# The “warning” mode of the exo channel: overview

**Detection in real time for triggering the oversampling capacity**

# Interest for oversampled LCs

- Scientific interest:

  - To better define ingress and egress of transits
    - ⇨ Limb darkening (atmospheres)
    - ⇨ Shifts in the timing of transit (systems of planets)
    - ⇨ Asymmetry of the transit shape (rings, moons, …)
  - To help finding secondary transits (eclipsing binaries)

- By products:
  - ⇨ Weaker instrumental noises (non piling up on board)
  - ⇨ Deeper possibilities of data corrections (« glitches », etc..)

# The functions

→ To warn us that something looking like a transit is found in a light-curve

→ To trigger oversampling in the LC and wait for other transit events

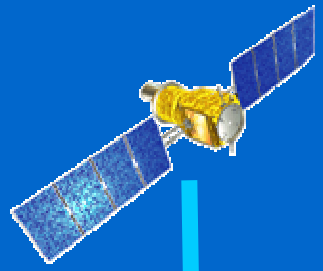
**What is found after detection can be:**

- ⇨ A true signal that is indeed due to a planet
- ⇨ A noise feature confused with a transit signal (false alarm)
- ⇨ A true signal that is due to a non planetary event (EB, …)

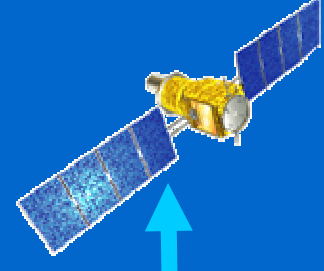
**To decide oversampling we need:**

- ⇨ a confidence level in the detection
- ⇨ a likelihood index that a detected event be a planetary one

# Warning mode: schematics



Pipeline



CMC

N1 DATA

Early detection

1st order algorithm

Provides detections with confidence level

→ LCs sorting

Tuning parameter

CONFIDENCE LEVEL

Scien. choices

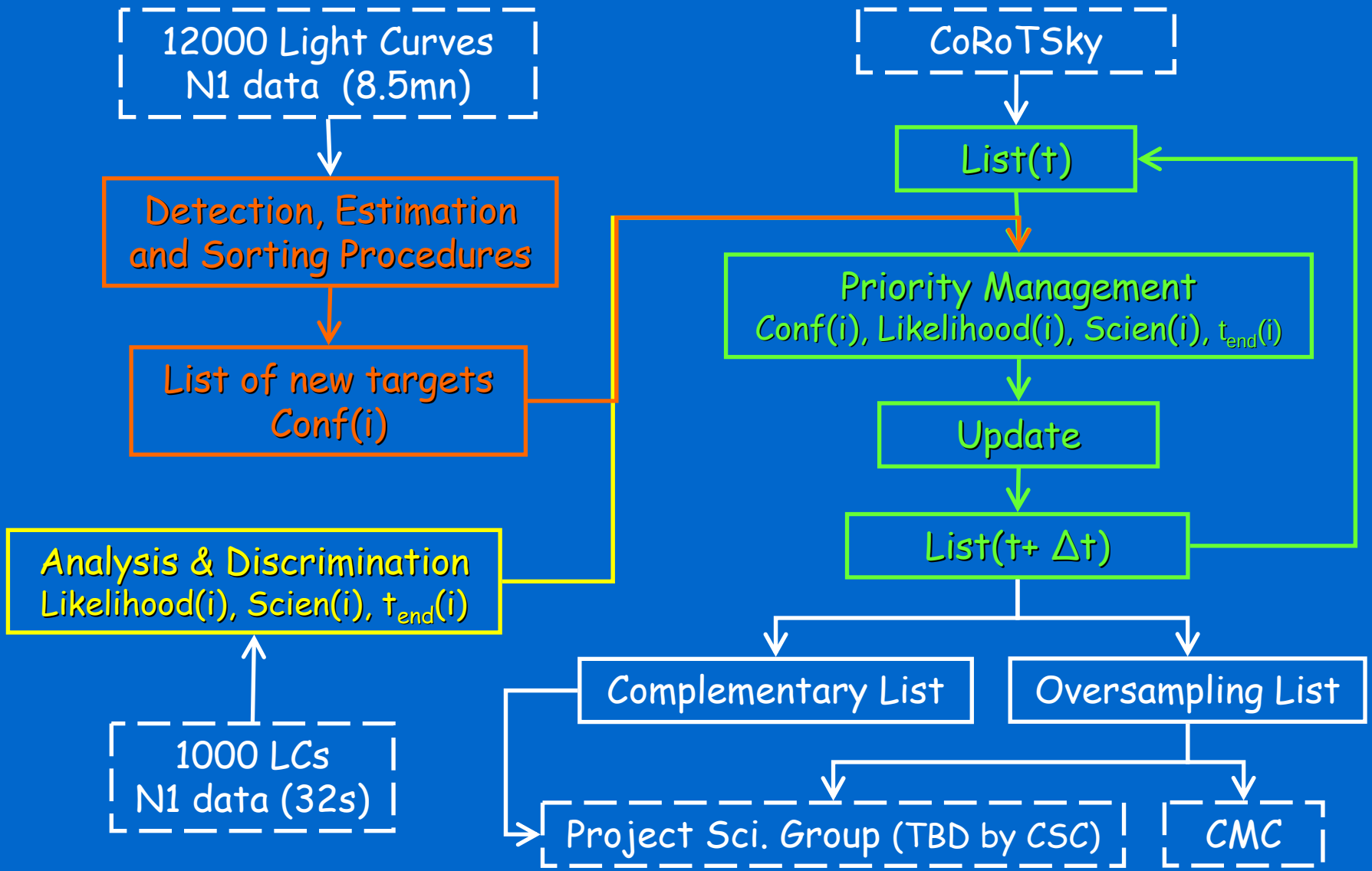
Sorting/Update

Number of oversampling possibilities

PRIORITY List

1
2
3
4
…
…

# Warning Mode: general view



# Timing for the warning mode