



Barcelona Institute of
Science and Technology

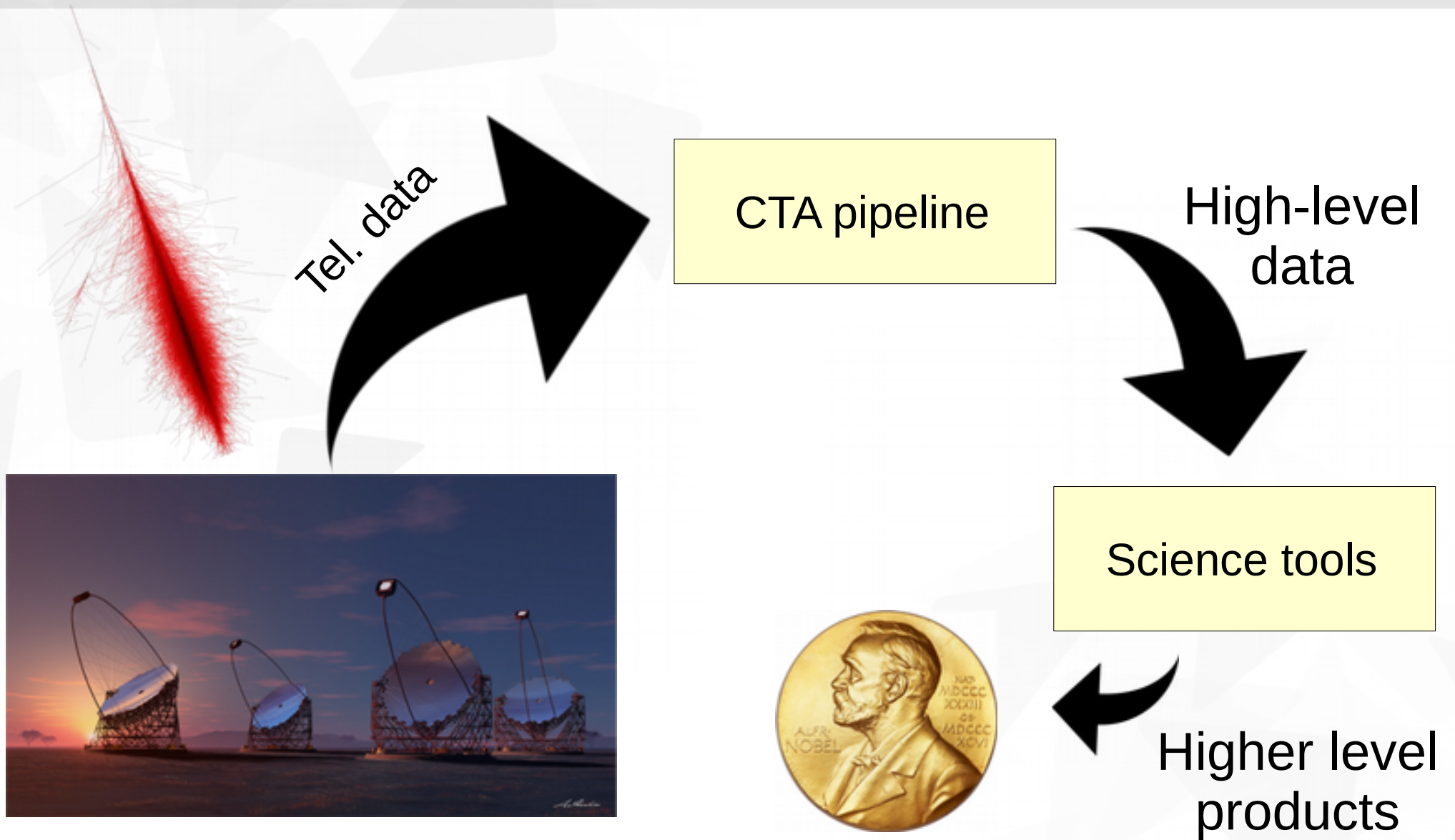
Activities at IFAE

T. Hassan, J. Rico

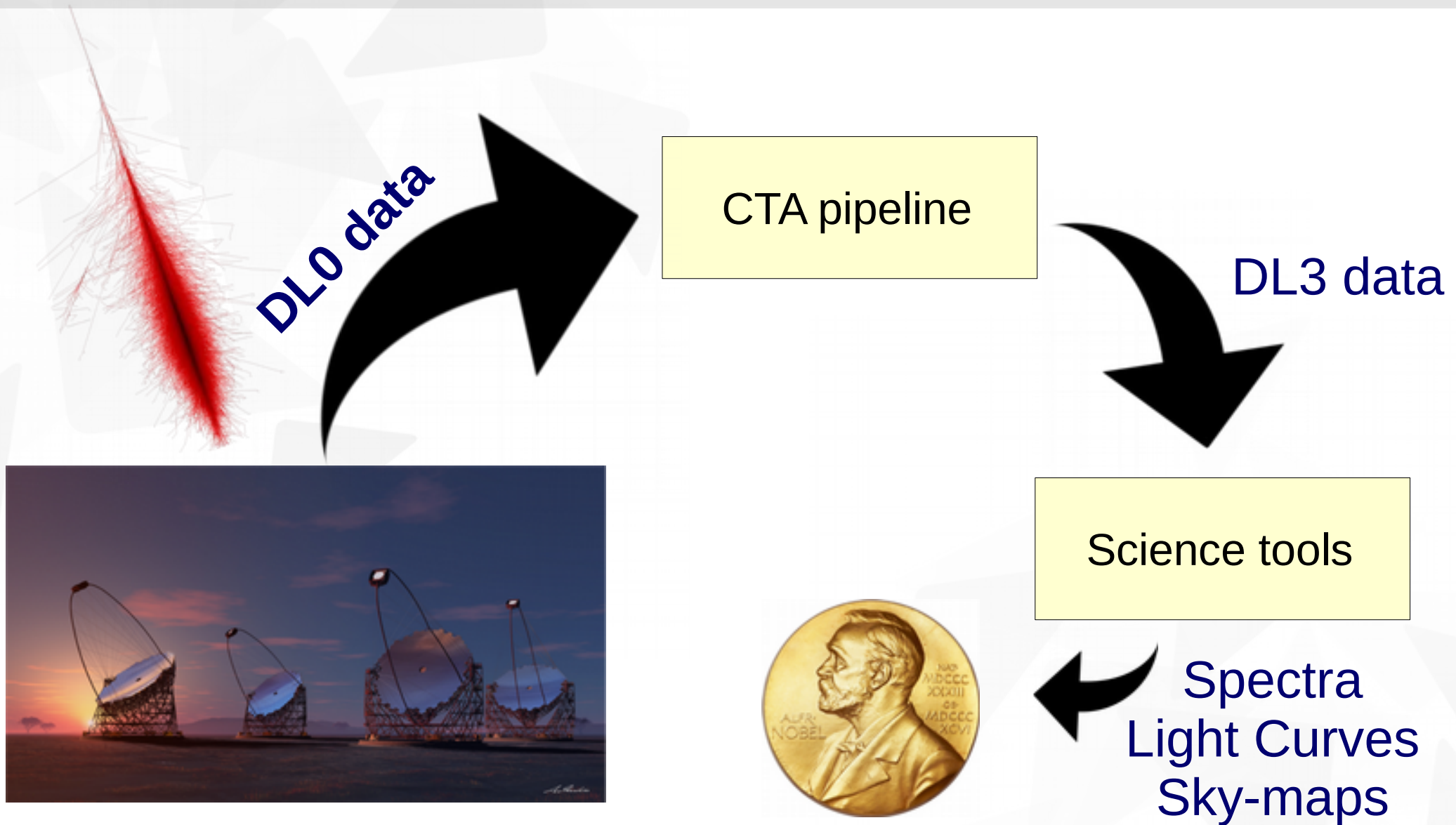
IFAE – Activities / Funding

- Coordinated by J. Rico
 - Tasks 3.2 (D-GEX) and 3.3 (D-INT)
- Hired one (very good) postdoc (Tarek Hassan) since October 2015
- Mainly involved in:
 - CTA Data Model
 - Open DL3 format
 - (Soon) CTA pipelines

CTA dataflow – (slightly simplified)

