



PEPS

French Access to Copernicus Space Data

What's PEPS today

3 main functions:

- ❖ **"Mirror site" of ESA hubs providing access to Sentinel 1, 2 and 3 products**
 - Automatic download to multiple ESA hubs in parallel (delay <48h)
- ❖ **Processing workshop allowing "first level" treatments, results visualization and products downloading**
 - New version released in June 2018 and progressively enriched
- ❖ **Incubation of relatively "mature" processing chains for "scale" validation**
 - 5 companies hosted on the CNES computer center

Active treatments in PEPS

- **Several standard tools (streaming visualization, NDVI, color compositions...)**
- **Dedicated treatments required by some users**
- **2 flagship treatments**
 - Orthorectification of S1 products vs the S2 grid
 - S2 ground reflectance using MAJA (available since beginning of October...)
 - At first: unitary processing,
soon available: multirate processing
 - In progress: soil moisture product mixing S1 and S2 data

PEPS link with Thematic Data Centers

❖ **MUSCATE environment uses PEPS catalog and access directly to the products**

- For Theia (Land Surface Thematic Data and Services Center)
 - systematic MAJA processing over France, north Africa...
 - + snow detection, monthly L3A synthesis, land cover...
 - <http://www.cesbio.ups-tlse.fr/multitemp/?p=14600>
- For Form@ter (Solid Earth Thematic Data and Services Center)
 - systematic interferometry processing over large areas

❖ **SPOT archive**

- Provide access to SPOT data to complete multirate Sentinel2 series (SWH processing)

Data storage

- ❖ Volume of stored data
 - ❖ ≈ 7.5 PB - around 4 PB in line
 - ❖ 10,458,000 products
- ❖ Time estimation to fulfill existing storage capacity: around 18 months (available: 14 PB)
- ❖ Logic for storage:
 - ❖ Oldest data are transferred to tape storage devices (longer delay for data retrieving)
 - ❖ Sentinel-3 products are systematically transferred after a few days
- ❖ Easy upgrade for storage capacity if needed
- ❖ Good margin in the capacities dedicated for users processing

