



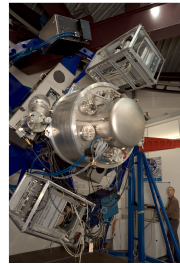
The Challenge(s) *of* 15 years of VLT Operations

Francesca Primas

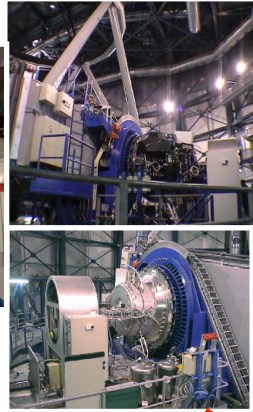
European Southern Observatory



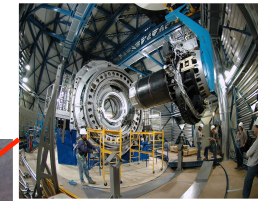
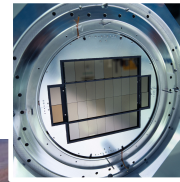
The Very Large Telescope



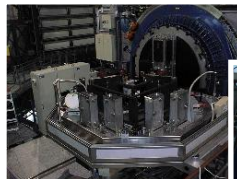
VIMOS
SPHERE
VISIR



OmegaCAM



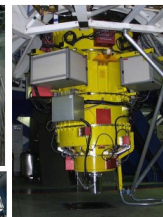
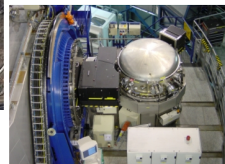
VIRCAM



