



Airborne Sensor Data

Gunnar Schwoch, Fabian Morscheck

German Aerospace Center (DLR)

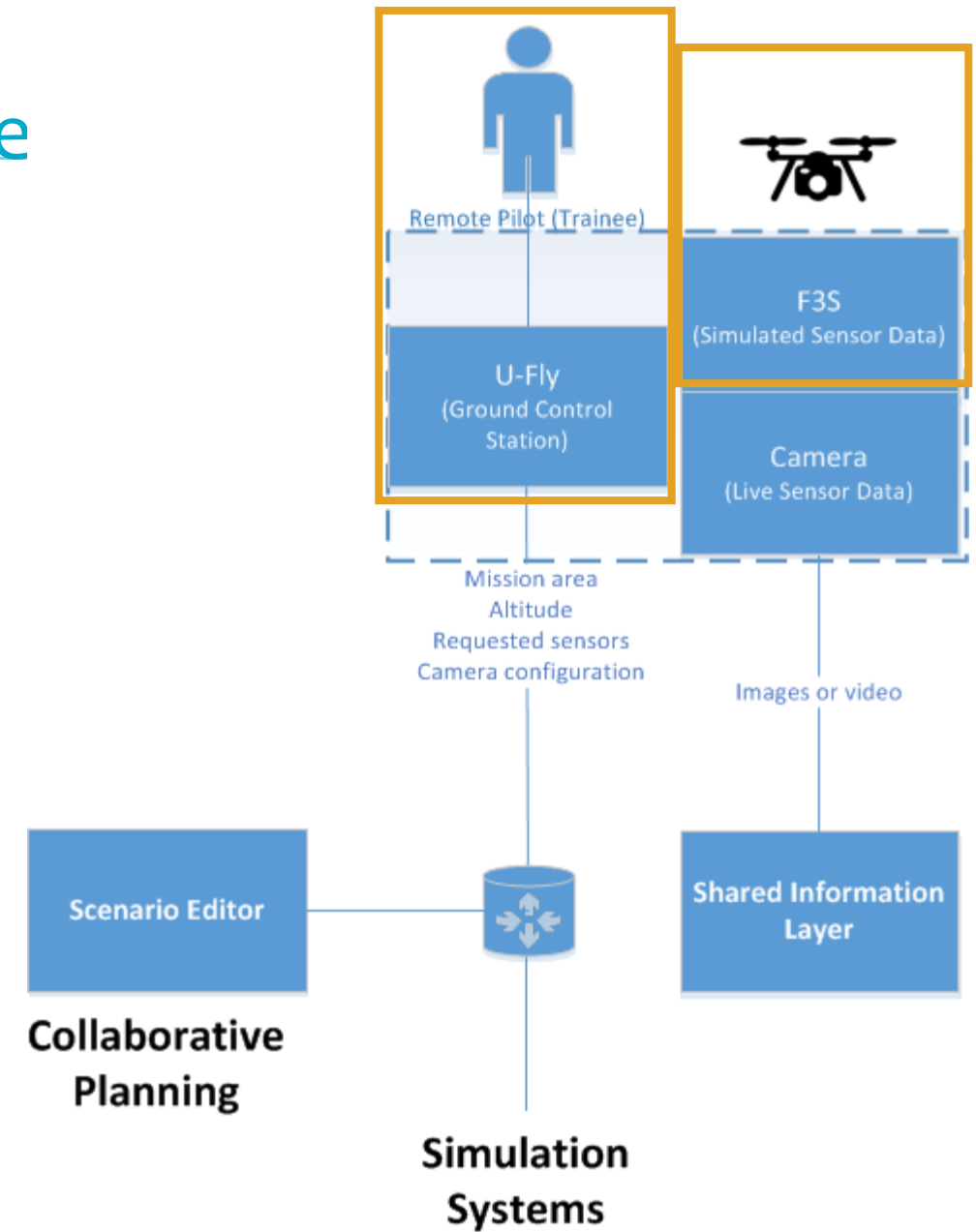


