

- Day 1 Thursday 29 June 9:00-17:00 CEST (registration from 8:30)
- Day 2 Friday 30 June 9:30-12:30 CEST followed by lunch

Session/topic	Organisation	Speaker
Day 1 • Thursday 29 June 9:00-17:00		
Opening	ECC	Chris Woolford (ECC chair)
1. Setting the scene - 6G Vision - enablers and possible use cases <i>This session will explore the possible use cases envisaged for 6G and the technologies which could enable the connectivity requirements. The progress to date on delivery of 5G will also be reviewed, in the context of assessing what 6G may need to deliver.</i> Session chair: Martin Sims – Policy Tracker 9:10- 10:30		
6G Overview	GSA (Global mobile Suppliers Association)	Sverker Magnusson
Possible use cases and enablers	Broadcom	Chris Szymanski
	WWRF (Wireless World Research Forum)	Steffen Ring
Non-terrestrial networks	GSOA (Global Satellite Operator's Association)	Mohaned Juwad
	6G-SKY	Mustafa Özger
Review of 5G progress to date	ETNO (European Telecommunications Network Operators' Association)	Xhoana Shehu
Q&A		
Coffee break 10:30-11:00		
2. Research and standardisation developments to date <i>This session will take stock of ongoing research and standardisation initiatives in the 6G field to date, as well as the relevant ITU-R framework and initiatives in other regions.</i> Session chair: Marja Matinmikko-Blue – 6G Flagship Oulu University 11:00 - 12:10		
3GPP release roadmap	Ericsson	Asbjörn Grövlén
	Qualcomm	Marco Papaleo
ETSI initiatives	ETSI (European Telecommunications Standards Institute)	Michael Sharpe
ITU-R IMT-2030	Nokia	Eiman Mohyeldin
	UK Department for Science, Innovation and Technology	Louise Lancaster
Q&A		
Lunch 12:10-14:00		
3. Authorisation framework <i>During this session the possible regulatory approaches for 6G will be discussed. The advantages and disadvantages of licensed versus licence-exempt models will be explored.</i> Session chair: Jonas Wessel – PTS Sweden 14:00-15:00		
Authorisation, individual licensing and licence-exempt approaches	ETNO (European Telecommunications Network Operators' Association)	Xhoana Shehu
	DSA (Dynamic Spectrum Alliance)	Martha Suarez
	Wi-Fi Alliance	Alex Roytblat
Q&A		
Coffee break 15:00-15:30		

Session/topic	Organisation	Speaker
4. Spectrum aspects and sharing opportunities <i>This session will consider what possibilities different spectrum ranges could offer in terms of 6G delivery. Opportunities for spectrum sharing will also be explored include through the use of novel techniques.</i> Session chair: Samuel Ritchie – ComReg Ireland 15-30:17:00		
EU Context – Draft RSPG Opinion	RSPG (Radio Spectrum Policy Group)	Heidi Himmanen Tassos Lyratzis
Innovations in private networks	Volvo Autonomous Solutions	Katrin Sjöberg
	Meta	Guillaume Lebrun
State-of-the-art and emerging spectrum sharing technologies	The American College of Greece Research Center (ACG-RC)	Constantinos Papadias
Q&A		
Day 2 • Friday 30 June 09:30-12:30		
5. Vertical user needs <i>This session will explore the connectivity needs of different user groups, and consider the possible role of 6G to deliver this.</i> Session chair: Heidi Himmanen – Traficom Finland 9:30-10:30		
Transport	Airbus	Dominic Schupke
Manufacturing	5G ACIA (Alliance for Connected Industries and Automation)/Bosch	Andreas Mueller
PMSE	Riedel	Daniel Hartnett
Q&A		
Coffee break 10:30-11:00		
6. Other topics <i>This session will explore a range of topics not considered under previous sessions which are other important aspects for 6G. This will include the need to ensure energy efficiency and cyber-security, as well as networking and numbering issues.</i> Session chair: Thomas Ewers - ECO 11:00-12:00		
Numbering/networks issues	Ofcom UK/WG NaN	Liz Greenberg
Cybersecurity	ENISA	Marco Barros Lourenco
Energy efficiency and sustainability	6G Flagship Oulu University	Marja Matinmikko-Blue
Q&A		
7. Closing session <i>During this session a high-level summary of the key themes identified during the workshop will be presented, with an opportunity for discussion.</i> Speaker: Chris Woolford – ECC Chair 12:00-12:30		

Presenters and biographies:

29 June 2023, 09:00 – 17:00

Opening: Welcome from ECC Chairman Chris Woolford

Chris Woolford, ECC Chair



Chris Woolford is Ofcom's Director of International Spectrum Policy where his responsibilities cover the UK's international spectrum interests, especially in relation to the ITU, CEPT and EU. Chris has closely engaged for the UK on a number of key European regulatory initiatives in the field of electronic communications and has participated for many years in various European spectrum groups. Chris also leads UK engagement with the ITU and led the UK delegations to WRC-19, WRC-15 and WRC-12.

