

# JONATHAN E. BUSCHMANN

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## EXPERIENCE SUMMARY

- More than 30 years' experience in the telecommunications industry with broad expertise in solution design, technical sales, and consultancy
- Strong communicative skills, with participation in public forums sustaining strategic company positions, leading C-Level discussions, and organizing technical training seminars
- Expertise in 4G and 5G RAN functionality and KPIs, driving NR, LTE and VoLTE RAN design and optimization
- Expertise in mobile network end-to-end multimedia issues, leveraging experience from R&D work on Internet protocols, web-based solutions, image compression algorithms, and video communications systems

## PROFESSIONAL EXPERIENCE

### **2014-2022 RAN Strategic Competence Unit, Global Services, Ericsson Inc., Plano, TX** *Senior Solution Architect, Network Design & Optimization*

- *VoLTE and LTE optimization*: Trialed market-level optimizations and brought them nationwide through corporate HQ collaboration, for Tier 1 NA operator, improving nationwide LTE & VoLTE performance
- *VoLTE Experts Group Chairman*: Lead worldwide group within the RAN Strategic Competence Unit, composed of 20 experts developing new ideas for VoLTE Network Design & Optimization
- *5G Design & Testing*: Lab and field testing of 5G SW for Tier 1 NA operator. Included test case design, leading test activities, and fault reporting and feedback to product unit
- *Performance Partnership*: Design, scoping, and negotiation of a major service proposal for improving VoLTE e2e performance for a major UK operator
- *VoLTE e2e Optimization Consultancy*: Brought critical improvements to VoLTE network of a major North American operator and created local team with competence on optimization techniques
- *VoLTE Readiness Optimization & Troubleshooting*: Lead team preparing network for VoLTE launch for a major South African operator. Included network audit, capacity analysis, KPI definition and e2e optimization
- *New Feature Customer Workshops*: Lead feature workshops for a Japanese Continuous SW Delivery operator, involving close cooperation with the Product Development Unit. Included CATM and 5CC features
- *5G Virtual RAN*: vRAN beta product integration and verification work with Product Development Unit
- *Network Evolution and Optimization Strategy*: Consultancy towards major Indian operator. Planned network evolution strategy, improved network performance, and prepared network and staff for VoLTE launch
- *End-to-end VoLTE Readiness*: Team leader of RAN and core network experts preparing and optimizing networks for VoLTE services for operators in North and South America
- *LTE and VoLTE Rollout and Mobility Optimization*: Retainability and capacity analysis, mobility parameter tuning, and new feature deployment strategies for a major Asian operator
- *MBB E2E Quality of Service Readiness Assessment*: Team leader for RAN QoS assessment and design, supporting business-driven traffic differentiation and e2e quality guarantees for a major Middle Eastern mobile operator
- *LTE for Fixed Wireless Access*: Consultation for a major European operator building a nationwide BB network, identifying coverage and capacity issues, and performing cost analysis and comparison of BB technologies
- *VoLTE Readiness support*: LTE network configuration and capacity audit, features definition and parameterization, coverage and interference analysis, identifying e2e issues, and defining KPIs, for a major Asian operator

### **2000-2014 Market Unit Italy / RMED, Ericsson Telecomunicazioni S.p.A (TEI), Milan, Italy** *Solution Architect, LTE and Wi-Fi Technology Sales*

- *Metro Wi-Fi Network*: Proposal, design, and delivery lead for an end-to-end turnkey solution for a metro-wide network for a startup ISP, handling initial discussions, design & proposal, and customer business case
- *Ericsson Network Integrated Wi-Fi solutions*: C-level discussions, followed by technical and commercial proposals for mobile network integrated Wi-Fi solutions for two North African operators

- *LTE proposals*: Technical discussions, C-Level solution presentations and tender support for various mobile operators in the Mediterranean region. Included pre-sales work in corporate unit
- *Innovative backhaul solutions for Utilities*: Fixed wireless solution design for smart grids and gas pipeline monitoring based on Wi-Fi 5 GHz and LTE technologies
- *NRO Services Definition*: Specified and negotiated NRO services towards Italian WiMAX fixed-wireless ISPs
- *Campus Wi-Fi networks*: Proposal and design of indoor and outdoor University Wi-Fi networks
- *WiMAX opportunities*: Third-party equipment benchmarking and commercial joint proposals
- *Spectrum Auction support*: Consultative work for a European operator's spectrum Beauty Contest, preparing a technical solution and business case analysis for evaluation of the spectrum value

#### ***Solution Manager, Advanced Technology Projects***

- *HSPA and LTE positioning*: C-Level and public forum discussions driving Ericsson positions, sustaining 3GPP solutions for MBB and its advantages compared to Mobile WiMAX
- *IPv6 in core networks*: Technical workshops with key customers helping them understand the need for, and advantages of different migration strategies from IPv4 to IPv6 in mobile core networks
- *WiMAX trials*: Led extensive WiMAX fixed-wireless trialing for multiple operators, demonstrating performance and limitations. Included design and planning, configuration, and trouble-shooting of beta-level equipment, C-Level presentations, and presentation of the results to the Italian Communications Ministry
- *IP Multimedia systems*: Development work on "early IMS" specifications and IMS network integration paths
- *ATM to IP transport migration and TCP/IP over wireless optimization*: Worked with internal Customer Units preparing them for the introduction of the IP UTRAN transport architecture, and TCP/IP optimization

