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SABCA UAS









BCDC UAV Integration in Air Traffic

PUSHING AEROSPACE INDUSTRY FORWARD















SABCA
STRUCTURES & EQUIPMENT

 INTEGRATED ASSEMBLIES	 ACTUATION SYSTEMS
	
	
	
	

sabenaV
ENGINEERING
SERVICES

 MRO & UPGRADES





SABCA
SOLUTIONS

 UNMANNED AERIAL SYSTEMS





ORIZIO
ENABLING THE AEROSPACE ECOSYSTEM

A DESIGNER & INTEGRATOR OF HIGH ADDED VALUE SOLUTIONS WITH STRONG TECHNOLOGICAL & INNOVATIVE CONTENT

A RESILIENT BUSINESS MODEL THROUGH COHERENT DIVERSIFICATION, SYNERGIES AND FINANCIAL STRENGTH

A KEY PLAYER IN AEROSPACE

Placing SABCA products and technologies on all major flying systems around the globe

SABCA | OUR ROOTS



Haren Airfield in 1920

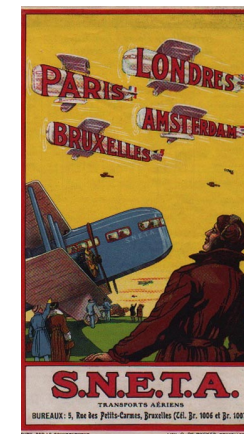


Captain Georges Nélis
(1886 – 1929)

1919 – S.N.E.T.A. (SYNDICAT NATIONAL D'ÉTUDE DU TRANSPORT AÉRIEN)
FIRST BELGIAN COMMERCIAL AIRLINE TO LONDON AND LATER TO CONGO

1920 – S.A.B.C.A. (SOCIÉTÉ ANONYME BELGE DE CONSTRUCTION AÉRONAUTIQUE)
MANUFACTURE, ASSEMBLY, AND REPAIR OF BELGIAN AIRCRAFTS

