

# 5G RECORDS

5G KEY TECHNOLOGY ENABLERS FOR EMERGING MEDIA  
CONTENT PRODUCTION SERVICES

NEWSLETTER

ISSUE | 02 | FEBRUARY 2022

# 5G RECORDS

## 5G KEY TECHNOLOGY ENABLERS FOR EMERGING MEDIA CONTENT PRODUCTION SERVICES

Today, February 11, marks the International Day of Women and Girls in Science, an important day for women and girls to recognize the fundamental role they play in science and technology.

One of the objectives of this day is to eliminate gender stereotypes within the field of science and technology (STEM), encouraging scientific and technological vocations in girls, making visible the work of women working in the STEM field. It is really important to have references in these fields to encourage participation and thus promote gender equality in the scientific field.

Within 5G-RECORDS project we have happened to meet talented women whose participation is an asset to the project. We are actively involved in various lines of research and development. Diversity in research brings new perspectives and creativity.

In this regard, our contribution to the 5G-RECORDS project is being key to the success of its development. In this newsletter you can find our STEM stories:

- ✓ [Sunna, Paola - EBU](#)
- ✓ [Alepuz, Irene - UPV](#)
- ✓ [Ortiz, Rocío - Telefónica](#)
- ✓ [Madejón, Esther - UPM](#)
- ✓ [Avellán, Cristina -UPV](#)
- ✓ [Cilleruelo, Nerea -UPV](#)
- ✓ [Pérez, Lola - SENHEISSER](#)
- ✓ [Messaoudi, Meryem - RED TECHNOLOGIES](#)
- ✓ [Pardo, Teresa - Fivecomm](#)
- ✓ [Assis, Mariana - BISECT](#)
- ✓ [González, Ester - NOKIA](#)
- ✓ [Sánchez, Esther - Telefónica](#)
- ✓ [Thilakawardana, Shyamalie - BBC](#)
- ✓ [Gaye, Lalya - EBU](#)



Women's team of the  
5G-RECORDS project

**Website:** [www.5grecords.eu](http://www.5grecords.eu)

**5GPPP:** <https://5g-ppp.eu/5g-records/>

**Contact:** [5G-RECORDS-Contact@5g-ppp.eu](mailto:5G-RECORDS-Contact@5g-ppp.eu)



# Technical Coordination & Standardization, Regulation and Exploitation



**Paola Sunna**

Technical Manager  
& Exploitation and  
Standardization  
leader of 5G-RECORDS

The role of the Technical Manager is to coordinate the technical execution of the project, including trials; ensure alignment with the work plan; implement the risk management policies; supervise the drafting of technical reports and their timely submission, as well as to ensure the quality of all deliverables.

The role of the Exploitation and Standardization leader is to maximize the innovation, social and economic impact of the project, to influence SDOs and regulation bodies, to coordinate with other 5G-PPP EU projects, to facilitate the exploitation of the results etc. The use-cases considered by 5G-RECORDS project (live audio production, multi-camera wireless studio and live immersive media) are quite challenging and the partners are developing very innovative components. We started in September 2020, integration and testing are still up and running in view of the final trials in Q2/Q3 2022.

*“...passion, learning and challenges are key for me...”*

I started as accountant in the secondary school and then enrolled at the Politecnico of Torino (Italy) – Faculty of Electronic Engineering. It was hard but I did it. In 1997 I joined Centre for Research & Technology Innovation of RAI, the Italian public broadcaster.

At RAI I had the chance to work on a wide variety of projects including image processing, video coding, next generation video formats, multimodal user-interfaces, hybrid broadcast and broadband middleware, second screens apps, standards (DVB, MPEG, etc.) and 3D computer graphics. In 2005 I got an MBA and in 2015 I opened a start-up with a friend of mine. Being a start-upper is an experience it's really worth having. In 2017 I moved to the EBU Technology and Innovation Department (tech.ebu.ch) where I currently work as Senior Project Manager.