#### **1988-2000 Central Research Laboratories, Siemens ICN S.p.A. / Italtel S.p.A., Milan, Italy**

##### ***Senior Researcher, Digital Signal Processing Laboratory***

- *Company interface with the Internet Engineering Task Force (IETF)*: Participated in diverse working groups and provided input to the company's strategic planning efforts
- *Advanced Contact Center solutions*: Developed and integrated web-based multimedia, e-commerce, e-business, and telecommunications technologies for Contact Center solutions, leveraging Open Source Software
- *IP over ATM integration*: Developed an ATM NIC for PC, an advanced ATM multimedia terminal, and an ATM/Ethernet IP router, with integration of mid-and lower-layer communication protocols in distributed multimedia networks
- *Multimedia network servers*: Implemented an end-to-end solution for an ATM-based Video-Dialtone network
- *Design of image coding systems*: Designed codecs based on ISO MPEG and CCITT H.261 international standards, and proprietary codecs. Developed an X-Windows-based image visualization application

#### **1986-1988 System Engineer, Panametrics Inc., Waltham, MA**

*Designed and implemented a test system for ultrasonic transducers composed of a network of LeCroy intelligent digital oscilloscopes used by technicians following procedures under remote computer guidance, with the consequent gathering, digital archival and document output of the test results.*

#### **1987 Adjunct Faculty Member, Boston College, Chestnut Hill, MA**

*Taught introductory physics course in the Department of Physics.*

#### **1984 Assistant Scientist, Harvard-Smithsonian Center for Astrophysics, Harvard University, Cambridge, MA**

*Assistant to chemical physicist. Research work involved molecular orbital calculations with applications in atmospheric physics.*

#### **1980-1986 Laboratory Manager / Teaching Assistant, Boston College, Chestnut Hill, MA**

### **FORMAL EDUCATION**

**1989** *Master of Science in Information Technology, Cefriel Center for Research, Milan, Italy*

**1988** *Doctor of Philosophy in Physics, Boston College, Chestnut Hill, MA*

**1983** *Master of Science in Physics, Boston College, Chestnut Hill, MA*

**1980** *Bachelor of Arts in Physics, Rutgers College, Rutgers University, New Brunswick, NJ*

**PUBLICATIONS**

- 2012** "Towards Coordinated Innovation: A Path to Successful Convergence of Ongoing Telecommunication Revolutions", *The 51st FITCE International Congress*, Poznań, Poland. (A collaborative effort.)
- 2011** "From Objects, to Cities, to the Smart Company: the Revolution of the Internet of Things", AEIT 2011 National Conference, *Economic Prospectives and Industrial Strategy*, Milan, Italy. (A collaborative effort.)
- 2010** "Smarter Business Models for Smart Living, Smart Companies and Smarter Societies", *The 49<sup>th</sup> Forum for European ICT Professionals Congress*, Santiago de Compostela, Galicia. (A collaborative effort.)
- 2007** "IPv6 nelle Reti Mobili" (IPv6 in Mobile Networks), published in La domanda di comunicazione chiede di aggiornare Internet (The Demands of Communication require an update of Internet), *Media 2000*, n. 242, XXIV - 10, December 2006/January 2007.
- 2006** "WiMAX Experimentation and Verification in Field in Italy", *The Third International Conference on Cybernetics and Information Technologies, Systems and Applications*, Orlando, FL. (A collaborative effort.) Also published in Ericsson Product Catalogue (no longer available.)
- 1999** "Implementing a Customizable Cross-Market Framework for Furnishing One-to-One Customer Services", *Third European Workshop on Techno-economics for Multimedia Networks and Services*, Aveiro.
- 1998** "ATM Interface Design Issues for IP Traffic over ATM/ADSL Access Networks", *SPIE Voice, Video, and Data Communications*, Boston, MA. (A collaborative effort.)
- 1992** "A Real-Time Implementation of an Audiovisual Terminal", *The International Conference on Signal Processing Applications and Technology*, Boston, MA. (A collaborative effort.)
- 1991** "Walsh-Hadamard Visually Adaptive Coding System", *Picture Coding Symposium*, Tokyo.
- 1990** "Comparison of Adaptive Quadrature Mirror Filter Subband Coding Systems", *SPIE Symposium on Electronic Imaging Science and Technology*, Santa Clara, CA. (A collaborative effort.)
- 1988** "A Broken Symmetry Ontology: Quantum Mechanics as a Broken Symmetry", Ph.D. Thesis, Boston College, Chestnut Hill, MA.