









IoT WebTalk

REACHING NEW HEIGHTS

The Future Role of Mobile Networks
in Aviation and Drones

Tuesday, 15 December 2020 | 10:00 EST | 15:00 GMT | 16:00 CET



5 min	Introduction: The Future Role of Mobile Networks in Aviation and Drones	Barbara Pareglio, Senior Director, IoT Technology, GSMA	
1 min	Keynote: Commercial Drone Market Insights, Trends and the Evolution of Drone Connectivity	Hendrik Bödecker, Founder and CFO, Drone Industry Insights	
35 min	Interactive Panel Discussion and Live Audience Q&A	<p>Moderator: Barbara Pareglio, Senior Director, IoT Technology, GSMA</p> <p>Hendrik Bödecker, Founder and CFO, Drone Industry Insights</p> <p>Andreas Perotti, Chief Marketing Officer, Europe, EHang</p> <p>Daan van Dijk, Innovation Consultant, KPN</p> <p>Jef Geudens, Head of Technology & Flight Ops, Skyports</p>	   



About the GSMA



The GSMA
was founded in
1987



12
offices
worldwide



UNITING
750+
MOBILE OPERATORS



WITH
350+
MOBILE COMPANIES
In the broader mobile ecosystem



The GSMA
represents the
interests of
mobile
operators
worldwide



The world's leading mobile industry events, Mobile World Congress, Mobile World Congress Shanghai, and Mobile World Congress Americas, together attract

192,000+

people from across the globe each year



8.8+ billion
mobile
connections
worldwide

Internet of Things

2018     2025
9.1bn Total Connections **25.2bn**



SIM CONNECTIONS
Excluding cellular IoT

2018 **7.9bn** 2025 **9.2bn**

PENETRATION RATE (% of population)		CAGR 2018-25	
103%	112%	2.2%	↑



Connecting
Everyone and
Everything to a
Better Future



Drones Interest Group (DIG)

Over 50 organisations participating from the mobile and aviation industry, focused on **mobile connectivity deployment to support commercial UAVs**

Aerial Connectivity Joint Activity (ACJA)

An initiative between the GSMA and GUTMA to **build communication and cooperation between the aviation and mobile industries**





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



China
unicom 中国联通

Search and rescue supported by drones on a cellular network



T..

How Cellular Technology Enables Anti-Forest Fire Drones



Telefonica

Beyond Visual Line Of Sight Platform by KPN and TEOCO



kpn

AI-enabled Drones for Object Recognition in Multiple Settings

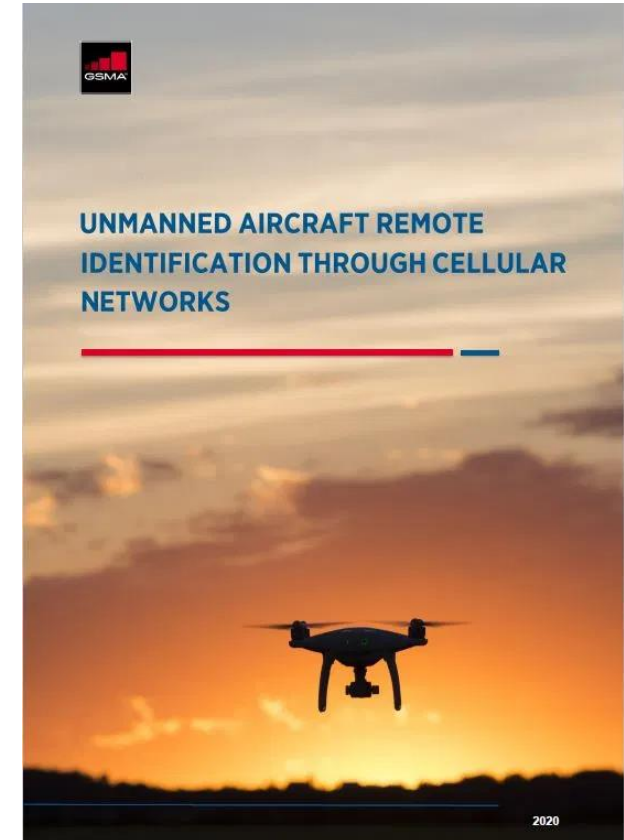


lmt

Dynamic No Fly Zones



vodafone





Hendrik Bödecker



Founder and CFO
DRONEII



Commercial drone market insights, trends and the evolution of drone connectivity



Hendrik Bödecker
Co-Founder of Drone Industry Insights
hendrik.boedecker@droneii.com



DRONEII.COM
DRONE INDUSTRY INSIGHTS

Product & Service Portfolio



“The value I've received from the reports is incredible.”

