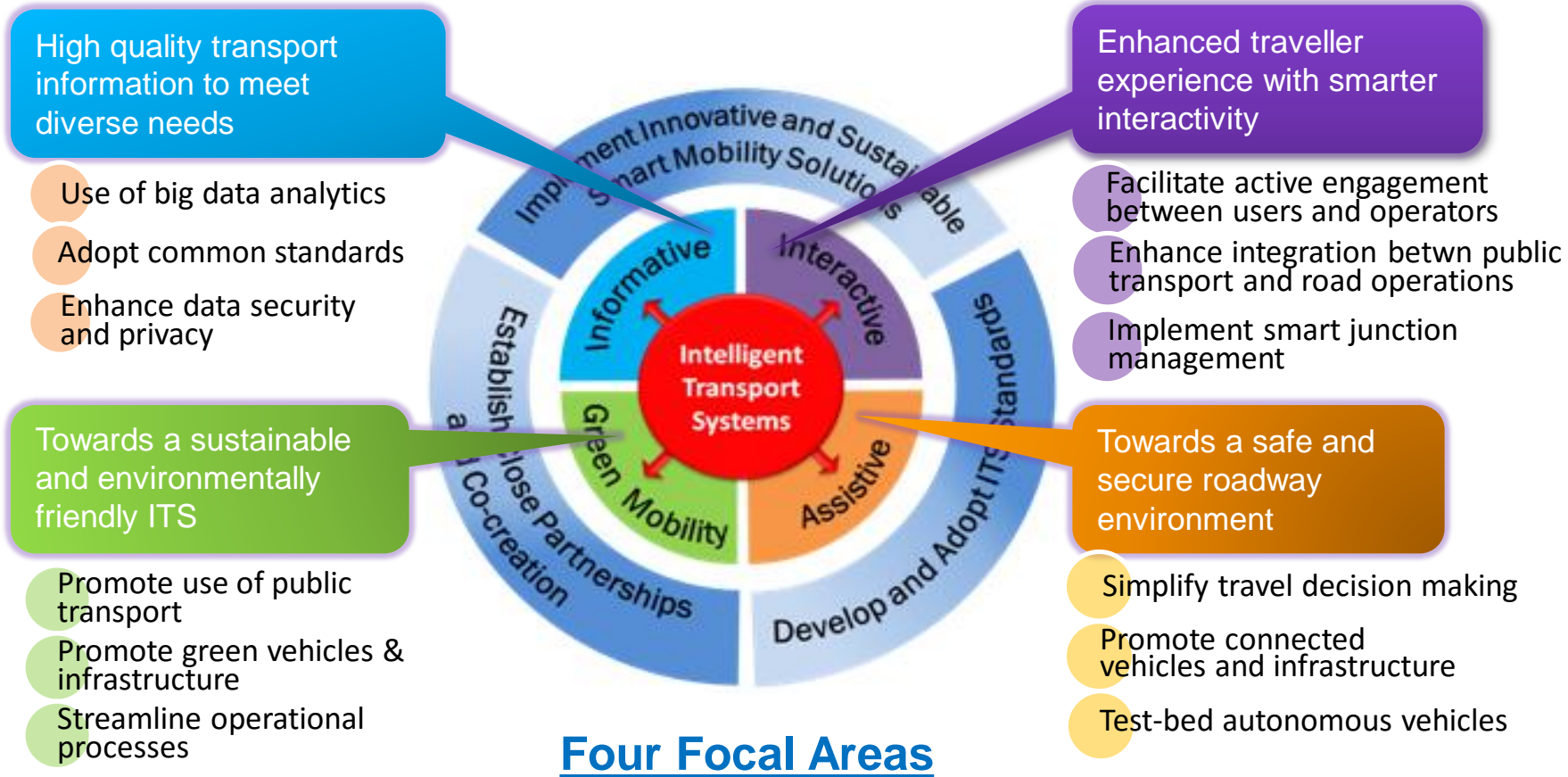Shopping, Retail, F&B, Entertainment, etc.

