Workshop on international, regional and national policies concerning human exposure to electromagnetic fields
25 May 2023, Geneva

The continuing need to address mobile and wireless network EMF misinformation

Jack Rowley, PhD
GSMA

ITU-D Study Group 2 rapporteur group meetings (22 May - 2 June 2023)

http://itu.int/go/study-groups

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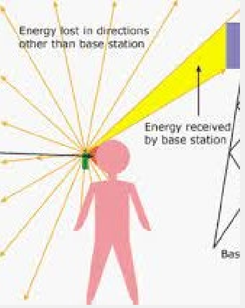
Long history of EMF information and misinformation



WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | ENVIRONMENT

Cellular Phone Scare Discounted

By NATALIE ANGIER
Published: February 2, 1993

IN the wake of a public panic that cellular telephones may cause brain cancer, scientists said they saw no evidence to persuade them that the phones were dangerous. Yet they also conceded that they had much to learn about the long-term effects of low-energy electromagnetic radiation on the human body.

Although there is no clear evidence that cellular telephones damage health, a handful of studies raise questions that have not been adequately studied. Scientists emphasized they must follow up on

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Pylônes GSM : un danger invisible

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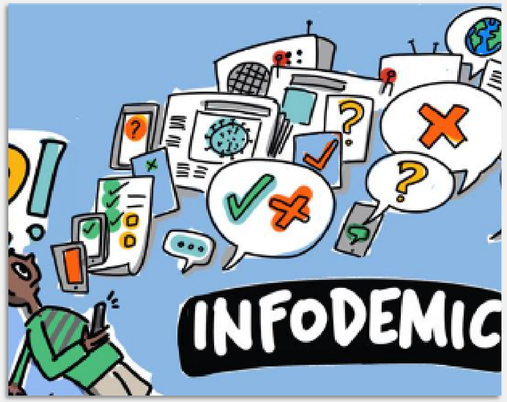
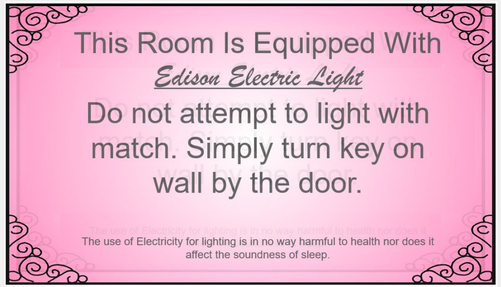
Même si l'expertise nationale et internationale ne conclut pas à l'exist
liés à une exposition aux champs électromagnétiques émis par les an
mobile, ces dernières n'ont pas bonne presse. Pour cause : ils seraient





