

5G in extreme sports

The SailGP experience in Cadiz

MWC 2023

MAKING
THINGS
HAPPEN

 SAILGP™



Communications in elite sport are essential, and it usually implies an **incredibly complex** technological scenario.





- Dozens of cameras, on the move, and some in very difficult locations
- Thousands of sensors collecting information in real time
- Km of cabling, dozens of ad-hoc radio frequencies
- Event-specific communications infrastructure
- On-site TV production trucks
- The entire infrastructure is deployed and collected in record time, for an event lasting just a few days.



- Dozens of cameras, on the move, and some in very difficult locations
- Thousands of sensors collecting information in real time

Km of cabling, dozens of ad-hoc radio frequencies

Critical 5G communications

- Event-specific communications infrastructure
- +

Edge Cloud

(Cloud Production, Big Data, etc.)

- On-site TV production trucks
- The entire infrastructure is deployed and collected in record time, for an event lasting just a few days.

#MWC23

SAILGP - TELEFÓNICA 5G IN EXTREME SPORTS

SAILGP

POWERED BY NATURE.™



THE COMPETITION



**NATION VS.
NATION**

TECHNOLOGY



RACE ACTION
3 x 15MINS

PURPOSE



FLEET RACES
5X

ENTERTAINMENT



GRAND PRIX
\$1 MILLION

01 ANNUAL PINNACLE OF SAILING

- Global championship in iconic venues
- Best sailors competing for national teams
- Fastest one-design sail racing machines reaching 100km/h
- Intense nation vs. nation racing, where athletic skill prevails
- Biggest prize purse in sailing (\$1M for Championship Winner)

Teams Season 8:



AUS DEN ESP FRA GBR USA NZL

New Teams:



SUI CAN

02 CLIMATE POSITIVE EVENTS

- Thrilling carbon positive events around the globe
- Stadium racing close to shore
- Average of 26,600 fans on-site in season 1
- 1st class hospitality and event village
- Unique, purpose-led experiences made to inspire

Sail Grand Prix in Season 8:



BDA USA GBR DEN FRA ESP UAE SGP AUS NZL USA

SAILGP IS MORE THAN A RACING CHAMPIONSHIP
We #RaceForTheFuture using our global platform to accelerate change for a better tomorrow

03 MADE FOR BROADCAST

- Short impactful races of approx. 15min
- Pioneering graphical overlay making the action easy to understand
- Multiple award-winning remote broadcast
- Supported by award-winning, data packed SailGP App
- Broadcast to over 186 territories with 828M+ viewers in season 2

Broadcast:



INNOVATION
AWARD WINNER



ROYAL
TELEVISION
SOCIETY
BEST MULTI-CAMERA
DIRECTING



BROADCAST
AWARD
BEST USE OF
REMOTE PRODUCTION



EMMY AWARD
WINNER
OUTSTANDING
TECHNICAL
ACHIEVEMENT

SailGP App:



187 TIME LIVE DATA &
LIVE STREAMS ARE
AVAILABLE TO EVERYONE

04 DRIVEN BY PURPOSE

- World's first climate positive sports and entertainment property
- Leading-edge sustainable practices
- Unique Impact League - 2nd podium awarding Teams' sustainability effort
- First ever sports platform to partner with CDP for carbon disclosure
- Legacy-leaving through education and outreach

In Cooperation with CDP:



- 'Champions for Change' sustainability summits at every event
- Clean energy roadmap with all host cities
- Support coalition of stakeholders making clean energy commitments

THE SAILGP IMPACT LEAGUE PRIZE-GIVING



IMPACT LEAGUE



INSPIRE PROGRAM

SAILGP



**WOMAN'S PATHWAY
PROGRAM**



**CHAMPIONS
FOR CHANGE**

**CHAMPIONS
FOR CHANGE**

SEASON 4 IS SHAPING UP TO BE OUR BEST EVER



* Final Host Venues to be confirmed

CÁDIZ

Telefónica - Sail GP Collaboration

The purpose of this Telefónica SailGP collaboration is to provide a **specific 5G SA coverage** to the competition in order to broadcast it in real time using connected drones.