In 2019 Chris took on the role of Chairman of the Electronic Communications Committee (ECC) of CEPT and was re-elected for a second term in 2022. He is also a Director of the International Institute of Communications.

Chris has more than 20 years' experience of working on spectrum and communications regulation, both at Ofcom and its predecessor (OfTel). He has a degree in mathematics and statistics from Manchester University.

1. Setting the scene - 6G Vision - enablers and possible use cases



Session Chair: Martin Sims, Policy Tracker

Martin Sims set up PolicyTracker, the leading global resource for spectrum policy news and research, in 2004 and is the company's managing director. He specialises in analysing spectrum issues, writing extensively on the subject and producing research reports and consultancy for a range of clients. He is a trainer on several courses and is the co-author of two books, *Understanding Spectrum Liberalisation* and *The Debates Shaping Spectrum Policy* (Routledge 2015 and 2021).

6G Overview



Sverker Magnusson, Head of Spectrum & Technology regulations, Group Function Technology, Ericsson

Sverker Magnusson is Head of Spectrum and Technical Regulation at Ericsson's Group Function Technology unit. Previous to this position he worked at Ericsson Research, focusing on spectrum matters and radio resource management. He holds a PhD in Operations Research from Cornell University, New York, and a MSc in Engineering Physics from The Royal Institute of Technology, Stockholm. He is chair of GSA's European spectrum team.

Possible use cases and enablers

Christopher Szymanski, Broadcom



Christopher Szymanski is Director of Product Marketing | Technology Strategy for the Wireless Communications and Connectivity Division at Broadcom Inc., where he is responsible for leading Broadcom's efforts on 6 GHz Wi-Fi adoption, strategic marketing, standards development, and regulatory affairs. As Broadcom's representative, Mr. Szymanski serves on the Wi-Fi Alliance and Dynamic Spectrum Alliance Boards of Directors. He also co-founded and co-chairs the TIP Open AFC Software Project.

Before joining Broadcom, Mr. Szymanski worked for a semiconductor foundry in Shanghai, China, and as a congressional aide in Washington, DC.

Mr. Szymanski received his Masters in Business Administration (MBA) from the Washington University Olin School of Business.

Steffen Ring, WWRF



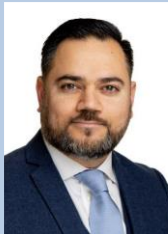
Steffen Ring founded RING Advocacy LLC in 2015 where he specialises in spectrum applications of the EU Defence Industry including compliance with the NATO HQ requirements, including FCC and NTIA of the US. He participates as a Danish Industry representative in CEPT/ECC and ITU-R and was a partner in the EU Horizon 2020 Project MONICA.

He was previously Senior Director Global Government Affairs at Motorola, and was also chairperson of ETSI EP TETRA, WG4. He has also held roles with Mobile Data International, General Electric and Storno A/S.

He holds an M.Sc.E.E from DTU in 1976.

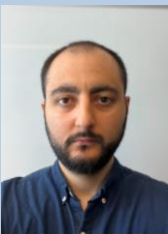
Non-terrestrial networks

Mohaned Juwad, GSOA



Dr. Mohaned Juwad is responsible in assisting Intelsat's strategic long-term spectrum position in the marketplace. He has over 14 years' experience within the satellite industry. Prior to rejoining Intelsat in 2016, he served as manager, regulatory licensing and market access, at Avanti Communications Group Plc. Before that, he worked as a consultant in ESA funded projects to develop the DVB-S2 standard operating in Ka-band, and also developed Ka-band mortised terminals where he was instrumental in developing a commercial self-aligned antenna. He earned a Philosophy of Doctorate (PhD) from Isambard Kingdom Brunel University and a Bachelor of Science Degree in Electrical Engineering at Herefordshire University.