When I joined the EBU, I was involved in activities related to VR (Virtual reality)/AR (Augmented Reality) and NGA (Next Generation Audio) for personalized sound experiences. It's very interesting to see how some technologies become main-stream while others don't take off after the hype phase. Use-cases and underlying needs (“real” or “virtual”) often dictates the failure or success of a technology.

Beyond 5G-RECORDS, I'm working also on virtual productions, CG (Computer Generated) animation pipelines and newsroom workflows with the EBU (European Broadcasting Union) Members. On top of that I use my spare time to keep learning (see my LinkedIn Profile 😊 – Section Education), playing piano and hiking. Recent hobby: watching Korean dramas!!!

More info:

**EBU**  
[linkedin.com/paola-sunna](https://www.linkedin.com/company/ebu)

# Project Management



**Irene Alepuz**  
5G-RECORDS Project  
Manager Deputy

The Project Manager deputy works together with Professor David Gómez Barquero, the Project Coordinator, on the 5G-RECORDS coordination and management activities in order to ensure that the project objectives, impact, ambition and milestones are achieved in due time. My major tasks and responsibilities are not only to aid the partners to achieve 5G-RECORDS research program, but also to assist them in the financial and technical justifications.

In this sense, helping partners to achieve the project's objectives is my main concern. Moreover, as project managers we are the main contact with the EC's representatives, and we chair the project meetings, among other tasks.

*“... This project is an example of promoting equality between women and men in decision-making...”*

I obtained my MSc. in Telecommunication Engineering by Universitat Politècnica de València (UPV), Spain in 2010 by defending my Master Thesis through the Erasmus Grant at the Norwegian University of Science and Technology in Trondheim, Norway. In 2011, I received a second MSc. in Telecommunication Technologies, Systems and Networks, I did my second Master Thesis at the Nanophotonic Technology Centre (NTC) at UPV.

In 2012 I joined the Mobile Communication Group in the iTEAM (UPV). At the iTEAM, I have been working in a collaboration project with the company Astellia S.A., where my work was focused on R&D for optimization of mobile networks and location-based algorithms. Later, I joined the project management team of the 5G-XCAST project. Nowadays, I am working on the project management team of the 5G-RECORDS, FUDGE-5G and iGENIOUS projects.

For me it is a daily challenge to be the project manager deputy of 5G-RECORDS as it allows me not only to be in charge of the management and execution of the project, but also to work hand to hand with leading companies in the media content production and 5G sectors, which keeps me up to date on the latest and most innovative technologies and requirements of audiovisual and 5G industry. Creating new business models that improve life of citizens is one of my main goals.

In my leisure time, I love being surrounded by my family and friends, playing with my son, hiking and swimming.

More info: [linkedin.com/in/irene-alepuz](https://www.linkedin.com/in/irene-alepuz)



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA



## 5G Ecosystem



**Rocío Ortiz**  
WP2 Leader of  
5G-RECORDS Ecosystem

The role of a Work Package Leader is to ensure the objectives and goals the specific work package across project organization. In case of WP2 the goal is to establish the foundation for technological and business validation of 5G core components and architectures defining a 5G validation framework based on requirements and KPIs specific to content production, and redefine the use cases to be addressed in the project as it progresses.

*“ ... Expert in driving forward with enthusiasm complex projects based on communications and computing networks...”*

I received my Bachelor's degree in Electronic Engineering in 2001, a Master's degree in Telecommunication Engineering in 2003 and finally a Master's degree in Mobile Communication Engineering in 2004 since when I started to work at Telefónica Móviles España, certifying new Radio products, later in Siemens and Nokia being a Radio Mobile expert and fully oriented to customer and new technologies which both have being my passion. After that I worked in Vodafone group as Product and Vendor Manager cross world and currently working in Telefónica Group in the R&D Team, where we are aiming to create disruptive solutions and products oriented to our customers and based on Telefónica assets and new generations of Connectivity and Edge Computing.