Connectivity

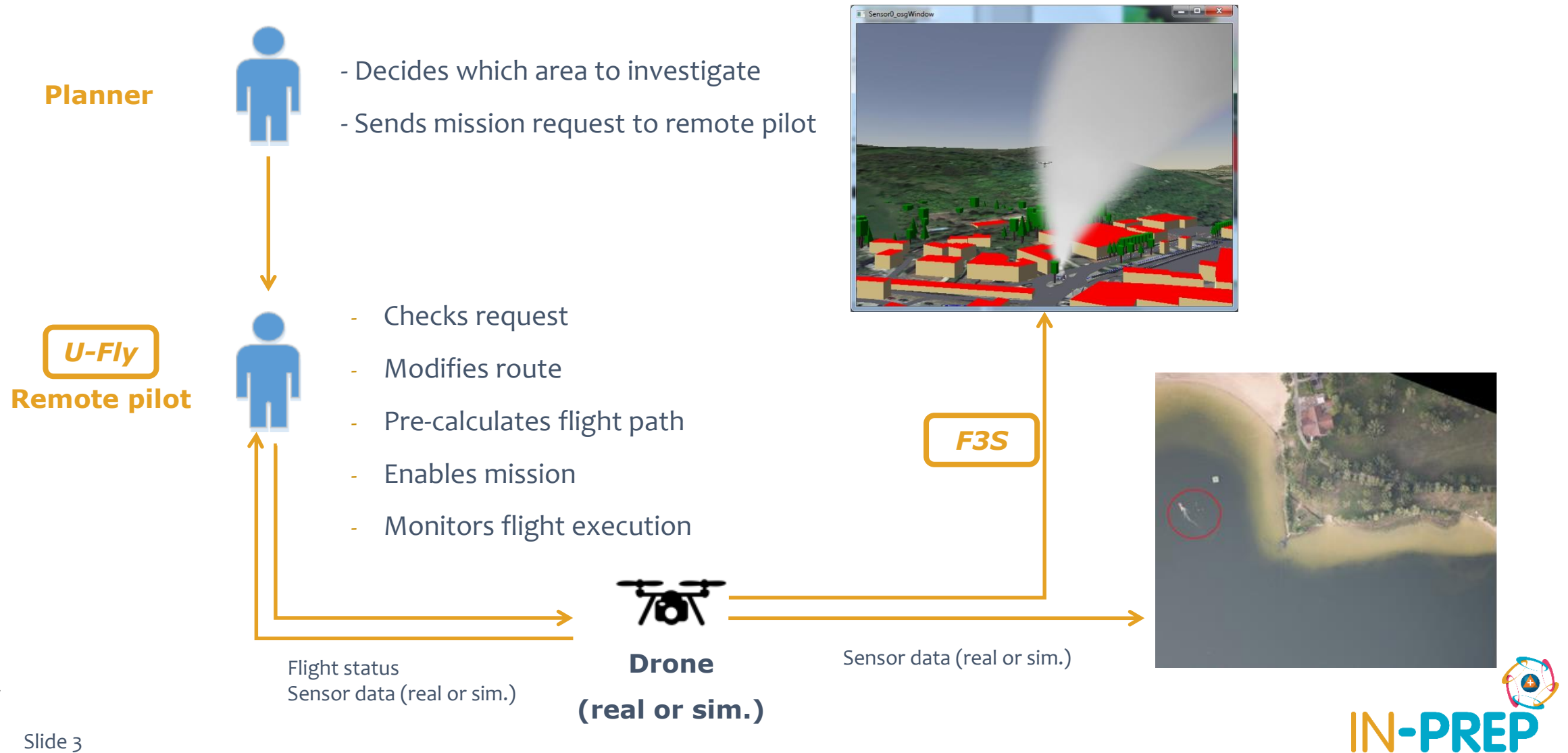
According to system architecture

- In TTX1: Usage of simulated