Mustafa Özger, 6G-SKY



Mustafa Ozger is a senior researcher with the School of Electrical and Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden since January 2018. His research interests include machine learning for wireless communications and networks, enabling architectures and network management schemes for non-terrestrial networks, the Internet of Things, and energy harvesting. He is one of the technical coordinators of the EU Celtic Next 6G-SKY project (<https://www.6g-sky.net/>).

Review of 5G progress to date

Xhoana Shehu, ETNO



Xhoana Shehu is a Policy Manager at European Telecommunications Network Operators' Association (ETNO) which she joined in September 2020. She oversees ETNO's work on spectrum policy by managing the spectrum working group in Brussels and coordinating ETNO's position on spectrum related topics. Her other areas of focus are European telecommunications policy and data economy.

She has now a broad experience in European public affairs and telecom policy.

She holds degrees in European Studies from the College of Europe in Bruges and Sciences Po Grenoble.

2. Research and standardisation developments to date

Session Chair: Marja Matinmikko-Blue, 6G Flagship Oulu University



Marja Matinmikko-Blue is Research Director of the Infotech Oulu Institute and Director of Sustainability and Regulation at 6G Flagship at the University of Oulu, Finland, where she also holds an Adjunct Professor position in spectrum management. She has a Doctor of Science degree in communications engineering on cognitive radio systems and Doctor of Philosophy degree in industrial engineering and management on stakeholder analysis from the University of Oulu. She has been conducting multi-disciplinary research into the technical, business, and regulatory aspects of future mobile communication systems in close collaboration with industry, academia, and regulators for over two decades. She has published 180+ scientific papers and prepared 160+ contributions to regulatory bodies.

3GPP release roadmap

Asbjörn Grövlén, 3GPP



Asbjörn Grövlén joined Ericsson in 2014 and is currently the head of the Ericsson delegation to 3GPP TSG RAN. He has over 20 years of experience in 3GPP standardisation from 3G HSDPA to 5G NR, focusing on the physical layer design and contributing to TSG RAN WG1. He holds an M.Sc. in electrical engineering from the Norwegian University of Science and Technology.

Marco Papaleo, Qualcomm



Marco is a Director Technical Standards at Qualcomm. He joined the company in 2011 and since then he covered a variety of roles, including modem design, system level research, standardisation and spectrum regulation. He is currently responsible for spectrum engineering studies, and he is also active in several standardisation organisations, including ETSI and 3GPP.

Marco received his B.S. and M.Sc. degrees (summa cum laude) in Telecommunication Engineering from University of Bologna and his PhD in Information Technology from the same university.

Marco is the author of several US patents and scientific publications. He received the Marconi International Fellowship Young Scientist Award in 2009.

ETSI initiatives

Michael Sharpe, ETSI



Michael Sharpe is Director of Spectrum and Equipment Regulation at ETSI, where he is responsible for ensuring effective co-operation of ETSI's technical activities with the work of key regulatory bodies and partner standards bodies at the National, European and Global level. His current priorities include working with the European Commission to support the smooth operation of the Radio Equipment Directive, and the continuing close co-operation with CEPT and the Commission Radio Spectrum Unit.

He received his PhD from the University of Essex in the UK. Since then, he has worked at BBC Television, Ford Motor Company and the UK Radiocommunications Agency before joining ETSI in 1995. He has previously occupied several roles at ETSI, including Vice-President of ETSI Standardisation Projects and Director of Technical Strategy.

ITU-R IMT-2030

Eiman Mohyeldin, Nokia



Eiman Mohyeldin is the global Head of Spectrum Standardization for Nokia, responsible for defining and executing Nokia's spectrum standardisation strategy and leading Nokia's worldwide engagement on spectrum matters with customers, regulators, authorities and partners.

She is actively involved in the World Radio Conference (WRC) process, participating in the WRC conferences and preparatory meetings (CPM). Eiman has also led and contributed to groups for the IMT technology process (4G, 5G and most recently 6G) in ITU and CEPT.

Eiman Mohyeldin is electronic engineer specialised in Communication Engineering. She has two decades of a professional experience in radio research and spectrum regulation and standardization at Siemens, Nokia Siemens Networks, Nokia Networks and now Nokia.



Louise Lancaster, UK Department for Science, Innovation and Technology

Louise Lancaster is Head of Wireless Infrastructure Policy, including 6G strategy, at the UK's Department for Science, Innovation & Technology. Louise joined DCMS in 2017, initially working on the development of the UK Government's 5G Testbeds & Trials Programme. Prior to that, Louise spent more than twenty years in the telecoms industry in a variety of legal, regulatory and policy roles.

