RailSys®

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Access PowerConsu
Administration Informa
Robustness Train Charact
EuropeanTrainControl Wo
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VariantManagement TrackBlock
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Availability RunningTime
ConstructionManagement Reliability
TimeStamp PathManagement

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Contents

RailSys® Software Suite

Using railway infrastructure requires planning and disposition processes, which support an operative cooperation of all parties involved, especially in today's time of a growing traffic density.

Achieving a smooth and failure-free operation requires the sharing of information between all involved parties to make essential information available wherever and whenever needed. As the different systems that are operated by individual partners are often incompatible, it is either costly or impossible to exchange data.

With RailSys® it is possible to bundle all the information in one system and exchange it with other systems.

There are several system components available to realise your goals with RailSys®, depending on your scope of work and the tasks that need to be handled. Everything is possible, from the application to the planning to the routing, information output and controlling.

It is easily possible to configure the software and its functional scope for the various users. This enables your employees to enter and access information depending on their field of activity.

The following processes can be executed in the integrated cross-process timetable and infrastructure management:
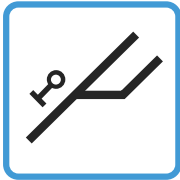
- Application
- Planning
- Order
- Information
- Operation
- Documentation
- Evaluation
- Accounting

RailSys® links the systems for a smooth operation of your train connections.
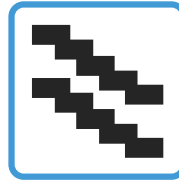
Always on time.

RailSys®

Applications

Infrastructure Manager	Construction Manager	Train Path Manager	Timetable Manager	Operations Control Center	Evaluation/ Accounting Manager	Databse and Interfaces

Functions

Editing the digital twin	Building timetables	Server-based working	Determining key parameters
Creating operational documents	Optimizing capacities	Managing construction sites	Coordinating timetables
Access planning	Timetable simulation	Managing disposition	Optimizing driving modes
Managing rolling stock	Circulation planning	Process-oriented working	Collaborative planning
Ecologically optimized driving	Accounting train path usage	Sharing information	ETCS — ETCS optimization

Find out how RailSys®
can **make your work easier!**

Contact us and find
the right **solution for your workflow.**

RailSys® applications

Infrastructure Manager
Create a digital twin of your infrastructure with the RailSys® Infrastructure Manager. Model tracks and switches, safety technology, overhead lines, and structures across levels of the track network in RailSys®, stored in a database or locally as a study project. Use comprehensive functions to lay the foundation for successful infrastructure planning and coordination of construction measures. Plan your current and future traffic on the infrastructure and optimize the use of your resources.
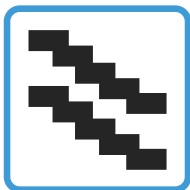
RailSys® Web Construction Manager
Bring together the various parties involved in the maintenance and expansion of the infrastructure in RailSys®. Coordinate long-term and short-term construction measures across the entire network and platform-independently with the RailSys® Web Construction Manager. The timelines and deadlines of the planning process are monitored by RailSys®.

RailSys® Web Train Path Manager
Ensure neutral management of path registration and offers in accordance with European Union regulations. With the Train Path Manager, you provide clients with barrier-free access to your network. The intuitive access planning on the network infrastructure allows for the direct start of timetable construction and submission of an offer. From path registration to the billing of path usage fees, the RailSys® Web Train Path Manager provides a common basis for cross-organizational planning processes.

Timetable and Simulation Manager
The RailSys® Timetable Manager offers you comprehensive functions for creating concept, annual, and construction timetables. With the integrated running time calculation, conflict detection, and extensive options for capacity analysis, including simulations, you can avoid problems in later operations during the timetable creation process and generate high-quality path offers. These can be communicated via the RailSys® Web Train Path Manager.

Operations Control Center
Verify your timetable data with the RailSys® Operations Control Center. Comprehensive functions are available to process the planned train traffic with actual data. The verification can be done automatically via data import or manually in the Operations Control Center. Using the actual data, billing and accounting documents can then be generated based on the actual train journeys.

