

Dual-Use Technologies 2022

**Cybersecurity &  
Digital Applications  
in Defence**

Málaga, Nov 17-18 2022

@DEFIS\_EU

@IDEAJUNTA

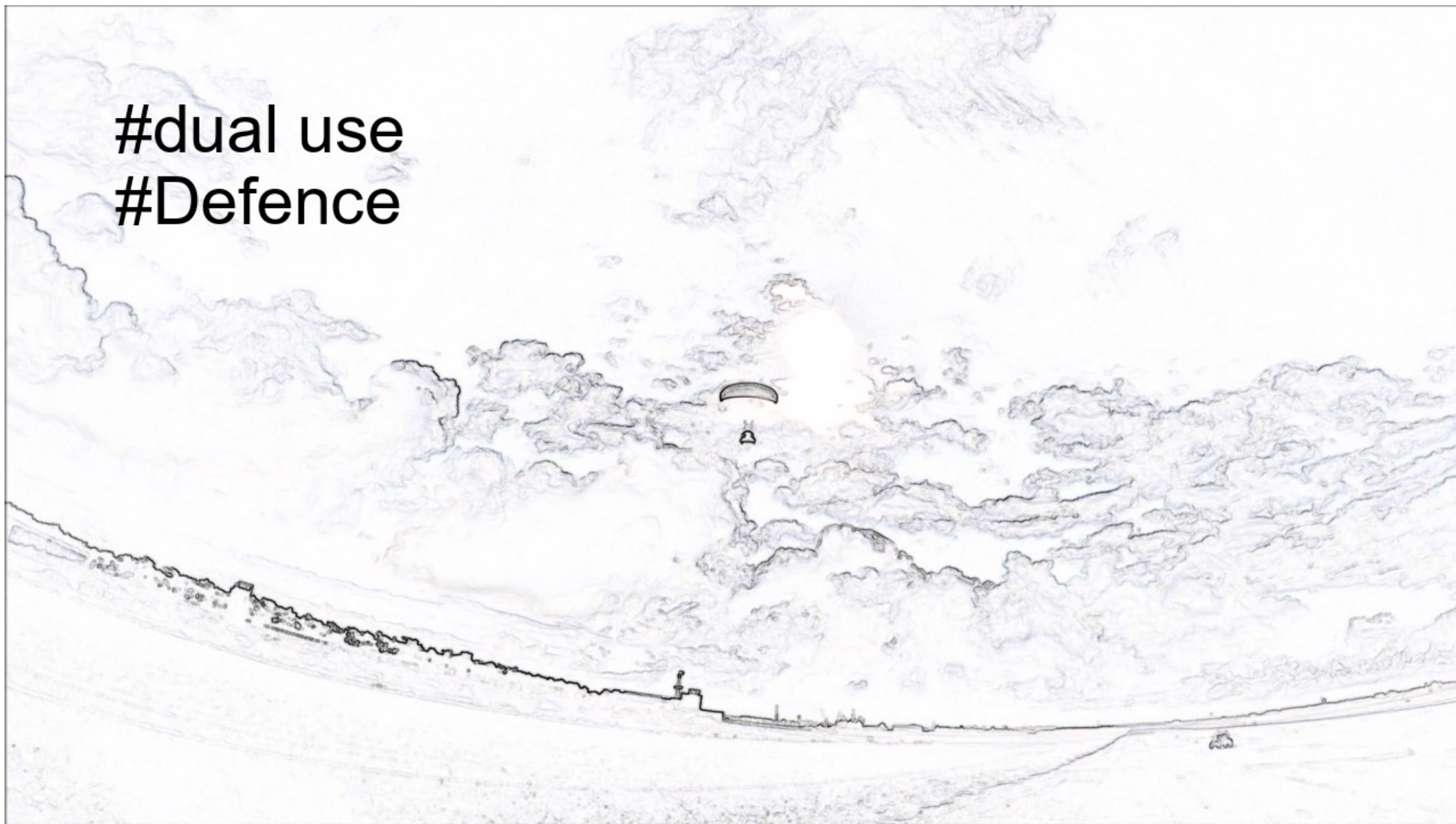
#ENDR



DRAGONPRAXIS  
Remotely Piloted Aircraft Systems



#dual use  
#Defence



## The #2nd use ...

BackPack CAS: Close Air Support for small units/ patrol

### PROBLEM

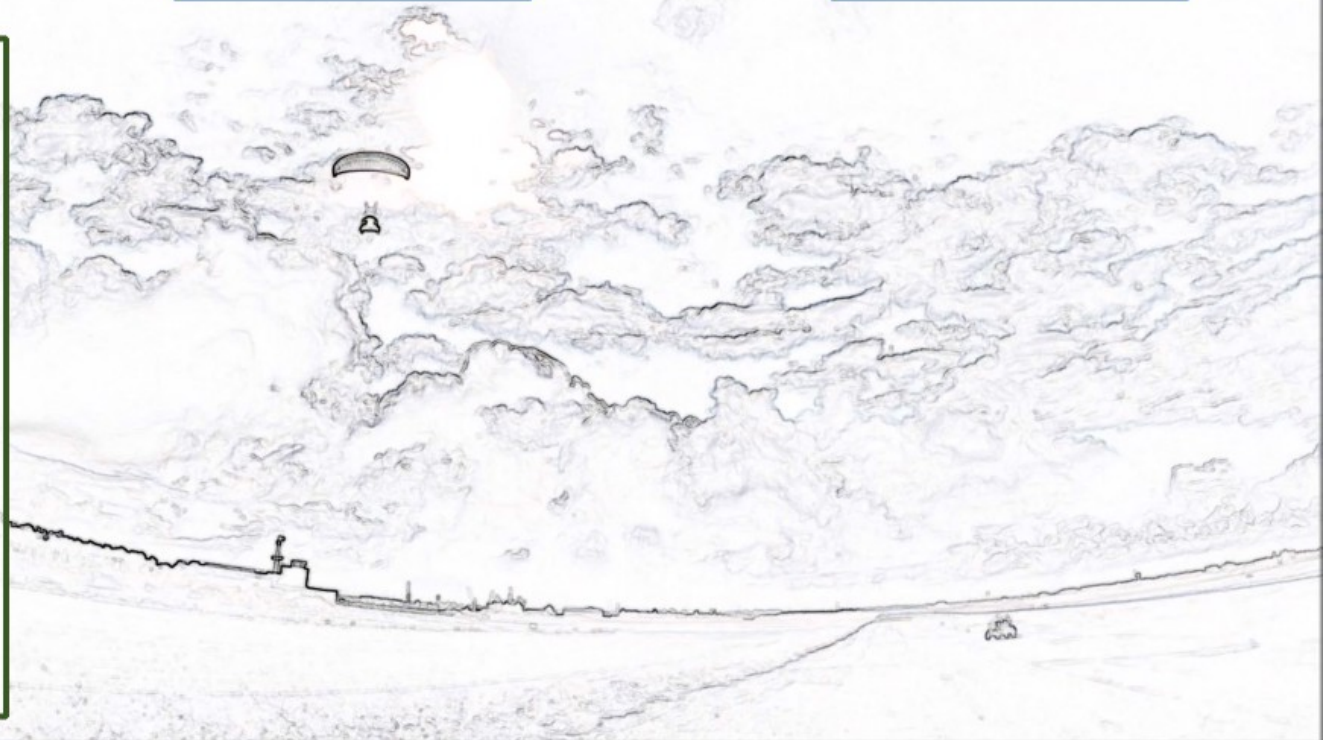
Lack of air support  
for small units  
(urban) operations

<https://mwi.usma.edu/unmanned-lethal-organic-future-air-support-ground-combat-forces/> 07.01.20

Just google "organic close air support"

### SOLUTION

### DESCRIPTION





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## SOLUTION

Remotely Piloted  
Aircraft System,  
as developed for the  
*Close Air Support Summit  
2017*

