

AZUR DRONES 



PRESENTATION 20th October 2022



## > WE ARE



> **LEADER** IN THE  
DRONE-IN-A-BOX DEDICATED  
TO SURVEILLANCE



> **65+** EMPLOYEES



> **38M€ FUNDRAISING**  
FRENCH PRIVATE INVESTOR



> **3 OFFICES**  
BORDEAUX – PARIS – DUBAÏ



# ▶ OUR CLIENTS ARE LEADERS IN THEIR CATEGORIES

## FRANCE



## INTERNATIONAL



نيوم NEOM

## ➤ A MATURE TECHNOLOGY CREATING VALUE TO LEADING CLIENTS

➤ THE MOST DEPLOYED DRONE IN A BOX SOLUTION IN THE WORLD

➤ DEPLOYED SINCE 2019 IN THE GCC

➤ 20+ LEADING CLIENTS/ 200 USERS

➤ 20 000+ AUTONOMOUS FLIGHTS

➤ A ROBUST SOLUTION DEPLOYED FROM SCANDINAVIA TO KSA

➤ REMOTELY OPERATED

➤ NO PILOT REQUIRED



➤ WE PARTNER WITH KEY PLAYERS IN ORDER TO PROVIDE TOP-OF-THE-RANGE DATA

Microsoft  
Partner



# ▶ MULTIPLE USE CASES

OIL, GAS, SOLAR



NUCLEAR



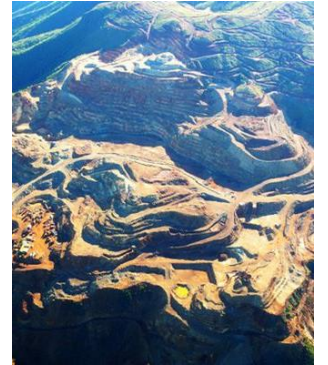
CHEMISTRY



LOGISTIC WAREHOUSE FACILITIES



MINING



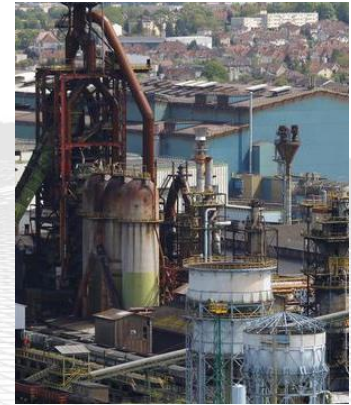
POLICE IN SMART CITIES



SUPPORT TO FIREFIGHTERS



MILITARY BASE



STEEL INDUSTRY





## ➤ 3 TYPE OF MISSIONS



### PRE-PROGRAMMED MISSIONS

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- Create security patrols or inspection missions
- Run those missions on a regular basis or on demand



### ON-ALERT MISSIONS

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- Automatic take off in case of an alert thanks to VMS integration
- Sensors can be radars, fire alarms, Leakage alarms...



