

# SHARPER **SHAPE**

One flight many apps

Delivery Drones



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# Delivery drone is full of advanced technology

Batteries are selected based on the operation requirements

8 electric motors and propellers fly the copter efficiently and quickly also longer distances

Autopilot guides the flight automatically according to flight plan, satellite positioning, and sensor information

Several camera systems deliver real-time information about the flight and surroundings for the safe control of flight

Electric attachment of the parcel ensures safe transport

Communication with the pilot uses simultaneous independent communication channels, making the flight resilient to impairment of a single channel. The connections are end-to-end encrypted for safety.

Laser based sensing of surroundings helps to prevent collisions and increases safety.

# Features of the delivery drone

Feature	Used in pilot	Operative maximum
Flight speed (ground speed)	10m/s (ca. 36km/h)	16m/s (ca. 60km/h)
Flight time	20min	30min (upgradeable to 60min)
Range (two-way)	8km	15-30km
Parcel weight	3kg	5-7kg
Altitude	30-70m from ground	3km from sea level
Maximum wind	6m/s	11m/s



# Human pilot is in charge of safety

The location and status of the flight is displayed continuously and any deviation will trigger an alarm

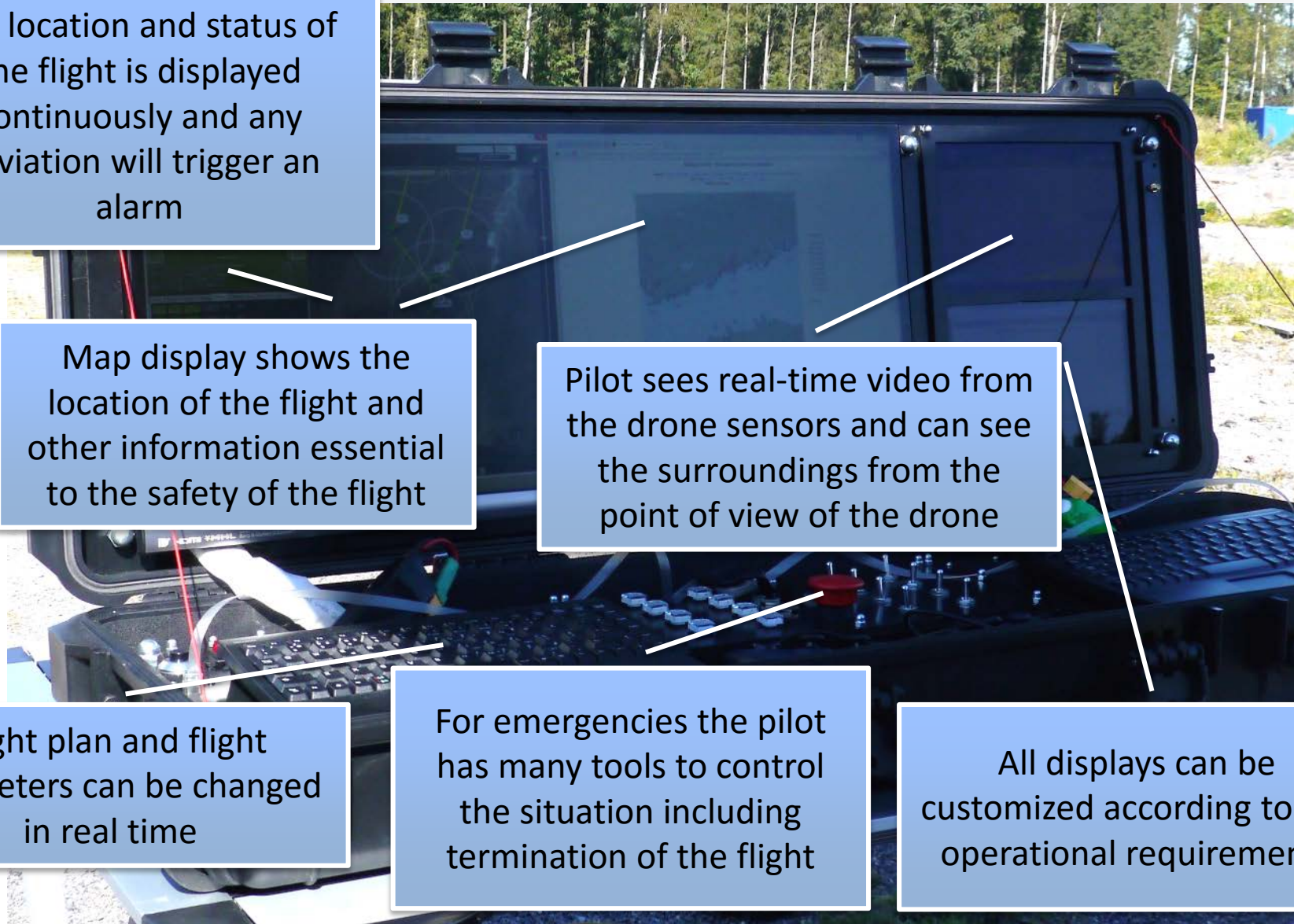
Map display shows the location of the flight and other information essential to the safety of the flight