Apart from my actual participation in 5GRECORDS I have been involved in 5GMedia in 2018, and Red.es in Madrid about Video Production where we are developing the very first trials about Remote Production over the Telefónica Edge.

All those years I have being increasing my experience in technology and business, but as well I have increased my experience as human being: as woman, colleague, partner, friend, wife, and mother, and I can say that combination is the one that make me really proud and motivate each day of my live. I believe as much diversity of cultures, education, genders in our organization better and more responsible new technologies will create.

More info



[linkedin.com/in/rocio-ortiz](https://www.linkedin.com/in/rocio-ortiz)



**Esther Madejón**

Task Leader of  
5G-RECORDS Dissemination  
and Communication

# Dissemination & Communication

*“...Wishing for a world full of opportunities for all girls and women...”*

The objective of the Dissemination and Communication task is to make visible the results achieved in the project and all these activities are the means to achieve it.

Since I took the leadership of the task “Dissemination and Communication” (T6.2) of the 5G-RECORDS project, I have tried to become the main promoter of the consortium by generating multiple communication channels to arouse the interest and commitment of the partners, the scientific community, and the general public.

Thanks to the collaboration of all, it has been possible to generate relevant information on the scope, objectives and achievements of the project, the research and innovative development generated, and the results obtained, promoting them through various communication channels, such as the project website and its social networks.

*“...I have always enjoyed putting STEM into my life...”*

I got my degree in Telecommunications Engineering from Universidad Politécnica de Madrid (UPM), Spain, in 2009. Since then, I have been at UPM, where I am a member of the Grupo de Tratamiento de Imágenes (GTI), a research group working on theory, methods and applications of digital image and video processing, mainly for compression and analysis.

I have performed a wide range of functions in the European and Spanish research projects in which I have actively participated: management of audiovisual systems, development and integration of algorithmic modules, performance evaluation, development of monitoring schemes and algorithms, and the evaluation of quality assessment of user experience in the compression and transmission of audiovisual signals.

I currently co-direct the Experience-Lab “Dem-3DTV” within the GTI, which is an open environment for innovation, experimentation and co-creation, where researchers, companies, standardization bodies, and public institutions can work together, looking for new solutions, products, or services, involving real users in the whole research process, fostering cooperation.

In recent years I have specialized in the production and post-production of audiovisual content, as well as in new communication platforms and technologies, design, administration and management of online community.

More info



[GTI/Esther-madejon](#)  
[UPM/Esther-madejon](#)

# Project Management



**Cristina Avellán**

Part of 5G-RECORDS Project  
Management Team

The role of the Project Management Team is very diverse. We work hand in hand with partners to ensure that the project ambition, objectives and milestones are achieved. We guarantee an efficient overall management of the financial, administrative, technological and operation aspects of the project, detecting and managing potential risks.

In particular, I monitor the direct progress of the outcomes generated in use case 1, which targets the deployment of a high-quality low-latency network for live audio production scenarios.

For that, six leading companies bring in several innovative components such as a virtualized and disaggregated multi-vendor radio access network with dynamic spectrum access, a compact 5G core network with network slicing capabilities, 5G-enabled audio equipment, media orchestrators and time service mechanisms. Thus, my tasks include supporting use case 1 partners in the activities related to this use case.

*“... I fully stand up for diversity in research since it expands the pool of talented researchers, bringing in new perspectives and creativity...”*

My background? I'm a junior R&D engineer working at Universitat Politècnica de València (UPV), Spain. I received my Bachelor's and Master's degree in Telecommunications Engineering from Universitat Politècnica de València.

Since then, I'm part of the Mobile Communication Group at iTEAM Research

Institute where I dive deep into the investigation of the 5G technology, namely, the 5G radio access network infrastructure, and future 6G networks.

Prior to this, I researched the performance of a MU-MIMO channel using mmWave bands in indoor environments.

But, who is Cristina? I'm 25-year-old girl eager to learn and progress towards my personal objectives. I like joining any sort of training and mentoring initiative that help improve both my skillset and mindset.