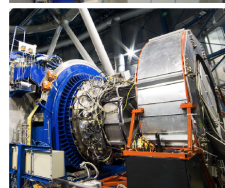
UVES
FLAMES
X-SHOOTER



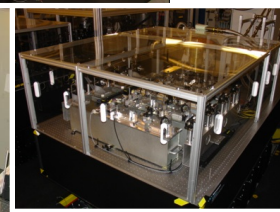
SINFONI
HAWK-I
MUSE



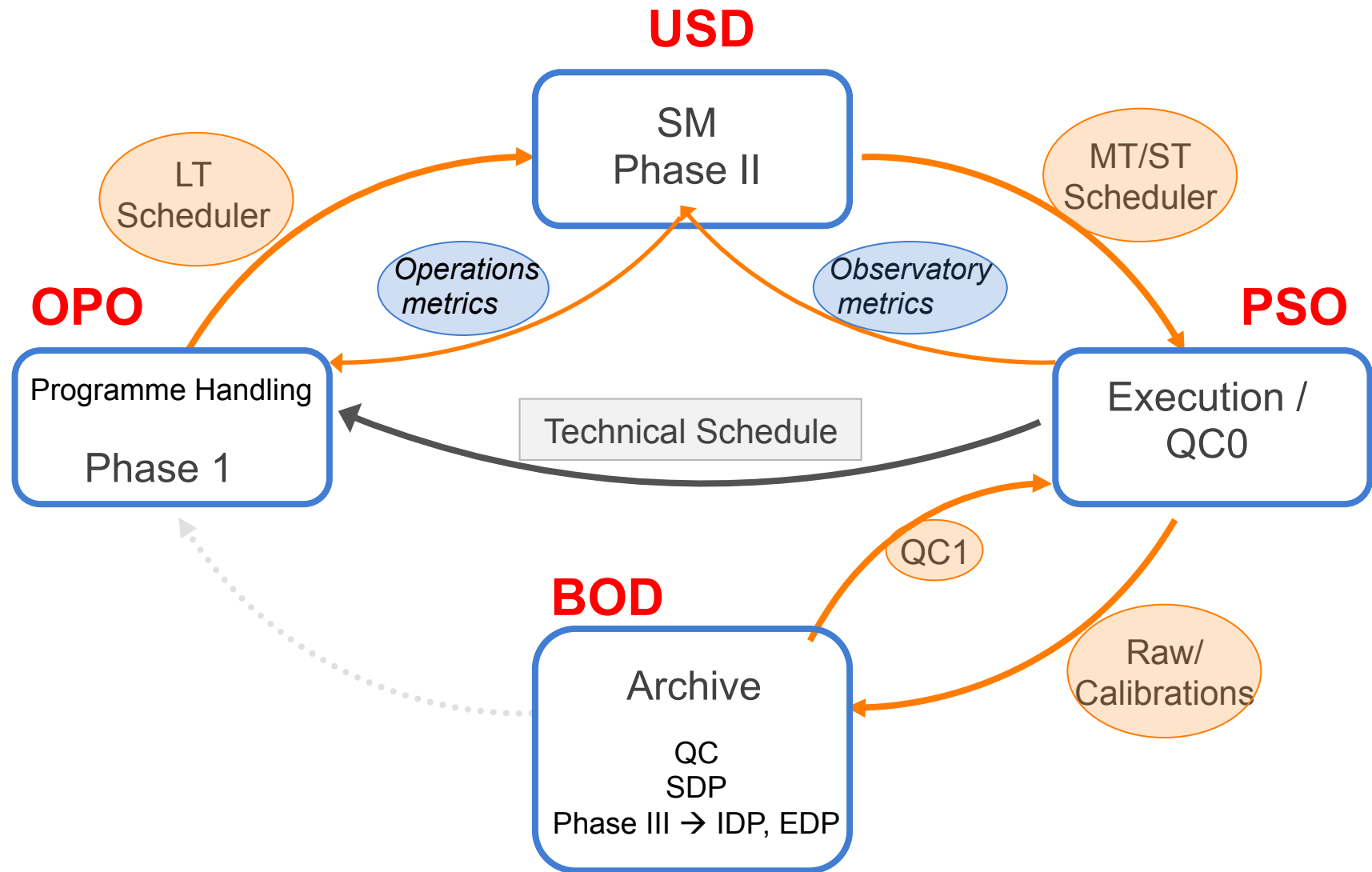
FORS
KMOS
NACO



AMBER
MIDI
PIONIER



The VLT model *end-to-end*





Observing at the VLT

Hybrid model with a large fraction of queue observing (Service Mode)

Recognized from the start key for the scientific excellence of the facility

- Service Mode [A/B/C]
 - Efficiency
 - Flexibility
 - Best conditions
 - ToO, RRM, monitoring
 - Optimization

- Visitor Mode
 - Standard mode
 - Educational
 - Real time decisions
 - Travel to Paranal

- DVM



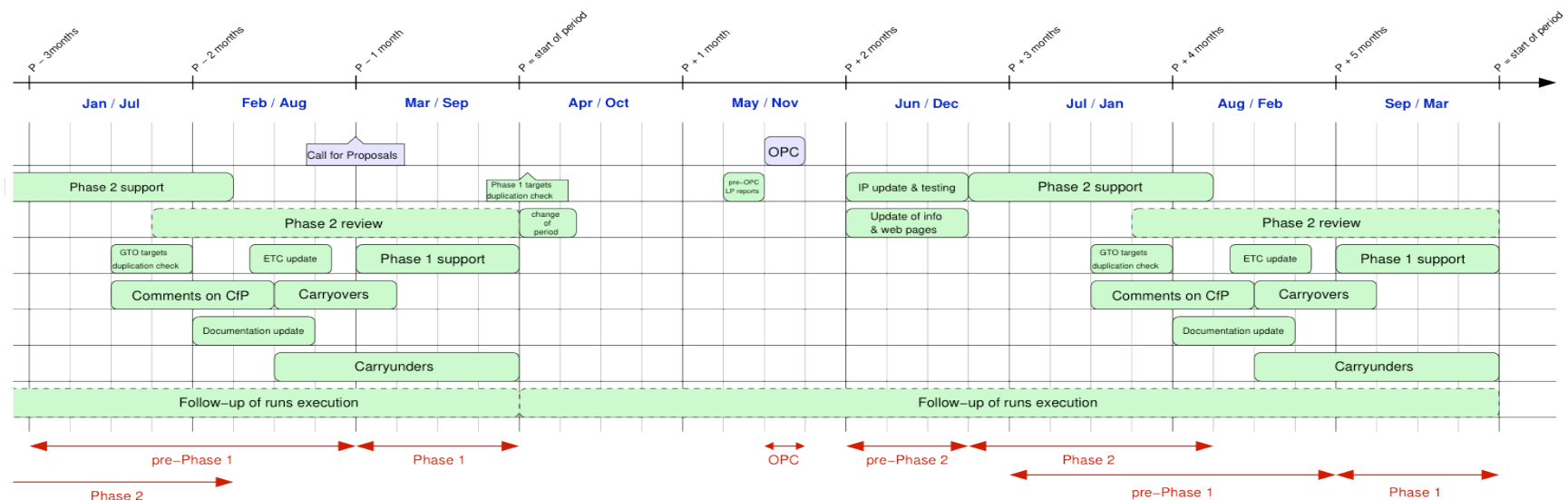
The VLT Cycle

- Semester-based (ESO Period: Oct–Mar; Apr–Sep)
- ~750 runs scheduled in total (400-500 new SM runs/Period)
(plus ~30 DDTs and carryovers)
- 170 Waivers / Period
- ~250 change requests / Period
- 1250 Remedy tickets / Period

40%
FORS
XSHOOTER
NACO

Flexibility

Help & Fix



How to evaluate/measure success?

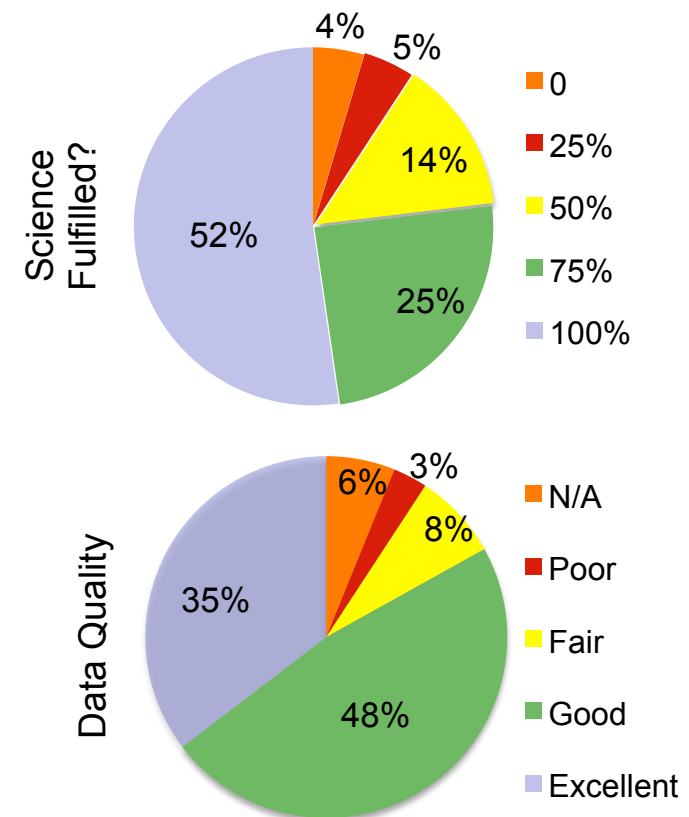
How and when do/can we state that we are successful?

