



Deliverable D7.4 1st Project Video Presentation

Document Summary Information

Grant Agreement No	101017171	Acronym	MARSAL
Full Title	Machine learning-based, networking and computing infrastructure resource management of 5G and beyond intelligent networks		
Start Date	01/01/2021	Duration	36 months
Project URL	http://www.marsalproject.eu		
Deliverable	D7.4 – 1 st Project Video Presentation		
Work Package	WP7		
Contractual due date	M8 (Aug. 31 st , 2021)	Actual submission date	October 15 th , 2021
Nature	Website, patent filings, etc.	Dissemination Level	Public
Lead Beneficiary	CTTC		
Main editor	Christos Verikoukis (CTTC)		
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Revision history

Version	Issue Date	% Complete	Changes	Contributor(s)
V1.0	15/10/2021	100	Preparation of this document to report the completion of the 1 st Project Video Presentation	Miquel Payaró (CTTC)

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1 1st Project Video Presentation

1.1 Video availability and dissemination

The video has been uploaded in MARSAL's YouTube channel: <https://youtu.be/onBSZ0rX1mw>

The video upload has been disseminated through:

- Twitter: <https://twitter.com/MarsalProject>
- LinkedIn: <https://www.linkedin.com/company/marsal-project>
- Website: <https://www.marsalproject.eu/news-events/>
- 5GPPP-Communication mailing list: Comms@5g-ppp.eu

1.2 Script and action on screen

The following text provides a transcription of the video script and action on screen (in italics):

Implants that replace smartphones. High-fidelity holograms. Wireless interfaces connected to the brain. Is all this science fiction?

The video starts with a woman alone next to a kitchen table. We see her interacting with her own arm. Then a high-fidelity hologram of a man appears in front of her. Next, we zoom into the brain of the woman and see how it has wireless connectivity. Finally the text: "Is all this science fiction?" is displayed.

5G can deliver communication speeds many times faster than current 4G networks and significantly lower latency times. But with speeds estimated at 100 times faster than 5G and extreme-low latency of less than one millisecond, 6G is poised to be the network that finally delivers use cases from the realms of science fiction.

A 5G antenna is shown in the middle of the screen. From the left a 4G antenna appears (with similar appearance), and the corresponding comparison in terms of speed and latency is depicted. Then the 4G antenna disappears and an array of tiny 6G antennas inside a cable appear on the right, and a new comparison is made with respect to the 5G one. The 5G antenna disappears and the 6G cable is seamlessly integrated into the kitchen of the first scene.

6G will bring a new era of intelligent connected management and control functions, programmability, integrated sensing and communication, reduction of energy footprint, trustworthy infrastructure, scalability, and affordability.

We transition to a new scene with a digital canvas in which all the above concepts are depicted in sequence, in sync with the voiceover.

A self-contained ecosystem of artificial intelligence, 6G will allow the generation of Zettabytes of digital information to be exchanged between billions of devices, humans, connected vehicles, robots and drones.

We see a microchip with the letters Zb written on it. Next, the chip turns on and we zoom out to reveal a segment of a city in which humans, vehicles, robots and drones are sharing data with each other.

To enable such a 6G vision, MARSAL targets the development of an innovative framework for the management and orchestration of 6G network resources, by utilizing a converged optical-wireless network infrastructure.

A simplified 3D version of MARSAL's network architecture.

At the mobile network design domain, MARSAL targets the development of novel and cost-effective radio access technologies, based on the Cell-Free concept.

We zoom into a street of the earlier city segment, and an array of antennas forming a Cell-Free network structure is virtually mapped out on it. The MARSAL logo is shown in sync with the voiceover.

In a Cell-Free network, a group of distributed antennas cooperate in order to provide service to the users simultaneously and by using the same frequency-time resources.

Continuing from the earlier scene, we see a few pedestrians with mobile phones and how each of them is served by all the antennas in his/her area of influence.

MARSAL develops these novel radio access networking solutions by utilizing the application of the distributed Cell-Free concept, while contributing innovative functionalities to the O-RAN initiative.

We travel around the city, showing different devices communicating through the Cell-Free network. The scene ends by showing the O-RAN logo.

In parallel, in the intermediate links between the core network and the user-access domain, MARSAL aims to radically increase the flexibility of optical access architectures for 6G connectivity via different levels of fixed-mobile convergence.

We come back to the simplified 3D version of MARSAL's network architecture, and we start travelling around the intermediate links between the core network and the user-access domain (seen from the outside and the inside).

At the network and service management domain, the design philosophy of MARSAL is to provide a comprehensive framework for the management of the entire set of communication and computational resources by exploiting novel Artificial Intelligence techniques that incorporate the Virtual Elastic Data Centre paradigm.

We progressively map the network of the previous scene onto the city segment of the earlier scene, and travel around it. We eventually zoom out to reveal that the city segment is a small element of an AI brain.

Finally, at the network security domain, MARSAL aims to introduce mechanisms that provide privacy and security, so that applications and users can maintain control over their data even in shared network infrastructures by means of Artificial Intelligence and Blockchain technologies developed within MARSAL.

Continuing from the previous scene, we zoom out further to show a digital canvas with the earlier AI brain in the middle of it, surrounded by different Blockchain & security elements (example). The words "privacy" and "security", integrated within the digital canvas, are highlighted in sync with the voiceover.

MARSAL, building the foundations to lead 6G in Europe, offering more high-value services to society and strengthening the European industrial leadership.



The MARSAL logo appears again together with a highly-connected map of Europe creating a continent-wide network, with the text “6G” shown in the middle.

At the bottom of the screen we see the project’s dissemination disclaimer “This project has received funding from the European Union’s Horizon 2020 Research and Innovation programme under grant agreement No 101017171” is shown next to a EU flag.