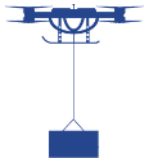
FlyingBasket

Copernicus contributions to safe and efficient drone operations

FlyingBasket has received funding from the European Union's Horizon 2020, research and innovation program under the grant agreement No. 876828

FlyingBasket Cargo Drone Operations



SORA Ground Risk Assessment

- Within SORA process ground risk of drone operation assessed
- Operational area categorised as controlled, sparsely populated, populated areas and assemblies of people
- Various maps can be used to substantiate the categorisation (qualitative)
  - Classic maps showing infrastructure and build-up areas
  - Satellite images
  - Population density maps

Maps for Ground Risk Assessment

- One process (maps and methods) for ground risk assessment useable in all EU countries to allow consistent application of drone regulation in all member states

Enabler for a thriving single European drone service market!

Copernicus can support with

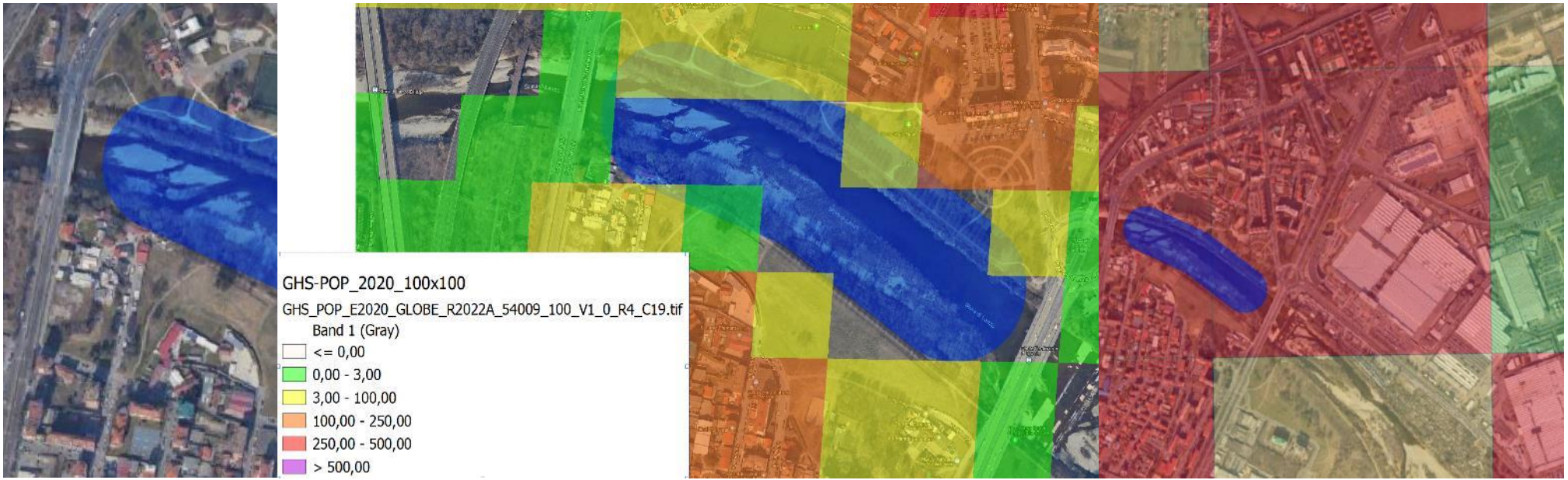
- Dependable maps with consistent data sets across Europe
  - Population density data
  - Land usage maps
  - High resolution satellite images

Maps for Ground Risk Assessment

- Future drone regulation probably more specific regarding exposure of people to drone
  - ➔ Land use maps with two types of ground risk levels
    - People outdoors - exposed to all drones
    - People indoors - exposed only to big drones (assumption to be aligned with EASA)

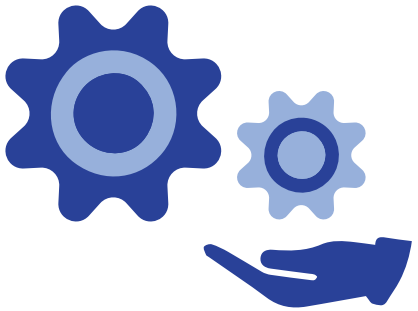
- Using current population density maps is too simplistic (e.g. less people in residential area during working days)
  - ➔ Population density maps that are dependent on time of day and season

Required Map Resolution



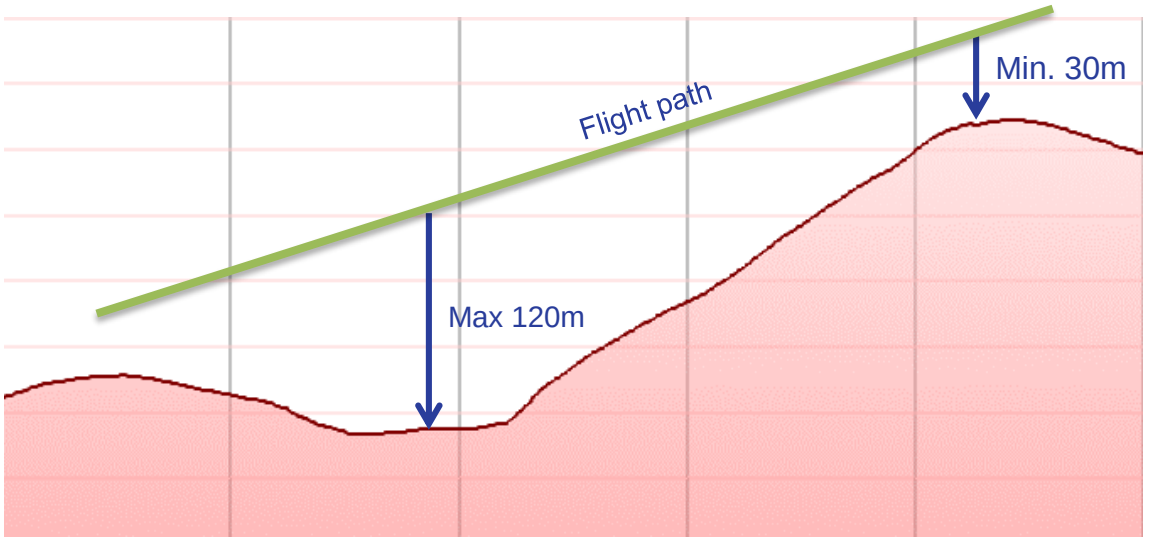
- Maps for quantitative (automated) assessment of ground risk need to have high resolution to enable operations in complex urban environment
- Only fine raster (10-30m) shows small areas of lower population density

Mission Planning



Copernicus adds value to mission planning!

- Digital surface model and 2.5D/3D maps with ideally 1m accuracy for flight path planning
- Climate data for mission planning, assess probability of suitable conditions (wind / rain)
- Update rate of maps 3-12 months
  - ➔ The newer the map the lower risk of mission cancellation



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The future of transportation is now.

Enrico Fermi 27, Bolzano, Italy
+34 660 979861
info@flyingbasket.com