What really counts?

Which are the best **KPIs**?

Users Satisfaction

- Very challenging to get regular feedback
 - Individual interactions
 - Users' Committee
 - Feedback campaigns
 - End-of-Mission Reports



How to evaluate/measure success?

How and when do/can we state that we are successful?

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 - Individual interactions
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Operational Metrics

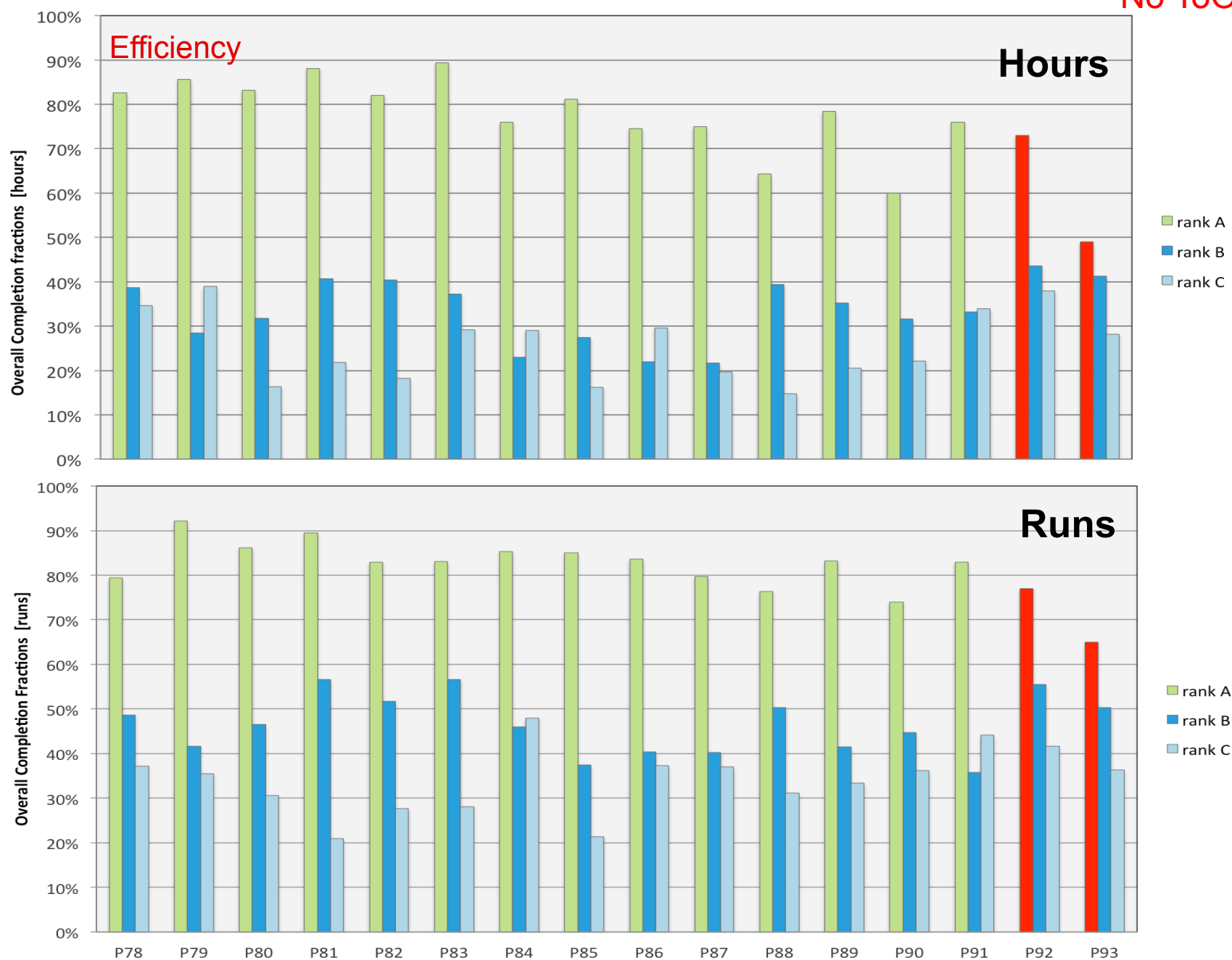
Primas et al. 2014, The Messenger

- Time available for science
- (Minimum) technical downtime
- **Completion rates**
- **Time needed to complete**
- Publications



