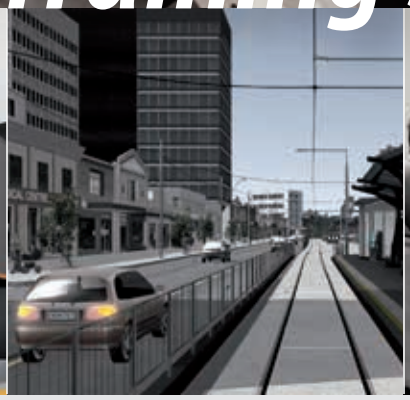
Rail Training Simulators



APPLICATIONS

High-Speed Trains | Light Rail Vehicles | Trams | Metros | Locomotives | Regional and Commuter Trains

SYDAC

simulating a better reality

SYDAC SIMULATION – A MORE IMMERSIVE EXPERIENCE

SYDAC OFFERS COST-EFFECTIVE SIMULATION SOLUTIONS FOR ALL OPERATIONAL REQUIREMENTS

ABOUT SYDAC

Sydac is a leader in the development and export of simulation solutions. The company has an enviable international reputation for developing state-of-the-art training simulation technologies for the rail industry as well as for general transport. Having pioneered a wide range of simulation technologies, Sydac is universally recognized as a provider of high-end, cost-effective solutions and services.

International companies such as Bombardier Transportation, Rio Tinto and major railway operators including London Underground, RailCorp and Arriva have chosen Sydac as a supplier of simulation solutions. The strong market position enjoyed by Sydac is due to its reputation for working closely with its customers to develop unique solutions. Founded in 1988, the company has its headquarters in Adelaide, South Australia, as well as offices in three Australian states, one in the UK and one in Germany that are supporting the company's growing customer base throughout Europe. At the end of 2009 Sydac became part of the Knorr-Bremse Group, the world's leading manufacturer of braking systems for rail and commercial vehicles.

RANGE

- Full Cab Simulators
- Driver Console Simulators
- Motion Base
- Mobile Simulators
- Portable Simulators
- Reality Centres
- Part-Task Trainers
- Computer-Based Training Systems
- Engineering Simulators

WHAT YOU CAN EXPECT FROM US:

- Stable company size and structure
- Consultative approach focused on long term client partnership
- Rail specialization and expertise
- Hi-fidelity recreation of physical vehicles and train control systems
- Cutting edge vision solutions with patented „Live3D™" technology
- Powerful tools for scenario creation and track building
- Synergy for integration with interlocking simulations
- Modular hard- and software systems allowing easy upgrades for changing training and train system requirements
- Ongoing R&D activities to increase customer value and retain our leading market position
- Skilled workforce of rail specialists, engineers and graphics specialists
- Structured and reliable system support and development
- Stable development and quality processes

PRODUCT PORTFOLIO

FULL CAB SIMULATORS WITH AND WITHOUT MOTION BASE

The accuracy of the cab and train models combines with the use of the latest Computer Generated Image (CGI) visualization technology to offer trainees an extremely realistic training experience. The cab can also be mounted on a system that provides a realistic sensation of motion.

DRIVER CONSOLE SIMULATORS

The desk level simulator is a value-for-money training option focused on driver actions and offers the same excellent quality of graphics as the cab simulator. Ideal for group training sessions, this simulator is easy to install and extremely flexible.

MOBILE SIMULATORS

The mobile simulators offer the full range of functions for driver training applications. They are built into a semi-trailer or standard transport container, enabling them to be easily moved to any rail depot or training site.

PORTABLE SIMULATORS

Portable simulators are ideal for practical training at dispersed locations. They offer the same functions as standard simulators, but are robust enough to be taken by trainers to customer locations or training sites.

REALITY CENTRES

Reality Centres offer the perfect training solution for groups. The simulator is configured as part of an extensive visualization system with rows of seats enabling group discussions and feedback related to the various scenarios.

PART TASK TRAINERS

Sydac has developed various systems that enable training to focus on specific areas of rail operations. These are particularly suited to operators, maintenance providers and component manufacturers.

COMPUTER BASED TRAINING SYSTEMS

Computer-assisted systems enable train drivers, conductors, track workers and many others to absorb training content rapidly and effectively. Use of iTrain minimizes training time and achieves highly effective learning outcomes.

ENGINEERING SIMULATORS

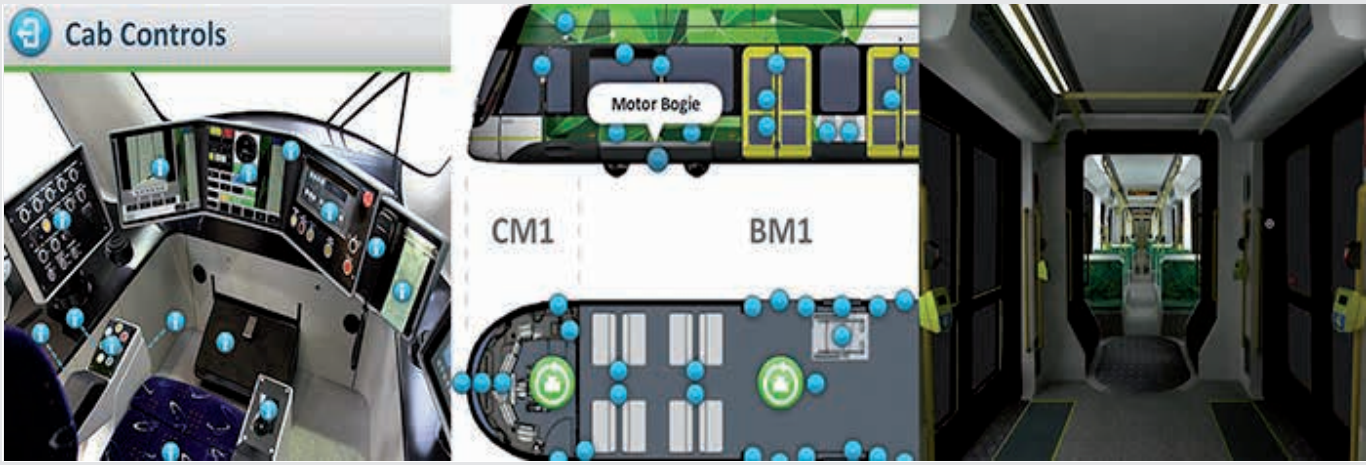
These serve to calculate operational performance parameters and train dynamics. The operational parameters include speed, journey duration, fuel consumption and brake wear; the train dynamics include brake pipe pressure, braking and coupling force, as well as many other dynamic values.