Evaluation Manager

Support your analyses by automatically determining key performance indicators and statistical evaluations. For both simulations and actual data, the RailSys® Evaluation Manager allows you to uncover backgrounds and details, enabling you to optimize your management.
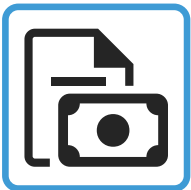
Accounting Manager

The RailSys® Accounting Manager represents the central process for creating and managing path billing and accounting. This eliminates the need for manual steps outside the RailSys® Suite. For infrastructure managers and customers, this streamlines the workflow by providing a clear management tool for the creation and review of billing documents. Additionally, the itemized statement lists the services provided for each train journey.

Database and Interfaces

Seamlessly integrate the capabilities of RailSys® into your existing software environment. Through interface services based on standardized and custom formats, we ensure a continuous flow of information for you and offer central data management with the RailSys® database, including comprehensive workflow as well as role and permission management.

RailSys® Training

We are happy to assist you!

Invest in your productivity and easily request a personalized training session.

Technichal characteristics

Utilize customized interfaces for optimal workflow.

The RailSys® user interface is designed to resemble the familiar interfaces of everyday software. RailSys® allows you to work on one or multiple screens, so you can advance your projects whenever and wherever you want.

Advance your projects whenever and wherever you want.

With RailSys® Enterprise, it no longer matters if you are online or offline. You can work offline on your data and later synchronize it seamlessly with the database. This flexibility allows you to progress your projects at your convenience.

Use RailSys® as a team or as an individual.

RailSys® includes modern and flexible user and rights management, enabling you to grant each employee the information and editing rights necessary for their work. Of course, RailSys® is also usable as a standalone solution.

Integrate RailSys® seamlessly into your business processes.

We ensure that RailSys® can communicate with other programs you use in your company by offering various export and import interfaces to other systems.

Provide your customers with a streamlined workflow.

With RailSys®, you can not only manage your own planning but also use RailSys® Web applications as a platform for digital data exchange with clients. Involving the client in the process creates transparency for both parties.

Environment and sustainability

RMCon International actively contributes to environmental protection and a climate-friendly future for rail transport through the development and continuous optimization of the RailSys® Suite.

As a sustainable mode of transportation, rail transport can be increasingly planned and operated more sustainably with our innovative software solutions. Among other things, RailSys® allows for precise capacity planning, better utilization of existing infrastructure, and efficient planning of construction measures.

The energy consumption of a train journey is not only a cost factor but also impacts the environment due to diesel and electricity use. Therefore, RMCon International has developed an energy-saving driving algorithm within the RailSys® Suite. By considering geography and optimizing acceleration, early shutdown, and coasting, the energy-efficient driving mode is calculated.

The timetable is maintained even with energy-saving driving, and travel times are not extended. This so-called energy-saving driving mode can be optimally supported by the RailSys® Software Suite, enabling the determination and implementation of the most environmentally friendly driving method, especially by considering tight acceleration, early shutdown, and long coasting. Adhering to the timetable is also crucial to avoid subsequent conflicts.

We are proud to help companies reduce CO_2 emissions in rail transport and save resources. RailSys® supports operators worldwide in implementing environmentally friendly and sustainable solutions, thus making a significant contribution to protecting our environment.

