

# FLYSCAN: A DISTRIBUTED FAST ACQUISITIONS SYSTEM FOR MULTI DETECTORS EXPERIMENTS

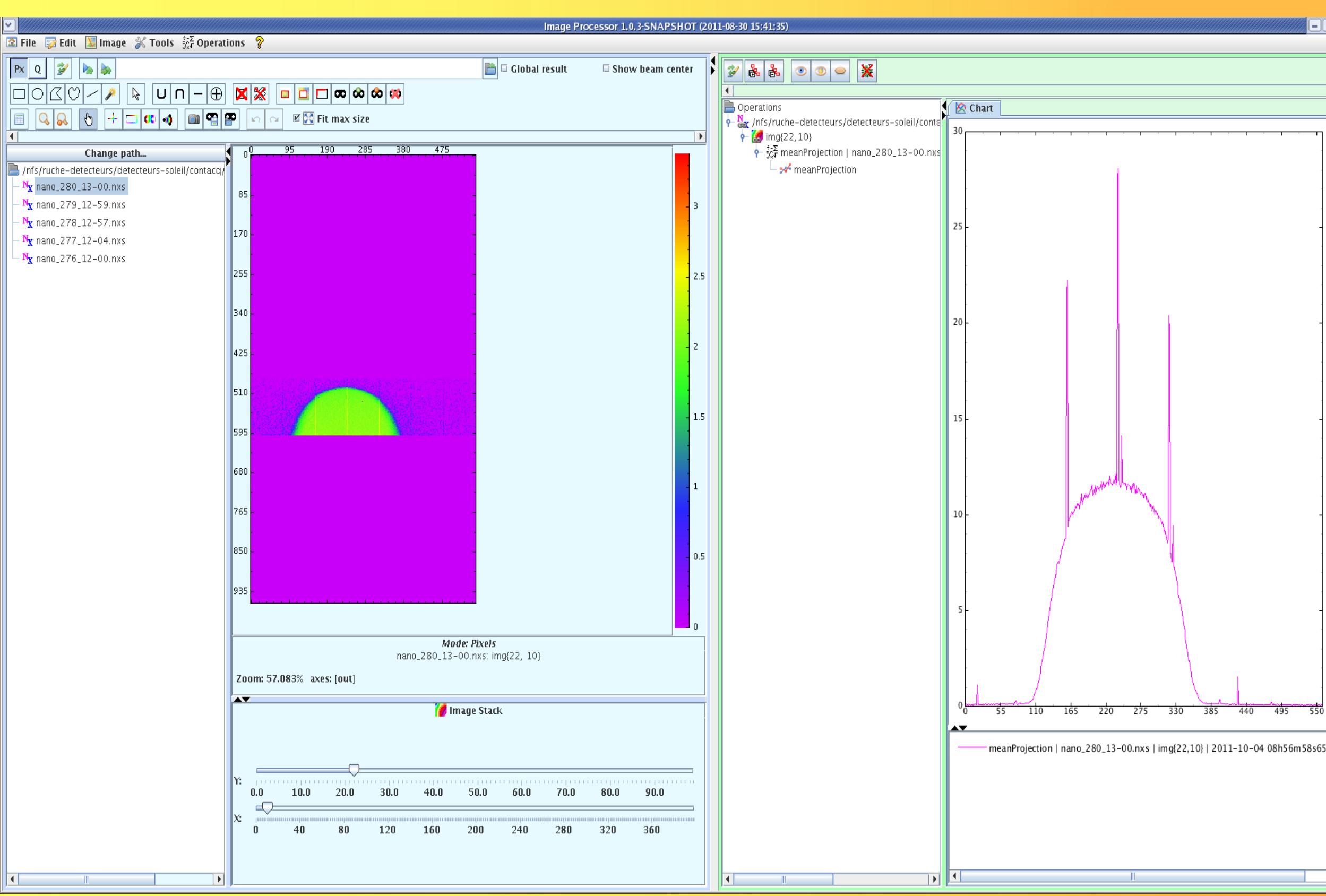
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## Flyscan principles:

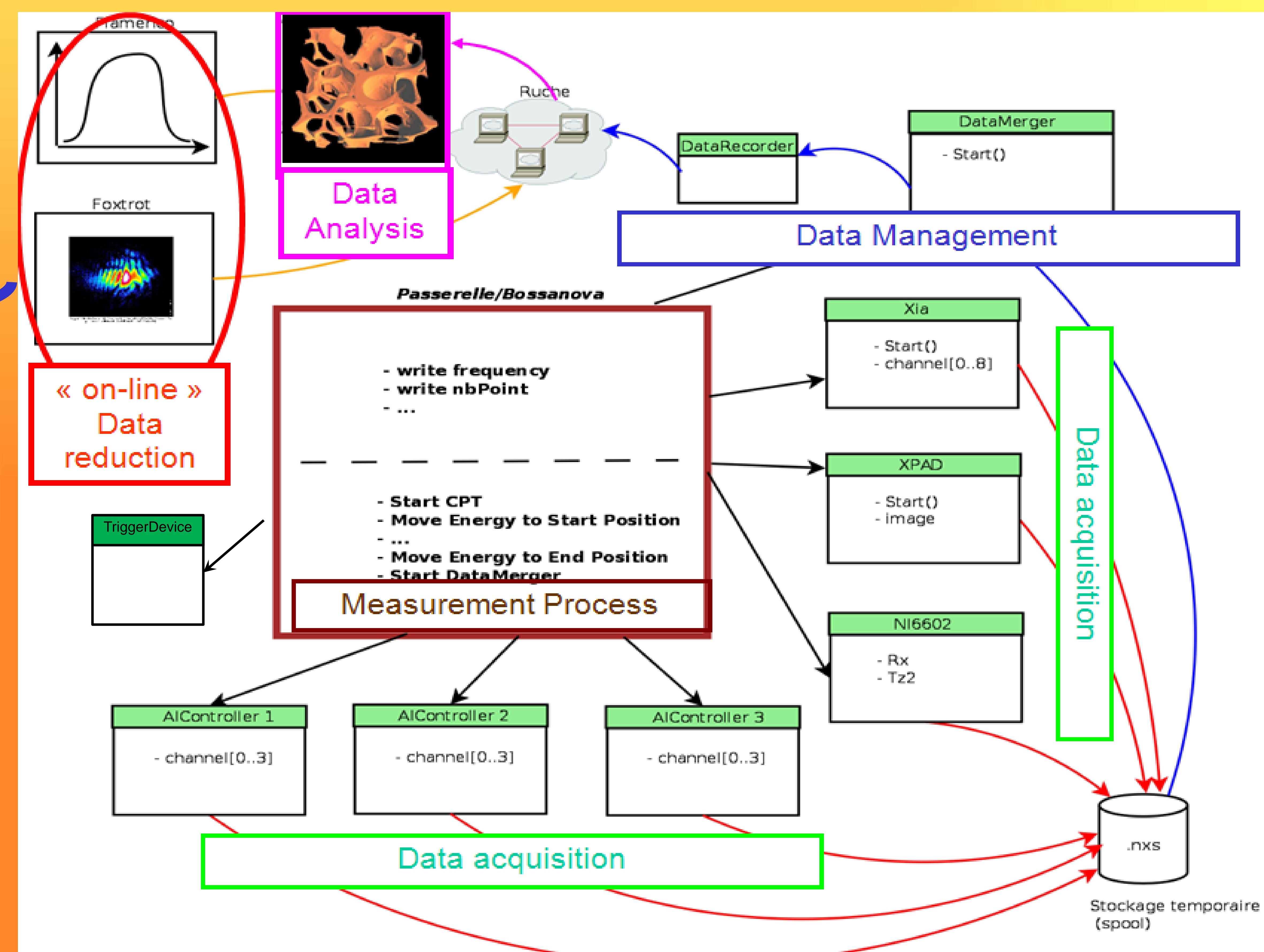
- o motors are in motion
- o each equipment is triggered by the same electronic signal
- o each equipment streams its own data on a common disk space (called spool)
- o all these data are gathered by an asynchronous process into a final experiment NeXus file
- o it is modular in terms of number and type of detectors