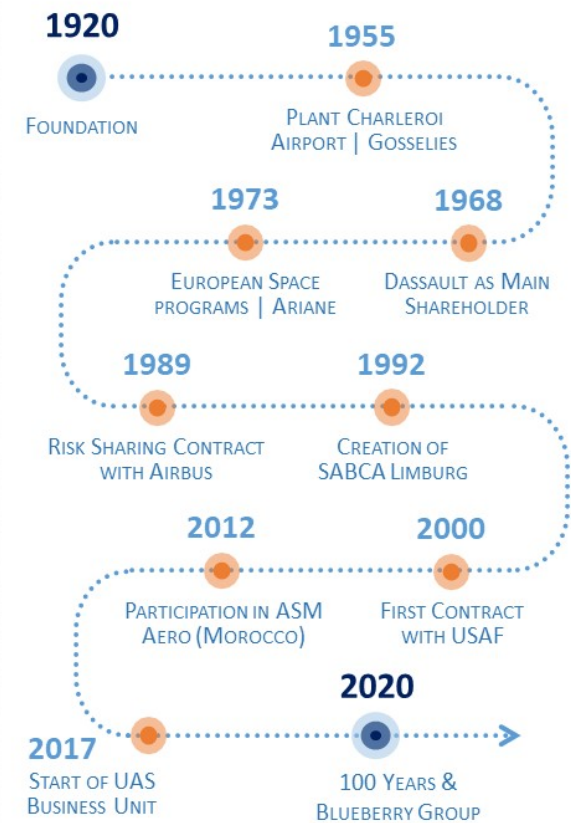
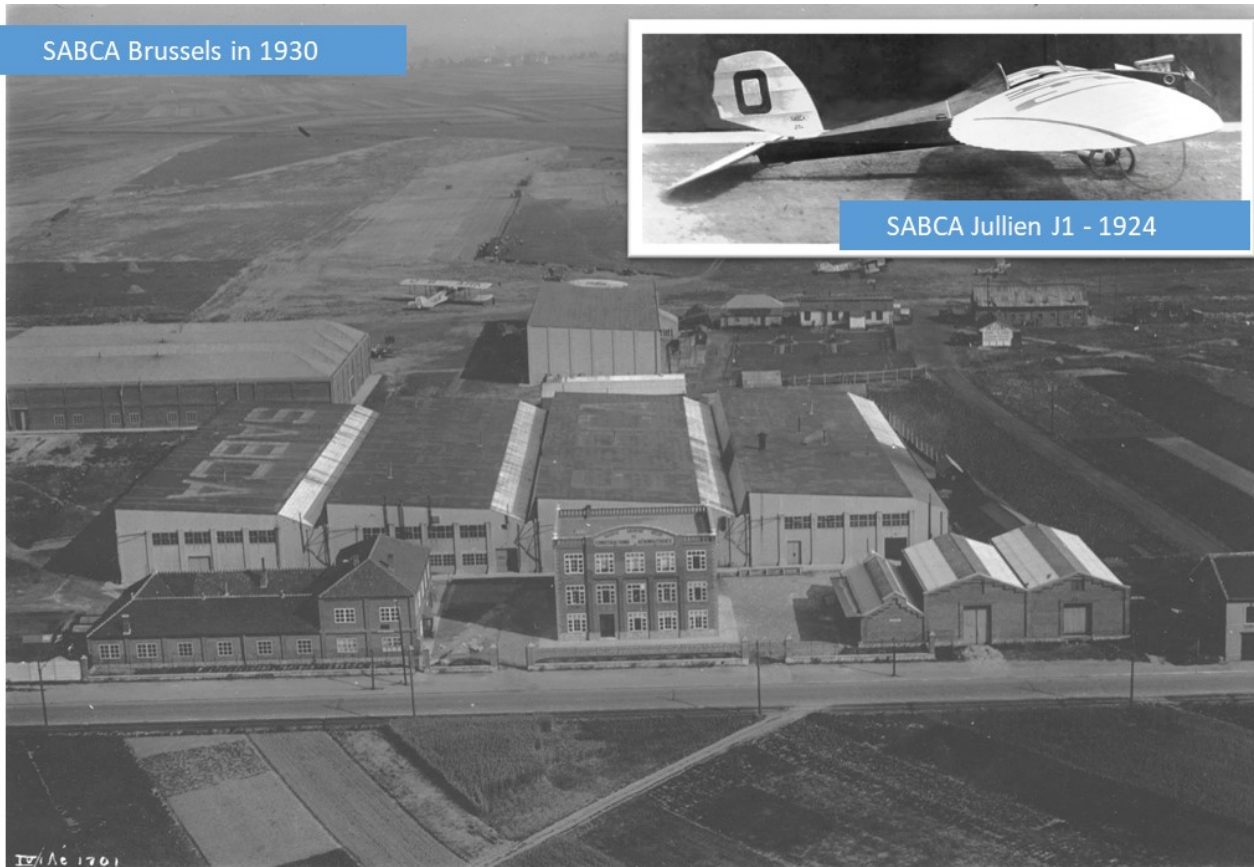
1923 – S.A.B.E.N.A. (SOCIÉTÉ ANONYME BELGE D'EXPLOITATION DE LA NAVIGATION AÉRIENNE)
OFFICIAL BELGIAN AIRLINE, TAKING OVER SNETA



