



# PROJECT STATUS

CLEAN SPACE INDUSTRY DAYS - 17 OCTOBER 2023

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# SUMMARY TITLE

1 What is EROSS IOD ?

4 The next steps

2 The mission

3 The progress status

# WHAT IS ERSS IOD ?

- EUROPEAN ROBOTIC ORBITAL SUPPORT SERVICES IN-ORBIT DEMONSTRATOR
- GOAL: EXTENDING SATELLITE LIFETIMES WHILE LIMITING SPACE DEBRIS TO ENABLE BETTER MANAGEMENT OF THE CURRENT AND FUTURE SPACE ASSETS
- EROSS IOD WILL VALIDATE THE TECHNOLOGIES NEEDED FOR ROBOTIC IN-SPACE SERVICING OPERATIONS, CULMINATING IN AN EUROPEAN PIONEERING MISSION BY 2026
- FUTURE SPACE SYSTEMS WILL BE ABLE TO UNDERGO MAINTENANCE AND UPGRADES EVEN IN ORBIT
- CONSORTIUM OF 17 COMPANIES, 100% FUNDED BY EU FUNDING VIA A GRANT



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# THE PATHFINDER MISSION

/// Objective : to demonstrate autonomous rendezvous and robotics technologies in space

/// Main steps of the concept of operations:

- / Prepared and unprepared rendezvous
- / Prepared and unprepared capture
- / Refueling interface leakage test
- / Robotic displacement of a unit from servicer to client

/// Will pave the way for :

- / Inspection
- / Life extension by:
  - Station keeping and AOCS takeover
  - Refueling
- / Upgrade
- / Assembly



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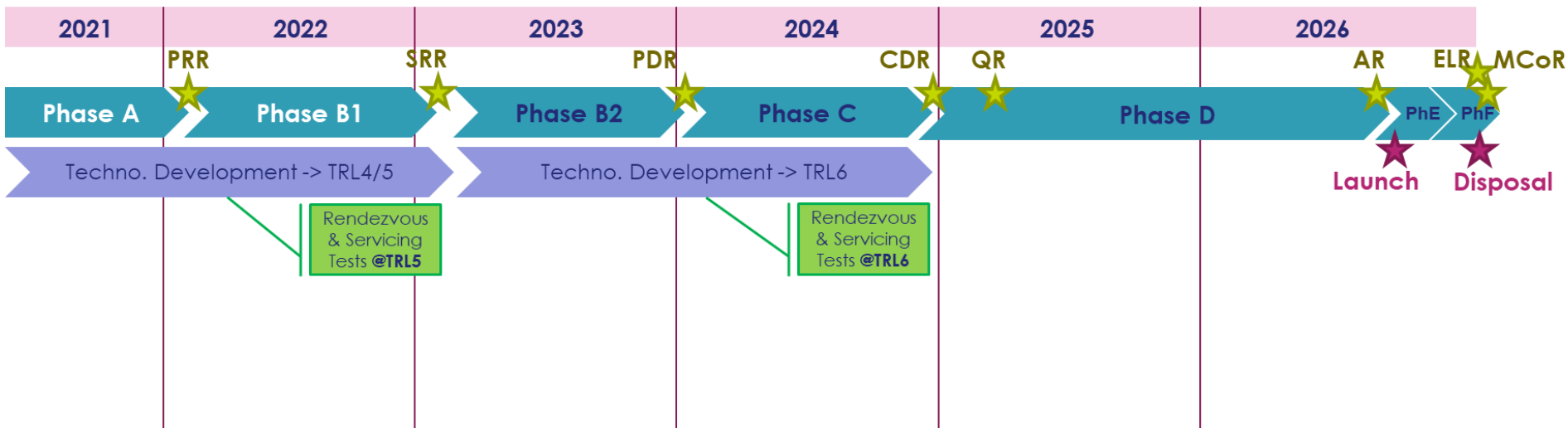


# THE SCHEDULE

We are here



PRR : Preliminary Requirements Review  
 SRR : System Requirements Review  
 PDR : Preliminary Design Review  
 CDR : Consolidated Design Review  
 QR : Qualification Review  
 AR : Acceptance Review  
 ELR : End-of-Life Review  
 MCoR : Mission Close-out Review



