



CTA PHP
Proposal Handling Platform
Séminaire projets APC 2023

Pei YU
For the projet CTA-PHP team



Presentation plan

About the Cherenkov Telescope Array Observatory(CTAO)

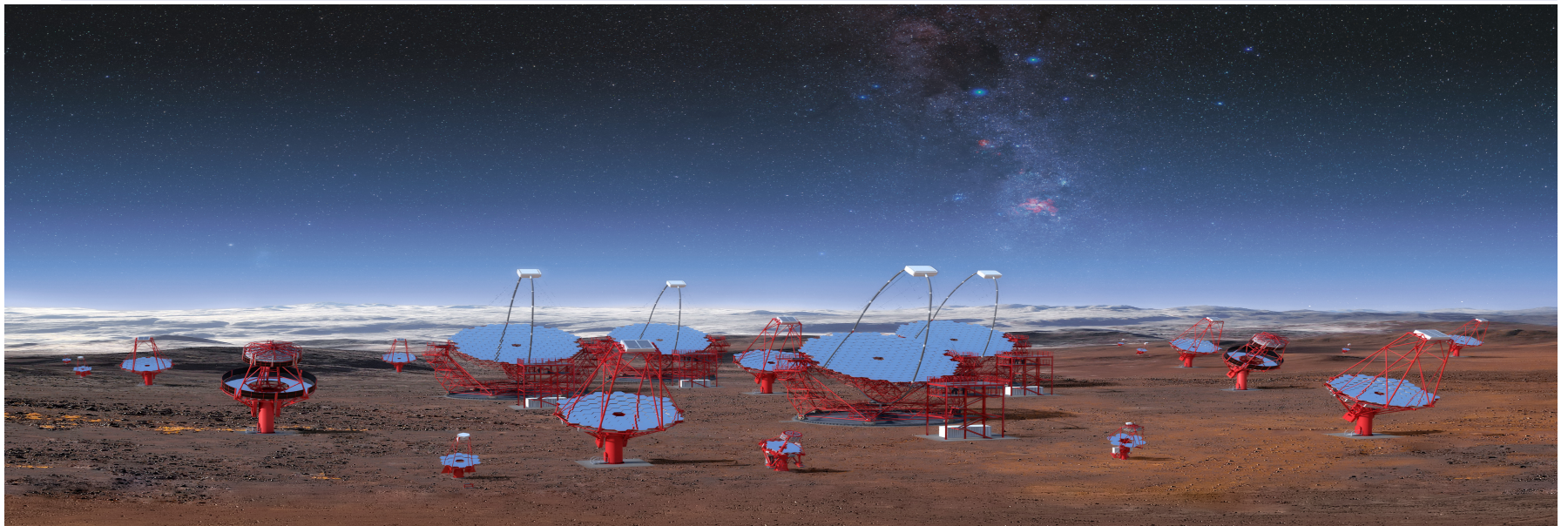
About the CTA Proposal Handling Platform (CTA-PHP)