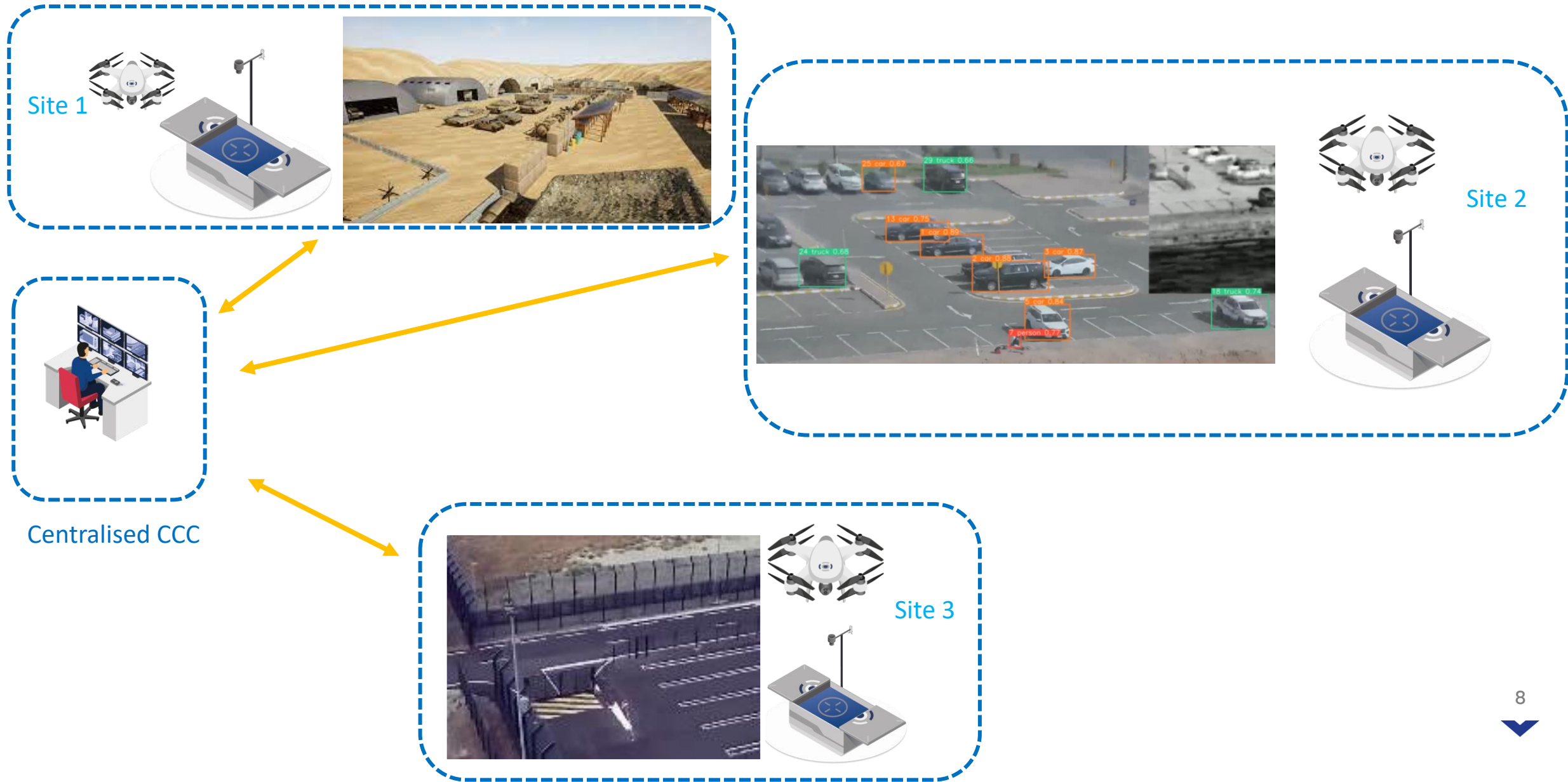
### FREE FLIGHTS

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- Run free missions thanks to « click & go » function
- Ideal for intruders tracking and crisis management situations