Pilot sees real-time video from the drone sensors and can see the surroundings from the point of view of the drone

Flight plan and flight parameters can be changed in real time

For emergencies the pilot has many tools to control the situation including termination of the flight

All displays can be customized according to the operational requirements

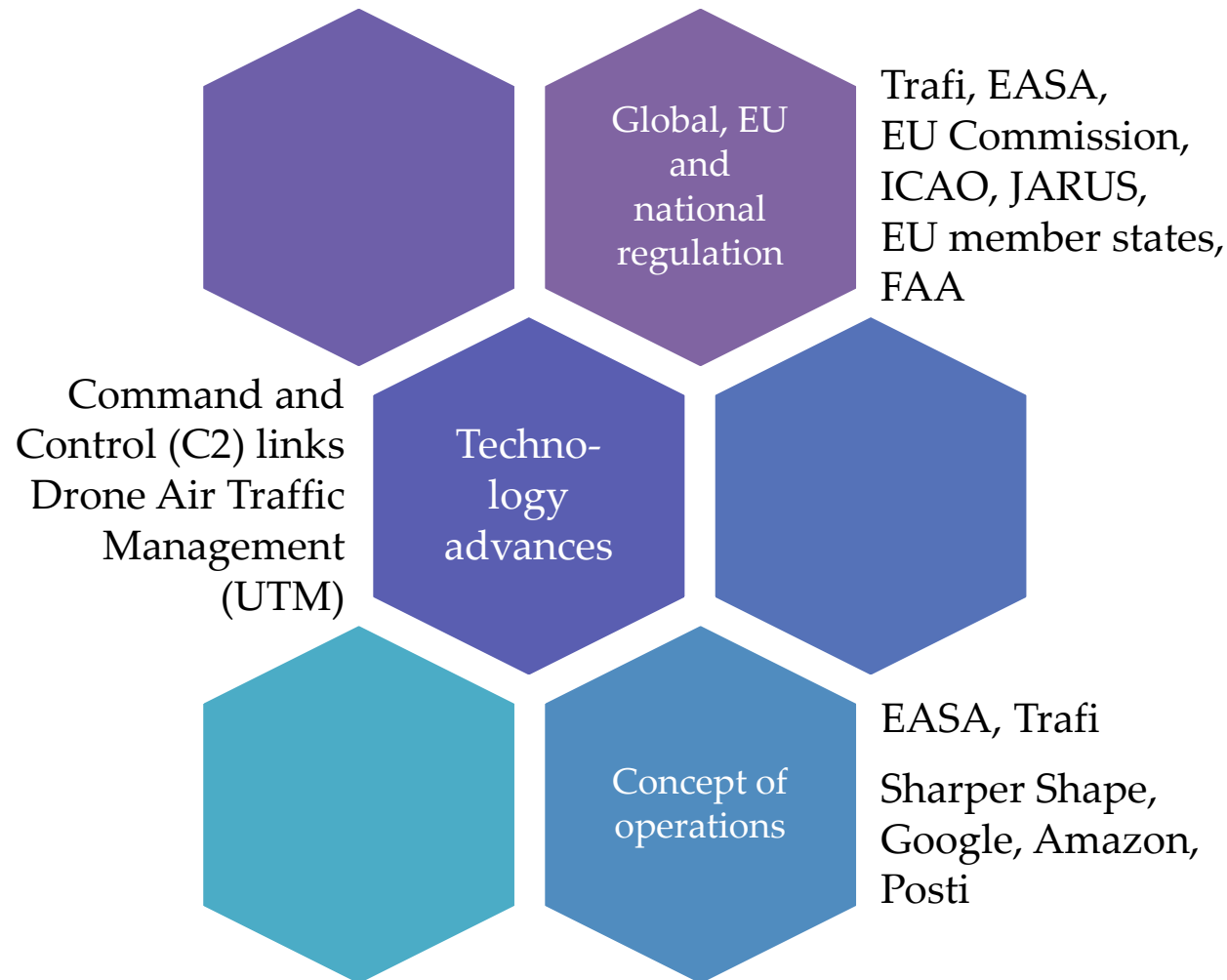




The first has arrived now, what next?



