1 ИНТЕГРАЦИОННЫЕ ПРОЦЕССЫ МИРОВОЙ ЭКОНОМИКИ: ВЕКТОР КАЧЕСТВА В РАЗВИТИИ ЭКОНОМИКИ И УПРАВЛЕНИЯ ТРАНСПОРТНЫМИ СИСТЕМАМИ

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ON THE CURRENT STATUS AND DEVELOPMENT TRENDS OF HIGH-TECH APPLICATIONS IN CHINA'S TRANSPORTATION SECTOR

In the modern world, the functioning and development of economic systems is impossible without the use of high-tech products in the transport sector. With the rapid advancement of artificial intelligence, big data, and vehicle-road coordination technologies.

China's transportation sector is undergoing a profound transformation from traditional infrastructure towards intelligent and digital systems. Based on the latest industry data for 2025–2026, it can be noted that transportation is moving to a qualitatively new level and has entered a phase of large-scale implementation of high-tech applications, while the market focus is shifting from large-scale construction to advanced operations. Data-driven and AI-integrated approaches have become key pathways to improving traffic efficiency and safety.

It is important to note that in recent years, China has continuously advanced the «AI+Transportation» initiative, driving sustained growth in the smart transportation market. In 2025, the market size of China's smart transportation industry reached approximately RMB 287,1 billion, demonstrating strong development momentum.

Also in the highway sector, AI image recognition and drone patrol systems have been deployed at scale. For example, Guangxi has established a 100-kilometer drone-based automated patrol network, combined with vehicle-mounted mobile patrols, significantly enhancing capabilities in identifying spilled

objects, construction zones, and traffic accidents. Leveraging large model technologies, Fujian Province has achieved a traffic incident detection accuracy of over 97 % and traffic flow prediction accuracy exceeding 90 %. Furthermore, smart capacity expansion technologies have improved traffic efficiency on demonstration corridors by approximately 20 %, while emergency response efficiency has increased by more than 30 %.

Vehicle-road coordination technologies are accelerating their transition from demonstration zones to real-world roads. Shanghai has opened 5,238.82 kilometers of autonomous driving test roads, covering approximately one-third of its municipal area. In early 2026, cities such as Shiyan in Hubei and the Qibu District in Jinan launched large-scale vehicle-road-cloud integration projects with investments exceeding RMB 100 million, marking the entry of this technology into the infrastructure deployment stage.

As of the first quarter of 2026, the number of smart on-street parking spaces nationwide reached 5,38 million, covering 245 cities at the prefecture level and above. High-mast video systems and ETC-based automatic payment systems have become mainstream technological pathways, enabling «contactless exit and automatic billing». Meanwhile, Shanghai has opened traffic signal data from 7,600 intersections, establishing a mega-city-level traffic signal management platfor m that provides data support for dynamic traffic regulation.

In the inland waterway sector, Zhejiang Province's «Zha Zha Tong» (Lock Pass) system has reduced average vessel waiting time at locks by 80 %, accumulating a reduction in logistics costs of RMB 300 million. At Guangxi's Beibu Gulf Port, real-time data integration with China State Railway Group has reduced data latency from 30 minutes to less than one minute, significantly improving the efficiency of multimodal transport.

It is important to note, that smart highways accounted for nearly 50 % of RMB 10 million+ smart transportation projects in early 2026, indicating that digital upgrading of existing highways is the current priority. At the same time, the number of vehicle-road coordination projects is rising rapidly, suggesting a future focus on deeper integration of roadside intelligence and in-vehicle systems. The «Ten-Hundred-Thousand» initiative proposed by the Ministry of Transport aims to focus on ten directions including smart highways and smart shipping, deploy 100 pilot projects, and gather 1,000 innovation entities, fostering a sector-wide collaborative innovation landscape.

In conclusion, it should be noted that high-tech applications in China's transportation sector have entered a new phase characterized by data-driven approaches, AI empowerment, and system coordination. Smart capacity expansion has significantly improved traffic efficiency, vehicle-road coordination is accelerating its deployment, and smart ports and waterways have achieved notable cost reductions and efficiency gains. Looking ahead, with the implementation of the 15th Five-Year Plan (2026–2030), the transportation system will further evolve from

single-facility intelligence towards comprehensive, multi-modal smart coordination, providing solid technical support for achieving the goal of becoming a transportation powerhouse. Being one of the leading players in the international transport services market and in the context of the functioning of global economic processes, this will also contribute to the synchronization of global transport routes and the integration of countries in the general system of global economic relations.

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СОВРЕМЕННЫЕ ТЕНДЕНЦИИ РАЗВИТИЯ ВЫСОКОТЕХНОЛОГИЧНЫХ ПРОЕКТОВ В ТРАНСПОРТНОМ СЕКТОРЕ КИТАЯ

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ТЕНДЕНЦИИ В РАЗВИТИИ ТРАНСПОРТНОЙ ОТРАСЛИ

Рассматривая транспорт как систему, можно выделить следующее.

1 Система должна иметь системообразующий фактор. Это элемент системы, качество или функция, изъятие которого приводит к трансформации системы в другую систему или к её разрушению.

Системообразующие факторы бывают внешние и внутренние [1]. Внешние – это факторы среды, которые способствуют возникновению и развитию системы. Для железнодорожного транспорта это научно-техническая революция XIX века (паровая машина, сталепрокатное производство и др.), а также потребности в развитии и безопасности государства. Внутренние – это факторы, которые появляются в результате объединения элементов в систему и становятся организующими, обеспечивая взаимодействие как однородных, так и разнородных элементов. Для железнодорожного транспорта таким фактором является инфраструктура.

2 Система имеет ключевой фактор. Если системообразующий фактор формирует систему как целое, то ключевой влияет на поведение системы, определяет направление развития на разных ее этапах. На всем пути развития железнодорожного транспорта ключевой фактор постоянно менялся. Он эволюционировал от базовых инноваций к интеграции в глобальные системы. Рассмотрим эти этапы более подробно.