# OPERATED REMOTELY FROM A CENTRALISED CONTROL ROOM





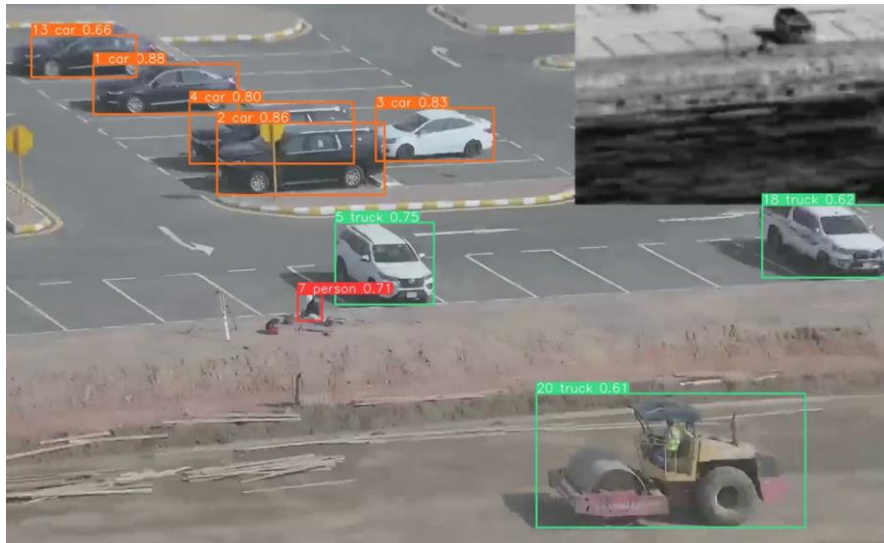
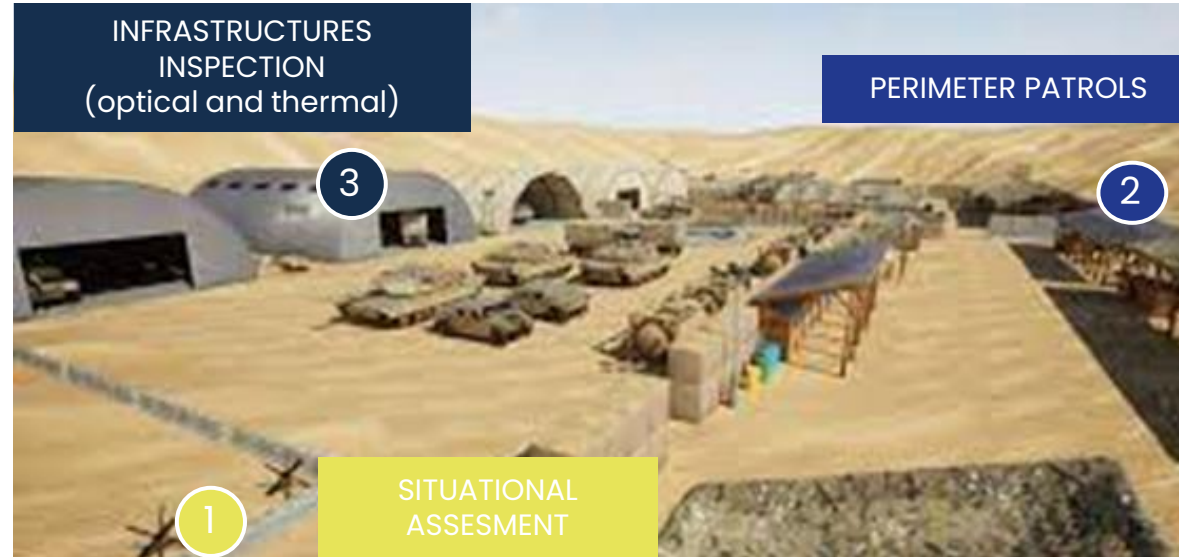
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ALREADY PROVEN USE CASES

## ➤ USE CASE\_CRITICAL SITES

- SURVEILLANCE DAY AND NIGHT OF MILITARY SITES
- CAR AND HUMAN DETECTION
- OPERATIONS SUPPORT



## ➤ USE CASE SMART CITY\_POLICE MOI

### Context

Smart City of Dubaï

Innovation is key

Increasing car traffic and accidents

### Customer challenges:

Improve surveillance of key sites in the city

Difficult to get quick access and get aerial views

System operated from a unique control and command centre 24/7

### MAIN MISSIONS OF SKEYETECH

- Fast assessment and reactivity in case of events
- Safety and security missions
- Reinforce the data quality for the team on the ground

### DIRECT BENEFITS FOR THE CUSTOMER

- higher responsiveness and unmatched visual capabilities
- real operational support for police forces on the ground
- Increased safety



## ➤ USE CASE\_SUPPORT FOR FIRE FIGHTING AND RESCUE OPERATIONS



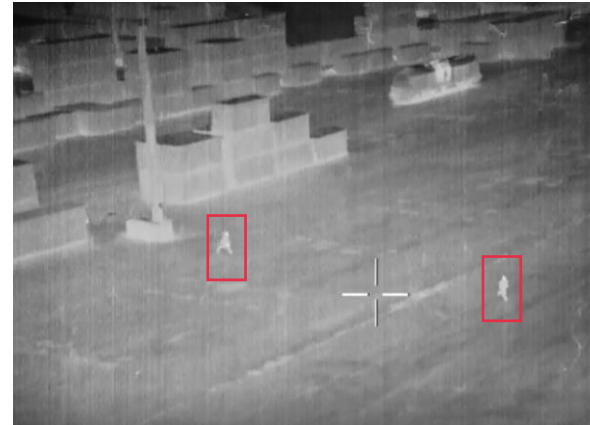
- QUICK RESPONSE TO EMERGENCY SITUATIONS
- AERIAL REAL TIME SUPPORT FOR CRISIS MANAGEMENT
- BUOY DROP : WW EXCLUSIVITY FOR BVLOS URBAN DEPLOYMENT
- LARGE AERIAL SITUATION ASSESMENT AND DOCUMENTATION
- NO HUMAN INTERVENTION NEEDED



