



# CoDi BOT

DISINFECTION, CONFINEMENT, AND  
PROTECTION

# MARAKEB TECHNOLOGIES

Marakeb Technologies are a semi-government entity and a leading autonomous technology provider based in the United Arab Emirates who design and manufacture advanced products, ranging from autonomous vehicles to ground stations.

Headed by Mr. Basel Shuhaiber, Marakeb Technologies have developed patented autonomous systems which are now being used in oil and gas, civil defense and the military.

# CoDI Bot: APPLICATIONS AND FEATURES

## Applications:

- Sports Venues/Facilities disinfection
- School disinfection
- Hospital disinfection
- Mall disinfection
- Nursery disinfection
- Airport disinfection
- Bars and Restaurant disinfection
- Gyms
- Hotels

## Features:

- **MAP Pro** - Our core technology enables the operator to remotely control and operate the robot and its onboard equipment - UVC lights and MAP IR3 camera - from anywhere with a WiFi/4G connection.
- **MAP IR3** enables the operator to assess large crowds for high fevers, a key symptom of Covid, and for non-mask violators to mitigate against the spread of the virus.
- **UVC**, a technology that has existed for decades and is the leading disinfection method against the virus, breaks down its chemical compound, thereby eliminating its ability to reproduce.

# Conception and creation

When the Covid-19 pandemic spread across the globe and caused major disruption to everyone's way of life, Marakeb Technologies decided to use their engineering and robotic prowess to create an unmanned vehicle that can help fight, kill and contain the virus.

Integrated with **our MAP IR3 dual-camera system, MAP PRO** patented unmanned systems and **UV-C disinfection lights**; the CoDi bot acts as both sword and shield against Covid-19.

Able to scan up to 300 people per minute, give audio and visual information to the operator and disinfect large areas pre- and post-event, the CoDi Bot is a must have tool for facilities that wish to re-open.



# CoDi Bot: Technical Specifications

Physical Specifications	
Dimensions	1100mm x 700mm x 1800mm
Weight	75 kg
Speed	Up to 10km/hr
Operating time	With UV-C lights and Camera 5 HRS. With just Camera 6 HRS. With just lights 6 HRS.
Electrical Specifications	
Power	220V AC, 12V DC
Communications System	4G LTE, Wifi
UVC Specifications	
Wavelength	200-300nm
Lifetime	10,000 hours
Warm-up Time	Instantaneous
Thermal Specifications	
Thermal Resolution	640 x 480
Detector Type	VOx Microbolometer
Field of View	25° x 20°
Focal Length	25mm
Waterproof Rating/IP Rating	IP 64 – Splash proof



# Map IR3

**Fever is an early sign that people might have Covid-19. The MAP IR3 can rapidly scan crowds for raised body temperatures.**

- The autonomous system automatically adjusts and adapts to the surrounding ambient temperature without any human intervention.
- A built-in sophisticated detection algorithm accurately identifies febrile subjects, issues audible alerts upon detection, and auto-tracks to identify the subject.
- An intuitive dual display provides easy target identification, simplifies operation, and minimizes handling. With continuous video-recording option, operators can use the recorded videos to run post-screening data reports.
- Equipped with a dual-thermal camera coupled with intelligent tracking UI the MAP IR3 provides an essential security solution for any modern organization seeking to safeguard human assets and sustain business operations during a pandemic outbreak.

## Features

- Non-Contact rapid screening
- Large area of detection, 300 people per minute.
- Multipoint temperature measurement.
- Cross-infection avoidance.
- Automatic alarm capture.
- Facial recognition capture.
- Continuous video recording and playback.





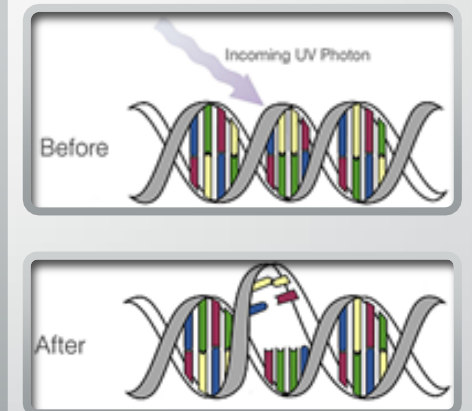
# MAP IR3: Technical Specifications

Visible Light	
Sensor Type	1/1.8" CMOS 200W
Resolution	1920 x 1080
Video Encoding	H.264/H.265
Frame Rate	1-30fps adjustable
Focal Length	3.6-10mm electric adjustable
Thermal Imaging	
Sensor Type	LWIR uncooled FPA
Resolution	384 x 288
Pixel Size	17 micrometers
NETD	<0.05C @ 27C, f1.0
Wave Range	8-14 micrometers
Non-uniform Correction	Shuttle
Lens	13mm
General	
Measurement Range	+26C ~ +46C
Accuracy	+0.3 C
Distance	< 8 meters
Face Detection	Available
Face Recognition	Available
Mask Wearing Detection	Available
Internet	10/100m Ethernet, RJ45 Female Interface
Power	12V DC, DC5.5*2.1 Female Interface
Power Consumption	<10W
Operating Temperature	0C ~ +40C
Weight	2.4 kg
Size	365 mm x 216 mm x 138 mm



# UV-C Disinfection System

- The CoDi Bot comes equipped with four UV-C ( High intensity Ultraviolet lights ) attached to the tower.
- This short-wave **ultraviolet light** disrupts DNA base pairing, causing formation of pyrimidine dimers (molecular lesions), thereby leading to the inactivation of bacteria, viruses, and protozoa.
- The lights are to be used for the disinfection phase of the operation and only when no humans are present.
- The lights can be controlled by the operator at the command centre through WIFI.
- The lights offer a full 360 degrees area of effect up to 7 meters radially.





# UV-C Lights: Technical Specifications

Physical Specifications	
Dimensions – UVC light	93 cm x 5 cm x 6 cm
Weight	0.5 kg
Electrical Specifications	
Power	35-40 W
UVC-LED Specifications	
Wavelength	253.7 nm
Lifetime	10,000 hours
Warm-up Time	Instantaneous
Effective Area	360 degrees area of effect up to 7 meters radially





# Key Clients

## **Al Forzan International Sports Resort Abu Dhabi**

The CoDi Bot is currently deployed at Al Forzan International Sports Resort Abu Dhabi to help disinfect the facility, keep guests safe and ensure that the resort stays open.

<https://gulfnews.com/sport/uae-sport/watch-al-forsan-becomes-ai-forsan-to-show-the-way-in-abu-dhabi-1.72114427>

## **Abu Dhabi International Airport**

Marakeb Technologies have supplied Abu Dhabi International Airport with the CoDi Bot along with other products in our Covid response range.

<https://www.adac.ae/english/media-centre/press-releases/2019/2020-05-02-Abu-Dhabi-Airports-collaborates-with-UAE-industry-to-develop-and-deploy-new-UAE-made-robo>

“Introducing CoDi BOT UGV at Abu Dhabi International Airport reflects our commitment to adopting innovative technology, which can bolster the protection of our passengers and frontline staff against viruses.

By deploying artificial intelligence, it adds another layer of protection and builds on our comprehensive response to the COVID-19 outbreak.”

Shareef Hashim Al Hashmi

CEO of Abu Dhabi Airport- UAE







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