



# The 10<sup>th</sup> GSMA EMF Forum

Maximising 5G for safety and performance

Thursday, 14 October 2021 | 10:00-16:00 CET

#EMFFORUM



# Introduction

**The GSMA EMF Forum once again brings together policymakers, international experts and industry leaders from around the world to exchange views on the latest scientific research, policy developments and how to maximise the potential of 5G.**

The 10<sup>th</sup> EMF Forum reviews lessons learned from past GSMA EMF Forums, scientific developments regarding millimetre waves, the results of 5G network assessments and how these developments can contribute to policy and communication responses to electromagnetic field (EMF) concerns.

The intervening years since the first event in 2010 saw technology evolution from 3G, through 4G and now 5G. Throughout that time the consensus of the scientific community has remained unchanged, the international EMF exposure guidelines provide protection against all established health risks. It is a positive sign that around the world countries are moving to adopt the latest international guidelines. The GSMA welcomes this move and is publishing guidance on effective policy to ensure compliance for mobile networks.

Each time there has been a technology transition we see questions from some sections of society and misunderstanding about what it will mean for radio signals in everyday life. The reality is that measurements consistently show that radio signals from mobile networks are typically a small fraction of safety limits. This is being confirmed for 5G deployments and the latest data from real-world testing will be shared at the EMF Forum.

5G represents an evolution in radio technology, building on 4G, and a revolution in new capabilities delivering higher data speeds and near instant responses. Public opinion surveys show that in some countries the mobile industry needs to do more to inform the public and stakeholders about the opportunities that 5G brings.

We thank the speakers for sharing their expertise and look forward to the discussions across the day.



# Morning Programme

**10:00-12:30 CET**

## 10:00-10:10 Welcome and Introduction

The 10th GSMA EMF Forum will review lessons learned from past GSMA EMF Forums, scientific developments regarding millimetre waves, the results of 5G network assessments and how these developments can contribute to policy and communication responses to EMF concerns.

**Daniel Pataki, Vice President, Policy and Regulation & Head of Europe, Russia and CIS, GSMA**

## 10:10-10:30 Looking back at lessons learned from past GSMA EMF Forums

A perspective on what has changed and what remains the same over ten GSMA EMF Forums.

**Sarah Wylie, EMF Manager, Vodafone Group & GSMA Global EMF and Health Chair**

## 10:30-11:00 5G is both an evolution and a revolution

New capabilities. New technical features. Evolution from 4G. Small cell deployment. Millimetre wave deployment.

**Jaime Lluch, Technology and Architecture Senior Manager, Telefónica Group**

**Facilitator: Sarah Wylie, EMF Manager, Vodafone Group & GSMA Global EMF and Health Chair**

## 11:00-11:30 Reviews of research on 5G millimetre waves and health

Two new scientific reviews conducted by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and Swinburne University of Technology of research above 6 GHz found no evidence of adverse health effects from the radio waves used in 5G.

**Associate Professor Ken Karipidis, Assistant Director, Health Impact Assessment, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)**

**Facilitator: Dr María Concepción Muro Lupori, EMF & Health Expert, Telefónica, Spain**

## 11:30-12:30 5G Technology, Policy and Science Panel Session

Panel discussion with all morning speakers to clarify understanding of the potential of 5G, the mobile industry plans for deployment and the current state-of-the science.

**Jaroslav Ponder, Head of the Office for Europe, International Telecommunication Union (ITU)**

**Associate Professor Ken Karipidis, Assistant Director, Health Impact Assessment, ARPANSA**

**Jaime Lluch, Technology and Architecture Senior Manager, Telefónica Group**

**Sarah Wylie, EMF Manager, Vodafone Group & GSMA Global EMF and Health Chair**

**Facilitator: Rita de Castro, Director of Policy, GSMA Europe**

## 12:30 Close of morning programme



# Afternoon Programme

## 13:30-16:00 CET

### 13:30-14:00 Operator activities to ensure 5G EMF compliance

Mobile industry management of RF-EMF compliance through assessments, measurements and communications.

