



H2020-ICT-2016-2

RIA

Project-ID: 761329

WORTECS

Networking research beyond 5G

WP5 - D5.4 Dissemination: Open Event 2

Contractual Date of Delivery:	2020, October 31th
Actual Date of Delivery:	2020, November 2nd
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Work package:	WP5 – D5.4
Security:	PU
Nature:	Deliverable
Version:	Version 1.0
Total number of pages:	10

Abstract

This report outlines the 2nd WORTECS Open Event, virtually held during October 2020

Keyword list

Virtual Reality, High Quality / Low Latency, Wireless, OWC, radio transmission, Mac layer, HW implementation

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Document History

First name	Last name	Version	Comments
Víctor	Guerra	20 th October 2020	First version.
Víctor	Guerra	28 th October 2020	Open Event metrics included

List of Acronyms

Acronym	Meaning
BB	Base Band
DFE	Digital Front End
HMD	Head Mounted Display
OWC	Optical Wireless Communication
RF	Radio Frequency
VR	Virtual Reality
WORTECS	Wireless Optical/Radio Tera-bit CommunicationS
LiFi	Light Fidelity
FWF	Fiber Wireless Fiber

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I. Impact of SARS-CoV2 on Open Event 2

2020's SARS-COV2 pandemic has impaired most research activities in almost any part of the globe. In the specific case of WORTECS, the high level of hardware-intensive tasks has posed a challenging scenario to comply with the project's objectives. Despite the limitations derived from mobility restrictions (and other measures) imposed by the governments, WORTECS has demonstrated enough resilience to successfully fulfil all the planned activities and tasks.

The planning of Open Event 2 (OE2) started during the period between contagion waves in Europe (mid-summer). In order to be prepared for unforeseen events, WORTECS board designed a contingency plan (Table 1) attending to different possible scenarios.

Scenarii	Grande scène	Organiser and Speakers	Video Administer	PoC	Lunch	Others
A	185	20 (Orange, WORTECS team and H2020)	Scène+ Webinar + PoC (1, 2 or 3) live demo and video streaming	Foyer + Meeting rooms	ok	WORTECS and H2020 poster and H2020 demo onsite and online
B	30 (including Staff, Organiser and Speakers), i.e. 15	Orange and WORTECS team	Scène+ Webinar + PoC (1, 2 or 3) live demo and video recorded by Orange Studio team	Foyer + Meeting rooms	ok	WORTECS and H2020 poster onsite and online
C	0	15 Orange and WORTECS team	Scène + Webinar + PoC Video	Only video	ok	WORTECS and H2020 poster online
D	0	PHY: ORA, OLD, BCM, ULP ? OVP: IHP, OXF, PLF	Scène + Webinar (Vimeo) + OVP for remote speaker or Slides video presentation + PoC Video	Only video	ko	WORTECS and H2020 poster online
E	0	Only online	No Orange Studio. Only Slides (live or video) and PoC Video on Coopnet (300 online attendees maximum)	Only video	ko	WORTECS and H2020 poster online

Table 1 – Contingency plan for Open Event 2

As Table 1 depicts, the initial plan for OE2 was based on an on-site presentation involving approximately 200 persons at Orange Garden. Several spaces devoted to live demonstrations were booked, but the situation obligated to foresee other scenarios. The five considered scenarios (from A to E) were sorted in terms of freedom to gather a considerable amount of people in the same room. For instance, Scenario B considered only the attendance of WORTECS' partners and some key invited attendees. For the rest of scenarios (from C to E), the virtuality of the event increased, being Scenario E the most restrictive in terms of physical presence.

The final selected scenario was Scenario D, in which each partner presented their corresponding demonstrators using telematic methods, whilst the project's coordinator and Orange's multimedia support team was located at Orange Garden (Paris, France). This scenario was selected due to the strong recommendations (and sometimes restrictions) of the governments to avoid travelling when possible.

II. Open event planning

WORTECS OE2 was held in a virtual venue. A simple landing page was designed and deployed as part of the advertisement strategy of the Open Event. In addition, a flyer was circulated among each partner’s network (Figure 1). It has been estimated that the flyer reached a community of approximately 300 researchers from WORTECS’ areas of interest. The flyer contained information about the virtual venue, the agenda, and the website.

WORTECS - EC - 761329 Virtual Open Event, Orange Labs, France

WORTECS Open Event & Workshop on THz and 6G
Thursday 15th October 2020

The demand for wireless communications is growing exponentially, leading to a 'spectrum crunch'. The optical and THz regions of the spectrum can provide orders of magnitude more capacity than is currently available, for applications such as virtual reality and wireless data centres.