5G SA coverage with *Network Slicing*

A 5G SA deployment with bandwidth guarantee.



- A mobile unit with 5G coverage in the 3,500 MHz band is deployed in the vicinity of Santa Catalina Castle. Race course in front of Paseo de Santa Bárbar / Parque Genovés
- We deployed temporary coverage in 5G SA for the first time.
- 5G SA coverage will have Network Slicing technology enabled, to guarantee the bandwidth needed for drone video to function properly.

Video broadcasting with 5G drones

A drone solution based on 5G and Edge Computing with the following components



FPV Drone



Mavic 3



Matrice 300



On-board 5G video encoder

HAIVISION



Dron Landing Zone 1

5G Mobile Unit

Drone LZ 2

Aparcamiento Santa Catalina

Centro de Transferencia Empresarial de la...

P.º de Carlos III

Caletilla de Rota

El Tabladillo

Punta Candelaria

Punta Candelaria

Jardines Clara Campoamor

Parking Santa Bárbara

Parque Genovés

Av. Dr. Gómez Ulla

Universidad de Cádiz

Gran Teatro Falla

Interparking San Antonio

Plaza Viudas

Oratorio de

Bar restaurante La Taberna del Anteojo

Restaurante Balandro

Museo de Cádiz

Centro histórico de Cádiz

C. Navas

C. Zaragoza

C. Cervantes

C. San Pedro

C. Rosario

C. Gral. Luque

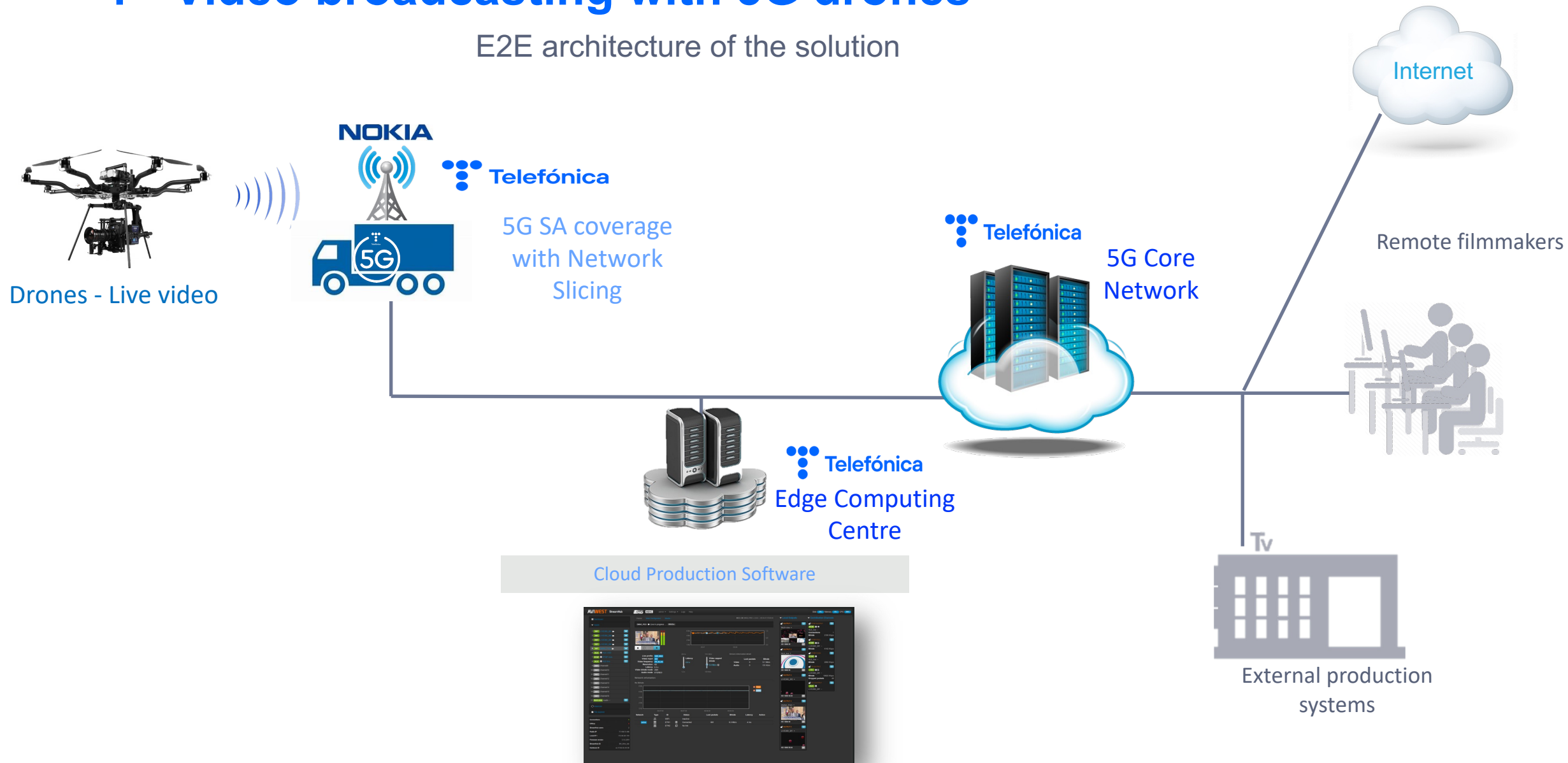
C. Bendición de Dios

C. Adolfo de Castro

C. Gravina

1 - Video broadcasting with 5G drones

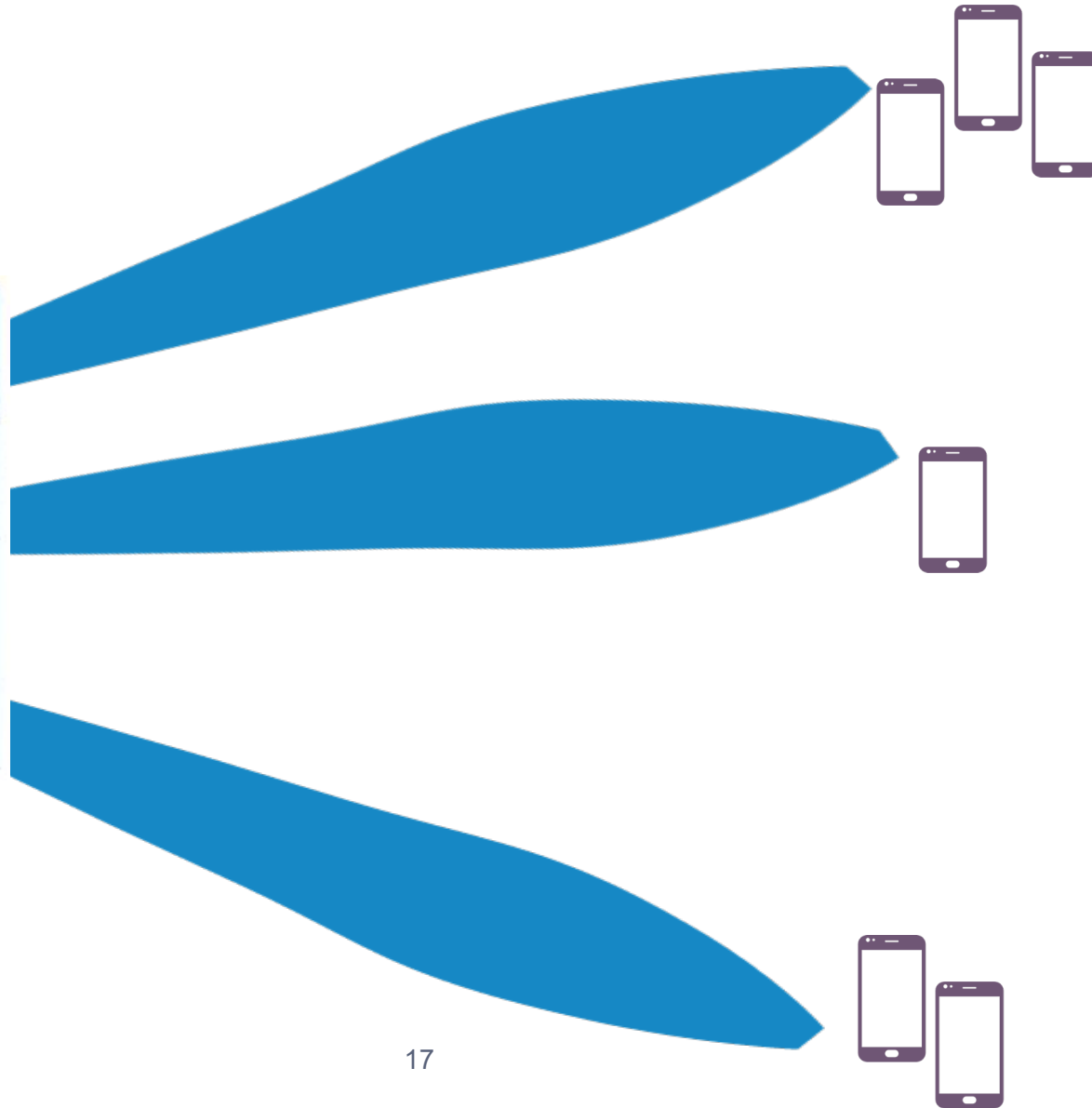
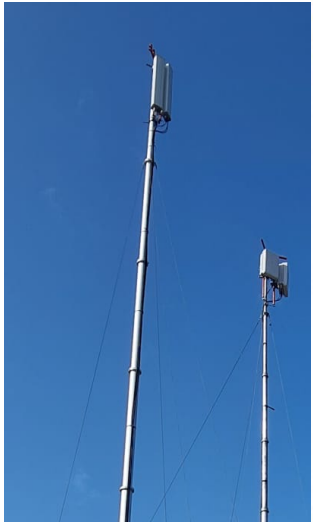
E2E architecture of the solution