**Christophe Grangeat, Principal Specialist EMF Mitigation, Nokia & Co-convenor IEC TC106 MT3**

**Facilitator: Sami Gabriel, Vodafone Distinguished Engineer, Group R&D - Future Technologies, Vodafone**

### 14:00-14:45 Demonstrating 5G compliance – results of real-world testing

Share results of GSMA analysis of 5G network surveys explaining how measurements were made, trends and comparisons to other wireless technologies.

**Jean-Benoît Agnani, Head of the Department on Exposure Studies, Agence Nationale des Fréquences**

**Margit Kropik, Managing Director, Forum Mobilkommunikation, Austria**

**Facilitator: Mike Wood, Distinguished Professional, Telstra & GSMA Global EMF and Health Deputy Chair**

### 14:45-15:45 Ensuring and showing RF-EMF compliance

Panel discussion with all afternoon speakers on the roles of regulators and operators to ensure RF-EMF compliance and communicate the results of assessments.

**Dr Christos Datsikas, Policy Officer, Radio Spectrum Unit, DG CONNECT, European Commission**

**Witold Tomaszewski, Spokesperson, Office of Electronic Communication, Poland**

**Jean-Benoît Agnani, Head of the Department on Exposure Studies, Agence Nationale des Fréquences**

**Margit Kropik, Managing Director, Forum Mobilkommunikation, Austria**

**Mike Wood, Distinguished Professional, Telstra & GSMA Global EMF and Health Deputy Chair**

**Facilitator: Martin Busch, Expert for Public & Regulatory Affairs, Deutsche Telekom AG & GSMA Europe EMF and Health Chair**

### 15:45-16:00 Summary and Conclusions

In conversation wrap up of the day including takeaway conclusions.

**Sarah Wylie, EMF Manager, Vodafone Group & GSMA Global EMF and Health Chair**

**Dr Jack Rowley, Senior Director Research & Sustainability, GSMA**



# Meet the Speakers



**Rita de Castro, Director of Policy, GSMA Europe**

Rita de Castro has 15 years' experience in European public and regulatory affairs, with a strong focus on the digital and telecom sectors, and a mix of international private sector and public sector experience. Rita worked in the European Commission Directorate General for Communications Networks, Content and Technology (DG CONNECT). She was EU Affairs Manager for Hutchison Europe (Three Group). Having also worked for a consultancy specialising in European public and regulatory affairs advising FTSE 100 clients, Rita has extensive experience in the sector. Rita holds a Master in European Political & Administrative Studies from the College of Europe. She graduated from Lisbon Nova University. A Portuguese native, she is also fluent in English, French and Spanish.



**Daniel Pataki Vice President, Policy and Regulation & Head of Europe, Russia and CIS, GSMA**

Daniel Pataki leads the GSMA's global engagement on mobile-sector regulatory affairs. Under his direction, the GSMA is contributing new ideas and analysis to the global policy dialogue at a time when emerging digital technologies and widespread broadband connectivity are reshaping society and the economy. Daniel also leads the GSMA activities in Europe, Russia and the Commonwealth of Independent States (CIS). He is responsible for all GSMA Advocacy initiatives (Future Networks, Identity, Internet of Things) in the wider European region. Daniel has a unique record of strategic input into Europe's telecommunications policy agenda, having previously served as head of Hungary's National Regulatory Authority (2004-2009), chair of the European Regulators Group (ERG, now BEREC, 2008) and chair of the European Radio Spectrum Policy Group (RSPG, 2009). Daniel was also Director General of the European Telecommunications Network Operators' association (ETNO, 2012-2015). He holds a MSc in Economics from the Budapest University of Economics and a Postgraduate Diploma from a leading French institutional programme led by Ecole de Mines, Ecole des Ponts and Sciences-Po. He was awarded the Officer's Cross of the Order of the Republic of Hungary in 2009 for his work in EU electronic communication regulation and the Order of Merit (Knight's Cross) of the Republic of Hungary in 2005 for his work promoting the development of the information and communications technology sector.



