

# XMM-Newton Overall Mission Status



Peter Kretschmar, Mission Manager  
XUG Meeting #21  
17–18 June 2020, Virtual Meeting

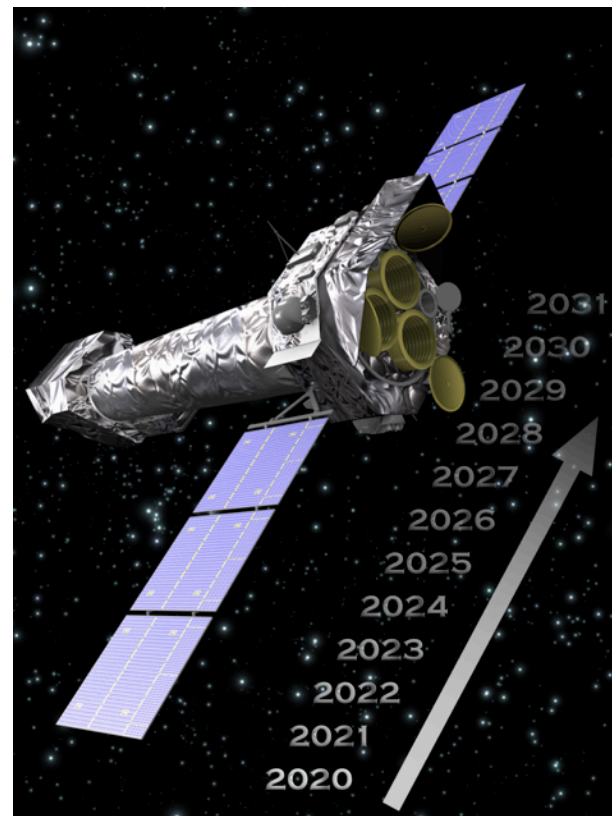
ESA UNCLASSIFIED - For Official Use



European Space Agency

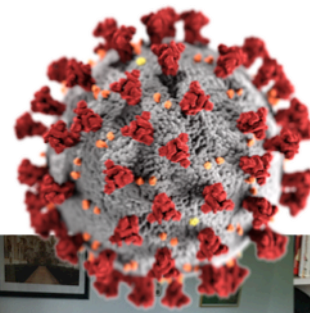
# The mission is in very good shape, ...

- All instruments in same general shape as last year. No major incidents.
- Thanks to great team efforts, very little impact of COVID-19 crisis on science operations. But some activities (including SAS) slowed down.
- Fuel replenishment activities are ongoing **this week**.
- ➡ XMM-Newton looking ahead to more than another decade of scientific operations.
- ➡ Ground Segment systems have evolved and adapted over the years. But long-term perspective brings new push for “rejuvenation” in order to serve for another decade.



# COVID-19 changed the world, XMM-Newton operations continued

- End February: emergency plans being developed.
- 11/12 March: ESAC/ESOC tested teleworking with minimal teams on site.
- 14 March: “estado de alarma” in Spain, 16 March: ESOC mainly teleworking.  
*We are still essentially in this scheme.*
- TOO’s very limited for week of 16-22 March, since then essentially normal. Teams have organised themselves very efficiently.
- Less critical, or longer-term activities (e.g., system updates) **are** being delayed.

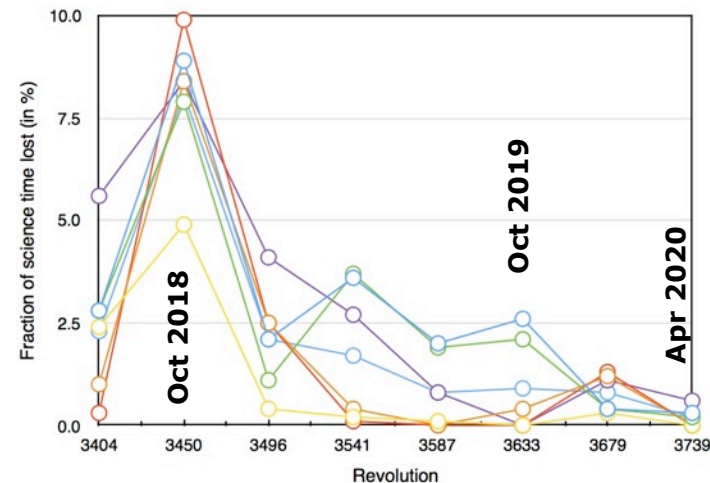
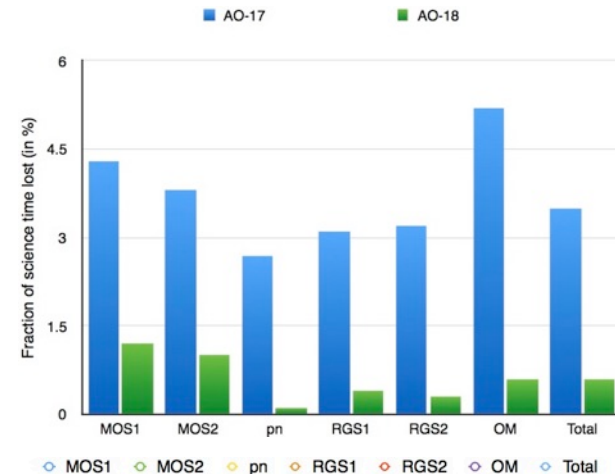


