



H2020 5G-TRANSFORMER Project

Grant No. 761536

# Technical and Exploitation Workshops held during second year

## Abstract

One of the dissemination goals of 5G-TRANSFORMER is to organize technical and exploitation workshops, aimed at sharing and discussing our results with relevant stakeholders. This document briefly explains the workshop co-organized during EuCNC 2019 in Valencia, “Emerging 5G Business Models: Opportunities for SMEs and large companies - lessons from 5G PPP (5G-EBM)”, which has a clear orientation towards SMEs.

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## 1 Introduction

As part of the Communication, Dissemination, and Exploitation Plan (CoDEP) [1] of the project, one of its dissemination goals of 5G-TRANSFORMER is to organize technical and exploitation workshops in relevant events. An important stakeholder for the exploitation of the project results is SMEs. Because of this, we decided to give SMEs a key role on the technical and exploitation workshop that we organized in EuCNC 2019, which took place in Valencia from June 18 to June 21. This document briefly presents the “Emerging 5G Business Models: Opportunities for SMEs and large companies-lessons from 5G PPP (5G-EBM)” workshop, proposed by 5G-TRANSFORMER, and co-organized by the 5G-PPP SME Working Group (WG) and several 5G-PPP phase 2 and 3 projects.

News were generated in the project website during the event [2], as well as dissemination through our social media channels. We have collected web and social media-related metrics gathered while EuCNC 2019 was taking place. As observed in the statistics graphs, the main conclusion is that web and social media metrics improved during EuCNC 2019.

In this document we focus on presenting the SME-oriented technical and exploitation workshop organized in EuCNC 2019. Information on other workshops co-organized by the project as well as a summary of communication, dissemination, and exploitation activities will be reported in D6.7 and D7.5.

## 2 Emerging 5G Business Models: Opportunities for SMEs and large companies - lessons from 5G PPP

The organization of an SME-focused workshop was first proposed by the 5G-TRANSFORMER project in an 5G-PPP SME WG call on Feb. 1<sup>st</sup>, 2019. Initially, it was also discussed in the framework of the Common Dissemination Booster group led by 5G-TRANSFORMER [1]. As a consequence, it was integrated in its dissemination plan to be implemented as part of Service 5 (Dissemination Campaign in Practice), which covered EUCNC19.

After the presentation in the 5G-PPP SME WG call, the idea was very well received, and some other projects present in the call expressed their interest to join our initiative, such as 5G-EVE, among others. Thanks to this interest, our initiative was accepted, and the 5G-PPP SME WG prepared a workshop proposal, co-organized by several 5G-PPP Phase 2 and 3 projects.

Our proposal was finally accepted (out of 18 submitted proposals, 8 were accepted), and it became the Workshop 5: “Emerging 5G Business Models: Opportunities for SMEs and large companies-lessons from 5G PPP (5G-EBM)”<sup>1</sup>. The main motivation of our workshop is the following:

*“The imminent arrival of 5G will bring disruption in business models for incumbent operators and verticals alike. While opportunities will surely arise for large, well-positioned market participants, the real winners may well be those SMEs who have mastered the key technologies and services enabling the new business models emerging from the inevitable disruption not only in the telecommunications ecosystem but also in the vertical sectors making use of 5G including automotive, manufacturing, health, energy, and others.*

*This interactive workshop will explore the new playing field that is emerging with the advent of 5G, and the opportunities for SMEs to be at the leading edge. Key practical outcomes include ensuring exploitation potential for 5G PPP phase 2 and Phase 3 projects and concrete innovation opportunities for SMEs.”*

The workshop took place in June 2019, in the afternoon sessions (from 14h to 17:30h). A workshop leaflet (in the form of a triptych) was prepared and distributed to foster the audience participation (shown in Figure 1 and Figure 2).

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<sup>1</sup> <https://www.eucnc.eu/2019/www.eucnc.eu/workshops/workshop-5/>



FIGURE 1: WORKSHOP LEAFLET (PART ONE)

