

AN EXTRAORDINARY CHALLENGE

TO PARTICIPATE IN THE MAV
GROUP'S IT DEVELOPMENT
PROJECT





INTRODUCTION

Our company, Telcotrend, participated as subcontractor in delivering the project of MÁV Zrt. Infrastructure Maintenance (INKA I-II.).

The main contractor in this project is DXC Technology Hungary Kft., with whom we have been a partner since 2006.

This is a complex, multi-year program with unique solutions, professionally managed by Balázs Pafféri, the INKA program manager.

Delivering the project on time also required the decades of expertise, seriousness, flexibility and outstanding communication skills of Telcotrend's staff; successful collaboration can only be achieved through a perfect understanding of the client's business and technology needs and professional communication of the project managers.

THE CLIENT

As the operator of more than 7,000 kilometers of railway lines and related infrastructure, the MÁV Group manages national assets worth more than HUF 1,000 billion and provides passenger transport for millions of people every day.

The primary strategic objective of the MÁV Group is to increase the satisfaction of its customers, especially its passengers, by improving regularity, safety and punctuality. In other words, to achieve a Western European level travel environment where rail can be a competitive alternative to road.

The management and dynamic development of a huge pool of assets and infrastructure, which has already begun and is ongoing with a significant investment of resources, cannot be achieved through traditional methods.

The MÁV Group is currently undergoing huge investments, which we see every day (Budapest-Belgrade railway line, a program to improve rail transport in the metropolitan agglomeration, the construction of a tunnel connecting the Western and Southern railway stations, rolling stock improvements, etc.). These are usually complex processes that run in parallel and essentially affect the entire railway infrastructure of the country. Its implementation requires the digitalization and modernization of the entire technical and economic process, from planning, technical, logistical and financial implementation to the commissioning and registration of new facilities and equipment.

The INKA program, which supports this digitalization process, is a full-scale corporate governance development, divided into two large and several smaller sub-projects starting in 2015, and covering all subsidiaries of the MÁV Group.

THE CHALLENGE

The complexity and size of the task is unusual, and the project (program) is extremely large. This is a major challenge for all participants, and for us to be able to do this, we needed in particular:



The flexibility of our company, its openness to new ideas – our company had no previous experience in the transport industry



Extensive, wide-ranging technological experience and expertise and their adaptability, as well as our "Customized situation, customized solution" approach



Long-term partnership -i.e. the continued provision of a large number of expert colleagues



Our professional commitment and perseverance - when faced with complex problems, finding solutions across borders was often the most important thing



Our project-like philosophy – strict adherence to deadlines and following them was critical because of the interlocking modules



Our flexible communication with the client, implementation partners, external suppliers, without which no cooperation is possible



Our openness to change - communication with the client, implementation partners, external suppliers, without which no cooperation is possible

THE PROJECT

The first phase of the INKA program aimed at the modernization of the MÁV Group's corporate management system and, closely linked to this, the full support of the technical processes of the railway network. It also carried out a complex IT application new consolidation - creating the technological basis for the development of a modern integrated systems architecture.

Almost all the modules of the SAP ERP solution package have been implemented, as well as the Infralife railway technical registration core system. The TIBCO integration platform was used to implement about 200 interfaces between the remaining systems of MÁV and the system components along the processes, and a full access management (IDM) system was also part of the project.

In the technical processes, from the technical and economic 3-year rolling planning of the investments to the execution of the works and the troubleshooting activities during operation, the INKA solution elements fully support the technical processes.

And the INKA 2 project supported the rolling stock maintenance and related production processes of the fleet, with a focus on planned and preventive maintenance, in relation to the solution implemented in the first phase.

In addition, the most complex of the processes supporting the core activities – logistics, procurement and inventory management – received special attention.

The project renewed and rethought the planning and management system of MÁV START's rolling stock and personnel resources, introducing a greenfield custom-built solution.

