

BISE – Call for Papers Issue 5/2011

The Future of Telecommunications

DOI 10.1007/s12599-009-0082-z

Editors of the special focus

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This article is also available in German in print and via <http://www.wirtschaftsinformatik.de>: Bub U, Krcmar H, Picot A (2010) WI – Call for Papers, Heft 5/2011, Die Zukunft der Telekommunikation. WIRTSCHAFTSINFORMATIK. doi:10.1007/s11576-009-0203-9.

1 Special Focus

For two decades the telecommunications industry has been facing changes caused by the growing dominance of the internet as a communications infrastructure, mass media, and also by a new generation for mobile communications. This development will continue: new network technologies (e.g. *Next Generation Networks*, *Long Term Evolution*) will change cost and market structures, inno-

vative cycles for products and technologies will become shorter, value chains will change. This is illustrated by vendors entering online service markets (such as Nokia with its own service portal) or offering their own network communication through so-called *managed services* (such as Alcatel-Lucent). Established network operators, on the other hand, start to specify individual consumer devices; classic computer manufacturers such as Apple break into the telecommunications market by way of consumer devices as well as new services. As a sign of emancipation from services and infrastructure, numerous new enterprises (Google being only the most prominent example) offer carrier agnostic telecommunications and data services without owning the infrastructure, so-called *Over the top providers*.

Operators are often faced with the decision if they should build their future on pure network operations or seek premiums through new types of network specific services (using so-called *enablers*) or network agnostic services, respectively. In any case, it is crucial to design the internal organizational processes efficiently and effectively, and to automate them as much as possible.

Further new challenges offer opportunities, but require a thorough technological evaluation. The current network transformation to an IP-based infrastructure of the *Next Generation Networks* offers potential for increased efficiency, but also requires high investments of billions of Euros with various decision alternatives.

The upcoming fiber optics connection right into homes (*Fiber To The Home*) will not only offer bandwidth of well over 100 Mbit/s to end customers, but will also give operators new opportunities to shape the network architecture, as well as to further automatize the internal business processes up to a *zero touch* (i.e. fully automatic) provisioning. This enormous build-out will not be done by former monopolies (the so called *incumbents*) alone,

but will be shared. The business models of infrastructure suppliers will require a mutual ability for wholesale. This implies that in the future, incumbents might also lease some transmission capacity from other operators, which was not the case before. In addition to that it turns out that in some geographical regions public spending might be necessary (e.g. by means of *Public-Private-Partnerships*) in order to achieve full coverage of high speed broadband access.

This special focus addresses technological questions and solutions concerning market strategy, products, methods, processes, technologies, and architectures in the changing market. Submissions from relevant fields of Business and Information Systems, Business Administration, Computer Science, and Communication Engineering are welcome.

Contributions from research and business practice on the following (and related) topics are invited:

- Markets, products, and business strategies
 - Changing of value chains and emergence of new valued-chain systems
 - Business models
 - Aspects of the convergence of fixed and mobile networks, IT, Internet, and media
 - Market trends *bit pipe* vs. *service provider*
 - Services, applications, and products for the mobile internet
 - Service innovations
 - Net neutrality and open access vs. vertically integrated services and networks
 - Telecommunication as an enabler for other domains (e.g. media, energy, automotive, health, logistics, finance)
- Methods and processes
 - Reference models (e.g. eTOM, application of ITIL to telecommunication companies)
 - Business process automation
 - Agile methods for systems integration, development, and operations

- Cost modeling and estimation for development and operation of large networks, modeling of Capex (capital expenditure) and Opex (operational expenditure)
- Privacy and data security, network security, application security
- Technologies and Architectures
 - Application architectures (e.g. for mobile devices, backend)
 - Architectures of service delivery platforms
 - Broad band architectures and their economical evaluation
 - Architectures for home networking
 - Network virtualization, IT virtualization and architectures for cloud computing, telecommunication infrastructure of data centers
 - Business information systems, BSS (Business Support Systems), OSS (Operations Support Systems)
 - Network transformation and migration from classical telecommunication protocols to IP, next generation (mobile) networks
 - (Mobile) operating systems, open source software (e.g. Android, Chrome OS)

2 Submission

Please submit papers for the sections BISE – Research Paper and BISE – State of the Art by 2010-09-01 at the latest via the journal's online submission system (<http://www.editorialmanager.com/buis/>). Please observe the instructions regarding the format and size of contributions to Business & Information Systems Engineering (BISE)/WIRTSCHAFTSINFORMATIK. Papers should not exceed 50,000 characters including spaces, minus 5,000 characters per page for illustrations. Detailed authors' guidelines can be downloaded via <http://www.bise-journal.org>.

All papers will be reviewed anonymously (double-blind process) by several referees with regard to relevance, originality, and research quality. In addition to the editors of the journal, including those of this special focus, distinguished national and international professionals with scientific and practical backgrounds will be involved in the review process.