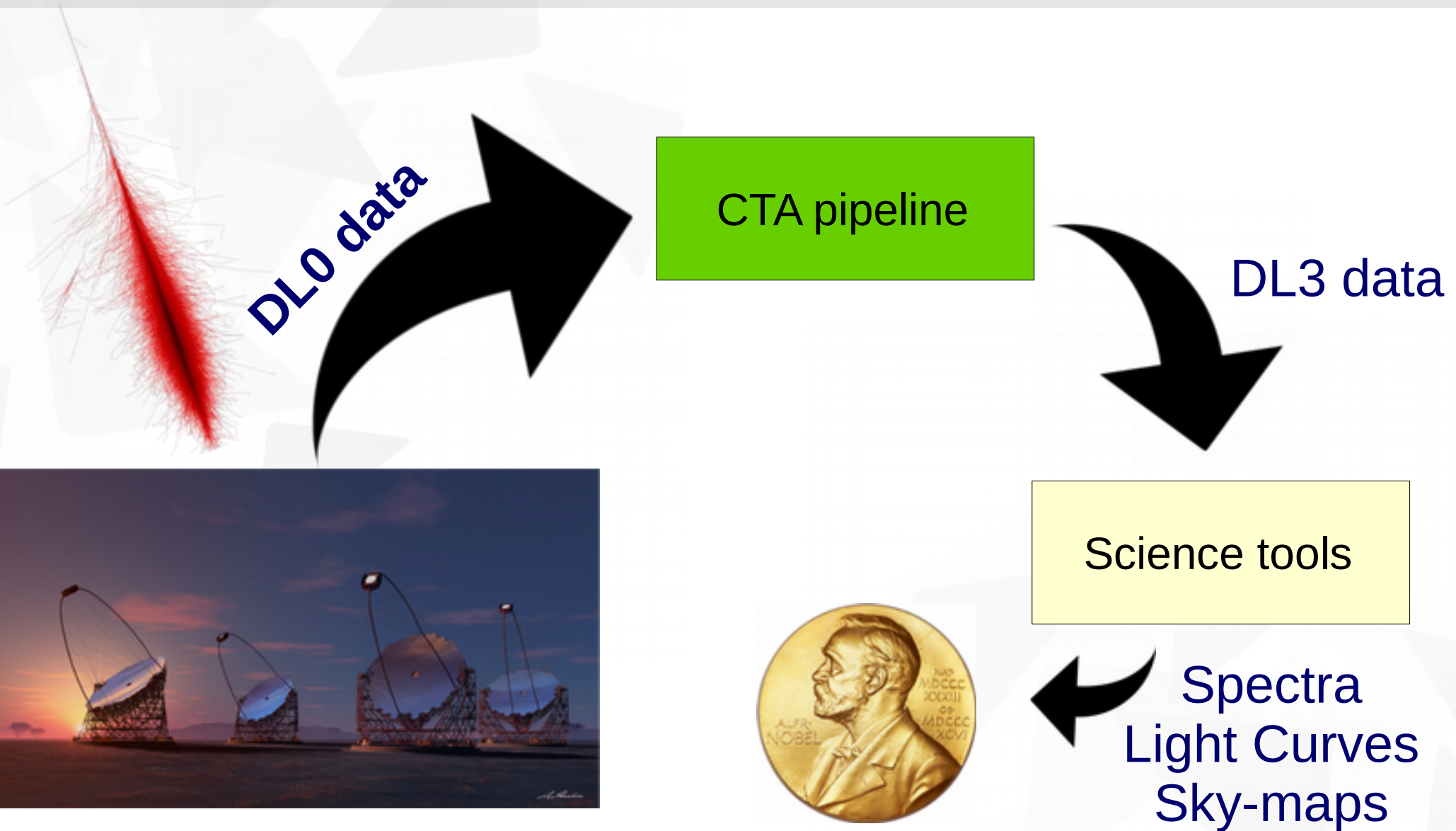


CTA dataflow – (slightly simplified)



