Payload discussion

B. Maffei
Payload requirements in order of priority? (at least from ESA perspective)

- **Costs**
  - 550 M€ + ? EU National agencies + ? External collaborators

- **High TRL and low risk scheme**
  - Need to pass the “technology screening”

- **Dimension envelope**
  - Fit in a cylinder of about 2m diameter

- **Mass**
  - Safely assume that we cannot go beyond Planck mission
  - COrE+ 2014: 1958 kg

- **Power consumption**
  - Will dictate if we need deployable solar panels or not (added risks)
  - COrE+ 2014: 2073 W

- **Data rate**
  - COrE+ 2014: 2.4 Mbits/s
Payload trade-off – Sub-systems cannot be treated independently

Size and configuration of the telescope
- No more than 1.5m diameter primary
- Rather 1.2m
- Cannot use CTR configuration
No HWP (at least as the first element)
(Cost, Dimensions & Mass)

(Talk from S; Hanany)

Complex scanning strategy
- Impact on solar panels size
- Impact on data transfer
(Cost, Power, Data transfer)

(Talk from J. Delabrouille)

Descope ?
Impact on Science?

FPU and number of detectors
Technology (EU)
(Cost, Power, cooling power, Data transfer, dimensions, mass, TRL)

(Talks from this morning)

Ground Tests and calibration
- Impact on in-flight calibration
(Cost, Schedule, Risks)

(Talk from M. Bersanelli)

Cooling chain
- Passive / active
- Choice: impact on signal, ....
(Cost, Power, dimensions, mass, TRL)

(Talk from Y. Pennec)

Outcome of the CDF study

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