and  
iHLS accelerator



Startups! Apply to iHLS Security Accelerator



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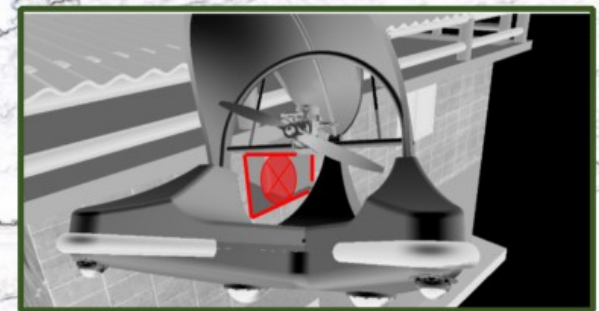
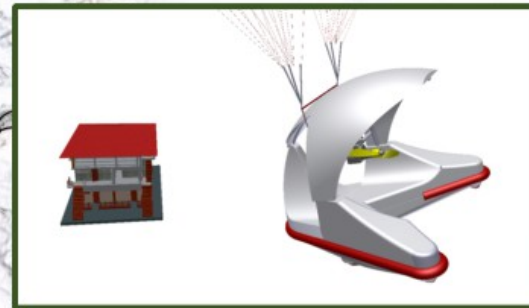
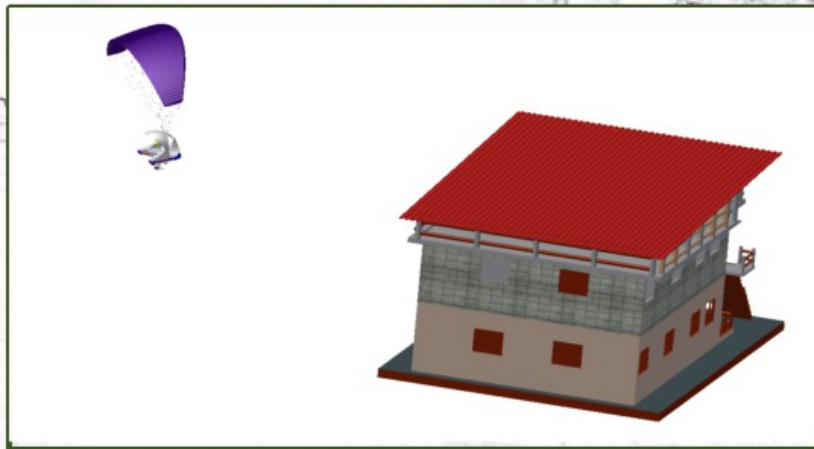
- Parafoil Remotely Piloted Aircraft System
- Combat support (HK&SK)
- High survivability
- Low speed
- High payload
- Low cost
- Pickup/ jeep deployable and launched
- Unprepared terrain landing
- Crew: pilot + gunner
- 25 to 600kg MTOW
- Common picture broadcast
- Communications