**Sarah Wylie, EMF Manager, Vodafone Group & GSMA Global EMF and Health Chair**

Sarah joined Vodafone as a Personal Secretary in 2001 and moved through the procurement team and then to the External Affairs team in 2008 to take on the role of Group EMF manager. Her responsibilities include leading the global EMF team across Vodafone Group's mobile operations in 25 countries to ensure consistent messaging, compliance with national and international standards, and communication of all aspects relating to EMF management. Sarah chairs the GSM Association's EMF & Health Working Group. Sarah holds a BA in American Studies from the University of Warwick. Before working at Vodafone, Sarah worked in University Administration and the Financial Services sector. Outside of Vodafone, Sarah enjoys travelling (when there is no pandemic) and building new relationships with her five grandchildren.



**Jaime Lluch, Technology & Architecture Senior Manager, Telefónica**

Mr. Lluch currently holds the role of Technology and Architecture Senior Manager within Global CTIO unit in Telefónica where he supports overall network evolution strategy towards new technologies. Prior to his current position, he held the role of Access Network Engineering Director in Telefónica Germany where he was responsible of Radio Access and Transport Network Strategy, Technology, Planning and Optimizatio for five years. Before, Mr. Lluch has held different Technology and Business Development positions within Telefónica Research and Development, Telefónica S.A. and Andrew Corp. Since he started his professional career in 2000, he has been always related to Radiocommunications field, where he has held different roles, from R&D to engineering, technology and global business development both at local and global levels.



**Associate Professor Ken Karipidis, Assistant Director, Health Impact Assessment, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)**

Assoc Prof Ken Karipidis is the assistant director of Health Impact Assessment at the Australian Radiation Protection and Nuclear Safety Agency where he is heavily involved in the scientific and regulatory aspects of non-ionising radiation. He also provides expert advice and information on radiation protection to government, the public and other relevant stakeholders and leads the development of policy initiatives and best practice. Ken has been a member of various national standard setting committees including chairing the development of the new Australian radiofrequency exposure standard. He has a number of national and international appointments including being an adjunct Associate Professor at Swinburne University of Technology and a member of the Main Commission of the International Commission of Non-Ionizing Radiation Protection.



**Jaroslaw K. Ponder, Head of the Office for Europe, International Telecommunication Union (ITU)**

Mr. Jaroslaw K. Ponder, Head of the Office for Europe at the International Telecommunication Union (ITU) (Geneva, Switzerland), representing ITU in Europe and directing actions, projects, initiatives and experts groups targeting 46 countries of the Europe Region. His portfolio includes set of Regional Initiatives for Europe, designed by the European Member States and focusing on the ICT Infrastructure, Digitization, Digital Inclusion, Accessibility, Innovation and Cybersecurity. Along the professional career, Mr. Ponder held official positions in the public sector and was a contributor to the legislative projects having the impact on the public policy. Since 2014 Mr. Ponder has been working for ITU holding diverse positions in the General Secretariat, Telecommunication Development Bureau, and Regional Presence, addressing complexity of information society development and digital transformation at national, regional, international level, including United Nations level. For several years he has managed ITUs work on the United Nations World Summit on the Information Society (WSIS) process, leading towards the establishment of the annual WSIS Forum, WSIS Prizes, WSIS Stocktaking, others.



**José Moure Sánchez, Relationship Manager, KPN & GSMA Europe EMF and Health Vice Chair**

José Moure Sánchez holds the role of Relationship Manager at KPN and is an expert in government relations including EMF. Before joining KPN, José studied political science and international relations in Madrid and Leiden and has worked in international relations for many years.