# Common concept of operations, processes and systems in a good co-operation between the authorities and industry



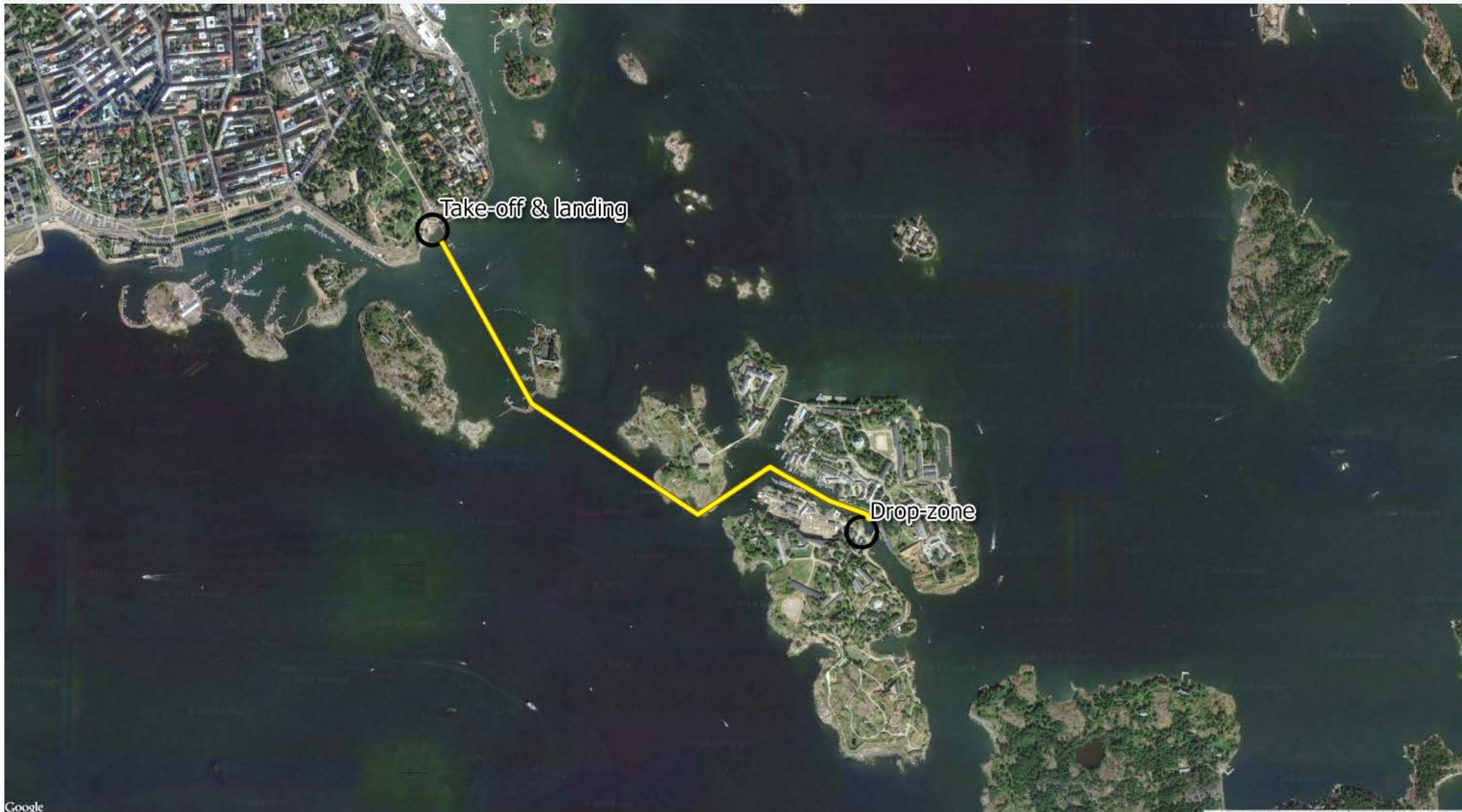
# The world is changing – let's contribute - safely