My professional career is still in its early stage, so I feel lucky to work with 5G-RECORDS highly qualified partners. You inspire me!

As for my hobbies, I really enjoy learning French and practicing sports. Working out in the gym with my twin is one of my favourite pastimes!

More info:



[linkedin.com/in/cristina-avellan-carrion](https://www.linkedin.com/in/cristina-avellan-carrion)

# Project Management



**Nerea Cilleruelo**

Part of  
5G-RECORDS Project  
Management Team

The purpose of the Project Management Team is to ensure the project organization is being carried out in the best way possible on each subject.

We make sure that 5G-RECORDS proceeds within the specified time frame while achieving its objectives.

As part of the 5G-RECORDS management team, I perform several tasks including day-to-day management of the project and follow-up of the progress done. Through periodical calls, emails and deliverable documents, we can track progress and report about every aspect of the project.

5G-RECORDS is progressing beyond the state of the art and it is helping the 5G ecosystem to further evolve by implementing and testing three relevant use cases for media industry sector.

*“...being part of this wonderful team encourage me to face challenges with eager to learn everyday...”*

Particularly, I keep track of one of these use cases: the UC3, which is focused on the idea of live immersive media production by using free-viewpoint video (FVV) technology through 5G networks. It is based on three key 5G technological enablers: mmWave radio Access network, Edge cloud processing and end-to-end network slicing.

Regarding my career, I graduated at Polytechnic University of Cartagena (UPCT) in

Telecommunication Systems Engineering, carrying out the bachelor's thesis entering the field of 5G during an Erasmus stay in Italy.

Afterwards, I worked for several companies such as Verizon Wireless in United States and was involved in mainly 5G devices testing as well as tasks related to follow standards and design of tests-benches.

Currently I am working as a 5G research engineer in the Mobile Communications Group (MCG) at the Institute of Telecommunications and Multimedia Applications (iTEAM). We are working with several topics and different companies to bring 5G and future 6G into our lives. Some projects are quite challenging and it is quite interesting and enjoyable for me.

Some of the projects I am involved are the H2020 European project 5G-RECORDS and Piloto Nacional 5G by RED.es.

More info:



[linkedin.com/in/nerea-cilleruelo/](https://www.linkedin.com/in/nerea-cilleruelo/)

## Standardisation & Regulation



**Lola Pérez**

Standardisation & regulation  
in 5G-RECORDS

Industry involvement is key for the relevance and success of European research projects. Industry partners are usually the source and the drivers of the considered use-cases. One of my roles in the 5G-RECORDS project has been to work in the definition, description and requirement specification of use-case 1 (live-audio production), identifying and following standardized interface specifications with the goal to integrate the live audio production use case into the 5G family of standards.

Further, I've been involved in the Task "Spectrum Regulation and Business Models" (WP2), which describes the ecosystem for using 5G in professional content production, providing elements for a business validation and identifying the regulatory framework. My focus being the definition of a suitable regulatory framework for the adoption of private 5G networks in content production.

*"...Sapere aude, those two words have guided my life..."*

During my high-school years, it was by chance that I came across the latin aphorism "Sapere aude", which more or less has been translated to mean "dare to know". Those two words had an unexpected strong effect on me becoming my personal mantra and leading several decisions at the crossroads of my life.

I got my degree in Telecommunications Engineering from Universidad Politécnica de Valencia (UPV), Spain, in 2002. My last year I spent in Hannover, Germany, at the Institute of Communications Engineering (IKT) of the Leibniz University of Hannover, from which I received my PhD degree in 2008. After most than 20 years, I can definitely say that Germany has become my second home. During these years, I have been very lucky to have the chance to try many different things in engineering, from research, to co-founding a start-up and running the company for more than 7 years. In 2018, I moved to Sennheiser, which is a medium-sized, family-owned German company, developing high-end professional audio products since 1945.