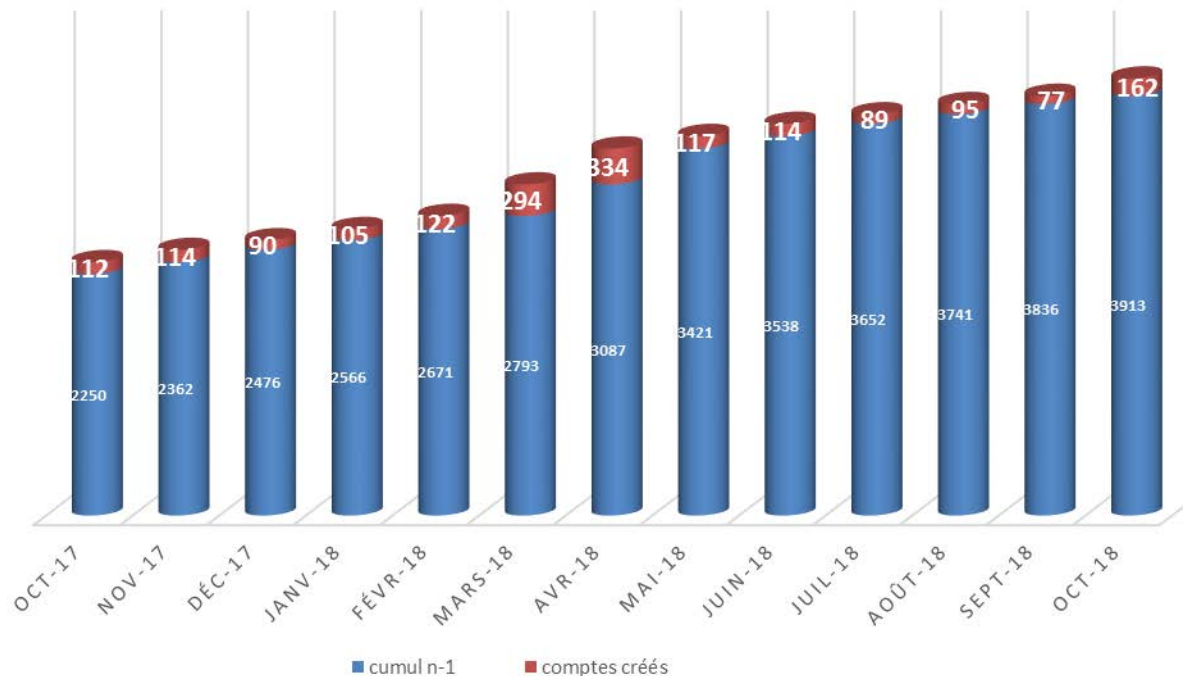


PEPS

Some statistics

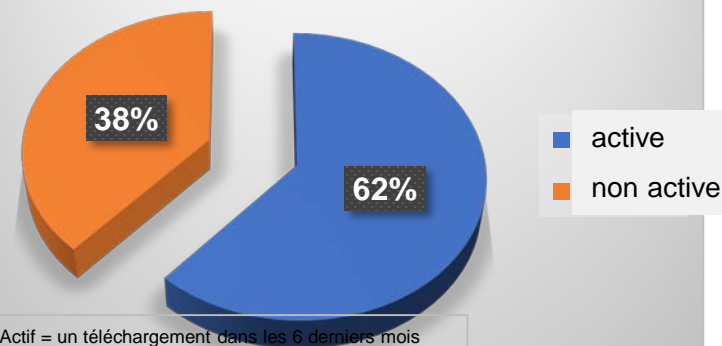
❖ Stable increase of registered users

Users registration evolution



4075 registered users
(french users: 60.2%)

Active/non active users



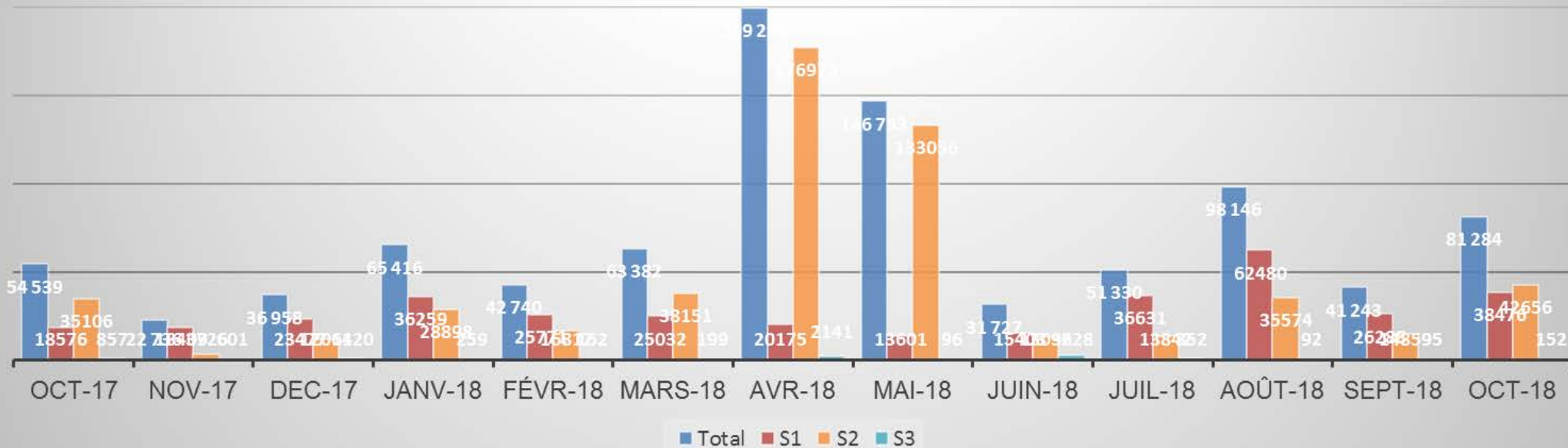
❖ Increase of the distributed data volume (but very irregular)

