New specialist book on IT systems for public transport companies

Public transport companies work with advanced information technology in order to plan, optimise and manage their fleets. The buses themselves have meanwhile also become high-tech vehicles. The complex IT systems that are involved are described in the new book ‘IT-Systeme für Verkehrsunternehmen: Informationstechnik im öffentlichen Personenverkehr’ (IT systems for transport companies – Information technology in public transport). Dr Gero Scholz, expert in logistics and computer sciences, describes the demands faced by modern transport companies and the operational data and processes they have to deal with. Considering transport questions in combination with IT questions makes it possible for the first time to establish a common basis for public transport operators and system providers, and considerably simplifies the communication between the actors. This 520 page standard work has been published in December by dpunkt.verlag.

Dr Scholz was chief software architect of IVU Traffic Technologies AG for many years, specialising in the development of IT solutions for public transport. The practical experience gained from his daily work has found its way into the book. The final product is a comprehensive volume which for the first time brings together practical and theoretical expertise from the transport sector and computer sciences. A key contribution is the detailed analysis and extensive modelling of numerous operational processes in public transport as a basis for their integration in IT systems. Using UML modelling language, a domain model is developed for bus and rail transport which integrates the core business processes with a class model as the basis for the architecture of the IT systems and their networking. All the activities of a transport company are dealt with in detail – from planning and dispatching vehicles and crews through the control and monitoring of fleets during operations to comprehensive passenger information and ticketing and the settlement for services provided.

“Public transport networks are important for the development of towns and cities, and with increasing urbanisation, the logistical challenges are constantly growing. Without powerful IT systems, it is no longer to meets these demands effectively,” explains Dr Scholz. “Therefore it was necessary to bring together the expertise from both sectors in order to create a common standard for the sustainable development of public transport”. The book has been written for a broader readership, and not exclusively for software engineers, the author explains. It is suitable for university teachers and students of transport engineering or computer sci-
ences, and equally also for actors in the public transport sector and users of the relevant IT systems. The intention is to present the complex interrelationships in public transport clearly and understandably, but without losing sight of the necessary detail, concludes Dr Scholz.

Contact:
Madlen Dietrich
Corporate Communications
IVU Traffic Technologies AG
Bundesallee 88, 12161 Berlin, Germany
Tel: +49 30 85906-0
Fax: +49 30 85906-111
Email: Madlen.Dietrich@ivu.de
www.ivu.com

IVU Traffic Technologies AG has been working for more than thirty years with some 300 engineers to ensure that transport in the world’s major cities operates reliably and on time. People and vehicles in expanding cities are continually on the move – a logistical challenge which calls for intelligent and reliable software systems. The standardised software products of the IVU.suite and tailor-made IT solutions are used to plan, optimise and control the scheduling of vehicle fleets and personnel, support the choice of branch locations and ensure that election results are determined correctly.

IVU. Systems for vibrant cities.

Dr. Gero Scholz worked intensively on logistical processes while studying at LMU Munich. After gaining a doctorate in operations research, he was responsible for various major projects at sd&m, e.g. for Deutsche Bahn and Lufthansa. From 1995 to 2003 he was in charge of the IT department at Dresdner Bank and was later CIO of Transaction Banking. From 2004 to 2007, he was in charge of development at IVU Traffic Technologies AG, and from 2008 to 2010 was chief architect, while also carrying out research on the ITVU book. Dr. Gero Scholz is now a consultant in the fields of transport, logistics and information technology.