My position at Sennheiser requires holding and developing meaningful relations with relevant stakeholders across industry, research, and the audio user community. Concretely, my work involves the representation of the company globally in standardization bodies, committees of regulatory authorities, industry associations, stakeholder events, and of course, research projects.

Beyond 5G-RECORDs and telecom engineering, I am a passionate of cognitive neuroscience and experimental psychology since they seem to have the key to understand how humans learn. On the personal side, as a mother of three wonderful kids - who do really keep me learning - I am convinced that reconciliation of work and private life is key in promoting equality for young women and men.



More info: [linkedin.com/in/m-dolores-lola-perez-guirao](https://www.linkedin.com/in/m-dolores-lola-perez-guirao)

# USE CASE 1: Live audio production



**Meryem Messaoudi**

Apprentice Engineer Research & Standards in 5G-RECORDS

I joined the 5G-RECORDS project in October 2020, as an Apprentice Engineer in Research and Standards to be involved in Research and Development of dynamic spectrum sharing, with the aim of proposing spectrum access solutions adapted to the different applications that require PMSEs. I have been working in collaboration with my colleagues on specification, test and validation of the Shared Access Server, whose purpose is to guarantee a quality of spectrum and protection from interference for both NPNs and verticals.

*“... Having an impact on the world in any way, shape or from makes me feel like I’ve fulfilled my destiny...”*

In 2020, I got a bachelor degree in Electronic Engineering in Sorbonne University, France, and I did my traineeship in Validation Pre-sales and Project management in Network equipment and Optical fiber. It was my first professional experience that allowed me to enrich my skills and acquire new ones, proposing new solutions to France mobile operators.

Then, I integrated RED TECHNOLOGIES as an apprentice engineer in Research and Standards, as part of my training in apprenticeship in October 2020, for a Master degree in Microwave engineering and Embedded systems in Sorbonne University, France.

I am also involved in other topics especially the standardization of the new 6 GHz band within the Wireless Innovation Forum.

I have put into practice my academic knowledge in Engineering science, and gained valuable and relevant competence during my apprenticeship, working on the 5G Records European project, 6 GHz and CBRS International project. I always had the pleasure taking part of these projects and working with experienced and competent engineers from France and different countries.

On the side, I do some self-studies to keep progressing, traveling and participating in volunteering work helping stray dogs and street cats in Morocco.

More info:



[linkedin.com/in/meryem-messaoudi](https://www.linkedin.com/in/meryem-messaoudi)

## USE CASE 2: Multiple camera wireless studio



**Teresa Pardo**  
COO in Fivecomm &  
researcher in 5G-RECORDS

Within the 5G-RECORDS project, I am helping with the coordination of development and integration activities in Fivecomm, for the provision of a 5G Rel-15 modem that will enable 5G wireless cameras for professional content production.

I got my degree in Telecommunications Engineering in 2006. In 2007 I received the Mobile Communication Specialist degree and in 2014 the Internationalization Specialist degree.

In 2007 I joined the Mobile Communications Group, where I worked on different R&D projects, focusing my activity in the development and maintenance of software applications for Drive Test automation, subsequent log processing of mobile networks and report generation via web.

From 2012 to 2019, I participated in the preparation, execution, and management of R&D projects, both European and national, all in the field of mobile communications, specifically in communications in the millimetre wave (mmW) band, IoT, factories of the future, connected vehicles and 5G technology.

In these fields, I also participated in private contracts with companies such as Motorola, Kenmei Technologies, Ingenia Telecom and BMW.

*“...we have the responsibility to transfer our enthusiasm for Science to the girls around us...”*

It was a challenge to join Fivecomm as COO and I am enjoying every single day in this position because I can see research and science from different points of view.

On the one hand, I am still involved in research tasks in the framework of some projects, being one of them the interesting 5G-RECORDS, which allows me not to leave aside research world. In the other hand, at Fivecomm I have had the opportunity to learn about how the technology market evolves and how all research is transferred directly to companies for exploitation in the market.

It is very comforting to see how research results are applied in real life, making the world evolve.

