

CURRICULUM VITAE

Alastair Norman BRYDON BSc (Hons) PhD CEng FIET SMIEEE

Career History

More than twenty-five years in the telecommunications industry, focused on wireless technologies and networks and their commercial exploitation.

Co-Founder and Chief Executive, Unwired Insight Limited, Durham, UK (2001 to date):

- Co-founder of the business, providing research and consultancy services to leading organisations in the mobile telecommunications industry, including network operators, equipment manufacturers, investors, lawyers and regulators.
- Author of more than 40 major research reports on the commercial exploitation of wireless technologies and networks, purchased by over 250 companies worldwide, including BT, Cisco, Credit Suisse, Deutsche Telekom, France Telecom, Ericsson, Intel, JP Morgan, Nokia, NTT DoCoMo, Qualcomm and Vodafone. Many of these companies have purchased corporate licences to allow access to the reports for every employee.
- Developed models of the capacities, capabilities and costs of multiplatform wireless networks and the network traffic generated by mobile services. The models provide unique insight into the trade-offs of alternative technology deployment strategies as mobile broadband services proliferate, for example using different combinations of spectrum allocation, network upgrades, small cells and network sharing.
- Feedback from customers indicates that Unwired Insight reports, models and consultancy have had a substantial influence on their technology deployment decisions and business cases, including the need for and timing of network upgrades (e.g. HSPA+, LTE, LTE-Advanced), small cells, wireless broadband (e.g. WiMAX) and mobile TV technology (e.g. DVB-H, MediaFLO).
- Technical advisor to leading international law firms, covering mobile system technologies including GSM/GPRS/EDGE, UMTS/HSPA/HSPA+, LTE/LTE-Advanced and cdma2000. Expert witness in high-profile intellectual property litigation in the wireless industry, producing expert reports on the validity, essentiality and infringement of a variety of mobile system patents, under-going cross-examination in the High Court of Justice and submitting declarations to the US Patent Trial and Appeal Board.
- Chair and presenter at major international conferences on the commercial exploitation of wireless technologies in the mobile telecommunications industry.
- Quoted in international business and technology media, including the *BBC*, *Business Week*, *Financial Times*, *Economist*, *International Herald Tribune*, *Sunday Times*, *Total Telecom*, *Fierce Wireless*, *Mobile Europe* and *EE Times*.
- Author of the Unwired Insight *Wireless Blog* (www.wirelessblog.com), providing insight into the latest developments in wireless technologies and services for the mobile industry.

Strategy & Business Development for Europe, Middle East and Africa (EMEA), Nokia Networks, Huntingdon, UK (1997-2001):

- Responsible for leading projects to stimulate the adoption of wireless technologies and services in Europe, Middle East and Africa. Nokia's sales of wireless network equipment in EMEA were in excess of £1 billion per annum by 2001.
- Defined Nokia's bid strategies for major wireless infrastructure tenders, including Orange and Vodafone in the UK.
- Persuaded Cellnet Board members of the benefits of prepaid mobile services and worked with them to define the characteristics of an attractive market proposition. Prepaid services were fundamental to transforming mobile telephones from niche products with less than 20% penetration of the UK population to ubiquitous mass market devices with over 100% penetration.

- Instigated, organised and presented at a major seminar in Westminster, to stimulate interest in mobile content services. The event was attended by over 50 representatives of major UK companies, including media organisations, high street retailers, banks, entertainment companies and other content providers. It stimulated a range of subsequent activities, which led to several of these organisations launching mobile services.
- Convinced the BSkyB Business Development Director of the need for mobile services as part of a multi-platform content delivery system. Over an 18-month period advised BSkyB on the capabilities of mobile technologies and business models of mobile services, leading to the launch of the Sky Mobile service.
- Developed a vision of the Mobile Virtual Network Operator concept and presented this to senior managers in OFTEL, UK mobile network operators, and major UK retail brands. Over a two-year period, advised Virgin Board members as they developed and launched the Virgin Mobile concept and prepared to bid for a 3G licence.
- Presented to the Nokia Networks Board a new proactive strategy for driving the market for 3G services, to stimulate demand for network infrastructure equipment. This resulted in a new approach to equipment sales.
- Worked alongside Virgin to bring together Tesco, Sonera, content providers and investors to form the SpectrumCo consortium, to bid for a UK 3G mobile licence. Prepared a business case for the network technology required by SpectrumCo to deliver 3G services in the UK. SpectrumCo bid over £2 billion before withdrawing from the licence auction.