drone and F3S as sensor data provider

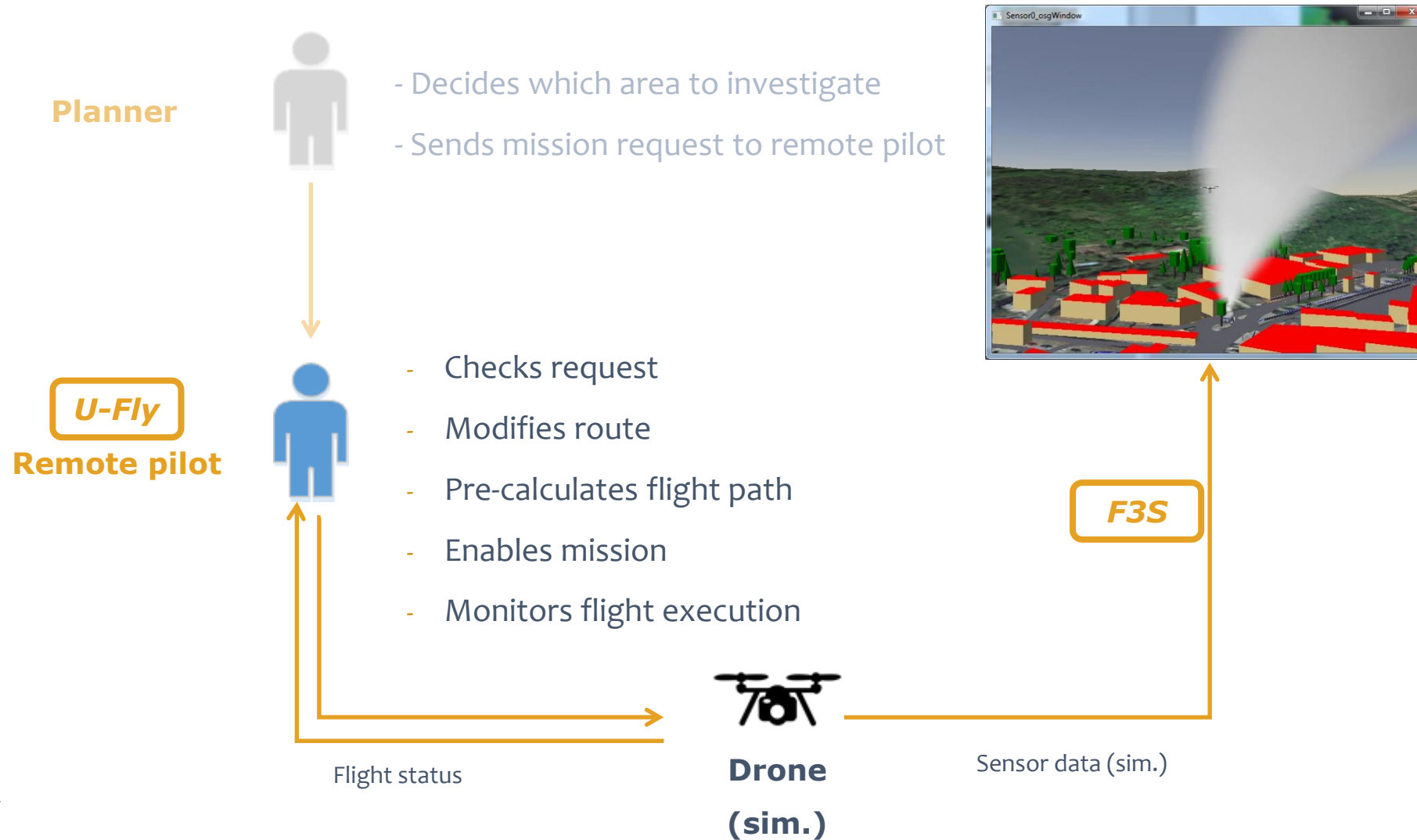
→ Demos will be with “real” drone and camera