Main challenges and milestones

Immediate risk



Global presentation



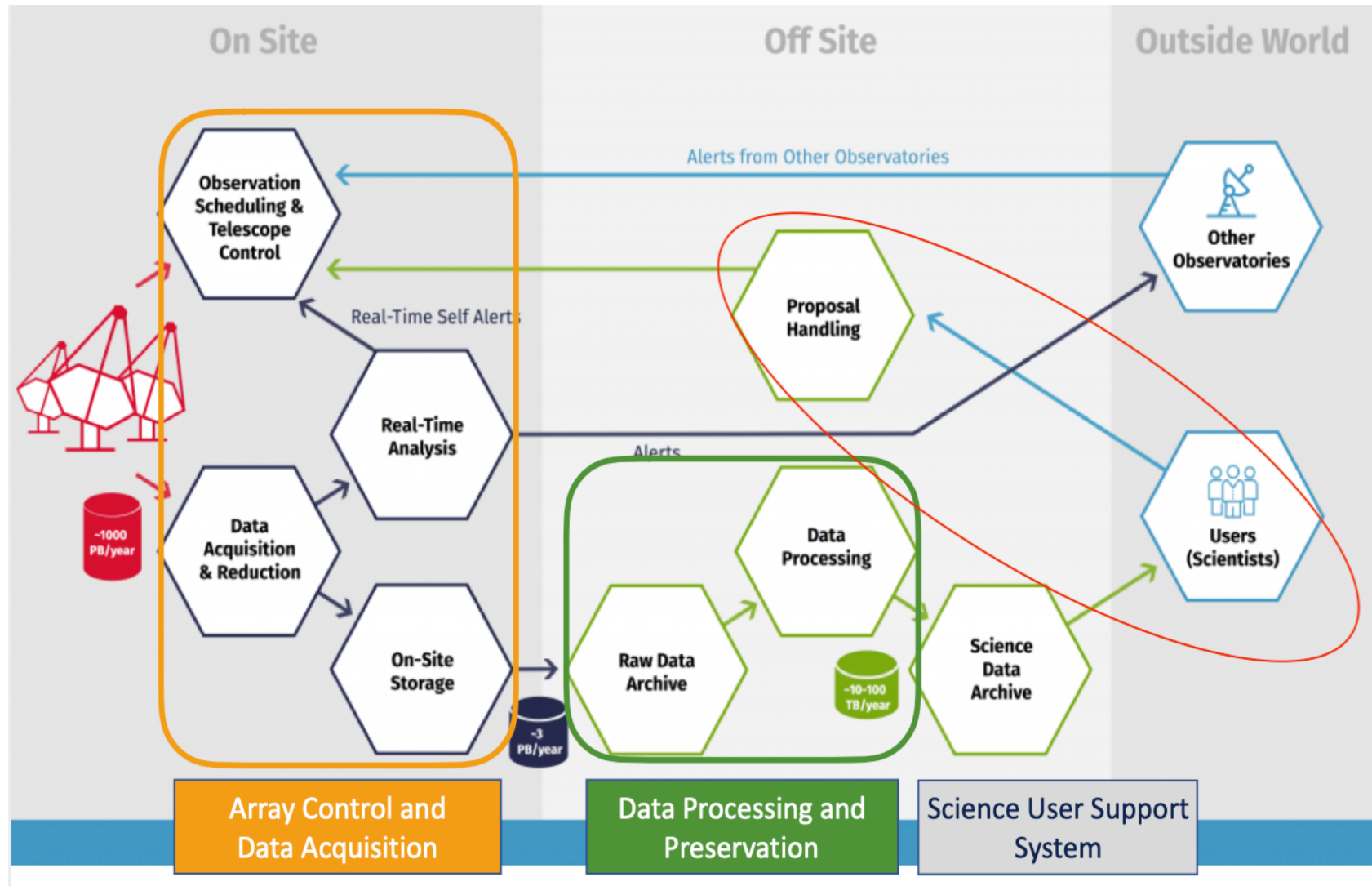
The CTAO is the next generation ground-based observatory for gamma-ray astronomy at very-high energies.

CTAO will be operated as an open, proposal-driven observatory for the first time in very-high-energy astronomy.



