



# WPSA Enhancement Projects - Summary

WPSA General Meeting (06-05-2022)

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- EDICAM already commissioned without plasma: Ready for operation with plasma, contributing to machine commissioning
- Most of FP8 projects in manufacturing/procurement phase with most deliveries expected during 2022:
  - Important work of monitoring evolution of components manufacturing (iterations with different companies involved)
  - Testing/verification/validation of specs fulfilment

# FP8 Enhancement Projects Summary



- EDICAM already commissioned without plasma: Ready for operation with plasma, contributing to machine commissioning
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  - Important work of monitoring evolution of components manufacturing (iterations with different companies involved)
  - Testing/verification/validation of specs fulfilment
- For some projects (FIELD, MGI, VUV, PLS), PA signature pending (expected during 2022):
  - FIELD and VUV relying on radiation shielding assessment
  - QST requirement due to significant impact in space occupation and budget

# FP8 Enhancement Projects Summary



- EDICAM already commissioned without plasma: Ready for operation with plasma, contributing to machine commissioning
- Most of FP8 projects in manufacturing/procurement phase with most deliveries expected during 2022:
  - Important work of monitoring evolution of components manufacturing (iterations with different companies involved)
  - Testing/verification/validation of specs fulfilment
- For some projects (FILD, MGI, VUV, PLS), PA signature pending (expected during 2022):
  - FILD and VUV relying on radiation shielding assessment
  - QST requirement due to significant impact in space occupation and budget
- During sessions, comments on (open points to be considered):
  - PLS primary objective fuelling (based on well established simulations). Pacing capabilities (and others like disruption mitigation) will come from experience
  - TS to consider extra polychromator for disruption studies (low temperature  $\sim 1$  eV)



- Mature projects (TPCI, DR, EC Stray) to update/finalize proposal during 2022:
  - Progress in mechanical design and assessments
  - Timeline and budget estimation
- Newer projects encouraged to complete feasibility studies with special focus on:
  - Completing assessments ongoing
  - Converging the work done (2021-2022)



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  - Completing assessments ongoing
  - Converging the work done (2021-2022)
- Reports to be ready 1 month before end of 2022:
  - Report on Enhancements to be provided by WPSA Coordination Team
  - Grant Deliverable (Dec 2022): SA.D.04 Documented plan of EU enhancement programme for BA Phase II–2025-2029
- Priorities on machine enhancements being defined by EU and QST Experiment Teams: expected to be ready by Q3/2022



- Projects developing modelling activities (Neutrons, BES, EC Stray, TPCI,...) are encouraged to interact and coordinate with Code Management and Simulation Area (G. Falchetto)
  - Keep track and centralize modelling activities in WPSA Programme
  - Handle requests of inputs (scenarios, results, ...)
  - Efficiently exploit possible synergies between modellers



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- Significant activity ongoing (and expected in 2022) regarding Remote Access Architecture project in view of IC
- EC Stray Detection System to continue interactions with IO/QST: Testing ITER sensor in QST
- Importance of Neutronics simulations for radiation shielding assessment: some FP8 enhancements depending on them (FILD, VUV -now-, PLS, TS -future-)
- Langmuir probes and Doppler Reflectometry projects will report in future meetings





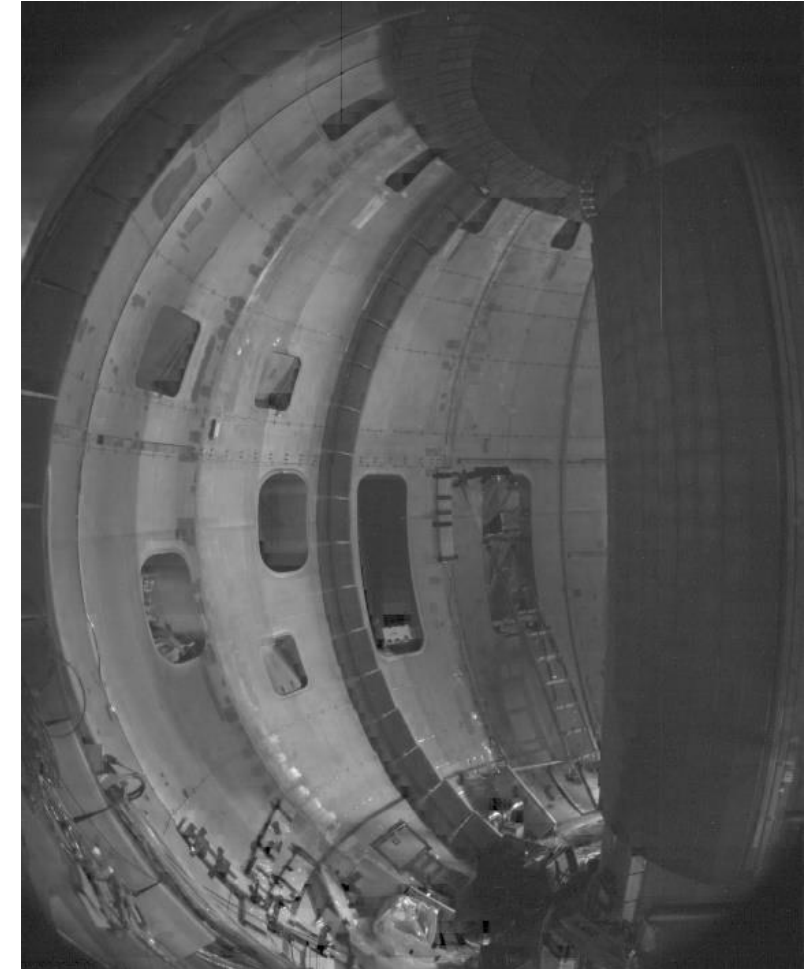
# FP9 Enhancement Projects Summary

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- Langmuir probes and Doppler Reflectometry projects will report in future meetings
- During sessions, comments on (open points to be considered):
  - Possibility of using Fission Chambers for neutrons
  - Importance of Gamma-ray spectrometer during IC phase (Runaway electrons during ramp-up)



# Conclusions and Final Remarks

- Total of 17 Enhancement Projects developed within the WPSA programme discussed during WPSA GM:
  - 7 under the FP8 framework (7 Tasks - 12 Deliverables)
  - 10 under the FP9 framework (10 Tasks - 14 Deliverables)
  - Specific details can be found on EUROfusion IMS and Wiki pages
- Please, add materials to Wiki pages:
  - Coordination team in charge of pages configuration/maintenance
  - Materials to be added by teams (links if possible - uploads otherwise)
  - Check if included in different email distribution lists
- Thanks everybody for attending and participating in GM and specially in ENH sessions - First prize shared between Sergei and Gianluca 🏆 - Really appreciated!!



Real image of EDICAM in JT-60SA Tokamak