— Matt Dunlevy, CEO SkySkopes

Publications & Products

- Industry White-Papers
- Drone Market Reports
- Databases and Lists
- Company Rankings
- Free Blogs

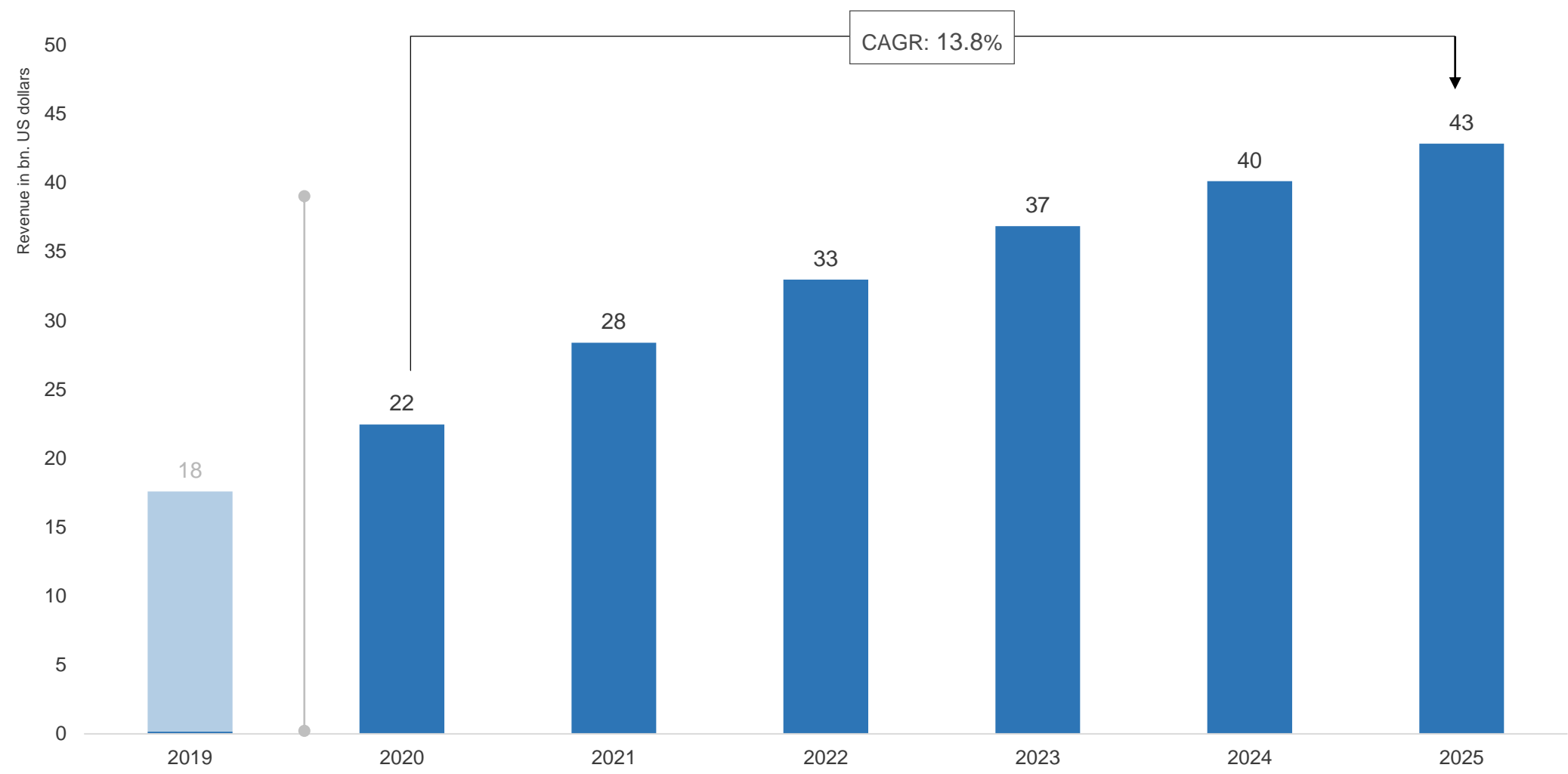


Services

- On-demand Market Research
- Business and Regulatory Advisory
- Go-to Market Strategies
- Commercial Due Diligence
- Competitive Intelligence