KPI – Completion rates

No LPs
No ToO

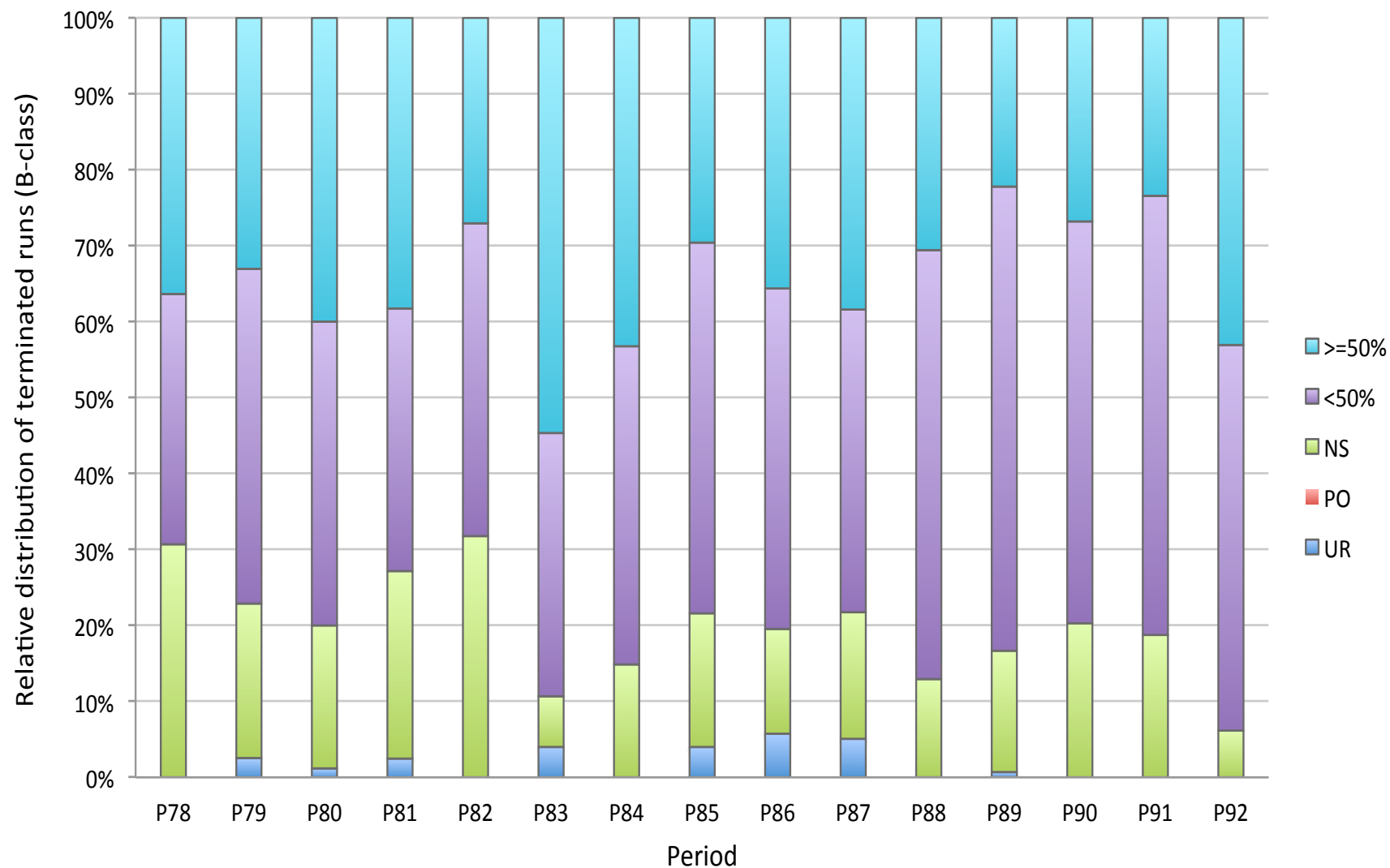




KPI – How completed are terminated runs?

