



APAC Connected Drone Workshop

GSMA Welcome: Julian Gorman, Head of APAC

19 August 2021

The GSMA in numbers



1987

The GSMA was founded



12

offices worldwide



93m

lives impacted through Mobile for Development



2016

we're the first sector to commit to the UN Sustainable Development Goals



GSMA Membership:

750+ **400**

mobile operators companies in the broader ecosystem



Nearly **200,000**

attendees worldwide come to our MWC and Mobile 360 Series events



Connecting **23,000** industry experts through InfoCentre2



10.1bn+

cellular connections worldwide (including IoT)



5.2bn+

unique mobile subscribers



\$600bn

annual 5G contribution to global economy in 10 years



75%

of the global fixed broadband market is represented by GSMA members



Over **600**

meetings in the past year amongst the GSMA Working Groups



The Digital Society Challenge

“Never before in the history of mankind has the pace of innovation and technological acceleration been faster than it is today”

Yannick Schilly

The Digital Society Drone Opportunity

“Drones overall will be more impactful than I think people recognize in positive ways to help society”

Bill Gates



The power of partnership: Developing safe, innovative BVLOS operations for connected drones

19 August 2021

The Power of Partnership

- A need to understand much deeper the aviation industry and their needs
- We cannot do it alone
- We want to make sure that the evolution of mobile network cater for the aviation needs



WHY?

GSMA Connectivity for Aviation: The Vision



VISION



Strong partnerships between the mobile and aviation industries



MNO's offering broad range of services to the aviation sector (e.g. coverage information, crowd management, location verification, dynamic no fly zones)



SIM enabled commercial drones and mobile networks for manned & unmanned urban air mobility and high altitude aviation



Drones regulations permit usage of cellular connectivity for drone operations



4G/5G networks are the technologies of choice from ground to air

Drones Interest Group (DIG)

The DIG consists of mobile operators and GSMA associate members from around the world, working with UAS and UTM suppliers and other ecosystem players to encourage the use of cellular communications for drones.

The aim of the DIG is to explore opportunities for mobile connectivity to be deployed in commercial drones, share industry knowledge and position mobile operators as key enablers for the autonomous BVLOS growth.

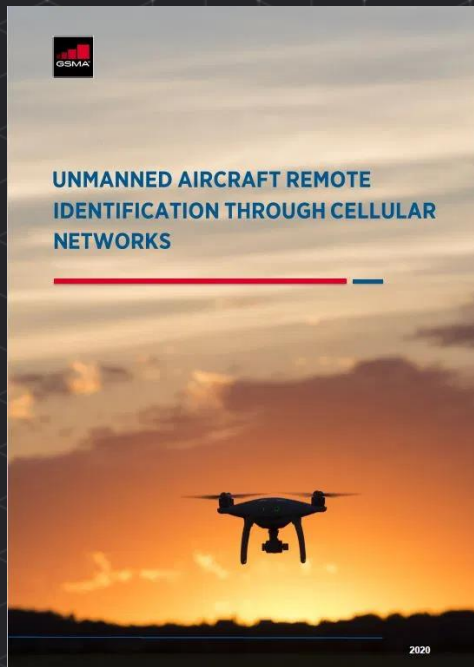
The current DIG chair is **Anouar Saadi** from **Rogers Canada**. DIG is open to all GSMA members and runs quarterly virtual meetings.

www.gsma.com/drones

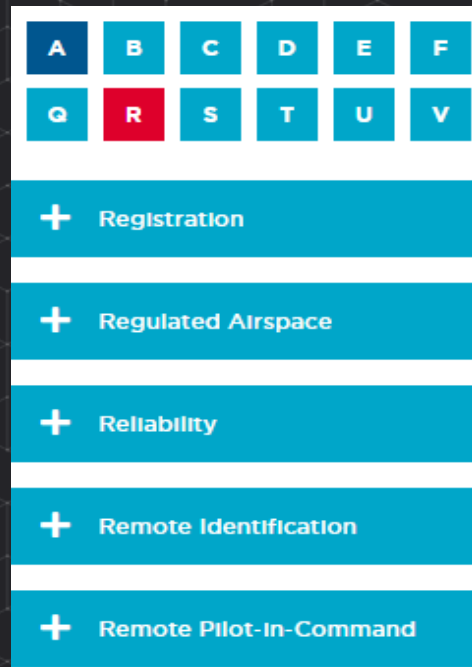


DIG Resources

Unmanned Aircraft Remote Identification Through Cellular Networks



Glossary of Aviation and Mobile Industry Terms



Drones Benefits Analysis



Case Studies

Ground-to-Air LTE
Communication Services for
Industrial Drone Applications



Search and rescue supported by
drones on a cellular network



How Cellular Technology
Enables Anti-Forest Fire
Drones



Telco GSM networks for
Low Altitude Airspace
Management



AI-enabled Drones for Object
Recognition in Multiple Settings



Dynamic No
Fly Zones



Beyond Visual Line Of Sight
Platform by KPN and TEOCO



Drones for road hazard warning
system using C-V2X



Aerial Connectivity Joint Activity (ACJA)

The GSMA and GUTMA (Global Unmanned Traffic Management Association) have set up the ACJA to build communication and cooperation between the aviation and mobile industries.