# The #2nd use ...

BackPack CAS: Close Air Support for small units/ patrol

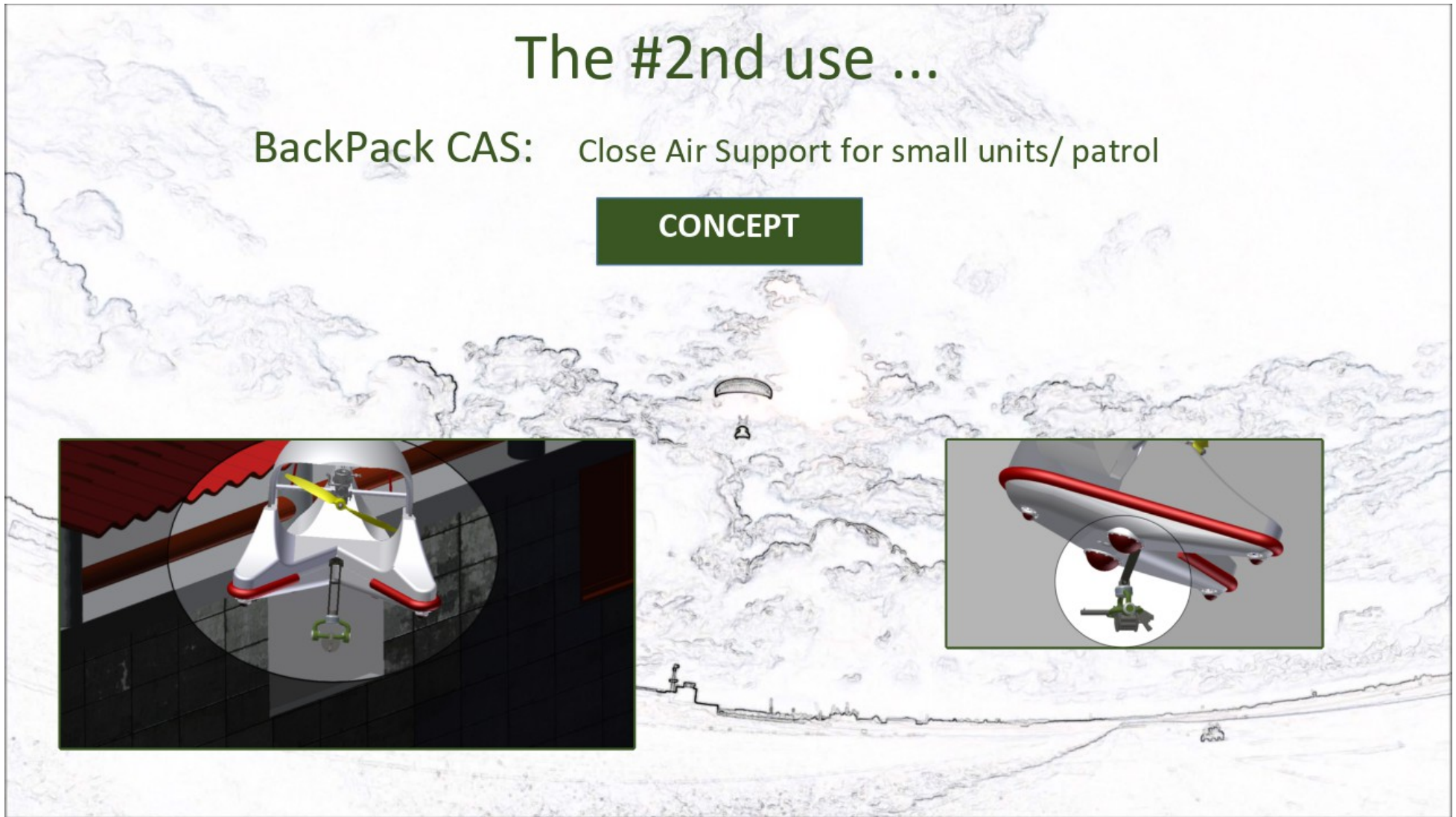
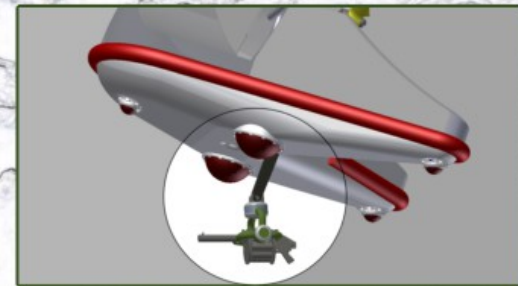
## CONCEPT



# The #2nd use ...

BackPack CAS: Close Air Support for small units/ patrol

CONCEPT





## The #2nd use ...

BackPack CAS: Close Air Support for small units/ patrol

**SOFT KILL**

### **ELECTRONIC WARFARE**

- ...
- Deception
- Jamming
- ...

In a context of Electromagnetic Spectrum Operations (EMSO), Electronic Warfare assets will continue to be the interface between the Opponent and our own Intelligence-gathering, Manipulation and Data-Insertion “machine”

‘EW has been a sleeping beauty, hidden away and forgotten for a generation. Now it is a dragon about to reawaken, and NATO leaders who continue to ignore its significance do so at the Alliance’s peril.’

MC 64/11, 4 Jul. 2018



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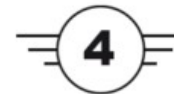


PRx25 - "PRECURSOR"

Surveillance / Cargo / Attack



PORTUGAL



# The #2nd use ...

BackPack CAS: Close Air Support for small units/ patrol

AWARD



ESTADO-MAIOR-GENERAL  
DAS FORÇAS ARMADAS

**PRÉMIO DE INOVAÇÃO NAS FORÇAS  
ARMADAS 2022**



## A #3rd use ...

Specially addressed to Málaga and Andalucía...

### PROBLEM

Limitations on  
coastal  
surveillance and  
on readiness for  
Search & Rescue  
operations

### SOLUTION

### DESCRIPTION





## A #3rd use ...

Specially addressed to Málaga and Andalucía...