Efficiency

Flavors of terminated runs: **B-class**

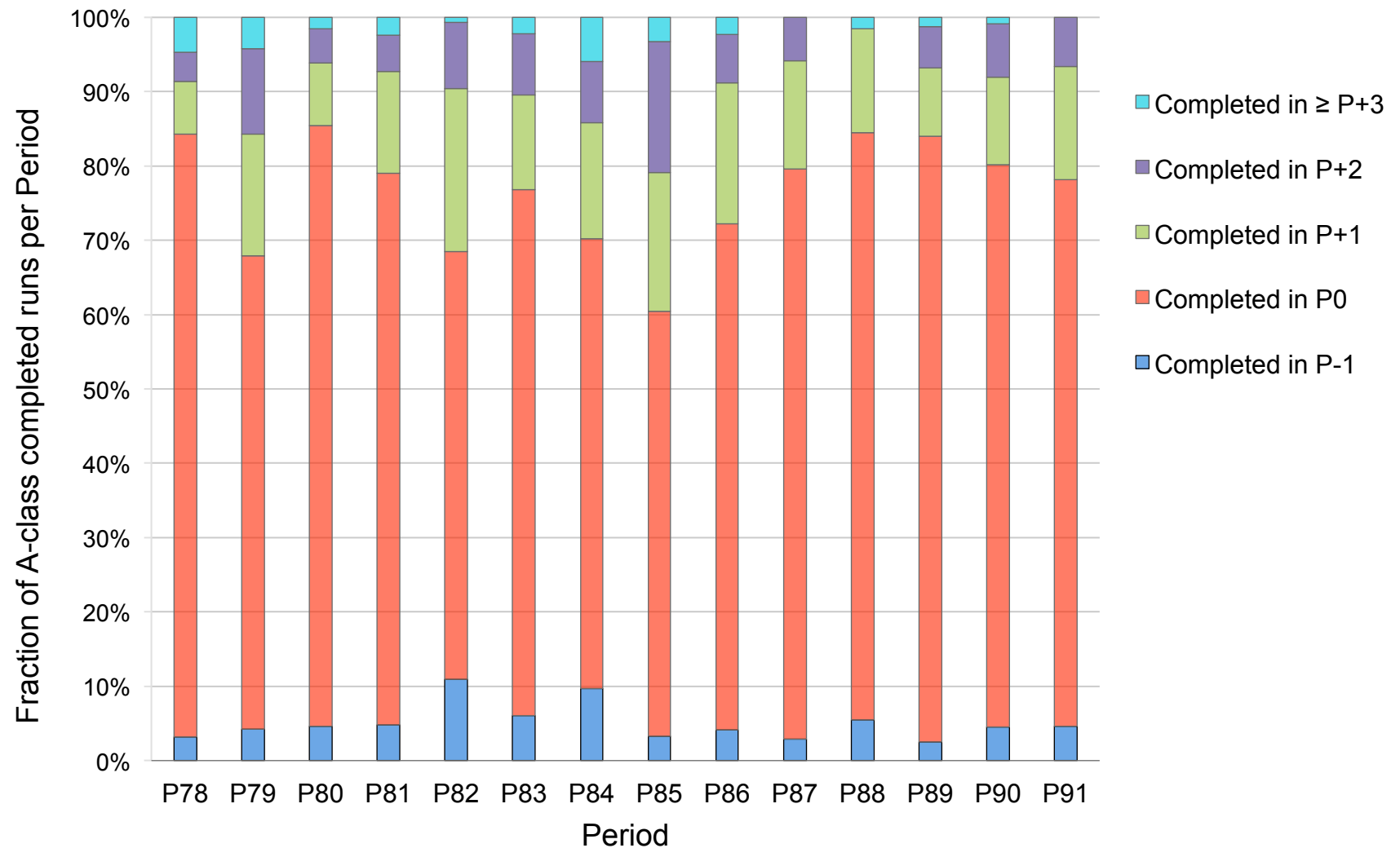




KPI – Completion timescales

Efficiency

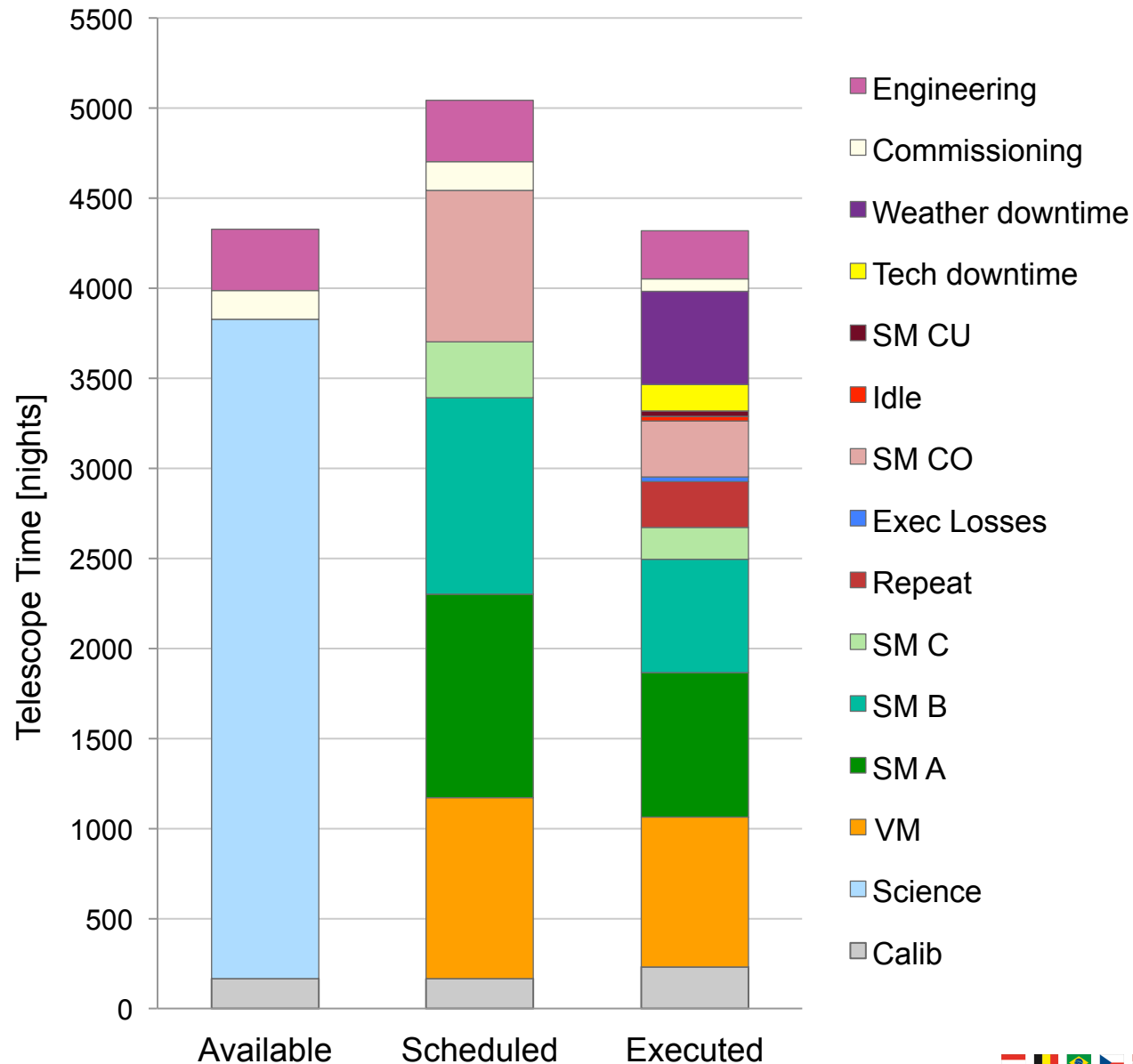
Timeliness of completion: **A-class**





