

From the analysis of training needs to execution, the design is key

A systematic approach was used by the consultant's team, consisting of highly qualified employees of DB Rail Academy and experts from the DB Group, which is depicted in the design process (fig.1):

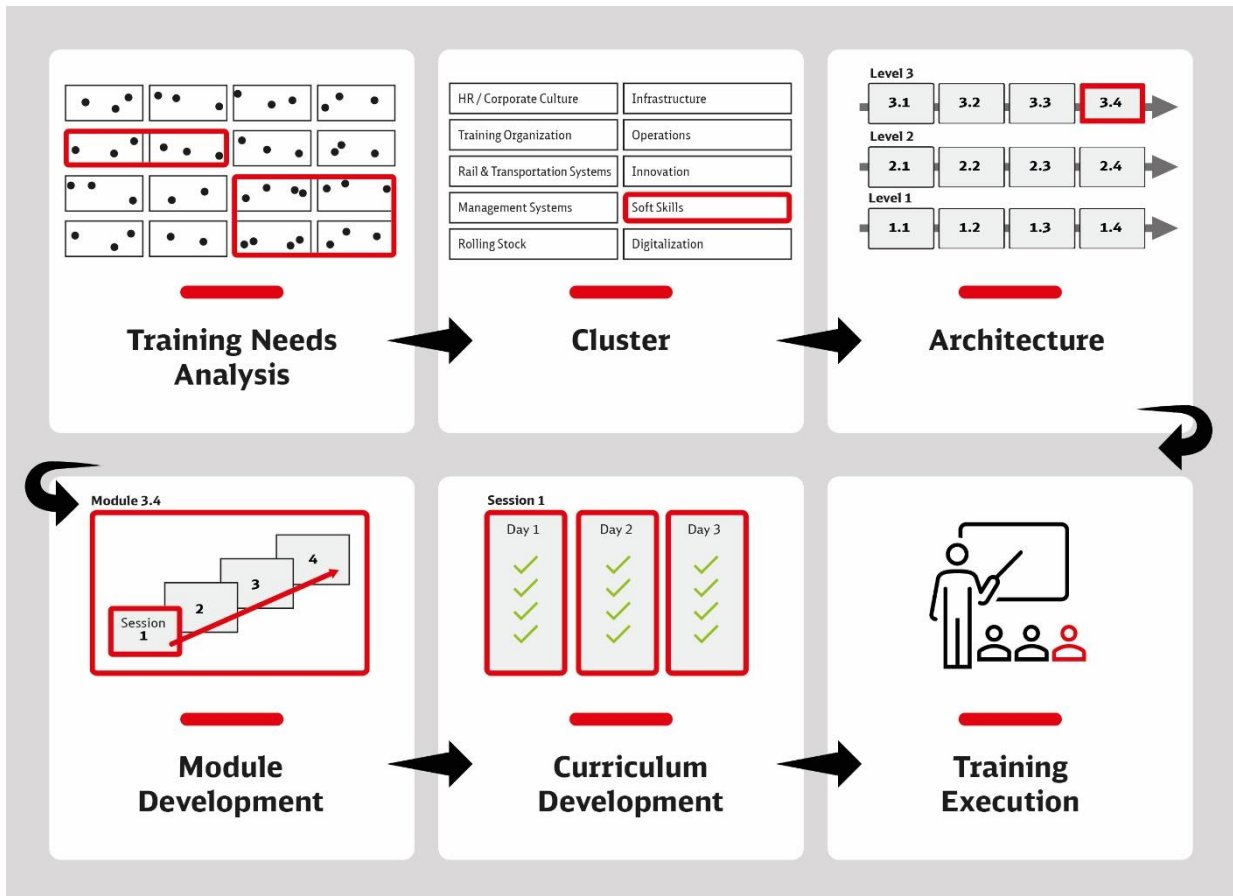


Figure 1 Design Process (Source: Own diagram)

In a first step, over 40 interviews with all specialist departments of RTA were conducted. In these, both the level of education and the individual competencies of the employees were recorded. In addition, processes, working methods and tools used were scrutinized and compared with international best practice.

In a next step, it was examined whether the strategic goals of the RTA place additional requirements on the organization or on individuals that have not yet been met. For example, the increasing digitalization, the changing role of the RTA as a technical supervisor of the operation as well as Emiratization goals should be considered. Furthermore, key performance indicator reports were analyzed to identify potential for improvement in the organization, which should be addressed with further training. The results of the analyses were reflected on, discussed and prioritized in a group of experts from RTA and DB.