# The SPACON merger has been dealt with

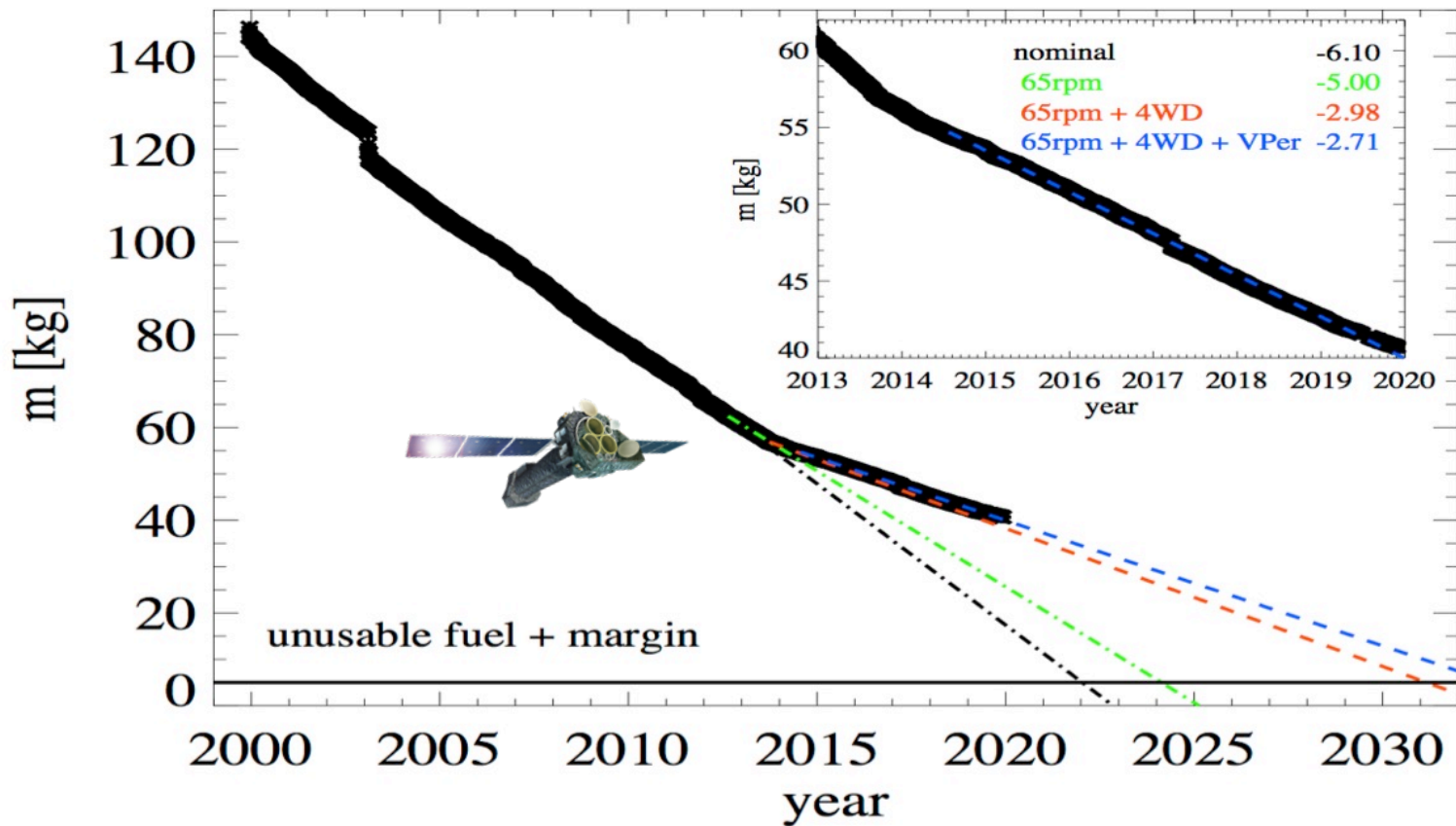
- Common Gaia/XMM-Newton/INTEGRAL SPACON team since 2018.
- Losses in science performance, reported last year mitigated by temporary extra support at SOC and MOC, automation of instrument recovery, build-up of instrument operations knowledge at MOC and tight MOC-SOC interaction in joint team.

**This was a major effort.**

- ➡ Essentially back to normal science performance, continuing effort for improving automation and further training across sites.