The main aim of the ACJA is to promote the exchange between the aviation and cellular communities, and to synchronise contributions between the existing standard development organisations of each community.



www.gsma.com/iot/aerial-connectivity-joint-activity/

ACJA Decision Board



Peter Musgrove

Lead Member of
Technical Staff

AT&T



Christopher T. Kucera*

Co-Founder and
Head of Strategic
Partnerships

OneSky



Thomas Eder

Senior Engineering
Manager

**Nokia Digital
Automation**



Eric T. Ringer

Co-founder and
Director of Aviation
Technology

**Skyward, a
Verizon
company**



Barbara Pareglio

Senior Director,
IoT Technology

GSMA

*Christopher T. Kucera is also ACJA Technical lead

ACJA Work Tasks

1

Cellular standard coordination

To engage with 3GPP and ensure that aviation-related considerations are taken into account at 3GPP



Stefano Faccin
Qualcomm

3

Standard aerial service profile

To define a standard aerial services profile for MNOs to roll out aerial cellular services that are aligned



Gerry Libunao
verizon

2

Supplementary data services

To establish how mobile network operators can support UTM service providers with additional information



Thomas Neubauer
TEOCO

4

Development of MOPS & MASPS

To document the performance of cellular networks in aviation terms and develop MOPS and MASPS for cellular networks



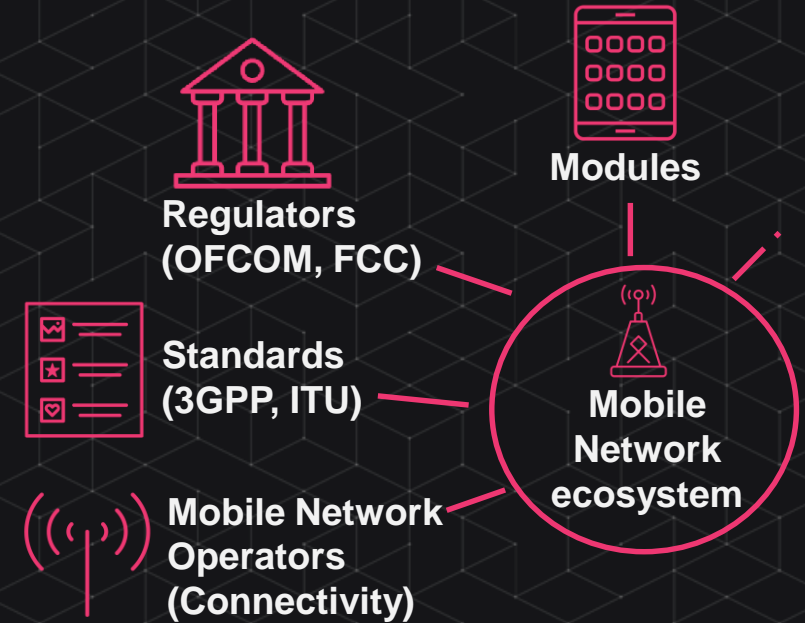
Boris Resnick
GLONASS UNION
FEDERAL NETWORK OPERATOR



 Innovation

New business opportunities 

Safe, harmonised technology and regulatory environment for BVLOS connected drone operations



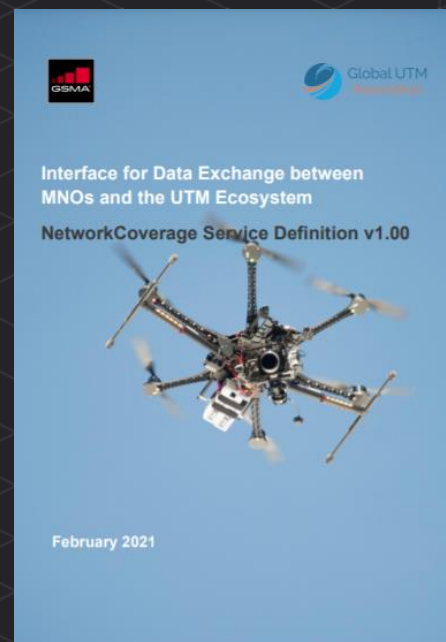
Powered by requirements from BVLOS drone end-users/applications and UTM ecosystem

ACJA Resources

LTE Aerial Profile



NetworkCoverage Service Definition



Engagement with Industry Stakeholders

Global UTM Association
(GUTMA)



International Air Transport
Association (IATA)



International Civil Aviation
Organization (ICAO)



Single European Sky ATM
Research (SESAR)



Advisory Board for 5G!Drones



Amsterdam Drone Week
(ADW)



Joint Authorities for Rulemaking
on Unmanned Systems
(JARUS)



The Civic Air Transport
Association (CIVATAglobal)



Iskandar Investment



Sustainable Development Goals (SDGs)



Drones are being used in a variety of creative ways to advance the SDGs, including **peacekeeping, combating poverty, and delivering aid.**

UAVs can help to generate maps to **monitor disasters and crises, extend Wi-Fi or cell phone signals, and assist in the transport of important supplies.**



Thank You!



www.gsma.com/drones



drones@gsma.com



www.gsma.com/iot/newsletter/