In this event we will showcase technologies from the WORTECS project and other projects in the H2020 Beyond 5G cluster. This will include demonstrations, posters, and presentations. Attendees will see online presentations and demonstrations of showcasing the latest advances and interact with other experts in the field (<https://www.wortecs.com/>).

Program:

- o Morning
 - o 10H30: Network Evolution towards 2025, M. Eric Hardouin (Orange)
 - o 10H45: WORTECS project introduction and Proof of Concept, M. Olivier Bouchet (Orange)
 - o 11H00: 100Gbps wireless transmission at 240GHz, Dr. Jag. Vlasica Sark(IHP)
 - o 11H20: Video conversion and compression for Virtual Reality, M. Guillaume Vercauteren (B-COM)
 - o 11H40: Heterogeneous Wireless Networks, Dr. Jag. Marcin Brzozowski (IHP)
 - o 12H00: Break
- o Afternoon
 - o 14H30: WORTECS Software Tool (SaaS), M. Victor Guerra (University of Las Palmas)
 - o 14H50: Hybrid Gbps 60GHz-OWC link, Rodolphe Legouable (Orange)
 - o 15H10: Terabit Fiber Wireless (FWW) link, Dr. Ravinder Singh (University of Oxford)
 - o 15H20: Optical Wireless Communication (OWC), M. Bastien Bechlergue (Oledcomm)
 - o 15H50: OWC standard: development and worldwide landscape-Dr. Volker Jungnickel (HHI) and Prof. Dominic O'Brien (University of Oxford)
 - o 16H10: Close

Virtual Demonstrations:

No	Title	No	
1	100Gbps at 240GHz (IHP)	8	Video conversion and VR (BCM-ORA)
2	WORTECS Software Tool (IHP)	6	Fiber Wireless: Fiber (FWF) (OFP-BCOM)
3	Optical Wireless Communication (OLD-PLF/BCM)	7	Hybrid Gbps 60GHz-OWC link (BCM-ORA)
4	Fast Heterogeneous Network management (IHP)		

Project Website: <https://wortecs.eu/tools.eu/> Online Event Website: <https://vimeo.com/458900573>
Password: WOR_15/10_TECS

Logos: orange, b.com, IHP, OXFORD, oledcomm, ULPGC, pureLiFi, Horizon 2020 European Union Funding for Research & Innovation

Figure 1 – WORTECS PDF flyer

In the website (Figure 2), the interested audience could find the information for joining the event via Vimeo.

WORTECS Open Event & Workshop on THz and 6G
Thursday 15th October 2020

Webinar link: [HERE](#)
Start at 10:30 AM
Password: WOR_15/10_TECS
Q/A link: [HERE](#) (minutes, Orange)

The demand for wireless communications is growing exponentially, leading to a spectrum crunch. The optical and THz regions of the spectrum can provide orders of magnitude more capacity than is currently available, for applications such as virtual reality and wireless data centres.

In this event we will showcase technologies from the WORTECS project and other projects in the H2020 Beyond 5G cluster. This will include demonstrations, posters, and presentations. Attendees will see online presentations and demonstrations of showcasing the latest advances and interact with other experts in the field.

Logos: orange, b.com, IHP, OXFORD

Figure 1 – Open Event website (www.wortecs.com)

The event was presented and guided by Olivier Bouchet (Orange), the project coordinator, whilst the speakers joined the event using Orange’s Open Video Conferencing tool. The simplified scheme of the event’s logistics can be observed in Figure 3.