It is far easier to produce and spread misinformation than it is to refute it

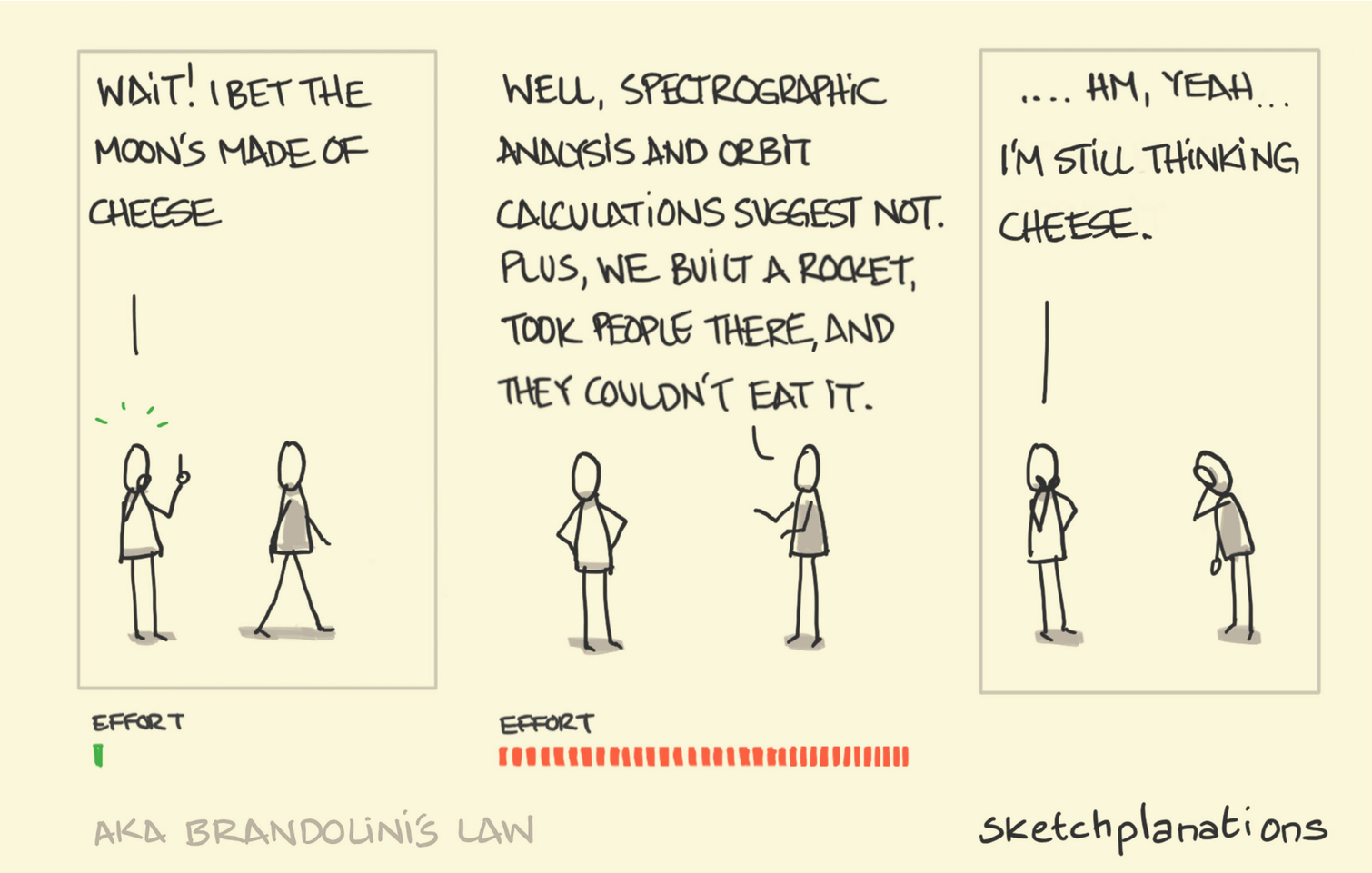


Image: Sketchplanations

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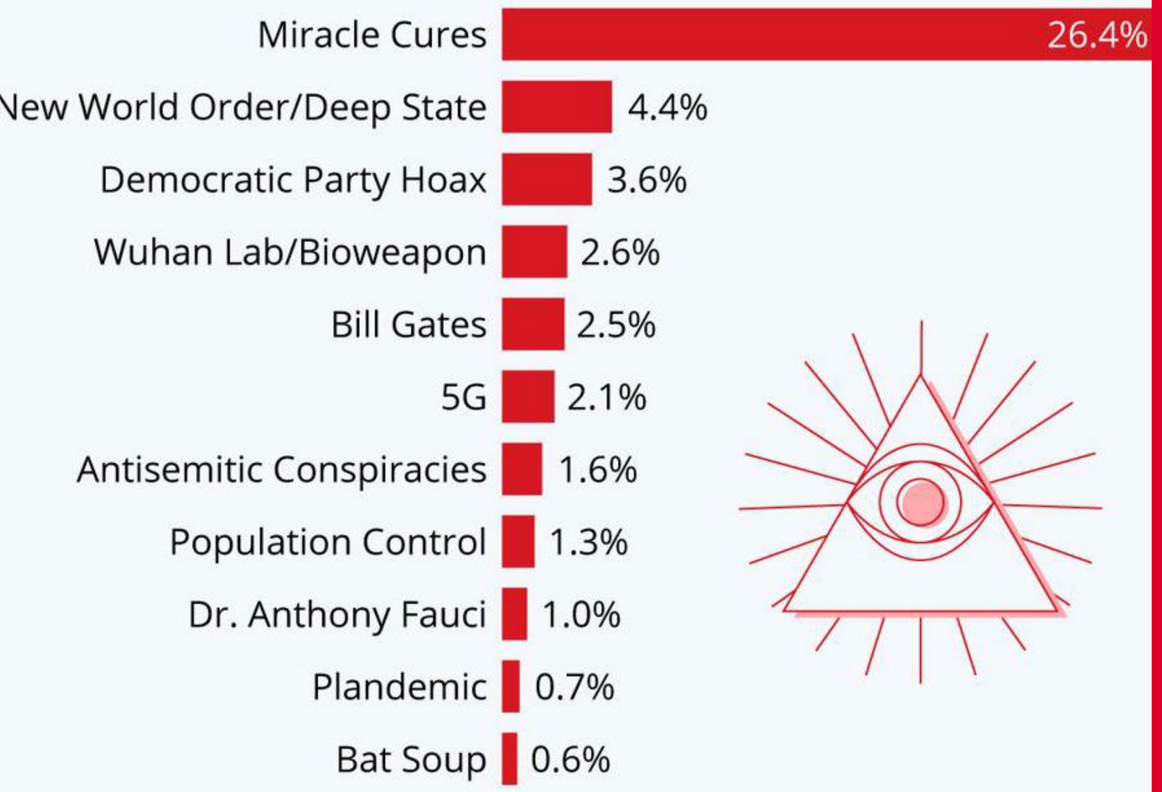
The Most Common Coronavirus Conspiracies

Share of Covid-19 misinformation in the media identified as the following conspiracy theories*



* 1.1 million misinformation articles were detected between Jan 01 and May 26, of which 46% (522,472) were conspiracy theories.

