



# MobileVCE

**Wireless@VCE:  
Delivery Efficiency & Green Radio**

**Visiting Paris for the  
Wireless World Research Forum?**

**Join us Monday 4th May 2009**

- **strategic value for the future of the industry**
- **industry-led, industry-defined, industry-steered**
- **long term, world-class, research**
- **high gearing of research budget**
- **proven track record over the past decade**
- **ahead of industry trends**

Mobile VCE is a not-for-profit company, serving a global industry membership comprising leading fixed and mobile operators and manufacturers, from Europe, America and Asia, in a unique industry-led, long-term, collaboration, harnessing the UK's top University research expertise.

## **Mobile VCE**

Virtual Centre of Excellence  
in Mobile and Personal Communications



## **Wireless@VCE: Delivery Efficiency & Green Radio**

Date & Time: **4th May 2009, 9.30am for 10am start**

Venue: **Kindly hosted by France Telecom in the Emagine Room, Orange Business Services Building, 190 avenue de France, 75013**

## **Wireless@VCE: Delivery Efficiency & Green Radio**

Explosive growth in mobile broadband is being accompanied by only modest revenue increases, due to flat rate billing models. Improving the efficiency of wireless delivery remains a high priority for operators. Further, operators recognise that reduced energy consumption is not only environmentally necessary but also reduces Opex. These were two key drivers which led Mobile VCE's industrial members to define its 'Delivery Efficiency' and 'Green Radio' programmes.

Today's event provides companies from around the world with an opportunity to learn about these initiatives, to network with member companies and to consider joining Mobile VCE to participate in its new research programme. At a time when research budgets are under pressure, Mobile VCE's unique model provides major financial gearing enabling companies to maintain a strong research capability.

You may register online to attend at [www.mobilevce.com/calendar](http://www.mobilevce.com/calendar) or by e-mail to [events@mobilevce.com](mailto:events@mobilevce.com)



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Nearest Metro Station is Quai de la Gare on Line 6, which runs from Charles De Gaulle Etoile to Nation

### Topics

#### Morning:

**Delivery Efficiency  
Why it Matters  
Making it Happen**

### Agenda

- 9:30 **Arrival and Refreshments**
- 10:00 **Welcome and Introduction** *Dr Walter Tuttlebee, Mobile VCE*
- 10:20 **Why Efficiency Matters: Programme Overview** *Prof Rahim Tafazolli, University of Surrey*
- 10:40 **Why Efficiency Matters: An Industrial Perspective**  
*Dr Michael Fitch BT, Industrial Chairman of the Programme*  
An industrial view of the key questions
- 11:00 **Optimum Combination of Air Interface Techniques**  
*Prof Lajos Hanzo, University of Southampton*  
Designing Seamless Wireless Networks in a Future of Unpredictable Service Requirements: Commencing with a whistle-stop tour of FDMA, TDMA, CDMA, OFDMA, SDMA, IDMA and CCMA, this overview will present a road-map of both classic and unorthodox transceiver signal processing techniques applicable to both single and multiple-antenna-aided solutions. It reaches out to the challenging topic of overall system efficiency improvements using low-power cross-layer signal processing.
- 12:00 **Spectrum Sharing and Enabling Techniques through Cognitive Radio**  
*Dr Tim Harrold, University of Bristol*  
Proposals to improve efficiency have considered cognitive radio as an enabling technology. This presentation explores the potential benefits of intelligent, environment-aware, techniques implemented in terminals and network equipment to manage spectrum sharing between users to improve efficiency of spectrum use. A range of algorithms has been developed and investigated in order to quantify the benefits of spectrum sharing in different scenarios.
- 12:30 **Joint Link and System Optimisation**  
*Dr Vasilis Friderikos & Dr John Thompson, Kings College London & Edinburgh*  
Key research results on cross-layer optimisation in fast packet scheduling, packet routing and multihop communications. Important recommendations resulting from this cross-layer optimisation work will be presented and discussed.
- Lunch**
- 14:00 **The Next Efficiency Challenge: Green Radio** *Simon Fletcher, NEC*  
Mobile VCE's Core 5 Green Radio Programme seeks to apply system-wide thinking, challenging basic assumptions, to identify optimal architectures and techniques to secure 100x reductions in energy consumption
- 14:15 **Green Radio: An Operator Perspective** *Stephen Hope, Orange*  
Operators have made CSR (Corporate Social Responsibility) commitments to energy reduction and need to reduce Opex. So, what are network operators looking for from this programme?
- 14:45 **Green Architectures: Not Quite Obvious** *Prof Tim O'Farrell, Swansea University*  
Research to reduce the energy consumption of wireless networks, through an appropriate choice of radio access architecture and associated backhaul. The talk will cover the technical approach, energy metrics & models, and initial findings.
- 15:45 **What are the Appropriate Green Radio Technologies?**  
*Dr Simon Armour, University of Bristol*  
Work on techniques to reduce the power consumption in individual network devices will be described. This will cover planned strategies and early findings.
- 16:15 **Industrial Panel Discussion** *Chaired by Dr Walter Tuttlebee, Mobile VCE*  
With a focus on the needs of the wireless industry the panel will explore the role of spectrum and energy efficiency in future communication systems.
- 17:00 **Close**

#### Afternoon:

**The Next Efficiency  
Challenge  
Green Radio**



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