Metro Trains Melbourne Full Cab Simulator for electrical multiple units

PROJECT EXAMPLES

- Queensland Rail (AU) – three Full Cab Simulators for freight locomotives
- Australian Railway Group (AU) – mobile Full Cab Simulator for freight locomotives
- RailCorp (AU) – two Drivers Console Simulators for Reality Theatres and three Full Cab Simulators
- Downer EDI Rail Pty Ltd. (AU) – one Full Motion Simulator, one Full Cab Simulator for guard simulation, one mobile Full Cab Simulator with both a drivers cab and a guards cab
- Australian Railway Group (AU) – upgrading of a mobile diesel locomotive simulator
- University of South Australia (AU) – Full Cab Simulator for research purposes
- First ScotRail (UK) – two Full Cab Simulators for diesel and electric multiple units, integration of GSM-R
- Metronet Rail (UK) – two Full Cab Simulators for London Underground (Central Line)
- Bombardier Transportation (UK) – two cab simulators for London Underground (Victoria Line)
- Arriva Trains Wales (UK) – four multiple unit Full Cab Simulators
- Bombardier Transportation (UK) – four Full Cab Simulators for London Underground (Circle, District, Metropolitan and Hammersmith and City Lines)
- Norwegian Rail Academy (NO) – six Full Cab Simulators, three Interlocking Simulators, fully integrated operation of all simulators
- Thoroughtec (ZA) – locomotive simulation software including full motion base actuation
- Vilnius Technical Rail College (LT) - Full Cab Simulator with "Live3D™" technology
- Yarra trams (AU) - Full Cab Simulator for Bombardier Flexity 2 Trams
- Metro Trains Melbourne (AU) - Full Cab Simulator for electric multiple units
- Verkehrsbetriebe Karlsruhe (DE) - one Full Cab Simulator for VBK with motion seat and „Live3D™" technology nd four Drivers Console Simulators for AVG, all Simulators for ET2010 Tram-Train

THE SYDAC COMPUTER BASED KNOWLEDGE AND SKILLS ENVIRONMENT



COMPRISED OF THE FOLLOWING PRODUCTS:

1. THE 'E'-SERIES

This flexible range of applications can be delivered as desktop, web-based or mobile products. They provide seamless continuity between the training classroom and the shop floor. These flexible support tools can be used for training and on the job reference material:

- *e-Learning* – A highly interactive lesson-based training tool that presents information in an engaging and richly visual way. Each lesson is fully integrated with a Learning Management System to provide tracking and reporting of trainee progress and performance
- *e-Reference* – Interactive technical manuals that are supported by highly detailed and accurate real-time engineering models. Users can interact with vehicle on-board systems and follow the technical design and functionality of components through 2D and 3D graphical images, system schematics, bills of materials, photographs and video
- *e-Diagnostic* – Failure mode effects, criticality analysis (FMECA) and 'fault trees' are used in combination with the engineering models described under eReference to provide a portable diagnostic tool
- Technicians can interact with the eDiagnostics tool in real time to identify and examine the impact of component failure on system performance
- *e-Repair* – Repair procedures and guides are packaged and presented in both textual and graphical format for both classroom and portable shop floor use

2. SCENARIO CREATOR

This sophisticated yet user friendly toolset provides a collection of pre-built assets and functionalities which can be arranged to form a complex training scenario without the need of 3D or programming skills. Scenario Creator gives the ability for training specialists to directly develop and modify scenarios, saving the laborious and costly communication effort between specialist 3D programmers and training personnel. Some of the many features that are included in Scenario Creator are:

- Pre-built assets including animations
- Text to speech capability
- Dynamic camera selections
- AI Controllers for traffic
- Ability to embed other content
  - > Videos
  - > Manuals
  - > 2D drawings
- e-Voting
- Multiple delivery modes including
  - > Single PC
  - > Networked PC (multi player configuration)
  - > Web browser (can be delivered via LMSs)
  - > Blended multi channel vision (virtual reality theatre)
  - > Smart Boards
- Video creation

  Scenarios developed using Scenario Creator do not require separate licenses to run and as such, can be distributed as required throughout a training organisation

3. LEARNING MANAGEMENT SYSTEM (LMS)

The Sydac LMS provides a simple method of assigning and scheduling training sessions and provides progress and results reports in a simple and easily exported format.

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W W W . S Y D A C . C O M

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