Workflow

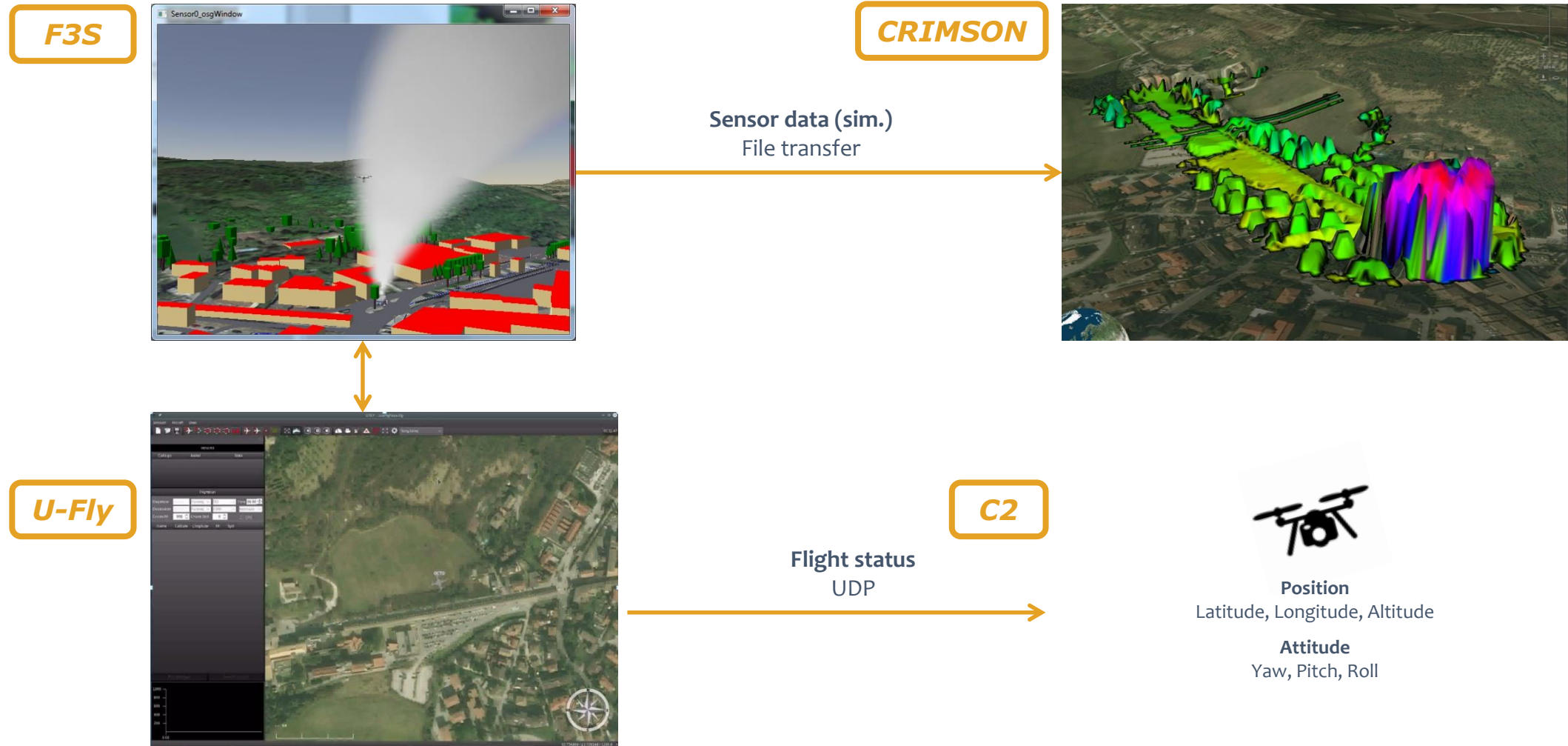


Workflow in TTX1



Workflow in TTX1

Export to partners



Step 1: Flight planning in U-Fly

Flightplan					
Departure	Airport	Runway	SID	Time	00:00
Destination	Airport	Runway	STAR	Approach	
Cruise Alt	1200	Cruise Spd	10	CAS	
Name	Latitude	Longitude	Alt	Spd	
WP1	42.73360	12.72830			
WP2	42.73320	12.72850			
WP3	42.73360	12.73050			
WP4	42.73370	12.73090			
WP5	42.73390	12.73080			
WP6	42.73380	12.73050			
WP7	42.73360	12.73050			
WP8	42.73280	12.72570			
WP9	42.73210	12.72580			
WP10	42.73360	12.72830			
WP11	42.73360	12.72830			
WP12	42.73360	12.72830			



Input

Manual flight planning

Prepared KML file/waypoint list from file server

Mission request via network (UDP)

Output

KML file flight plan (see right)

(Future releases: direct embedding)

```
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<kml xmlns='http://www.opengis.net/kml/2.2'>
<Document>
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    <LineStyle>
      <color>ff00aa00</color>
      <width>3.1</width>
    </LineStyle>
    <PolyStyle>
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    </PolyStyle>
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    <PolyStyle>
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    </PolyStyle>
  </Style>
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      <key>normal</key>
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    </Pair>
    <Pair>
      <key>highlight</key>
      <styleUrl>#path0</styleUrl>
    </Pair>
  </StyleMap>
  <Placemark>
    <name>Path</name>
    <styleUrl>#path1</styleUrl>
    <LineString>
      <extrude>1</extrude>
      <tessellate>1</tessellate>
      <altitudeMode>relativeToGround</altitudeMode>
      <coordinates>12.7283,42.7336,0 12.7285,42.7332,50 12.7305,42.7336,50 12.7309,42.7337,
        12.7257,42.7328,50 12.7258,42.7321,50 12.7283,42.7336,0 </coordinates>
    </LineString>
  </Placemark>
</Document>
</kml>
```

Step 2: Copter flight management system (CFMS) computes trajectory



Input

KML file from U-Fly
(Future releases: direct embedding)

