

# AGRICULTURE

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business  
incubation  
centre  
Madrid Region





# PROBLEM / OPPORTUNITY

## Agriculture sector needs to boost productivity. How?

New arable land



Irrigation Optimization



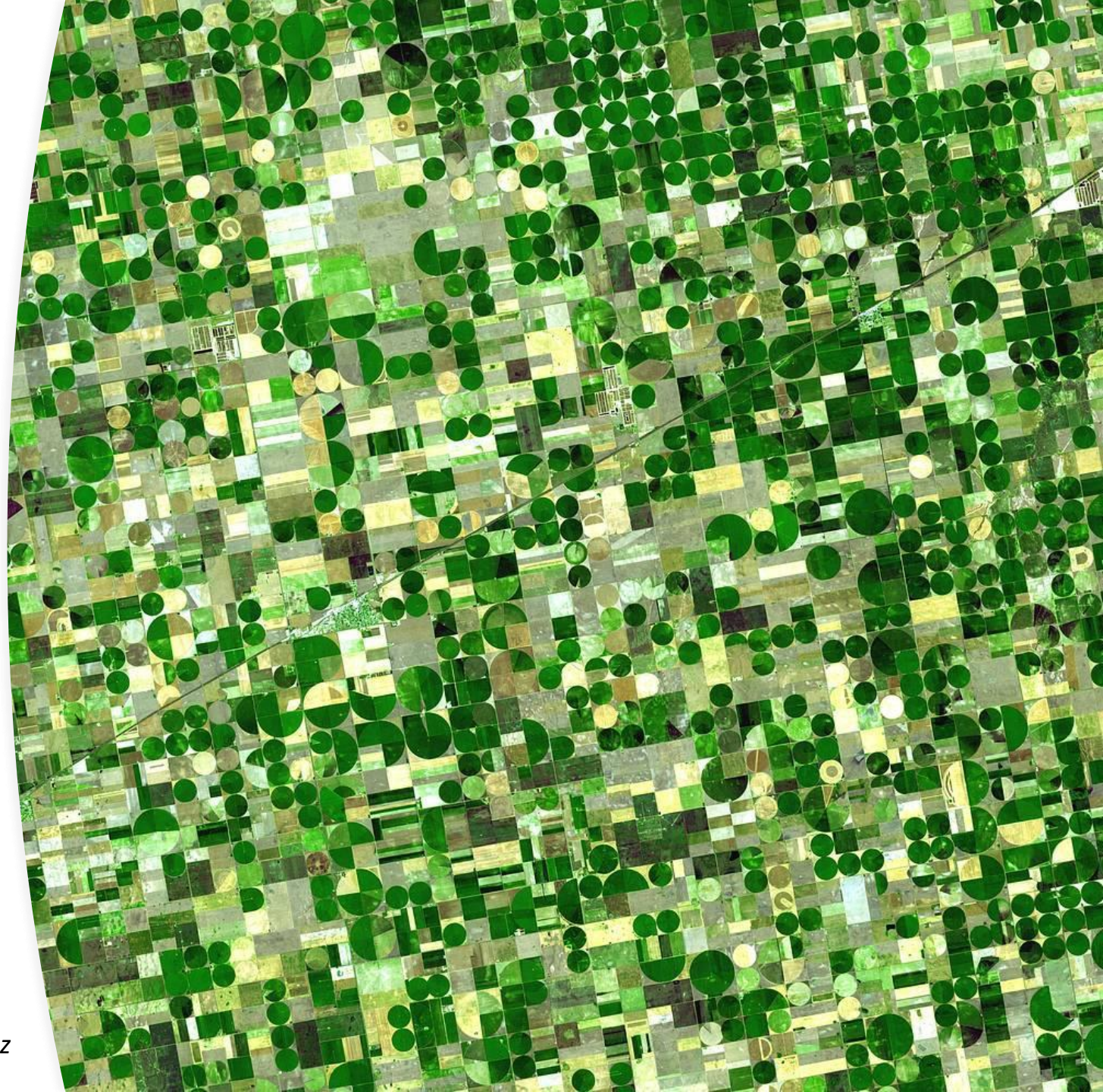
Nutrition / Fertilization



Biotechnology



**Digitization**







# PROBLEM / OPPORTUNITY

## EU's common agricultural policy (CAP)

**Regulatory change.** Implementing Regulation (EU) 2018/746 modifying the monitoring of compliance with the Common Agricultural Policy compulsory as from 2021

**Very large monitoring areas.** 100% of the cases and fields monitored by remote sensing (currently 5%). To be increased from 300,000 to 5,000,000 ha. / year.