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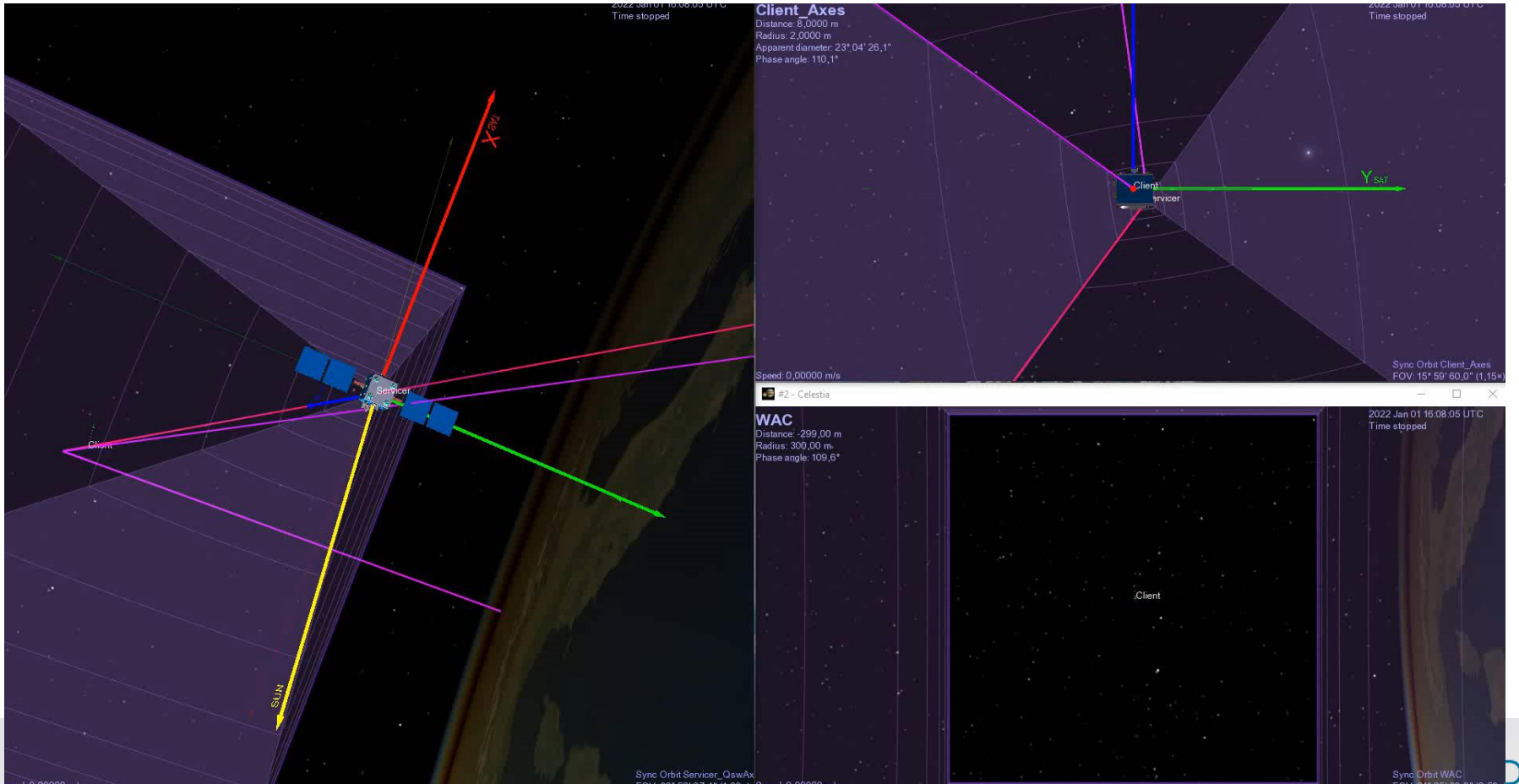
# WHAT HAVE WE DONE SO FAR ?