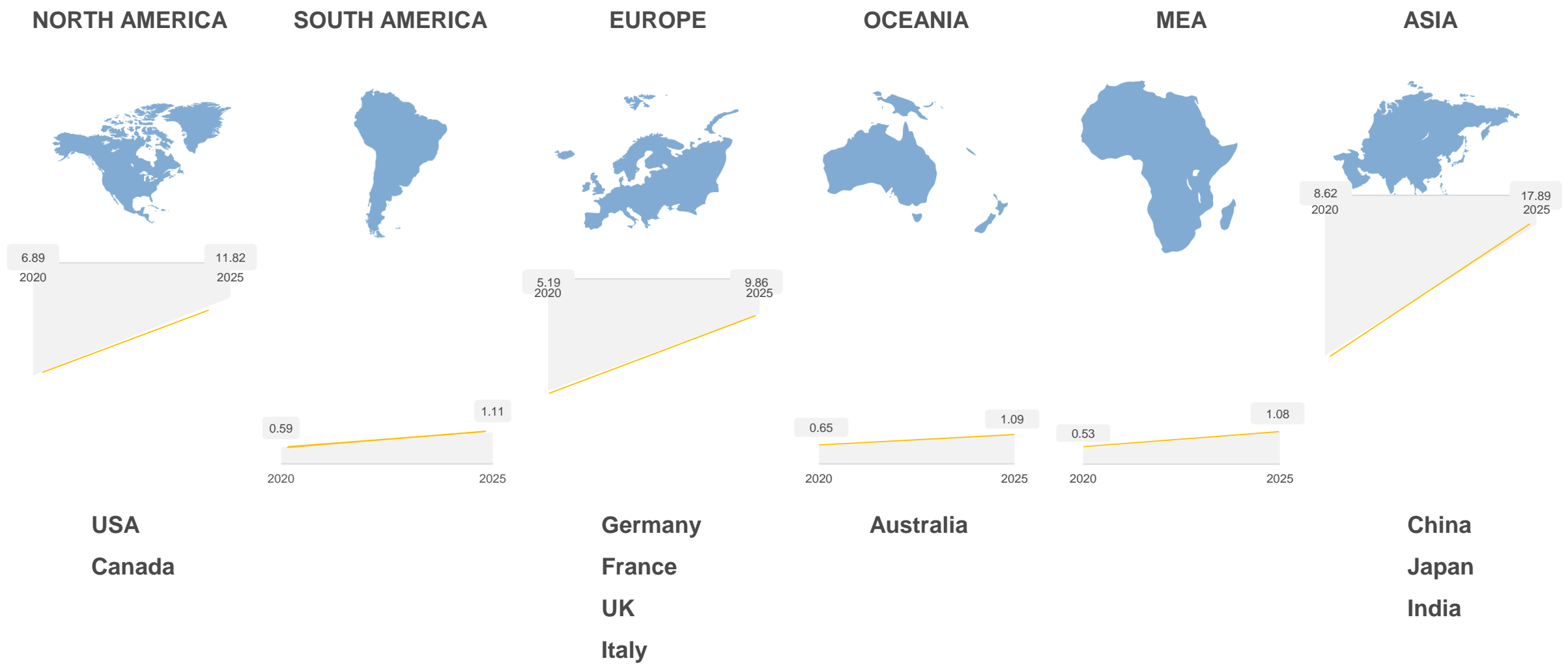


Drone Market Size & Forecast 2020-2025



Source: Drone Market Report 2020 (c) by Drone Industry Insights

Drone Market Size & Forecast per Region



Source: Drone Market Report 2020 (c) by Drone Industry Insights

Market Dynamics and Trends

CORONAVIRUS CRISIS

- Lockdowns
- New use cases



REGULATION

- Applicability
- Foreign rules



INDUSTRIES

- Adoption
- Standards



SOFTWARE

- AI
- Computer Vision



GENERAL

- Increasing Degrees of Automation
- Increasing Connectivity
- Cross Vertical Technology Transfer