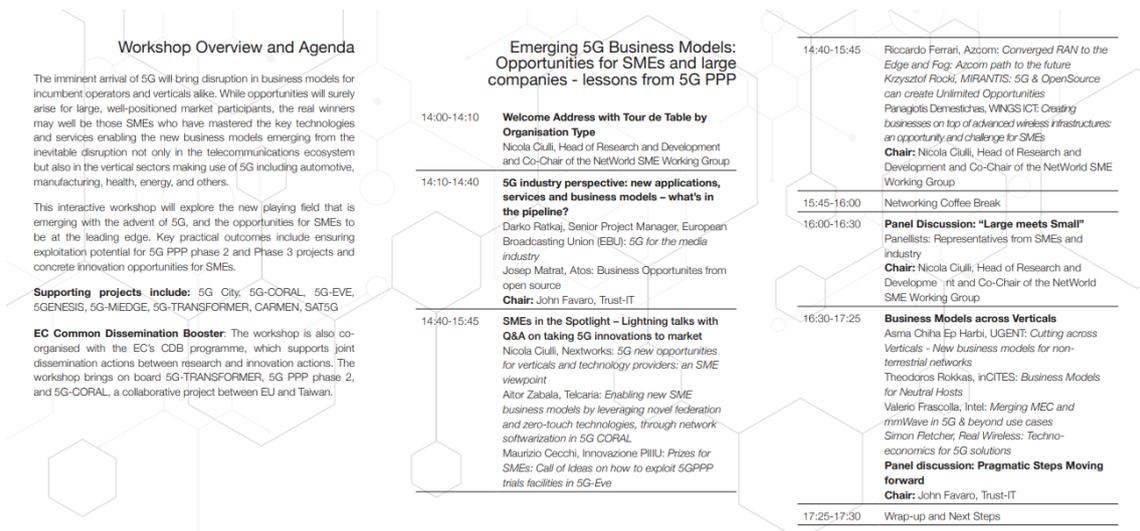


FIGURE 2: WORKSHOP LEAFLET (PART TWO)

The workshop programme had a very nice mix of presentations from different stakeholders, many of them bringing the SME perspective. As an example, we show in Figure 3 a presentation from a 5G-TRANSFORMER participant.



**FIGURE 3: NICOLA CIULLI (NXW) PRESENTING AT THE WORKSHOP**

A lot of people attended the workshop, with the room fully packed and several people coming in and out. A 360 picture taken at a one moment of the workshop is shown in Figure 4, where more than 40 people is present. We counted a total of 52 different attendees in total during the workshop<sup>2</sup>.



**FIGURE 4: 360-DEGREE PICTURE**

The project also evaluated the impact the workshop, and, in general, participating to EuCNC 2019. We report the different collected metrics in D6.6 [3], and in order to avoid duplicating content, we refer the interested reader to this document.

<sup>2</sup> Note that this is an approximate number, as several attendees entered and left the room at different moments.

### 3 References

- [1]. 5G-TRANSFORMER. "Report on WP6 progress and update of CoDEP." Deliverable D6.5, May 2019.
- [2]. 5G-TRANSFORMER News. Available at: <http://5g-transformer.eu/index.php/news/>
- [3]. 5G-TRANSFORMER. "Demonstrations at Mobile World Congress'19 and EuCNC'19 or similar." Deliverable D6.6, June 2019.

## 4 Annex: Workshop proposal

We include next a copy of the workshop proposal we submitted to EuCNC 2019.

## Enabling Smart Connectivity



18 - 21 June 2019

[www.eucnc.eu](http://www.eucnc.eu)



# Workshop Proposal

This document contains a template for all the information relevant to each Workshop to be organised within EuCNC 2019. The rules for organising and attending Workshops, as well as the items for the evaluation of proposals, are available at the conference website, under “Authors / Call for Workshops” (<http://www.eucnc.eu/call-for-workshops/>). If the proposal is accepted, this text (the public information in it) will be used to advertise the Workshop in the conference website.

The proposal should be submitted by the deadline, 2019 Feb. 8<sup>th</sup>, to [eucnc2019-workshop-chairs@iteam.upv.es](mailto:eucnc2019-workshop-chairs@iteam.upv.es). The name of the file should be the Workshop title (abbreviated, if necessary).

<b>Proposer's Name</b>	Jacques Magen, Carlos J. Bernardos, Antonio de la Oliva Delgado, Josep Mangués, Stephanie Parker, John Favaro.
<b>Proposer's Institution</b>	Interinnov, SME WG (NetWorld2020 SME), UC3M, CTTC, Trust-IT
<b>Proposer's Email</b>	<a href="mailto:jmagen@interinnov.eu">jmagen@interinnov.eu</a> , <a href="mailto:cjbc@it.uc3m.es">cjbc@it.uc3m.es</a> , <a href="mailto:aoliva@it.uc3m.es">aoliva@it.uc3m.es</a> , <a href="mailto:josep.mangués@cttc.cat">josep.mangués@cttc.cat</a> , <a href="mailto:s.parker@trust-itservices.com">s.parker@trust-itservices.com</a> , <a href="mailto:j.favaro@trust-itservices.com">j.favaro@trust-itservices.com</a>
<b>Proposer's Phone Number</b>	+39 324 5321782 (Stephanie Parker)

