

Preface

This book was written in the line of the roadmap of Railenium which is one of the 8 Institutes for Innovation, Research and Technology (IRT) created by a French governmental decree to boost economic competitiveness by filling up the gap between academia research and industry. Railenium is the French IRT dedicated to the railway systems, infrastructures and equipments. The missions of Railenium, on behalf and with the commitment of its members, are to achieve research and development projects, training and investments and exploitation of test facilities.

Railenium is structured as a Foundation for scientific cooperation (non-profit organization) and its activities cover the systems, infrastructures and equipment's for conventional, high speed and urban railway systems. Its aim is to bring together the railway expertise from research centers and companies (manufacturers, railway operators and infrastructure managers, engineering companies) to find innovative solutions both to enhance the competitiveness of the industry and the performance of European rail systems and networks. It has been founded in 2012 as a public/private partnership by 28 stakeholders.

Railenium is Associate Member on Innovation Programme 2 (Advanced Traffic Management and Control Systems) of the Joint Undertaking Shift2Rail through the SmartRaCon consortium, composed with the German Research Center DLR, the Spanish Technology Center CEIT and the British Company NSL.

Émilie Masson, researcher at Railenium and Marion Berbineau, senior researcher at IFSTTAR, a funding member of Railenium, have written this survey on all the railway applications requiring broadband wireless communications. The initial objective of the works was to explore the techniques and existing solutions to provide Internet access on board trains. Authors then thought it might be relevant to broaden the subject to all applications requiring broadband communications in the railway context. Reviewers cited below confirm the benefit to regroup such overviews on the subject.

The authors would like to thank warmly Pierre Cotelle, Networks and Telecom Solution Director at Alstom Transport Information Solution and Thomas Chatelet, ERTMS Project Officer at European Railway Agency for having reviewed this book. By their expertise in the railway domain, they brought real added value to the work.

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Applications

For Onboard Internet Access and Other Applications

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