FUSION FOR ENERGY

The European Joint Undertaking for ITER and the Development of Fusion Energy
The Governing Board

DECISION OF THE GOVERNING BOARD ADOPTING THE FIRST AMENDED 2025 ANNUAL WORK PROGRAMME OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

THE GOVERNING BOARD OF FUSION FOR ENERGY,

HAVING REGARD to the Statutes annexed to Council Decision (Euratom) No 198/2007 of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy (hereinafter "Fusion for Energy") and conferring advantages upon it[1] (hereinafter "the Statutes") and in particular Article 6(3)(e) thereof, last amended on 10 February 2015 by Council Decision Euratom 2015/224[2];

HAVING REGARD to Council Decision (Euratom) No 198/2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy and conferring advantages upon it, last amended on 22 February 2021 by Council Decision (Euratom) No 2021/281[3];

HAVING REGARD to the Financial Regulation of Fusion for Energy[4] adopted by the Governing Board on 10 December 2019 (hereinafter "the Financial Regulation"), and in particular Title III thereof;

HAVING REGARD to Commission Delegated Regulation (EU) 2019/715 of 18 December 2018 on the framework financial regulation for the bodies set up under the TFEU and Euratom Treaty and referred to in Article 70 of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council,[5] and in particular Title III thereof;

HAVING REGARD to the comments and recommendations of the Joint Undertaking's Administration and Management Committee and of the Technical Advisory Panel on the first Amended 2025 Annual Work Programme;

WHEREAS:

(1) The Director shall, in accordance with Article 11 of the Statutes, prepare each year the submission of the project plan to the Governing Board, the resource estimates plan and the detailed annual work programme, now merged in the Single Programming Document.

(2) The Administration and Management Committee shall, in accordance with Article 8a (2) of the Statutes, comment on and make recommendations to the Governing Board on the proposal for the project plan, the work programme, the resource estimates plan, the staff establishment plan, the staff policy plan and other related matters, now part of the Single Programming Document drawn up by the Director;

(3) The Technical Advisory Panel, in accordance with Article 6 (1) of the Statutes, shall advise the Governing Board on the adoption and implementation of the project plan and work programme, now part of the Single Programming Document;

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1 O.J. L 90, 30.03.2007, p. 58.
2 O.J. L 37, 13.02.2015, p.8.
3 OJ L 62, 23.2.2021, p. 41
4 F4E (19) GB45 21.1 adopted on 10.12.2019
5 OJ L 122, 10.5.2019, p. 1–38.

(4) The Governing Board, in accordance with Article 6 (3) (d) of the Statutes, shall adopt the project plan, work programme, resource estimates plan, the staff establishment plan and the staff policy plan, now part of the Single Programming Document;

HAS ADOPTED THIS DECISION:

Article 1

The 1st Amended 2025 Annual Work Programme of Fusion for Energy annexed to this Decision is hereby adopted.

Article 2

The Governing Board hereby delegates to the Director of Fusion for Energy the power to make non-substantial amendments to the 2025 annual Work Programme approved by the Governing Board.

Amendments to the 2025 annual Work Programme are considered to be non-substantial if they do not cause the financial resources allocated to the Action concerned in Table 2 of the annual Work Programme to increase by more than EUR 1 million or 10%, whichever is higher.

In any event, the increase of the financial resource of an action shall not exceed 3% of the total budget of the annual Work Programme for the given year.

In addition, any related changes to the scope of the annual 2025 Work Programme shall not have significant impact on the nature of the Actions or on the achievement of objectives of the multiannual Project Plan.

Non-substantial amendments shall not lead to any increase in the total operational expenditure for Title 3 and Title 4 of the annual Budget approved by the Governing Board.

Article 3

This Decision shall have immediate effect. Done in Cadarache, 11 July 2025.

For the Governing Board

Dr. Carlos Alejaldre
Chair of the Governing Board

[Signed electronically in IDM]

For the Secretariat

Romina Bemelmans
Secretary of the Governing Board

[Signed electronically in IDM]

Annex: First Amended 2025 Annual Work Programme

SPD2025_ANNEXES WORK PROGRAMME 2025 – Amendment 1

INTRODUCTORY MEMORANDUM

Changes to the Work Programme 2025

The Work Programme 2025 reference, as adopted at GB63, was based on the F4E set of schedules at the end of March 2024.

Since that time, the F4E schedule baseline has been regularly modified following the outcome of the Baseline Change Control Board at F4E. The annual objectives and call for tenders/proposals have been amended consequently.

With the continuous evolution of the project, F4E activities are also subject to modifications. Such changes are captured in the monthly update of the schedule.

Because of this continuous evolution, the work programme, that provides a snapshot of the schedule of the activities at a given time of the year, is prone to significant modifications between submissions to the F4E Governance.

While the work breakdown per year is a meaningful time interval from the budgetary point of view and for the Work Programme that represents its financial decision, it is not for the long-term project that F4E has to implement. Therefore, it is normal that activities spanning over many years, the majority in the case of the F4E projects, may require adjustments in the specific year. Such modifications may be due to many reasons, as delays in the provision of input data for launching the contract, negative results from previous activities, need of modification of procurement strategy following a market analysis, delays in the delivery of hardware from other Domestic Agencies, addition of activities as a consequence of approved PCRs and risk mitigation actions, etc. In such a large high-technology project requiring in most of the cases the use of new technologies and manufacturing paths, it is therefore highly possible that the forecast of activities will vary during the year.

The main responsibility for the project managers at F4E is to avoid that these modifications affect the schedule of the delivery of the components to be assembled into the tokamak and, consequently, the creation of the first plasma.

The available budget was allocated to the various Actions identified in this document. The budget breakdown between Actions is shown in table 2 to this 1st Amendment to WP2025.

The Actions in the Work Programme represent the tasks planned in 2025 to contribute to the overall EU obligations to ITER.

The summary of the most substantial changes is provided in the table below and doesn't include minor modifications. It is noted that the original Work Programme as amended by 1st Amendment reflect the full planned scope of activities for the year.

The F4E schedule used for the preparation of WP2025 Amendment 1 is the version from end April 2025.

The below table recaps the main changes per action brought by WP2025 Amendment 1. The budgetary changes are listed when the variation in value is more than 2M€ or more than 10% of the original budgetary allocation.

Action	Changes
Action 1 - Magnets	Budgetary changes: No budgetary change Annual objective changes: No changes
Main Vessel[2] (Vacuum Vessel, Blanket, Divertor and TBM)	**Main Vessel:** + 27,174,766€ **Action 2_Vacuum Vessel** Budgetary changes: + 5,748,788€ (+) The probability of implementing a commitment for the use of qualified tooling for the lower part of sector Field Joints repairs has increased, budget has therefore been allocated. (+) The probability of implementing a task order for engineering activities has increased, budget has therefore been allocated. Annual objective changes: Annual objective "EU15.1A.16180 S9 - Hydraulic Factory Acceptance Test completed" moved from Q3-2025 to Q1-2026 ➔ As lesson learned after the completion of Sector 5, it was decided to optimize the sequence of operations for the subsequent sectors and perform the Hydraulic FAT after the completion of the Field Joint machining. This change does not represent a delay in the completion and delivery of the sector. Annual objective "EU15.1A.3121038 S9 – Start Field Joint Machining" added as new milestone. **Action 3_In-Vessel (Blanket)** Budgetary changes: + 7,234,776€ (+) The forecast for Task 3 manufacturing of series panels for the Blanket First Wall has increased following the new estimation from the suppliers (-) The forecast for new ITA on Tungsten armour qualification 1st batch is reduced.

[2] The budgetary changes of Vacuum Vessel, In-Vessel Blanket, In-Vessel Divertor and Test Blanket Module actions are presented merged in one single line due to commercial sensitive information.