HARDWARE

- Technology
- Product Lifecycle

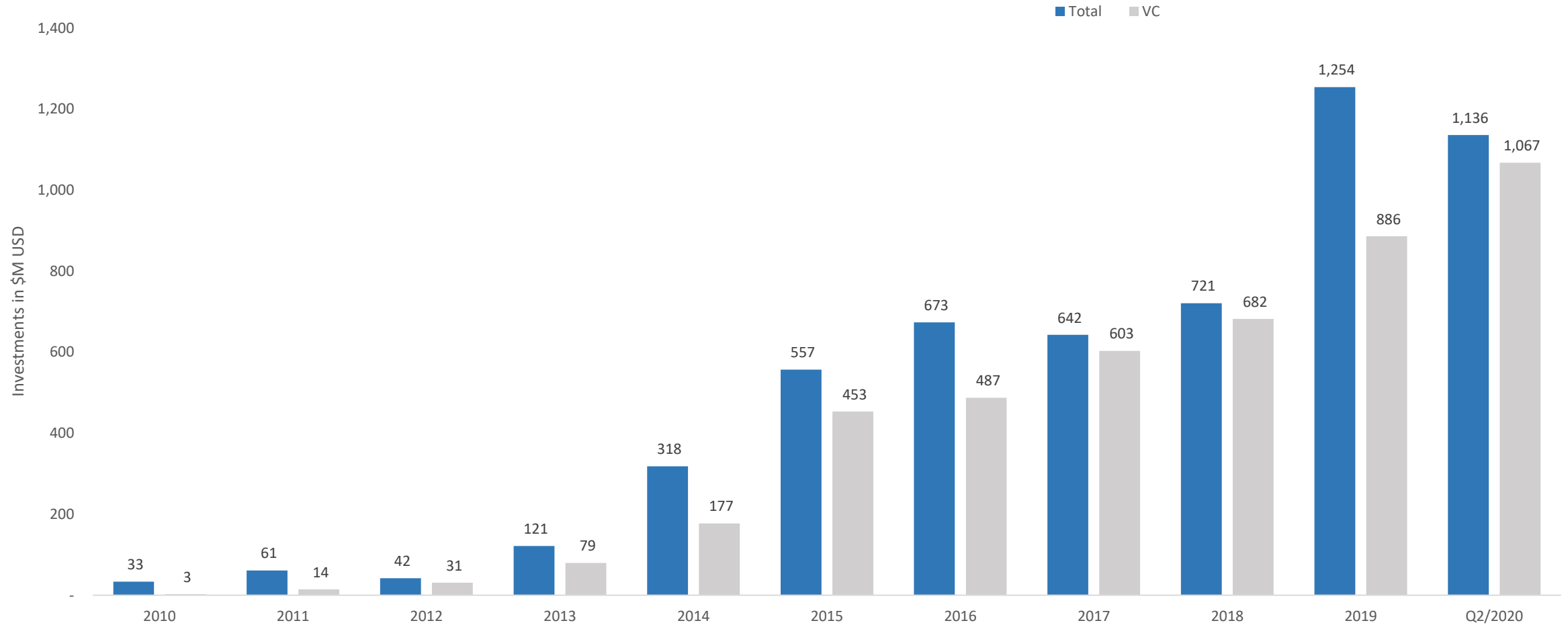


SERVICES

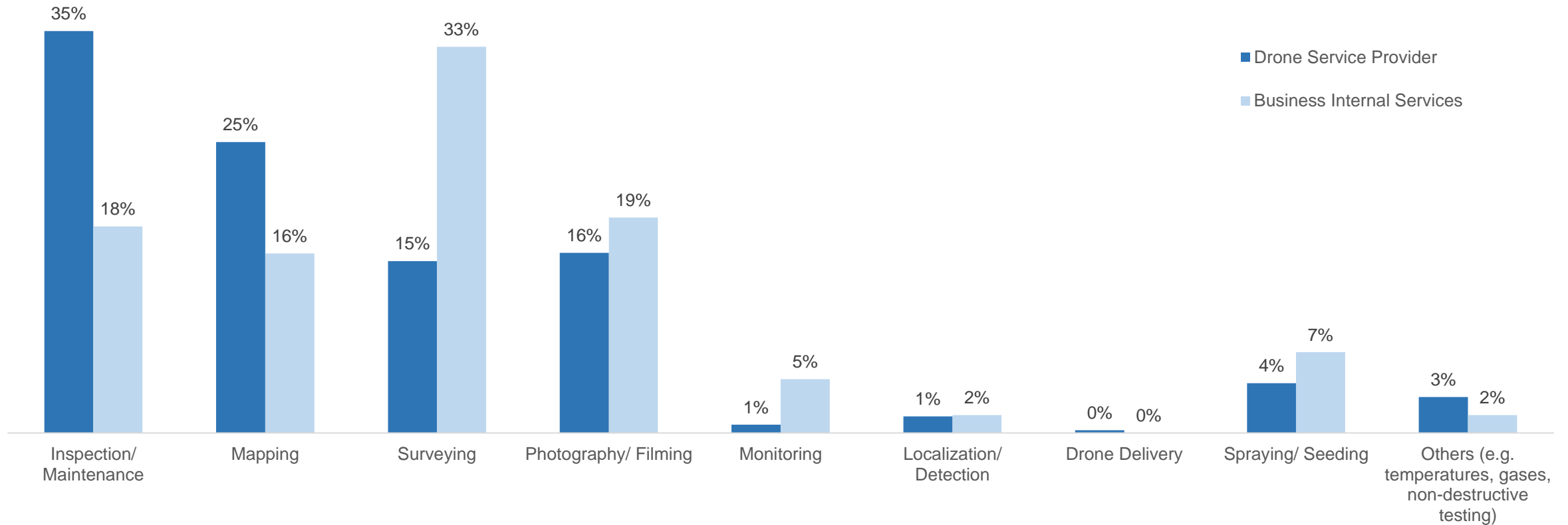
- Regulation
- End2End solution