**Spatial resolution, spectral and consistency requirements very difficult to obtain with satellites or drones alone.**





## smartHAPS (High Altitude Pseudo-Satellite)

Lighter than air vehicle with good-enough satellite capabilities:

- **Enough altitude** (20 km) to cover wide areas of interest (AOI).
- **Autonomous** and powered by solar energy.

And important advantages:

- **Persistence.** Continuous monitoring of an AOI for weeks or months.
- **Very High Spatial resolutions**, x25 closer than satellites.
- **Recoverable** for maintenance and upgrades.



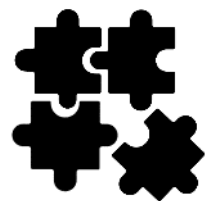
An aerial photograph showing a patchwork of agricultural fields and forests. The fields are rectangular and show various stages of crop growth, with some appearing as light brown (plowed) and others as green (growing). The forests are dense and green, interspersed among the fields. The overall image has a slightly faded, artistic quality.

# smartHAPS for AGRICULTURE & FORESTRY

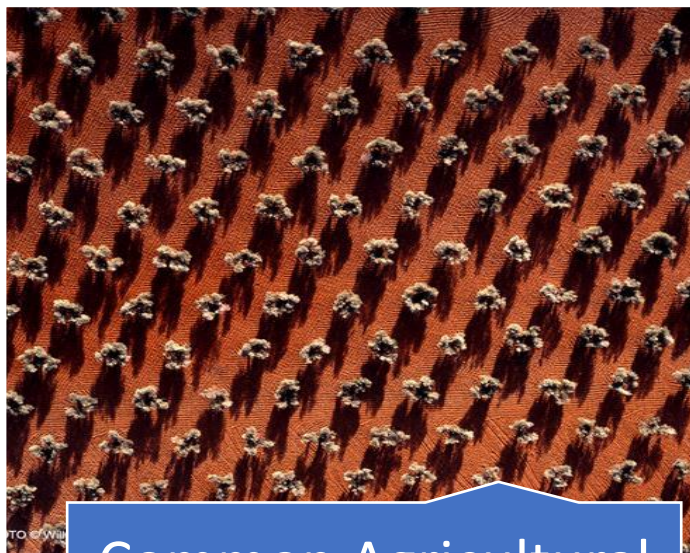
A small HAPS with a hyperspectral imager can become a **powerful solution for agriculture, forestry and land use surveillance**:

- Monitor wide areas: Up to 20x20 km frames.
- *Detect & measure small objects. i.e., woody crops*
- *Very high sensitivities: 1000-100,000x more SNR than satellites.*
- Tracking highly dynamic processes (e.g., daily repetition cycles for precision agriculture).

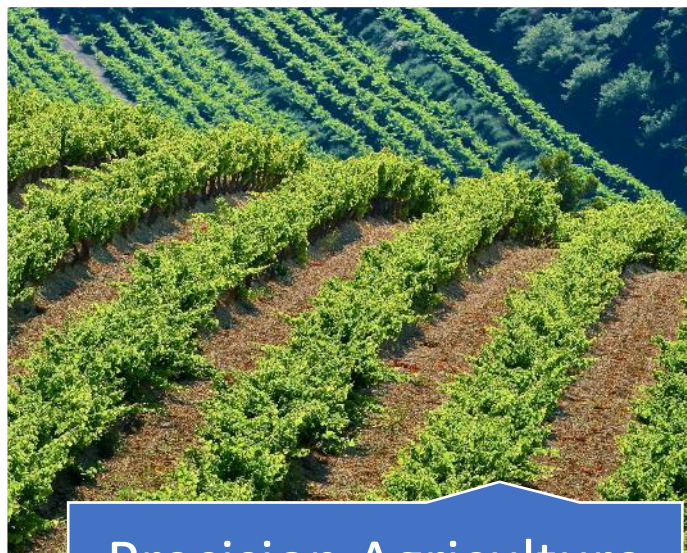




# APPLICATIONS



Common Agricultural  
Policy Monitoring



Precision Agriculture  
& Forestry



Wild Fires prevention

# LOOKING FOR:

- ✓ Collaborations with sensors developers for joint projects
- ✓ Sensor developers interested in qualified their instruments with stratospheric ballons







Thank you!

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