



The Trainline

Rail information and ticketing website

Challenge

Provide train journey planning and fares engine for UK rail ticket selling website and call centre

Approach

Implemented IPTIS to compute optimal travel options and fares available for each travel query

Results

- Reduced telephone operator staff in call centre through shorter call durations
- Enabled better choice of tickets and journeys for customers with consistent, accurate and up-to-date information
- Reduced the cost of errors in retailing by accurately implementing ticket restrictions and conditions

In 1998, Virgin Trains envisaged a innovative website supported by a telesales call centre that would allow people to plan, book and buy a ticket for a rail journeys in the UK. The project resulted in the development of The Trainline, www.thetrainline.com, the first secure on-line train ticket website to sell impartial rail tickets for all train operating companies for travel anywhere in the UK. On behalf of Virgin Trains, Cap Gemini Ernst & Young approached Carmen to provide its journey planning and fares engine, IPTIS for use in The Trainline website and call centre.

With more than 25 different train operating companies in the UK and 293 million different routes and ticket types, there are multiple ways of travelling from A to B by rail. Carmen's IPTIS engine is used within The Trainline to compute the optimal travel options and fares available for each travel query. On entering departure and destination locations and other journey

requirements, the software will plan the journey depending on preferences for either the fastest journey or cheapest fare.

IPTIS applies sophisticated algorithms to search the timetables for the optimal route through the rail network. The software deals with complex rules about when and where which ticket types can be used and the applicability of child fares, concessions and other discounts. IPTIS is also able to optimize the use of discount cards for a group and handles bus or ferry links and associates fares.

The major benefits of using IPTIS for The Trainline include speed, accuracy and the ability of the software to handle the complex rules that define the validity of tickets and routes in the UK, which are the most complicated in the world. The IPTIS team at Carmen also provide The Trainline with a high standard of support and are able to make software modifications quickly when required.

The Trainline project clearly illustrates the strength of Carmen's journey planning technology. Rob Parkinson, Development Director of The Trainline, considers IPTIS as a critical component of the whole website solution. "Despite the enormous complexity of the UK rail ticket system, the software delivers accurate information to the public via the internet and call centre". The site has also won praise from the British press, including a five star rating from the Financial Times survey of travel information websites.

About The Trainline

The Trainline call centres and website offer impartial information about timetables and routes, along with a ticket booking and seat reservation service for the whole UK rail network. The Trainline's two call centres employ over 900 telephone operators and receive over 120,000 calls per week. The website creates over a million journey plans per week. The website and call centres sell more than ten million pounds worth of train tickets per month, making The Trainline the largest retailer of rail tickets in Britain.

About Carmen Systems

Carmen Systems is recognised as one of the world's leading software and operations research companies. Headquartered in Goteborg, Sweden, Carmen has major offices in Brisbane, Singapore, London, Montreal, Stockholm and Copenhagen. Carmen's products are:

- **IPTIS**
Public transport journey planning
- **CRS**
Rail crew management
- **RSD**
Real time freight car planning
- **CCM**
Airline crew management
- **PlanOp**
Distribution and logistics network planning
- **OR Services**



CARMEN SYSTEMS
RESOURCES IN BALANCE

www.carmensystems.com

Carmen Systems Odinsgatan 9, SE-411 03 Göteborg, Sweden

Phone +46 31 720 81 00, Fax +46 31 720 81 20, Email carmen@carmensystems.com

"Carmen's IPTIS journey planning engine is a critical component of The Trainline solution. Despite the enormous complexity of the UK rail ticket system, the software delivers accurate information to the public via the internet and call centre".

*Rob Parkinson
Development Director
The Trainline*