
Editorial

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Public transportation is a true representation of system of systems and their increasing complexity or significant challenges. The rising demands for integration of high-end technology in public transportation and offering services that are of operational excellence, ultimately safe, fully integrated with human factors, easily maintainable, fully reliable and robust. These are the significant challenges for service providers. Not only openness and dynamism of these systems but also the need for integration to other services make them highly complex.

On the other side, the competitive environment of operation continuously challenges the currently established setup demanding for better services with lower costs. To offer excellent services, special attention has to be paid to both operational environment and organisational culture. Next to reliable assets, system operators play a key role in the quality of running services, and they need to have strong motivation. Thus, the organisational leaders should explicitly aim for the monitoring and control of the operational culture in their organisations.

In this perspective, technology offers possibilities for the continuous monitoring of systems and fast reactions. It can offer frameworks for pluralistic approaches promoting awareness, shared understanding, training experts, effectively communicating systems concerns and supporting well-informed decisions.

To successfully utilise the public transportation system, it is important to recognise the key success indicators and keep balancing them. In other words, recognition of critical factors is of primary importance to successfully address these challenges. This requires a shared understanding and widespread agreement of the system stakeholders over the key objectives. Here we bring together practitioners and researchers and discuss issues, challenges and future directions for successful public transportation.

This special issue explicitly addresses the importance of an integral view on the critical success factors and flexibilities required for tacking with the dynamism of the transportation industries both technically and organisationally. Based on the successful

experience of the Netherlands Railways, two basic strategies are identified that fundamentally contribute to success. First, a clear set of objectives across the stakeholders. Second is the cooperation and co-creation of values for achieving the objectives. The case study for the door system of trains represents a concrete example for the need for co-creation.

This special issue presents cases about the use of modelling techniques and simulations to effectively develop time tables or decision models across different industries. Through these cases, it becomes obvious that effective time tables or optimal decisions are beyond the engineering practices, and they demand attention to assets, actors and contextual factors.

Next to proper plans and models, the assets have to continuously meet the expected qualities and therefore maintenance becomes one of the pillars for success. This special issue presents an example case on the maintenance of wheels to highlight the importance of proper and timely maintenance for the railway rolling stock.

Contribution of emerging technologies plays a key role in the sustainable success for the public transport. Digital services are becoming an essential service that the public demands along with other principal functions for public transportation. The use of AR/VR technology is presented here as example for improving the efficiency and reducing risks in the course of maintenance process.

We are glad to present a number of scientific papers in this special issue with the focus on the success for public transportation systems.