KPI – Periods 85–90 [overall]

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Efficiency

A/C: OK
Time: OK

B: not OK

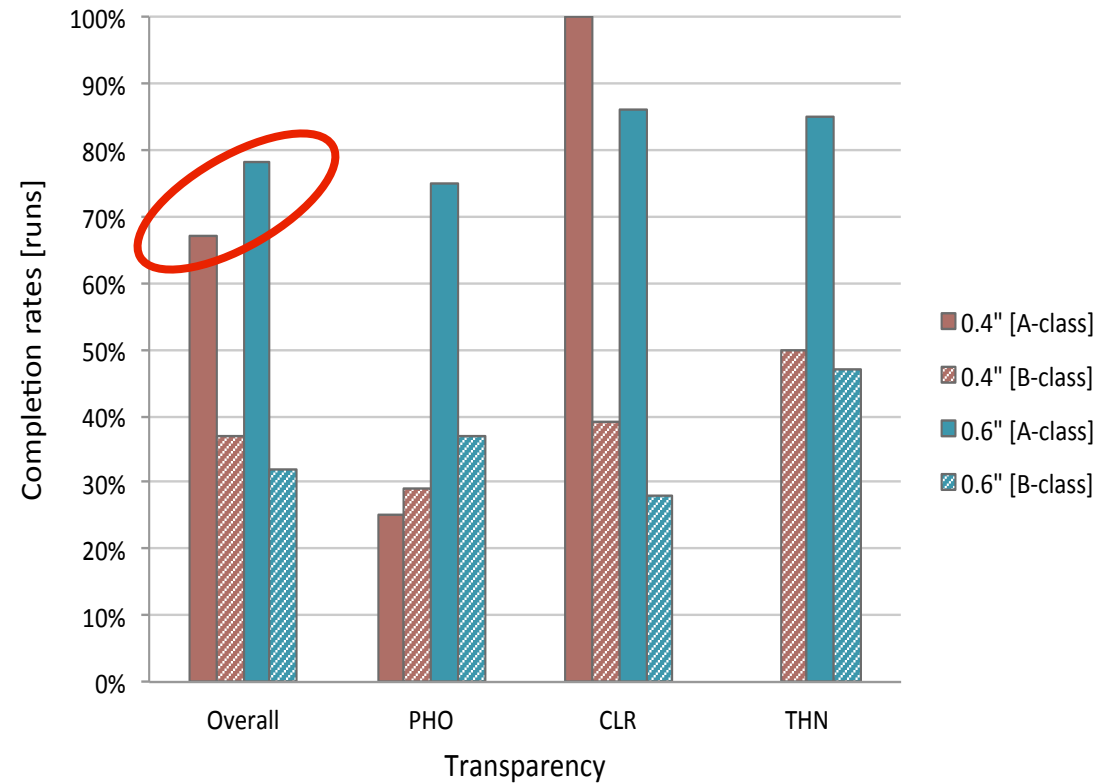
Carryover
Repeat





Is *queue observing* justified?