	Annual objective changes: Annual objective “EU.16.01.100400 - MS#3 Pre-Production Readiness Review Documentation” moved from Q3 to Q4 2025 ➔ Change coming from the new assessment on Pre-Production Readiness (PPR) stage for documentation review and approval time. PPR is taking longer than expected. Annual objective “EU.16.01.101005 - Signature of TASK 2.XX for FW Series Fabrication (Manufacturing of Series Panels) - Reopening #1 - AAC” moved from Q3 to Q4 2025 ➔ Update of the planning following the changes induce by the PCR 1630 (changing the armour material) introducing a delay to Task 2 signature. Annual objective “EU16.02.204580 - MS#5.3 Batch 1: ADP ready for delivery or storage (Task 8)” moved from Q2 to Q4 2025 ➔ Factory Acceptance activities taking longer than expected. **Action 4_In-Vessel (Divertor)** Budgetary changes: + 20,516,354€ (+) A new commitment for the transfer of scope from EUDA to IO of the Divertor Rail will be finalized with an agreement on cash compensation to IO by the end of 2025. (+) Increase of indexation for the Inner Vertical Targets contract. Annual objective changes: Annual Objective “EU17.01.1022200 - HP - Send of the Visual examination and Hydraulic Pressure Tests (M_CB-03 (CB#18) S23)” is removed once from the table ➔ This is a typo correction since this objective was listed twice. Annual objective “EU17.01.1162450 – IPL > IPL > Delivery of RH Flanges from EU-DA by IO at IO ITER Site” added ➔ New annual objective to reach the minimum number of 4. **Action 10_Test Blanket Module** Budgetary changes: - 6,325,152€ (-) The procurement for the Eurofer (TBM Box qualification) is postponed to 2026 due to difficult negotiation and a change of strategy. The contract will be staged, with the first stage expected to be committed in 2025 with a lower amount and the second stage in 2026, shifting most of the commitment to 2026. Annual objective changes: Annual objective “EU56.01.1242965 - F4E-OFC-1497 TO02 Signed for EUROFER design limits codification in RCC-MRx” removed ➔ The delay in the signature of Task Order 1 due to assessment of access rights resulted in a delay of the signature of Task Order 2 since inputs of the first task order are to be used in the second. Annual objective “EU56.01.1260055 - F4E-OFC-1350-01 Task Order 03 Signed for Safety Studies in support of TBSs PD & FD” removed ➔ The task

	order signature date has been adjusted to the date of the Preliminary Design Review, so it moved to 2026.
Action 5 - Remote Handling	Budgetary changes: - 247,364€ (-) Part of the scope of "TELBOT customization" is moved to subsequent task orders due to re-organization of the activities to mitigate risks and uncertainties, reducing the commitment forecast value. (-) Task order for the Cassette Toroidal and Mover (CTM) and Cassette Multifunctional Mover (CMM) is moved to 2026 due to re-organisation of the activities to mitigate risks and uncertainties. (+) The probability of implementing the amendment for additional prototyping 1 of the Monorail Crane System (MCS) has increased and budget has been allocated. (+) The probability of implementing the amendment for Crane Deployment Hoist design has increased and budget has been allocated. Annual objective changes: Annual objective "EU23.03.14078120 - DDL-117 D4.1.01 Material Certificates for CTS (new) approved" moved from Q2 2025 to Q3 2025 ➔ Manufacturing design and Manufacturing Readiness Review were held and manufacturing of CTS & EPP/UPP variants have started with minor delay. Annual objective "EU23.03.71740 - 577 02 02 EU CPRHS PDR meeting completed MA items" changed to "EU23.03.04360 CPRHS Intermediate Preliminary Design Hold Point released for EPP/UPP variants (record of decision by PSM Level 3)" ➔ Preliminary Design Review meeting already held at the end of 2024. The selected milestone is a direct successor of the previous milestone of the Preliminary Design Review meeting. This milestone covers all the chit closure and administrative procedures after the successful meeting.
Action 6 - Cryoplant & Fuel Cycle	Budgetary changes: + 2,452,025€ (+) Additional budget allocated to an amendment for commissioning activities of the Liquid Nitrogen Plant and auxiliary systems contract. This amendment, originally planned to be signed in 2024, was delayed to 2025 due to long negotiations with the supplier (+) The commitment forecast for "Preliminary design of the REMS Tokamak" is anticipated from 2026 with additional scope than initial planned Annual objective changes: No changes
Action 7 - Plasma Engineering & Operations	Budgetary changes: NA Annual objective changes: NA
Action 8 – Heating & Current Drive	Budgetary changes: - 108,989€ (+) Probability of implementation of signing the contract for Heating Neutral Beam-1&2 Drift Duct in November 2025 has increased, negotiation mandate was approved in April and negotiations on-going.

	(-) The forecast for "Task Order 04 for Manufacturing the Remaining Upper Launcher Systems" has changed as the procurement of trolleys have moved to 2026 and excluded from the scope of this specific contract. Annual objective changes: Annual objective "EU52.03.21570 - F4E- OMF-1108 - MS-09 Participation to the FDR Meeting of the ITER RF Sources" has been postponed from Q2 2025 to Q3 2025. ➔ The milestone is now forecasted in Q3 2025. Final Design Review date agreed with IO, Thales and FDR Panel Members considering key participants' availability to attend in person. Annual objective "EU53.TF.15690 - Delivery of MITICA Beam Source by EU-DA to PRIMA Site" has been postponed from Q3 2025 to Q4 2025. ➔ The milestone is now forecasted in Q4 2025 due to issues in the ion source assembly and testing. Mitigation actions have been put in place to reduce the risks of further assembly delays. The accelerator part is completed. Annual objective "EU53.04.01440 - OPE-1180 - NB Vessels Manufacturing Readiness Review Closure" has been postponed from Q2 2025 to Q3 2025. ➔ The milestone is now forecasted in Q3 2025. The decision was to split in multiple Manufacturing Readiness Reviews with smaller scope for a better management of the documents. This split has not impacted the critical path of the contract.
Action 9 - Diagnostics	Budgetary changes: + 2,914,361€ (+) The forecast for Task order for "Contract for the manufacturing of the port plug components of the visible/IR wide angle viewing system for Equatorial Port #12" has increased following the outcome of the tender procedure (+) Sum of minor changes Annual objective changes: Annual objective "EU55.04.108405 - Approval of Joint Final Design Review for Sensor Head and Electronics-target" milestones ID updated and quarter moved from Q2 2025 to Q4 2025 ➔ Technical challenges encountered during closure of chits raised at Final Design Review combined with supplier and IO resource limitations for document update and review led to delays. Annual objective "EU55.06.683180 - MRR Meeting for Feedthroughs" moved form Q2 2025 to Q4 2025 ➔ Significant difficulties with preparations for a specific weld in the bulkhead (a PIC component). F4E discussed the weld with the IO, and the requirements were simplified to make the weld easier to achieve. Annual objective "EU55.11.209930 - PDR approved by Steering Committee for CXRS Fibres and Ex-Vessel Optical/Mechanical" moved from Q2 2025 to 2026 ➔ Disagreement with supplier on contractual scope and changes to the management structure within the consortium required lengthy negotiations. Agreement was reached in Q1 2025 but the schedule impact cannot be recovered.
Action 11 - Buildings and Civil Infrastructures	Budgetary changes: + 1,467,071€ (+) Sum of minor changes due to re-adjustment of scope between the different task orders of TB21.