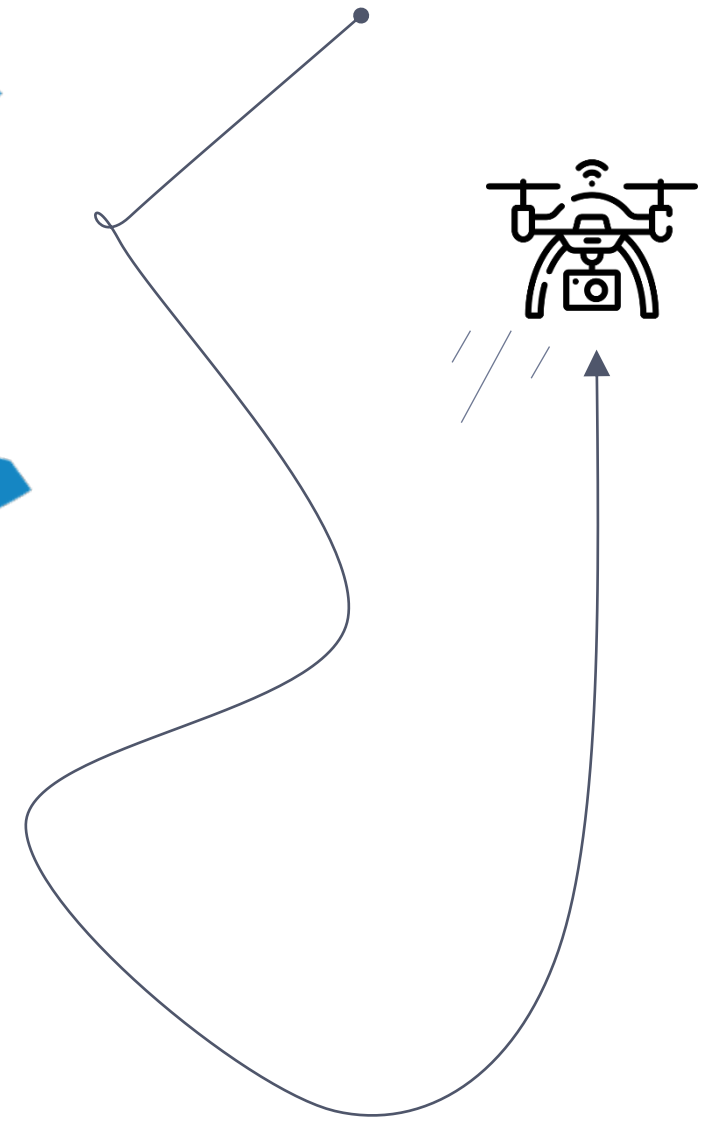
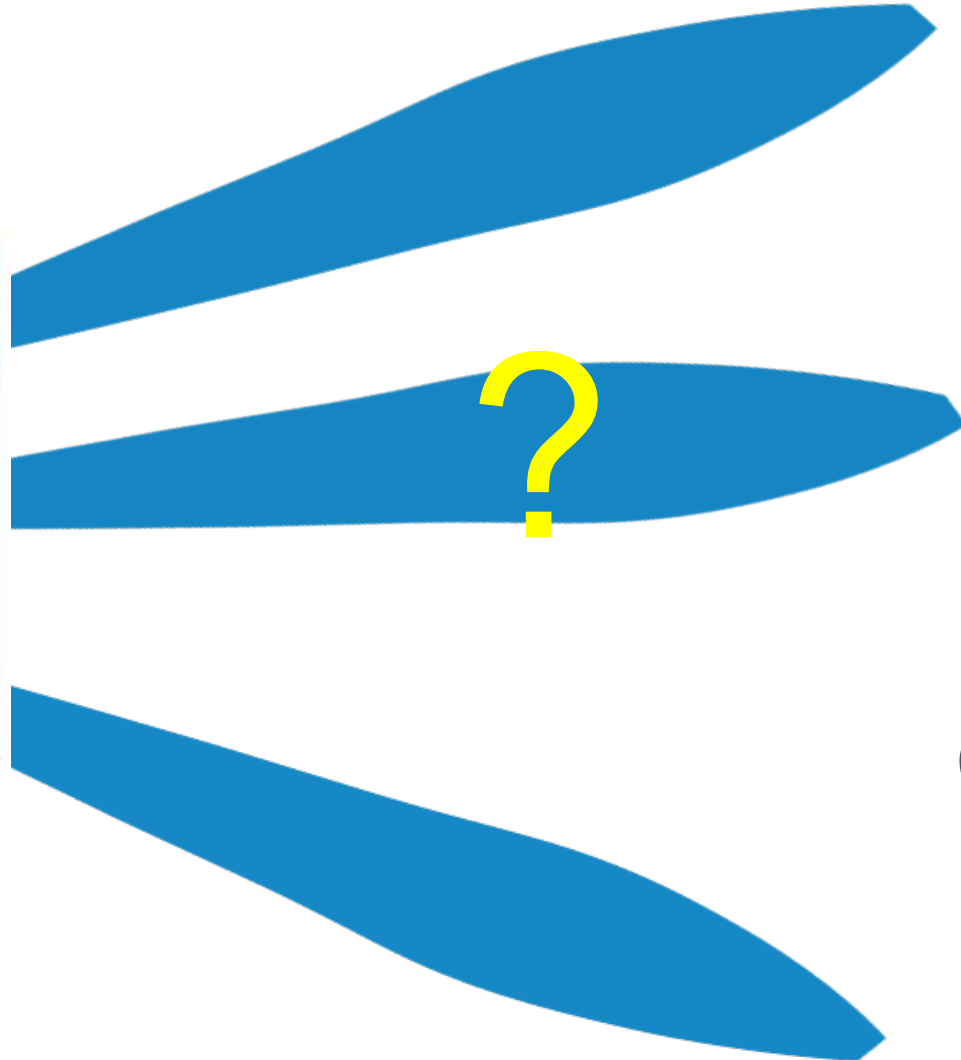
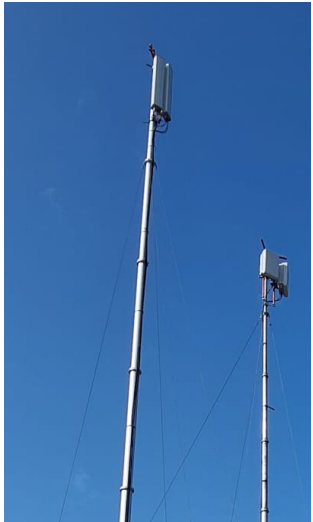
1 - Massive MIMO and Beam Forming