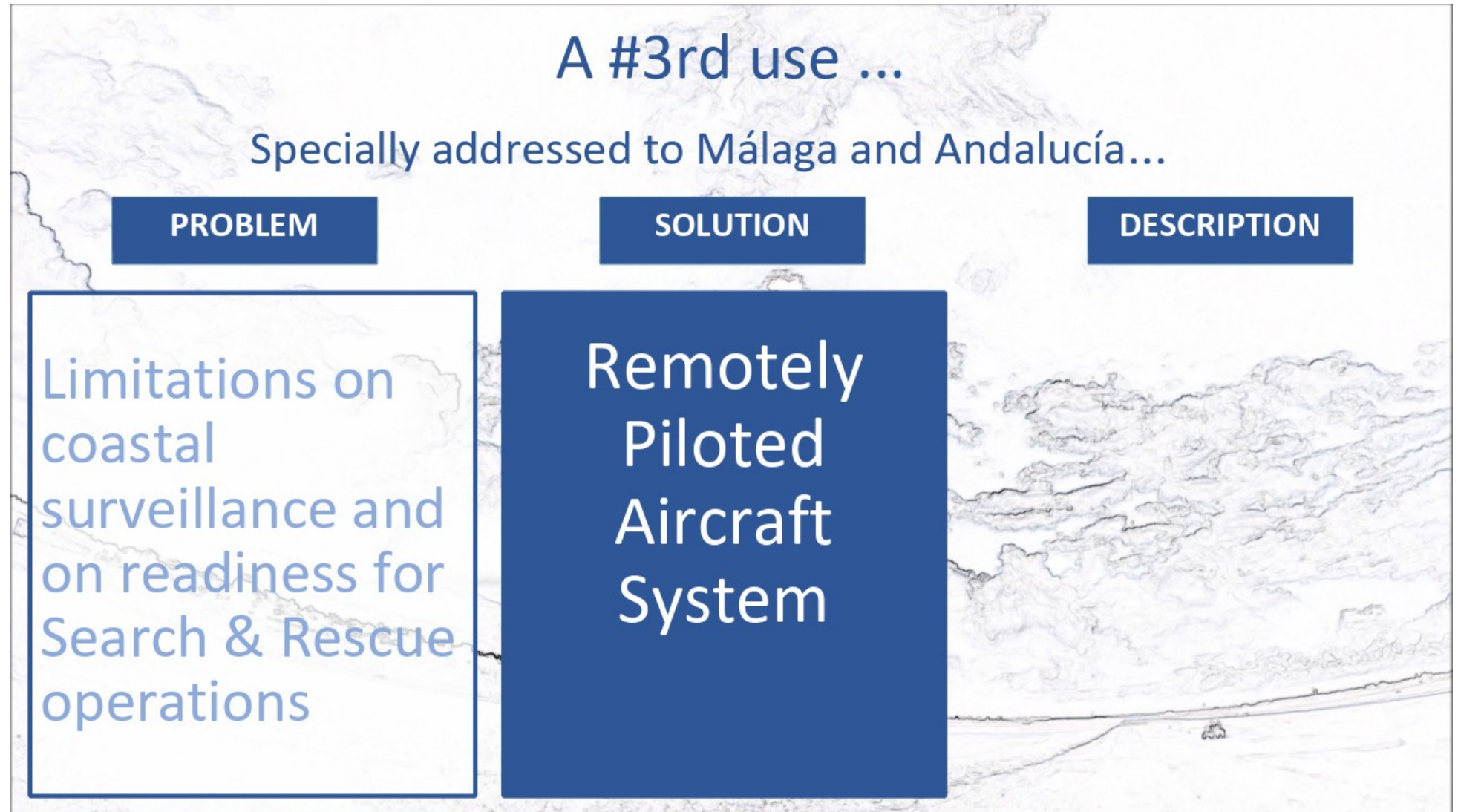
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Limitations on coastal surveillance and on readiness for Search & Rescue operations

### SOLUTION

Remotely  
Piloted  
Aircraft  
System

### DESCRIPTION



## A #3rd use ...

Specially addressed to Málaga and Andalucía...

### PROBLEM

Limitations on coastal surveillance and on readiness for Search & Rescue operations

### SOLUTION

Remotely Piloted Aircraft System

### DESCRIPTION

- Parafoil Remotely Piloted Aircraft System
- Maritime RADAR
- Electro-optics/Infrared sensors
- Audio Communication interface
- Inflatable raft and remotely operated buoy deployment
- High payload
- Low cost
- Pickup/ jeep deployable and launched
- Unprepared terrain landing
- Crew: pilot + rescuer
- 25 to 600kg MTOW
- Monetization through advertising



# The #1st use ...

## The SALAMANDRA Project

### PROBLEM

Inability to detect forest fires in the initial moments of ignition and post-fire monitoring

### SOLUTION

### DESCRIPTION

**CENTRO** 2020

**PORTUGAL**  
**2020**



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de Desenvolvimento Regional



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Inability to detect  
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SOLUTION

Remotely  
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System

DESCRIPTION

**CENTRO** 2020

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# The #1st use ...

