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The Importance Of The Navigation System In The Movement Of Transport Vehicles

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Abstract: The platform technologies of the navigation system of vehicles in motion are developed and modeled, and since the separation of concerns due to several connection options is of great importance, it allows precise solutions to specific problems, data analysis and more accurate decision-making.

Keywords: Transport, technologies, digital platform, innovative services, Cloud, Infrastructure, management barriers.

Introduction: Vehicle navigation system efficiency Platform technologies are systems based on platform architectures that divide the system into different levels of abstraction. This is done to differentiate certain levels of functionality or services. Each abstraction layer is based on the basic services of the lower layers. The uppermost layers provide the services on which applications are built. Lower layers deal with (connected) infrastructure and (raw) data.

Vehicle platform technologies are evolving, but due to increased connectivity and the many possibilities of communication technologies, problem solving is critical. Applications don't need to know where the data is or what protocol it needs, they need services to access the data they need.

Supporting these services is the responsibility of lower layers in the platform. Currently, several platforms have been developed and are available in the field of transport and mobility. For example, GPS system, PlanIT LivingPlanIT operating system, IBM® Intelligent Operations Center, Oracle, MOBINET, In-Time, I-Travel or TNO Urban Strategy platform.

It is also possible to monitor the quality of services provided and establish fair pricing mechanisms based

on real-time demand and supply data.

Labor intensive operational activities do not require special education/training, so suitable workers can be easily found. Potential asset ownership can be avoided and organized in such a way that the risk of unused capacity is minimized and the organization is resilient to changes in demand. Availability of real-time and integrated data is a key requirement.

This is easier to determine if the entire process is in the hands of one organization. Supply and demand are more likely to match, and therefore the level of service is higher when more people use the same service.

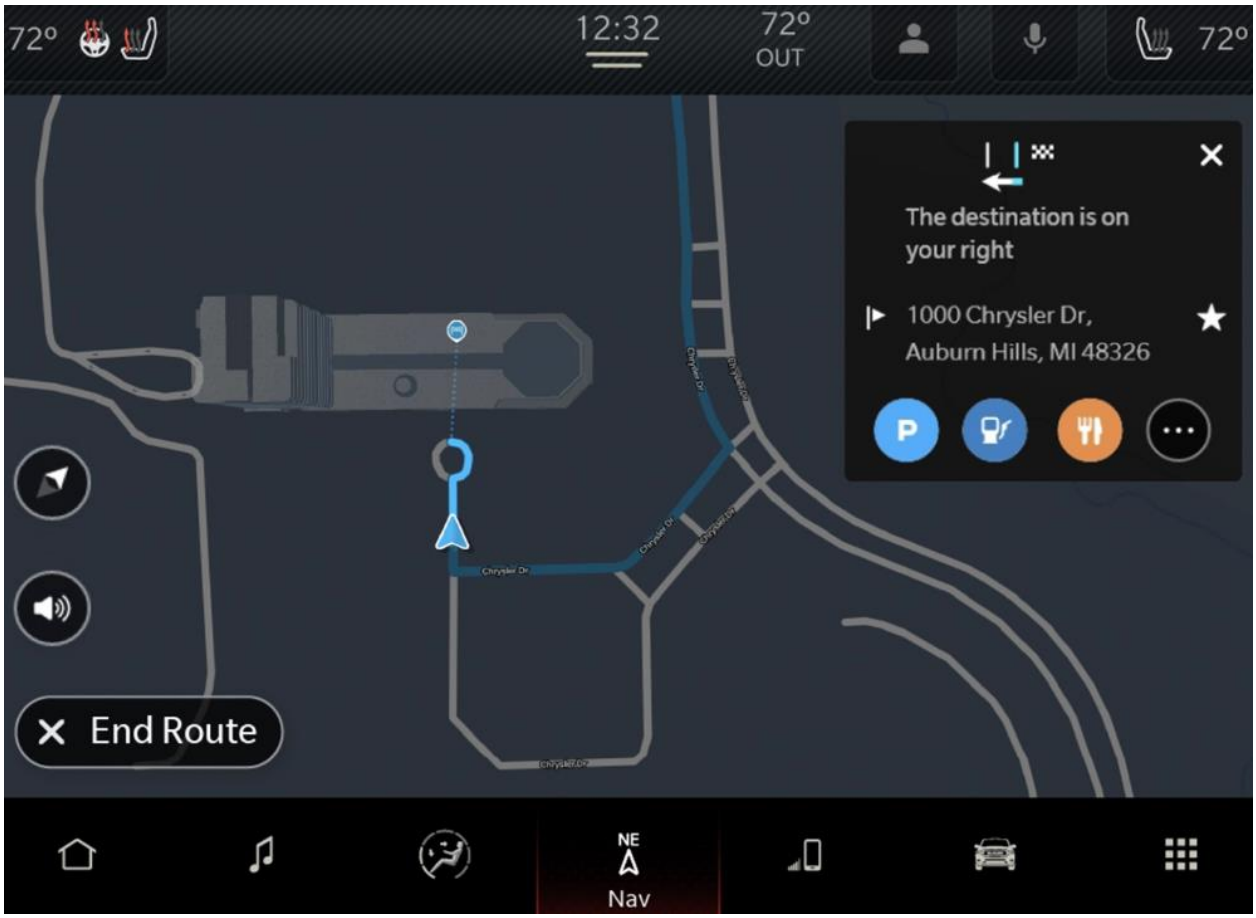

Figure 1. GPS navigation system used in vehicles.