Locations

Hannover
Germany

Sydney
Australia
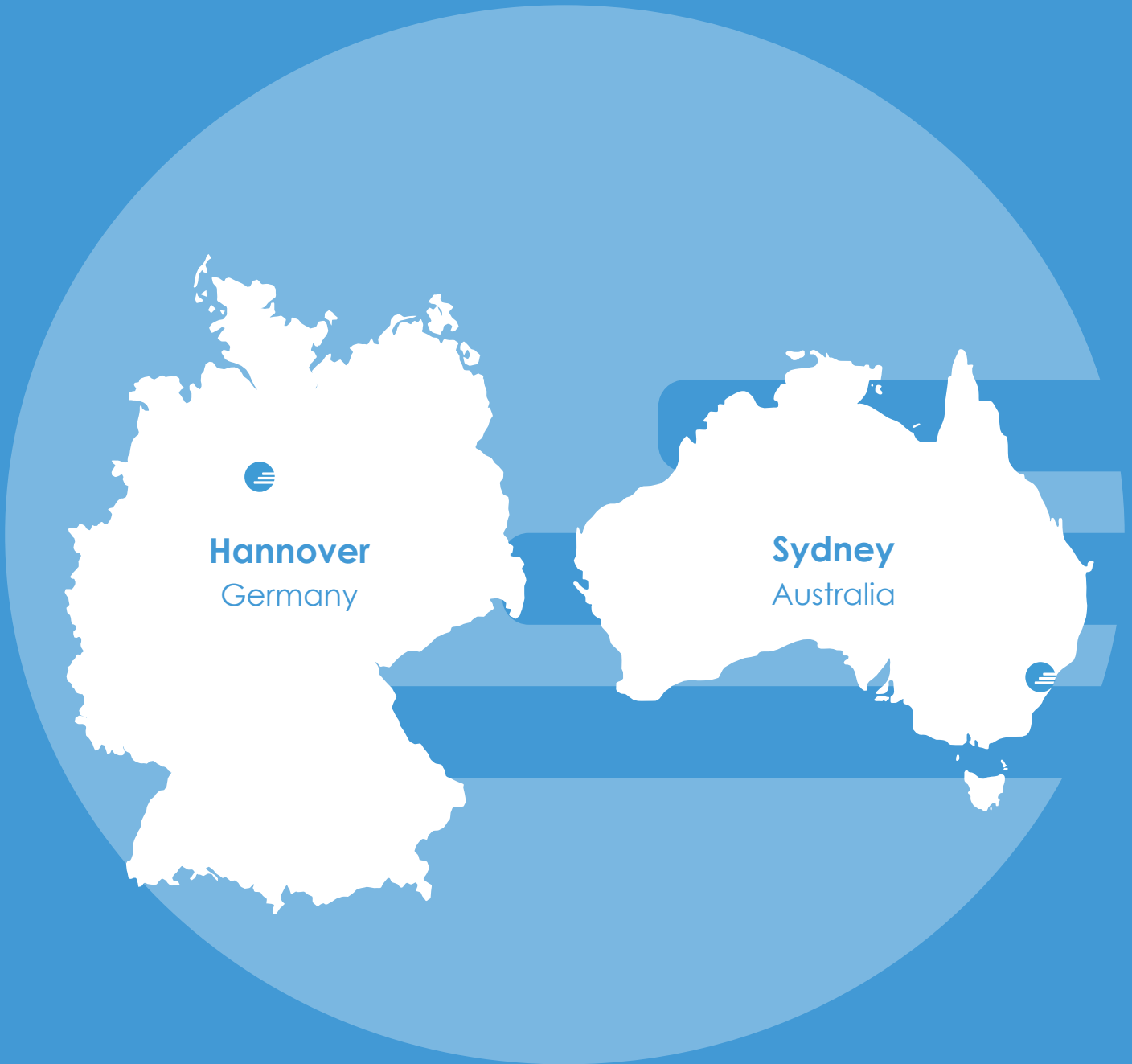
Our company

The team at Rail Management Consultants International GmbH (RMCon International) consists of experts in transportation and software development. For over 25 years, we have been working hand in hand to create future-proof and innovative IT solutions for rail transport.

Over 200 clients worldwide already rely on the expertise of our more than 75 employees and appreciate the benefits of the RailSys® Software Suite.

Since the foundation in 1999, RMCon has been loca-

Additionally, we have been collaborating for several years with the Ingenieurgesellschaft für Verkehrs- u. Eisenbahnwesen mbH (IVE mbH), Hannover.

Our business is divided into three areas:

- □ Consulting and planning service
- □ Software development and service
- □ Research and innovation

It is said that the way is the goal. It is our goal to find the best way for you!

ted in Hanover. As we act worldwide, RMCon has also been active in Australia since 2001 through our consulting team in Sydney. This enables us to offer excellent services to our clients all over the world.