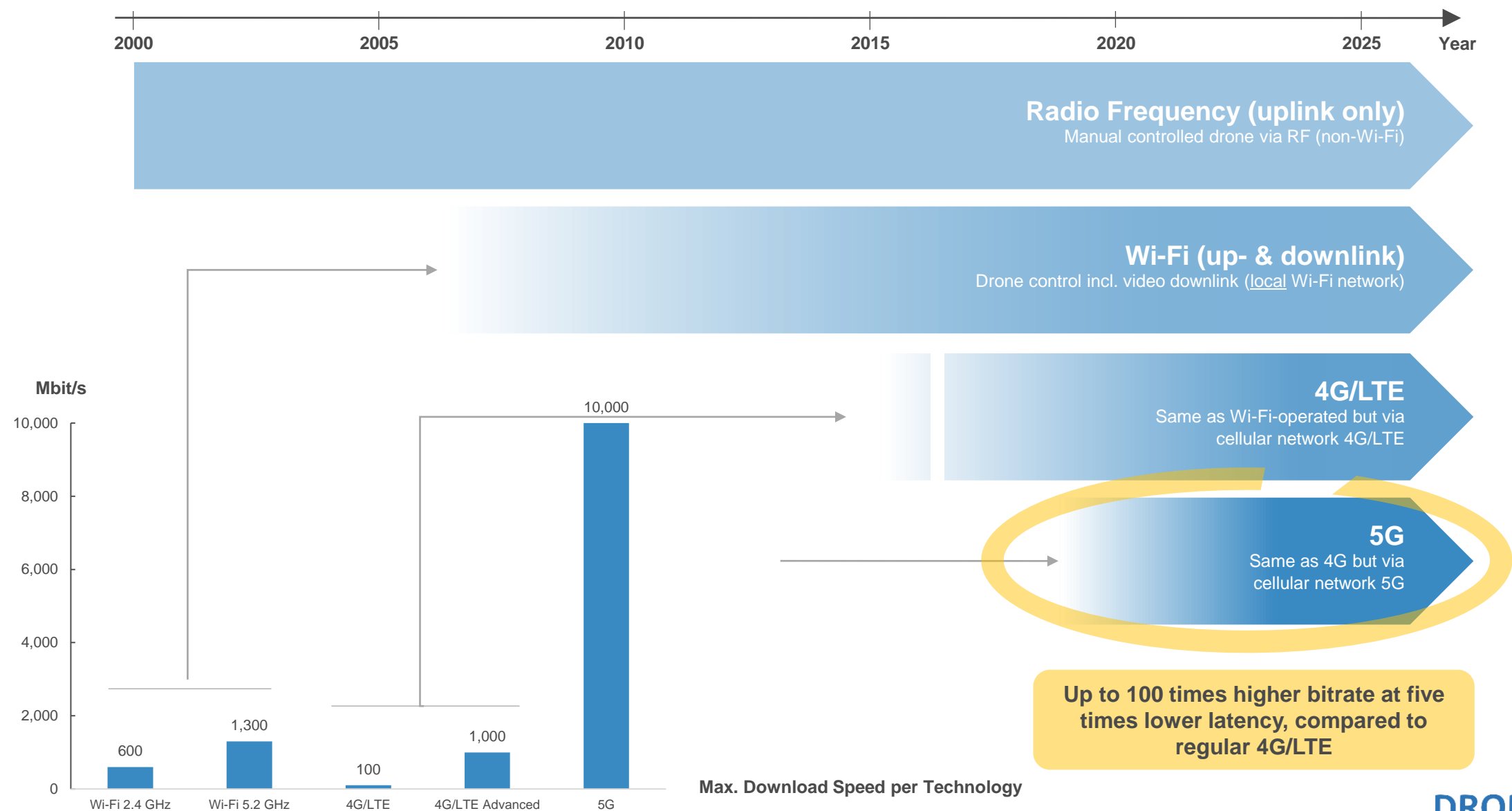
How much was invested?



How companies use drones?



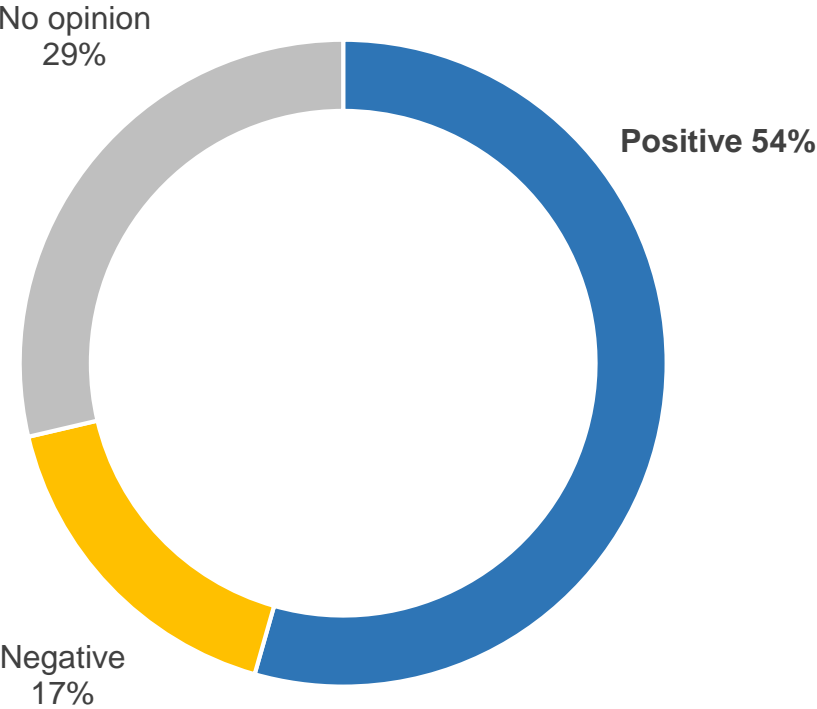
The Evolution of Drone Connectivity and the Role of 5G