THE TELCOTREND

We supported the achievement of the MÁV Group's objectives through our participation in the INKA1 and INKA2 projects.

We provided the technical leadership for the whole INKA1 and INKA2 project, but our developers and consultants took an active role and responsibility in some of the technical parts of the program.

While in INKA1 we mainly carried out SAP developments in the logistics modules and the completely custom-developed stand-alone track module, in INKA2 we developed the unified vehicle master module in connection with SAP PM and participated in further logistics, maintenance and production process related developments.

Throughout the project, Telcotrend provided SAP's lead development role, system integration management and the development of a state-of-the-art integration platform.

In addition to supporting the standard platforms (SAP, TIBCO), our company was also responsible for the related custom greenfield developments and building competence in specific industry systems.



In the INKA program, our company's development and consultancy tasks include:

- 01** — **SAP development and consultancy:** : in both phases of the INKA project, we worked mainly in the perhaps most critical areas, i.e. technical-logistical. Our consultants and developers worked in the SAP PM, MM, PP modules - - in connection with this, we developed the complete data recording and data reporting functions for the rolling stock managed by the MÁV group.
- 02** — **Custom SAP developments:** in addition to the standard functions, a custom-developed but fully integrated module for the management of cutting prices has been develop: in both phases of the INKA project, we worked mainly in the perhaps most critical areas; i.e. technical-logistical. ed. Our developers and consultants are currently supporting and responsibly supervising this development.
- 03** — **TIBCO-based systems integration:** we are one of TIBCO's largest regional application development and integration partners. Our task in this project is to support the development of the TIBCO ESB based SOA integration platform. This involved the design of approximately 200 interfaces built into the business process model (of which approximately 150 interfaces were developed as part of INKA 1 and a further 50-60 interfaces as part of INKA 2). We participated in the development of the specification system system to be used by MÁV, the SOA methodology, and after their completion we also carried out the technical implementation of these systems.
- 04** — **Infralife:** this is a specialized system for registering railway infrastructure. We have been its business and technology representative in the INKA 1 project, learning and building industry-specific business and IT expertise - also supporting the MÁV group by providing foreign product supplier contacts. With the professional experience and results we have acquired, we have also been able to shape the product development inputs and directions.
- 05** — **ETR Resource Planning System:** an IT solution supporting MÁV-START's staff and vehicle planning, which helps to prepare staff time schedules and to plan and manage the scheduling of railway vehicles for the scheduled service. This is a greenfield project element with .NET based custom development, which includes the following modules:
 - design of vehicle turnaround
 - planning staff resources, preparing working time schedules
 - technical preparation, design
 - planned train replacement bus for track closure
 - operational register
 - network matrix

SUMMARY

The incredible development of information technology is part of today's world; the use of IT gives users a competitive and successful advantage. Designing, building and operating an IT system is a huge task, but the result of such a project is fast, up-to-date information, the linking of economic, financial and organizational processes, the elimination of paper documents, which in the long term leads to more effective company management.

The projects of the INKA program are intended to ensure the long-term digital development of the MÁV Group; the data assets collected in the system are of significant value and the analysis of these data can increase the predictability and speed of decision-making processes.

I am delighted that our company, Telcotrend, has been involved in such a large-scale project that has brought about a breakthrough change for MÁV. We can also see the results of the project in everyday life - when we see the construction of the third track of the Southern Link railway bridge, or the renewal of a station building, or the new IC+ passenger coaches coming into service – we know that almost all the activities required are captured in the systems delivered by the INKA project.

We can proudly say that our involvement in the project has been successful and that Telcotrend is capable of meeting the challenge of delivering large-scale, customized systems on time. Our company has the following qualities that have made us particularly well suited to successfully collaborate in MÁV Start's multi-year program, which is rich in unique solutions:

- Outstanding SAP technical and logistics expertise
- Independent SAP development capability
- System integration at a high level
- Complete custom solution – from design to implementation
- Industry-specific expertise





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