To emphasize the international aspect of the offered services, the RMCon International Gmbh is founded in 2018 as a successor company to the RMCon GmbH.

To ensure that our products are innovative and aligned with the latest standards and client demands, we work closely with various research institutions.

The RMCon International team is actively involved in shaping the future of rail transport across all business areas.

Consulting

Infrastructure planning

We support you with all matters related to strategic infrastructure and capacity planning.

This includes data collection and consistency checking. We determine the investment costs for your planned changes to the rail network so you can understand the impacts and assess their economic viability. By implementing efficiency-enhancing measures on the infrastructure, you establish a fundamental basis for subsequent timetable planning or the sale of timetable train paths.

We also handle infrastructure data management. This focuses on data maintenance, management of planning variants, and updates to your infrastructure. If you do not want to consider an infrastructure measure immediately, we can defer it and review its effectiveness at a later time.

Additionally, we measure and evaluate the infrastructure of routes and nodes in the network context, the safety equipment (interlocking and signaling technology), and operational conditions of construction.

Timetable construction and service planning

With our many years of experience, we can provide you with expert advice in timetable construction. You can choose the planning option that is most efficient for you based on various scenarios. Additionally, we determine the vehicle requirements and the corresponding running, journey, and interval times, considering connection relationships and transfer times. To ensure nothing stands in the way of your successful timetable, we also check train path availability for you.

Capacity planning

We understand how crucial determining capacity requirements is for successful planning. Therefore, we offer our expertise to determine how many tracks are needed during regular operations.

By assessing the consumed capacity, we keep track of how many of your train paths are occupied, which ones can still be offered, and which ones might not be worth considering.

The remaining capacity should not be underestimated, as in the cost-benefit analysis, we can determine how many train paths you should reserve for construction operations without planning too many unused tracks.

Operational planning

Our range of services includes not only strategic offer and capacity planning but also the construction of daily timetables - ranging from the initial draft and review to the actual train path registration - as well as the analysis of existing timetables.

To ensure that your trains reach their destinations on time even during times of change, we create timetables for you and propose necessary modifications to the infrastructure for construction operations and special services.

We assess the quality of your operations and support you in quality assurance regarding punctuality and connection reliability.

Not only seamless operations and adherence to timetables are important for the success of a transport company, but also costs play a significant role in achieving economic success. Therefore, our service portfolio also includes comprehensive operating cost calculations. Through the analysis of various scenarios, we assist you in your decision-making.

Software development and service

Software development

At RMCon International, we combine our knowledge of software development with our experiences in consulting and the planning of railway traffic.

The result is the IT platform RailSys®, an innovative IT solution for railway transport that is deployed worldwide.

RailSys® works cross-process and includes:

- □ Network wide infrastructure management
- □ Timetable construction and path management
- □ Construction site planning and related train regulations (construction management)
- □ Timetable and operational simulation to verify infrastructure, timetable and operation

The software offers interfacing concepts that connect with your systems and enable the integration of Rail-Sys® into existing IT environments.

Development on demand and application development

Every RailSys® user works with our program on different tasks and has therefore individual requirements and expectations of the software.

Our employees are happy to advise you on which additional functions would be useful for you. These functions are implemented by our IT experts based on a detailed specification agreed upon with you and tested in an iterative process to ensure error-free application. This ensures that the software is customized and ready for use in your company.

System support

Our service also includes software maintenance. Additionally, we regularly inform our clients about software updates so that you can benefit from all new features.

Service

To ensure that your employees become familiar with and make full use of RailSys® features, we offer training sessions. In these sessions, we explain all the important functions to the participants. We can conduct the training on-site, but also offer training sessions as webinars. Of course, we are available for any questions to ensure that using RailSys® becomes a key to your success.

RailSys® is successfully used worldwide by rail infrastructure operators, railway companies, consulting and planning offices, industrial and construction companies, public authorities, transportation ministries, and research institutions.

