

## Cruïlla becomes Europe's first 5G festival

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- Festival Cruïlla will test 5G technology applied to virtual reality through a 360° immersive experience in which spectators can see and experience live concerts as if they were on stage with the group
  - The project is being promoted by Cruïlla and Mobile World Capital Barcelona, on behalf of 5G Barcelona, and has been developed technologically by ACCIONA, Cellnex, Qwilt and MASMOVIL
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**Barcelona, 13 June 2019.-** Festival Cruïlla has become one of the world's first **testing grounds** for **5G** technology applied to the entertainment and live music industry thanks to Mobile World Capital Barcelona, Cellnex Telecom, ACCIONA, MASMOVIL and Qwilt, in the context of the 5G Barcelona initiative. The festival will be held from 3 to 6 July in Barcelona's Parc del Fòrum.

This initiative will enable attendees at the tenth Festival Cruïlla to experience what it feels like to enjoy a live concert from the stage, beside their favourite artists, using **360° virtual reality and immersive experience**.

Festival Cruïlla is further expanding the range of activities on offer to its audience. This time it is the turn of technological innovation addressed to improving user experience. Festival Cruïlla does not aspire to being the largest festival but rather the best, with an emphasis on the public's experience. This year it has therefore made a pledge to 5G technology, which will offer new potential to the entertainment and live music industry.

The **project is already involving artists such as Bastille, Years & Years and Love of Lesbian**, who have agreed to take part in testing this new technology and "virtually share" the spotlight on the stage with spectators. The full list of artists who will take part in the experience will be specified at a later date.

### **An immersive experience**

The project will involve the installation of a 360° camera on the festival's main stage. This will record images of the concert. Once these have been processed, they will be sent via small cells –micro-antennae– to 3D virtual reality headsets located in the Cruïlla 5G area in the festival Village. Spectators may use these headsets to watch 360° streaming video and experience the feeling of being practically on stage with the group.

The video flow is broadcast with minimum latency –response time– and is therefore viewed virtually in real time, because of two factors. First, 5G's characteristics: broader bandwidth, and greater velocity and reliability. Second, the temporary memory storage capacity and the extreme data processing of the network itself, which is known as edge computing.

The **result is a better experience for users, who can now feel part of the show**. It will be used to encourage the development of new technological experiences in culture and entertainment.



**5G Barcelona**



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### **Cruilla 5G technology partners**

This project is part of **5G Barcelona**, an initiative intended to turn the city into a 5G digital hub in Europe and promoted by the Government of Catalonia, Barcelona City Hall, Mobile World Capital Barcelona, i2CAT, CTTC, Atos and the UPC, in partnership with cutting-edge 5G development companies.

**ACCIONA** will provide the technology for capturing and viewing the 360° images necessary for this experience. It will therefore install a 360° stereoscope camera on stage. During streaming this will broadcast the images in 4K to next-generation computers with a capacity to process 180 high-resolution images per second. These devices will generate a three-dimensional visual effect to emulate the experience of being on stage with the artists.

ACCIONA is a pioneer in the development of immersive audiovisual experiences through its subsidiary ACCIONA Producciones y Diseño. It will also contribute its knowledge of and experience in the use of 5G technology with the prior development of use cases of this technology applied to the construction and the industrial logistics sectors.

**Cellnex Telecom**, Europe's main wireless telecommunications infrastructures operator, will install the small cells through which the signal is received and broadcast, as well as the optical fibre that connects them to servers, the 5G routers and a virtualized core. Spectators' entire virtual experience will practically take place in real time because of the edge computing data processing undertaken by Cellnex at a data centre that it will set up in the compound. Multi-access Edge Computing (MEC) will be installed at this data centre to perform the functions of broadcasting the images closest to the end user and thus reduce total latency (the time it takes for data to reach the user).

**MASMOVIL**, Spain's fourth major telecommunications operator, with 8 million clients and a firm vocation for innovation and service, has planned the 5G radio network that will be used for the 360° immersive experience, using the licenses in the 3.5GHz band, the priority band for deploying 5G, that it already has, as well as certification for the small cell deployment that will be undertaken, to ensure the necessary coverage and compliance with all the regulations for such installations.

Lastly, **Qwilt** will be in charge of the Open Edge Cloud, a content delivery platform that guarantees the delivery of 360° video streaming to the 3D virtual reality headsets with the maximum quality and minimum latency possible.