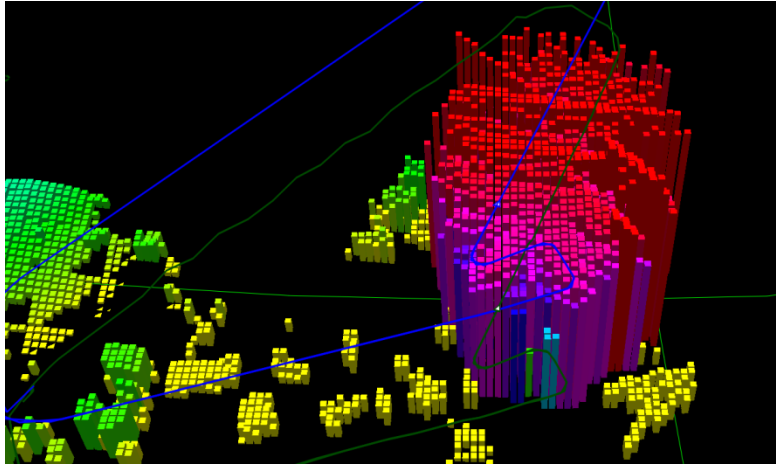
Output

KML file trajectory (see right)

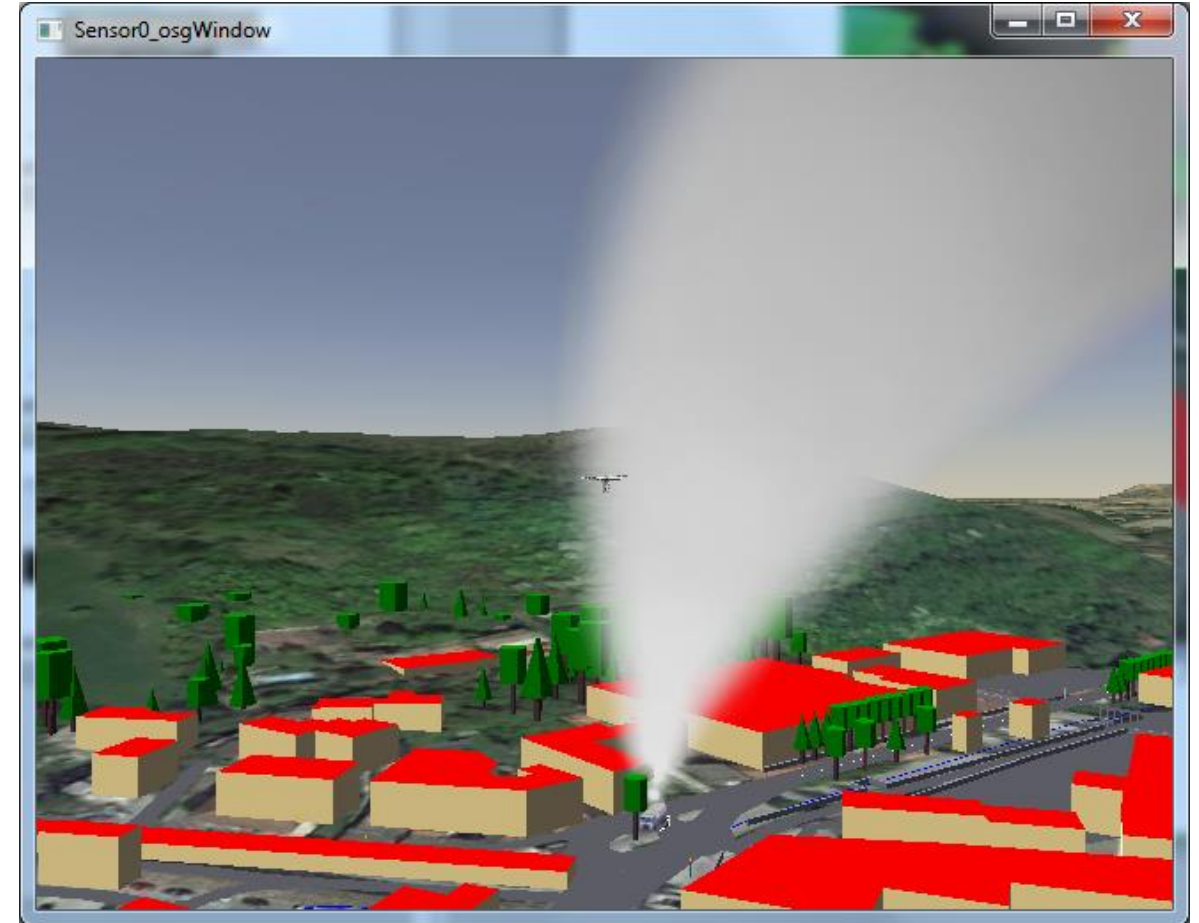
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<?xml version='1.0' encoding='UTF-8'?>
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    <name>OCTO</name>
    <Placemark>
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      <LineString>
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        <tessellate>0</tessellate>
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        <coordinates>
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          12.728300000000000,42.733600000000000,0.100000<?AtTime 0.100000 ?><?Bank 0.000000 ?>