- 2018 vs 2017: x2



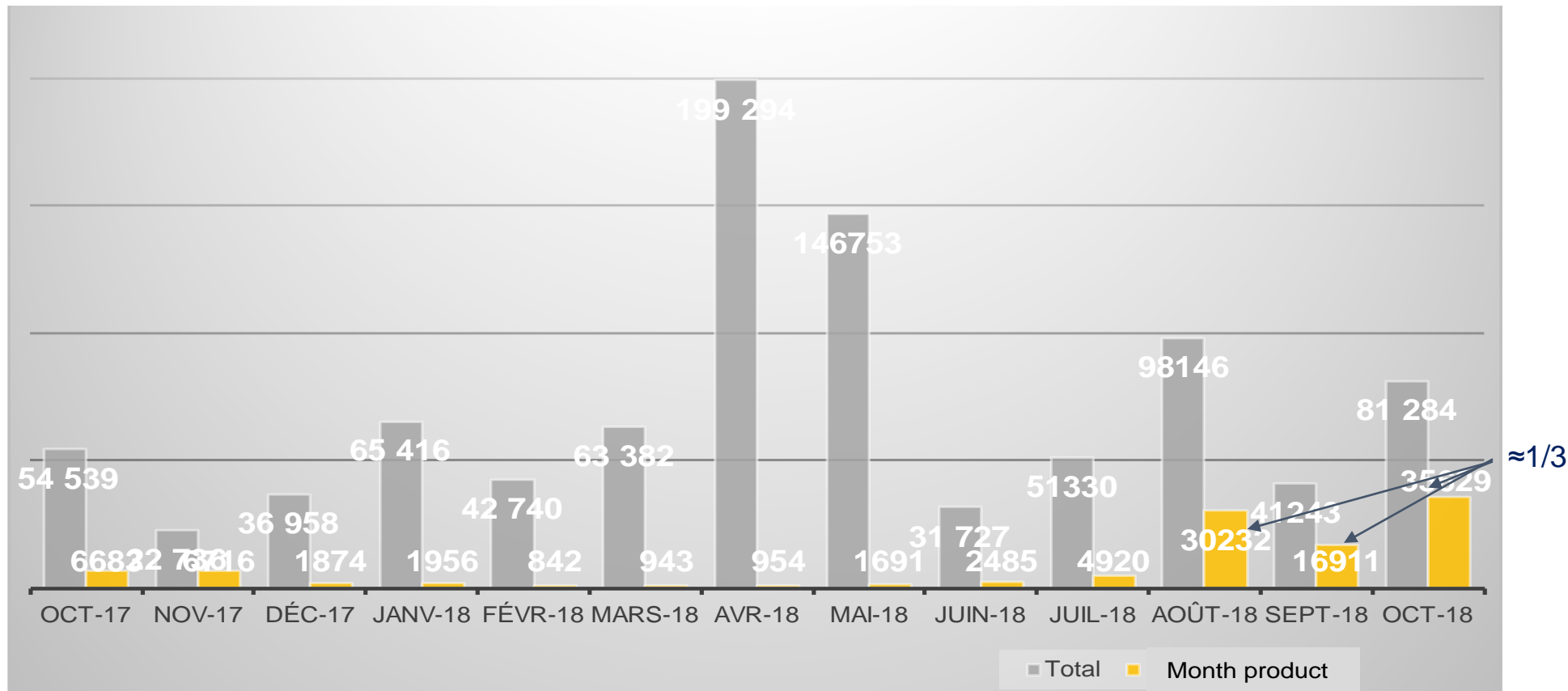
❖ Which is the 'top' Sentinel?

Number of distributed products for each Sentinel



60% S1 – 40% S2 - <1% S3 (huge download of S2 products par Google in april/may!!)