Efficiency as  
the target

Safety as the  
cornerstone

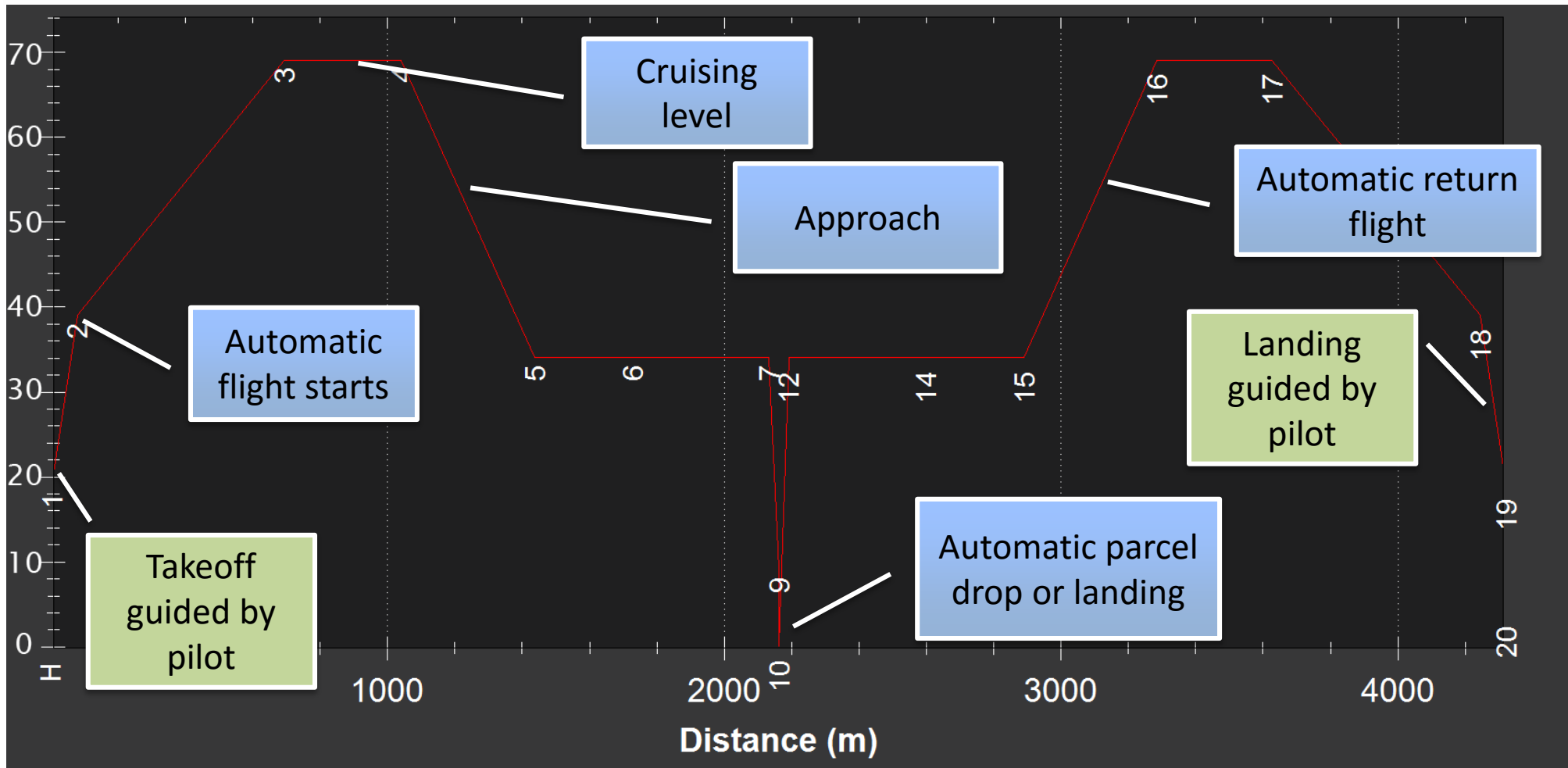


# Flight route Sep 1<sup>st</sup> 2015





# Phases of flight Sep 1<sup>st</sup> 2015





PARCEL IS SOON TO BE DROPPED TO SUOMENLINNA  
Stay tuned. The parcel is already on its way.

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