Complementary articles covering topics of this special focus are also more than

welcome for other sections of the journal, e.g. for BISE – Catchword and BISE – Profile.

Accepted papers will appear identically in English and German. The English language version will appear in Business & Information Systems Engineering (BISE), the German language version will appear in WIRTSCHAFTSINFORMATIK. Accepted papers will be translated in close cooperation with the authors and a professional team of translators.

3 Schedule

Submission deadline: 2010-09-01

Author notification: 2010-11-01

Completion of first revision: 2011-01-17

Author notification: 2011-03-14

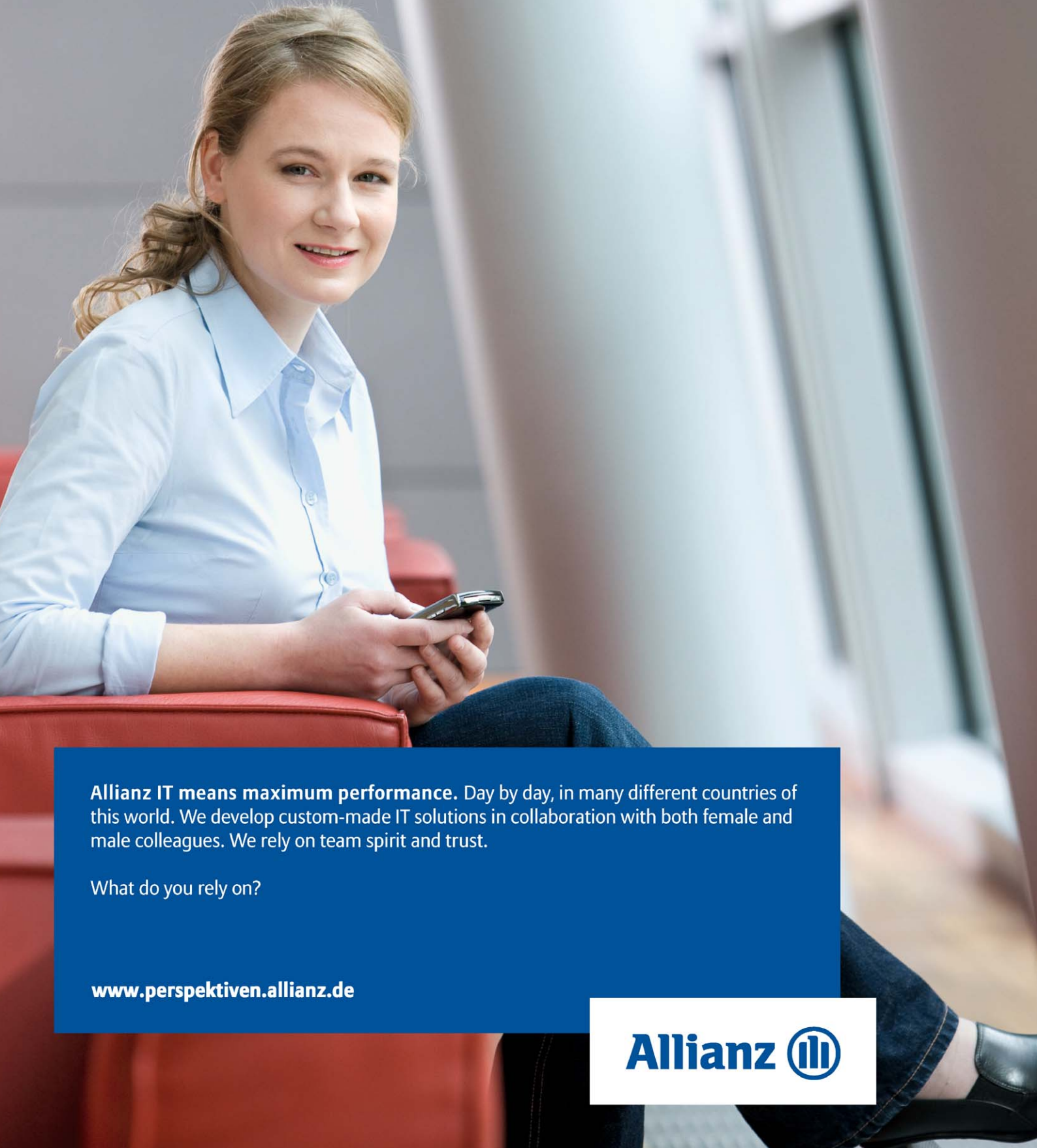
Completion of a second revision if needed (unilingual): 2011-05-16

Completion of a second revision if needed (bilingual): 2011-06-13

Planned publication date of Issue 5/2011: October 2011.