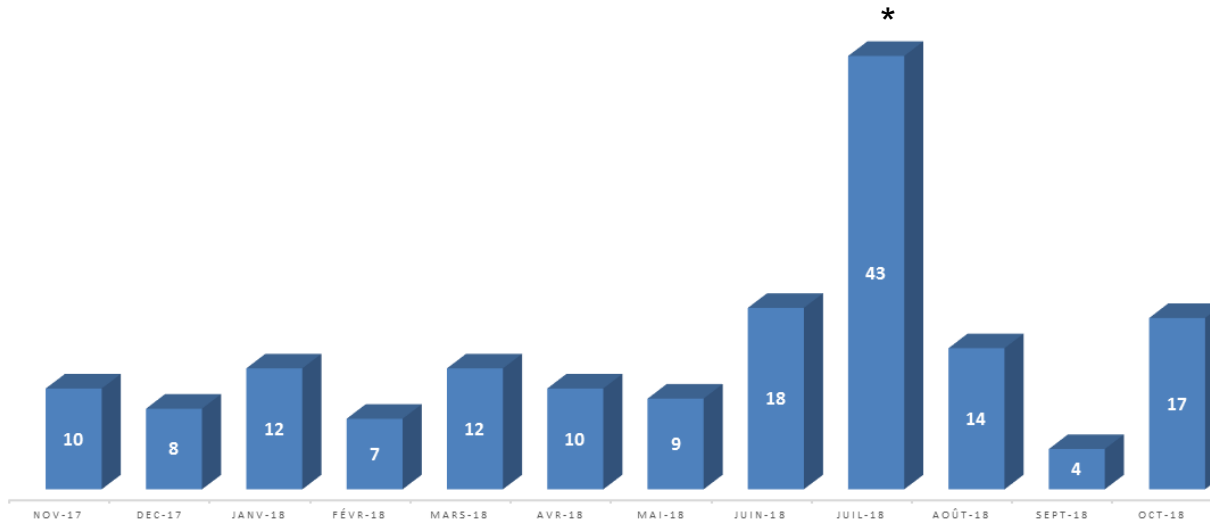
❖ Archive products / 'fresh' products



Google archive in april/may

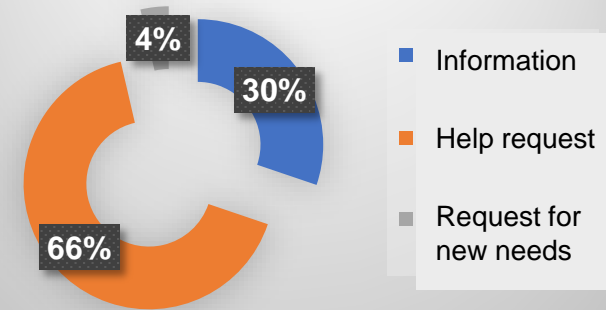
❖ Users help desk exppeps@cnes.fr

Number of users requests



*Request number increase due to deactivation of the downloading of stored products (not on line).
Temporary necessity for manual operator activation.

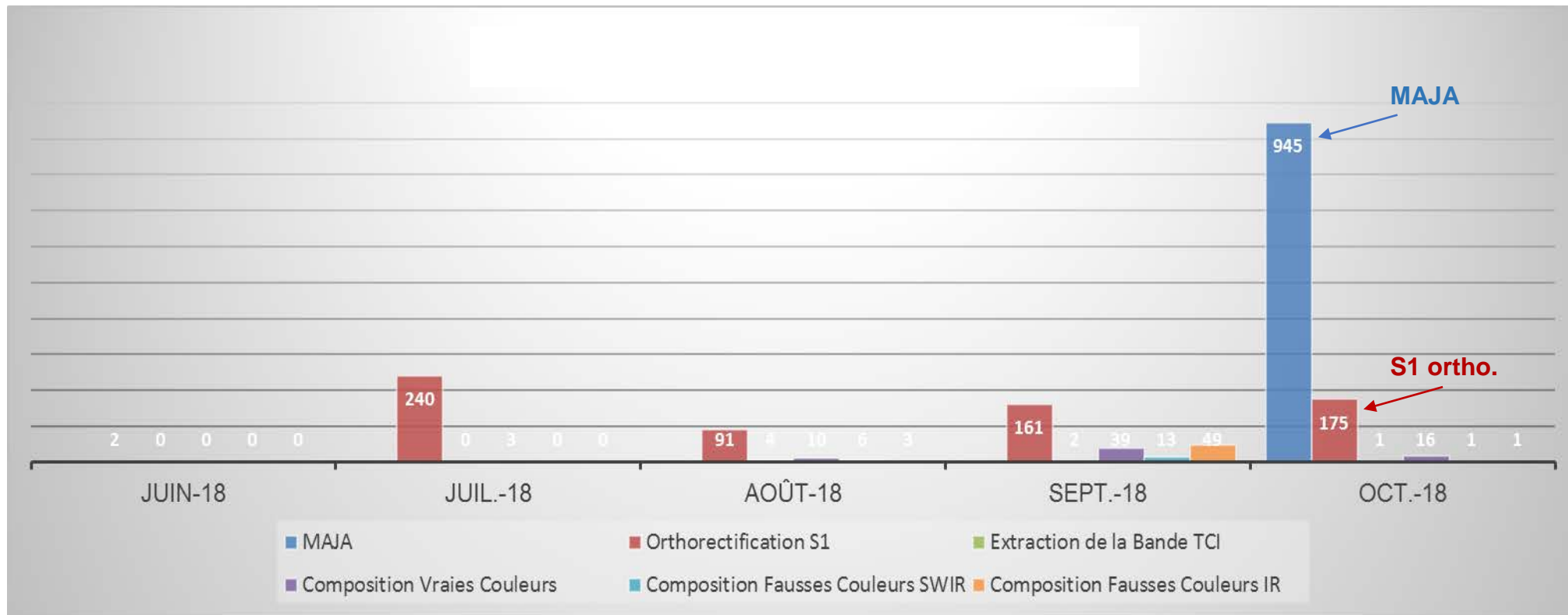
Type of request



AVERAGE DELAY

= 48H

❖ Number of treatments performed



PEPS in 2018

❖ **Exploitation has runned smoothly**

- Regular upgrades
 - Evolutions to acquire the new products (S3_OLCI, S2_L2A...)
 - Optimisation of data download functions
 - Users data access interface improvements
- Complete release of the PEPS processing functions in June
 - Closer link with users
- Very low interest for Sentinel-3 data
- Some users ask for S2_L1B products

❖ **Downloading data from ESA hubs**

- ESA distribution relatively mature
- **Strong and efficient ESA support** both for information requests and for back log retrieving in case of maintenance/crash or data gaps filling

❖ **What will be PEPS tomorrow?**