## ➤ USE CASES LOGISTIC AREA



Fence and entrance control



Humans' detection between containers

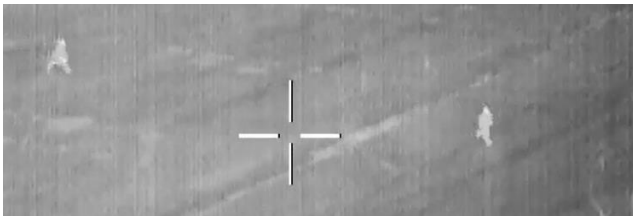


waterways and quays surveillance  
(outside view)

- FAST & EFFICIENT PERIMETER PATROLS, IN PARTICULAR AT NIGHT
- QUICK SITUATIONAL AWARENESS IN CASE OF AN ALERT
- ARIAL SUPPORT IN CASE OF INTERVENTION
- AUTOMATIC DETECTION OF INTRUSIONS OR ANOMALIES



## ➤ USE CASE: LARGE INDUSTRIAL SITE



AERIAL SITE MONITORING



# ArcelorMittal

- DEPLOYMENT IN JAN 2022
- 1ST USE CASE: 100% SAFETY
- FAST & EFFICIENT PERIMETER PATROLS, IN PARTICULAR AT NIGHT IN RESTRICTIVE ENVIRONMENT
- QUICK SITUATIONAL AWARENESS IN CASE OF AN ALERT ON REMOTE LOCATION OF THE SITE
- AERIAL SUPPORT IN CASE OF INTERVENTION OF THE SECURITY GUARDS
- AUTOMATIC DETECTION OF INTRUSIONS OR ANOMALIES



## ➤ THE OPERATIONAL BENEFITS



### STRENGTHEN SAFETY

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- Gain in reactivity in the event of a crisis
- Protect your teams from dangerous security patrols and manual inspections



### REDUCE ENVIRONMENTAL FOOTPRINT

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- Detect pollution before it escalates
- Monitor air quality
- Reduce CO2 emissions



### OPTIMIZE INSPECTION OPERATIONS

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- Optimize inspection workflow with more accurate and regular data and less downtime



### DIGITALIZE THE ASSETS

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- Gather large sets of visual data to create digital twins and predictive maintenance models
- **Get permanent and reliable DATA**



