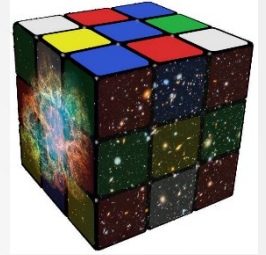


CUBES

Cassegrain U-Band Efficient Spectrograph

*CUBES Phase B KOM meeting
Project Management (R. Cirami)*

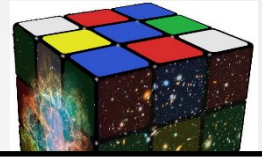
CUBES Consortium



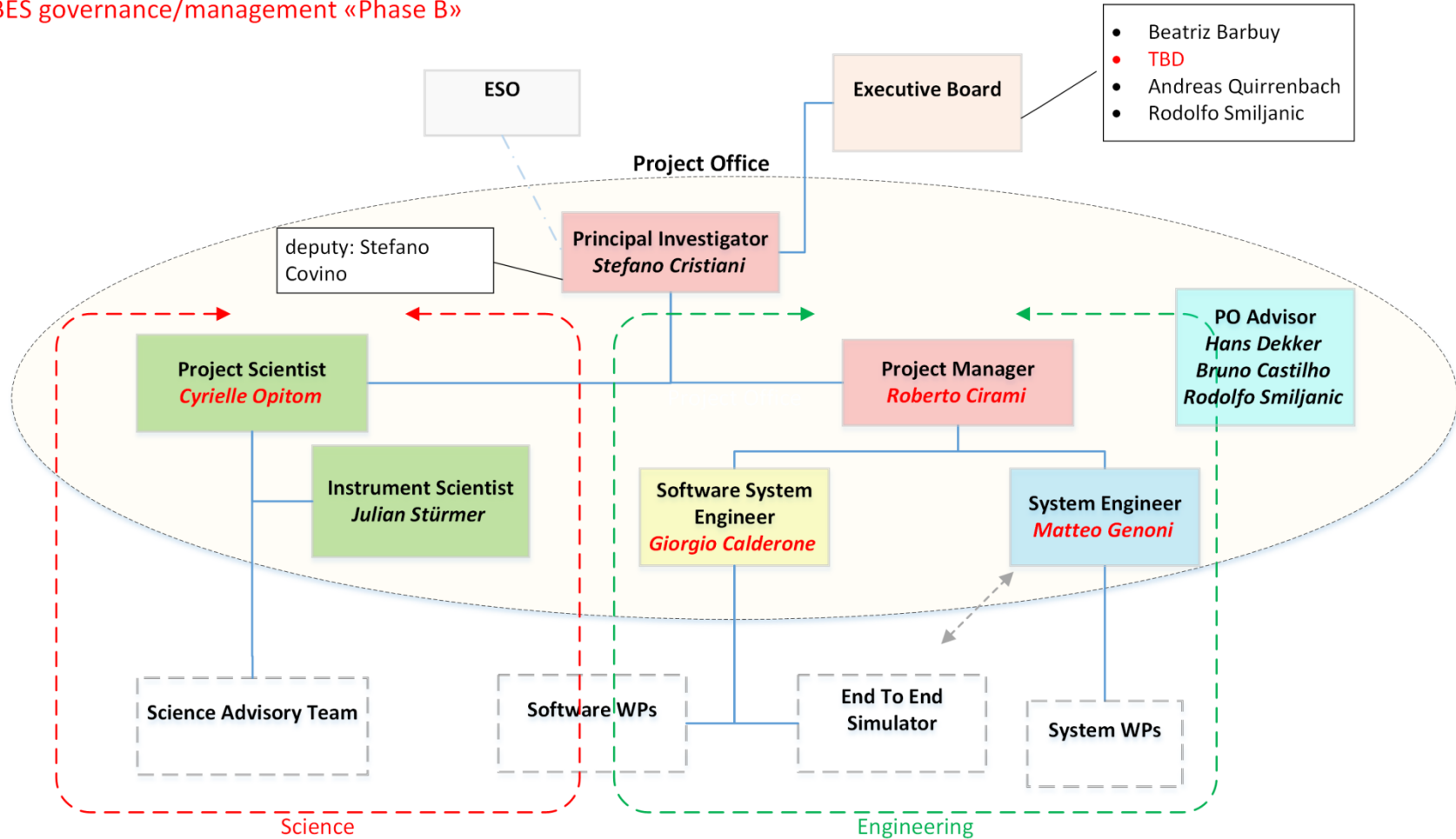
Consortium partners:

1. **INAF** - *Istituto Nazionale di Astrofisica*, [Italy](#), (consortium leader)
2. **STFC-UKATC** - *UK Astronomy Technology Centre*, ([primary UK partner](#)) and **Durham** *University Centre for Advanced Instrumentation* ([secondary UK partner](#)), United Kingdom
3. **LSW** - *Landessternwarte, Zentrum für Astronomie der Universität Heidelberg*, [Germany](#)
4. **NCAC** - *Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences*, [Poland](#)
5. **IAG-USP** - *Instituto de Astronomia, Geofísica e Ciências Atmosféricas* ([primary Brazil partner](#)) and **LNA** - *Laboratório Nacional de Astrofísica* ([secondary Brazil partner](#)), Brazil

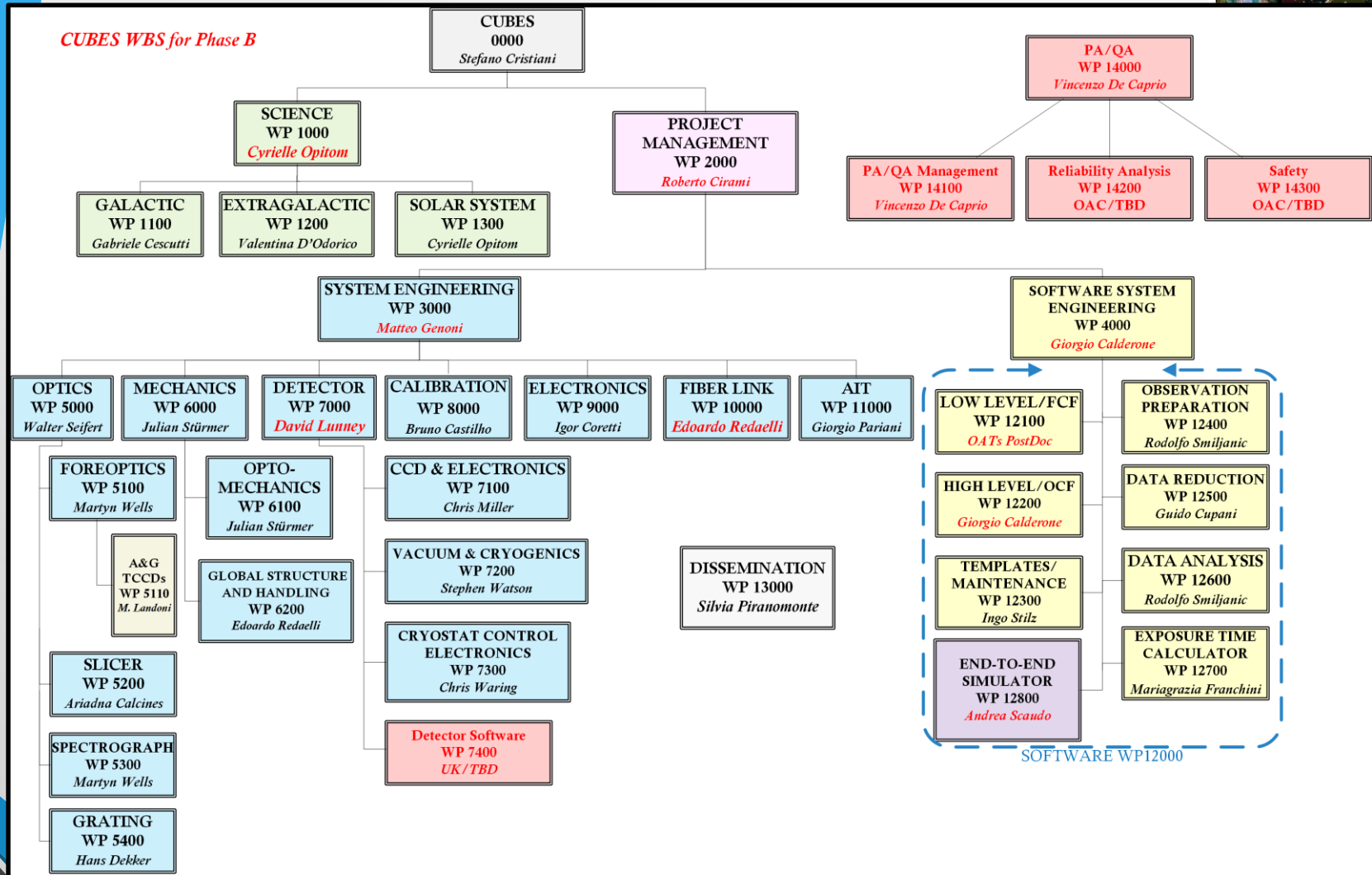
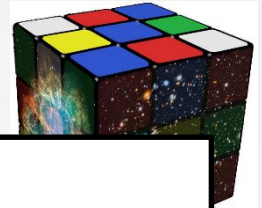
Organizational chart