## The SALAMANDRA Project

### PROBLEM

Inability to detect forest fires in the initial moments of ignition and post-fire monitoring

### SOLUTION

Remotely Piloted Aircraft System

### DESCRIPTION

- Parafoil Remotely Piloted Aircraft System
- Set of correlative air sensors onboard
- Electro-optics/Infrared sensors
- Deterrence capability
- Low period of training
- Operated by municipalities
- Pickup/ jeep deployable and launched
- Unprepared terrain landing
- Crew: pilot + fireman
- 25 to 600kg MTOW

**CENTRO** 2020

 **PORTUGAL**  
**2020**



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The #1st use ...



**Salamandra Project**

JUNE 2022 - HANNOVER



**CENTRO** 2020

**PORTUGAL**  
**2020**



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# The #1st use ...

## Continuous, permanent and extensive action:

- Local communities involvement
- Deterrence
- Risk analysis
- Territory situational awareness
- Environmental assessment
- Ground sensors interrogator
- Early forest fire warning detector
- C3 fire-fighting operations support (24/24)
- Common picture broadcast
- Counter-fire operations
- Ground personnel monitoring
- Remote assistance
- Movements guidance and signalling
- Damage evaluation
- Forest planting

## Currently developing:

An on-board air analysis lab with a set of gas and particles sensors for 3D space mapping of air quality, smoke detection and early warning fire alarm.

## The way ahead:

To develop a remote fire-fighting capability: 600kg MTOW “ bomber-extinguishers ”, managed and operated mainly during night hours by the local usually available operational personnel, educated and trained for the mission.

**CENTRO** 2020

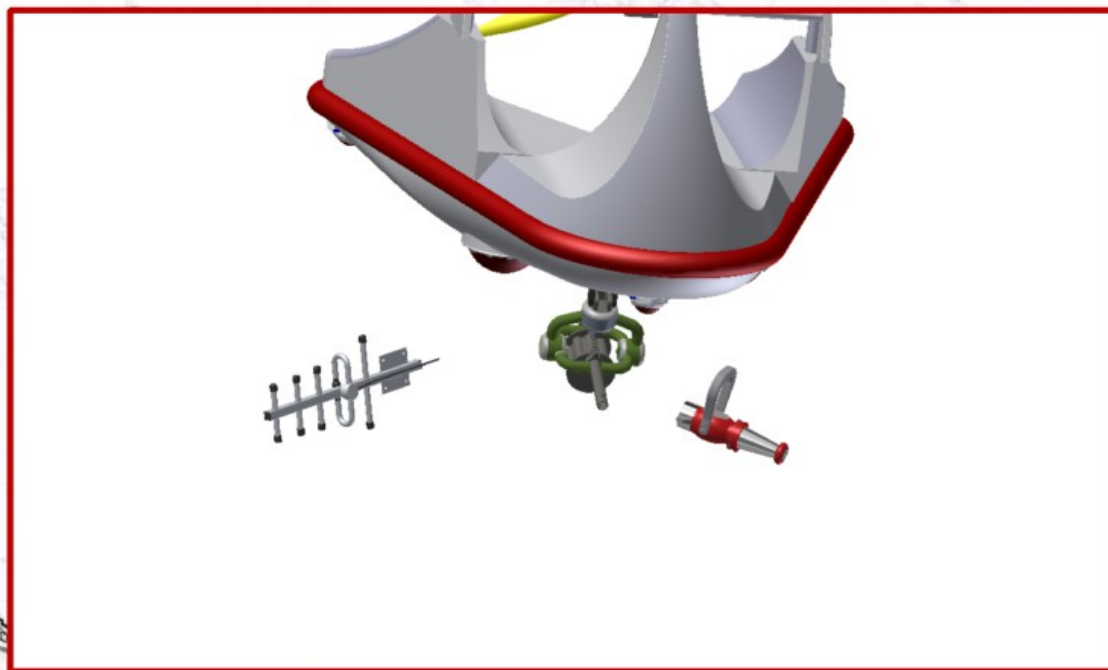
**PORTUGAL**  
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The #1st use ...



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[Video](#)

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