	Annual objective changes: Annual objective “EU62.05.580 IPL - Construction of Control Building (71 non PIC part) Completed)” changed from quarter from Q1 2025 to Q3 2025 ➔ Delay due to weathertight repairs and definitive power supply late availability for test and commissioning. IO installation not impacted as agreement to deliver building operational end May 2025 is on track. Annual objectives “EU62.05.390” and “EU62.05.410” linked to Medium Voltage Distribution Building (46) and (47) RFE delayed from Q4 2025 to Q1 2026 ➔ Due to delays in electromechanical design and qualification activities which are prerequisite to procurement.
Action 12 - Cash Contributions	Budgetary Changes: - 30,575,658€ (-) The forecast of the Cash Contribution to IO has decreased based on the proposal for the IO Draft Budget 2026 proposed by IO to the 39th MAC meeting. Annual objective changes: No changes
Action 13 - Technical Supporting Activities	Budgetary Changes: + 3,571,291€ (+) Increase of the premium of the Building erection and Building in use Insurance (+) Sum of minor changes Annual objective changes: Annual objective “EU.ES.03.63580 - Contract Signed for I&C integration services” moved from Q3 2025 to Q2 2026 ➔ A 3rd increase of the ceiling of the existing FWC was done and the new FWC signature was pushed to 2026 to better utilise available ceiling and on-going contracts. WP Objective “EU.PM.3076540” renamed ➔ Update of name to reflect the reduction of scope. WP Objective “EU.PM.3159400 - Framework Contract F4E-OMF-1751 signed for Cost estimation consultancy services” moved from Q1 to Q3 2025 ➔ The postponement in the signature date is due to a lack of procurement resources and change of TPO during pre-tendering phase. WP Objective “EU.PM.3052100 - Framework Contract signed for System Engineering Support Services (continuation of F4E-OMF-1127)” removed ➔ FwC signature postponed to the end of Q1 2026 due to the combination of lack of procurement resources plus the “change of character” of the contract in line with Systems Integration and Performance HoG’s guidance.
Action 14 - Broader Approach	Budgetary changes: - 25,866,492€ (-) The first task order for Pellet Launching System is postponed to 2026, there is a slight delay in the preparation of the framework contract. The scope of this contract is likely to be enlarged to encompass a broader development as this technology was identified as critical and issues with the Russian supplier on the fuelling source. (-) Contrary to the previous plans, the contract for ““supply of JT-60SA actively cooled Divertor - integration of cassette bodies, HHF and NHF elements” will not be a staged contract but the full amount is to be committed

	upon signature. Due to the transition to tungsten (delay in contracts for hardware) the predecessor contracts are delayed resulting in moving this contract to 2026. (-) Due to the amendment of the contract "Supply of JT-60SA actively cooled Divertor HHF elements Stage 2" (transition from carbon to tungsten) the amount for Stage 2 has been updated. This amendment also affected the timeframe of the contract, moving the release of Stage 2 to 2026. (-) The amount for "Cash Contribution JT-60SA 2025 including the transmission lines" is decreased as per latest JT-60SA Work Programme, the planned credit request has been adjusted. (-) The Contract for "Gamma Ray Detector" has been split in smaller contracts resulting in a lower commitment for this specific hardware purchase. Due to other priorities, it has been shifted to 2026. (+) Due to the Broader Approach Steering Committee decision to skip the actively cooled carbon director and change to tungsten, raw material needs to be purchased. <u>Annual objective changes:</u> Annual objective "EU.BA.01.23360 - Placement of the contract for the Injector upgrade" moved to Q4➔ Due to several extensive prolongation requests from the market, the contract signature date has shifted. Annual objective "EU.BA.01.27610 - Completion of the SRF Linac assembly in the accelerator vault" moved to Q4 ➔ Milestone postponed due to important repairs which had to be carried out on components. Annual objective "EU.BA.01.38970 - Detailed design of the new PSYS (Protection SYStem) for LIPAc RF power system" moved to Q3 ➔ Manufacturing time of new cards takes more time than expected and the shipment time is extended to take into account the longer processing time at the JA customs. Annual objective "EU.BA.01.32230 - On-site acceptance tests of Diamond windows" name and milestone ID updated and moved to Q1 ➔ Clarification on name of the objective - as several units will be delivered, the 1st set was added as an objective resulting in update of the date. This has also been aligned with the annual SPI milestone. Annual objective "EU.BA.01.38880 - Delivery of the centrifuge accelerator for JT60SA pellet launching system" moved to Q3 ➔ Due to an issue with the bearing of the rotating blade which requested additional tests and a minor design modification, there is a delay in the delivery date. Annual objective "EU.BA.01.31350 - Delivery at Naka of ECRF PS" name updated and moved to Q3 ➔ Precision of name – Set A is covered by the firm part of the contract while SET B is covered by an option that is not yet released. All components will arrive in June except one component which will be shipped later due to storage restrictions in QST resulting in delaying the milestone to Q3.
Action 15-DONES	<u>Budgetary changes:</u> - 9,827,965€ (-) No cash contribution is expected in 2025, the commitment forecast is postponed to subsequent years

	(-) The contract for the procurement of Lithium raw material cannot be placed in 2025 since the conditions linked to the GB decision of July 2024 have not yet been met in order to proceed with F4E's full contribution to the DONES programme. (-) The contract for the Eurofer raw material cannot be placed in 2025 since the conditions linked to the GB decision of July 2024 have not yet been met in order to proceed with F4E's full contribution to the DONES programme. (-) The procurement strategy for the design and manufacturing of superconductive cavity has been updated to reflect the latest distribution of contributions to the DONES Programme. This results in a delay in the procurement that postpones the commitment to 2026. (-) The procurement strategy for the design and manufacturing of SFR coupler has been updated to reflect the latest distribution of contributions to the DONES Programme. This results in a delay in the procurement that postpones the commitment to 2026. <u>Annual objective changes:</u> Annual objective "EU.DO.00450 - Placement of the contract for the RFQ for DONES" is removed ➔ This objective is not included anymore in the scope to be covered by F4E. Since Italy joined the DONES Programme, the RFQ procurement responsibilities has been transferred to INFN (Italy). Annual objective "EU.DO.01030 - Placement of the contract of the RF Power System for DONES" is moved to 2026 ➔ Due to the delay in the final approval of the F4E contribution following the July 2024 GB Decision, only the Technical specification can be finalised by end of 2025. Annual objective "EU.DO.01.280 - Placement of the contract for the procurement of Lithium raw material" is removed ➔ Due to the delay in the final approval of the F4E contribution following the July 2024 GB decision, this contract cannot be placed in 2025.
Action 16 Technology Development Programme	<u>Budgetary changes:</u> - 4,568,724€ (-) TDP25 R&D scope will be based on a systematic selection of technology development opportunities. For this, a Call for Abstracts was launched and successfully completed with 160 proposals from EU industry, research centers, laboratories, etc. This systematic approach though has required an extensive assessment process, involving F4E and EUROfusion experts. The tender preparation and implementation of those selected R&D actions will postpone contract signature from late 2025 to early 2026. <u>Annual objective changes:</u> Annual objective "EUTD.100430 - Contract Signed for Real-time personal monitor for tritiated water vapour in air 2025" moved from Q1 to Q2 2025 ➔ Milestone was delayed to Q2 2025 due to a change in strategy that resulted in signing with 2 companies.

SPD2025_ANNEXES WORK PROGRAMME 2025

1. DEFINITIONS, ASSUMPTIONS AND SUPPORTING INFORMATION TO WP2025

The 2025 Work Programme takes into account to the extent possible the European Commission's guidelines for the Programming document as requested by the Financial Regulation. It comprises a general overview of the progress of work and the procurement activities that will be committed during 2025, detailed objectives, expected results, and targets for each WP Action.