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Dr. Petra Stephan,
Allianz Deutschland AG, IT Manager



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Deutsche Telekom Laboratories

We shape the future

Deutsche Telekom Laboratories is Deutsche Telekom's research and development institute based in Berlin. It is simultaneously a scientific institute organized under private law and associated with the Technische Universität (TU) Berlin. At Deutsche Telekom Laboratories, scientists from across the globe work together with experts from the Group to develop new services and solutions for Deutsche Telekom's customers. Establishing new companies (spin-offs) is another method for making use of research output.

Cooperation with the TU Berlin, other universities and industry partners creates a bridge between business and science in order to turn ideas into marketable innovations as quickly as possible. As part of this, Deutsche Telekom Laboratories focuses on five fields of innovation (5 i):

- Intuitive Usability of services and devices
- Integrated Service Components
- Intelligent Access
- Infrastructure for IT and telecommunications
- Inherent Security

The business and information systems engineering offers useful interdisciplinary approaches for all these areas of innovation. Subject matter includes, for example, modeling, methods and tools for process innovations, agile architectures for information and communication technologies (ICT), technology-oriented management approaches and techno-economic assessments. The aim is to safeguard the economic sustainability of innovations for the Group.

Deutsche Telekom Laboratories is divided into two areas: The Innovation Development Laboratory focuses on market-centric research and development within a timeframe of up to three years.

The basic and technology research of the Strategic Research Laboratory has a long-term focus. Common goal: Deutsche Telekom Laboratories is looking to become one of the world's leading research and development institutions in the field of new ICT.

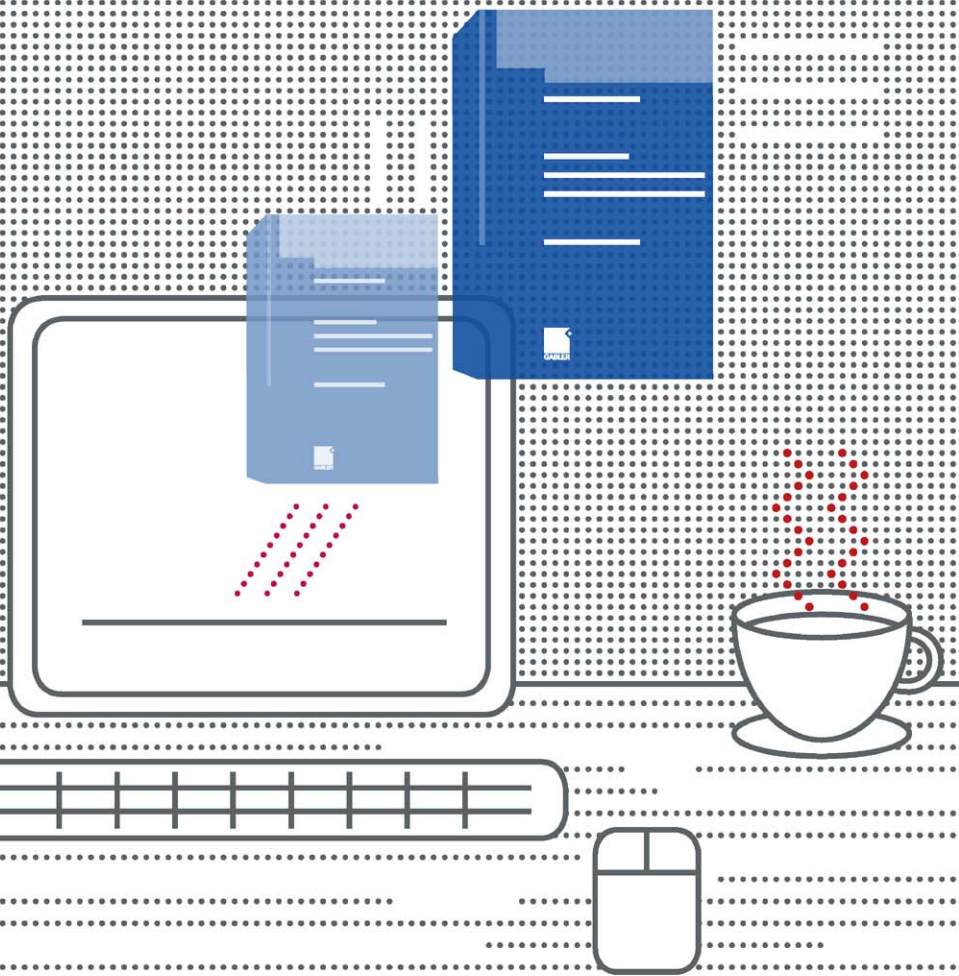
An institute was set up together with Ben-Gurion University in Beer Sheva, Israel, in 2006. Since 2008, Deutsche Telekom Laboratories has also been represented in Darmstadt. Another project office was opened in the Silicon Valley, United States, in January 2009.

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