SABCA | ABOUT US

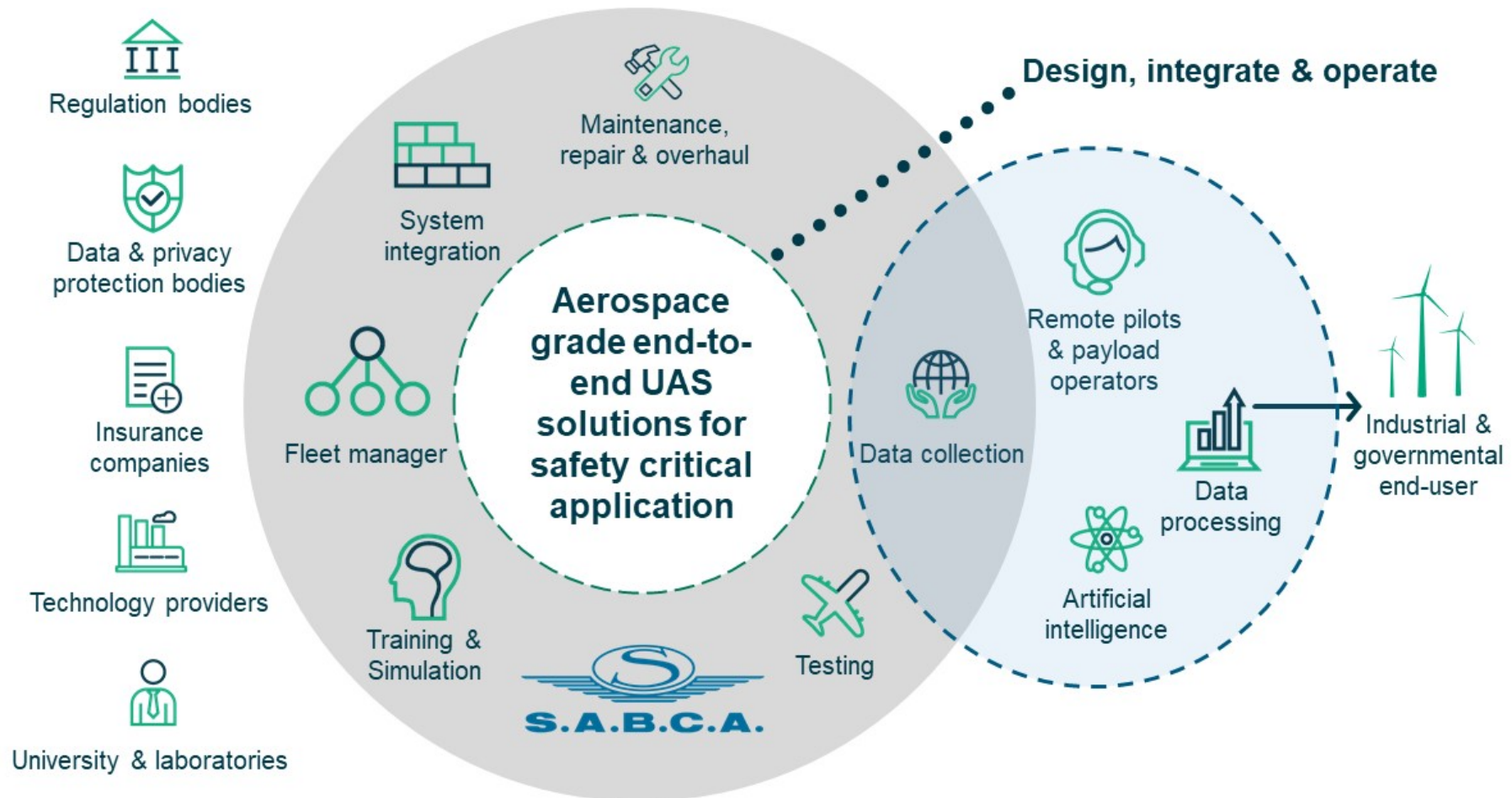


SABCA Brussels in 1930





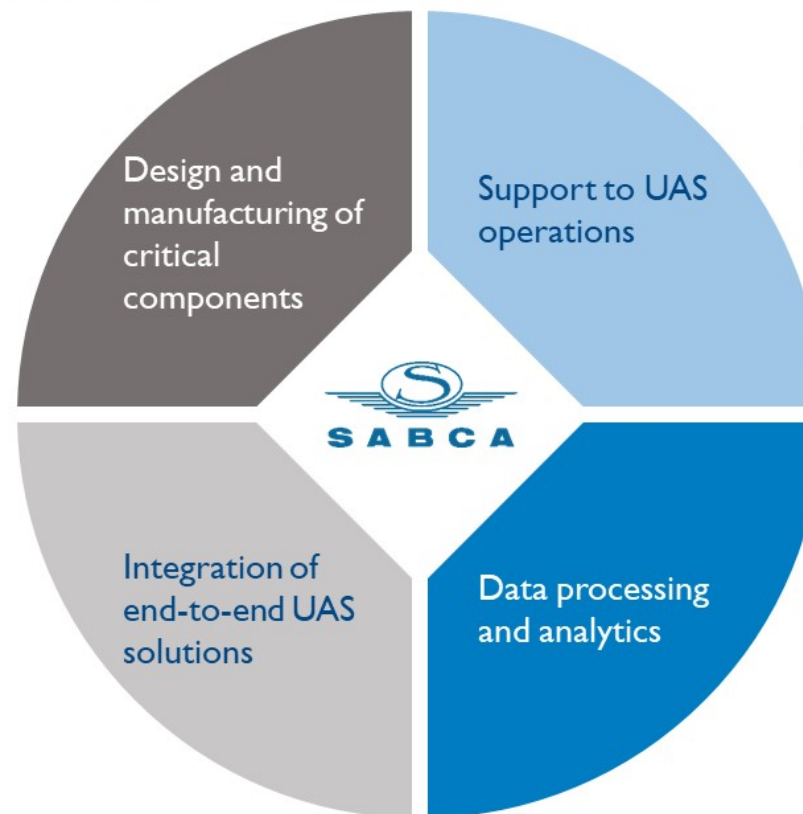
SABCA | OVERALL STRATEGY AND POSITIONING