Main assumptions

The following assumptions are considered as the basis of the Work Programme 2025:

- The F4E schedule used for the preparation of this document is the one submitted to IO at the end of April 2025.
- The F4E schedule takes into account:
  - ✓ The latest input and developments of the schedules from the F4E suppliers, taking into account the agreed fabrication routes and showing the real development of the work.
  - ✓ The most realistic assumption of Procurement Arrangement (PA) signature dates based on the current status of the design of components and on the forecasted dates of the required design reviews prior to the PA signature.
  - ✓ The available manpower in F4E, taking into account bottlenecks in specific areas where staffing is not sufficient to grant a prompt process of the work. In specific cases, F4E foresees to satisfy its manpower needs by using external contractors.
  - ✓ The most realistic assumptions on the input data availability from IO to take into account the existing delays and the agreed dates of data delivery.
  - ✓ The information provided by the other DAs through their monthly Detailed Work Schedule to take into account any possible delay in the delivery of items to F4E that can cause delays to the EU in-kind procurements.
- The budget figures are based on the MFF 2021-2027 approved by the Council on 22/02/2021 plus ITER Host State and Membership contributions. The budget summary table of Work Programme 2025 (WP_table 1) reflects the current status of the draft budget for the 2025 financing decision.
- In order to achieve an improvement of the quality of the PAs that need still to be signed, a common F4E/IO effort is still in progress to better identify the requirements that are linked to the specific procurement.
- Technically and commercially complex procurements will be implemented whenever appropriate through the competitive dialogue procedure or through the negotiated procedure, in order to improve the alignment of supply chain response to F4E needs and to proactively adopt cost containment measures. This will be done in compliance with F4E's Financial Regulation.
- Grants related to recurring and sequential R&D activities, with a well-defined development path eventually leading to an EU procurement package, will be implemented whenever appropriate, through Framework Partnership Agreements (FPA), in order to streamline and channel R&D funding, improve its effectiveness, and decrease the administrative burden to beneficiaries and F4E alike.
- Procurements which require a very close coordination between F4E and other entities will be implemented, whenever appropriate, through the Joint Procurement procedure.
- All the activities described in the overview of each Action and the list of contracts in WP_Table 3 are intended as credited by PA or ITA. If an Action is not credited, then it is explicitly mentioned in the overview. This is not applicable for the Action "Broader Approach" (i.e. not credited).

- F4E endorsement of the Japanese Procurement Arrangement that foresees an EU financial contribution will be preceded by a budgetary commitment for the entire amount of the F4E contribution.
- Changes originated by IO, or other DA's, will be fully compensated by the IO Reserve Fund.
- The Art. 5 of the F4E Statutes states that the Joint Undertaking may award grants and prizes in accordance with the rules of its financial regulation. In this regard, Essential selection, award criteria and Upper funding limits are defined in these annexes.
- Article 74 (2) of F4E's financial regulation in conjunction with Article 1(5) of Annex III to the F4E Statutes provides for the possibility to make use of annual instalments for actions extending over more than one financial year. An annual instalment consists in breaking down a budgetary commitment into annual instalments. Annual instalments can be implemented according to the forecast of annual payment due, the forecast of progress in the implementation of the contract, or annual budget availability.

Definitions and supporting information

1. "Action" for the purposes of Work Programme means "a coherent area of action with objectives and resources". The list of the Actions and their definition is defined in the main text of the SPD.

2. Each Action of WP2025 comprises:

(a) **General overview** that is split into two parts. The "Progress of Work" part aims at providing the information concerning the activities foreseen during 2025 in that area. The "Procurement Activities" part instead focuses on the legal commitments foreseen during the year and to be covered by the financial decision and to be financed under the budget 2025. Furthermore, it includes (even if not explicitly mentioned):

i. Provisions for urgent general support tasks as cost/risk analysis, engineering support/analysis, I&C develop and support, experts, quality assurance and quality control, nuclear safety, CE marking analysis, transportation, storage, material characterization and qualification activities, resolution of non-conformities (in line with the mechanism agreed at ITER level), metrology, low value purchase orders and external legal support, cost of legal proceedings and alternative dispute settlement, including arbitration, as needed[3]. These tasks will be mainly implemented through specific contracts under existing framework contracts.

ii. Provisions for payment of liquidated damages, late payment interests, cost escalation, claims, release of options, indexation and other financial compensations that F4E may be obliged to pay under its contracts.

iii. Provisions for amendments to ongoing contracts covered by a previous financing decision(s) in accordance with the Implementing Rules.

iv. Provisions for BREXIT-related contractual modifications.

v. Provisions for Covid 19 related contract modifications and Covid 19 related new contracts for ITER and Broader Approach

vi. Provisions for new contracts and contractual modifications related to expiry of Switzerland co-operation agreement

vii. Provisions for specific cash compensations to IO required in case of transfer of activities from F4E to IO approved by the ITER Management Advisory Committee.

viii. Provisions for contract modifications and new contracts linked to the new ITER baseline.

[3] In accordance to F4E WBS implementation rules, whenever a procurement activity is in support of a specific WBS L3, the related procurement should be implemented under the mentioned WBS L3. This is not the case for general technical support activities to multiple WBSs (e.g. external resource to support overall risk management, etc.). In this case, they are included under Action 13

(b) **Annual objectives** defined as the achievement on time of the following milestones:

i. ITER Council/Governing Board (IC/GB) milestones in 2025;

ii. Milestones that will lead to the achievement of the future IC/GB milestones from the following years (defined as predecessor of future IC/GB milestones (if applicable).

iii. Key milestones marking significant schedule progress (only in the event that none of the above are applicable).

iv. Link with the ITER Project multi-annual objectives (defined as the whole set of IC/GB milestones): when a WP annual objective is a predecessor of a multi-annual objective (IC/GB milestones), it is clearly identified to which milestone is linked in the column “type of milestone”.

(c) The **expected results** define the main outcomes of the Actions.

(d) The **target** is defined as the annual M-SPI reaching a minimum value.[4]

(e) **Human resources** (see HR_Table 1 of annexes to HR REP annexes). The table shows an indicative estimate of the Full Time Equivalent (FTE) staff assigned to the specific Action to cover all the activities carried out in 2025. Per each Action it is identified the “core” team and the additional staff (i.e. legal, financial, contractual, project management) assigned to the action according to the F4E matrix structure. Remaining staff from the Commercial Dept., Admin. Dept. and Office of the Director is instead allocated per action on a pro-rata basis.

(f) **Procurement plan**:

i. Main Procurement Initiatives (see WP_Table 3 of these annexes): these are, per Action, the list of the foreseen main contracts with value higher than 143,000 Euros[5]. Amendments, claims, reimbursement, indexation, late interest and budget reserve are grouped together due to the sensitivity of this information. The list is based on the current information at the time of writing the Work Programme. During the implementation of the Work Programme activities, F4E may identify the need for new calls, group more activities in a single call or split one activity in more calls. This will in any case be performed preserving the scope and objective presented in WP2025. Contracts that do not fulfill the Work Programme scope identified for each Action are not covered by this financial decision and therefore will not be authorized. A change to this list shall be considered as a non-substantial for the purposes of the Article 32 point 4 of the F4E Financial Regulations if not affecting the available budget for 2025 within the limit of the flexibility rule and if any related changes to the scope of the annual Work Programme do not have significant impact on the nature of the Actions or on the achievement of objectives of the multiannual Project Plan.

ii. Value per Action: WP_Table 2 presents an indicative value of financial resources corresponding to each Action. F4E has evaluated the level of commitments planned for the Actions in 2025 by taking into account the progress of the project and the available manpower. A good implementation of the annual commitment is one of the objectives for F4E (see PP_Table 7 in Annexes to Project Plan). Any additional budget required and exceeding the currently available one will consist of unused appropriations adjusted to match the final needs.

iii. Indicative timeframe for launching the procurement and type of procedure/contract: the foreseen time of publication of calls and type of contracts is shown in WP_Table 5 of these annexes. The dates are indicative only and based on the present understanding of the project development. For specific contracts and specific grants or use of Joint Procurements the foreseen time of publication of calls is not included as no formal publication will take place (the signature date is used to give anyway an indication of time). Publication of the call for tender is intended as the date of publication on the Industry Portal (for open procedures/call for proposals) and the date of the Invitation letter to be sent out to the Suppliers (for negotiated procedures). For restricted procedures and competitive dialogues this milestone refers to the date of the call for expression of interest (first phase of the procedure).

iv. The plan may cover some activities moved from previous years into WP2025 due to changes in the overall planning and priorities.