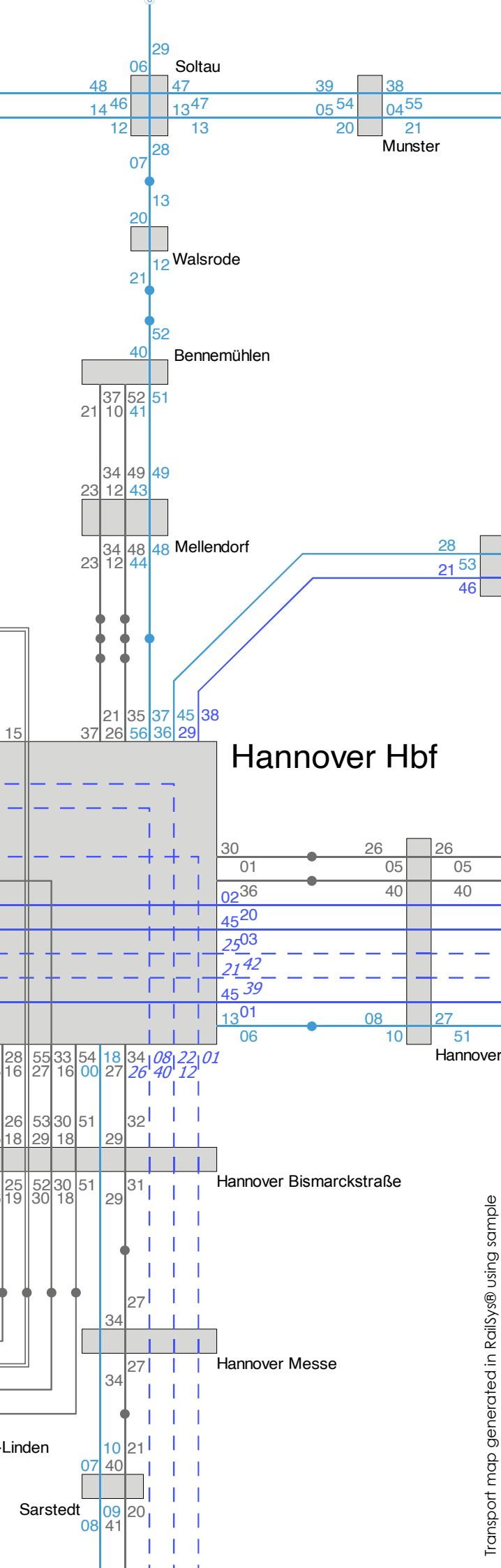# Research and innovation

Research

Our passion for railway transport does not only show in our customer service. It motivates us to work closely with our cooperating partners on new developments in science and technology.

This includes developments in the fields of routing and route search systems, automatic train path search, client-server technology and the creation of web applications.

Due to our cooperation with universities, you benefit from fresh ideas that improve your workflow. At the same time, we support the new generation of our industry and encourage young professionals to deepen their curiosity for railway transport.

Innovation

We are constantly working on the improvement of our software suite RailSys®. It is our concern to bring infrastructure data modelling, timetable construction as well as timetable and operational simulation to perfection. Therefore, we develop mathematical and heuristic algorithms and enhance the efficient development of performance indicators to assess infrastructure requirements, timetables and operation.

Soltau
Munster
Walsrode
Bennemühlen
Mellendorf
Hannover Hbf
Hannover
Hannover Bismarckstraße
Hannover Messe
-Linden
Sarstedt

Transport map generated in RailSys® using sample

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Railway infrastructure companies

The RailSys® Software Suite consists of several programs, allowing you to handle a variety of tasks according to your needs. You can not only manage your existing infrastructure but also model different variants for expansion, modification, and decommissioning with RailSys®.

The RailSys® Infrastructure Manager first captures the existing infrastructure of the rail network with all parameters such as lengths, speeds, gradients, and stations.
With the RailSys® Web Construction Manager, track closures and speed restrictions for your construction projects are also recorded. The more detailed your data input, the more reliable your results will be.