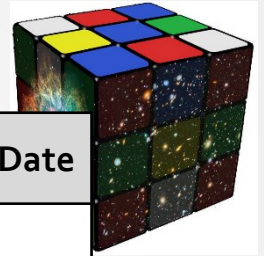
CUBES governance/management «Phase B»



Work Breakdown Structure

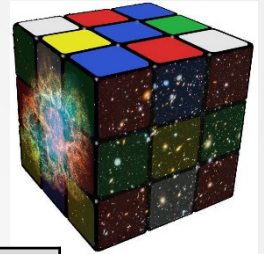


Project Schedule



Key Milestones	Contractual Completion Date
KM.0 – Entry into force of the Consortium Agreement	To
KM.1 – Kick-off Meeting	To + 1 month mid/end February 2022
KM.2 – Delivery of Prototype (grating)	To + 10 months
KM.3 – Preliminary Design Review (PDR)	To + 11 months mid/end-November 2022
KM.4 – Long Lead Items Review	To + 17 months June 2023
KM.5 – Final Design Review (FDR)	To + 25 months Jan 2024
KM.P – Procured equipment delivered at the Consortium's premises and accepted by the Consortium	To + 40 months Apr 2025
KM.6 – Intermediate Milestone (Assembly Readiness Review)	To + 45 months Sep 2025
KM.7 – Test Readiness Review (TRR)	To + 57 months Sep 2026
KM.8 – Provisional Acceptance Europe (PAE)	To + 63 months Mar 2027
KM.9 – Intend to Accept and PTO of the Instrument	To + 65 months May 2027
KM.10 – Provisional Acceptance Chile (PAC)	To + 77 months May 2028

Phase B schedule



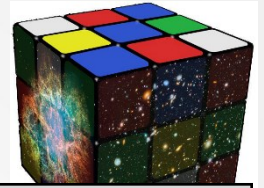
Milestones	Date
Consortium KOM	24 Jan 2022
ESO KOM	mid/end February 2022
F2F meeting 1	April 2022
ESO Progress Report 1	mid May 2022
F2F meeting 2	September 2022
ESO Progress Report 2	beginning September 2022
PDR data pack delivery	mid October 2022 (PDR – 6 weeks)
Preliminary Design Review (PDR)	mid/end November 2022

Resources (Phase B)



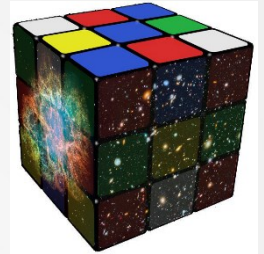
Task	FTEs	Notes
WP 1000 – Science	1.2	
WP 2000 – Project management	0.8	
WP 3000 – System engineering	0.8	
WP 4000 – SW system engineering	0.25	
WP 5000 - Optics	1.5	
WP 5400 - Consultancy	0.1	H. Dekker
WP 6000 - Mechanics	1.3	
WP 7000 - Detector	1.8	
WP 8000 - Calibration	1.2	
WP 9000 - Electronics	0.3	
WP 10000 – Fiber Link	0.8	
WP 11000 – AIT	0.1	
WP 12000 - Software	1.95	
WP 13000 - Dissemination	0.3	
WP 14000 – PA/QA	0.2	
Total	12.60	

Costs



Sub-system	costs (k€)	Remarks
Optics (WP5000)	1493,0	
Mechanics (WP6000)	225,0	
Detector (WP7000)	717,7	
Calibration (WP8000)	83,0	
Fiber link (WP10000)	97,6	
Electronics (WP9000)	152,0	
AIT	55,0	
Software	40,0	
Others	515,0	
Management	253,4	incl. travels (7,5% of the total)
Hardware Contingency	675,7	contingency 20%
GRAND TOTAL	4307,4	VAT excluded