## Software architecture

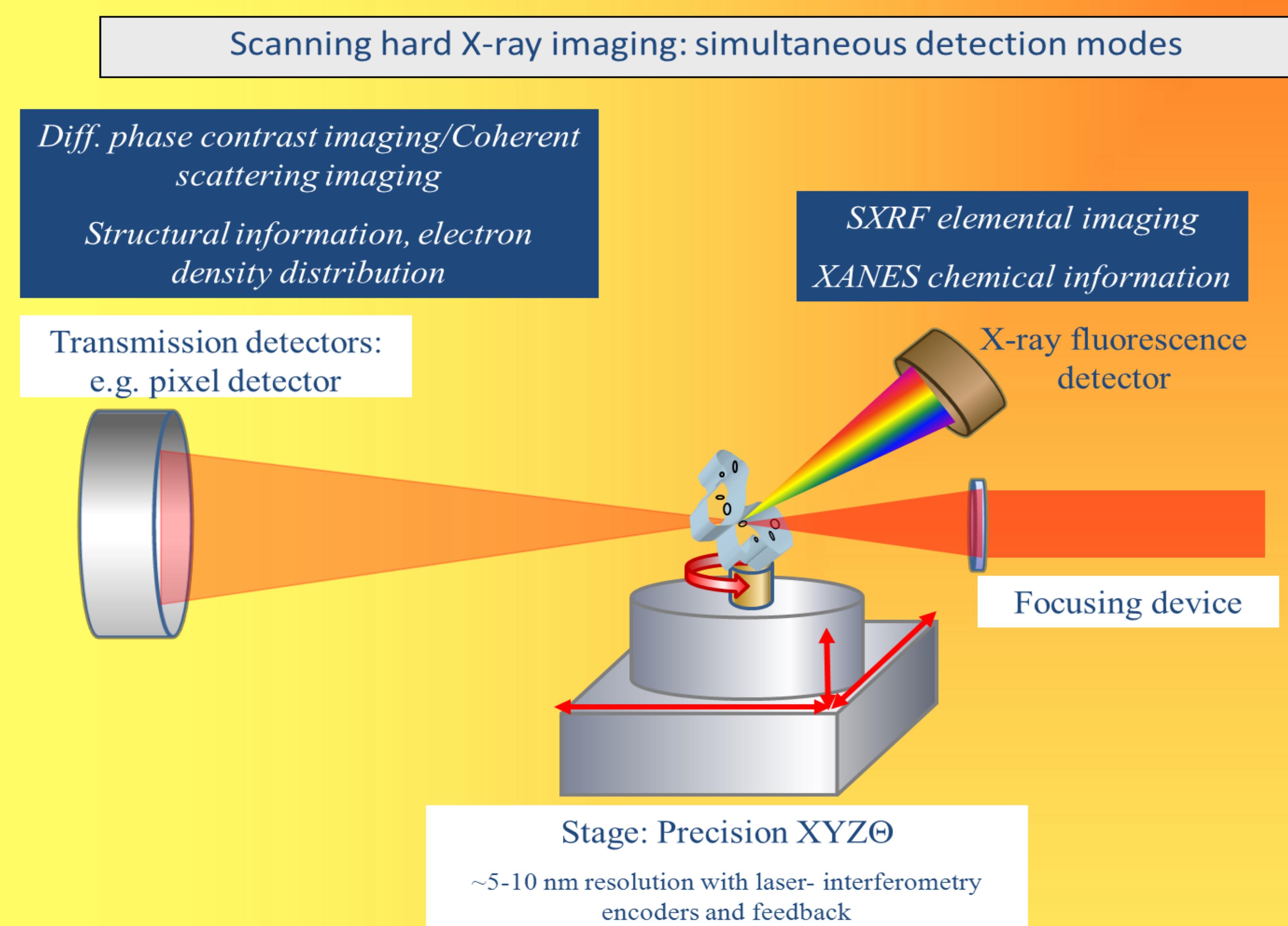
### Fusion Application: Flyscan viewer



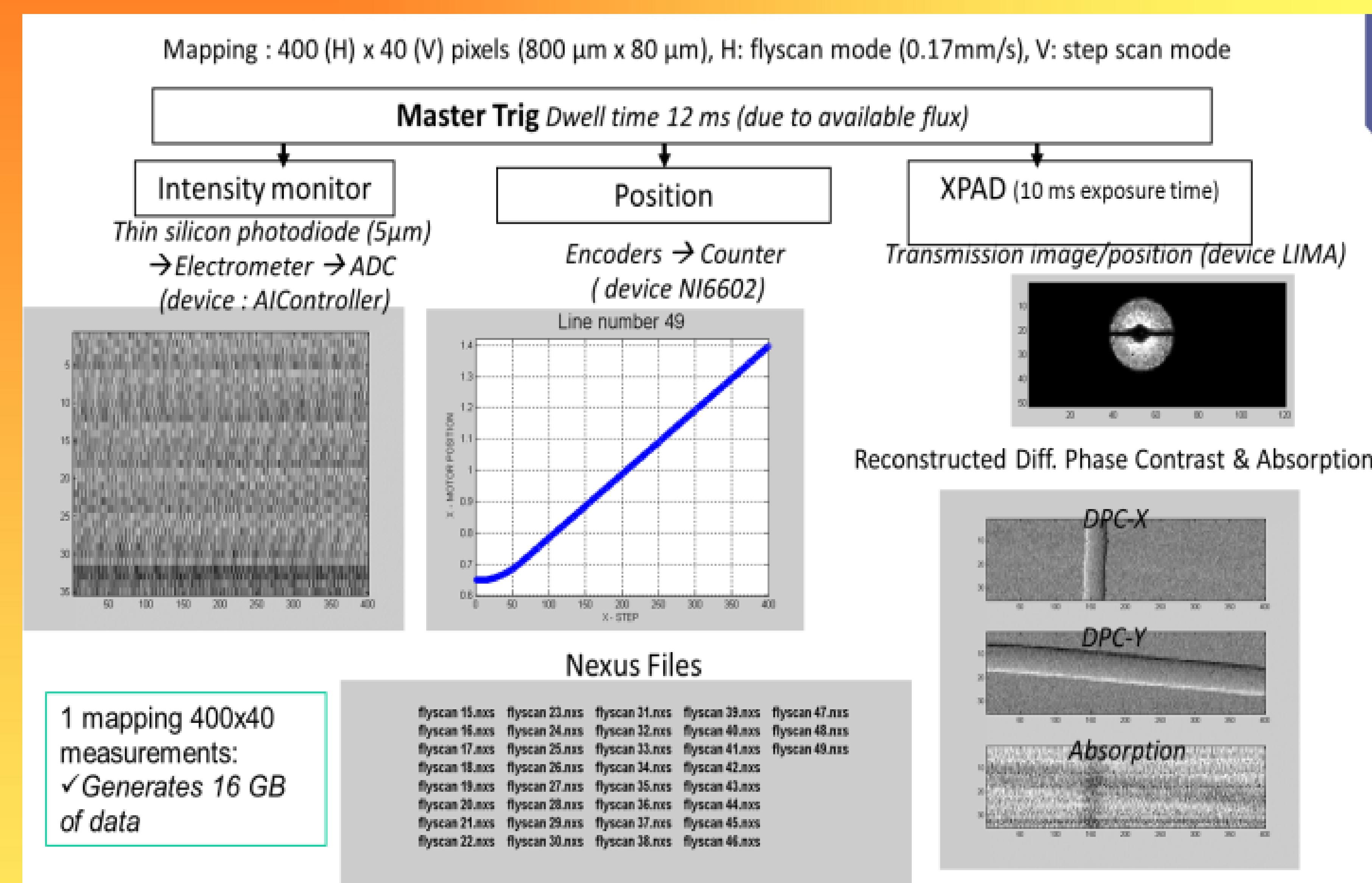
This application allow to reduce all the images of the mapping into a set of 3 images (DPC-X, DPC-Y and ABS)



## NANOSCOPIUM beamline setup



## 1<sup>st</sup> Results



### Some figures of our current setup:

- A mapping of 400 images x 400 lines = 160 000 Xpad (i.e pixel detector) images
- 1 Xpad image = 1MB
- 12 ms per image + overhead of network and disk access ~ 2 hours
- An experiment produces 160 GB in 2 hours

### Performances to reach before end of 2011

- 1000 images x 1000 lines
- 2 ms per image with no network and disk overhead ~ 35 mn
- An experiment will produce 1TB in 35 minutes