A schematic view of the control and data flows

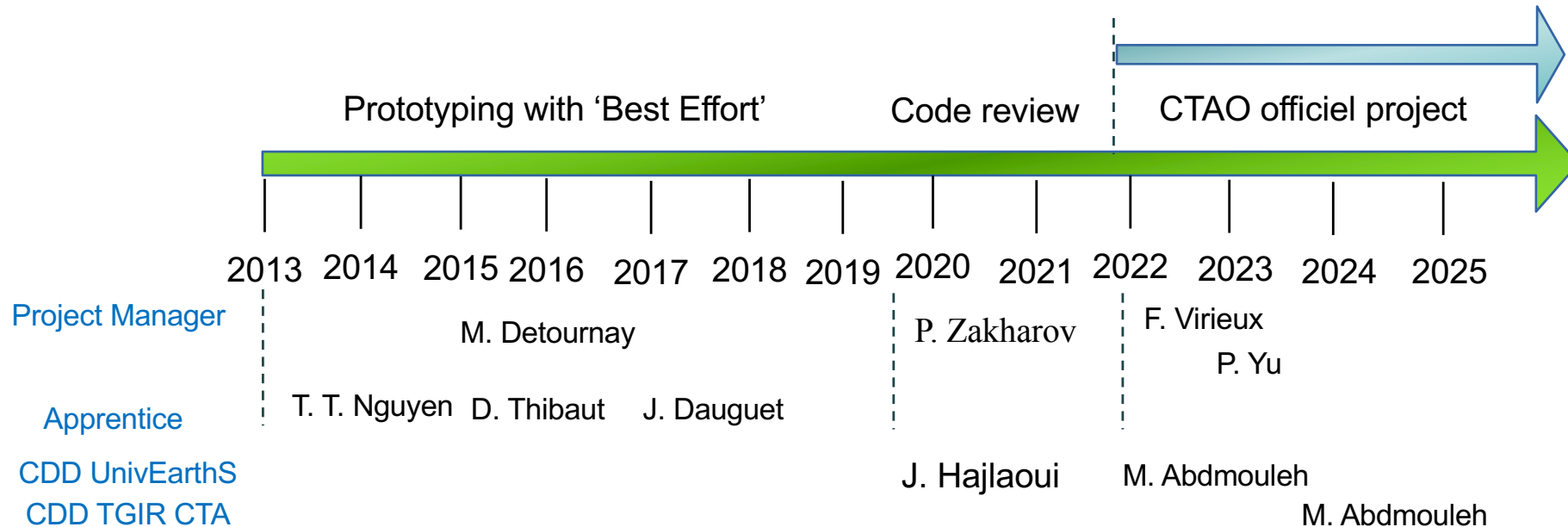
The 'proposals' are the first created data of the whole data flow of the observatory





History of CTA-PHP

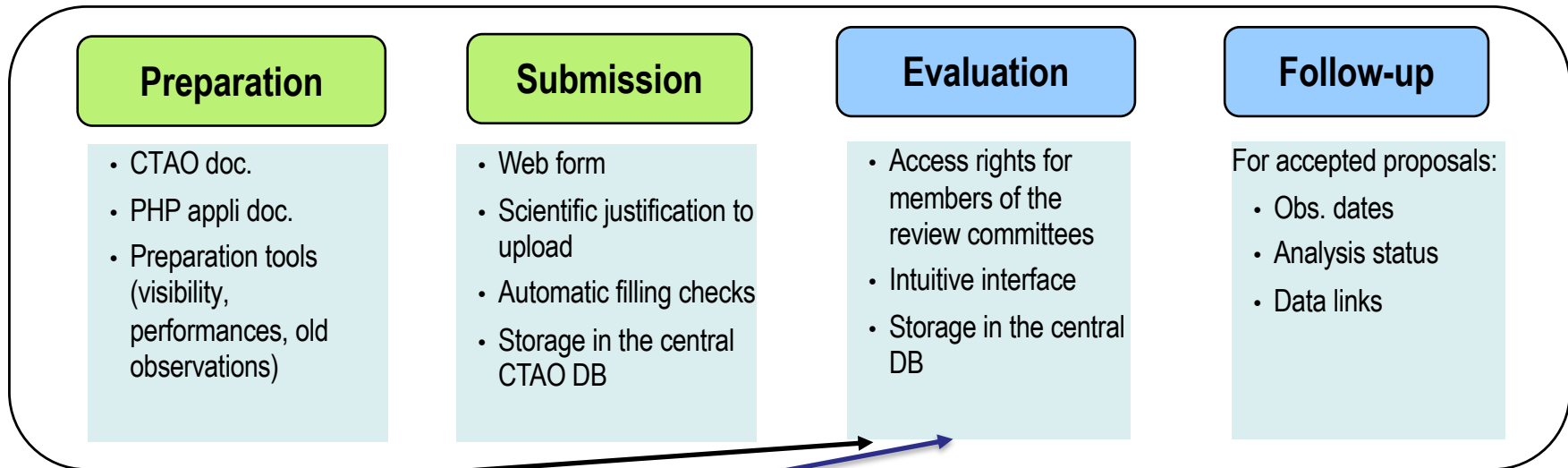
Scientific officer : B. Khelifi



Fev. 2021 : Appel In-Kind = engagement of APC

CTA-PHP : work status and project team

Proposal Handling Platform (PHP) functionalities of the management of the observation proposals:



Secretary interface

- Open/Close AO Call
- Valid different stages
- Assign the members of TRC and TAC
- access proposals dashboard

TRC/TAC... interface

- Evaluate, score and rank proposals
- Commente, re-attribute the observation time
- Final evaluation and valitation

M. Abdmouleh	Engineer	100%
B. Khelifi	Scientific officer	25%
P. YU	Project Manager	30%



CTA-PHP: Preparation – Target Visibility

cta [Return to the portal of CTA-PHP](#)

Target Visibility

Enter a Target Name: Or enter coordinates: RA/DEC

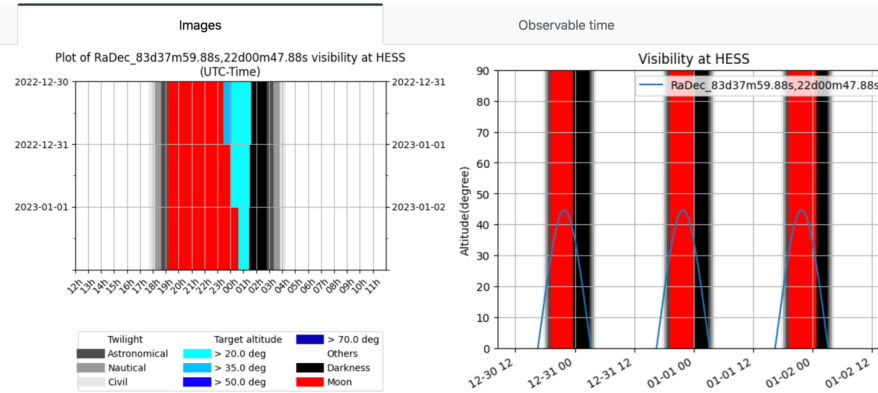
δ, β

Site selection:

Date of beginning:

Range [Days]:

Types of Plot
 Large Plot and Altitude



Target Visibility

Images	Observable time
Target above 20.0 deg at HESS :	
<ul style="list-style-type: none"> Total Observable time at night 0 : 126.00000000000003 min. From 2022-12-30T23:26:00.000 to 2022-12-31T01:32:00.000 Total Observable time at night 1 : 88.0 min. From 2023-01-01T00:00:00.000 to 2023-01-01T01:28:00.000 Total Observable time at night 2 : 48.00000000000007 min. From 2023-01-02T00:36:00.000 to 2023-01-02T01:24:00.000 	
->Total observable time on 3 Days : 262.0000000000001 min.	
Target above 35.0 deg at HESS :	
<ul style="list-style-type: none"> Total Observable time at night 0 : 35.000000000000036 min. From 2022-12-30T23:26:00.000 to 2022-12-31T00:01:00.000 Total Observable time at night 1 : 0 min Total Observable time at night 2 : 0 min 	
->Total observable time on 3 Days : 35.000000000000036 min.	
Target above 50.0 deg at HESS :	
<ul style="list-style-type: none"> Total Observable time at night 0 : 0 min Total Observable time at night 1 : 0 min Total Observable time at night 2 : 0 min 	
->Total observable time on 3 Days : 0.0 min.	
Target above 70.0 deg at HESS :	



CTA-PHP: Submission

New proposal form

AO call: 4th AO Call · Start [UTC]: 2023-01-01 08:00 a.m. · End [UTC]: 2023-12-31 00:00 a.m.