[4] For Action 12 Cash Contributions and Action 13 Technical Support Activities Annual M-SPI is not applicable.

[5] The threshold has been selected so to be in line with the FR.

v. The plan does not (and cannot) include the consequences for the Action of PCRs and deviations approved by the IO Director General or his delegates in the frame of Reserve Fund Management Plan. As a result, these will be implemented under the budget line 3.6. For information, F4E will present to the final meeting of the GB each year, in an amendment to the Work Programme, a summary of the PCRs agreed within the year and the activities that the PCRs (including those agreed in previous years) have funded.

vi. Grants and specific Grants are clearly identified and information is provided to fulfill art.58 of the Financial Regulation (see WP_Table 4 of these annexes).

vii. Framework Partnership Agreements (FPA) or Framework Contracts (FWC) are included in the year of signature for clarification purposes only and do not constitute part of the financing decision.

3. Some of the Work Programme activities refer to provision for recurrent activities with the same ultimate objective of supporting the final achievement either of the design (e.g. CAD support, engineering analyses, etc.), the manufacturing process (e.g. QA/QC Inspectors, engineering support for deviations analyses, CE marking, etc.) as requested in ITAs/PAs, or the site support services (access control and security, Facility Management Services, etc.). Therefore the description in terms of the financing decision does not change significantly from one year to the next.

2. OBJECTIVES AND KEY PERFORMANCE INDICATORS

Work Programme objectives

The Work Programme objectives are the achievement on time of a selected number of milestones. A minimum of 4 objectives is provided per Action as described in below section 3.

There is a close link between the long-term planning (i.e. Project Plan) and the short-term activities (i.e. work programme). In the Work programme, F4E is tracking as Work Programme objectives some selected existing milestones leading to the IC/GB ones (i.e. the predecessors) and in the chain of all critical and near-critical paths. Therefore such milestones in the short-term will act as an alert against the increasing risk of missing any critical and near-critical path milestones in the longer term.

Annual objectives

From the full list of Annual objectives described in the Project Plan, the following ones apply directly to the Work Programme:

AREA	Objective
Annual M-SPI	SPI above defined value
Annual commitment budget	Implement a defined percentage of commitment appropriations by end of the year
Budgeted forecast of the Work Programme	Implement a defined percentage of allocated commitment appropriations the Work Programme Actions without reserves, by the end of the year

Key Performance Indicators

From the full list of Key Performance Indicators described in the Project Plan, the following ones apply directly to the Work Programme:

Annual M-SPI

$$\frac{Number\ of\ milestones\ with\ Status = Completed}{Number\ of\ milestones\ with\ reference\ date\ \leq Current\ month}$$

Annual commitment budget

$$\frac{\begin{array}{c}Actual\ commitment\ executed\ to\ date + \\ remaining\ commitment\ planned\ to\ be\ executed\ between\ date\ and\ year's\ end\end{array}}{Latest\ approved\ annual\ commitment\ budget}$$

Annual budgeted forecast of Work Programme

$$\frac{\begin{array}{c}Actual\ commitment\ executed\ to\ date + \\ remaining\ commitment\ planned\ to\ be\ executed\ between\ date\ and\ year's\ end\end{array}}{Latest\ approved\ budgeted\ forecast\ of\ the\ Work\ Programme\ Actions^{6}}$$

[6] Excluding Reserves

3. LIST OF WP2025 ACTIONS

Action 1. Magnets

Action 1	Magnets

Progress of works

The Magnets Programme has delivered its contribution to the ITER Project and may finalise the remaining amendments and potential claims.

Procurement Activities

Finalisation of amendments and closure of potential claims.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope description	Forecast Achievement Date	Type of Milestone	PA/ITA

Not applicable

EXPECTED RESULTS

The main expected results for this action are:

1-Finalisation of amendments and closure of potential claims

TARGET

Not applicable

Action 2. Vacuum Vessel

Action 2	Vacuum Vessel

Main Vessel

Progress of Work

The manufacturing of the Vacuum Vessel will continue during 2025. Sector 4 is scheduled to be completed and delivered to Cadarache. This date takes into account the need to repair its Field Joints after completion of all welding activities and the Hydraulic Factory Acceptance Tests. Also, Sector 9 will be fully welded, and the Field Joint repairs will have started. Sector 3 and Sector 2 will be in their final assembly phase.

Procurement Activities

Provisions will be made for the transportation of the sectors to the ITER site, resolution of non-conformities if required (including, but not limited to possible out of tolerances), possible continuation of incentive schemes and/or other actions for schedule stabilization, inspectors,

additional ANB support and the possibility to add specialized resources to the project. Contractual options for the Main VV contract may be released, as needed.

Specific Contracts for support activities, like on-site Inspectors, Documentation Support, Engineering and Analysis, Project Management support and Experts will continue to be issued depending on the project needs.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU15.1A.10500	IPL > Delivery of Sector 4 by EU-DA to ITER Site	Q2 2025	WP25 objective	PA 1.5.P1A.EU.01 Vacuum Vessel - Main Vessel
EU15.1A.3121038	S9 - Start FJ Machining	Q3 2025	WP25 objective	PA 1.5.P1A.EU.01 Vacuum Vessel - Main Vessel
EU15.1A.3105700	S9 - All welds completed and conform	Q3 2025	Predecessor of GB25	PA 1.5.P1A.EU.01 Vacuum Vessel - Main Vessel
EU15.1A.3117493	S3 Repairs of Splice T-Ribs and Inner Shell completed	Q1 2025	WP25 objective	PA 1.5.P1A.EU.01 Vacuum Vessel - Main Vessel

EXPECTED RESULTS

The main expected results for this action are:

1. Sector 4 Delivery to Cadarache
2. Sector 9 Field joint machining started
3. Sector 3 Inner shell welding completed; Outer Shell welding ongoing
4. Sector 2 Inner shell welding completed; Outer Shell welding ongoing

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 3. In Vessel – Blanket

Action 3	In Vessel - Blanket

Blanket First Wall project

Progress of Work

For the Blanket First Wall (FW), after the decision to discontinue the beryllium (Be) activities through a PA change notice in 2023, the signature of the specific contract after the first re-opening of competition is planned in 2025. Activities related to the manufacturing of the FW panel structure (i.e. the panel without armour) will be continued under current contractual configuration. Additional commitments related to the development and qualification of the new armour design, based on tungsten, will be executed in 2025, in accordance with the ITER qualification plan and as agreed with the ITA signed in December 2024.

In 2025, both contractors of the Blanket First Wall Series (F4E-OMF-900) will continue the manufacturing activities of the first wall panel structures. The procurement of main raw materials (i.e. CuCrZr) will continue to be implemented through task orders or through options to be released under contracts OMF-900. These materials are being provided as free issued items to the Suppliers in charge of the FW panels manufacturing. In support of the main procedure F4E-OMF-900, material characterisation activities will be carried out through task orders of the F4E-OMF-1082. Since the F4E-OMF-900 is a cost-plus-fee type of contract, financial audits will be performed under the F4E-OFC-1094. In 2025, the manufacturing readiness review for the Task 3 (i.e. manufacturing of alumina coating) of the standard parts (F4E-OPE-1138) is planned.