**Sami Gabriel BEng(Hons) MSc FIET MIEEE, Vodafone Distinguished Engineer, Group R&D - Future Technologies**

Sami holds a BEng in Mechanical Engineering an MSc in Information Technology and is a Fellow of the IET. He has authored/co-authored 9 external publications with nearly 15,000 citations to his work and he designed the SAM head that is used in testing compliance and performance of handsets and devices in labs all around the world. Sami's expertise focuses on the possible effects of electromagnetic fields on people, a potential critical risk to the business. He translates science into a regular briefing to the EMF Leadership Team, to ExCo and in various communication channels e.g. annual shareholder report, briefings to insurance brokers, government regulators and ministers. Within a lab environment Sami's ability to interpret and evaluate the requirements of regulatory compliance standards and apply these to the design principles that Vodafone requires of its products is considered invaluable by both equipment designers and deployment engineers. His interpretation of the results has shaped a number of products that progressed to trial or field deployment. Working with colleagues in New York University, Sami published new research in IEEE A&P (April 2017) reviewing available measurement technologies for millimetre wave exposure assessment (impact to 5G EMF compliance). Sami was selected to organise the first science-based International Electromagnetics conference in India. Attended by Government Ministers and world-renowned scientists, this culminated in agreeing on a proposal for auditing and certifying base station compliance in a manageable way for operators and satisfactory to the regulators. Without this agreement, Vodafone faced a mammoth task of visiting every single base station (>500k sites) and the threat of site shut down if it was not completed. The agreement ensured no service disruption and avoided OpEx costs of tens of millions USD. More recently, Sami had diversified into the applications of technology to serve the community better. He has several successful eRIS ideas that have reached trials and implementation and productisation. His implementation of a Safety Alert Message Indicator has won two industry innovation awards and continues to develop to productisation. Recently he has helped Vodafone become the UK's number one provider of computing power to help the fight against COVID-19 and is now building up to be a world top-10 contributor.



**Dr María Concepción Muro Lupori, EMF & Health Expert, Telefónica, Spain**

I hold a PhD in Biochemistry and have been working for Telefónica since 2001 as an Expert on EMF & Health. From 2003 to 2006 I headed the Quality and Environmental department of Telefónica México. From 2007 to 2015 I have been working as an Expert on EMF & Health for Public Affairs Department of Telefónica Spain. From 2015-2019 I was part of Telefónica SA and based in Germany, leading for Telefónica Corporation the global EMF & Health Project, coordinating all Operating Businesses, identifying best practices within the Telefónica Group in the management of social concern regarding EMF. Besides this, from 2017 to 2019 I also leaded Health and Safety Global Project for Telefonica Corporation. Currently, I am part of Public Affairs Department of Telefónica Spain, I deal EMF and Health issues and reputational risks evaluation.



**Christophe Grangeat, Principal Specialist EMF Mitigation, Nokia & Co-convenor IEC TC106 MT3**

Christophe Grangeat is Nokia principal specialist EMF mitigation. He received the DMTS award in 2014. He is coordinating activities dealing with products and features portfolio, research and development, tests and validation, compliance, and standardization. He is also involved in energy efficiency improvement programs. He has participated in multiple European and national research programs. He is actively contributing to international standardization bodies such as the IEC, CENELEC, ITU and ETSI. He is co-convenor of IEC Technical Committee MT3 for the RF EMF exposure assessment of base stations. In 2019, he received the IEC 1907 Award for his contribution to the standardization of RF exposure assessment methods of 5G base stations.



**Jean-Benoît Agnani, Head of the Department on Exposure Studies, Agence Nationale des Fréquences (ANFR)**

After a career in the aeronautic field, he joined the ANFR in 2000 where he was initially head of the international monitoring center. He then dealt with exposure of the public to electromagnetic waves and is currently the head of the department on exposure studies.



**Margit Kropik, Managing Director, Forum Mobilkommunikation, Austria**

Margit Kropik is Managing Director at Forum Mobilkommunikation, an industry representation of the Austrian Mobile Industry focusing on EMF and all related rollout issues that was founded in 1996. The FMK engages in dialogs with relevant stakeholders and provides information on wireless technology, science, health and environment. Margit Kropik holds degrees in English, Russian and Electrical Engineering and joined the telecommunications industry in 1998 as EMF expert for the first private mobile network operator in Austria, max.mobil, and became Vice President Infrastructure & Property Management in 2002 which added the responsibility for rents and energy for the entire network. Ms. Kropik joined the FMK in 2012.



**Witold Tomaszewski, Spokesperson, Office of Electronic Communication, Poland**

For 15 years he was a journalist writing about the telecommunications industry. Later, for 3 years, he was supporting an investment process related to base stations at one of the Polish MNOs, among others in terms of education and relations with local governments and communities. Now a spokesperson of Office of Electronic Communications (Urząd Komunikacji Elektronicznej – Polish NRA) and an expert specializing in social education about new technologies and 5G/EMF cooperating with National Institute of Telecommunications.



