ONE BIG STEP FORWARD IN THE TELEMATICS REVOLUTION : JEJU TELEMATICS PILOT PROJECT

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ABSTRACT:

One of the latest wonders brought to us by ICT(Information and Communication Technology) is telematics turning automobiles, not long ago a mere means of transportation, into a whole-new digital living space. Telematics is indeed fast becoming a household word, and countries around the globe are giving spur to research and development of core technologies to acquire competitiveness in related IT sectors.
This paper discusses the telematics pilot project launched in Jeju to promote the development of telematics technology and stimulate related industries. The objective of the pilot project is to give impetus to research in related technologies and a head-start to Korea in the global race in this technology field. The pilot deployment, covering 6 services, promising to be most demanded in Korea's telematics environment, is sure to make a sizeable contribution toward familiarizing the public with the new technology.

KEY WORDS: Telematics, Pilot Project

1. INTRODUCTION

Telematics is a multimedia information service, conveniently delivering location information to drivers and passengers on the road, provided through mobile communications networks. The tremendous benefits of this innovative technology, transforming what used to be a simple transportation means into a site with access to multiple digital services, are quickly making telematics services indispensable.

Recognizing the potential of this sector, Korea's Ministry of Information and Communications has chosen telematics as one of the 9 next-generation IT sectors [1] to receive policy-level support, and is moving ahead with related support projects. Telematics has been also selected as one of the 10 next-generation growth engines to propel Korea's economy in coming years, namely to help attain the target GDP per capita of US $ 20,000. The telematics pilot project in Jeju to be discussed in this paper is a project carried out as part of this larger national plan, and is intended to elicit interest in the new technology among the general public [1]. The pilot project is conceived to serve national-level industry promotion goals, including 1) supplying a model and a reference to guide future effort for nationwide deployment of telematics services; 2) providing a PR and marketing platform for telematics services to promote exports in related products and leverage Korea's edge in overseas telematics market; and 3) giving the public exposure to these new services and thereby create demand.

Jeju Island, one of Korea's prime tourist destinations, has been selected as the location for the deployment of the pilot service. The rationales behind this choice are 1) that, Jeju being a cosmopolitan region, it is easy to develop and launch pilot services targeting domestic as well as overseas markets in this place; 2) that Jeju is also ideal to arrange the pilot project to cover a large population; and 3) that the island is well equipped with ITS-related infrastructure.

The pilot project is being conducted in two stages. The 1st stage, corresponding to the phase of initial deployment, will last until mid-2005, and the objectives during the 2nd stage, extending to mid-2006, are fine-tuning the deployed services and achieving stability, as well as promotion of the telematics industry and market stimulation.

2. JEJU TELEMATICS PILOT PROJECT

The telematics pilot project in Jeju was planned as a system well reflecting the specificities of Jeju as a tourist region and capable of propelling the telematics industry and related sectors, and also as an in-vehicle information system, which, while centered on road information service, also supplies cultural and tourist information and other general practical information. Moreover, it was designed as a system of an open architecture with maximum adaptability to new technologies to emerge from future development projects, in which all key technologies are fully compatible with each other.

The two large tasks in the Jeju pilot project are setting up a telematics pilot service center, on the one hand, and implementing infrastructure for the 6 basic services, on

the other. Figure 1 below is an illustration providing the overview of the telematics pilot service system.

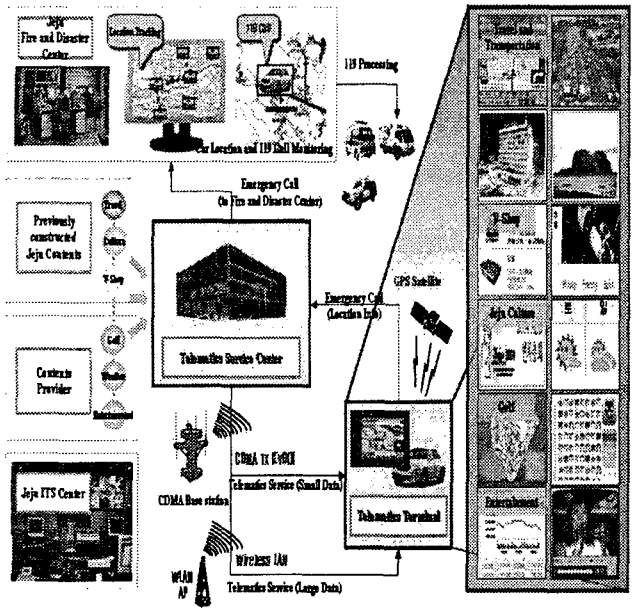

Figure 1. Overview of Jeju Telematics Pilot Service System

2.1 Telematics Service Center

The main system components in the service center for launching pilot telematics services in Jeju island are a system for supplying and controlling travel and transportation information for tourists, information on local cultural events, and other information services, including V-shop (stands for vehicle shopping), sports and leisure, and entertainment and 'Safe Jeju' service; a monitoring system with monitoring panel controlling and tracking the status of overall services; and a call center system for providing services and emergency assistance to users. The infrastructure can be divided into the following four large categories:

- o Infrastructure for providing telematics services (communications equipment, DB, servers for information supply) and TELIC (TELematics Information Center), the information-sharing system between information suppliers
- o Operator terminal system for operators and managers for managing service information and statistics
- o Monitoring system to comprehensively track status of all services provided
- o Call center system to receive emergency calls from service users and relay distress information to appropriate rescue agencies, including fire stations

Figure 2 below is a diagram providing the overall makeup of the telematics service center.