More info



[linkedin.com/in/teresa-pardo](https://www.linkedin.com/in/teresa-pardo)

# Multiple camera wireless studio



## Mariana Assis

Software Developer for the Media Gateway (MG) and the Media Operational Control Gateway (MOCG) in 5G-RECORDS

More info

**bisect**<sup>TM</sup>

[linkedin.com/in/marianassis](https://www.linkedin.com/in/marianassis)  
<http://bisect.pt/>

In the 5G-RECORDS project, I am part of the Bisect engineering team that is responsible for developing the Media Gateway (MG) and the Media Operational Control Gateway (MOCG). The MG will anchor all the media components within the 5G network and the production studio. The MOCG is going to allow the effective use of media devices on 5G networks. With this purpose in mind, I am helping in the implementation of a RESTful API to manage media content handlers, the creation of specific GStreamer pipelines to act as a media transport translation, and the development of support for the media devices registration, connection, configuration, and control.

During this time, I have learned to work with new frameworks and libraries, such as the GStreamer-based framework, and the sony open-source NMOS C++ Node + Registry implementation (nmos-cpp), which led me to improve my ability to grasp new skills and knowledge and use them!

*“...I am an eager learner who is always trying to increase my knowledge and so that I can find out more about the world...”*

I got my master's degree in Electronics and Computer Engineer from the Faculty of Engineering at University of Porto (FEUP), Portugal, in 2020, where I specialized in telecommunications and multimedia.

I was able to do my master thesis in collaboration with INESC TEC, where I worked with cutting-edge technologies, such as augmented reality, to assist tourists in finding and exploring Cultural Heritage around a city. It was challenging doing the thesis in the middle of the pandemic, but I did it!

Since then, I have been working at Bisect where I am involved in the implementation of projects, namely related to Media over IP networks, such as Matrox VERO and EBU LIST - Live IP Software Toolkit, in addition to the 5G-RECORDS. In these projects, I am working in a wide range of functions and technologies, for instance, I have worked on improving GUIs, creating SDK's, providing support for different media streams, namely using SMPTE ST2110, RIST, SRT, and WebRTC, and integrating open-source and proprietary libraries, notably related to video and audio processing.

On top of that, I enjoy reading books, doing impossible puzzles and watching all kinds of movies and series, but I have to say that I watch too many crime series (maybe I was a detective in another life :)).

## Multiple camera wireless studio



**Shyamalie  
Thilakawardana**

Researcher in 5G-RECORDS

I received my PhD in Mobile Communications in 2002 from University of Surrey, Guildford, for which I was awarded the Inmarsat Prize for Research Excellence. Afterwards, I joined University of Surrey as a research fellow at Centre for Communications Systems Research. During my career as a research fellow, I have led technical contributions in EU 6th and 7th Framework Projects, have supervised PhD and MSc students and prepared EU research proposals in spectrum related research (FP6 WINNER, FP6 ORACLE, FP7 ROCKET) and satellite multicast (ESA BGAN Extension project proposal). I have published my research in international journals, conferences, as a book chapter and hold a UK patent. I joined BBC Research and Development as a senior engineer in 2009.

During my career at BBC R&D, I have gained technical expertise and experience in TV white space technology, medium access control techniques for in-home distribution, digital terrestrial television (DTT) planning in the UK and characterisation of iPlayer consumption in the UK.

My current role at the BBC R&D involves research and implementation aspects of novel technologies for wireless IP production. This involves collaborating with colleagues from industry and academic research institutions in the UK and Europe, as well as other BBC departments. Within 5G-RECORDS my research focus is in 5G technologies for TV studios. As part of this work, the current emphasis is on RF characterization of 5G non-public networks (NPN) analysing factors influencing uplink and downlink throughput in a laboratory environment. The work will then evaluate deployments in a typical TV studio. Other research interests include the evaluation of different low-latency video codecs on FPGA and GPU platforms and optimisation of streaming protocols.