The planned progress of work is subject to the availability of internal resources.

Procurement Activities

In 2025, the main procurement activities foreseen as part of the FW series manufacturing are related to the first re-opening of competition of the Blanket First Wall series contracts. This will lead to the signature of next task orders for the series manufacturing of First Wall Panels (F4E-OMF-900) at the end of 2025. The procurement of the CuCrZr, needed as raw material, will be either through the OMF-1019 or through release of options under the main manufacturing contracts. A new task order for material characterization and related options in support to the F4E-OMF-900 will be signed. In addition, specific task orders for audit services of the cost-plus fee type of contract F4E-OMF-900 are planned. Commitments following the approval of PCR-1241 (additional spares for Blanket First Wall panels) and ITA for the W armour qualification may be implemented. External support needed for the follow-up of the FW panels production will be sourced through specific contracts under existing framework contracts.

Additional procurement activities related to the development and qualification of the new armour design may be executed in 2025 following the IO qualification plan as in the signed ITA. A new procurement procedure for the High Heat Flux testing for the W mock-ups will be launched in 2025. The planned procurement activities are subject to the requested allocation of internal resources.

Blanket Cooling Manifolds project

Progress of Work

In 2025, the main activity will be the qualification of the manufacturing and supports of the manifolds bundles and of the manufacturing of the first pipe bundles (first of a kind) of three 10-degree sectors (Task 1 of OMF-1080, two suppliers) and the Manufacturing Readiness Reviews (MRRs) and the release of the manufacturing activities are planned this year. Moreover, activities under Task Order 8 will start delivering the 316L ITER grade raw material to the manufacturing workshops (as free issued) in 2025. After the decision on the type of supports for the series production and overall agreement with ITER Organisation on the customisation activities, the re-opening of competition for the upper ports manifolds is also planned for the end of 2025.

Procurement Activities

In 2025, the main procurement activity is the re-opening of competition for the Task Order 5 and Task Order 6 of the Framework Contract F4E-OMF-1080, corresponding to the procurement of upper ports, and procurement of branch pipes and co-axial connectors, respectively. Task Order 3 of F4E-OMF-1080, procurement of chimney pipes has been signed in 2024. Additional activities for design and testing of the reference and alternative support are planned to be signed.

External support needed for the follow-up of the materials and prototypes production will be sourced through specific contracts under existing framework contracts.

The planned progress of work is subject to the availability of internal resources.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope description	Forecast Achievement Date	Type of Milestone	PA/ITA
EU15.2A.101000	Start of Task 1B: Qualification of 1st Inboard and Outboard Inlet Bundles - Contractor #03	Q2 2025	WP25 objective	PA 1.6.P6.EU.01 Blanket Manifolds
EU15.2A.12140	Start of Task 1B: Qualification of 1st Inboard and Outboard Inlet Bundles - Contractor #02	Q2 2025	WP25 objective	PA 1.6.P6.EU.01 Blanket Manifolds
EU.16.01.100400	MS#3 Pre-Production Readiness Review Documentation	Q4 2025	WP25 objective	PA 1.6.P1A.EU.01 Blanket First Wall
EU.16.01.101005	Signature of TASK 3.XX for FW Series Fabrication (Manufacturing of Series Panels) - Reopening #1	Q4 2025	WP25 objective	PA 1.6.P1A.EU.01 Blanket First Wall
EU.16.01.12410130	Signature of TASK 2.XX for FW Series Fabrication (Manufacturing of Series Panels) - Reopening #1 - FBL	Q4 2025	WP25 objective	PA 1.6.P1A.EU.01 Blanket First Wall
EU16.01.228210	Task Order Signed for Procurement of CuCrZr (Series) (TO#03)	Q4 2025	WP25 objective	PA 1.6.P1A.EU.01 Blanket First Wall
EU16.02.204580	MS#5.3 Batch 1: ADP ready for delivery or storage	Q4 2025	WP25 objective	PA 1.6.P6.EU.01 Blanket Manifolds

EXPECTED RESULTS

The main expected results for this action are:

1. Blanket First Wall: Pre-Production Readiness Review Documentation #3 for the Blanket (F4E-OMF-900)

2. Blanket First Wall: signature of the specific contracts after reopening of competition #1 of OMF-900 First Wall series manufacturing
3. Blanket First Wall: signature of Task Order 03 for the procurement of CuCrZr or release of the option for the CuCrZr procurement
4. Blanket Cooling Manifolds: start of Task 1B, qualification of 1st inboard and outboard inlet bundles
5. Blanket Cooling Manifolds: materials under first batch ready for delivery to the manufacturing sites or storage

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 4. In Vessel – Divertor

Action 4	In Vessel – Divertor

Cassette Body project

Progress of Work

In 2025, both contractors of the Divertor Cassette Body (CB) Series will continue the manufacturing activities. The delivery of the remote handling flanges, which will culminate the manufacturing activities of the contract 1036, was completed at the end of 2024. Concerning the contract OPE-1112 of Ancillary Items of Pins, Sleeves and Links of the CB Series, the engineering phase and procurement of materials will progress as well. The new contract for additional 15 CBs has been signed in December 2024 and engineering activities and material procurement will take place in 2025.

The planned progress of work is subject to the requested allocation of internal resources.

Procurement Activities

In 2025, the main commercial activities foreseen are, the indexation and release of options related to the CB series fabrication, TCWS & RH Flanges, and Ancillary Items of Pins, Sleeves and Links. Additional external support (resident inspectors, metrology support, welding, etc.) will be provided through task orders under existing framework contracts. Commitments for transportation of Cassette Bodies to the Divertor Integration site may be needed.

Inner Vertical Target project

Progress of Work

In 2025, the IVT Series production activities will continue, after the signature of the specific contracts for the series manufacturing. Focus will be on engineering, construction of the production lines, and procurement of materials. During 2024 the second series manufacturing contract has been signed and engineering phase is ongoing, while the first contractor started the manufacturing after the completion of the MRRs. The High Heat Flux testing facility has been upgraded for the IVT.

The planned progress of work is subject to the requested allocation of internal resources.

Procurement Activities

In 2025, the main commercial activities foreseen is the release of options and indexations related to the IVT Series (under OMF-1139) and High Heat Flux specific contracts (under OMF-319).

External support will be needed to closely follow-up the fabrication of the IVT series contracts. These needs are planned to be provided through task orders under existing framework contracts.

Divertor Rails project

Progress of Work

IO and F4E have reached an agreement on the transfer of scope of the PA 1.7.P2E.EU.01 Divertor Rail, promoting the centralization of the procurement of these components within IO will be beneficial for the project. The design finalization for the Divertor Rails depends on the design maturity of the interfacing systems (e.g. Divertor RH system and Diagnostic racks). To date the

final design of the Divertor Rails has not been completed due to the instability of the interfaces with these other systems.