Through the evaluation of the analyses, recommendations relating to all departments were derived, aligned with each other and bundled into thematic areas. For example, many departments were required to address the opportunities of digitization in the rail sector. These requirements were transferred into a specific training program, which was conducted as an overarching preliminary program.

A flexible training architecture allows different company needs to be covered more effectively

In the next phase, all training needs were then clustered into 10 areas and a training architecture of 3 levels and 12 building blocks was derived. With the help of the training architecture (fig.2), all identified training needs could be covered in a very systematic way.

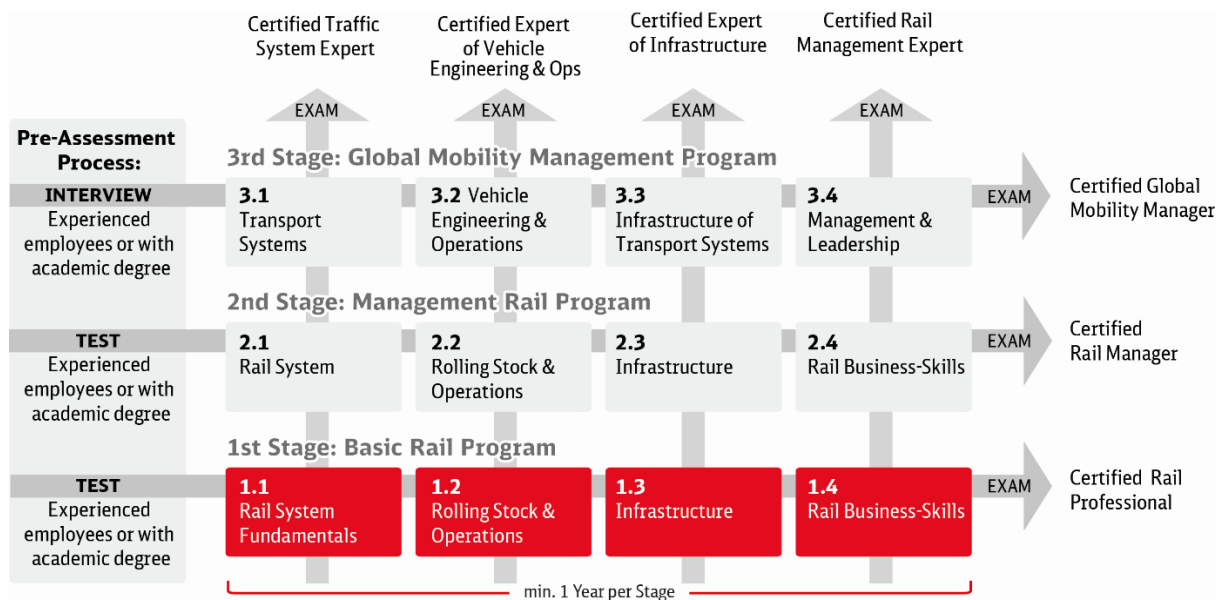


Figure 2 Training Architecture (Source: Own diagram)

Regarding the diagram above, this architecture can be interpreted from the horizontal and vertical angle as follows. Viewed horizontally, the three programs allow for interdisciplinary training for management functions as well as subject-specific training. Viewed vertically, there are three levels, which build upon each other and support progression where desired. Starting at the bottom, the subject-specific knowledge is deepened with each level, and the management level increases.

The training architecture was then transformed into individual modules that addressed all the findings of the Training Needs Analysis and the curricula was developed. The program is designed to provide RTA's middle management and experts with a specifically identified technical understanding of railroad engineering and operations. Combined with methodological knowledge,

practical insights and first-hand experience, the skills learned are practice-relevant and directly applicable. The understanding of the technical system is complemented by relevant management competencies.

The Rail Professional program is the basis for the Rail Manager program, which prepares Rail Professionals for a career in the higher management of a Rail Company.

The Global Mobility Manager program prepares participants for national and international roles in senior management positions of transportation companies. The intermodal and strategic training supports the change between RTA agencies and prepares for long-term, cross-modal decision-making situations.

First group of managers successfully complete the “DB Rail Professional Program”

Once RTA had identified candidates for the programs, the individual target functions and previous knowledge of the participants were reviewed with the aid of a short assessment and the appropriate program was selected. A class was assembled to undergo the customized further education program to become a "DB certified Rail Professional". This specific program is certified by one of the world's leading mobility groups as well as by the DAAKS-accredited testing company TÜV.