<p><b>Proposer's CV</b> (text up to 300 words)</p>	<p>The workshop proposers bring an excellent combination of competences in 5G technology, standardization, market and business aspects, with pluri-annual experience in EU and international R&amp;I, including a large portfolio of peer-reviewed publications.</p> <p><b>Jacques Magen</b>, Chairman of Interinnov, has 30 years of experience in international R&amp;D and innovation all over Europe and beyond, most specifically in the field of telecommunications and information technologies. He is a member of the 5G IA Board and of the Steering Board of the NetWorld2020 European Technology Platform, Jacques currently chairs the 5G PPP SME WG (Networld2020SME).</p> <p><b>Carlos J. Bernardos</b> is Associate Professor at UC3M and Coordinator of the NFV course of the Master and Specialist in NFV and SDN, Associate professor at UC3M.</p> <p><b>Antonio de la Oliva Delgado</b> is Associate Professor (Prof. Titular) at Universidad Carlos III de Madrid with extensive expertise in SDN, NFV, fronthaul and backhaul, and serves as Area Editor of Elsevier Computer Communications. He was Deputy Coordinator of 5G-Crosshaul and is currently coordinator of 5G-CORAL.</p> <p><b>Josep Mangues-Bafalluy</b> received the PhD degree in Telecommunications in 2003 from the Technical University of Catalonia (UPC). He is Senior Researcher and Head of the Communication Networks Division of the Centre Tecnològic de Telecomunicacions de Catalunya (CTTC).</p> <p><b>Stephanie Parker</b> has an academic background in interdisciplinary research. She currently coordinates Global5G.org, contributing to the Technology and several 5G PPP WGs: Trials and its Pan-EU Trials Roadmap, Board, performance KPIs, International Cooperation Stream, Verticals Task Force, and leads activities in the Pre-Standardization WG. <b>John Favaro</b> is Deputy Coordinator of Global5G.org with years of experience in technical-economic aspects of R&amp;I initiatives. In 5G PPP, he contributes to the Automotive and Spectrum WGs. He is Associate Editor in Chief of IEEE Software Magazine and a member of the Steering Committee of the Journal of Automotive Software Engineering.</p>
<p><b>Project</b> (indicate the project, if the proposal is associate to one)</p>	<p>To-Euro-5G, Global5G.org, 5G-TRANSFORMER, 5G-CORAL, 5G-EVE, 5G-CARMEN</p>
<p><b>Workshop Title</b></p>	<p>Emerging 5G Business Models: Opportunities for SMEs and large companies -lessons from 5G PPP (5G-EBM)</p>

**Motivation and Background**

(describe the motivation and background for the Workshop, indicating why you think that this is a good topic for a Workshop at EuCNC, up to 300 words)

The imminent arrival of 5G will bring disruption in business models for incumbent operators and verticals alike. While opportunities will surely arise for large, well-positioned market participants, the real winners may well be those SMEs who have mastered the key technologies and services enabling the new business models emerging from the inevitable disruption not only in the telecommunications ecosystem but also in the vertical sectors making use of 5G including automotive, manufacturing, health, energy, and others.

Whenever disruption has upended a market, incumbent players have often been caught without access to the key capabilities needed to participate in the aftermath. This is where SMEs have an advantage - traditionally agile, close to the leading edge of technological innovation, without legacy baggage to slow them down. SMEs with expertise in Network Function Virtualization and service orchestration will become key partners to their larger counterparts in the drive toward full Network Slicing, a foundational capability in the new business models. SMEs pioneering vehicular connectivity and secure mobile data transfer will participate in the emergence of new forms of monetisation ranging from media streaming to usage-based mobile commerce. 5G will open up technology gaps that the SMEs can rush in to fill. SMEs are leaders in technologies needed to solve the spectrum allocation problem (e.g. beamforming) for mobile business models; technologies for supporting new services in areas like stadia (edge computing, small cells); new forms of data mining and analytics to support usage-based business models (e.g. machine learning, Big Data). SMEs well introduced in vertical sectors may also find new opportunities for offering new services to their customers via 5G. This workshop will explore the new playing field that is emerging with the advent of 5G, and the opportunities for SMEs to be at the leading edge.