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OUR TECHNOLOGY



## ➤ SKEYETECH COMPONENTS

DRONE  
INCLUDING OPTIONS ON PAYLOADS

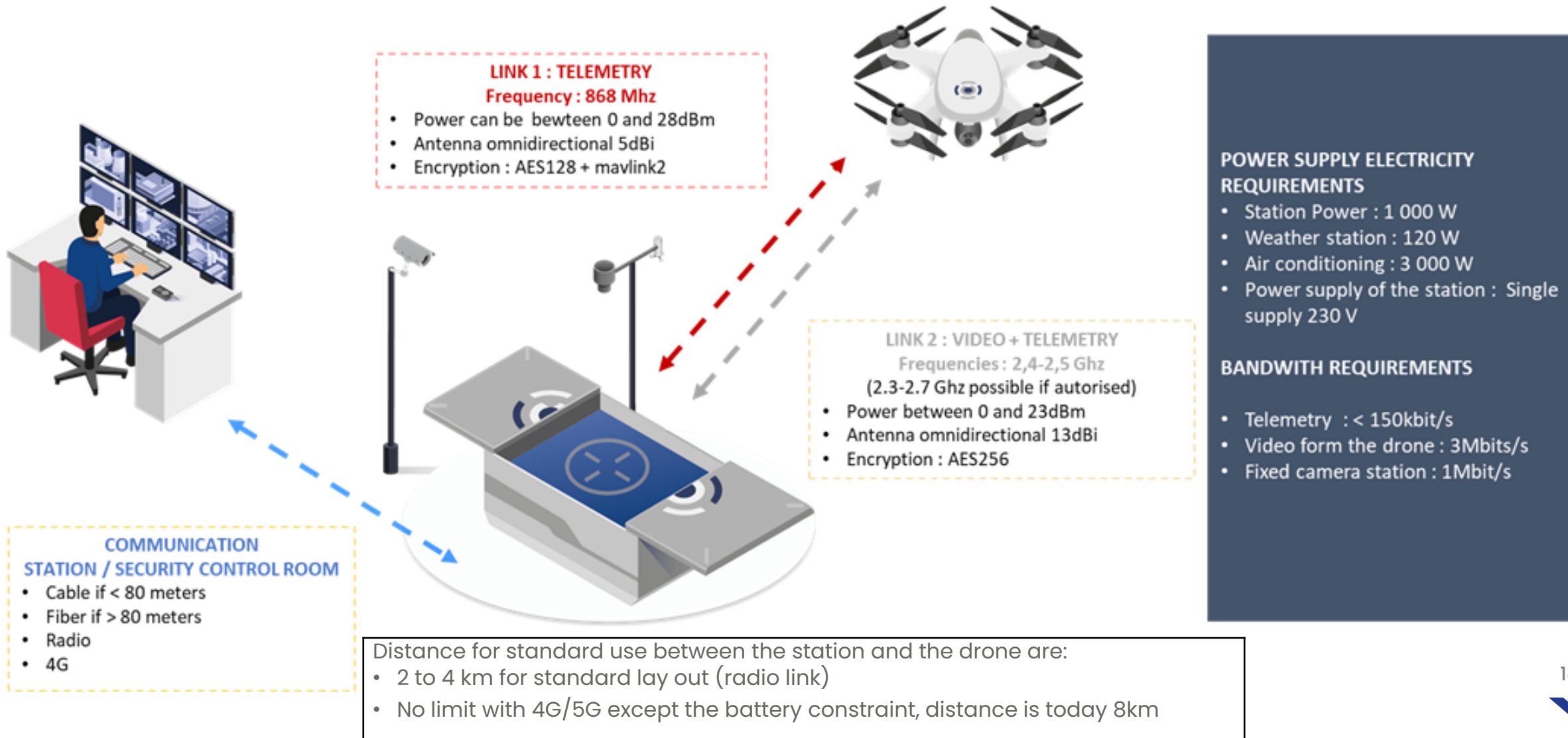


DOCKING & WEATHER STATION