Procurement Activities

PCR and Agreement on additional cash contribution is planned to be signed in 2025.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope description	Forecast Achievement Date	Type of Milestone	PA/ITA
EU17.01.1022200	HP - Reception of the Visual examination and Hydraulic Pressure Tests (M_CB-02 (CB#17)_S23) - OMF-444-01-01	Q4 2025	WP25 objective	PA 1.7.P1.EU.01 Cassette Body
EU17.2B.981800	Manufacturing approved for the IVT Series Integration by MRR panel (OMF-1139-01-01)	Q2 2025	WP25 objective	PA 1.7.P2B.EU.01 Inner Vertical Target
EU17.2B.982720	QA Plan approved for OMF-1139-02-01	Q1 2025	WP25 objective	PA 1.7.P2B.EU.01 Inner Vertical Target
EU17.01.1162450	IPL > Delivery of RH Flanges from EU-DA by IO at IO ITER Site	Q2 2025	WP25 objective	PA 1.7.P1.EU.01 Cassette Body

EXPECTED RESULTS

The main expected results for this action are:

1. Visual examination and Hydraulic Pressure Tests (Cassette Body#18- 1st CB of contract F4E-OMF-444-01-01)
2. Delivery of remote handling flanges (F4E-OPE-1036)
3. Manufacturing approved for the IVT Series Integration by MRR Panel (F4E-OMF-1139, Specific Contract #1)
4. PQMP approved (F4E-OMF-1139, Specific Contract #2)

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 5. Remote Handling

Action 5	Remote Handling

Divertor Remote Handling System (DRHS)

Progress of Work

The focus will be given to the Final Design activities via two main development lines that will run in parallel: one for the Cassette Multifunctional Mover (CMM) and the other one for the Cassette Toroidal Mover (CTM). Final design activities will be accompanied with prototyping and laboratory test in some areas.

Procurement Activities

For both of the main development areas and the complementary activities, specific contracts will be launched through Remote Handling (RH) and Engineering Unit framework contracts. Contracts are also planned to be signed for final design and manufacturing.

Cask and Plug Remote Handling System (CPRHS)

Progress of Work

Activities are organized in two parallel development lines. One focuses on the assembly casks that are first plasma components, the other one focuses on the nuclear grade cask variants. Focus will be given to the manufacturing of the full scope of the first plasma systems. Final design activities will be accompanied with prototyping in some areas. Non-first plasma nuclear grade casks will be continuing on the preliminary and final design development.

Procurement Activities

For both of the main development areas and the complementary activities, specific contracts will be launched through Remote Handling (RH) and Engineering Unit framework contracts.

Neutral Beam Remote Handling System (NBRHS)

Progress of Work

Activities are organized by subsystems and prioritized by their delivery needs for the different assembly stages. Main focus is given to the Monorail crane system that is first plasma item. Final design development and preparation for manufacturing of the Monorail crane system will continue, other non-first plasma systems will continue preliminary design developments towards design review. Final design activities will be accompanied with prototyping and laboratory test in some areas.

Procurement Activities

For the different development areas and the complementary activities, specific contracts will be launched through Remote Handling (RH) and Engineering Unit framework contracts. Contracts are also planned to be signed for final design and manufacturing.

In-vessel viewing system (IVVS)

Progress of Work

Main focus will be given to the final design development to move towards the design review and preparation for the manufacturing. Final design activities will be prepared/accompanied by prototyping and testing in some areas.

Procurement Activities

For the different development areas and the complementary activities, specific contracts will be launched through Remote Handling (RH) and Engineering Unit framework contracts.

Common activities (transversal)

Progress of Work

Engineering support and expert activities will be performed for the four main operational activities, where needed. Complementary RH technology related design activities, qualification and prototyping will be carried out with a great focus on the field of control system, radiation hard technologies like electronics and cameras. Activities will be implemented (design and tests)

aiming at manufacturing of first components (e.g. rad hard cameras and electronics) to be integrated in the RH systems.

Procurement Activities

Specific contracts will be launched through Remote Handling (RH) and Engineering Unit framework contracts in order to carry out supporting activities for the four main operational procurement and for complementary RH technology related design activities, qualification and prototyping. Contracts are also planned to be signed in some areas.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU23.03.14078120	DDL-117 D4.1.01 Material Certificates for CTS (new) approved	Q32025	Predecessor of GB40	PA 2.3.P3.EU.01 Cask and Plug Remote Handling System
EU23.03.04360	CPRHS Intermediate Preliminary Design Hold Point released for EPP/UPP variants (record of decision by PSM Level 3)	Q2 2025	Predecessor of GB41	PA 2.3.P3.EU.01 Cask and Plug Remote Handling System
EU23.05.4282420	Final ADP approved for TO (OMF-1023-01-12)	Q2 2025	Predecessor of GB42	PA 2.3.P5.EU.01 Neutral Beam Remote Handling System
EU57.01.14062980	[M15] Deployment System FDR datapack ready	Q4 2025	Predecessor of GB47	PA 5.7.P1.EU.01 In-Vessel Viewing System

EXPECTED RESULTS

The main expected results for this action are:

1. Signature of 1st plasma FwC (OMF-1609) for Design, Manufacturing of RH systems
2. Completion of the preliminary design review meeting of CPRHS non 1st plasma system
3. Final design development of NBRHS first plasma system
4. Final design development and prototyping of IVVS Measurement and deployment system

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 6. Cryoplant and Fuel Cycle

Action 6	Cryoplant and Fuel Cycle

Fuel cycle

Progress of Work

The type A radwaste treatment and storage system is expected to be transferred to IO.

In the frame of the PA for REMS (Radiological and Environmental Monitoring Systems), the contract for design and manufacturing of individual monitoring system and environmental monitoring system needed for 1st plasma will be terminated as it was impacted by the rebaseline (removal of Beryllium). Task Orders related to design and risk mitigation activities of REMS for Tokamak complex will continue and additional preparation activities for specific Framework contract for REMS Tokamak are planned.

Tritium plant:

For Isotope Separation System, the work of the integrated team will focus on preliminary design, de-risking activities and preparation of procurement arrangement and tendering.

For Water Detritiation system, the work of the integrated team will focus on preliminary design, de-risking activities and preparation of procurement arrangement.

For vacuum pumping:

For Torus and Cryostat Cryopump system (TCCS), activities will focus on the completion of the last CryoPumps in case they are not all completed by the end of 2024 (depending on the progress of series manufacturing).

For Neutral beam cryopumps system, activities will focus on definition of technical requirements, final design review chits closure, preparation of tendering process.

For Front-end and Cryodistribution systems (FECDS) the 3 Neutral Beam Cold Valve boxes will be manufactured, tested, and delivered. Manufacturing of the associated cryolines, cryojumpers and Johnston couplings will be completed. The I&C systems for the TCCS and FECDS (wall mounted enclosures, local control cabinets, etc.) will also be fully delivered in 2025.

In parallel, some new scope transferred from Buildings might be implemented in this project for the manufacturing and delivery of a Liquid Nitrogen vacuum insulated transfer line.

For Leak Detection, after a full re-baselining of the project (moving from an already signed turnkey contract to a split strategy with completion of the Final Design and later call for tender for manufacturing and assembly), the scope in 2025 will be focused in completing the Final Design Review, complete the qualification scope for the remaining components, signing a contract for components/materials (long lead items) and starting the call for tender for the new manufacturing and assembly contract.

Qualification and manufacturing of leak Detection and localization systems will continue.

Procurement Activities fuel cycle

- Framework Contract signature for Cryogenic and Vacuum Engineering Services.Contract signature for Leak Detection procurement of components and/or materials (this could also be done through existing FwC Task Orders) [7].
- Specific contracts for I&C of Leak Detection.
- Contract signature for manufacturing of Neutral Beam Cold Valve Boxes instrumentation and control (via amendment to an existing contract or new contract)[9] .
- Scope/cash transfer to IO for cabling procurement for Neutral Beam Front end Cryopump system.
- Specific contracts under existing frameworks for design of Radiological and Environmental Monitoring System
- Amendment to existing contracts may be signed
- Specific Contracts for support activities like Inspectors, Documentation Support, Engineering and Analysis, I&C support and other activities, Project Management support etc, will continue to be issued depending on the project needs.
- Contracts or Specific contracts may be signed for studies and de-risking activities for Isotope Separation System and Water Detritiation System.Cash compensation with IO for the procurement of services with IO (art. 89f of the F4E financial regulation/ Memorandum of understanding of non-significant procurements) [11]
- Commitment for Cash Transfer to IO related to PCR-001649: PBS66 (Radwaste) transferred from EU-DA to IO [12].

