

Introduction of R&D on Korean e-call system establishment

2019





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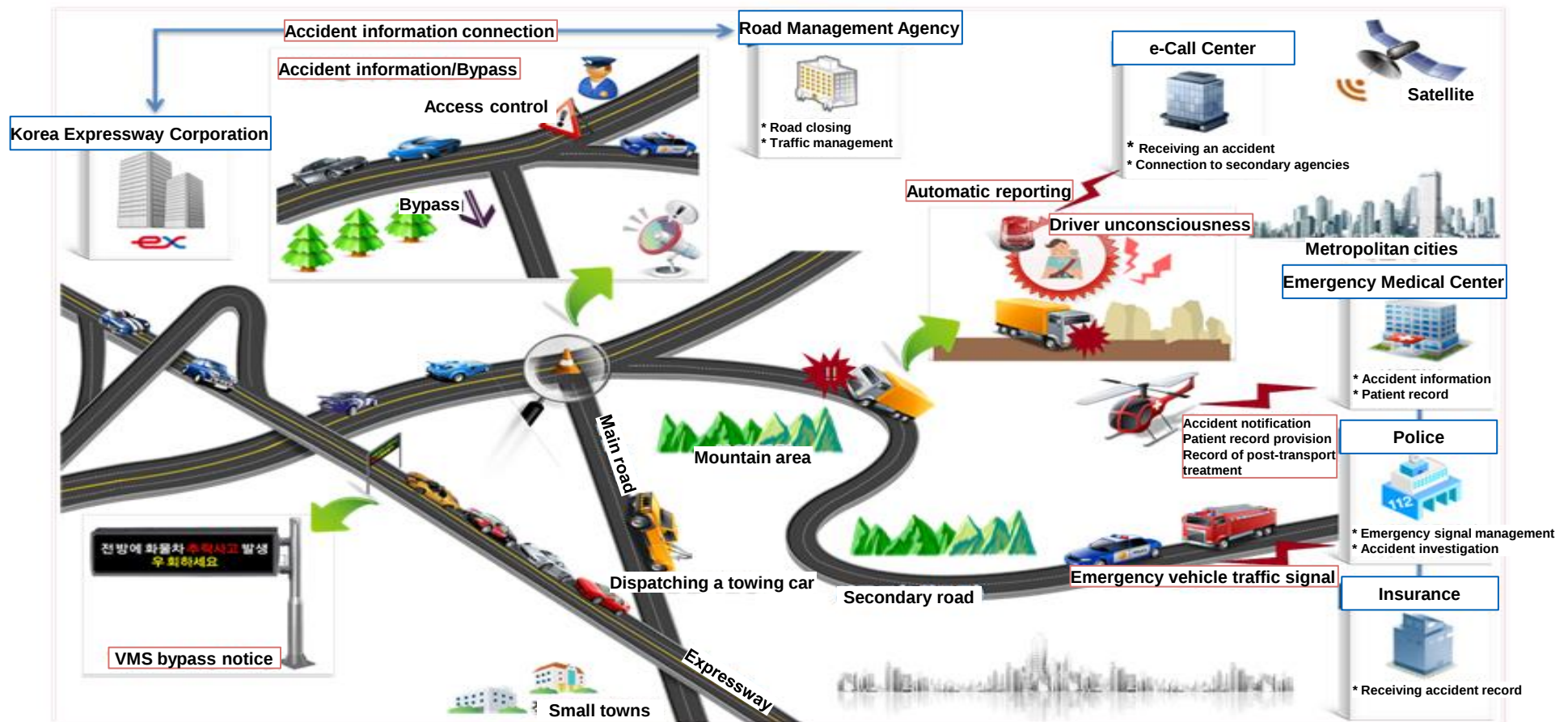
01

Introduction

e-Call system introduction



e-Call service is an effective accident response system that automatically detects an incident with sensors embedded in the vehicle, sends accident information to a control center and notifies the accident to the rescue agency for asking rescue activities and other emergency supports when a car accident occurs