SABCA provides Aerospace-grade End-to-End UAS solutions for non-aerospace industrial markets

“BUILD”

- Development and manufacturing of proprietary critical components
- Integration of existing components
- Engineering of the end-to-end solution (until 1st article inspection)
- Integration, testing (and if needed certification) of the end-to-end solution (including UAS, ground infrastructure, data link, training, homologation, qualification, certification, risk analysis...)



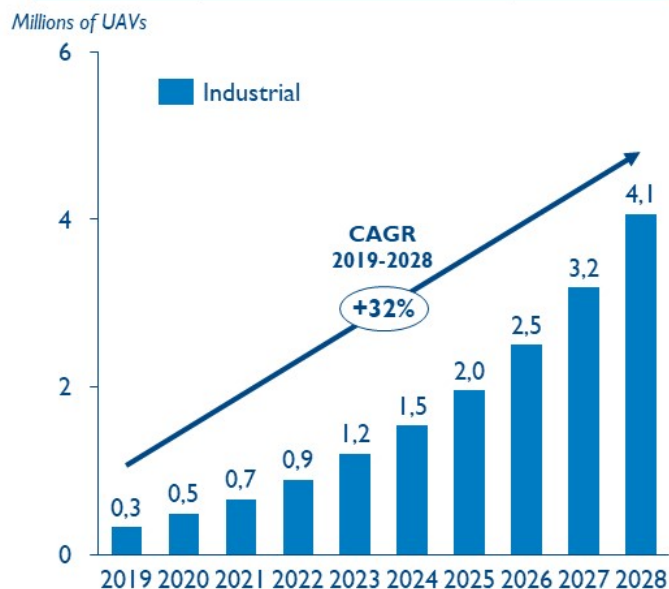
“RUN”

*Multiple possible business models
(e.g. as a fee / royalties / franchising model)*

- Engineering support
- Fleet management services (e.g. MRO)
- Pilots training
- Mission preparation (e.g. insurance authorization...)
- Data processing and analytics

The industrial UAS market is expected to grow at >30% CAGR towards 2028 and SABCA is focusing on high-end “Certifiable / Certified” solutions

Global Industrial UAS volumes forecast
(Millions of Units, 2019 – 2028)



Regulators' segmentation of the Industrial UAS market
(EU & EASA upcoming regulations)

Open	Specific			Certified
	Low risk	Medium risk	High risk	
<ul style="list-style-type: none"> Simple missions (“prosumer”) Commoditized market leveraging consumer devices 	<ul style="list-style-type: none"> Can require utilization of certifiable drones (Type Certificate needed for high-risk missions) Semi-autonomous No high-end offer 	<ul style="list-style-type: none"> Certification required Fully autonomous 		