EROSS+ demos end 2022



# CURRENT STATUS : GUIDANCE – NAVIGATION - CONTROL

Courtesy Thales Alenia Space France



# CURRENT STATUS – IMAGE PROCESSING

/// For rendezvous



Courtesy GMV

/// For robotics

! Unprepared

Prepared



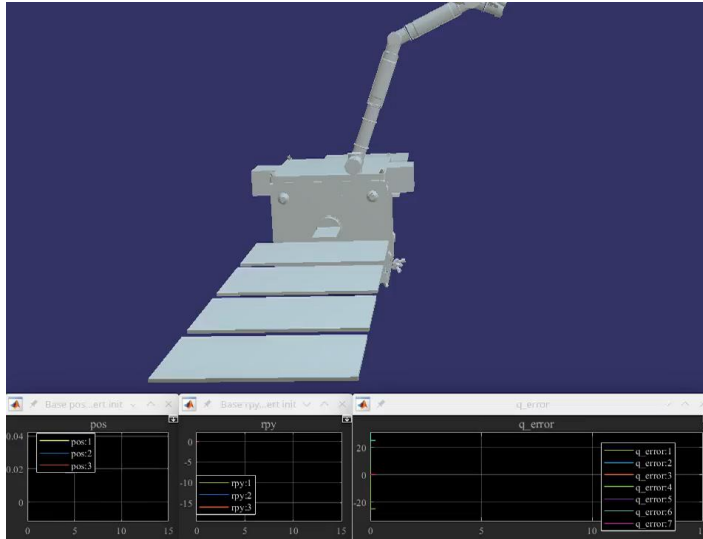
Courtesy Thales Alenia Space Italy



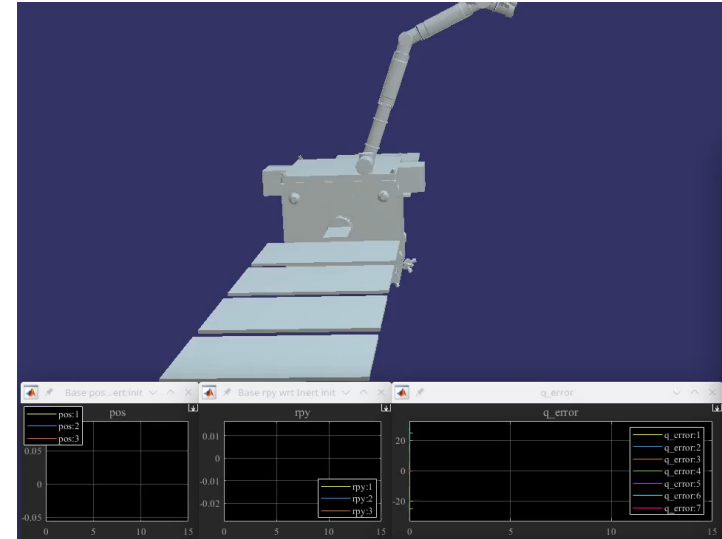


# CURRENT STATUS – ROBOTIC SUBSYSTEM

/// Floating base



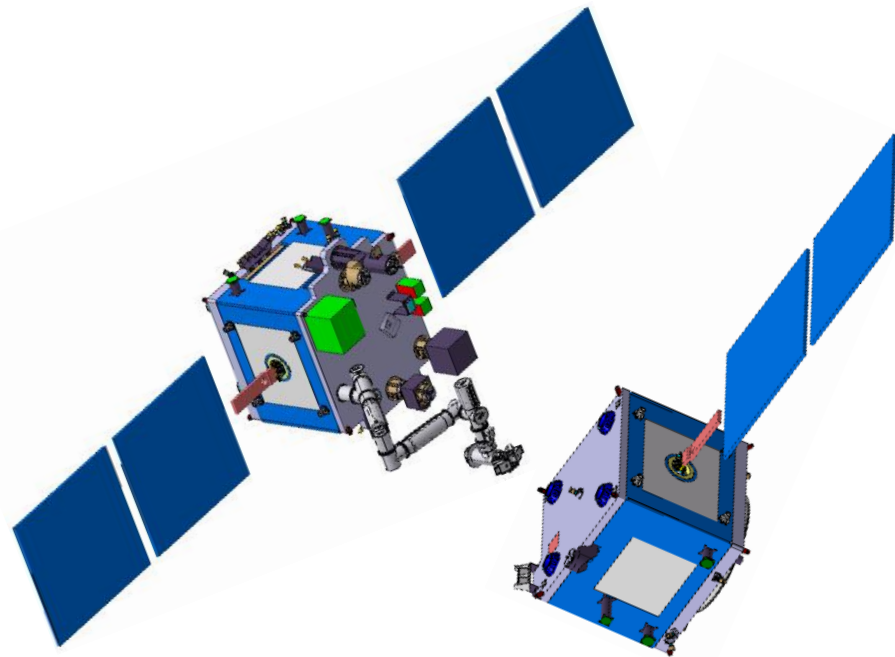
Coordinated control



Courtesy DLR

# NEXT STEPS

/// Latest event: Progress meeting in Brussels:



/// Next milestone : PDR beginning of 2024

# THANK YOU FOR YOUR ATTENTION !

<https://www.eross-iod.eu/>

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