Proposal name

Title *

General information

Abstract *

Short presentation of the goal(s) of your proposal (max. 1000 characters)

Proposal class

Proposal type *

Proposal category *

Target requested time (hours)

Proposal history *

Team

PI

Co-PI

Co-I *

With PHD

Experience with data analysis

Scientific justification

Scientific justification file *

[Download the templates](#)

Target(s) to observe

[Add target for the chosen proposal type](#)

[Save proposal as draft](#) [Submit proposal](#) [Cancel](#)

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Proposal form

Observing constraints

Zenith Range [*]

Range of the allowed zenith angle of the observations [units=deg, range=0.0;90.0]

Minimum sky quality
Minimal weather conditions for the observations, e.g. Very Good,Good, Marginal

Night Sky Background range [MHz]

Imposed range of accepted NSB rate (mainly due to the moon) allowed for the observations [units=MHz, range=0.0;1000.0]

Observing time window(s) [MJD]
Imposed list of Modified Julian Days of the observations, e.g. [36321.1,36321.6], [36325.6,36326.1]

Science analysis configuration

Online Analysis Configuration
Configuration name used for the on-site data analysis, e.g. Standard, Hard, Soft

Offline Analysis Configuration
Analysis configuration for the final DL3 products, e.g. Standard, Hard, Soft

[Save target as draft](#) [Validate and save](#) [Cancel](#)

Target form

My proposals dashboard

[Draft proposal\(s\) as PI](#) [Submitted proposal\(s\) as Co-PI](#) [Submitted proposal\(s\) as Co-I](#)

Draft proposal(s) as PI

Title	ID	AO call	Class	Type	Category	Associated target(s)	Target(s) requested time (hours)	Saving date [UTC]	Actions
proposal 4	16	5th AO Call	KSP	Standard	TAC : Gal / Other	my target	24.0	2023-03-09 14:02 p.m.	/ !
proposal 3	12	4th AO Call	GO	Standard	TAC : Gal / Other		0.0	2023-03-06 13:51 p.m.	/ !
proposal 2	9	4th AO Call	GO	Monitoring	TAC : Gal / PSR	monitoring target	10.0	2023-03-01 14:29 p.m.	/ !
proposal 1	7	4th AO Call	GO	Triggered Observation Program	TAC : Gal / SNR	ToO target	12.0	2023-03-01 09:58 a.m.	/ !
draft proposal 1	4th AO Call	GO	Standard	TAC : Gal / Other			0.0	2023-02-27 16:26 p.m.	/ !

Announcement of Opportunity for proposals

Select a proposal class:

List of opened AO calls

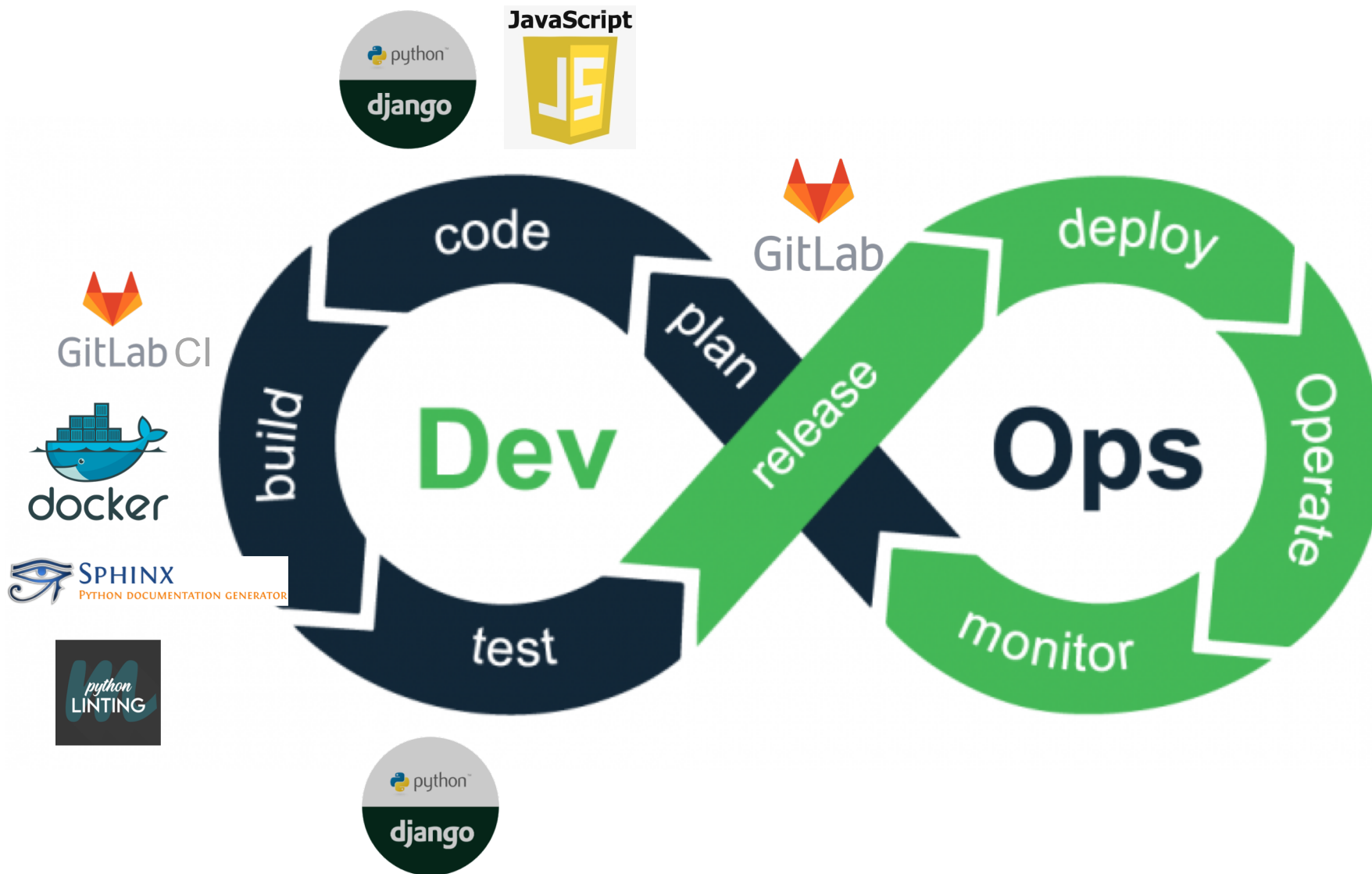
Proposal class	AO Call name	AO call start [UTC]	AO call end [UTC]	Documentation	Action
GO	4th AO Call	2023-01-01 08:00 a.m.	2023-12-31 00:00 a.m.	Brief description	Create proposal
KSP	5th AO Call	2023-02-01 08:00 a.m.	2023-11-30 00:00 a.m.	Brief description	Create proposal

List of closed AO calls

Proposal class	AO Call name	AO call start [UTC]	AO call end [UTC]	Documentation
GO	1st AO Call	2022-06-01 08:00 a.m.	2022-06-30 00:00 a.m.	Brief description
KSP	2nd AO Call	2022-08-01 08:00 a.m.	2022-10-31 00:00 a.m.	Brief description
KSP	3rd AO Call	2022-11-01 08:00 a.m.	2022-12-31 00:00 a.m.	Brief description



DevOps (Development and Operations)





Main challenges

1. Lack of the official technical specifications of CTAO

Consequence:

the product should be adapted to the future requirements on the functionalities, the interfaces, graphical charter etc.

2. One AO Call can be different from one type to another and from one year to another

- During a year, there will be several calls for observation proposals running in parallel
- The calls might have different fields in the submission form
- One call → one 'data model'