### **About Festival Cruilla**

*Cruilla 2019 is a place for everyone to find their perfect stage. That's because we have stages where the international hits of Black Eyed Peas, Kylie Minogue, Foals, Bastille and ZAZ will sound, plus stages with the best Spanish music from Vetusta Morla, Cala Vento and Iseo & Dodosound. Without forgetting home-grown poets like Love of Lesbian, Dorian, Els Pets and El Petit de Cal Eril.*

*There are stages for laughing with Cruilla Comedy and for dancing till you have sore feet with Garbage, Parovoz, Seu Jorge and Years & Years.*

*What matters most though is that in itself Cruilla is a large stage. Parc del Fòrum will host performances by La Fura dels Baus, make-up artists, hairdressers, a "correfoc" fireworks-run event, a ship that travels on land, a giant anthropomorphic figure, two marching bands with plenty of rhythm and stunning metal sculptures from Antigua and Barbuda. The envy of any large production.*

*We are celebrating 10 years with a stage brimming with experiences and want this year's show to be unforgettable. For the time being, we already have the best stars: our public.*



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## About 5G Barcelona

*5G Barcelona is a public-private initiative transforming the metropolitan area of Barcelona into an open and neutral urban laboratory for the validation and adoption of 5G technologies and applications in a real city environment.*

*The initiative creates synergies within the 5G ecosystem and offers an experimental infrastructure to test, create prototypes and implement new digital solutions in the city. 5G Barcelona is promoted by the Generalitat de Catalunya, Barcelona City Hall, Mobile World Capital Barcelona, i2CAT, CTTC, Atos and the UPC.*

[www.5gbarcelona.org](http://www.5gbarcelona.org)

## About Cellnex Telecom

*Cellnex is the main European wireless telecommunications infrastructures services and has a portfolio of 45,000 placements throughout Europe, including deployment forecasts to 2027. The company operates in Spain, Italy, Holland, France, the United Kingdom and Switzerland.*

*Cellnex operates in four major areas: telecommunications infrastructure services; audio-visual broadcasting networks; safety and emergency network services and solutions for the smart management of infrastructures and urban services (smart cities and "Internet of Things" -IOT).*

*The company is quoted on the Spanish continuous trading market and also on the select IBEX35 and EuroStoxx 600 indices. Cellnex also appears on the FTSE4GOOD, CDP (Carbon Disclosure Project), Sustainalytics and Standard Ethics sustainability indices.*

*Major shareholders in Cellnex include Connect, which has a 29.9% stake, and CriteriaCaixa, Blackrock, Wellington and Canada Pension Plan with minority holdings.*

[www.cellnextelecom.com](http://www.cellnextelecom.com)

## About Acciona

*ACCIONA is a global group for the development and management of sustainable infrastructures solutions, particularly renewable energy. It covers the entire value chain of design, construction, operations and maintenance. ACCIONA's objective is to lead the change to a low-carbon economy. It is therefore at the service of all projects of technical and innovation excellence for designing a better planet. The company recorded sales of 7.51 billion euros in 2018, is present in over 40 countries and goes about its business with a commitment to helping the economic and social development of the communities in which it operates.*

[www.acciona.com](http://www.acciona.com)

## About MASMOVIL Group

*MASMOVIL Group is Spain's fourth leading telecommunications operator and offers landline and mobile telephone and broadband internet services for residential customers, companies and operators through its main brands: Yoigo, Pepephone, MASMOVIL, Lebara and Llamaya.*



**5G Barcelona**



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*The Group has Fibre/ADSL fixed network and 3G and 4G mobile network infrastructures. It currently has over 17 million homes marketable with optical fibre and 18 million with ADSL, while its 4G mobile network covers 98.5% of Spain's population. The Group has more than 8 million customers in Spain.*

*MASMOVIL Group was the winner of the [ADSLZone 2018 award for the best optical fibre operator](#) and the ["Best Optical Fibre Operator"](#) award of El Grupo Informático. It was likewise named "Revelation Company" at the Vo-cento Group Business Awards.*

*It was also Spain's fastest fibre network operator in 2018 according to a [study by the company nPerf](#) and is the operator with the country's fastest 3G+4G aggregation mobile network, according to a study by the company Tutela. Lastly, customers gave it the highest rating for a Spanish mobile operator, according to the Stiga consultancy "2017 Customer Experience Index".*

[www.grupomasmovil.com](http://www.grupomasmovil.com)

## About Qwilt

*Qwilt provides a unique Open Edge Cloud platform as software and cloud services for communications services providers, with a view to resolving the growing gap in capacity available for the delivery of content generated by consumers' great demand for streaming video. Open Edge Cloud reduces infrastructure costs for operators, increases capacity for content providers and improves the quality of experience for end consumers.*

*Qwilt's Open Edge Cloud makes it possible to deploy an edge computing infrastructure distributed at the last mile of cable, fixed network and mobile operators, at the point closest to consumers. This platform enables the large-scale delivery of live or on-demand video streaming to mass audiences, and also supports the delivery of new immersive media such as 360° 8K video, 4K streaming, and augmented and virtual reality.*

*Qwilt is a founding and current member of the board of directors of the Streaming Video Alliance, and a promoter of the Open Caching movement. Founded in 2010 by industry veterans from Cisco and Juniper, Qwilt has the backing of Accel Partners, Bessemer Venture Partners, Cisco Ventures, Disrupt-Ive, Innovation Endeavors, Marker and Redpoint Ventures.*

[www.qwilt.com](http://www.qwilt.com)

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