How does it work with super-fast drones?



1 - Massive MIMO and Beam Forming

How does it work with super-fast drones?







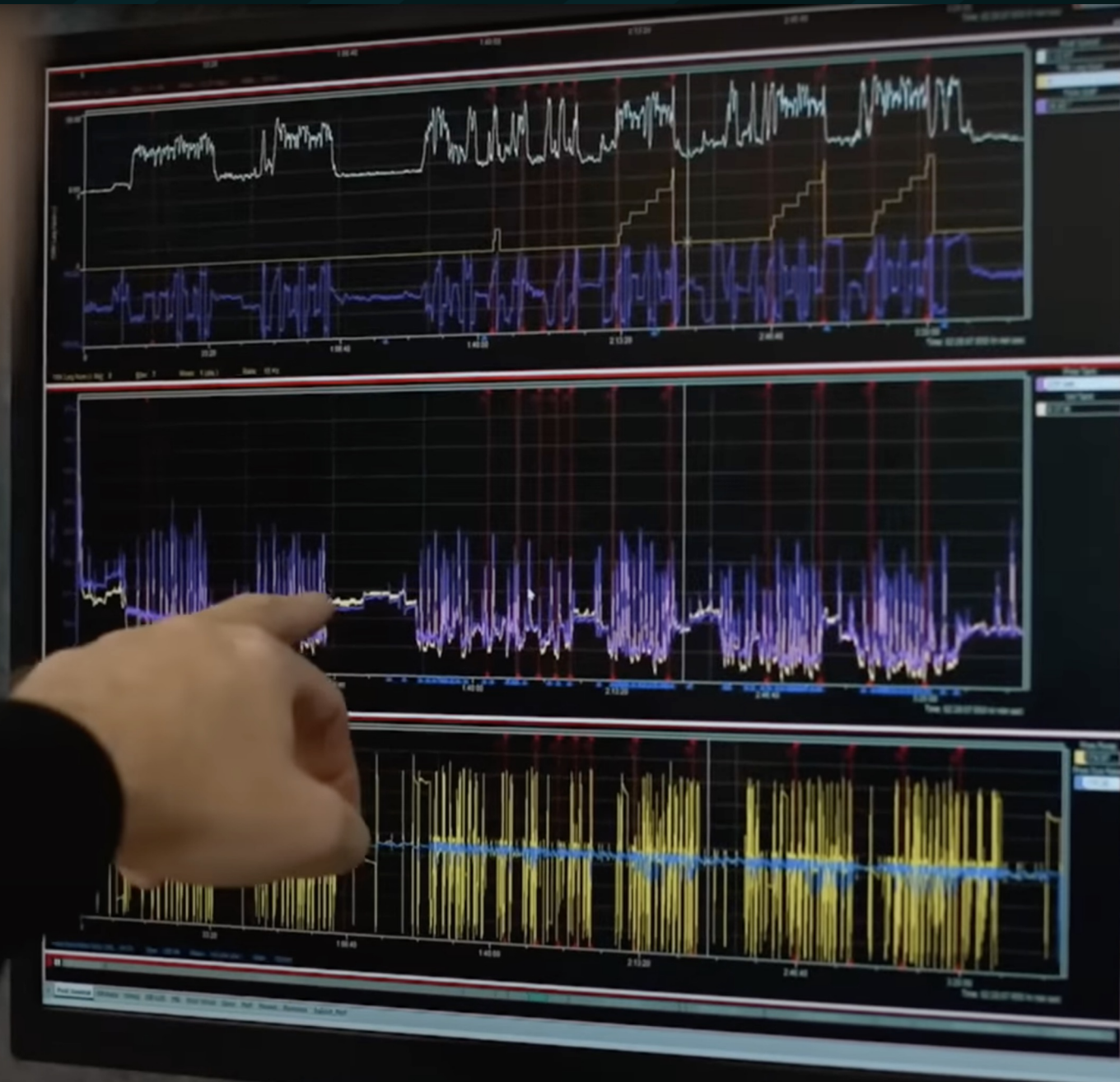
as quick as possible back to the SailGP viewer