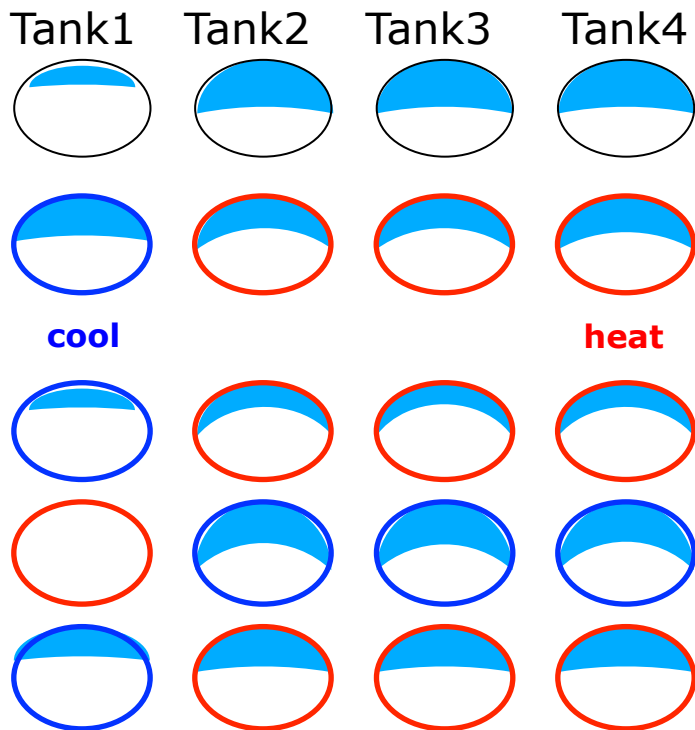
# Current fuel estimates give **life time** > 2030 ...



... but this requires tank replenishment happening  
**just these days**

Migration

Replenishment



This took place last year

Main gas transfer happening **tonight**

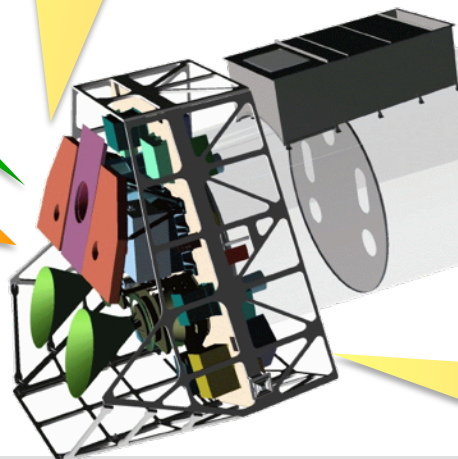
# Payload calibration making good progress

UG recommendations are being addressed and there is clear progress in various areas. But calibration never stops and especially cross-calibration remains a long-term effort.

👉 see presentations by M. Smith, R. Gonzalez and S. Rosen

PN LW mode  
energy scale  
correction

EPIC eff.  
area  
correction



PN fast  
modes rate  
dependency  
refinement

NuSTAR  
cross-  
calibration

RGS eff.  
area  
change

OM time dep.  
sensitivity  
corr. updated

Potential  
systematic  
errors wave-  
length scale

Origin of  
RGS eff.  
area change



## SOC staff changes

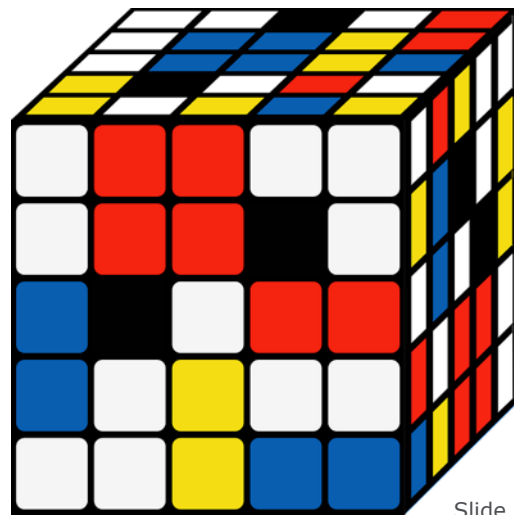


- Jan-Uwe Ness is leaving XMM-Newton at the end of the year. Working for INTEGRAL, XRISM, Research Fellows, ...
- John Hoar, Euclid Science Operations Development Manager, will start from summer at 25% to support the XMM-Newton SOC as System Engineer, to support the planned rejuvenation of the SOC systems.



# Framework puzzles

- ESA Frame Contracts for contractor support are being renewed. The current target date for new contracts in Science is mid next year.
- For various reasons, the contract structure in subareas is being changed significantly. Emphasis on functional areas across missions at ESAC.
- ➡ The change will affect SOC organisation, although the basic idea is to neither change people nor work to be done.
- ➡ Significant effort at management level for ESA and for companies.



Slide 9

# In summary

Stable community  
interest and productivity

Spacecraft &  
instruments remain in  
good shape; fuel  
replenishment ongoing

SPACON merge impact  
mitigated

Clear progress on  
calibration, but a lot of  
work remains



SOC systems will need  
to be adapted for the  
long-term future



Major changes in  
contractual framework