3. Authorisation framework

Session Chair: Jonas Wessel, PTS Sweden



Jonas Wessel is Director of the Resource Management Department at the Swedish Post and Telecom Agency (PTS), responsible for spectrum and numbers. He was also Chair of the Radio Spectrum Policy Group (RSPG) for the 2018-2019 period.

Jonas holds a MSC from the Royal Institute of Technology (KTH) in Industrial Engineering and Management. Jonas started his professional career as a strategy consultant, working mainly with business development in the telecoms and IT-sector.

In 2003, he joined the PTS as advisor on radio spectrum policy issues. After several positions, including responsibility for auctions, he was assigned Director of the Spectrum Department in 2014.

Authorisation individual licensing and license-exempt approaches

Xhoana Shehu, ETNO



Xhoana Shehu is a Policy Manager at European Telecommunications Network Operators' Association (ETNO) which she joined in September 2020. She oversees ETNO's work on spectrum policy by managing the spectrum working group in Brussels and coordinating ETNO's position on spectrum related topics. Her other areas of focus are European telecommunications policy and data economy.

She has now a broad experience in European public affairs and telecom policy. She holds degrees in European Studies from the College of Europe in Bruges and Sciences Po Grenoble.

Martha Suarez, DSA



Dr Martha Suarez is President of the Dynamic Spectrum Alliance and has over 18 years of experience in the telecommunications industry. She spent over three years as General Director of the National Spectrum Agency in Colombia, having originally joined the ANE in 2013. Before that, she was awarded with a Marie Curie Fellowship and worked at the *Instytut Technologii Elektronowej* (ITE) in Poland for the Partnership for Cognitive Radio Par4CR European Project. She is an electronics engineer, with a master degree in high frequency communication systems and is a Doctor in electronics from the University Paris-Est.

Alex Roytblat, Wi-Fi Alliance



Alex Roytblat is Vice President of Worldwide Regulatory Affairs, where he is responsible for the organisation's overall regulatory strategy. In his role, Alex works with the Wi-Fi Alliance members and the executive team on the development of regulatory objectives and directs advocacy for the implementation of these objectives with governments, regulators and international organisations. With over 25 years of experience in the field of spectrum regulations, Alex is an internationally recognised industry advocate. Prior to joining Wi-Fi Alliance, Alex served at the United States Federal Communications Commission (FCC), where he was involved in domestic and international radio spectrum management processes. Previously, Alex held technical roles for Stanford Telecommunications and Booz Allen & Hamilton.

4. Spectrum aspects and sharing opportunities

Session Chair: Samuel Ritchie, ComReg, Ireland



Dr Samuel Ritchie is the senior spectrum advisor at the Commission for Communications Regulation in Ireland. Samuel has served with ComReg for 23 years and was with the broadcast regulator in South Africa for five years before this.

As a regulator Samuel has been a part of many public consultations, implemented numerous licence schemes, managed a wide number of spectrum management projects including the award of spectrum resources by competitive means.

EU Context – draft RSPG opinion

Heidi Himmanen, RSPG



Dr. Heidi Himmanen is currently Head of Digital Infrastructure at the Finnish Transport and Communications Agency Traficom. She is Co-Chair of the RSPG Subgroup for 6G Development and Mobile Technology Evolution and represents Finland in the ITU-R work on IMT-2030 and beyond.

Her other tasks include regulatory issues related to mobile networks from 2G to 5G and promoting the uptake of wireless communications in different sectors, such as transport, cities, and industry. She has previously worked as Head of Spectrum Supervision and Head of Radio Networks Unit at FICORA (today Traficom).

She holds a D.Sc. (Tech.) degree in Telecommunications Engineering from the University of Turku, Finland, and an M.Sc. (Tech.) degree in Telecommunications Engineering from Helsinki University of Technology (today Aalto University).

Anastasios (Tassos) Lyratzis, RSPG



Dr. Tassos Lyratzis is an Electrical & Computer Engineer and holds a PhD in the field of Telecommunications & Computer Networks (1994).

He has worked in OTE S.A. as Telecommunications Engineer (1996-2001) in the Network Management Department, as well as in European research projects on Network management and Telecommunications Fraud Detection.