Source: Cornell University via The New York Times

Forbes statista

5G false claims

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Credible sources: no health risk expected from 5G

European Commission

ITU

ICNIRP
INTERNATIONAL COMMISSION ON
NON-IONIZING RADIATION PROTECTION

IEEE

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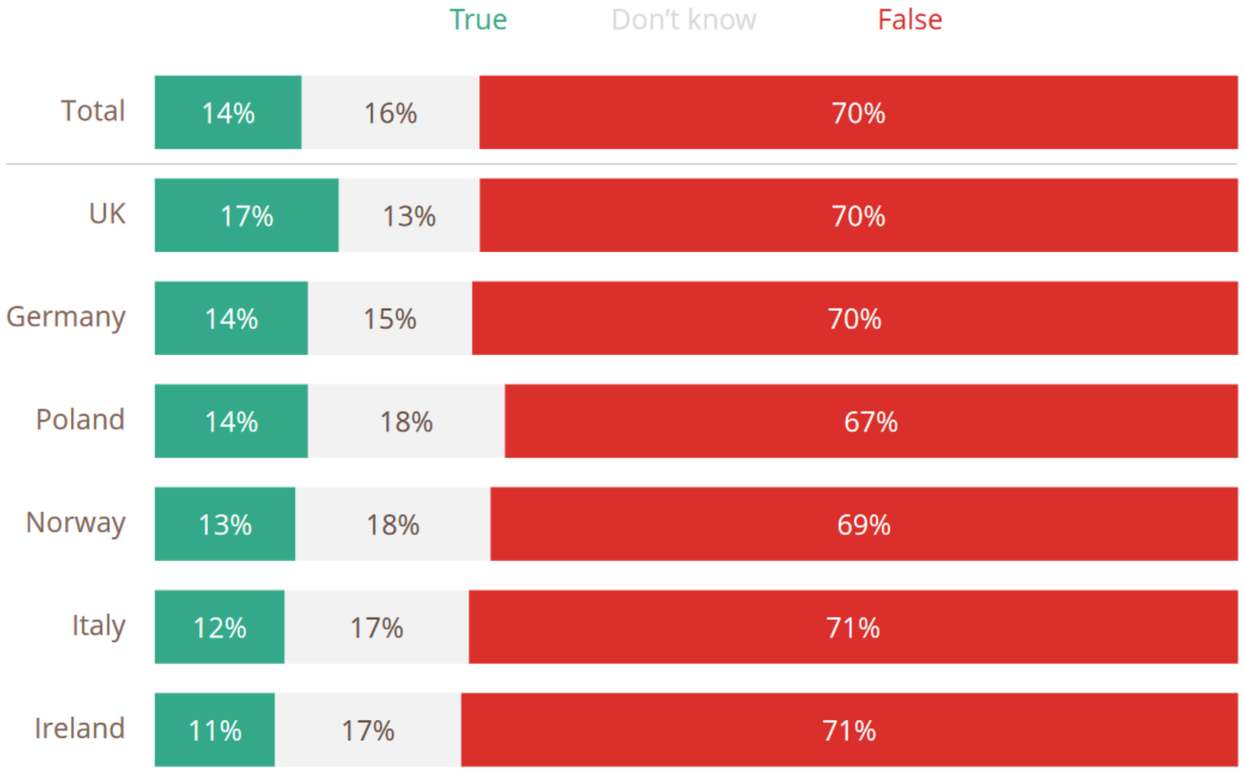
False beliefs about 5G remain

14% people think the symptoms that most people blame on coronavirus appear to be linked to 5G network radiation

PERITIA
Policy, Expertise and Trust

Please say whether you think the following statement is true or false... **The symptoms that most people blame on coronavirus appear to be linked to 5G network radiation**

14% of people in the surveyed countries think that the symptoms most people blame on coronavirus appear to be linked to 5G network radiation. Despite this, there is no evidence to link the symptoms of coronavirus to 5G network radiation.[1]



[1] Uthman, M. et al. (2020) '5G Radiation and COVID-19: The Non-Existent Connection,' *International Journal of Research in Electronics and Computer Engineering,* Vol. 8, Issue 2, pp. 34-38.

Base: 12,346 adults aged 18+, interviewed 4–19th January 2022

PERITIA, 2022

RF-EMF exposure levels

Fact: Most RF-EMF is from nearby devices

25-year-old female subject, 169 cm height, 67.7 kg mass

1%

Far-field:

- Total - 1 V/m

8

99%

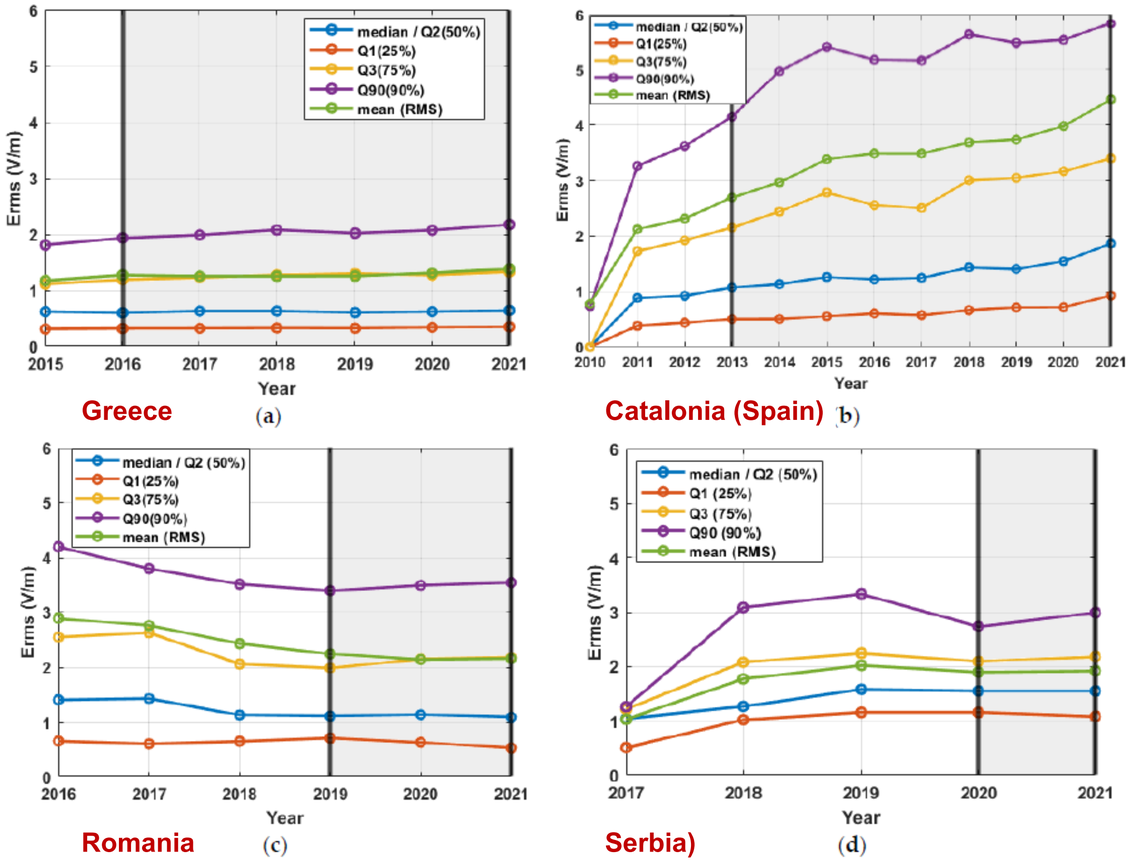
Near-field:

- Wi-Fi access point - 24 h/day
- Laptop - 8 h/day
- Tablet - 1 h/day
- Smartphone on or near body – 1 h/day
- VR set - 0.5 h/day
- Smartphone Wi-Fi browsing 1 h/day