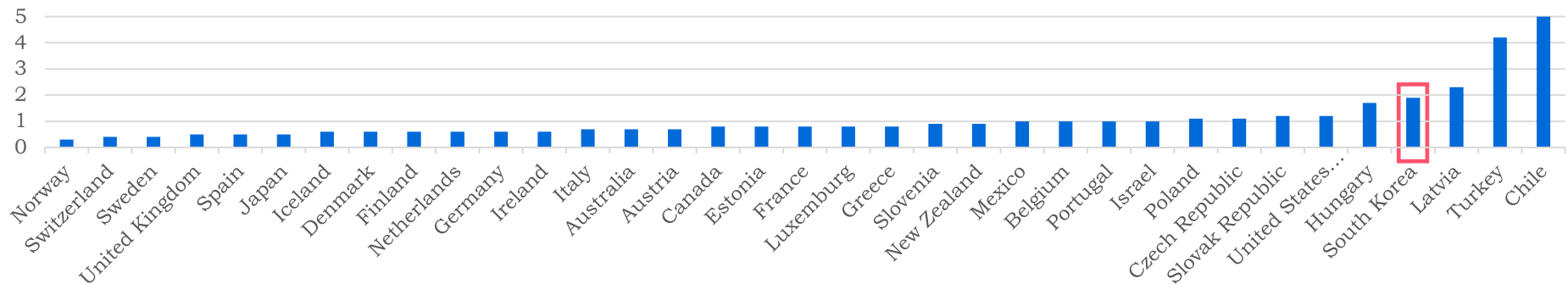
Research requirement



Traffic accident status and importance of accident response

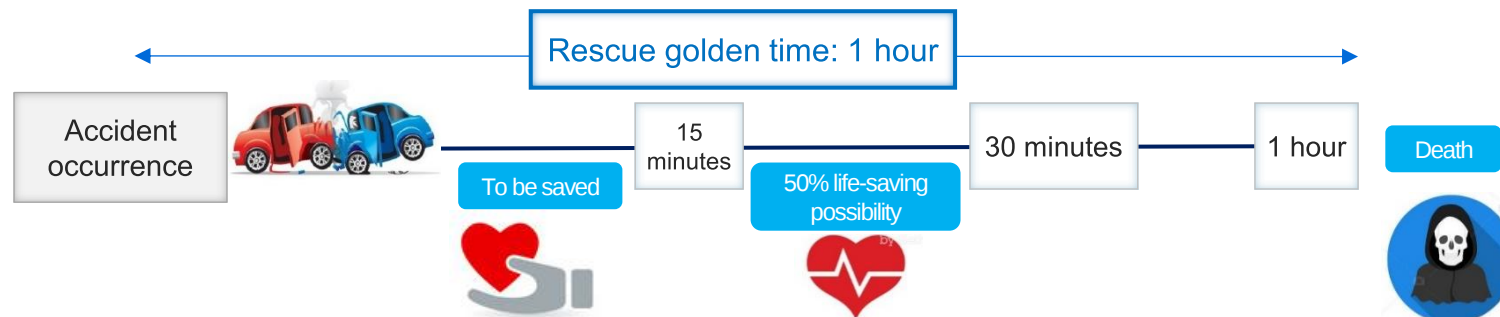
High traffic accident rate

- With 1.9 deaths in traffic accident per 10,000 vehicles, Korea is ranked 32nd among the members of OECD.



The golden time for saving the life of a seriously injured person.

- Life can be saved if rescued less than 15 minutes, but 50% after 30 minutes and death if more than 1 hour passes.