As professional initiatives, I have taken part as a vice chair and panel member for the EU Horizon 2020 Future and Emerging Technologies Open scheme (FET Open) project evaluation in 2016. Furthermore, I have been an evaluator in FET Open scheme in 2015. I have also been a member of the External Advisory Board (EAB) to EU FP7 QoS MOS project, providing recommendations on industry interests to FP7 projects in the RAS (Radio Access and Spectrum) cluster. I currently provide technical expertise as an industrial mentor for 5G Innovation Centre at University of Surrey.

*“...I am a BBC WiSTEM volunteer (Women in STEM) and been an active member for the past four years in planning of BBC event for the ITU International Girls in ICT Day...”*

More info: [bbc.co.uk/shyamalie-thilakawardana](https://bbc.co.uk/shyamalie-thilakawardana)  
[ITU International Girls in ICT Day](#)



**Ester González**

E2E and Computer Vision  
Researcher in 5G-RECORDS

Traditional Quality of Experience (QoE) protocols applied to 2D video can only provide partial feedback of immersive video, but they can not inform us about new features such as 360 field of view, degrees of freedom, etc. To this aim, we have proposed in 5G Records to: 1) dive into the particularities of immersive video, 2) find similarities with other existing immersive technologies such as VR worlds and finally 3) come up with a new standardized protocol to measure QoE in immersive technologies. I also contribute to the project by helping in the dissemination of the results, mainly by supporting scientific publications and prototypes.

Aside from the project but as an expert in Artificial Intelligence applied to Immersive Technologies, I am researching on how to merge different realities, for instance egocentric and immersive video. The challenge here relies on segmenting in real time what is important to merge from the local reality, in some cases it could be only your own body, in other cases it could also be incorporating other objects.

*“...I want the new generations to be able to decide their future knowing all the possibilities...”*

I decided to study Electrical Engineer thanks to some open days at Teleco Faculty from ULPGC that had a great impact on me, they made me see the number of interesting projects that telecommunications engineers work on and of which I had no idea. I consider that the university stage gave me not only practical and valuable knowledge, but also the acquisition

## USE CASE 3: Live Immersive content production

Of skills and abilities, which are only acquired after facing many challenges and being able to overcome them little by little.

In the 4th year I was introduced into the research world, more concretely in the discipline of biometric person recognition, a discipline that, aims to automate the task of identifying people through physical or behavioral traits.

The opportunity to continue learning and researching was given to me by the Obra Social de la Caixa, and UAM that funded my Master and PhD studies. During my PhD studies, I have the honor to work with outstanding researchers and do very fruitful research internships in Europe and USA. After very hard working 4 years, I manage to graduate in June 2017.

At this point, it was clear to me that I wanted to have work experience without giving up research. This opportunity has become a reality within the research lab of Nokia in Madrid office, led by Álvaro Villegas, where I have been working since October 2017. My work within this team is to bring machine learning solutions to immersive experiences and Mixed Reality to improve remote communications between people. All this in the context of a multinational telecommunications company, which is strongly committed to research, and is driving the deployment of 5G worldwide.

Being aware of the dangers of the misuse of technology, I feel very proud to be able to work in this line with such a high potential for positive impact on our society. In addition, I want the new generations to be able to decide their future knowing all the possibilities.

**NOKIA**

More info: [linkedin.com/in/ester-gonzalez-sosa/](https://www.linkedin.com/in/ester-gonzalez-sosa/)

# 5G Ecosystem



**Esther Sánchez**

WP2 of 5G-RECORDS  
Ecosystem

Within the 5G Records project, I am part of the team in charge of leading the Work Package 2 (WP2). The objective of this work package is to define both the business part and the technical requirements and KPIs necessary to validate the performance of the proposed solutions of each use case.

Besides, to ensure the successful demonstration of these use cases, the project gets together a set of experienced partners whose expertise covers both 5G and content production value chains. For this reason, it is very important to coordinate the meetings with the rest of the 5G Record's partners, making sure that all relevant issues are addressed and updating the platforms used in the project.