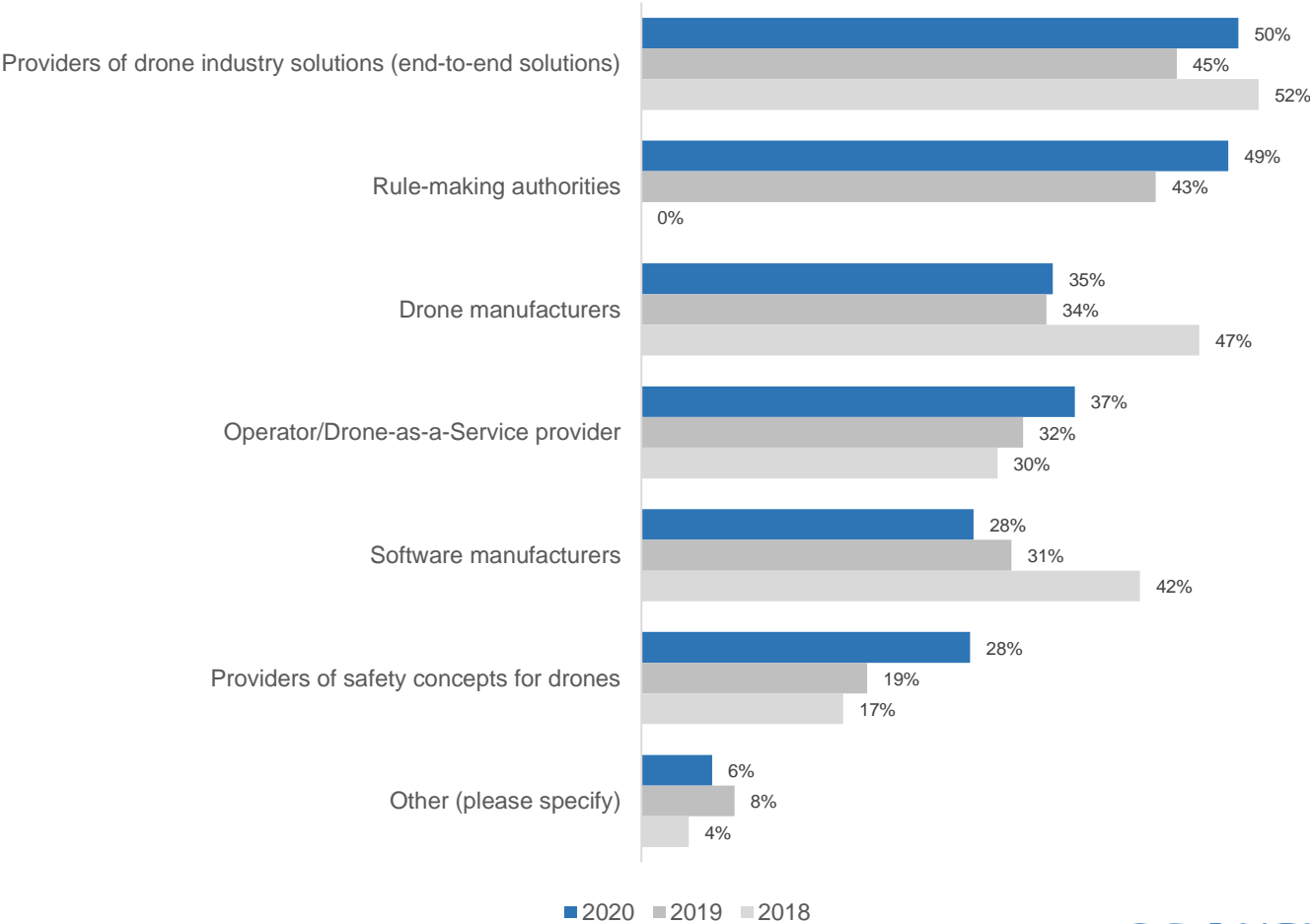
Source: DRONEII.com

Coronavirus - more opportunity than threat

Will the coronavirus crisis have a positive or negative impact on the drone industry as a whole in the long-term?



What are the most important market driving roles?