He joined the Hellenic Telecommunications and Post Commission (EETT) in 2001 where he has been Head (Director) of Spectrum Division since 2011. He was Head of the Spectrum Management Department (2003-2006) when EETT was involved in the spectrum management of the 2004 Athens Olympic Games.

He participates in international activities in CEPT (WGFM and ECC) as well as in EU groups. Since 2016 he has been co-chair of the RSPG sub-Group working on 5G and 6G topics.

Innovations in private networks

Katrin Sjöberg, Volvo Autonomous Solutions



Katrin is employed as technical adviser in connectivity for Volvo Autonomous Solutions (V.A.S.). She is responsible for spectrum, legislation, and standardisation of the radio equipment used on the autonomous trucks and machines at Volvo.

She is active in ETSI standardisation (TC ERM, TC ITS, TC CYBER) and chairs the work in TC ERM TG37. She has previously been the rapporteur for several essential standards for Cooperative Intelligent Transport Systems (C-ITS) and harmonised standards for RED Article 3.2. She represents the automotive industry through its association ACEA in WG FM and EC EG-RE.

She holds a doctor's degree in Signals and Systems from Chalmers University of Technology, Göteborg, Sweden.

Guillaume Lebrun, Meta



Dr Guillaume LEBRUN has been an active member of the spectrum community for more than 15 years, working for Orange, Qualcomm, Airbus and now Meta. Guillaume contributed to key international spectrum projects such the opening of the 6 GHz band to Wi-Fi 6E and the 3.6 GHz for 5G. Guillaume is a member of the Global Connectivity Policy team at Meta. Raising spectrum efficiency and availability is at the core of Guillaume's mission.

Guillaume holds an Engineering degree from ENST, Paris, France and a PhD in telecommunications from Victoria University, Melbourne, Australia.

State-of-the-art sharing techniques

Constantinos Papadias, American College of Greece Research Center (ACG-RC),



Dr. Constantinos B. Papadias is the Executive Director of the Research, Technology and Innovation Network (RTIN) of The American College of Greece (ACG), in Athens, Greece, since 2020. He is also Scientific Director of the ACG Research Center (ACG-RC), Head of the Smart Wireless Future Technologies (SWIFT) Lab and Professor of Information Technology. Prior to these, he was the Dean of Athens Information Technology (AIT) and Head of the Broadband Wireless and Sensor Networks (B-WiSE) Research Group. He currently holds Adjunct Professorships at Aalborg University and at the University of Cyprus.

He has been active in IT-related research, addressing areas such as signal processing and machine learning, wireless telecom systems & networks, biomedical engineering and energy efficient technologies for more than 30 years. He has participated in and led several EU-funded research projects.

30 June 2023, 09:30 – 12:30

5. Vertical user needs

Session Chair: Heidi Himmanen, Traficom Finland



Dr. Heidi Himmanen is currently Head of Digital Infrastructure at the Finnish Transport and Communications Agency Traficom. She is Co-Chair of the RSPG Subgroup for 6G Development and Mobile Technology Evolution and represents Finland in the ITU-R work on IMT-2030 and beyond.

Her other tasks include regulatory issues related to mobile networks from 2G to 5G and promoting the uptake of wireless communications in different sectors, such as transport, cities, and industry. She has previously worked as Head of Spectrum Supervision and Head of Radio Networks Unit at FICORA (today Traficom).

She holds a D.Sc. (Tech.) degree in Telecommunications Engineering from the University of Turku, Finland, and an M.Sc. (Tech.) degree in Telecommunications Engineering from Helsinki University of Technology (today Aalto University).

Transport

Dominic Schupke, Airbus



Dominic A. Schupke is a research leader in reliable communication networks, currently focusing on Wireless Communications at Airbus, Munich, Germany. He is also a lecturer in Network Planning at Technical University of Munich (TUM). Prior to Airbus, he was with Nokia, Siemens, and TUM. He studied Electrical Engineering and Information Technology at RWTH Aachen, Imperial College London, and TUM, from where he received a Dr.-Ing. degree (summa cum laude). Dominic is Senior Member of IEEE and author or co-author of more than 150 journal and conference papers (Google Scholar h-index 34). His recent research addresses aerospace networks.