F50 WORKFLOW

SAILGP TECHNOLOGY

- 30,000 data points on all athlete and each F50
- 240,000 data points for SailGP Fleet
- Total 44B data requests per sailing session
- Oracle Stream analytics
- Oracle Core Autonomous Database
- Oracle Fast Connect in Venue/London
- Oracle GoldenGate Cloud
- Oracle Cloud Infrastructure (OCI)
- Oracle Artificial Intelligence (AI)
- 30+ individual camera feeds
- Near Realtime data solution for the SailGP App/
Broadcast Graphics & Data dashboards

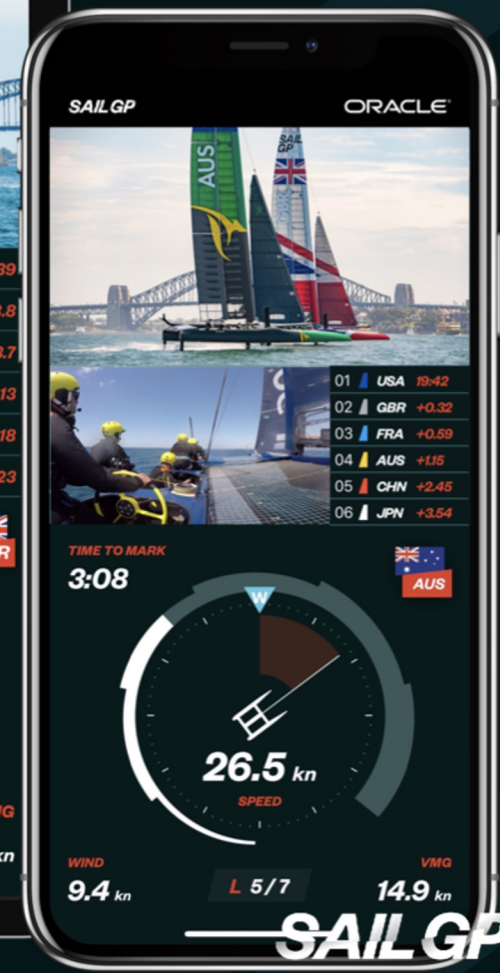
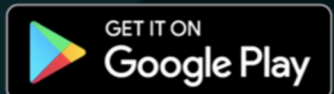


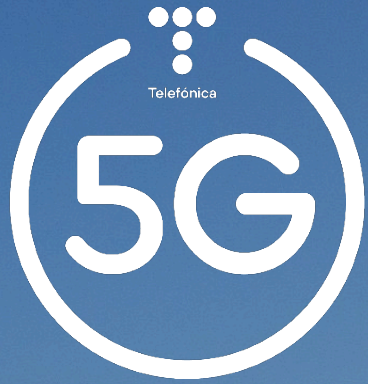


SAILGP APP//

SAILGP TECHNOLOGY

- Live realtime Video and Data.
- Video and race stats side by side.
- Change viewing angle and zoom in on the action.
- Live leaderboard.
- Fully customizable – switch teams, change camera angles and select data feeds.
- Switch off spoilers for fans across multiple time zones.
- Instructional tooltips – answers at your fingertips.
- VOD replays available for all past races.





The deployment of a technology designed to guarantee the service

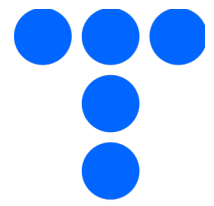


Exclusive Slice for SailGP

SA Coverage

NSA Coverage





Telefónica