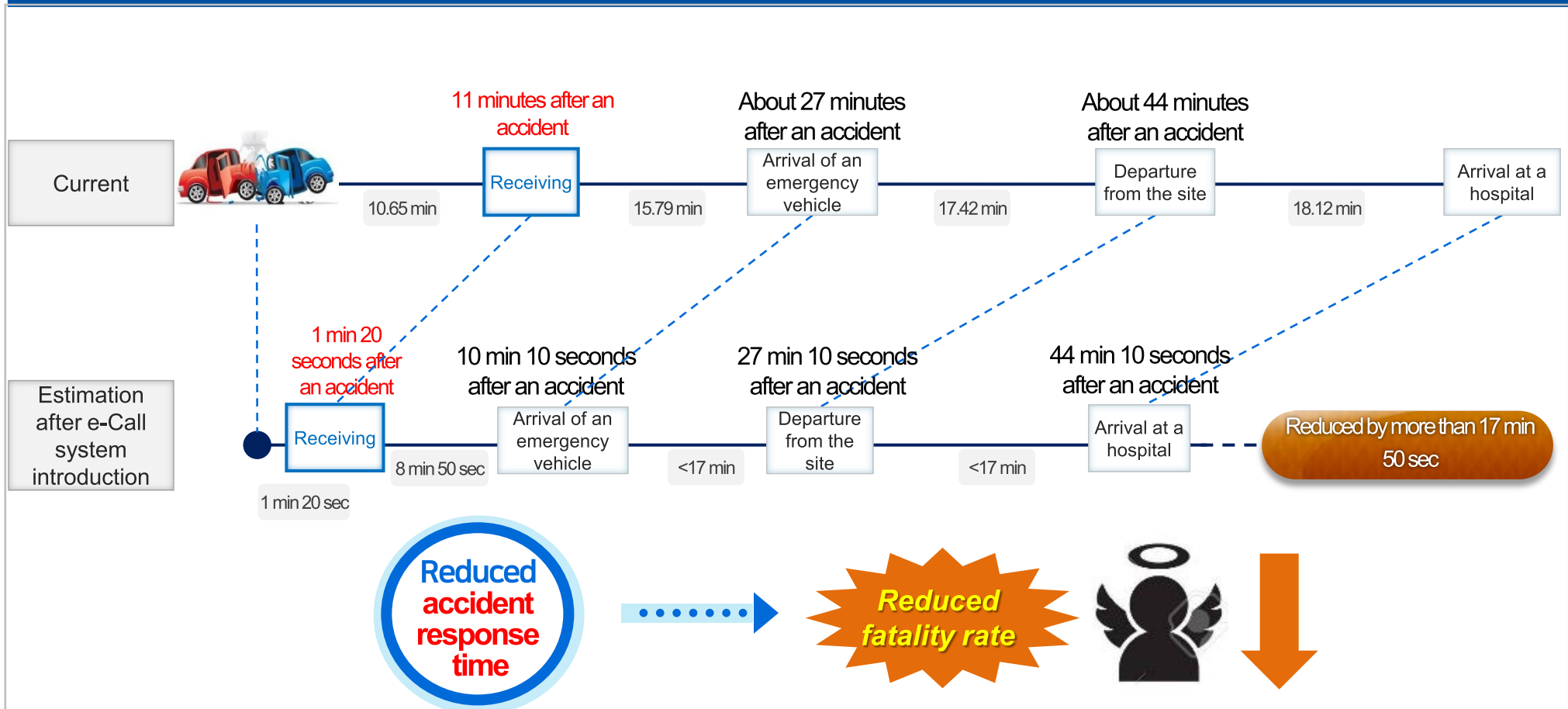
Expected effects



Reduced accident response time when e-Call is installed.

- ✓ Reduced response time by fast accident reporting → Fatality rate decrease

Accident response time before and after the introduction of the e-Call system





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02 Research

Overview of Korean e-Call System Research Project

Title

- e-Call Development based on automotive ICT (MOLIT)
- Automotive ICT based e-Call standardization and after-market device development (MSIT)

Period

- Sep., 2015 ~ Dec., 2019 (about 4 years)

Budget

- A total of ₩15,820 million(about \$1.41 million)