<p><b>Structure</b> (describe the format of the workshop, identifying the existence of keynote speakers, panel, invited papers, technical sessions, and so on; if available, the key people speaking at the workshop should be identified)</p>	<p>A draft agenda aims to illustrate the proposed structure combining talks and interactive slots.  <b>Welcome Address</b>, Jacques Magen, Interinnov and Chair of the NetWorld SME Working Group - 10 minutes  <b>Tour de table by organisation type</b>  <b>Insights from Industry</b>  Keynote from industry 1: Diego Lopez, Telefonica (tbc) (20 + Q&amp;A) (tbc)  Keynote from industry 2: (tbc)  <b>Chair</b>: Raffaele De Peppe, TIM and Chair of Verticals Task Force</p> <p><b>SMEs in the Spotlight</b> (10 mins each; total 30 minutes)  <b>Chair</b>: Jacques Magen, Interinnov and Chair of the SME Working Group, NetWorld2020SME  Nicola Ciulli, Nextworks (5GCity and 5G-EVE): 5G new opportunities for verticals and technology providers: an SME viewpoint (confirmed)  Aitor Zabala, Telcaria (5G-CORAL): Enabling new SME business models by leveraging novel federation and zero-touch technologies, through network softwarization in 5G CORAL (confirmed)  Simon Fletcher, Real Wireless (5G-MoNArch and 5G-NORMA): Techno-economics for 5G solutions.  <b>Panel Discussion: "Large meets Small"</b> (30 minutes)  Panellists: Representatives from SMEs and industry</p> <p><b>Business Models across Verticals</b> (10 mins each; total 30 minutes)  <b>Chair</b>: John Favaro, Trust-IT  Cyril Michel, Thales Alenia Space and SAT5G: New business models emerging for verticals from satellite use-cases (tbc)  Vassilis Seferdis, Zeetta Networks: new business models from new ecosystem players(tbc)  Antonio Arcidiacono, CEO &amp; CTO, European Broadcasting Union (tbc)  <b>Panel discussion: Pragmatic Steps Moving forward</b> with panellists selected from workshop speakers/keynotes  <b>Wrap-up and Next Steps</b></p>
<p><b>Duration</b></p>	<p><b>Half-day</b></p>
<p><b>Workshop</b> <b>TPC</b> (identification of the key people for the Workshop Technical Programme Committee)</p>	<p>Antonio de la Oliva Delgado, Uni. Carlos III de Madrid (SPAIN)  Nicola Ciulli, NextWorks (ITALY)  Carlos J. Bernardos, Universidad Carlos III de Madrid (SPAIN);  Jacques Magen, Interinnov (FRANCE)  Josep Mangués-Bafalluy, Centre Tecnològic de Telecomunicacions de Catalunya (SPAIN)  Stephanie Parker, Trust-IT (ITALY)  John Favaro, Trust-IT (ITALY)</p>
<p><b>Previous Editions</b> (in case it's not the first edition, give information on previous ones, e.g., people involved, number of participants, number of submitted and accepted papers, among other)</p>	<p>Global5G.org co-hosted a workshop at EuCNC 2018, International Workshop on Vertical Industries &amp; Services for 5G (VIS5G). Trust-IT has also supported a workshop on 5G security at EuCNC 2017.</p>

<p><b>Specific Promotion</b> (provide any specific plans that may be considered for announcing the workshop)</p>	<p>As the workshop is relevant to tracks: VAP, OPE, WOS, NET, an extensive campaign will be conducted leveraging the proposers' extensive network of 5G stakeholders spanning supply and demand sides, new players, vertical industry and standards specialists, ensuring that the workshop will be widely broadcast. Moreover, 5G-Transformer and 5G-CORAL are part of a project group in the EC Common Dissemination Booster, which has provided support for joint dissemination activities.</p> <p><b>Promotion via websites</b> (e.g. 5G PPP, Global5G.org, 5G-TRANSFORMER, 5G-CORAL, 5G-CARMEN, 5G-EVE), <b>social media</b> (as above with invites to register for EuCNC) and professional networks, including large networks on LinkedIn and relevant groups with a focus on SMEs, the supply side and verticals.</p> <p>Joint promotion with local organisers, including the presence of the SME WG stand and SME exhibition area. Coordination of promotion also via the NetWorld2020 SME WG and the 5G PPP COMMS Group.</p> <p>Participant satisfaction survey and feedback to be distributed during the workshop.</p> <p><b>Post-workshop Dissemination:</b> An executive summary with the main take-away messages and next steps for each project represented, including:</p> <ul style="list-style-type: none"> <li>• Interaction during EuCNC2019 exhibition and event</li> <li>• Showcase of verticals promoted via Global5G.org and its networks of verticals and jointly via the COMMS Group.</li> <li>• LinkedIn blog post and social media campaigns.</li> <li>• Highlights supported by the Common Dissemination Booster and Project Group 5G-TRANSFORMER for a collaboration showcase.</li> </ul> <p>Follow-up events with SME WG and 5GIA.</p>
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