



# **Aeronautical Information Service**

## **for uncontrolled aerodromes**

Mandatory Information for flights to / from uncontrolled aerodromes:

- Location / Coordinates (aerodrome reference point)
- Runway direction
- Runway length & landing distance available
- Runway condition (asphalt / concrete / grass / etc.)
- Runway PCN (Pavement capacity number)
- Obstacle information

Additional Information necessary for planning of flights to / from uncontrolled aerodromes:

- Operating Hours
- Ground Services
  - Fuel availability
  - Fire Fighting
  - Repair service
  - Handling

Additional Information necessary for of flights to / from uncontrolled aerodromes:

- Communication
- Landing aids
  - Wind direction indicator
- Weather information
- General condition of the aerodrome
- Other information like birds, animals / persons in the vicinity or at the aerodrome

Primary source of information for uncontrolled aerodromes:

- State Aeronautical Information Publication (AIP)
  - State mandate towards the aerodrome owners / operators to publish as per end user requirements (ICAO)
- NOTAM (Notice to Airman)
  - Changes to the State AIP (not published yet)
  - Temporary changes of significant nature

## Primary source / State AIP:

- No information at all
- Outdated Information
- Incomplete Information
- Erroneous Information
- Accuracy requirements not met
- Limited NOTAM information available

Secondary source of information for uncontrolled aerodromes:

- Commercial Providers of Route (VFR) Manuals
  - Paper based
  - Electronically available

## Secondary source / Commercial Route Manuals:

- Source of Information is the State AIP
- Improvement of data which might not meet the requirements
- Commercial / \$\$\$ issues
  - No General Aviation requirements



## “Conventional” Survey of data / information **by the State:**

- Cost intensive
- Recurrent surveys necessary
- No return of investment
- Concentration on International / IFR aerodromes

## “Conventional” Survey of data / information **by the operators / end users:**

- Cost intensive
- Recurrent surveys necessary
- No return of investment
- Legal issues
  - Aeronautical data ownership
- Publication of Information (necessity of storage / publication SW / HW)

Survey of data / information with **Satellite images** by the operators / end users:

- Cost intensive (500 – 1200 \$ per image)
- Recurrent surveys necessary
- Legal issues
  - Aeronautical data ownership
- Survey SW / HW necessary
- Storage / publication SW / HW necessary

Survey of data / information with Satellite images by the operators / users:

- Availability of aeronautical data / information
  - Location
  - Runway designation
  - Runway length
  - Obstacle location / height

Survey of data / information with **Satellite images** by the operators / users:

- Non Availability of aeronautical data / information
  - Runway condition
  - Runway PCN (Pavement Capacity Number)
  - Obstacle type / markings / light

Survey of data / information with **Satellite images** by the operators / users:

- ➔ Non Availability of aeronautical data / information
  - Operating Hours
  - Ground Services (Fuel, Fire Fighting, Repair, Handling)
  - Communication
  - Landing aids
  - Weather information
  - General condition of the aerodrome

Combination of **conventional and satellite** based survey of aeronautical data and information:

- Geo reference / ground based data by satellite images
- On-site survey of additional information

Assistance / provision of conventional and satellite based survey of aeronautical data and information to the State:

- Data / information to be included in the State AIP
- Legal status / government liability
- Benefit to other users



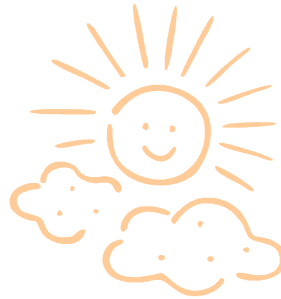
Change of VFR to IFR with the availability of aeronautical data and information:

- GNSS/RNAV Procedures:
  - Less Maintenance
  - More Safety
  - More Payload Capacity
- Therefore:
  - Better Terrain Data
  - Better Obstruction Data
  - Better Aeronautical Data needed

# Thank you!



**Frankfurt am Main**



## Thank your for your attention!

# Questions?



**Friedrichshafen/Konstanz**



**Bratislava**

### Contact

**Steffen Kovacs**

**Avitech GmbH**

**Strahlenberger Weg 6**

**D-60599 Frankfurt / Main**

**Germany**

**Phone: +49-691-60 60 98 94**

**Mobil: +49-179-789 54 59**

**Steffen.kovacs@avitech.aero**

**www.avitech.aero**

- Premier provider of geospatial data
- Diverse constellation of satellites
- Very high resolution satellite imagery:

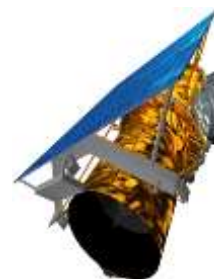
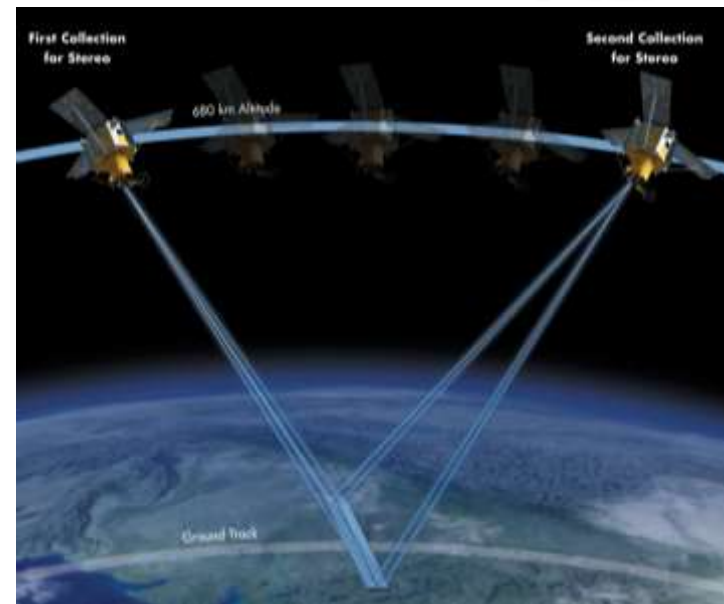
- **IKONOS**

- GSD: 0.82 m panchromatic
  - 3.2 m multispectral

- **GeoEye-1**

- GSD: 0.41 m panchromatic
  - 1.65 m multispectral

GSD: Ground sample distance (spatial resolution)

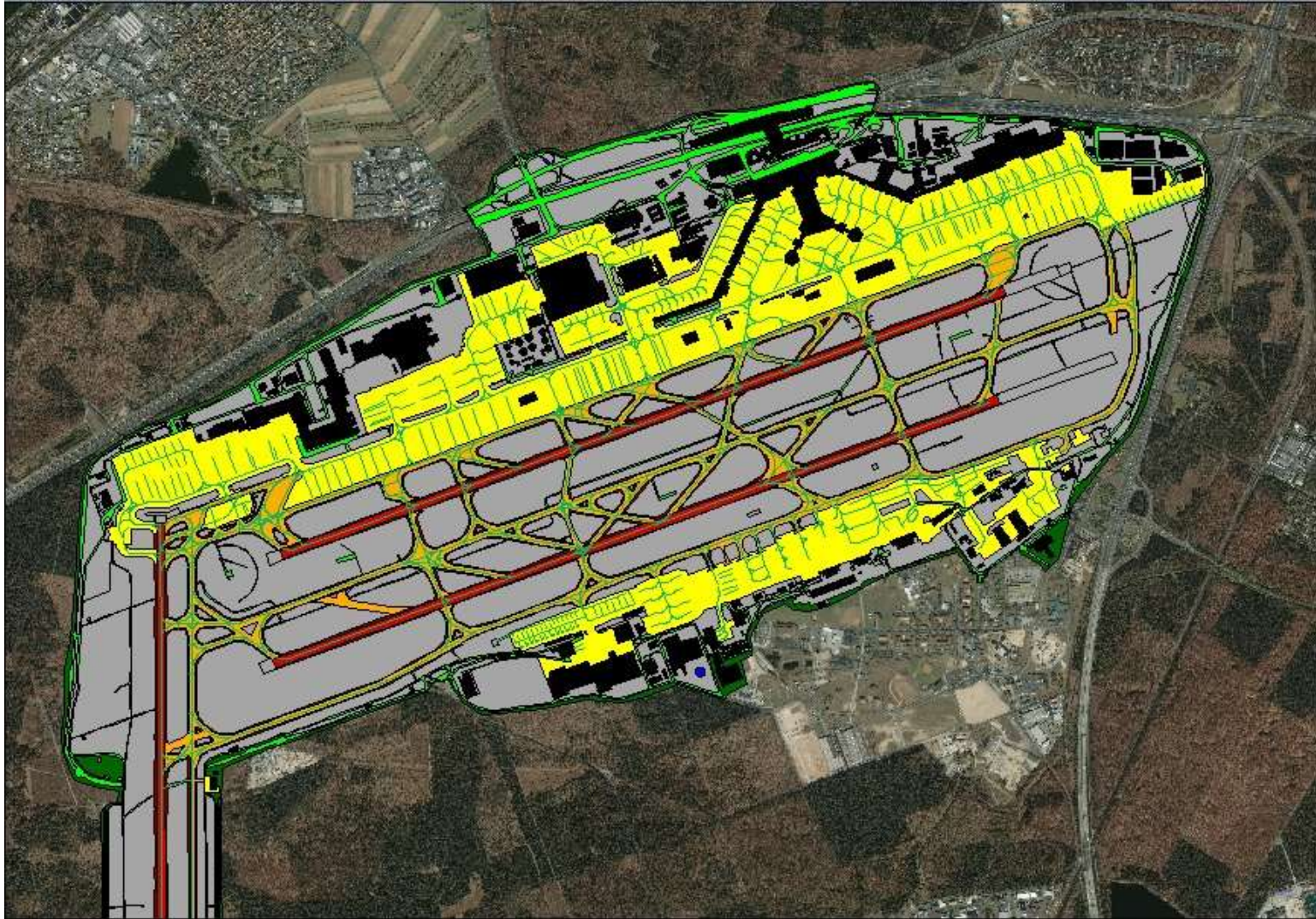


# Example: GeoEye 0.5 m Color





# Example: AMDB



## LiDAR (Light Detection And Ranging)

- Determination of the distance to an object or surface by the use of laser pulses
- Determination of 3D coordinates