Seeing 0.4" **37 runs**
Seeing 0.6" 559 runs



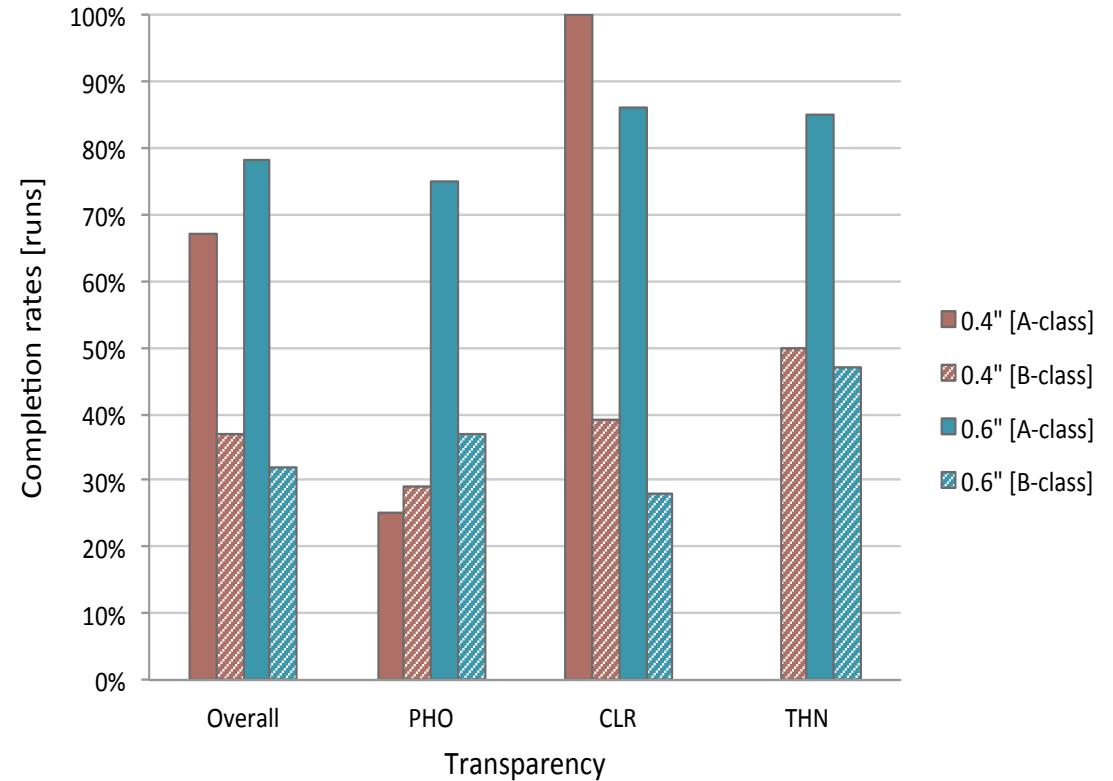
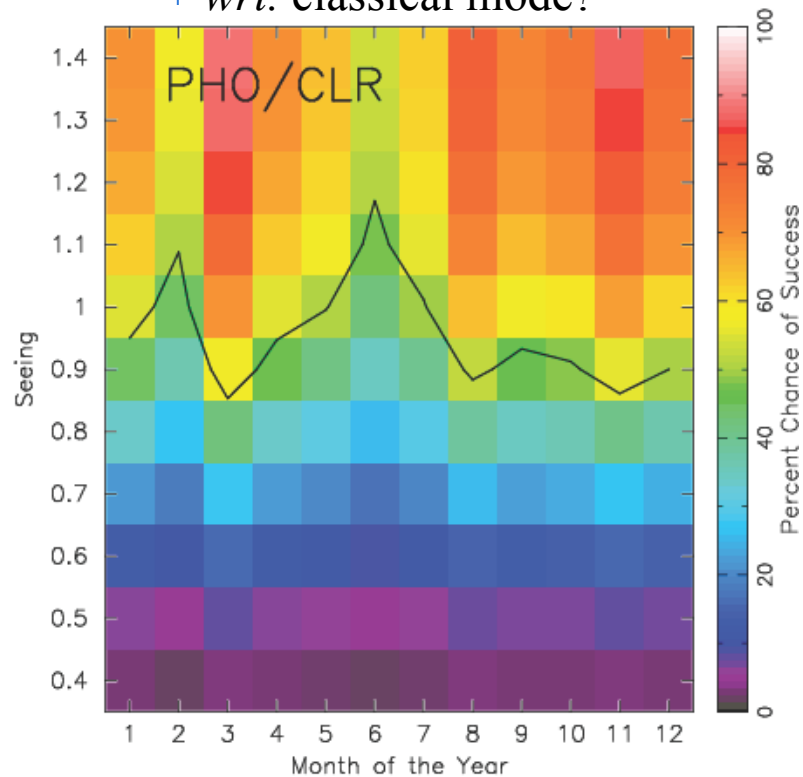
Best conditions: OK



Is *queue observing* justified?

Seeing 0.4" 37 runs
Seeing 0.6" 559 runs

wrt. classical mode?



Best conditions: OK

Winners or losers ?

Classical + queue
YES!

