INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563 2024: 7,805
eISSN :2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 12, issue 07 (2025)

THE ROLE OF THE "HUMAN-TRANSPORT-PRODUCTION-ENVIRONMENT" SYSTEM IN TRAFFIC SAFETY

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Annotation. This article analyzes the role of the "Human-Transport-Production-Environment" system in traffic safety. Based on a systematic approach, the main factors influencing traffic safety - the human factor, the technical condition of vehicles, production processes, and environmental conditions - are studied in depth. The study determines how these factors interact with traffic safety, and suggests ways to prevent accidents and disasters by coordinating them. The article presents scientific conclusions based on statistical analysis, observations based on real events, and systematic analysis methods. The research results will serve to improve safety in the transport sector, implement human-centered approaches, and develop systemic management measures taking into account environmental factors.
Keywords: Human, transport, security, production, environment, system, analysis.

Introduction. Despite the development of technology and the expansion of automation processes, the human factor still remains a key component of transport and production safety. Manufacturing enterprises, vehicles, and the human factor are closely interconnected, each of which affects the safe operation of the system.

Figure 1: The production and transport system - the interrelationship between humans, technology, and the environment.

Reflects the interconnectedness of human, transport, and automated systems in a modern production environment.All safety measures are observed [1].

Methodology. Influence of the human factor on transport and production safety. The human factor is one of the main sources of risk in transport and production processes. This is due to the following [2]:

- ✓ Fatigue and stress - prolonged work leads to a decrease in attention.
- ✓ Mistakes and negligence - making wrong decisions or not following instructions leads to accidents and incidents.
- ✓ Information load - a decrease in the ability to process a large amount of information.

Figure 2: Employees working tiredly and carelessly in the workplace.
Workers working inside the factory reflect the interdependence of technology and the production environment. Some workers did not comply with safety regulations[3].

Result and discussion. The importance of the technological environment and safety measures. Technological progress contributes to increased security, but improperly implemented systems or outdated technologies can have the opposite effect[4]. Key points:

- ✓ Ergonomics is a workplace suitable for the human body.
- ✓ Weather and production conditions - poor lighting, noise, temperature, and weather pose risks in transportation and production processes.
- ✓ Sensor and monitoring systems - help identify risks in real time.

Figure 3: Goodly lit, ergonomically adapted workspace and security systems**.**
Production environment based on advanced technologies. Workplaces are ergonomically adapted, well-lit, and safety monitoring systems have been implemented [5].
Increasing security through modern technologies. Artificial intelligence and automation - reducing human error in transportation and production.
VR and AR training - safety simulations for drivers and operators.
Biometric monitoring systems - monitoring and warning of a person's condition.

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Figure 4: *Artificial Intelligence Fatigue Detection System and VR Safety Training.*
It features a security monitoring system based on artificial intelligence, a fatigue detection system, and VR security training.

Conclusion and future development directions. In the future, the following approaches will be important for improving safety in the human-transport-industrial environment:

- ✓ Fully automated transport systems
- ✓ Smart systems for monitoring the mental and physical well-being of employees
- ✓ Strengthening cybersecurity and information security

Figure 5: Future Production and Transport System Security Model**.**
The factory of the future, fully automated transport and production systems, equipment controlled by artificial intelligence, and security monitoring are reflected.

Conclusion. In other words, safety in the "human-transport-production environment" system depends on the human factor, and new technologies and ergonomic approaches are needed to optimize it.
Artificial intelligence, intelligent monitoring systems, and automation help reduce human error.
Ergonomic working conditions and flexible operating modes increase safety.
Through VR and simulation systems, employees learn to work in real-world hazardous conditions.
These approaches, along with increasing system security, serve to protect people's lives and health.

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