

Mine Kafon Drone

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Introducing the Mine Kafon Drone, an airborne demining system developed to clear all land mines around the world in less than 10 years.

There are 100 million land mines worldwide. Every day, 10 innocent civilians are killed or maimed by these explosives. Today, land mines can still be found in more than 60 countries, constituting a significant risk to communities across the globe. In these countries, the victims are mostly civilians – children, women and the elderly – with tens of thousands of innocent people killed every year, and many more injured, serving as a horrific reminder of the past.

Using current technologies, clearing or even detecting all land mines across the entire world would take over 1100 years. The established processes are slow, dan-

gerous, expensive, and completely unacceptable if we want to solve the problem in our lifetime.

Growing up on the edge of Kabul in a little town called Qasaba in Afghanistan, Massoud and Mahmud Hassani, the brothers behind the Mine Kafon Drone project, experienced the horrors of land mines from an early age. These experiences fuelled older brother Massoud to develop a solution for a safe and smart solution to detect and clear land mines.

Massoud and Mahmud Hassani stunned the world in 2012 with Mine Kafon, a wind powered anti land mine ball looking like a dandelion. The Mine Kafon is approximately the height and weight of an average man, allowing it to trigger landmines as it rolls over them using the power of the wind.

After three years of work, the team is ready to present the Mine Kafon Drone: an unmanned airborne demining system that uses a three step process to map, detect and detonate land mines.

1. Mapping First the drone flies over the whole field with an aerial 3D mapping system to identify all the dangerous areas with GPS waypoints. 2. Detection Equipped with a robotic metal detecting arm the MKD hovers above the ground at approximately 4 cm to detect mines. Every detected mine is geotagged on the operator's system to construct a map of known mine locations. 3. Destroying

For the final phase of the process the MKD, attached with a robotic gripping arm, places a small detonator on every detected mine. The land mine is then detonated from a safe distance using a timer.

MKA platform In addition to the unmanned aerial vehicles (UAVs), the MKA also provides an online platform where all the data acquired is visible in real-time. The platform shows all of the detections dangerous areas and safe locations and the photographs and GPS coordinates of any

detections. This data is stored online in the cloud. The mapping of explosives allows the platform to calculate the estimated clearance time of an area as well as the resources required for the execution. This platform is available to experts in the field, humanitarian organisations and local populations, to ensure that everyone has access to the vital information collected and to provide the highest possible level of communication between these groups. The Mine Kafon Drone (MKD) offers an innovative solution to land mine removal, providing a reliable demining system that delivers accurate updates and information on mine clearing operations.

The Mine Kafon Drone is up to 20 times faster, it is safer and until 200 cheaper than currently available technologies. Imagine if you could fly with hundreds of Mine Kafon Drones all over the effected landscapes worldwide and free the world from landmines.

With such a disturb approach we could save thousands of lives.