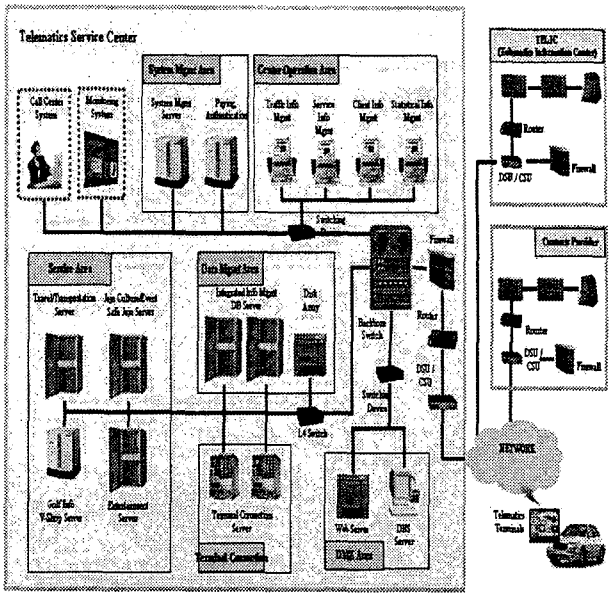

Figure 2. Diagram of Telematics Pilot Service Center

2.2 Pilot Telematics Services

Services provided through the infrastructure set up under the pilot project in Jeju fall into 6 large categories.

Table 1. 6 Service Categories

Large categories	Sub-categories
travel and transportation information service	travel and transportation information service (including POI, CNS, traffic, weather, yellow pages)
Jeju's cultural and event information service	Jeju's cultural and event information service
V-shop service	local specialty product information and online payment processing shopping information for foreigners
sports and leisure service	tourist information service about Mt. Hallasan golf information service fishing information service
Entertainment service	jukebox service MP3 service stock information service game service
Safe Jeju service	location based emergency call service

All services under the Jeju telematics pilot project are multimedia services, providing text, sounds, moving and still images. The transmission of the multimedia content may be done either through CDMA 1x, EvDO or Wireless LAN.

The travel and transportation information service suggests destinations and tour itineraries based on schedule, preferences in destinations and hobbies entered by the driver, and provides a comprehensive tourist guide service (including POI, CNS, traffic and weather information and telephone numbers), setting up and managing the full travel schedule.

Users of the cultural and event information service can receive information about Jeju island's local lifestyle and culture, and about tourist sites and events to visit and participate in. Information is also provided on international events (including conferences), exhibitions and fairs hosted on the island.

V-shop Service offers information on local specialty products and native arts and crafts of this island where there are no duty-free stores. Features include mobile shopping service, enabled with easy online payment processing, and international shopper service, providing information on select products with special appeal to international tourists that may be purchased via a simple process.

The sports and leisure service, also geared toward visitors to Jeju, displays information on mountaineering, golf, angling and other leisure activities on the in-vehicle screen. The service covers tourist information relating to Mt. Hallasan, golf courses and sea angling sites.

Using the entertainment service, providing in-vehicle digital entertainment, drivers and passengers can also retrieve stock information, in addition to karaoke jukebox service, MP3 music and games.

Safe Jeju, a GPS-based service, provides a comprehensive set of vehicle-related information, including safety and location information. The service center, automatically locating and tracking vehicles through in-vehicle GPS unit, offers emergency dispatch services. Emergencies are handled by call centers by forwarding information of users in distress to the Jeju Fire and Disaster Management Department (119), and roadside and other assistances are provided using the positioning system.

3. EXPECTED RESULTS

The Jeju Telematics pilot project, by acquainting the general public with telematics services and the ease and convenience they deliver, is expected to create markets for the new sector and spur its growth. The services made available under the pilot project can furthermore serve as a model for future deployment projects in other regions of Korea and accelerate the diffusion of telematics services. The system developed under the pilot project, giving Korea a competitive edge in the global telematics industry, may also be exported as a solution and a business model for overseas tourist regions. Telematics, an information and communications service using high-speed communications network, is a technology which can ideally thrive in Korea, a country with strong ICT infrastructure. The sector can give positive stimulus to related industries such as automobile and mobile communications. By supplying Jeju island with an efficient system to disseminate tourist and cultural information, the pilot project is likely to contribute to the growth of the local tourism and cultural content industries. Finally, the project is certain to stimulate businesses in the region and help attract more international tourists, accelerating the internationalization process for the island. The demand for telematics services, if accompanied by competitive transportation and tourism services, is bound to grow and help drive up revenues in the overall service industry of Jeju island.

4. CONCLUSIONS

This paper presented an overview of the telematics pilot project currently underway in Korea, designed to facilitate the commercialization of telematics technology and to help boost national competitiveness in the area. A service center has been already set up, and 6 telematics services are in deployment at this time. The project has now moved on to the testing stage, to ensure stable operation. Thanks to this pilot launch, telematics, not long ago a mere technological buzz-word, is being given the chance to demonstrate concrete benefits to gain ground in Korean society. This indeed is a major step forward for Korea's telematics industry.

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