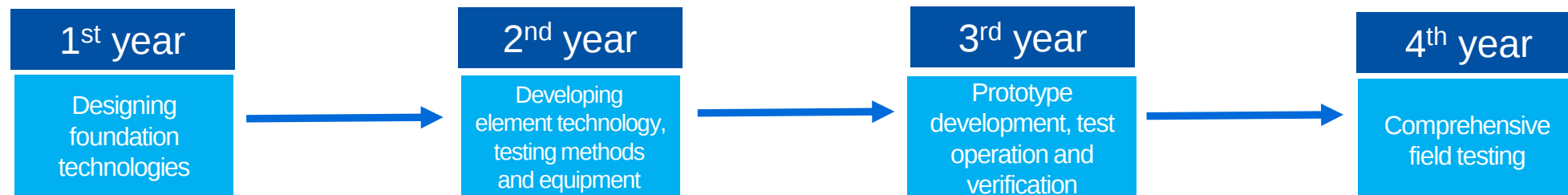
Objective

- Development and provision of e-Call service

Participating organizations



Key items

☒ Multi-department collaborative research

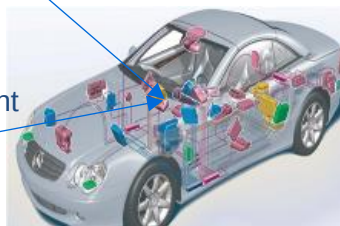
After Market Equipment



Pre-Installed Factory Equipment



e-Call Terminal



e-Call Center Platform



e-Call Center

Platform development by related secondary institutions



Communication Standard

Standardization/Testing
/CertificationLegal/institutional
improvement

Business model



Architecture development

Research
items

Comprehensive Field Testing



Overview of comprehensive field testing 2019

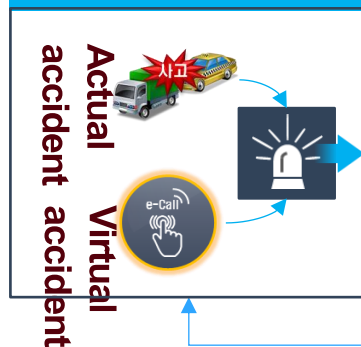
Comprehensive Field Testing

- Objective is to secure the compatibility of the e-Call system and verify its commercial possibility.
- The test sites are Anyang and Hwaseong located in the southern part of Gyeonggi-do
- Number of on-board e-Call units – 200 units (100 units in Anyang and Hwaseong, respectively)
- Target vehicles – Taxis being operated in the test sites and vehicles of researchers
- Period – from May to Oct., 2019



Test System

On-board e-Call unit

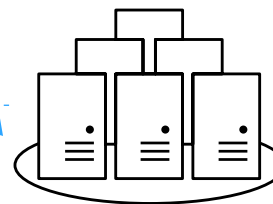


The occurs of an accident

Accident information transmission

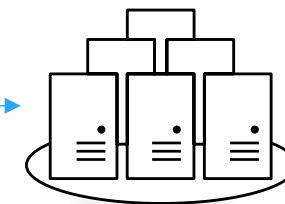
Voice communication

e-Call Center



Information exchange

Target centers to be linked



Dispatch to the site





CHAPTER

03 Outcomes

Standards



The establishment of standards related to the e-Call system

ITSK Group Standard – 9 cases

- Vehicle Emergency Rescue System(e-Call) – Chapter 1: Reference structure
- Vehicle Emergency Rescue System(e-Call) – Chapter 2: On-board unit requirements
- Vehicle Emergency Rescue System(e-Call) – Chapter 3: e-Call center requirements
- Vehicle Emergency Rescue System(e-Call) – Chapter 4: Min. accident data structure
- Vehicle Emergency Rescue System(e-Call) – Chapter 5: Security requirements
- Vehicle Emergency Rescue System(e-Call) – Chapter 6: Additional MSD information registration & management procedure
- Vehicle Emergency Rescue System(e-Call) Test Standard – Chapter 1: Interoperability
- Vehicle Emergency Rescue System(e-Call) Test Standard– Chapter 2: Functional suitability of standard on-board units
- Vehicle Emergency Rescue System(e-Call) Test Standard– Chapter 3: Functional suitability of AM on-board unit

TTA Group Standard – 2 cases

- Vehicle Emergency Rescue System (e-Call) Protocol – Chapter 1: Min. accident data transmission protocol
- Vehicle Emergency Rescue System(E-Call) Protocol – Chapter 2: Vehicle sensor data transmission protocol



International ITU Standards – 3 cases

- Requirements and capability framework for IoT-based automotive emergency response system
- MSD for automotive emergency response system
- MSD transfer protocol for automotive emergency response system

Test of the developed product

e-call Test of the developed e-Call system technology

Test evaluation of the e-Call system

- Checked the operation of the e-Call system in a real vehicle , interoperability between the on-board unit and the center and its commercial possibility.



Frontal-impact test striking a wall head on



Moderate overlap test



Side-impact test



Small overlap test

Participated in the e-Call TESTFEST

- Participated, first in Asia, in the e-Call center section of the 6th eCall TESTFEST
- Evaluated the interoperability with a total of 18 on-board unit manufacturers.
- Passed all of the 17 test items