Thus, from 2017 to 2021, training modules were carried out covering the topics of Rail Operations, Fundamentals of Rolling Stock, Maintenance of Rolling Stock, Maintenance of Infrastructure, Rail Infrastructure, Signaling, Electrical Engineering, Safety and Risk Management, Incident Investigation, Quality and Audit, and Rail Project Management. In advance, the module "Strategic Thinking in a VUCA world" was conducted to provide the overarching competencies to meet the challenges of digitalization.

The learning content of the modules of the Rail Professional Program was assessed with DCTS points (Deutsche Bahn Credit Transfer System). The Certification Process is depicted in figure 3. After the candidates had reached 1,000 DCTS points, a refresher course was held on all modules and the candidates were able to present themselves for the examination. The examination included a written test, a project paper and an oral test in front of a jury of experts from DB and TÜV. Where the necessary number of points was achieved according to the TÜV-approved examination regulations, certification was granted.

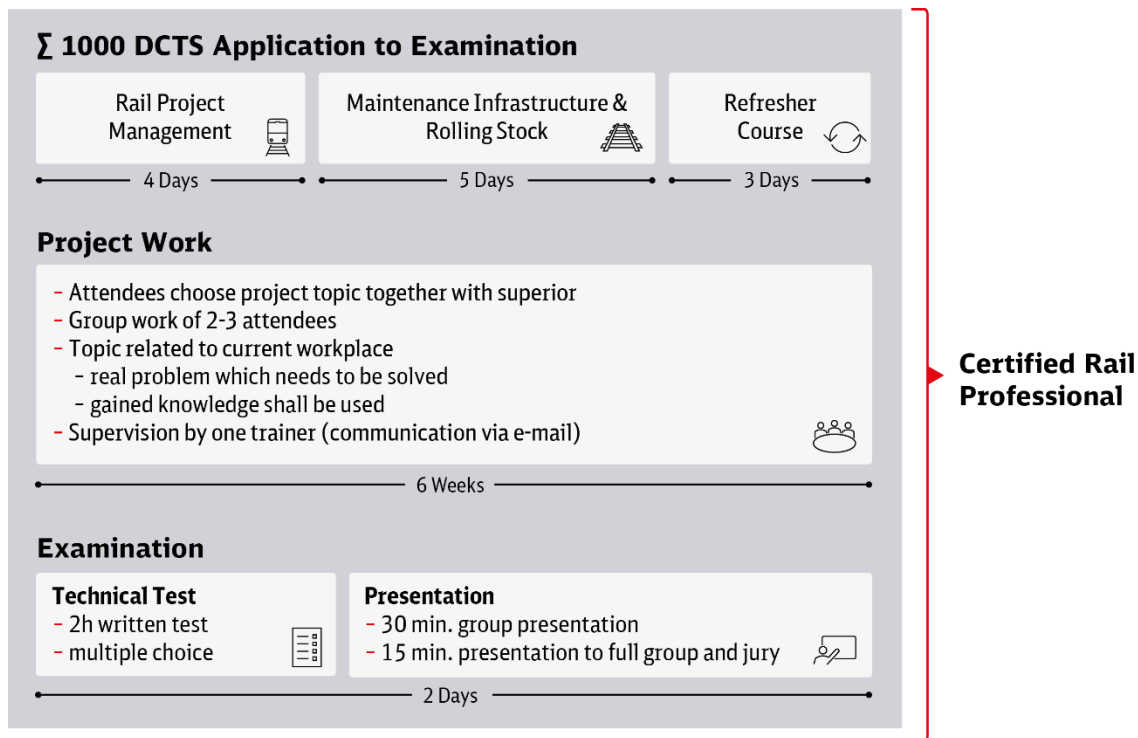


Figure 3 Certification Process (Source: Own diagram)

DB Rail Academy secured measurable, sustainable outcomes for RTA

To ensure learning success at a leading level, the most recognized and widely used training evaluation model in the world, the Kirkpatrick Evaluation Model, was used to analyze and evaluate the results of the training and educational program. Figure 4 depicts how the four levels Reaction, Learning, Behavior and Results were implemented in this particular case, and it has been extended by a fifth level Sustainability, which focuses on the long-term benefits. Each module of the training program was enriched with modern pedagogical tools; a continuous performance review was carried out to measure learning success; and a transfer to the workplace was ensured through application. The theory lessons were supplemented by practical elements in the depot at the vehicle or by other practical insights.