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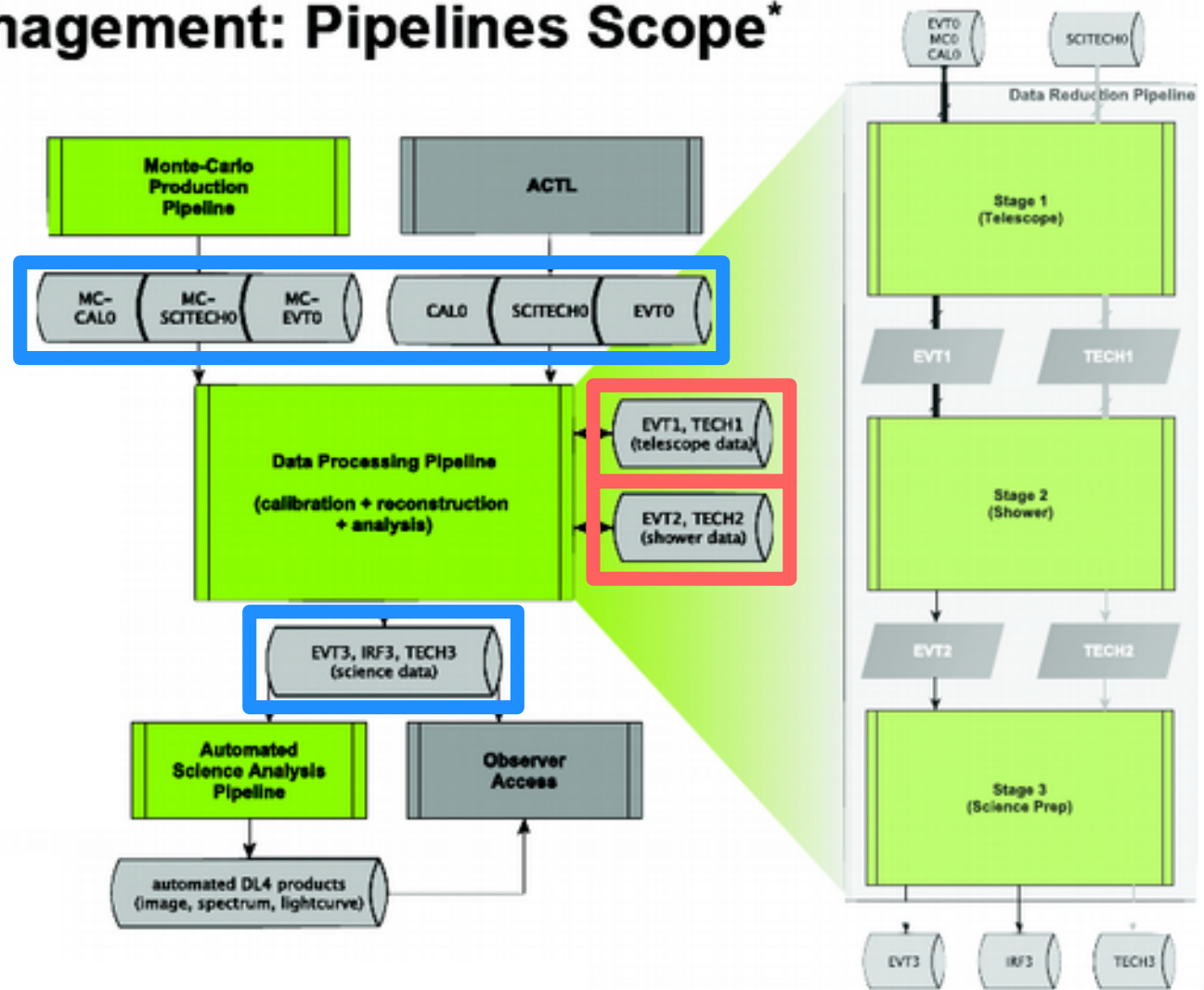
CTA dataflow – (slightly simplified)