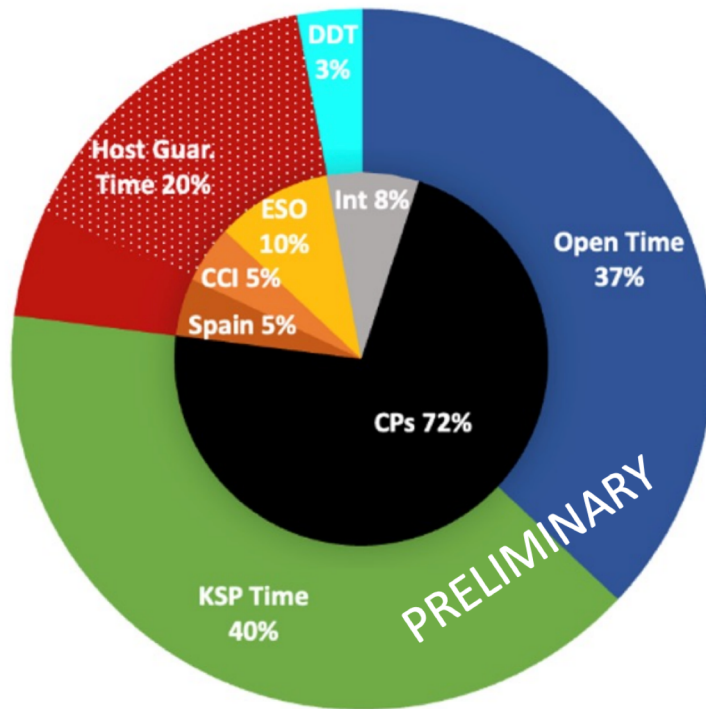
Consequence: This requirement is technically challenging

- It impacts how the data base is designed
- It can potentially increase the cost of maintenance if ones to update the code each year
- It can potentially increase the code length, rendering the maintenance harder

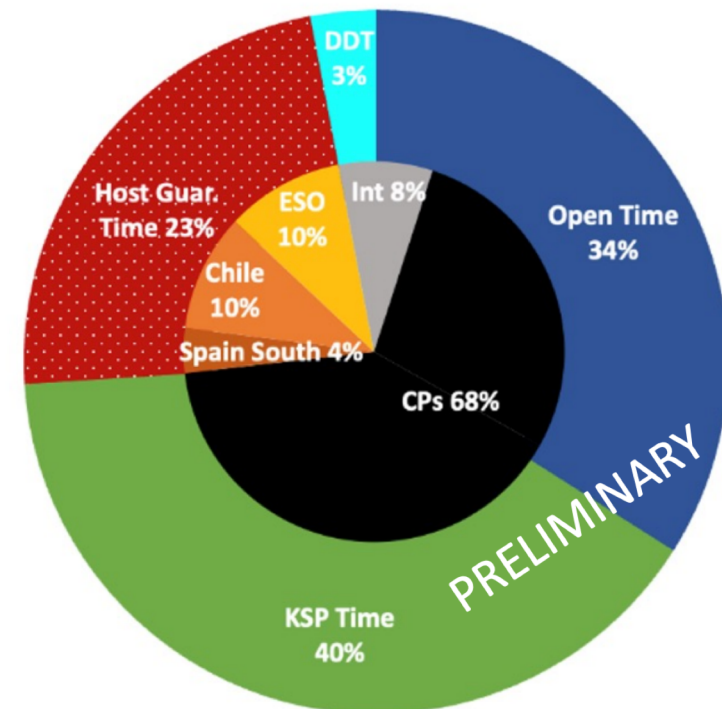


Access Policy

CTAO-North
(integrated over the first 10 yr of the Operation phase)



CTAO-South
(integrated over the first 10 yr of the Operation Phase)