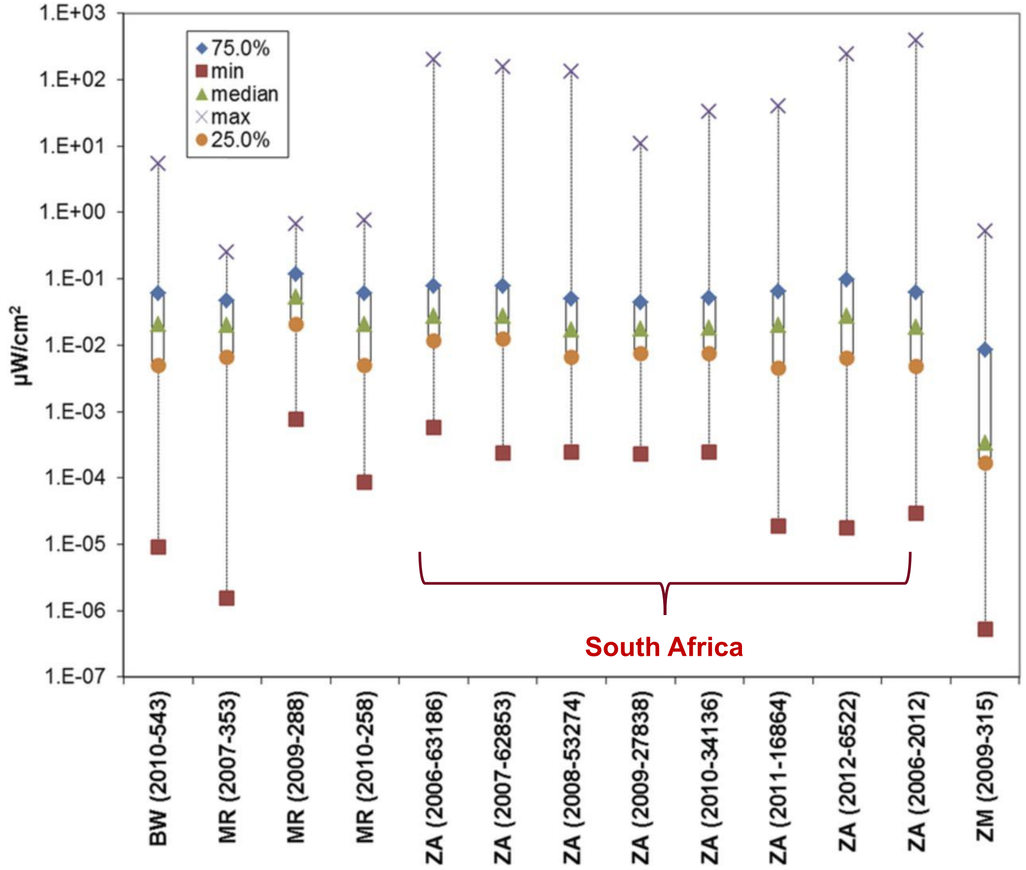
Liorni et al., 2020

Fact: Environmental RF-EMF levels remain low

Monitoring networks



Sample site measurements



Iakovidis et al., 2022

Joyner et al., 2014

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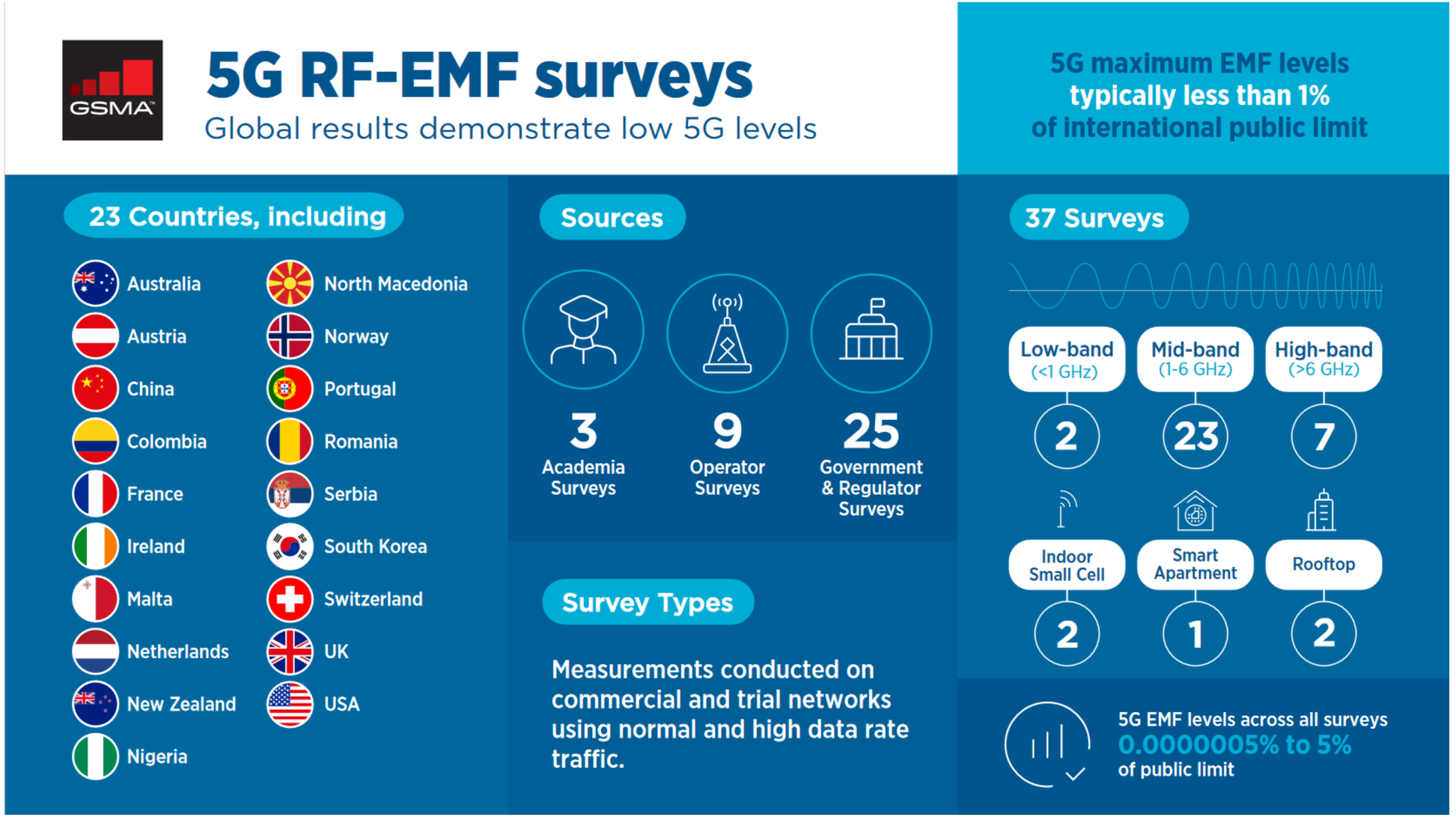
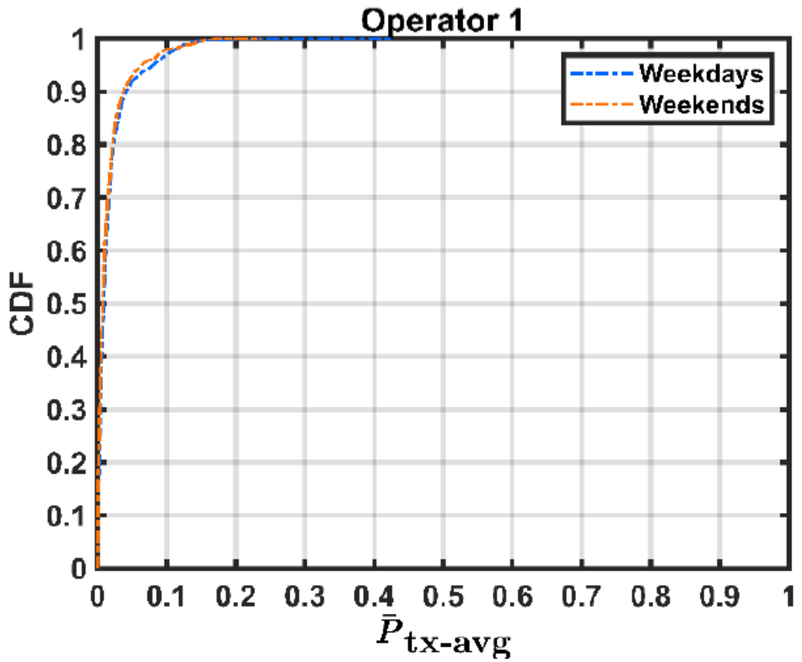
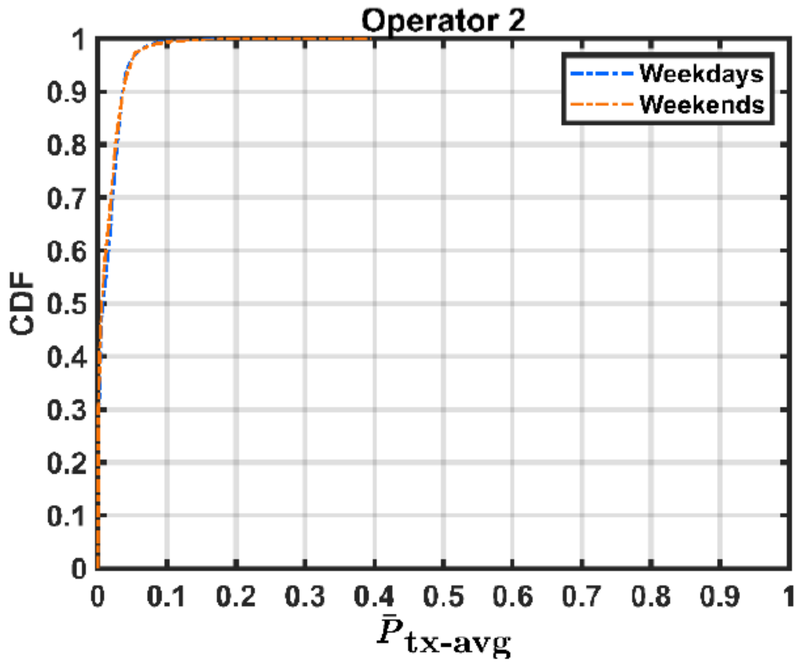
Fact: 5G levels similar to other mobile generations