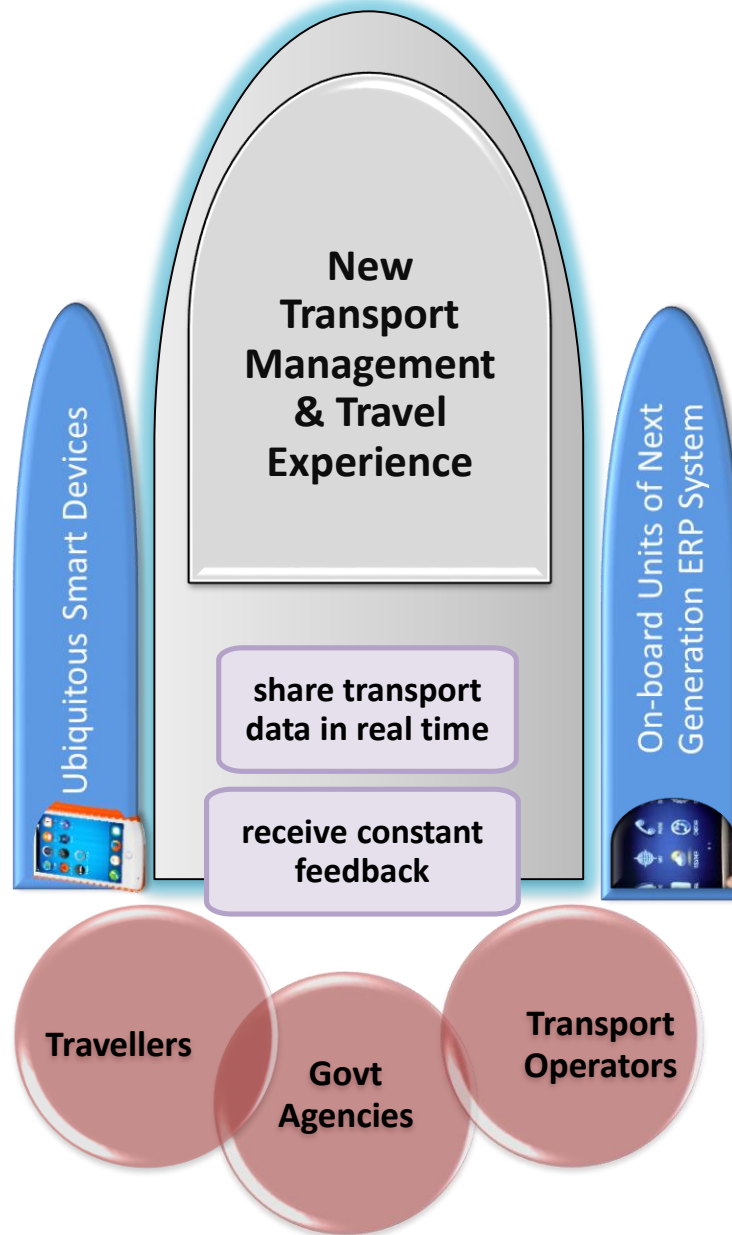Student ID

Electronic Parking System

Smart Mobility 2030

Vision: Moving towards a more connected and interactive land transport community

High quality transport information to meet diverse needs

- Use of big data analytics
- Adopt common standards
- Enhance data security and privacy

Enhanced traveller experience with smarter interactivity

- Facilitate active engagement between users and operators
- Enhance integration betwn public transport and road operations
- Implement smart junction management

Towards a sustainable and environmentally friendly ITS

- Promote use of public transport
- Promote green vehicles & infrastructure
- Streamline operational processes

Towards a safe and secure roadway environment

- Simplify travel decision making
- Promote connected vehicles and infrastructure
- Test-bed autonomous vehicles

Four Focal Areas

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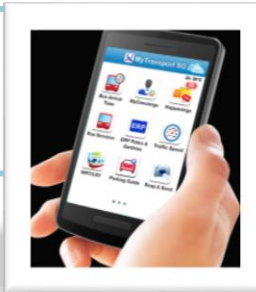
Transport Community of Future
A well-connected & interactive transport community

Real-time Multimodal Journey Planner

Enable seamless and pleasant travel experience across different transport modes

Use the smart phone platform to request, pay and receive real time updates for the services
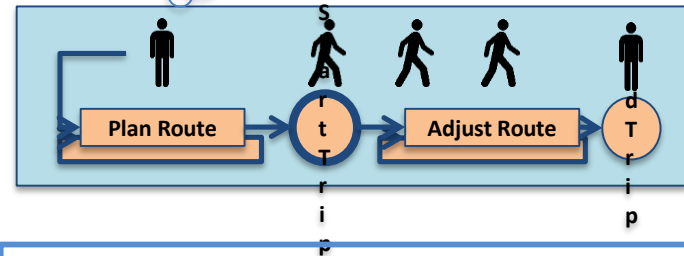
Considerations

- Distance
- Travel time
- Cost
- No. of transfers
- Walking distance
- Sheltered

- Wheelchair accessibility
- Personal preference

Start Trip

| Plan Route | | Adjust Route | End Trip |

Recommend the best combination of transport modes to reach destination based on traveller's preference or criteria

Dynamically reoute or advise travel on other transport modes based on new transport incident information

Intelligent Fleet Management System
School Buses

Fleet optimisation and planning	Real time monitoring of vehicles	Sharing information with other systems	Customers monitor and provide feedback

Parents

Tracking Visualisation

① GPS Satellite
Obtain location information by GPS

③ Operator
Track and mange location of drivers and vehicles by PC at your office.