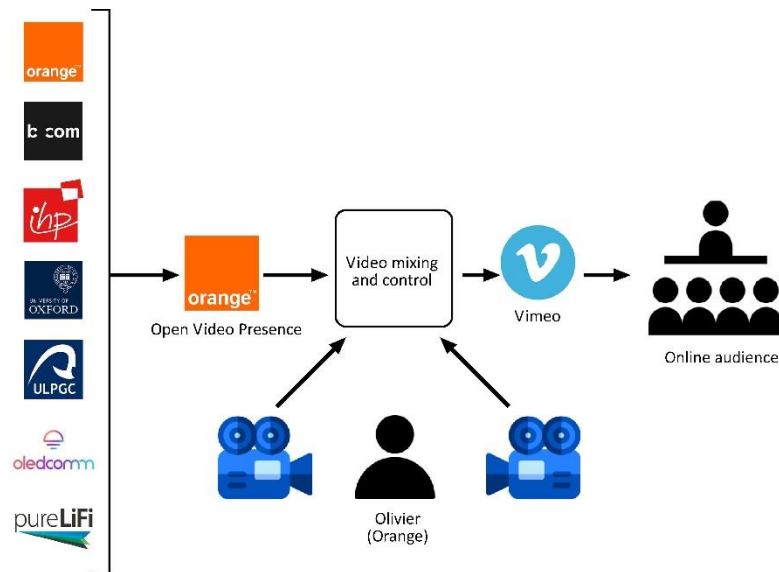


Figure 3 – Video acquisition and distribution for OE2

The participants connected to the event using Open Video Presence (OVP) tool from Orange as aforementioned. Olivier was physically-located at Orange Garden (Grande Scene), where the multimedia support team carried out the recording of the event and the video mixing and control. The output video was sent to Vimeo streaming service, and the users were able to connect to the event in a straightforward manner.

Finally, the agenda of the event can be observed below. Volker Juningckel, from Fraunhofer HHI, was invited as an external speaker to provide insight about the current status of the standardization activities related to Optical Wireless Communications technologies. Moreover, M. Eric Hardouin (Orange) provided the company's vision regarding the current deployment of 5G technology and the challenges and opportunities for future research.

Morning

- 10H30:** Vision on Network Evolution towards 2025, M. Eric Hardouin - Orange
- 10H45:** WORTECS presentation and Proof of Concepts, M. Olivier Bouchet - Orange
- 11H00:** 100Gbps at 240GHz, Dr.-Ing. Vladica Sark - IHP
- 11H20:** Video conversion and compression for Virtual Reality, M. Guillaume Vercasson - B\diamondCOM
- 11H40:** Heterogeneous Network, Dr.-Ing. Marcin Brzozowski - IHP
- 12H00:** Pause

Afternoon

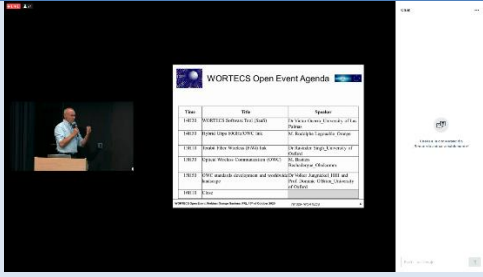
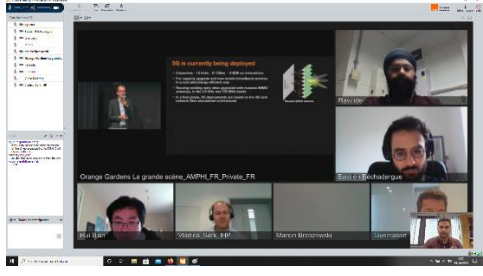
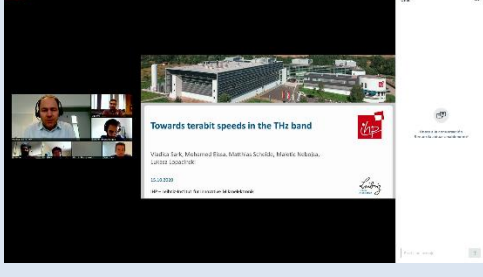
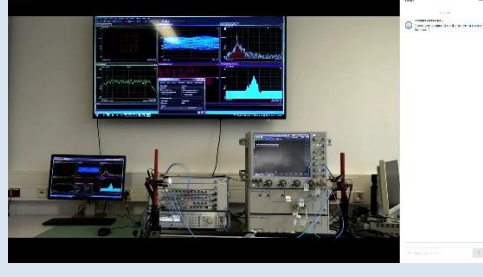
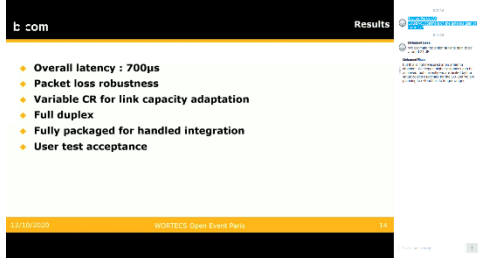



- 14H30:** WORTECS Software Tool (SaaS), Dr Victor Guerra - University of Las Palmas de Gran Canaria
- 14H50:** Hybrid Gbps 60GHz/OWC link, M. Rodolphe Legouable - Orange
- 15H10:** Fiber Wireless (FiWi), M. Ravinder Singh - University of Oxford
- 15H30:** Optical Wireless Communication (OWC), M. Bastien Bechadergue - Oledcomm
- 15H50:** OWC ecosystem in the World (standards, projects) – Dr. Ing. Volker Junkgnickel & Prof. Dominic O'Brien
- 16H10:** Close