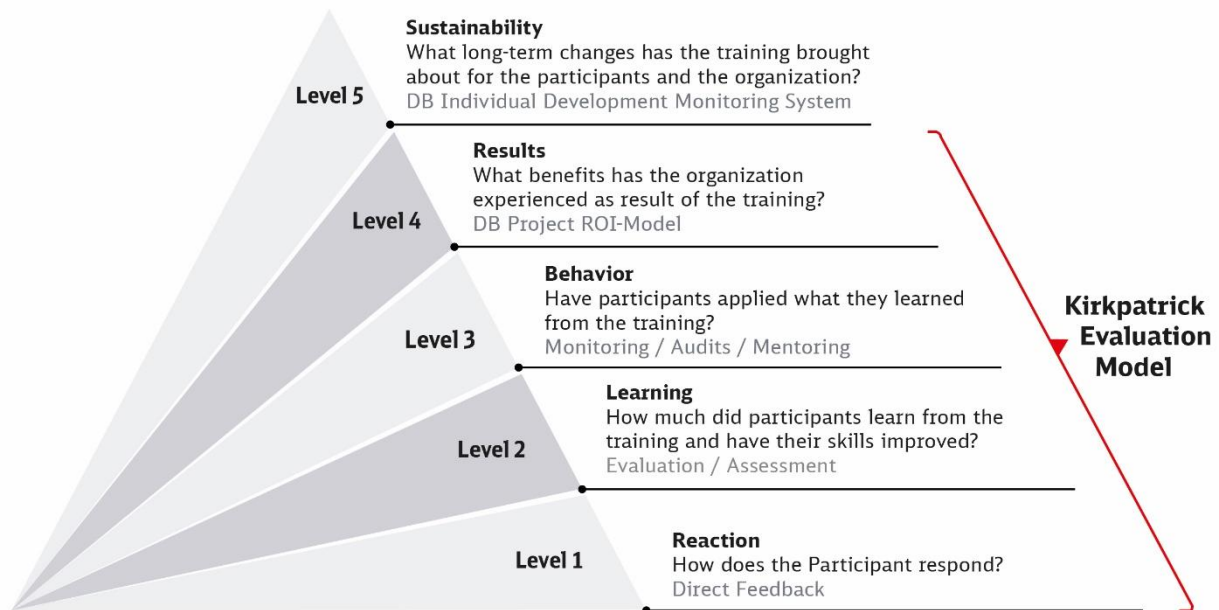


Figure 4 The extended Kirkpatrick Evaluation Model (Source: Own diagram)

The Level four of the Kirkpatrick Evaluation Model determines the overall success of the training program by focusing on the actual results achieved and how these results impact the organization by measuring factors such as:

- Lowered spending costs on training
- Reduction of accidents in the workplace
- Increase in ROI
- Overall improvement in products' quality
- Increase in production efficiency
- Increase in quantity of sales.

This level of evaluation includes the outcomes that RTA Management teams will achieve from the training, along with demonstrating its ROI. The ROI of this program is measurable because a substantial component of the program is to apply the knowledge and skills gained from each module in a project work, that is directly of benefit to reaching RTA's business targets. The project works concluded in a cost benefit analysis for a long-term improvement for RTA. This is the so-called training success measurement.

After successful completion of all the modules, participants worked in groups on final projects assigned by RTA management to deliver real and tangible benefits

to the business. These project works were facilitated by a DB Expert and a supervisor from RTA. A direct ROI for RTA was that the project implementation clearly improved the capabilities of its employees. In detail the following project works were carried out:

- Green Line and Red Line Metro Extension*
- Dubai Metro Station Enhancement for Route*
- Timetable Changes, Signage and Fare Collection*
- Use of Virtual Reality Training in Dubai Metro*
- Case Study Suspended Transit Systems*

All projects were endorsed by RTA management and implemented, allowing ROI to be realized.

The proven success of the skills acquired in the DB Rail Professional Program, amounting to several million euros (the exact value may not be disclosed for reasons of confidentiality), means that the impact of the program is immediate. For the participants of the program, the international dual certification by DB Rail Academy and TÜV has an additional significance for career development. For RTA, this training program has allowed competence gaps to be closed. Furthermore, it has contributed to the future viability of RTA as well as to long-term employee retention by building a succession pipeline of national employees for future management.

The fact that the developed architecture already has several further development paths (fig. 2) ensures a long-term sustainable further training architecture for the RTA, which can be updated from time to time with individual specialist content. To continuously improve and move onto Level 5 of the extended model depicted in figure 4, companies like RTA should monitor and measure sustainability, and thus their ROI, by keeping track of what long-term changes the training has brought about for the participants and the organization.