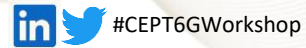
CEPT
ECC
Electronic Communications Committee

CEPT Workshop on

6G Mobile Communications

Scandic Hotel Copenhagen, 29-30 June 2023

[Workshop webpage](#)



Manufacturing

Andreas Mueller, 5G ACIA/Bosch



Dr. Andreas Mueller is a renowned expert at the forefront of connectivity research and 5G/6G innovation. As the leader of Bosch's strategic 6G activities across diverse business units and sites, he spearheads holistic transformative endeavours aligned with business imperatives. He serves as the Chief Expert in communication technologies for the IoT. He was previously General Chair of 5G-ACIA, the globally leading organisation driving and shaping Industrial 5G, since its establishment in 2018.

He has also been coordinating and advancing Bosch's Industrial 5G undertakings over the last couple of years, focusing on key areas such as private networks, Open RAN, AI/ML, and edge computing. Equipped with a robust background in telecommunications and vertical industry applications, he is uniquely positioned to drive the transformative 5G/6G-enabled revolution across various sectors.

PMSE

Daniel Hartnett, Riedel



Daniel takes care of RF regulation at Riedel, a professional audio and video global player. Riedel provides intercom solutions for teams in large sporting and cultural events in the public interest. These are also used for services like security, blue light, medicine, teamsport and broadcasting.

This involves close relations with key industry regulators, standards bodies and trade organisations (CEPT, ETSI, APWPT, DECT Forum) across all regions.

Preceding Riedel, Daniel was Director of Business Development at DECT Forum and as a product manager for door communication systems at Siedle and PM at Infineon, Lantiq and Siemens Semiconductor for wireless telecommunication products.

6. Other topics

Session Chair: Thomas Ewers, ECO



The European Communications Office (ECO) is the permanent office of the European Conference of Postal and Telecommunications Administrations (CEPT), an organisation where policy makers and regulators from 46 countries across Europe collaborate. Its core duties are to provide a European centre of expertise in electronic communications and to contribute to the work of the three CEPT committees.

After his graduation at the University of the Federal Armed Forces, Germany, Mr Ewers started to work in the area of national and international spectrum management. During his time at the German Federal Network Agency he worked his way up the line of groups in the CEPT, ITU and EU. Starting in Working Group FM Project Teams, via WGFM itself as well as numerous meetings of the CPG and related PTs, the Radio Spectrum Policy Group, the Radio Spectrum Committee and several WRCs in leading positions for Germany. Mr Ewers is also a former chairman of the ECC. In his last appointment before leading the ECO Mr Ewers headed the department for standardisation and market surveillance at BNetzA.

Numbering/network issues

Liz Greenberg, Ofcom UK/WG NaN



Elizabeth Greenberg is Head of Numbering Management and Policy at the UK's Communications Regulator Ofcom, leading the team that allocates telephone numbers to telecoms companies and setting policy on how numbers may be used. With more than 20 years of telecoms regulation experience, Elizabeth specialises in developing the UK's numbering policy to support innovation, evolving technology and competition, and has delivered many diverse projects where numbering has a role to play.

Elizabeth is enjoying her second term as the Chair of the ECC's Working Group Numbering and Networks (WG NaN), as well as representing the UK at the ITU-T's Study Group 2.

Cybersecurity

Marco Barros Lourenco, ENISA,



Marco Barros Lourenco is a technologist and researcher in the field of digital policy. He has a career spanning nearly 30 years, 20 of which were spent in international organisations and multinational corporations such as the World Bank, the EU Council, the United Nations, Microsoft, and the EU Cybersecurity Agency. Since 2018, Marco has been responsible for the research and innovation programme for the European Union Cybersecurity Agency (ENISA). In 2019, Marco coordinated the preparation of the ENISA Threat Landscape for 5G networks and contributed to the preparation of the EU 5G Toolbox. He currently advises the European Commission and Member States on research and digital policy and contributes to the EU's strategic agenda for research and innovation.

Energy efficiency and sustainability

Marja Matinmikko-Blue, 6G Flagship Oulu University



Marja Matinmikko-Blue is Research Director of the Infotech Oulu Institute and Director of Sustainability and Regulation at 6G Flagship at the University of Oulu, Finland, where she also holds an Adjunct Professor position in spectrum management. She has a Doctor of Science degree in communications engineering on cognitive radio systems and Doctor of Philosophy degree in industrial engineering and management on stakeholder analysis from the University of Oulu. She has been conducting multi-disciplinary research into the technical, business, and regulatory aspects of future mobile communication systems in close collaboration with industry, academia, and regulators for over two decades. She has published 180+ scientific papers and prepared 160+ contributions to regulatory bodies.