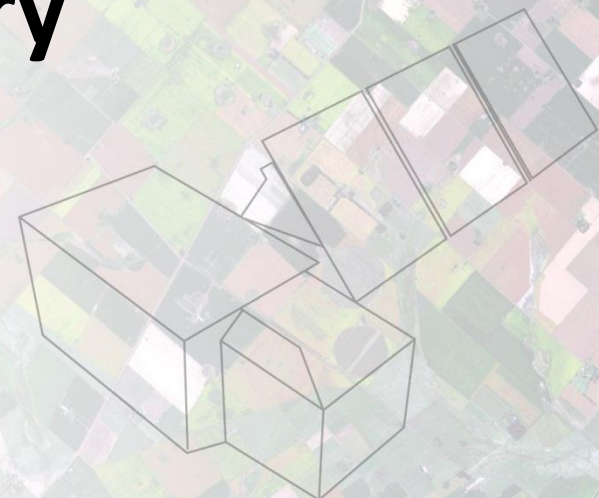


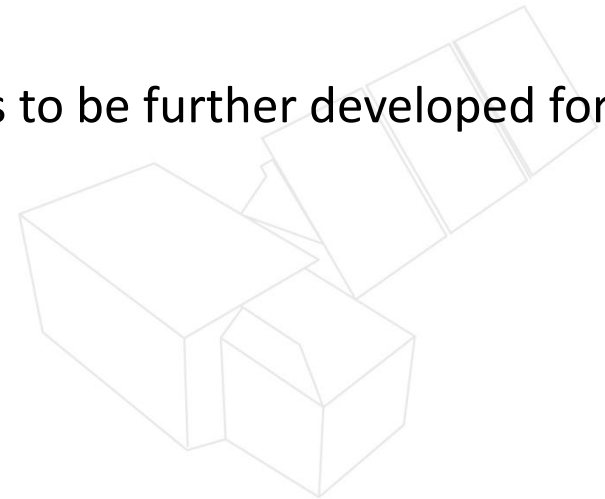
→ **SENTINEL-2 FOR SCIENCE WORKSHOP**

Session Summary

Agriculture



1. It is recognized that **Sentinel-2 will provide a major contribution to agricultural monitoring applications as a whole**
2. Sentinel-2 is the first satellite with the potential to provide
 - detailed mapping products suitable for most agricultural landscapes
 - both yield and area components of agricultural production
3. **Integration of Sentinel2 and Landsat-8 capacities** (through cross-calibration and inter-operation) will better match temporal requirements of agricultural monitoring
4. **Combination of Sentinel 1 and 2 (SAR +optical)** needs to be further developed for operational monitoring over cloud-covered areas



5. **Agricultural mapping** : to improve consistency and comparability of products, S2 based mapping products should adopt existing standards such as inter alia a LCML/UML for cropland
6. **Crop Model and Yield forecasting**: the provision by S2 of crop specific bio-parameters is an essential asset. The assimilation of S2 time series in crop growth (or hydrological) models will need adaptation to take full benefit of spectral and temporal characteristics leading to a new generation of crop models
7. **The Free, FULL and Open access to S2** is an asset for regional-global crop monitoring application but also for many downstream innovative services (advisory, precision farming, irrigation, insurance...)
8. **A free and open agricultural field reference dataset** is needed to facilitate operational use of global sensors, including Sentinel-2

9. **Research opportunities** requiring further investigations

- Development of innovative indices and biophysical parameters (eg. carotene, chlorophyll, nitrogen) taking benefit of the spectral (and temporal) characteristics of S2
- Evapotranspiration is a key parameter in agriculture, this requires a thermal band, not available on S2.
- Compatibility and fusion with other data/sensors at different resolutions (VHR, HR, MR, LR) within specific contexts and applications (complex landscapes, soil moisture, etc)
 - non limitative list

10. L2 dedicated tool boxes are very welcome by GEOGLAM community. S2 operational use will generate huge datasets and “pseudo NRT” products combining current information time series and archive.
11. “Hosted” post-processing platforms on agriculture may be needed to ensure a wider exploitation of the sensor.
12. L3 services should be further considered to facilitate access and use of S2 by downstream applications.