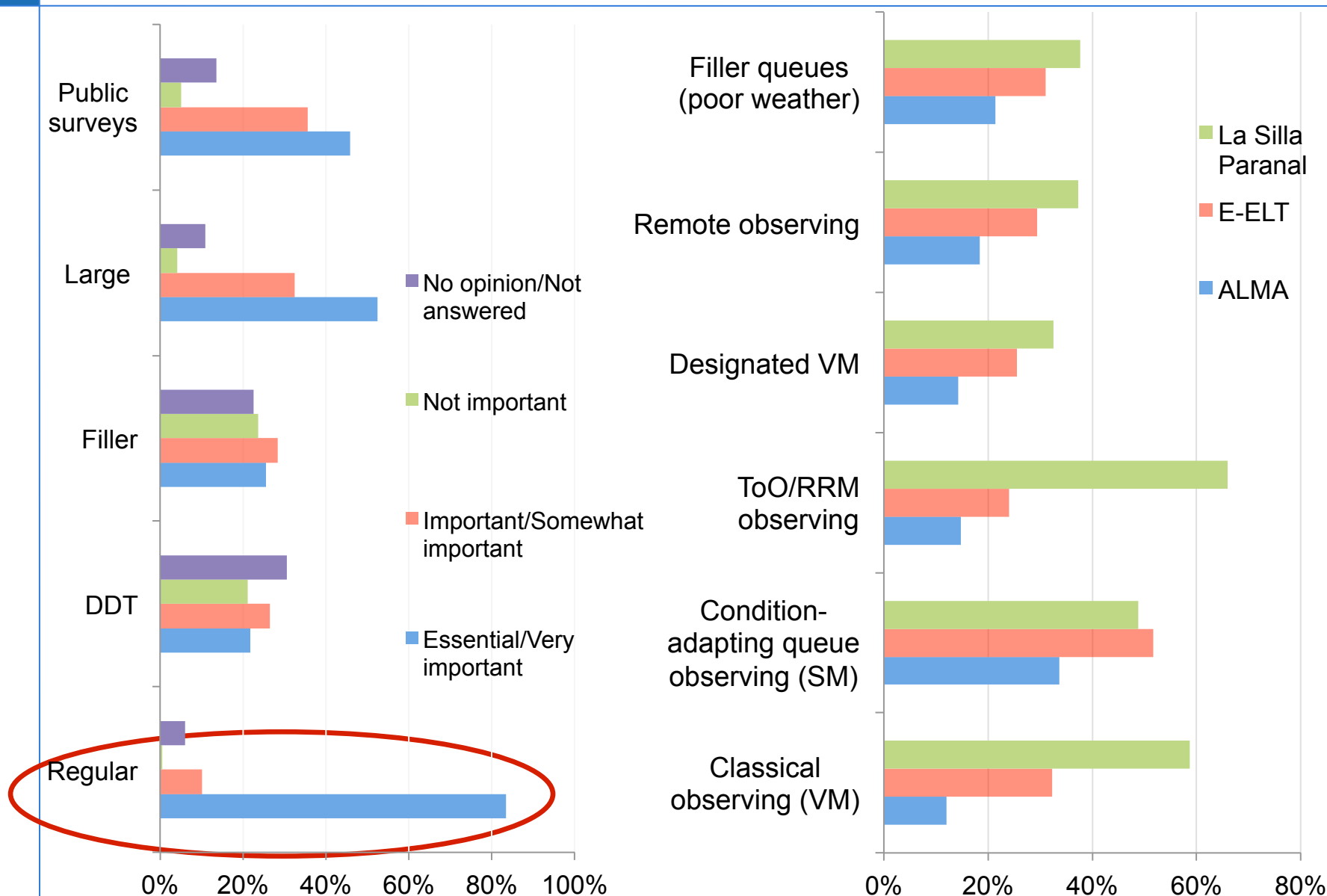
- Very little technical downtime
- Not perfect, but we are delivering
- Need to analyse weak points that have emerged (B-class)
- Need to possibly revise policies and scheduling
- Need to close the loop with a proper publications analysis
- Also to decide on most productive types of programmes





Poll ESO2020: Observing programmes & modes

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Poll ESO2020: Level of expected support

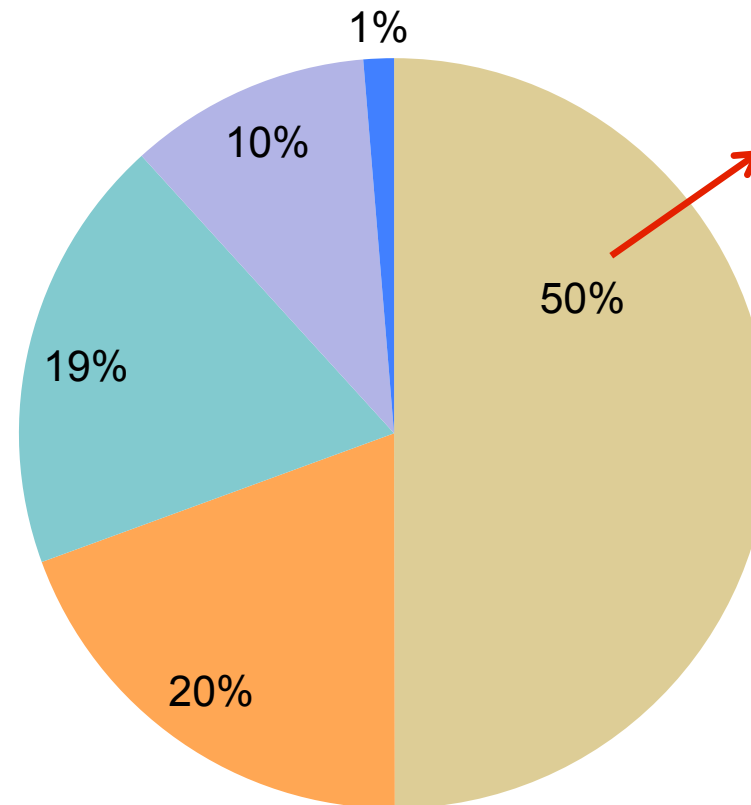
■ ESO routinely process and archive most or all science data

■ ESO routinely process and archive selected subsets of science data

■ Observers are responsible for data processing but returning the processed data to the ESO Archive

■ Observers are responsible for data processing, without any further commitment

■ Other



~60% Faculty
~30% Non-tenure
~10% Student

Students seem to need less support



Thank You