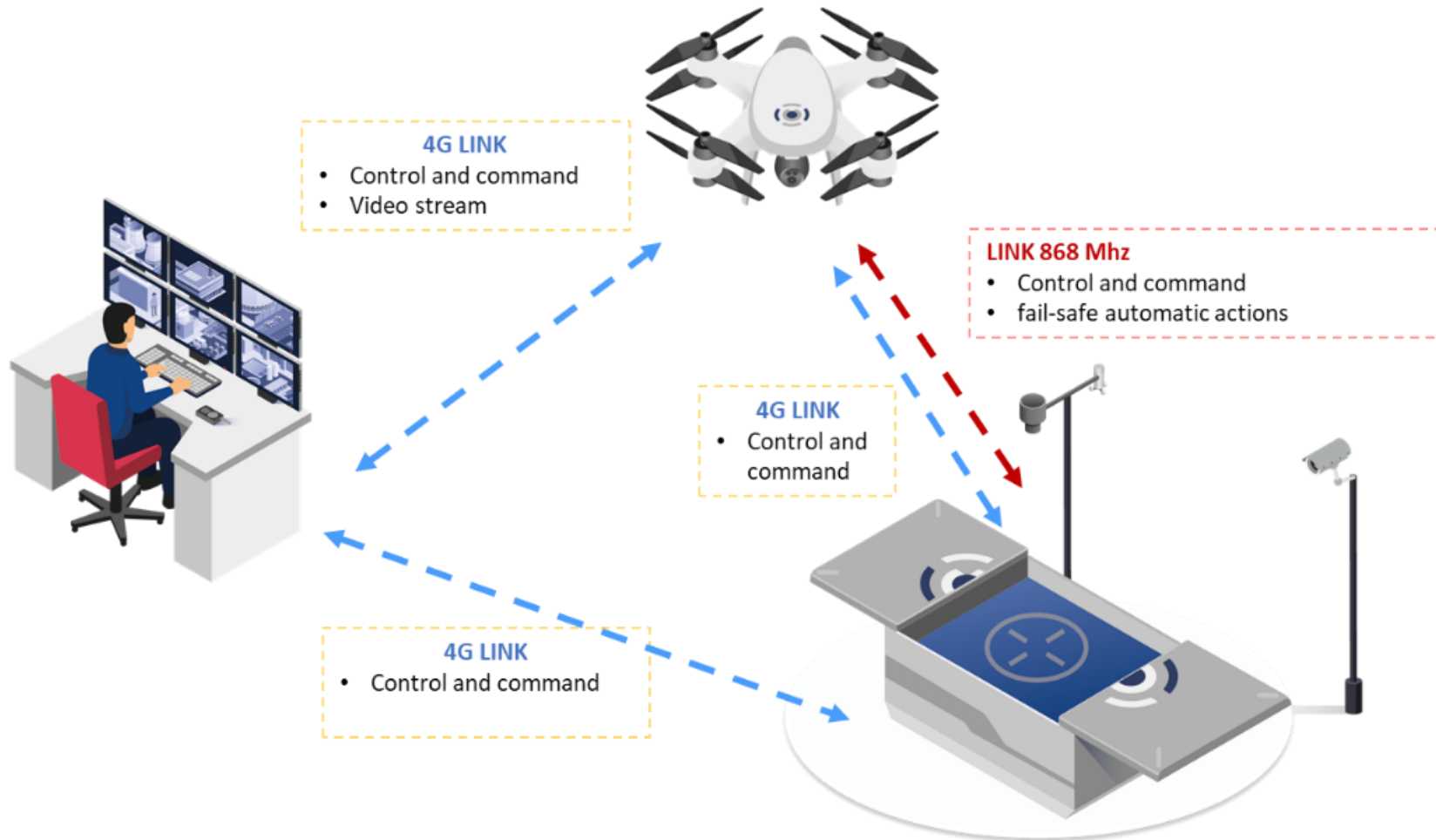
CONTROL SOFTWARE



## ➤ SKEYETECH STANDARD LAY OUT



## ➤ SKEYETECH 4G LAY OUT



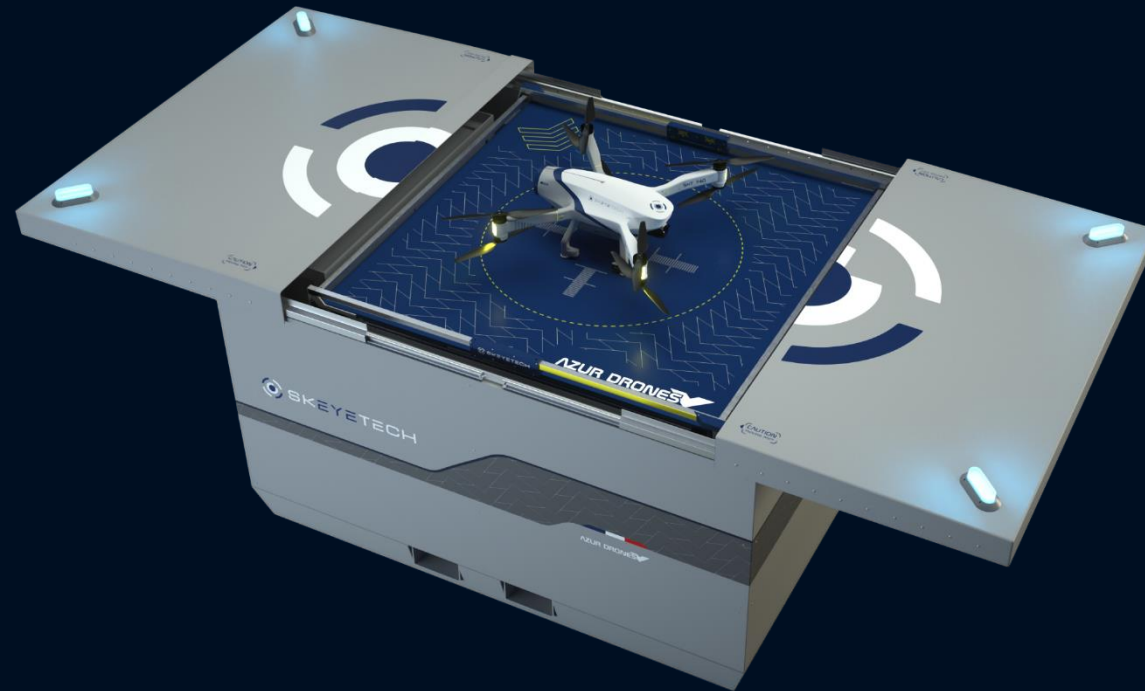
### POWER SUPPLY ELECTRICITY REQUIREMENTS