www.gsma.com/emf

Fact: 5G device power similar to 3G/4G devices





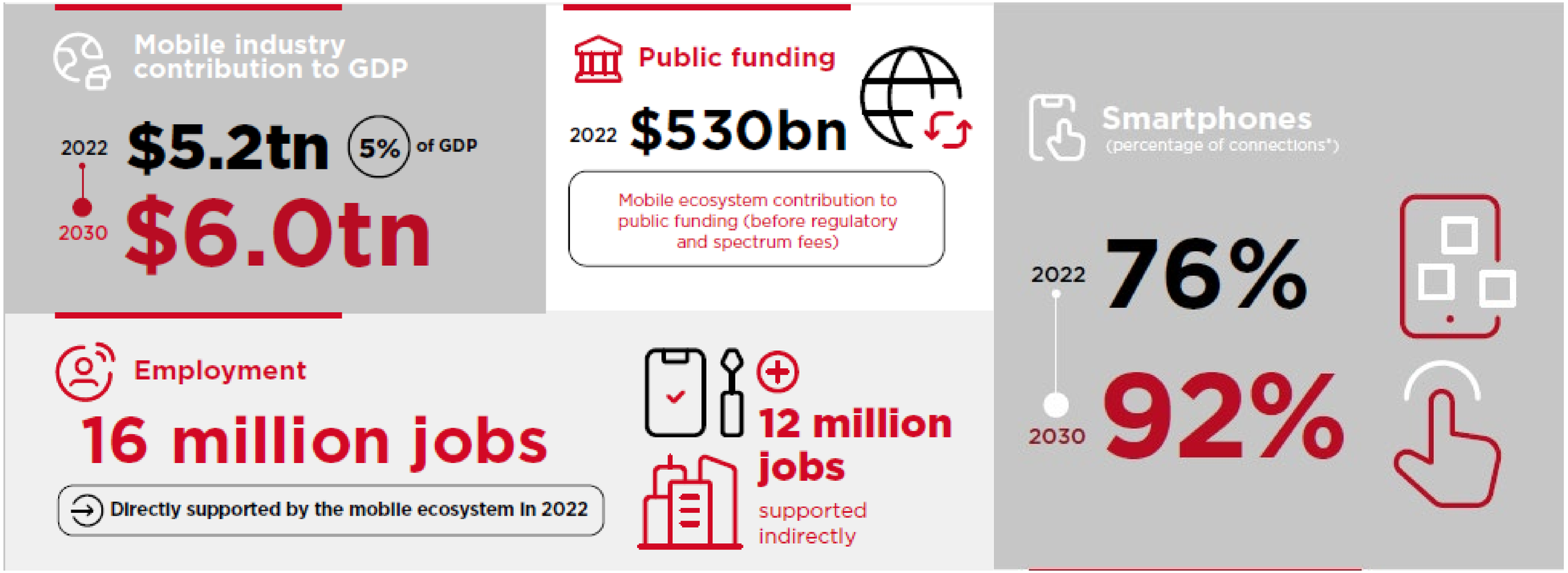
Commercial 5G networks in Australia and South Korea:

- Median less than 1% of maximum
- Mean less than 2% of maximum
- Similar to 3G/4G device studies

Joshi et al., 2020

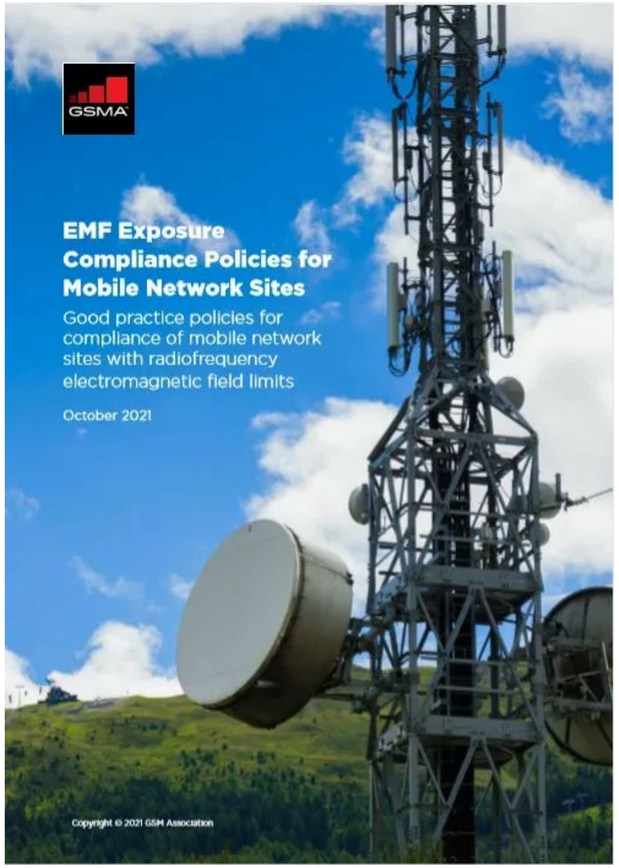
Enabling the benefits of mobile

Mobile connectivity is a lifeline for society



Recommended EMF compliance policies

- Allow operator declaration of site RF-EMF compliance
- Assess site RF-EMF compliance through calculation
- Specify assessment uncertainty based on best practice
- Carry out appropriate post-installation measurements
- Reassess sites only when RF-EMF compliance changes
- Apply public or worker RF-EMF limits depending on access controls
- Define standardised site RF-EMF compliance assessment methods
- Agree compliance procedures for shared sites
- Adopt uniform small cell deployment rules
- Update assessment rules for active antennas
- Adopt efficient approaches to monitor compliance
- Practice effective communication of compliance information



https://www.gsma.com/publicpolicy/resources/emf-exposure-compliance-policies-for-mobile-network-sites