Internet Network

Our Server

Mobile Network

School Children

② Fleet Vehicle
Transmit location data to our server at a regular time interval through mobile network and internet.
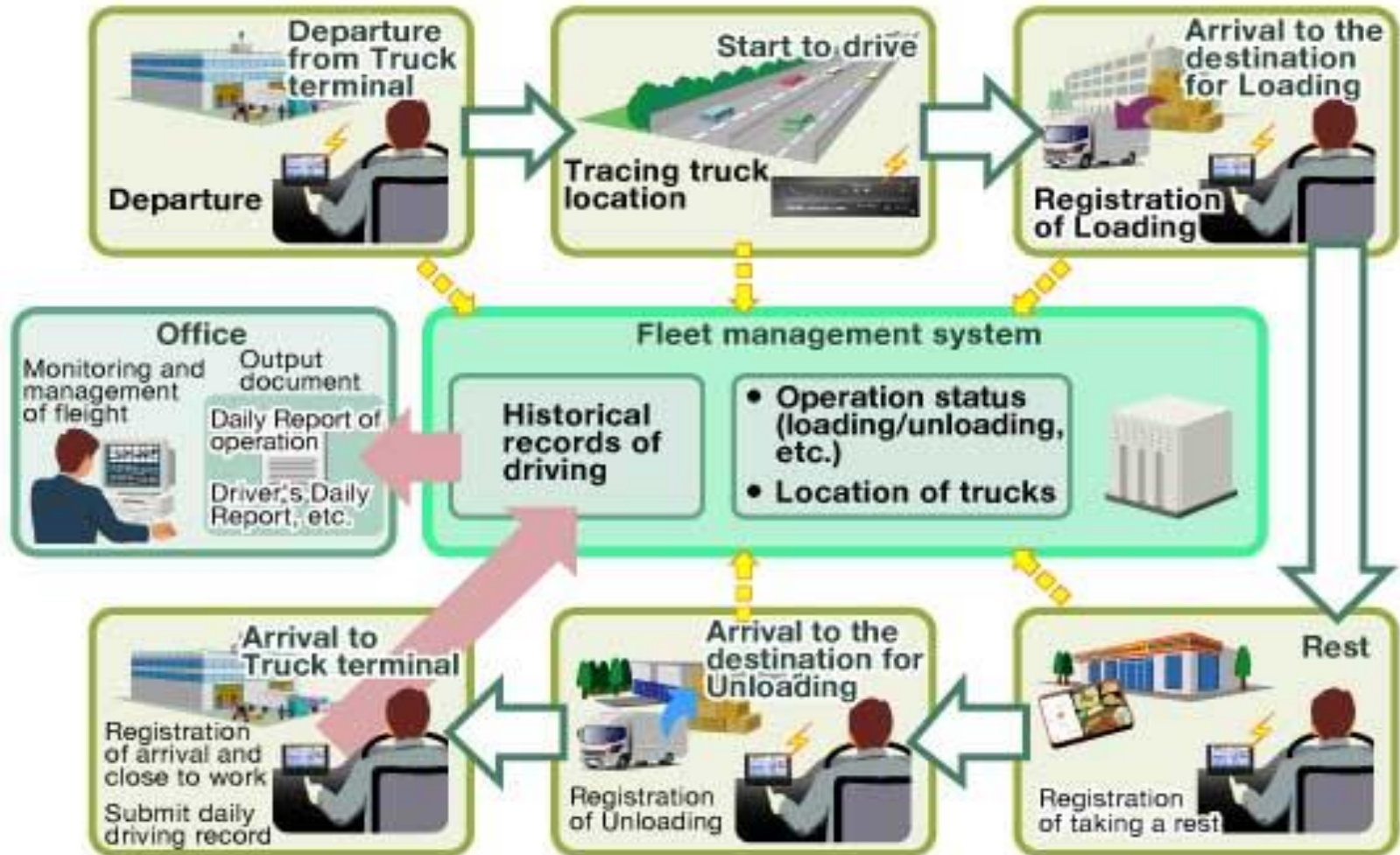
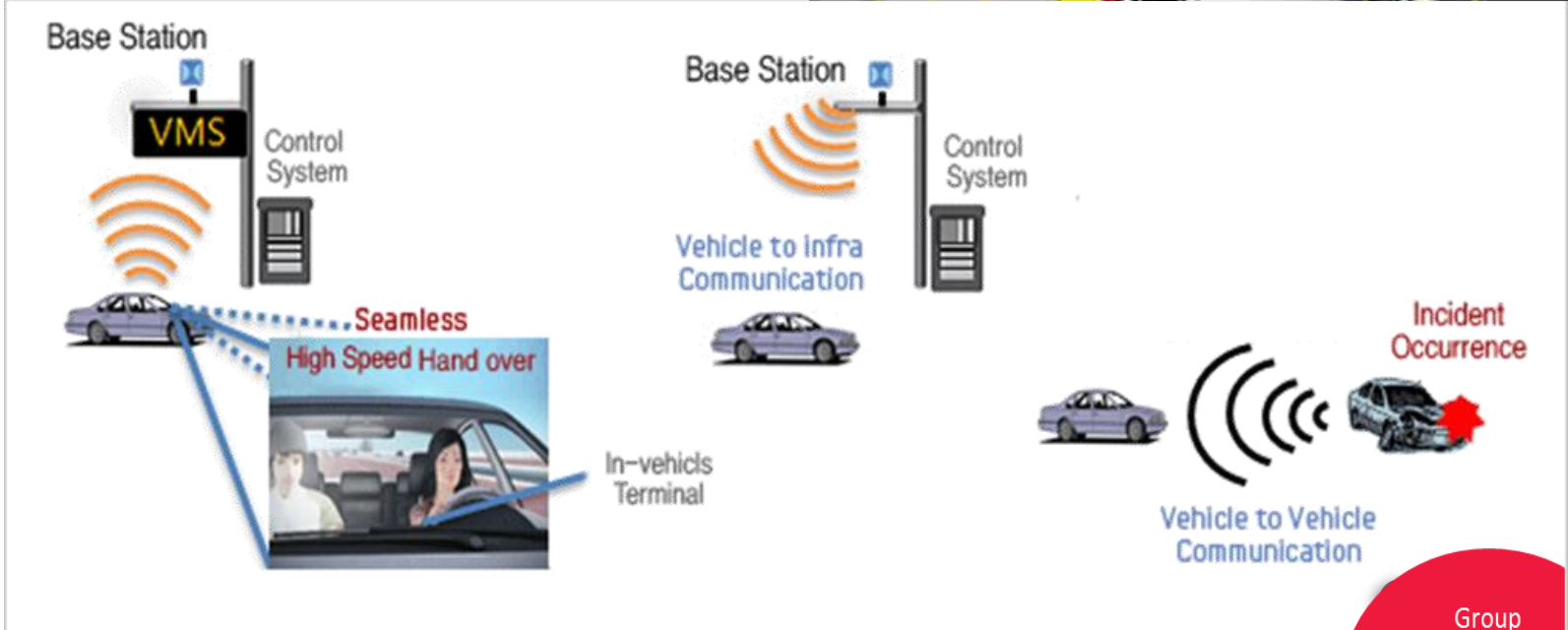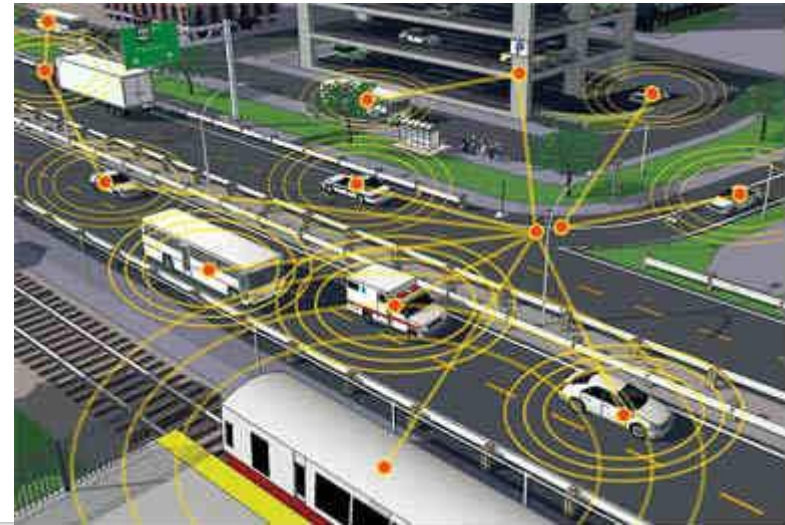Bus Operator

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Intelligent Fleet Management System
Delivery Trucks

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Mobility Information, Safety & Emergency System
V2V & V2I Communication

Mobility Information, Safety & Emergency System