- Station Power : 1 000 W
- Weather station : 120 W
- Air conditioning : 3 000 W
- Power supply of the station : Single supply 230 V

### BANDWIDTH REQUIREMENTS

- Telemetry : < 150kbit/s
- Video form the drone : 3Mbits/s
- Fixed camera station : 1Mbit/s

## SYSTEM MAIN SPECS



### FULLY AUTOMATIC

- Quick deployment
- Automatic smart recharging

### WEATHERPROOF

Tested in all kind of environments:

- Extreme temperatures
- Saline environments
- Sandy environments...

**30s**  
DEPLOYMENT

**2x** mission time  
RECHARGING

**IP65**  
PROTECTION

**-10°C / +50°C**  
TEMPERATURE

**RF AES256 / 4G-5G / LTE**  
TRANSMISSION OPTIONS

## ➤ DRONE MAIN SPECS



**27min**  
FLIGHT TIME

**7.5kg**  
WEIGHT

**50km/h**  
GROUND SPEED

**50km/h**  
(65 km/h in gusts)  
WIND RESISTANCE

**7mm/h**  
RAIN RESISTANCE

### SMART AND AUTONOMOUS

- Automatic take-off and landing
- Powered by AI
- Real-time trajectory calculation
- Predictive maintenance

### HIGHEST SAFETY FEATURES

- Electronical & engines redundancy
- Recovery parachute
- Anti-jamming technology
- Geo-caging system

## ➤ SKEYETECH STANDARD PAYLOADS



### **OPTICAL CAMERA**

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- Resolution: Full HD 1080 (1920\*1080)
- Optical zoom x10 (+ digital zoom x12)
- Wide Field of View: WFOV 62°

### **THERMAL CAMERA**

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- Resolution: 640\*480
- Digital zoom x3

### **3-AXIS STABILIZATION**

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- High stabilization: Pitch/Roll  $\pm 0.01^\circ$ , Yaw  $\pm 0.01^\circ$



## ➤ SKEYETECH EXTRA PAYLOADS



### GAS SNIFFER

- Additional sensor placed on the top of the drone
- Allows to map up to 9 gases among:

|                 |                  |                 |
|-----------------|------------------|-----------------|
| PM2.5           | O <sub>3</sub>   | NH <sub>3</sub> |
| PM10            | VOCs             | HCl             |
| SO <sub>2</sub> | LEL /            | H <sub>2</sub>  |
| CO              | CH <sub>4</sub>  | Cl <sub>2</sub> |
| NO <sub>2</sub> | CO <sub>2</sub>  | PH <sub>3</sub> |
| O <sub>2</sub>  | H <sub>2</sub> S | Formol          |



### PHOTOGRAMMETRY CAMERA

- Additional sensor placed under the belly of the drone
- 26 MP camera allowing to carry out photogrammetry
- Possible processing with Alteia or other processing softwares