RailSys® links information of train operating companies and rail infrastructure companies.

Afterwards, you can offer train paths to your clients using the RailSys® Web Train Path Manager. The entire sales process is facilitated by our web-based IT solution, from client registration to booking and billing. All information is automatically transferred to your database. Additionally, the RailSys® Web Train Path Manager allows you to publish information on current infrastructure, timetables, and operational data.

Knowledge of remaining capacities is crucial for long-term planning. For example, you can determine how many train paths will be available for rerouting in the event of construction activities. RailSys® helps you find the right balance between overcapacity and undercapacity.

The unique integration of graphics and tables within the program is also noteworthy. Our clients are amazed about how this simplifies operation.
For example, if you change the departure time of a train at a station in the displayed timetable, the corresponding time-distance line in the graphical timetable is simultaneously and automatically updated. This allows each of your employees to use our RailSys® Software Suite individually, according to their routines, current requirements, and the availability of documents.

Train operating companies

Punctuality brings confidence. Be on time with RailSys®.

As a train operating company it is your aim to transport goods or to bring passengers to their destination comfortably and on time. RailSys® enables you to perform these tasks successfully and to find the most reliable connections.

Therefore, train characteristics of your rolling stock are used to calculate journey times and plan your rides in detail.

With the help of the integrated timetable and operational simulation, all of your timetable planning can be verified by you and its quality and robustness can be determined immediately. This outlook into the future enables you to determine any difficulties that might occur in reality in advance. Delays and bottlenecks are displayed and identified in time to prevent you from investing money in the wrong measure.

All of your data, from timetables to statistics, can be exported in various file formats or directly printed from RailSys®.