Source: Drone Industry Barometer 2020 (c) by Drone Industry Insights

quoted in:



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trusted by:





Andreas Perotti



Chief Marketing Officer, Europe
EHang



EHANG | 亿航

EH | Nasdaq Listed





The Economist

Quantum leaps

A mind-bending technology goes mainstream

Read

TAXI IN DIE ZUKUNFT

...KRAFT DER KUNST

...KRAFT DER KUNST

...KRAFT DER KUNST

...KRAFT DER KUNST

PEOPLE CARRIER

...KRAFT DER KUNST

...KRAFT DER KUNST

Forbes

Dubai To Put Autonomous Taxi Drones 'This Summer'

...KRAFT DER KUNST

TIME

David Bowie

...KRAFT DER KUNST

TIME

This Insane Like a Helicopter

The Chinese-made Ehang 184 is the craziest to date

WATCH OUR RISK PROFILING VIDEO

ZURICH ROBOTICS FOR VIDEO-WATCH LOVE THEIR BUSINESS.

The self-flying helicopter

The craziest of why people stay in anger

...KRAFT DER KUNST

EHANG 184

The Chinese-made Ehang 184 is the craziest to date

EHANG 184

Autonomous Aerial Vehicle - Created by EHang, China

...KRAFT DER KUNST

Fortune

Fly to Work in The World's Autonomous, Human-Size

by Andrew Zarembo

...KRAFT DER KUNST

The Ehang 184 is capable of carrying 220lbs, and traveling at an average speed of 62 miles per hour during a 23 minute at sea level.

engadget

This supersized drone will fly you to work (or anywhere)

The 184 is a delivery drone for humans.