Not in SABCA scope



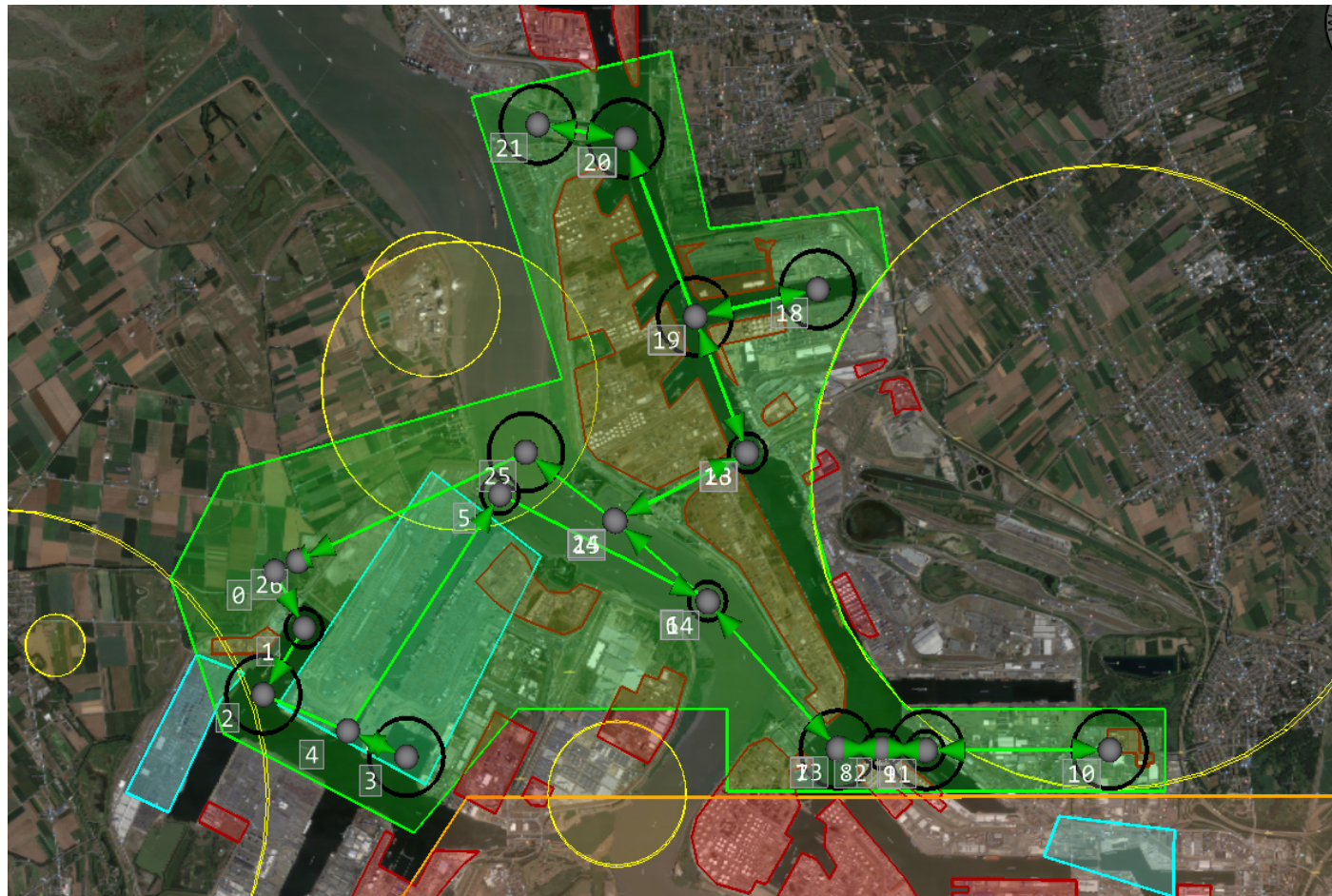
- **Certifiable & Certified**
- **Up to full autonomy**
- **Support non-aerospace industrials in complex and risky UAS operations**

▶ SABCA targets the industrial market as it is the **first segment to emerge for operational applications** in which UAS solutions will replace and **optimize existing activities** (e.g. infrastructure maintenance and inspection)

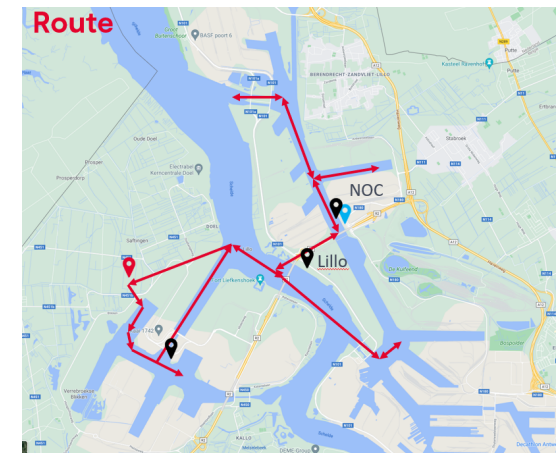
Rationale behind Smart Ports Surveillance?