Clients from all over the world

(Selection)
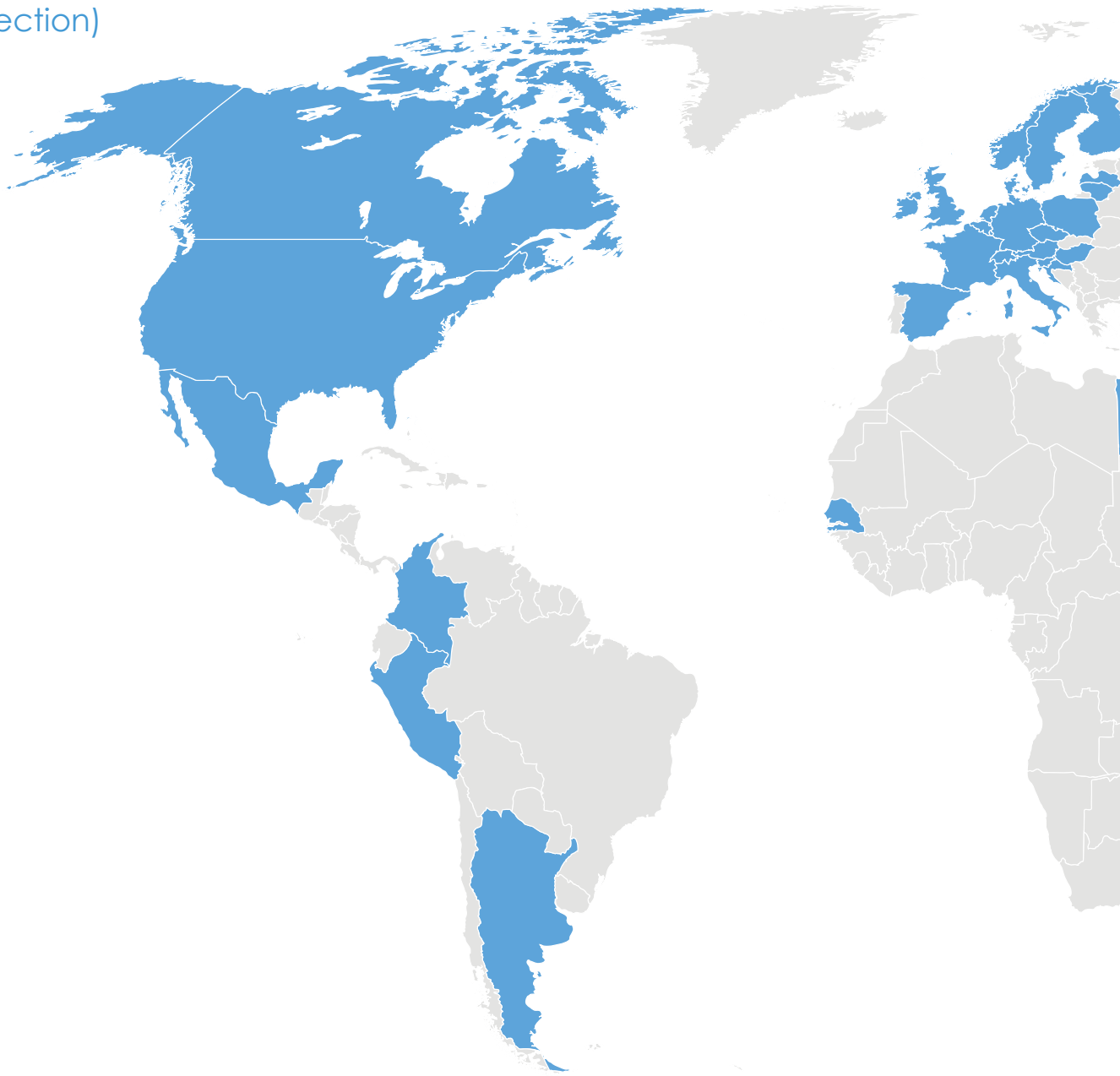
European clients
- Administration des Chemins de Fer (LU)
- Alstom S.A. (FR)
- Baltica Rail (LV)
- Banedanmark (DK)
- Berliner Verkehrsbetriebe (DE)
- Bombardier Transportation (DE)
- Bundesministerium für Digitales und Verkehr (DE)
- Chemins de Fer Luxembourgeois (LU)
- Cross London Rail Links Ltd. (GB)
- DeltaRail Group Ltd. (GB)
- Deutsche Bahn AG (DE)
- Danske Statsbaner (DK)
- Eurotunnel (GB, FR)
- Haropa Port - Le Havre (FR)
- Irish Rail (IE)
- Kölner Verkehrsbetriebe (DE)
- Nederlandse Spoorwegen (NL)
- Network Rail (GB)
- Österreichische Bundesbahnen (AT)
- PNZ Consulting Ltd. (SI)
- Polskie Koleje Panstwowe (PL)
- ProRail (NL)
- Rambøll Group A/S (DK)
- Red Nacional de los Ferrocarriles Españoles (ES)
- Schweizerische Bundesbahnen AG (CH)
- Société nationale des chemins de fer français (FR)
- Sudop Praha a.s. (CZ)
- Sweco GmbH (SE)
- Tracsis plc. (GB)
- Trafikverket (SE)