...KRAFT DER KUNST

CNTV

...KRAFT DER KUNST

Microsoft

...KRAFT DER KUNST





Thank you

#yeswefly



Daan van Dijk

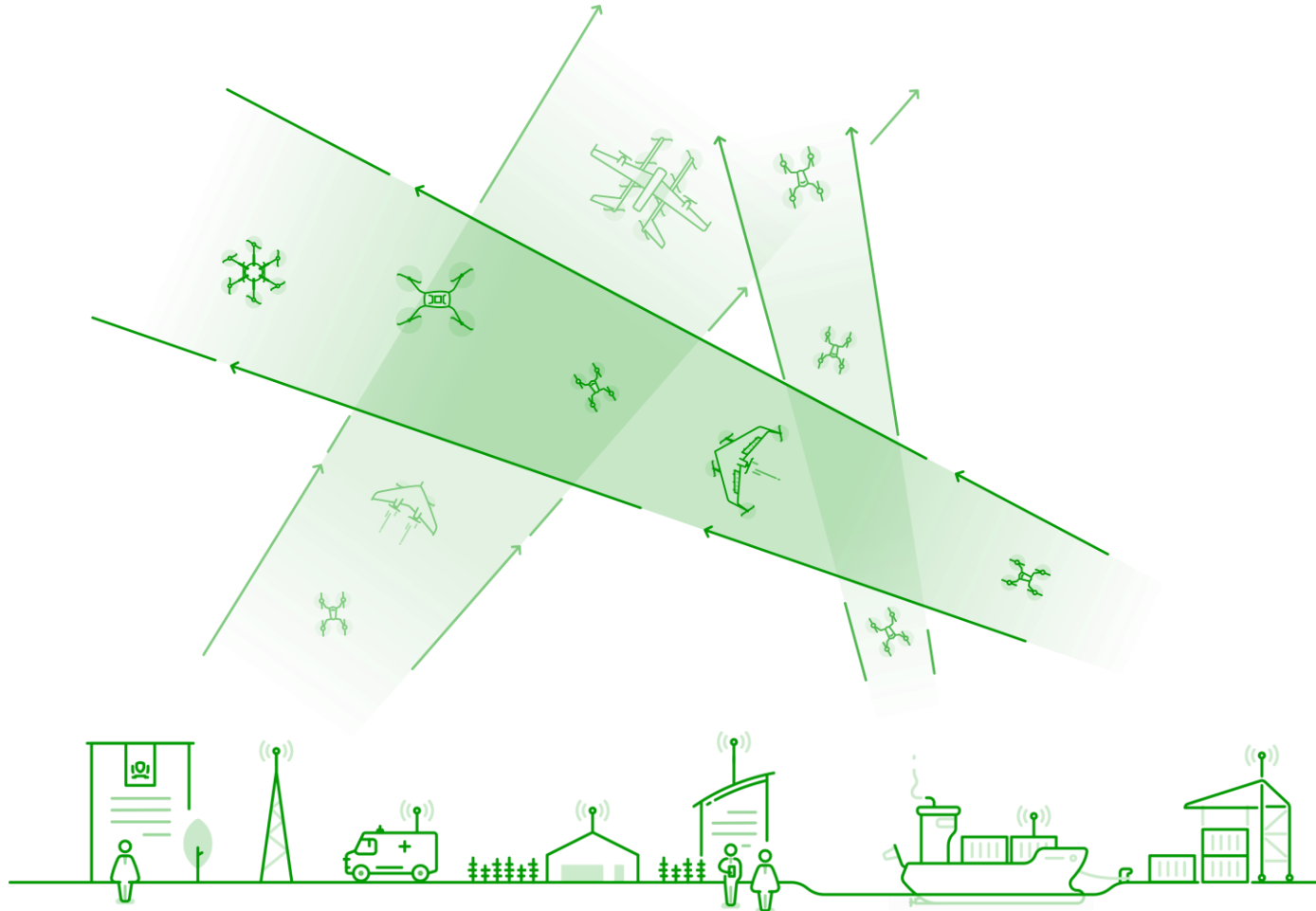


**Innovation Consultant
KPN**



A SKY FULL OF DRONES

We support safe, efficient and integrated drone operations in Dutch lower airspace



CONNECTIVITY ENHANCES LOWER AIRSPACE

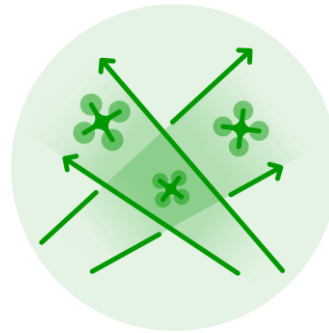
Bridging the gap between telecom and aviation through 5G connectivity



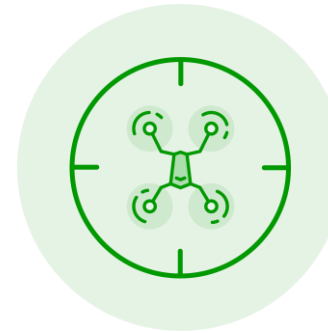
Command
and
Control



Remote ID
and
Positioning



Drone
Corridors



Drone
Detection

USE CASES

TNO



Offshore operations
Recognizing drowning persons
TNO, KNRM - North sea



Remote ID & Positioning
Integration of unmanned aviation with manned aviation.
LVNL - Groningen Airport



Drone2Go' challenge
Developing drone application to support RWS processes
RWS - Police, Fire brigade & NVWA



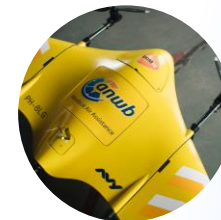
Dutch Drone Delta - Drone delivery
Delivery flight over 4G/5G from mainland to offshore anchorage



Port of Rotterdam



Medical Drone Service
Transport of medical supplies and goods through the air between medical locations.
ANWB - Meppel-Zwolle





Jef Geudens



Head of Technology &
Flight Ops,
Skyports





Skyports

develops, implements and
operates end-to-end drone
deliveries overcoming
inefficiencies associated with
traditional transportation
methods within the medical, e-
commerce and logistics sectors



Skyports is a cargo delivery one stop shop service provider



← Skyports covers all aspects of a drone end-to-end solution →



Operations



Infrastructure



Security &
Privacy



Drone



Regulatory
Compliance



Commercials

Skyports is a drone operator not a manufacturer. We choose the right vehicle for the mission and take care of all aspects of the end-to-end drone solution

We are committed to operating to the highest standards of safety





NHS COVID-19 RESPONSE

Skyports executed on the UK's first medical drone deliveries during the COVID-19 pandemic, transporting medical cargo between the Scottish mainland and an island 17km away.

- **Purpose** - provide a fast and frequent service for the NHS to assist in the COVID testing regime establishing feasibility for future NHS drone projects
- **Flights** - 17km BVLOS (Beyond Visual Line of Sight) flights operating in segregated airspace in rural Scotland between Oban Hospital and Isle of Mull Craigmure Hospital
- **Partners** - NHS end user. Thales provided SOARIZON mission planning tool and assisted with Operational Safety Case

Outcome

- 1 week project
- 40 BVLOS flights
- 900km travelled
- 240kg of rapid payload capacity created
- Data produced to move into phase 2 of project – 3 months of flying in Q3/Q4

NHS

THALES



Panel



DRONEII.COM
DRONE INDUSTRY INSIGHTS

eHANG | 亿航
EH | Nasdaq Listed



Hendrik Bödecker

Founder and CFO,
Drone Industry
Insights



Andreas Perotti

Chief Marketing
Officer, Europe,
EHang



Daan van Dijk

Innovation
Consultant,
KPN



Jef Geudens

Head of
Technology &
Flight Ops,
Skyports



PANEL MODERATOR
Barbara Pareglio

Senior Director,
IoT Technology,
GSMA



- To find out more about our Connectivity for Aviation project visit www.gsma.com/aviation
- Contact us at drones@gsma.com

Thank you!