**Martin Busch, Expert for Public & Regulatory Affairs, Deutsche Telekom AG & GSMA Europe EMF and Health Chair**

Martin Busch studied political science and international relations in Bonn and Leeds as well as law in Bonn. Before joining Deutsche Telekom AG Martin worked for many years at the Center for European Integration Studies with a focus on regulatory issues in the telecommunications sector. He also worked as a lawyer in a law firm in Cologne focusing on public commercial law. At Deutsche Telekom he deals with consumer policy and universal service regulation. Furthermore, he is responsible for EMF-policy within the Group Public & Regulatory Affairs. In cooperation with Deutsche Telekom Technik he chairs DT's EMF Core Team working continuously on the implementation of DT's EMF-Policy in all national subsidies.



**Mike Wood, Distinguished Professional, Telstra & GSMA Global EMF and Health Deputy Chair**

Mike Wood is a Distinguished Professional with Telstra and Principal for Telstra's Electromagnetic Energy (EME) Strategy, Governance and Risk Management program. Mike graduated from RMIT and has over 30 years' experience in mobile network deployment, EME and community consultation and leads Telstra's 5G EME program. Mike is currently Chairman of the International Electrotechnical Commission Technical Committee 106 which has global responsibility for EME testing standards for mobile phones, devices, wireless networks and radio communications systems including 5G.



**Dr Jack Rowley Senior Director Research & Sustainability, GSMA**

Jack Rowley, Ph.D is the Senior Director for Research & Sustainability and works in the Advocacy Department of the GSMA. He is responsible for technical and policy activities related to the safety of mobile communications and responsible environmental practices. In this role, he manages relationships with major stakeholders such as the WHO and the ITU, develops technical advice for members and coordinates GSMA communications strategy related to EMF. He supports the global GSMA EMF and Health working group and contributes to the work of the GSMA Europe EMF and Health group. Jack has been a member of national and international working groups and contributed to the UNEP activity that lead to the first international guidelines for environmentally sound management of used and end-of-life mobile phones. He has more than 30 years of experience in the telecommunications industry and joined the GSMA in 2000. Prior to that, he worked for 10 years with Telstra (Australia) primarily in the Research Laboratories, where he rose to the position of manager of radio communications research with special responsibility for EMF issues. He has also given expert evidence in planning hearings related to base station siting and made submissions to government panels. He holds an Electronics Engineering Degree with first class honours from the University of Limerick (Ireland) and a Ph.D. from the RMIT University (Australia). He is a senior member of the IEEE and a member of the Bioelectromagnetics Society.



**Dr Christos Datsikas, Policy Officer, Radio Spectrum Unit, DG CONNECT, European Commission**

Christos K. Datsikas holds a PhD in Telecommunications and he has been working in DG Connect of the European Commission since 2017 as a Policy Officer on spectrum related issues. From June 2011 to June 2016, he was the Greek Telecom Attaché responsible for Telecommunications, Information Society, Postal Services and Satellite Radio Navigation Systems (Galileo-EGNOS) in all legislative and non-legislative settings. Prior to that, he had worked for more than 10 years as an ICT expert, Consultant and Special Advisor in both the private and public sectors. From 2018, he is Senior Research Associate, member of the Laboratory Teaching Staff of the University of Athens - Faculty of Informatics and Telecommunications. Dr. Datsikas's research interests are in the area of wireless digital communications, and more specifically in MIMO and cooperative diversity systems, fading channels, and communication theory. His proven track record includes more than 15 papers in peer-reviewed journals and international conferences.



# The latest GSMA Resources



## International EMF Exposure Guidelines

Explaining the 2020 RF-EMF exposure guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP)

[Learn More](#)

## EMF Exposure Compliance Policies for Mobile Network Sites

Good practice policies for compliance of mobile network sites with radiofrequency electromagnetic field limits

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## Understanding 5G – A guide for local communities

Discovering Opportunities, Explaining Safety Limits, Addressing Myths

[Learn More](#)

## 5G, the Internet of Things (IoT) and Wearable Devices

What do the new uses of wireless technologies mean for radio frequency exposure?

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## 5G EMF Surveys

A summary of global testing data for 5G networks

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## 5G, EMF Exposure and Safety

Addresses issues in respect to 5G, public health and the environment

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## Safety of 5G Mobile Networks

Available in multiple languages

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