- IN LINE WITH SABCA UAS STRATEGY
 - End-to-end solution
 - Requiring systems integration
 - Industrial applications
- Demonstrate long-range and long-endurance flying capabilities
- Investigate difficulties faced when conducting flights in a GEO-ZONE with many Stakeholders
 - EBR54 is a Restricted area but not a Controlled area
 - Helipads within the port premises/Hoevenen ULM nearby
- Co-develop solutions with the partners (PoA, Police, Fire brigade, ...) involved
- Include several use cases covering four realistic emergency situations.
 - a container fire
 - the rescue of a person in distress on top of a windmill,
 - the rescue of a drowning person
 - the rescue of a man overboard.
- Coordinate mission from remote location
- Being prepared for emergency scenarios (Loss of C2, Navigation, Generator, Engine,)





SEVESO ENVIRONMENT
BVLOS
MANY STAKEHOLDERS
MULTIPLE USE CASES
GEO-ZONE COMPLIANCE



Unique 3-day
'Eye in the Sky' demo
with fixed wing drone



1. Surveillance

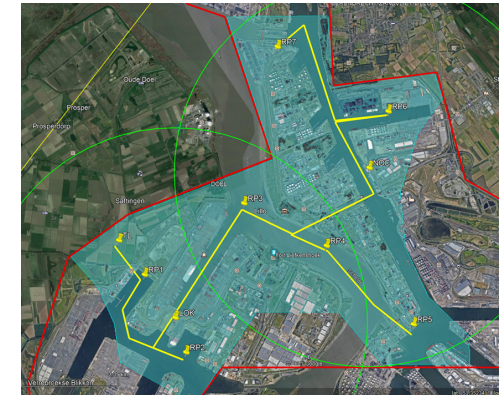
- Observation with camera up to AGL 300m
- Speed UAV good for car and boat chasing
- Detection of other drones (DJI)

2. UAS System

1. Ports are a challenging environment for connectivity (High Powerlines, Wind mills,..)
2. Integrated ADSB-out very useful in order to be seen

3. Authorisation

1. Early involvement of all stakeholders mandatory
2. Almost near miss with a helicopter in a TRA regardless of NOTAM
3. SORA analysis set a good base for future authorisations



EBOS



- Offshore BVLOS Fixed Wing
- TO and LND from Ostende airport
- Surveillance over the North Sea
- Pushing boundaries in controlled airspace
- Weekly flights during 2021



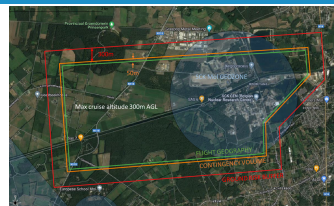
Port Of Antwerp



- BVLOS Fixed Wing
- Sparsely populated industrial area
- Uncontrolled airspace
- Day Flight during 3 consecutive Days
- September 2021



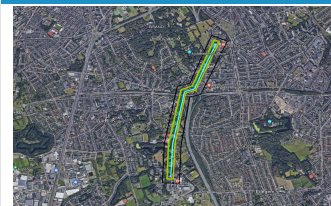
Buddawak



- Over fly a decommissioned nuclear site
- Perform measurements with a custom radiation sensor
- Both with PNC and X8
- Timing: Q3 2022



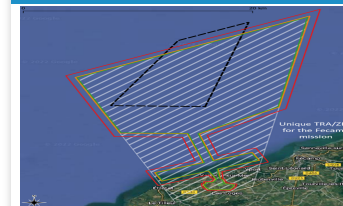
Medical



- BVLOS over parcely populated area
- Medical delivery over Antwerp, Aachen
- Parachute Successful Finished
- 1st flight: 2019
- Under New regulations: Since June 2022



Fecamp



- Offshore BVLOS Fixed Wing
- Surveillance over Windfarm
- U-space integration demonstration
- Timing: July 2022 during 3 consecutive weeks
- Additional missions planned



THANK YOU

ULRICH WECKX
BUSINESS DEVELOPMENT - UAS
SABCA