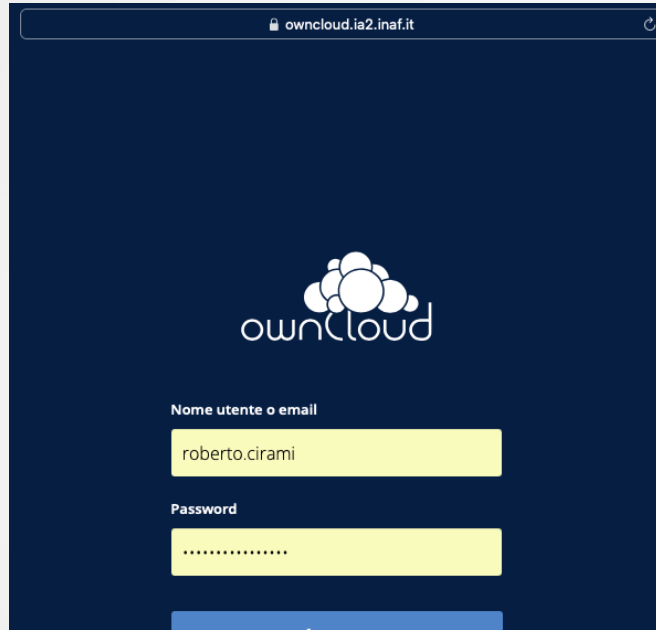
Phase B deliverables



DRD010	Project Management Plan
	Executive Summary
DRD050	Risk Register
DRD130	Change Request
DRD020	Progress Report
DRD030	Action Item List
DRD100	Configuration Management Plan
DRD110	Product Assurance Plan
DRD150	Configuration Item Data List
DRD140	Request for Waiver
DRD120	Non-Conformance Report
DRD170	Hazard List and Analysis
DRD160	RAM(S) Analysis Report
DRD270	Technical Error Budget (engineering budgets)
DRD210/DRD220	System Design Report & Analysis Report
	CUBES Interface Control Documents
DRD230	Sub-System Specifications
DRD210/DRD220	Sub-System Design Reports and Analysis Reports
	Sub-System ICDs
	Commercial Data Sheet set
See AD10	3D Model

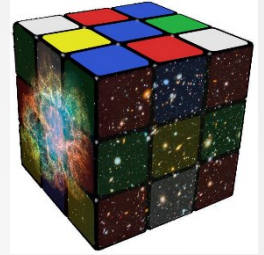
DRD240 & See AD10	Drawings (or 3D Model), engineering model, Optical model, FEM Analysis
DRD280	Mass and balance Budget
D-08	Instrument Software User Requirement Specification (ISURS)
D-08	Instrument Software Functional Specification (ISFS)
DRD600	Instrument Software Management Plan (ISMP)
AD19	Calibration Plan
AD19	Data Reduction Library Specifications
AD19	Exposure Time Calculator Specifications
AD19	Observation Preparation Specifications
AD19	Instrument Package
DRD420	System AIT Plan
DRD420	Sub-system MAIT Plans
DRD540	Prototypes Test Reports
DRD400	On-site Installation Plan (Paranal), DRAFT
DRD500	Validation and Verification Plan / Matrix
DRD550	Compliance Matrix
DRD700	Operation Manual, DRAFT

Consortium official repository



Nome	Dimensione	Modificato
CALL_FOR_PROPOSAL	380.1 MB	2 anni fa
OLD_PHASE_A	30.1 MB	2 anni fa
PHASE_A	6.6 GB	un mese fa
PHASE_B	152.1 MB	7 giorni fa
POST_OLD_PHASE_A	31 MB	2 anni fa

Project monitoring / tools



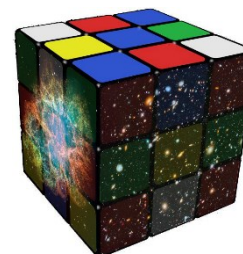
➤ Internal recurrent meetings:

- PO meeting (weekly)
- SE meetings:
 - optics, mechanics, calibrations + fiber link (?) (fortnightly, from 8 February, 14:00-16:00 CET)
 - electronics, detector system, support frame assembly (fortnightly, from 27 January, 12:00-13:00 CET)
 - performance and operations/calibrations (TBD)
- SW meeting (fortnightly)
- EB and ST meetings

➤ Monthly monitoring of WP FTEs (timesheets)

➤ Content management system and collaborative tools:

- Plone
- Wekan
- OpenProject
- Microsoft teams (parallel work on documents)



ZENTRUM FÜR
ASTRONOMIE



Universidade de São Paulo
Instituto de Astronomia, Geofísica e Ciências Atmosféricas



LNA LABORATÓRIO
NACIONAL DE ASTROFÍSICA



Science & Technology Facilities Council
UK Astronomy Technology Centre