During the first WP2 deliverable, called D2.1, the partners designed the main components of the architecture for each use case, also identifying the benefits for users, requirements, and technical enablers. My role here was to coordinate and integrate each input in the document to give it harmony and consistency.

My background is a bit particular. I graduated as a Chemical Engineer in 2013, with honours in the final research project based on nanotechnology. Later I studied at the Polytechnic University of Madrid the Master in Strategies and Technologies for Development, thanks to which I started working in the Innovation department of Telefónica (TID). Within the innovation team we are dedicated to generating new products leveraged on connectivity and Edge Computing, but always focused on user centric.

More info: [linkedin.com/in/esther-sanchez](https://www.linkedin.com/in/esther-sanchez)

My functions within Telefónica could be divided into two different lines of work. On the one hand, I work as a Scrum Master, helping in the internal coordination of the team, eliminating possible blockages, and expanding the agile culture.

*“...I am a great believer that teamwork is always much more enriching than individual work...”*

On the other hand, I work as a service designer, defining all the operational flows of new services and products, which includes both the interactions with the user and with the rest of the actors involved. In this way, I work hand in hand with the product managers and the technical team, making the coordination as fluid as possible.

Each and every one of my experiences is teaching me a lot, both professionally and personally. That is why I think it is very valuable not to stop learning or to face new challenges, for example, for me to participate in 5G Records is quite a challenge, in which I feel very proud to participate.

I think it is very important that the social approach and the benefits that new technologies can offer to all citizens are never lost, that is why I am very happy to be part of the design and definition of what our future will be.





**Lalya Gaye**

EBU's dissemination actions for 5G Records

I have been working at the European Broadcasting Union (EBU) since late 2019, and this January I have just started coordinating the EBU's dissemination actions for 5G Records, with activities ranging from demos to news item publications and online content creation for the website and social media, and reporting to UPM for the dissemination work package.

At the EBU, I also coordinate the AI and Data Initiative, a Members-led transversal, interdisciplinary and cross-departmental exploration of AI and data in public service media. This includes organizing conferences, community discussions, micro-workshops, publications, and educational opportunities, as well as taking part in policy consultations and collaborating with international organizations. I am also involved in dissemination actions for the Broadcast Technology Futures Group and take part in the EBU work on Girls in ICT Day.

I have a Bachelor in Physical Sciences from the University of Geneva, and a Master of Engineering in Applied Physics from the Royal Institute of Technology (KTH) in Sweden, with a minor in Media Technology.

I worked for many years in Sweden, and the UK as a researcher, practitioner and graduate-level teacher in Digital Media Art, Human-Computer Interaction and Interaction Design, with a particular focus on mobile media in public spaces.

My work has been featured internationally in various exhibitions, conferences, academic publications, books and in the press.

*“... My background is a mix of science, engineering, art and design...”*

Within academia, my previous affiliations include the Viktoria Institute, Chalmers University of Technology, and Royal Institute of Technology (KTH) in Sweden, Rhode Island School of Design (RISD) in the US, and Culture Lab Newcastle in the UK. While living in the UK, I founded and directed an interdisciplinary design bureau called Attaya Projects, which won an award for professional excellence and innovation from the Royal Television Society. Here in Geneva, besides working at the EBU, I am a guest teacher at the Media Design Program at the School of Art and Design in Geneva. I sometimes teach at the ESC Clermont Business School's Master program "Strategy & Design for the Anthropocene" in France, and at the Interaction Design program at ZHdK in Zurich.

I look forward to interacting more with the 5G-RECORDS partners in the project and helping with the dissemination of all this great work taking place in the project!

More info: [linkedin.com/in/lalya-gaye](https://www.linkedin.com/in/lalya-gaye)

# EBU

# 5G RECORDS

5G KEY TECHNOLOGY ENABLERS FOR EMERGING MEDIA  
CONTENT PRODUCTION SERVICES

NEWSLETTER

ISSUE | 02 | FEBRUARY 2022