Difficulties. Digital platforms provide concrete solutions to specific problems. But, in general, the following problems are solved.If blockchains are not open, there can be vendor lock-in, meaning that service providers offer proprietary platform services with unique governance and business models. They are open to anyone who wants to agree to it. Thus, without consulting service from the vendor, it is not easy to expand the platform to provide new services. Interoperability and standardization are needed to easily add building blocks to other services.

Many platforms focus on integrating services from specific domains.

The Services are designed for the platform and work only on that platform. Current platforms have data security and privacy issues. Each platform has its own way of dealing with this, and the average technology is not flexible enough to effectively address the data privacy and owner aspects and the ability to track where that data is being used.

RESULTS AND DISCUSSION

Also, in mobility and multimodal transport, the amount of data is growing rapidly and the complexity of managing vehicles, transport chains or transport networks is expected. As a result, it will not be possible to select optimal options using manual planning or simple data analysis methods. Thus, AI solutions can support or even supervise humans to work with large amounts of data and manage complexity in (real-time) situations.

As explained in TNO and TKI Dinalog (2020), AI applications can focus on: people and objects, including road users, vehicles, goods, sorting belts and infrastructure; processes and systems, including supply chains, transport hubs, transport, policies and regulations.

Smart applications in mobility and logistics such as self-driving vehicles (cars, trucks, trains, barges), smart

electric charging, predictive maintenance, self-learning energy and waste management, cooperative mobility, shared economy and self-organization. logistics.

The main objective is to explore possible reasons for this slow adoption and to assess how recent technological advances have changed the landscape, thereby helping to overcome these barriers. Thus, the contribution of this review is twofold: it advances existing knowledge by providing an up-to-date overview of existing and emerging ICT applications in multimodal transportation and existing electronic multimodal transportation barriers.

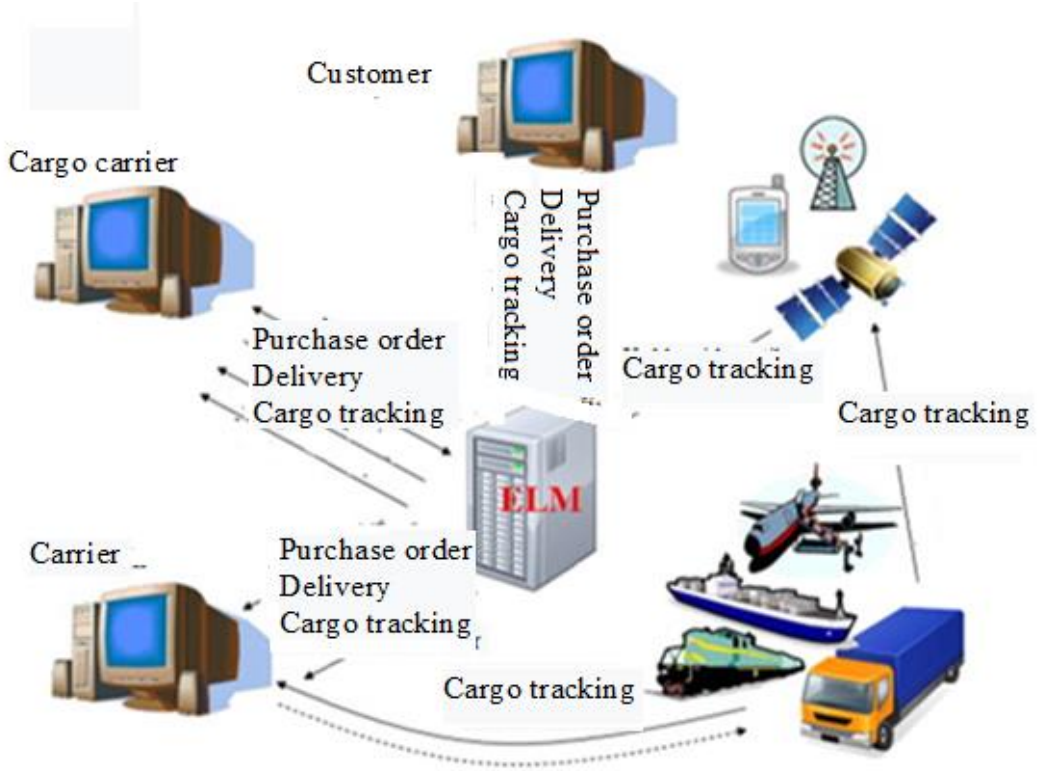

Figure 2. General point of closed ELM operating model.

For example, a driver arriving at the terminal can use the built-in application to scan his mobile phone to notify the operator of his arrival, and then provide immediate feedback on where to drop off the goods on the mobile device. If the mobile device has GPS enabled, it can automatically notify the driver of the next task. The app can be expanded for faster customs clearance, real-time tracking of goods and dangerous goods guidance. Technologies can overcome a number of barriers to ICT adoption, including company size, integration visibility issues, and financial constraints. Container tracking is another area of the Internet of Things.

Container tracking typically relies on RFID tags attached to shipping containers, boxes and pallets, which are then read at various points along the way. A limitation of using RFID only for container tracking is that the data can only be captured if the appropriate infrastructure such as RFID readers is available.

Information processing systems are needed to organize the multimodal transport process. Information transport systems include the collection, storage and transmission of information. Due to the large flow of information and the presence of various parameters, there will be growth and development in this field only if the information and communication systems are at the level of demand.

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