CTA Consortium Board Call – January 18, 2023



Main milestones

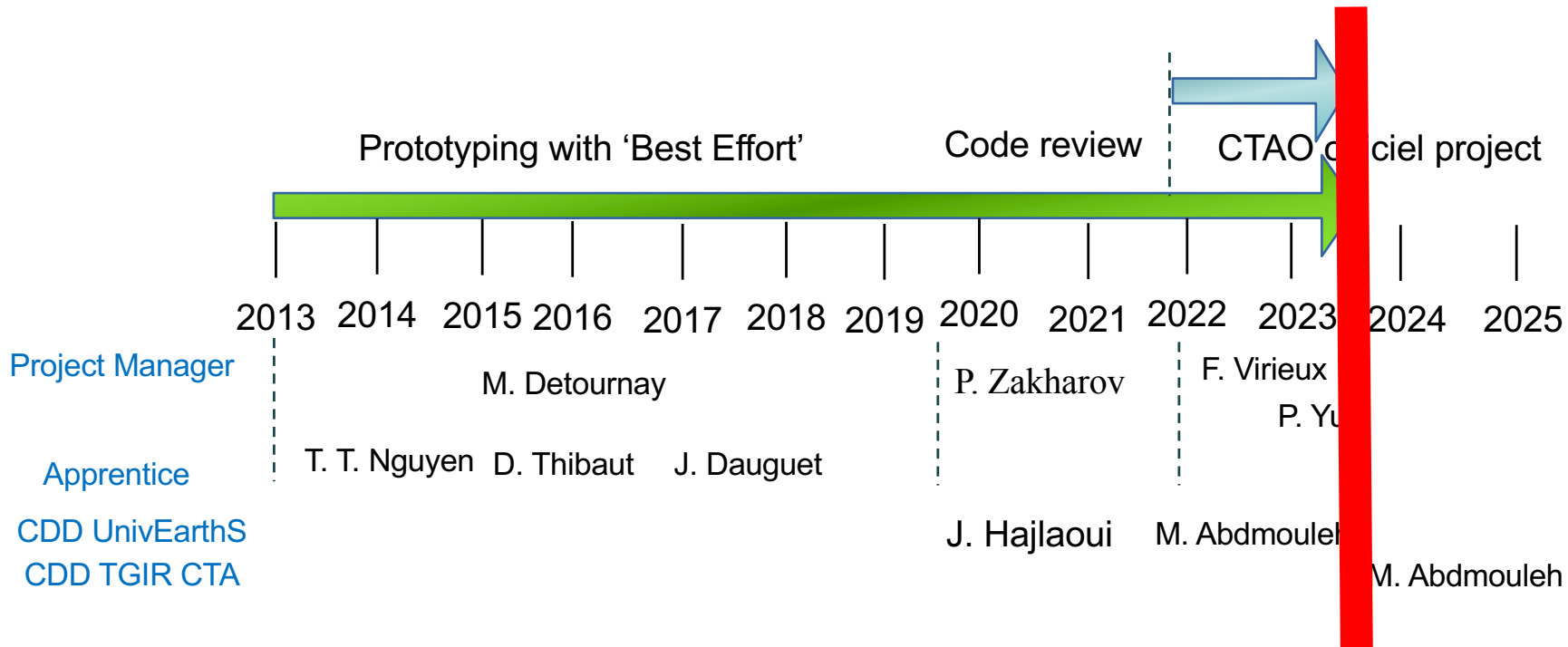
Description du jalon	Livrable APC	Date	Description du jalon	Livrable APC	Date
Première version de la partie « Soumission »	Software, v0.1	Dec. 2022	IKC for the SUSS products	Documentations, quality plan	2023/24
Documentation technique	Documentation, V0.1	Dec. 2022	SUSS TDR	First 'professional' version	2024/25
Développement de la partie « Évaluation »		(18mois) Sep. 2024	SUSS CDR	Improved version	2026 ?
R&D « Modularité »		(>12mois)	CTAO Science Verification of telescopes	Version used for the targets selection	2027 ?
Charte graphique		(<6mois)	CTAO SUSS products achievement	Version fully integrated in the CTAO infra	2027 ?
DevOps		(>6mois)	CTAO full operation	World-wide production version	2030 ?



Immediate risk – SOS Human resource

M. Abdmouleh :

can't renew her residence permit, so can't renew her employment contract.



Scientific officer : B. Khelifi



Acronyms

AO	Announcement of Opportunity	PHt	Proposal Handling tools
Co-I	Co-Investigator	PI	Principal Investigator
CTA	Cherenkov Telescope Array	SMC	Science Management Committee
CTAO	Cherenkov Telescope Array Observatory	TAC	Time Allocation Committee
DDT	Director Discretionary Time	ToO	Target of Opportunity
CTA- PHP	CTA Proposal Handling Platform	TRC	Technical Review Committee