CTA dataflow – CTA pipeline

Data Management: Pipelines Scope*

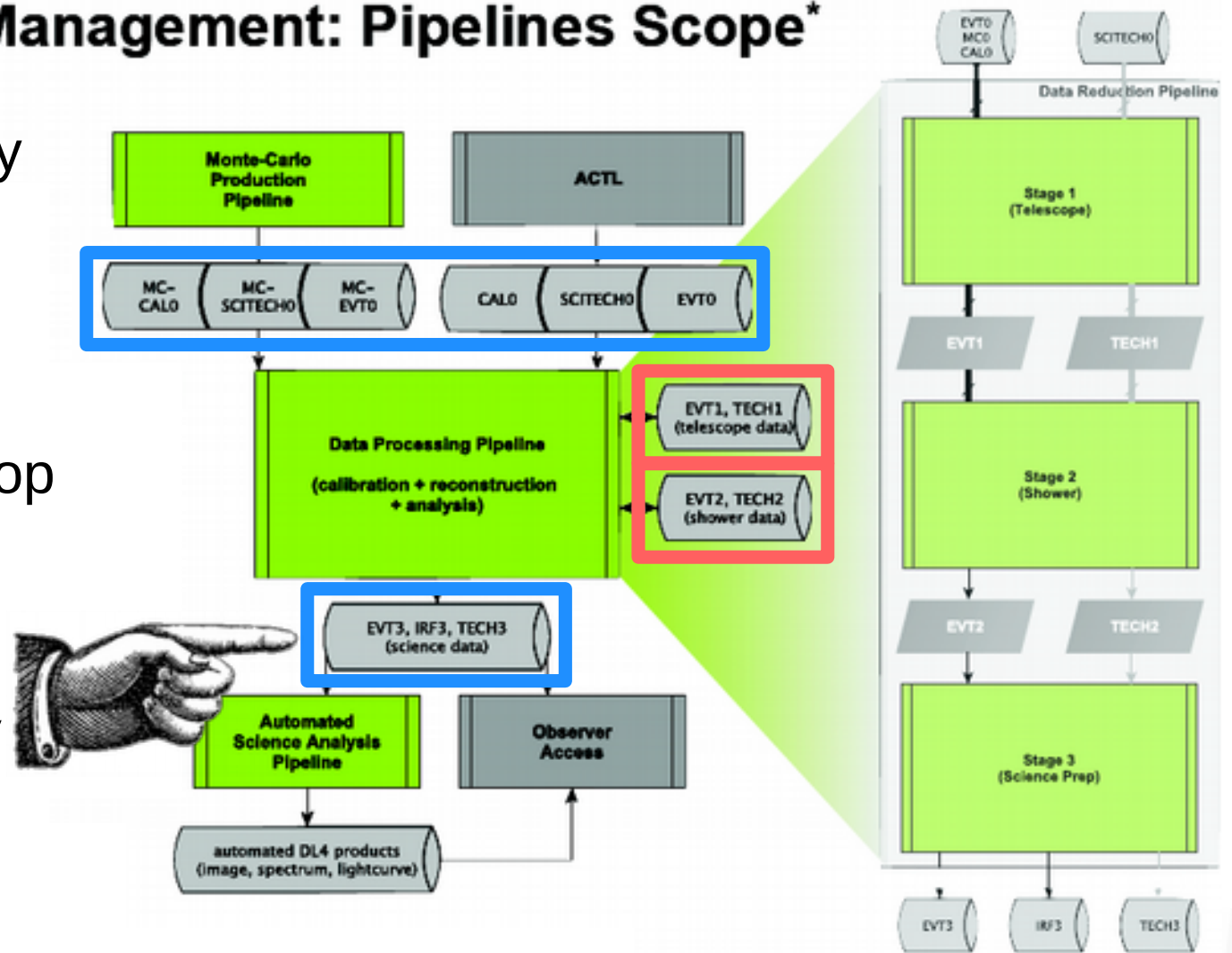
- CTA pipelines currently being developed in the open
- Current effort to develop a data model
- Some data levels may be shared between several ESFRI experiments



CTA dataflow – CTA pipeline

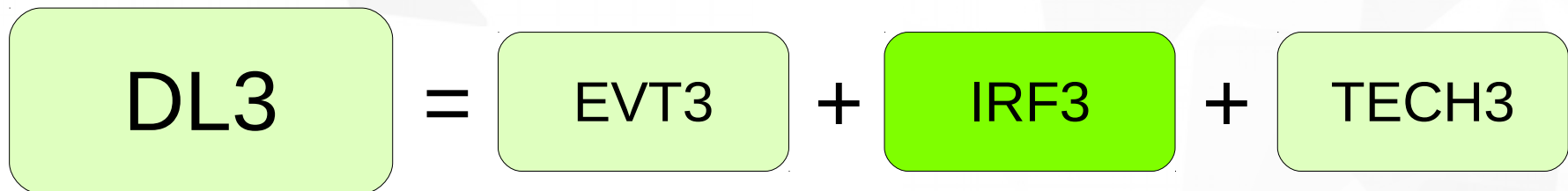
Data Management: Pipelines Scope*

- CTA pipelines currently being developed in the open
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What is DL3?

- DL3 is the “high-level” product (FITS format) resulting from the analysis of collected data containing:
 - Event lists (event-wise energy, RA, DEC, time...) of **gamma-like events**
 - IRFs describing the instrument performance (Eff. Area, BG rate, direction/energy dispersion)
 - TECH data describing details of the observations (pointing, obs. conditions, etc..)



IFAE activities – Open specs

- Collaboration to define the specs of an open gamma-ray data format:

<https://github.com/open-gamma-ray-astro/gamma-astro-data-formats.git>

- Development of an open source C++ FITS IRF3 generator:

<https://github.com/cta-observatory/flexIRF.git>

- Served as prototype for the future CTA software
- May be used by any experiment generating DL3 data (currently testing it with MAGIC data)

IFAE activities – Contributions to CTA

- IFAE provided a prototype for the IRF3 format, testing different serializations to validate adopted decisions
- Active development within the open gamma-ray specs community (will be discussed this afternoon)
- Test and validation of DL3 format and science tools using data from existing experiments
- Current IACT generation may adopt DL3 for their legacy data archive

IFAE activities – Next steps

- Continue the development of the open DL3 (IRF3) specs, starting with CTA
- Develop DL3 & IRF generators within the CTA pipelines framework
 - Validate it with current IACTs data
 - Test parameters affecting IRFs with CTA MC
- Write internal CTA documentation describing DL3 format and serialization, based on the open specs