

# Research Trends and Results

## A joint research concerning the next generation's cooperative ITS development

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### 1. Introduction

This joint research examines architecture, system, and domestic and foreign general development about next generation's cooperative ITS, and it comprises 14 companies in total; 2 expressway companies, a mobile phone company, 8 electric machine manufacturers and 3 car companies, and NILIM.

The first stage of the joint research takes place from September, 2012 to the end of October, 2013. This text reports on the grasped content of the joint research.

### 2. Current state of ITS service

There are several forms of information service between road infrastructure such as ITS spots and car navigation by communication (road-to-vehicle) and car communication such as ASV (inter-vehicle communication), and each one is currently constructed as an independent system.

The cooperative ITS coordinates communication methods and data form regarding road-to-vehicle and inter-vehicle communication, and it achieves many ITS service applications by linking both systems and supporting each other. (Figure)

In Europe and America, international standardization concerning the cooperative ITS is rapidly advanced by being strongly supported by the government, and development of ITS cooperative system is important in an international development of Japanese ITS technology.

### 3. Selection of object service

The investigators adjusted opinions of the object service and selected 196 services. These were classified into seven fields such as, safety drive support, smoother traffic flow, environment improvement, comfort ability improvement, emergency treatment, administrative support activity and economic support activity.

Next, about each service, it defined the details referring to "Service details definition sheet" used by "System

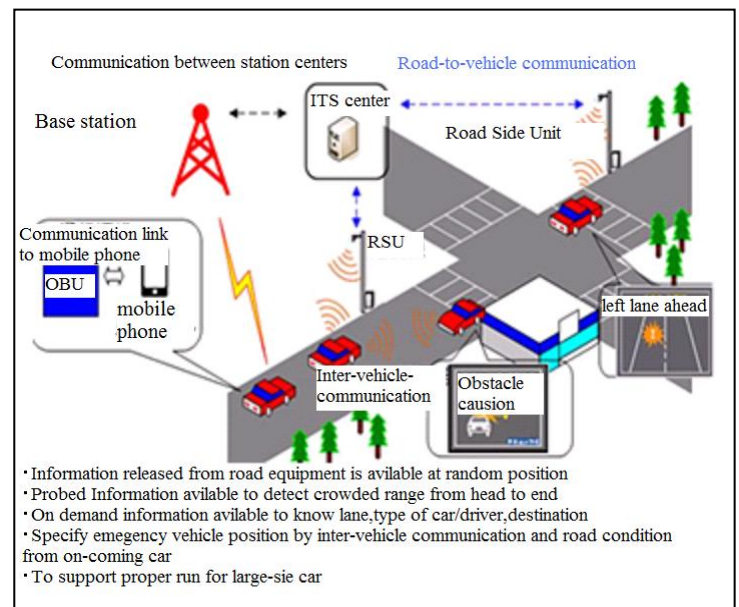


Figure. Image of cooperative ITS

architecture related to ITS" in November, 1999 (cf. Reference)

And, it examined the physics model arranging the relation of information exchanged between user and systems in each service, and the logical model arranging the relation of function and information treated.

### 4. How to advance the research in the future

It is scheduled to select the service emphatically, to examine the system configuration, and to make the road map for the domestic development by October, 2013.

It is scheduled to make specify the prototype, to examine the development, proving test, and to make the technological specification & standard after November, 2013.

#### 【Reference】

System architecture related to Intelligent Transport System (The National Police Agency, the Ministry of International Trade and Industry, of Transport, of Posts and Telecommunications, and of Construction in November, 1999)