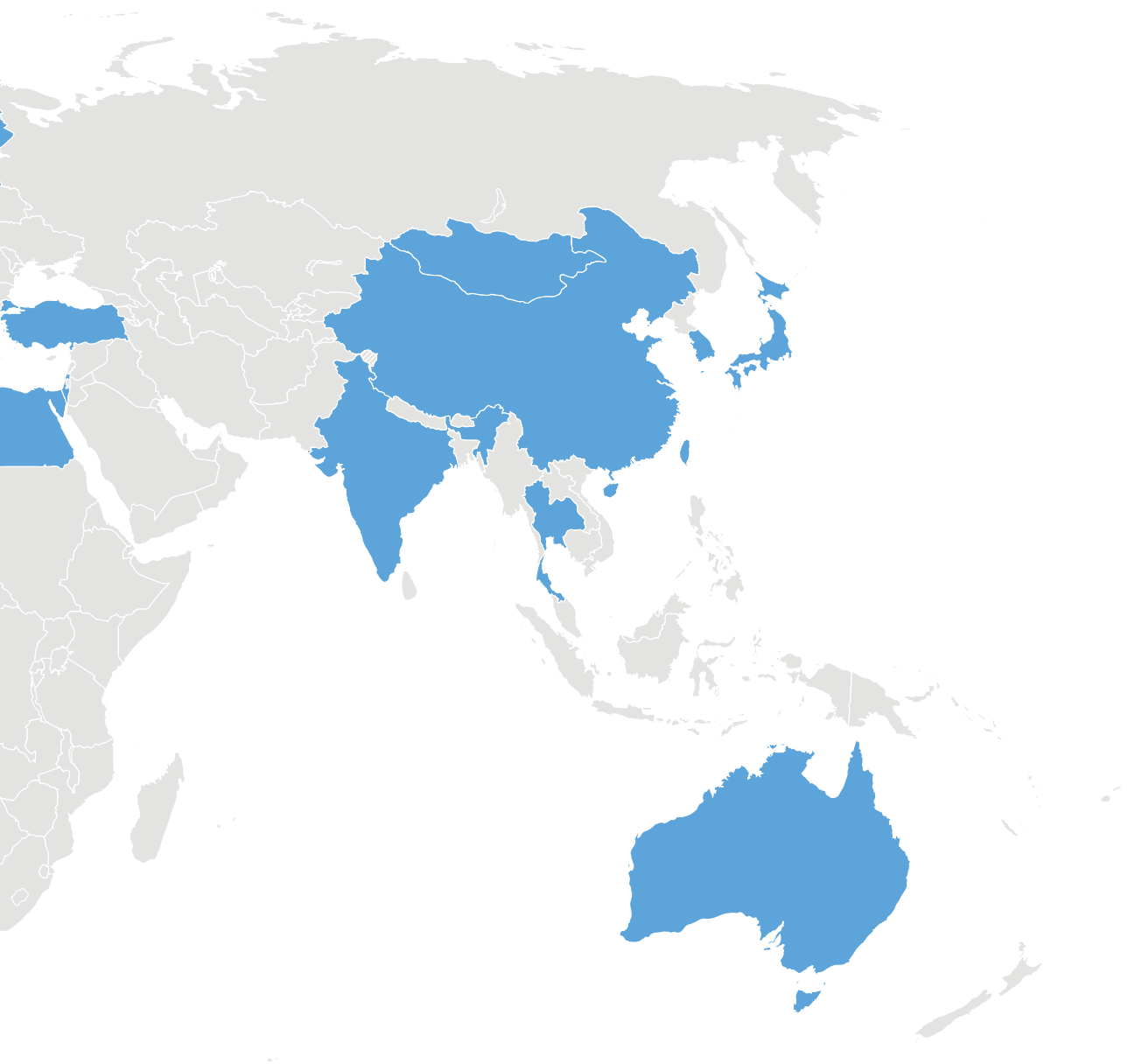
□ Transport for London (GB)
□ Transport Scotland (GB)
□ Trenitalia (IT)
□ TUC Rail S.A. (BE)

International clients
□ AECOM (GB, AU)
□ ARUP Canada (CA)
□ Australian Rail Track Corp. Ltd. (AU)
□ CH2M HILL (GB, AU)
□ DB Engineering & Consulting USA Inc. (USA)
□ Department of Transport and Main Roads (AU)
□ Etihad Rail (AE)
□ Hitachi Ltd. (JP)
□ Hyundai Rotem (KR)

□ Metro Trains Melbourne (AU)
□ Mumbai Railways (IN)
□ Pacific National (AU)
□ Public Transport Victoria (AU)
□ Qatar Rail (QA)
□ Queensland Rail (AU)
□ State Railway of Thailand (TH)
□ Subterráneos de Buenos Aires (AR)
□ Systra Group (FR, GB, AU)
□ Transport for New South Wales (AU)
□ Transport for Victoria (AU)
□ United Group (AU)
□ URS Corp. (GB, AU)
□ V/Line (AU)
□ WSP Global Inc.(CA, SE)

and many more...

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Visit our website for more information
about our services and latest developments.

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