Certification of participation and evaluation in the 6th e-Call TestFest



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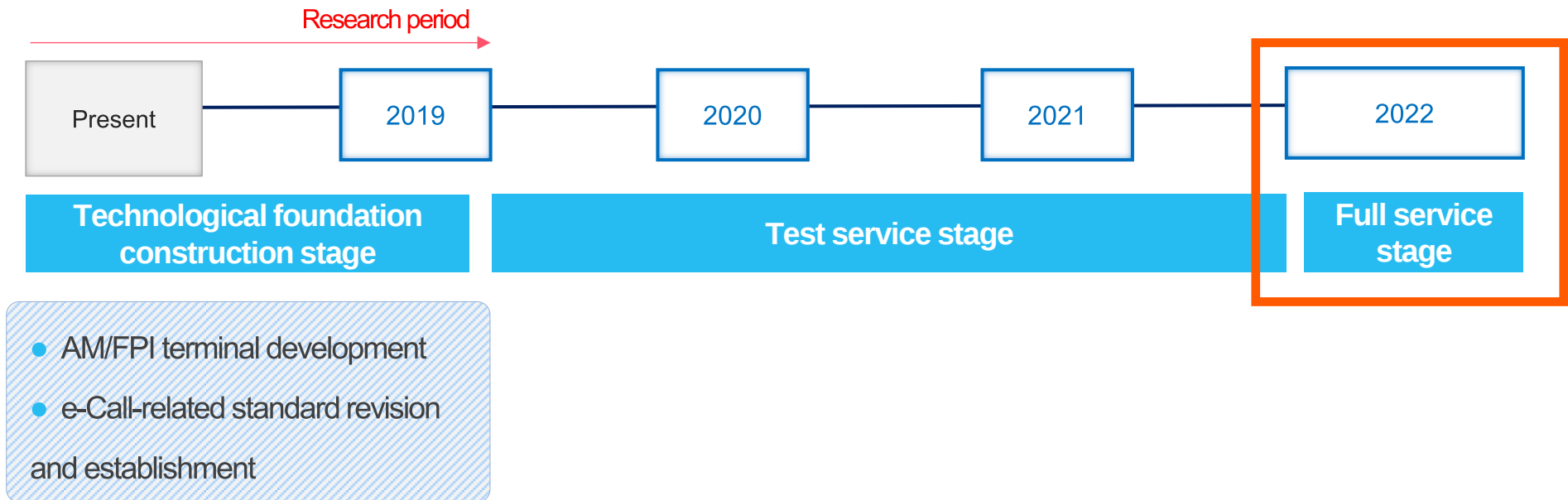
04 Issues

Roadmap



Korean e-Call Roadmap

- Planning to introduce the service by 2022.
- Securing technological foundation between 2018~19 → Test service between 2020~21 → Full implementation of the service by 2022.
- Research completion test will be conducted in 2019.

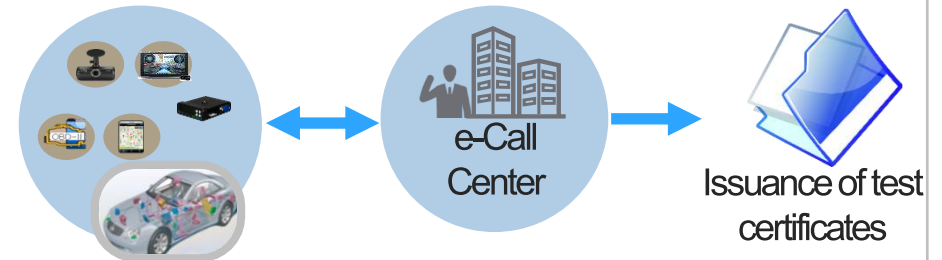




Issues related to the introduction of e-Call service

Korean e-Call TestFest

- Objective is to confirm the interoperability between the developed e-Call terminal and the center system.
- Venue and time: not determined.
- Participants: Developers of e-Call terminals and center system



NG eCall introduction

- Lack of standard for the new communication protocol
- Insufficient support from telecommunication providers for the use of NG eCall



Connection to TPSP (Third Party Service Provider)

- Discussion of the system between car makers and stakeholders of e-Call system in the e-Call forum.
- Talks on how to co-work with TPS with various stakeholders including Korean Automobile Manufacturers Association, car makers and Telecommunication Technology Association





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05

Other

Other matters

Inquiries from European e-Call persons

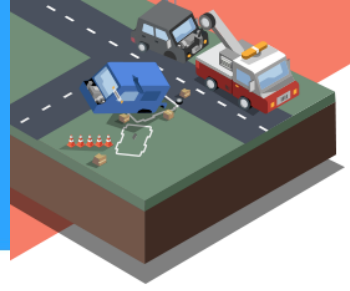
- Distribution of e-Call terminals and service
 - Introduction of the service
- Issues that may occur when the service is introduced.
 - How to handle false reports and reports on minor accidents?
 - Operation method and number of centers



Upcoming schedule in Europe

- Participating in Testfest
 - Planning to participate the e-Call center section of the eCall TestFest in March, 2019.
- Participation in eCall Days
 - Planning to the eCall Days seminar in October, 2019





Emergency Call

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Thank you