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          12.728300000000000,42.733600000000000,1.700000<?AtTime 1.700000 ?><?Bank 0.000000 ?>
```

Step 3: Sensor data simulation

Lidar



Optical



Input

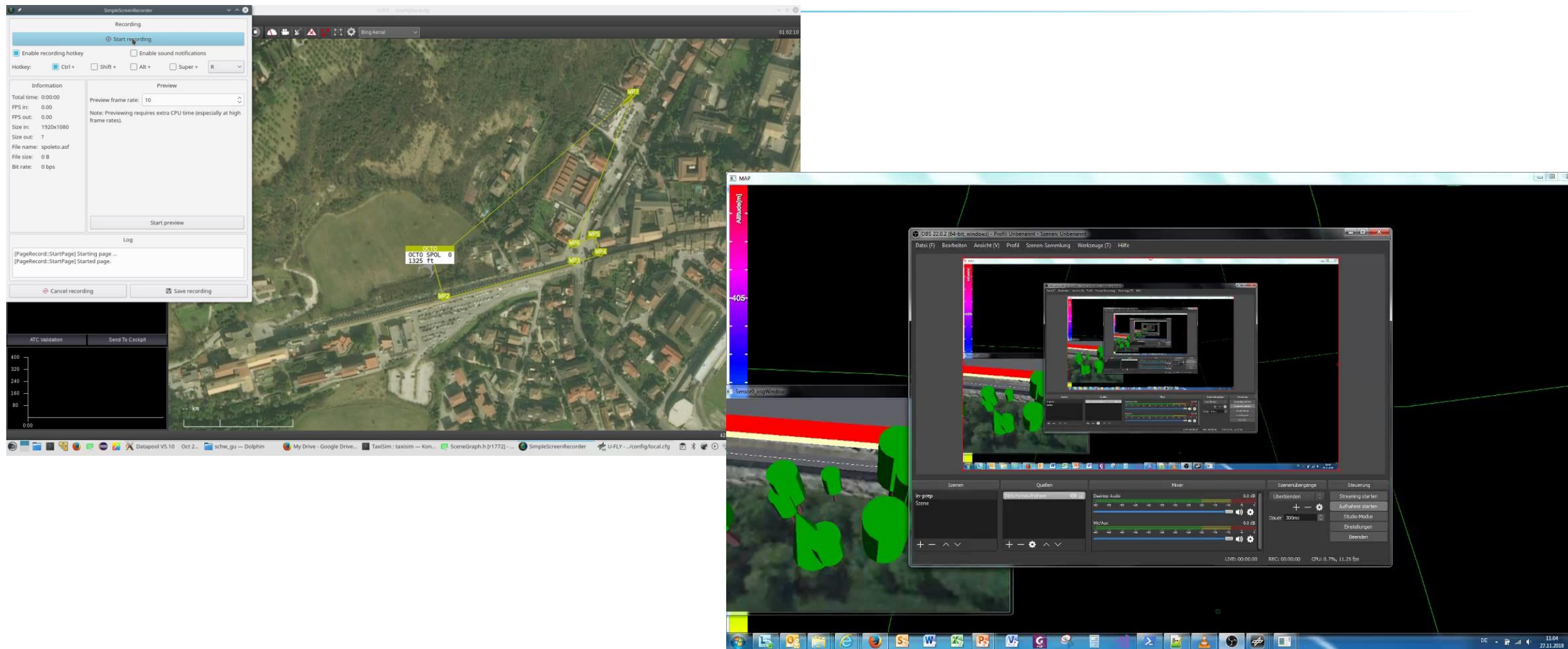
KML file trajectory from CFMS (replayed)

Output

Optical/radar/lidar sensor data via

- File (shared folder)
- Network

Step 4: Monitoring in U-Fly and F3S





**Thank you for
your attention**

Any questions?

Gunnar Schwoch
Fabian Morscheck

German Aerospace Center (DLR)

✉ Gunnar.Schwoch@dlr.de

✉ +49 531 295-2582

✉ Fabian.Morscheck@dlr.de

✉ +49 531 295-2543