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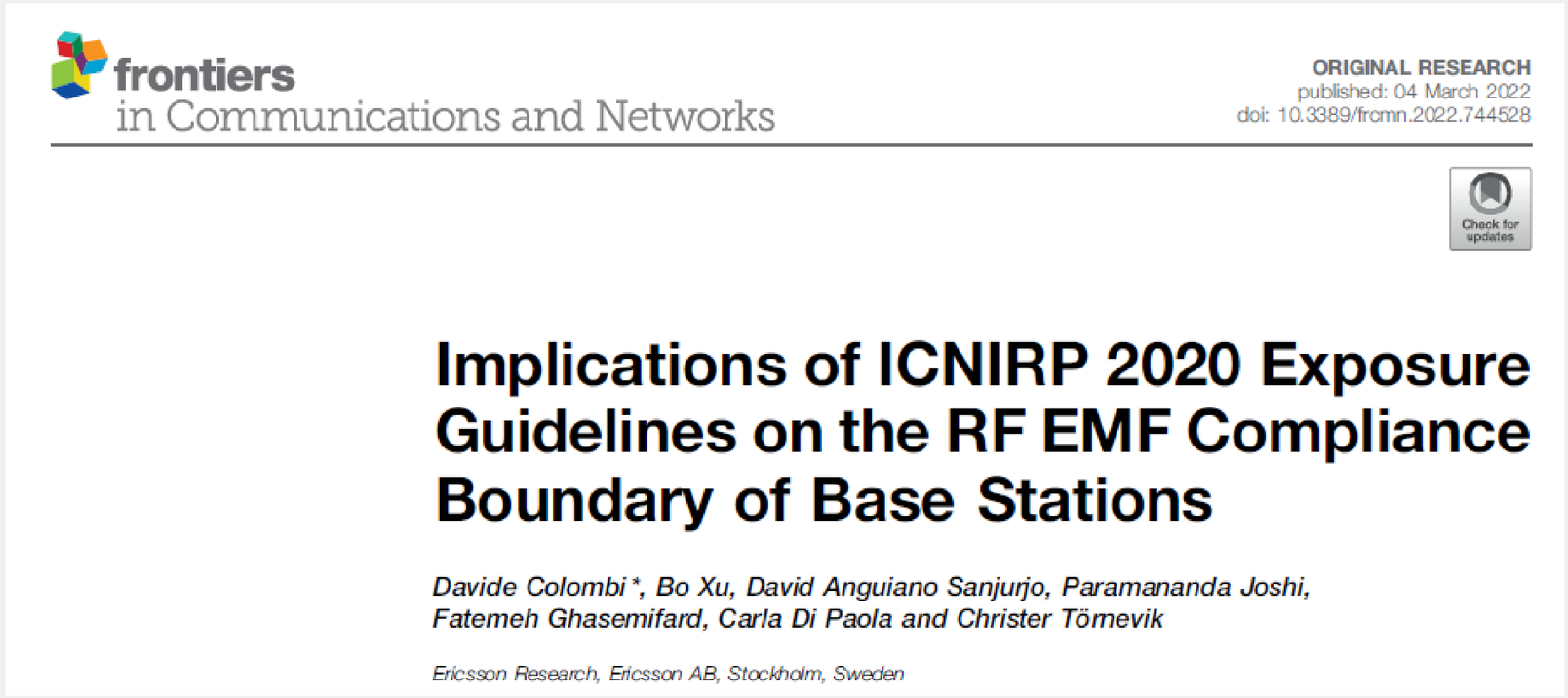
Base stations complying with ICNIRP (1998) comply with ICNIRP (2020)



frontiers in Communications and Networks

ORIGINAL RESEARCH
published: 04 March 2022
doi: 10.3389/frcmn.2022.744528

Check for updates

Implications of ICNIRP 2020 Exposure Guidelines on the RF EMF Compliance Boundary of Base Stations

Davide Colombi, Bo Xu, David Anguiano Sanjurjo, Paramananda Joshi, Fatemeh Ghasemifard, Carla Di Paola and Christer Törnevik*

Ericsson Research, Ericsson AB, Stockholm, Sweden

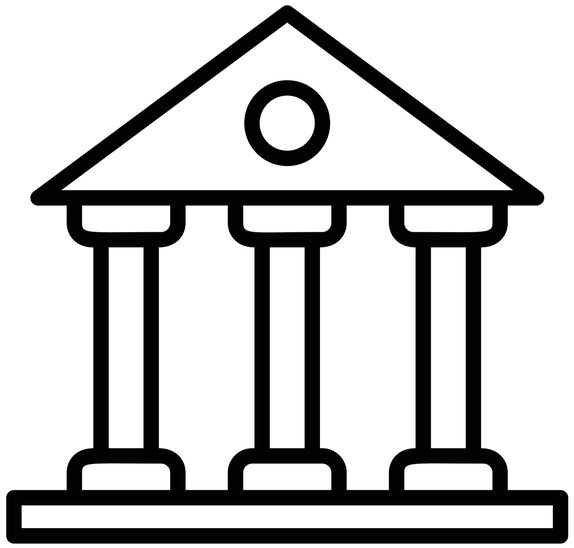
Includes low-power small cells to macro cells, operating in frequency bands of relevance for 2G to 5G

Colombi et al. 2022

Conclusions

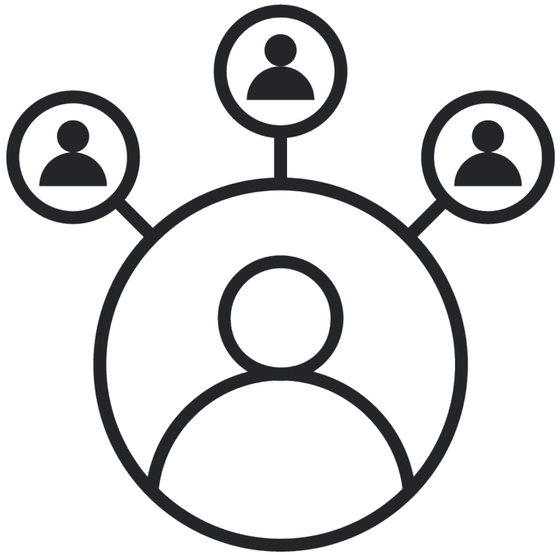
Adopt harmonized policy

- RF-EMF limits
- Compliance standards



Maintain communications

- Trust
- Information



Evaluate effectiveness

- Impact on concern
- Impact on compliance

Thank You