Network Architecture Manager, Cellnet, Slough, UK (1995-97):

- Responsible for coordinating network architecture developments and driving the introduction of new technologies to meet future needs. By 1997 Cellnet had invested almost £1 billion in its network infrastructure.
- Undertook the technical and commercial evaluation of new technology development proposals for presentation to the review board.
- Developed business cases for general purpose network capabilities, including SIM Application Toolkit and Intelligent Network (IN).
- Led a cross-company project to identify major business issues impacting on Cellnet's technology strategy, resulting in a significant uplift to the network investment plan, to prepare for rapid growth in the number of mobile subscribers in the late 1990s.
- Devised and implemented, across the business, a new product development process, to improve the focus of technology developments against business priorities.

Senior Engineer, BT Laboratories, Martlesham Heath, UK (1989-95):

- Contributed to, and participated in, a variety of international research and standardisation activities, directly influencing the development of the mobile radio systems GSM, UMTS, DECT and TETS, which paved the way for the mass market adoption of mobile telephone services. Patented new mobile network techniques related to UMTS.
- Chaired the co-ordination group of the European Community MONET project, in which 20 companies from across Europe developed fundamental aspects of the network standards for UMTS.
- Provided extensive consultancy to Cellnet, including a six-month secondment, working across Technology and Marketing Departments to align the GSM system design with the company's product and service strategy. Documented a consolidated five-year network evolution plan.
- Advised the UK Public Safety organisations on the evolution of their mobile communications systems, including the relative merits of GSM and TETRA. Developed and patented a new BT product to enhance the Private Mobile Radio (PMR) systems employed by the UK police. This was subsequently adopted by a number of police forces.
- Reviewed the £1 million consultancy programme undertaken by BT Laboratories on behalf of Cellnet, to improve its focus on Cellnet's requirements.
- Frequently represented BT's mobile communications activities in showcase events, conferences, publications and in support of sales teams. Wrote a chapter on 'Cellular architectures and signalling' in the IEE book 'Modern Personal Radio Systems', published in 1996.

***Lecturer, University of Manchester Institute of Science and Technology,
Manchester, UK (1986-89)***

- Taught undergraduate classes of up to 120 students, covering topics including communications principles, signal analysis and electromagnetic theory.
- Developed original elements of a new, industry-sponsored degree course on Microelectronic Systems.
- Supervised a wide variety of undergraduate and postgraduate telecommunications research projects in wireless communications.

Education

University of Manchester Institute of Science and Technology, UK (1981-89)

PhD in Medium Rate Data Transmission at HF

- A government-sponsored project to design, construct and test a digital radio system, able to operate successfully in the High Frequency radio band in adverse conditions.
- Undertook computer modelling and analysis of potential solutions, including innovative signal processing techniques, followed by extensive hardware and software development.
- Successful field trials led to the system being patented and manufactured.
- Published and presented a variety of technical papers in international journals and conferences.

BSc (Hons) in Electronics (1st Class)

- Awarded 1st, 2nd and 3rd year course prizes, the Dick Cleland prize for best final year project, and the departmental IEE prize for top final year student.

Spennymoor Comprehensive School, County Durham (1974-81)

- 'A' levels: Maths (A); Further Maths (A); Physics (A); Engineering Drawing (A)
- 'S' levels: Maths; Physics

Professional Qualifications

- Chartered Engineer (CEng)
- Fellow of the Institution of Engineering and Technology (FIET)
- Senior Member of the Institute of Electrical and Electronics Engineers (SMIEEE)