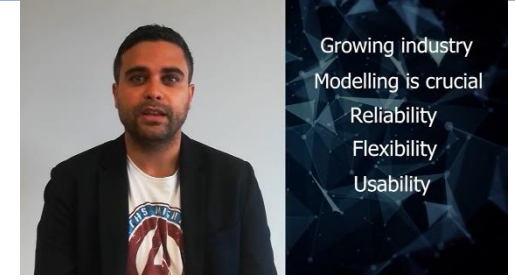
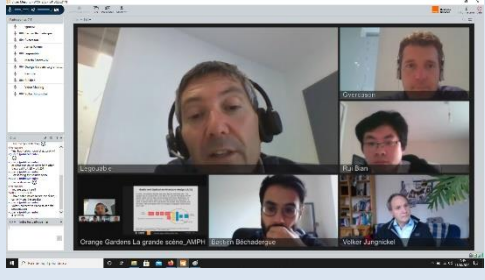

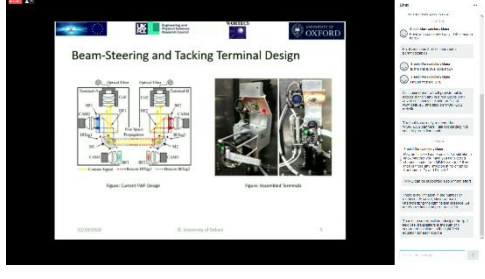


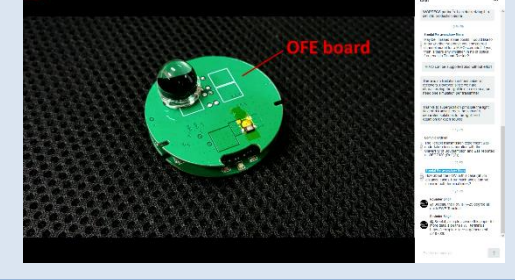


Each partner was asked to make a 10 minutes presentation about the developed demonstrator and after that, a 2-minutes video in a knowledge-pill format was visualized.

III. Open event report

The Open Event was run smoothly without any incidence, the timing was accurate, and no lag nor streaming errors were noticed during the participants' interventions. The peak audience during the event was 131 viewers with an average view time of 57 minutes. In addition, Vimeo statistics up to 26th October 2020 showed 219 visualizations and 315 downloads.

The following Table depicts the interventions of the partners.

Partner	Presentation	Video demonstration
Olivier Bouchet (Orange)		N/A
Eric Hardouin (Orange)		N/A
Vladica Sark (IHP)		
Guillaume Vercasson (BCOM)		
Marcin Brzozowski (IHP)		

<p>Victor Guerra (ULP)</p>		
<p>Rodolphe Legouable (Orange)</p>		
<p>Ravinder Singh (UOXF)</p>		
<p>Bastien Bechadergue (OLD)</p>		
<p>Volker Juningckel (HHI - invited)</p>		<p>N/A</p>
<p>Dominic O'Brien (UOXF)</p>		<p>N/A</p>

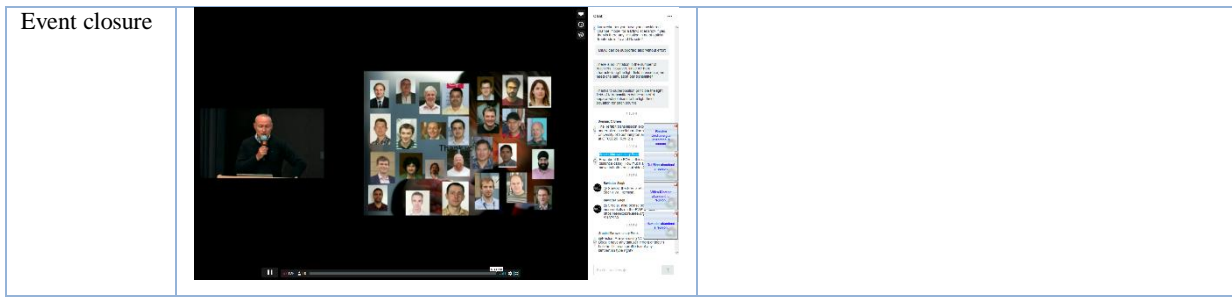


Table 2 – Summary of contributions to WORTECS' Open Event 2