## ➤ COMPLIANT WITH THE LATEST REGULATORY FRAMEWORKS

2017

Beginning of the regulatory procedures

2019

Generic authorization for France



2021

Harmonisation of the European regulation

Authorizations in the Middle East



هيئة دبي للطيران المدني  
Dubai Civil Aviation Authority 

### CONCEPT OF OPERATIONS

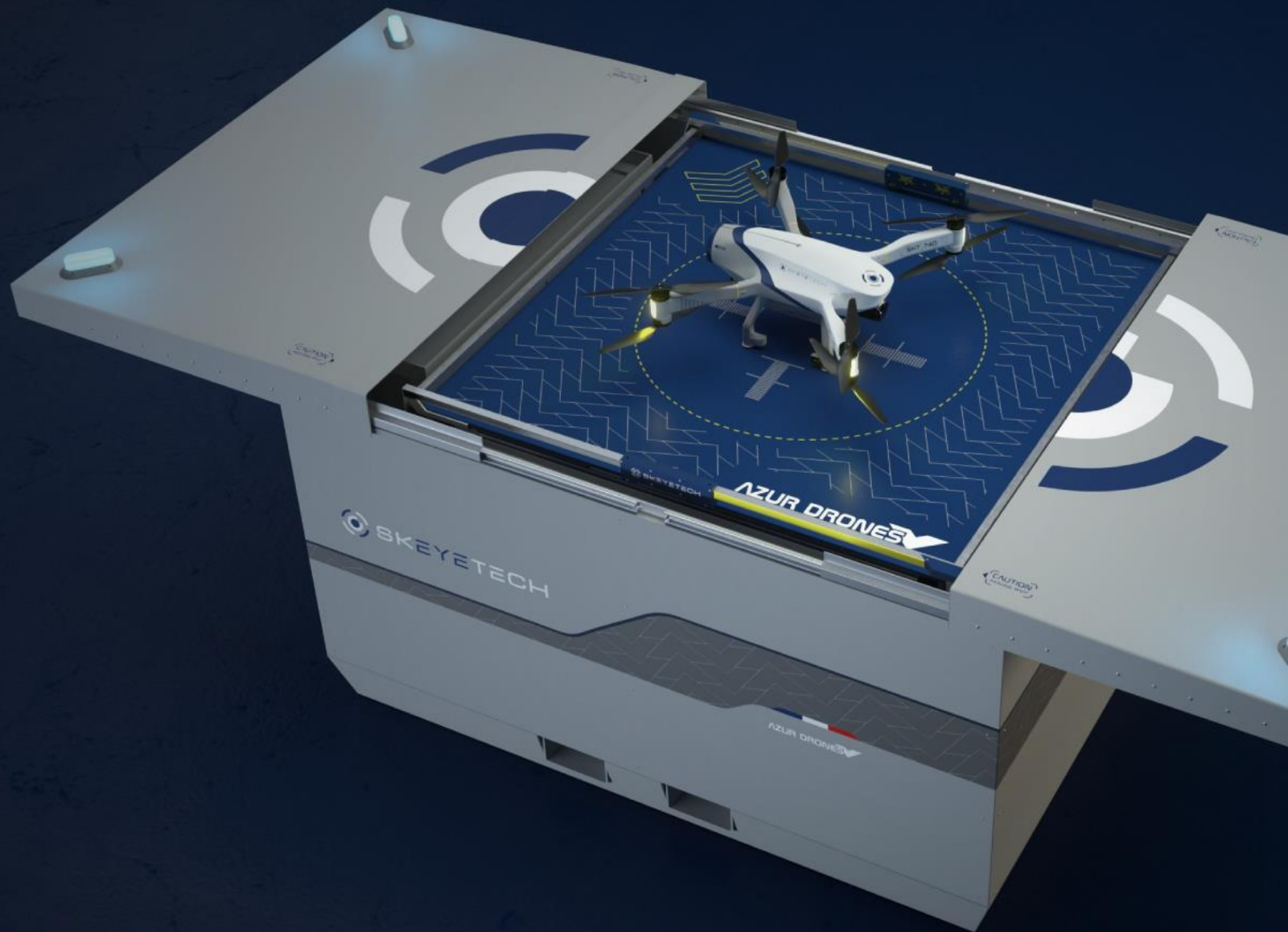
- **Beyond Visual Line Of Sight (BVLOS)**
- **Day or night**
- **Flight over private areas**
- **Under simple supervision of a remote operator**

» NO PILOT





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## **CONTACT**

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