Cryoplant

Progress of Work

Commissioning of the remaining equipment of LN2 plant and auxiliary systems will continue, completing the Operational Acceptance Test of the 80K loop 1 and potentially also the warm tests, among other activities.

Procurement Activities cryoplant

- Amendments to existing contracts may be signed.
- Specific Contracts for support activities like Inspectors, Documentation Support, Engineering and Analysis, Project Management support etc. will continue to be issued depending on the project needs.

WORK PROGRAMME OBJECTIVES

[7] At the time of writing the Work Programme, there is a possibility that this commitment is signed in 2025 or in 2026 depending on the final strategy agreed and the type of contract used. The budget is currently allocated to 2026.

[9] Amendment was signed in 2024

[11] At the time of writing the Work Programme, this cash compensation with IO is planned for Beg 2026 but there is the possibility that it is advanced to end 2025.

[12] At the time of writing the Work Programme, this commitment is planned beginning 2026 (budget to be requested for 2026) but there is the possibility of advancement to 2025.

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU31.01.11367	PA data package completed (without Annex B) for PA Amendment 3.1.P1.EU.04 for NB Cryopumps	Q3 2025	Predecessor of GB50	PA 3.1.P1.EU.04 Neutral Beam Cryopumps
EU31.01.8184180	M_A15 Neutral Beam Cold Valve Boxes 1,2,3 FAT approved	Q4 2025	WP25 objective	PA 3.1.P1.EU.02 Front End Cryopump Distribution Cold Valve Boxes and Warm Regeneration Box
EU31.03.25760	M.20 - FDR approved by Steering Committee for Primary & Cryostat Leak Detection System	Q4 2025	Predecessor of GB18	PA 3.1.P3.EU.01 Primary and Cryostat Leak Detection System
EU31.03.43400	Final Design Analysis report completed for Primary Leak Detection Systems	Q2 2025	Predecessor of GB35	PA 3.1.P3.EU.01 Primary and Cryostat Leak Detection System

EXPECTED RESULTS

The main expected results for this action are:

1. LN2 Operational Acceptance Test of the 80K loop 1.
2. Delivery of Neutral Beam Cold Valve Boxes cryolines, cryojumpers and Johnston couplings.
3. Delivery of last Torus and Cryostat Cryopump (if not delivered in 2024).
4. Start preparation of Call for Tender for manufacturing and assembly contract for Leak Detection.
5. Radiological and environmental monitoring system: design basis completed.
6. Neutral Beam cryopumping system: Final Design review and chits closed to be able to proceed with Procurement Arrangement amendment preparation.
7. Water Detritiation System: Procurement strategy clarified and endorsed.
8. Isotope separation system: Task order to mature preliminary design under IO framework launched.

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 7. Plasma Engineering & Operations

Action 7	Plasma Engineering & Operations

ITER Operations

The activities preparation of ITER operation will focus on preparation for longer term actions (for ITER integrated commissioning and operation) as well as some short-term actions (for system commissioning and assembly phases)

The preparation of the F4E contribution to the organization of ITER Operation (collaboration framework with IO and the ITER parties, EU representation) includes contributing to the definition of the EU position in the definition of the ITER Operation organisation as well as setting up in F4E of framework for personnel assignment and of F4E coordinating mechanisms

Procurement Activities

Not applicable

Plasma Engineering

A relevant part of the PE activity responds to (often urgent) requests and hence it is difficult to plan in advance.
This will include support on scenario preparation for first plasma and specific simulations and code development as needed, support to the development of the ITER Tokamak Monitoring System. Transversal support to F4E procurement remains in the Plasma Engineering scope.

Procurement Activities

Not applicable

WORK PROGRAMME OBJECTIVES				
Milestone ID	**Scope Description**	**Forecast achievement date**	**Type of milestone**	**ITA/PA**
Not applicable				

EXPECTED RESULTS
The main expected results for this action are: 1. Provide support to ITER preparation for integrated commissioning.

TARGET
Not applicable

Action 8. Heating & Current Drive

Action 8	Heating & Current Drive

Electron Cyclotron (EC) System Gyrotrons, Power Sources and Power Supplies (PS), EC Launchers and EC Control System

Progress of Work :
Electron Cyclotron Power Supplies

- Commissioning of EC Power Supplies sets will continue.
- Site acceptance test of 52HV05 will be completed.
- Technical support of the EC Power Supplies will continue.

Electron Cyclotron Gyrotrons

- Design activities for EU Gyrotrons (Radiofrequency Sources) and for the Control System of the EU Gyrotrons will progress towards Final Design Review.

Electron Cyclotron Launchers

- The contractor will proceed with the design of Ex-Vessel Waveguides and Upper Launcher (UL) Systems towards Final Design Review and Manufacturing Readiness Review.
- Procurement of long lead materials for series production will continue.
- Optical testing of diamond disks will be completed.
- The design and qualification of the EC isolation valves will continue.
- Testing of the Upper Launcher at FALCON facilities will be completed.
- Plasma performance calculations to validate functionality of the Upper Launcher will be completed.

Electron Cyclotron Control System

- Activities in 2025 will be mainly devoted to completing the integrated commissioning of the system in view to support the acceptance tests of the first ITER gyrotrons scheduled for the end of the year. The EC Plant Controller (ECPC) will also be upgraded to include the possibility to operate two gyrotrons on one power supply simultaneously.

Procurement Activities

Common activities:

- Contracts are foreseen to support these main activities (e.g., engineering, design, analyses, resources, inspectors, prototyping), most of them specific contracts under existing frameworks.
- Additional contracts and contract modifications might be signed to cover extra scope on the EC system as a result of the new ITER Baseline.

Electron Cyclotron (EC) Power Supplies:

- Supporting activities for site support and interfaces are foreseen.

Electron Cyclotron (EC) Launchers:

- Specific Contracts covering the manufacturing and assembly of the Ex-Vessel Systems and the manufacturing of the remaining Upper Laucher Sub-systems will be signed under the Framework Contract for Design Finalization and Supply of the Electron Cyclotron Upper Launchers and Ex-Vessel Waveguides for ITER.
- Additional options under the relevant Framework Contract for the Design Finalization and Supply of the Electron Cyclotron Upper Launchers and Ex-Vessel Waveguides for ITER will be signed, covering part of the remaining scope.

Neutral Beam Test Facility, Padua:

Progress of Work

- MITICA Beam Source will be delivered to the NBTF.
- MITICA Diagnostics – fabrication and assembly will continue (completed for all systems except for the Neutrons).
- MITICA Beam Line Components – Delivery of the Calorimeter (CAL) to NBTF will be completed.
- NBTF Assembly - MITICA cryopump installation will be completed.

  NBTF Control System (CODAS) - MITICA instrumentation (Interlock System) installation will be completed, and contractual activities will progress for the remaining instrumentation.

Procurement Activities

- MITICA Beam Line Component and Beam Source: supporting tasks for the final acceptance tests and delivery to RFX PRIMA site will be implemented.
- Other contracts are foreseen to support these main activities (resources, inspectors), most of them specific contracts under existing frameworks.
- Expert contracts for the follow up of NBTF mechanical component activities will be signed.

Neutral Beam for ITER - Cadarache:

Progress of Work

- NB Assembly and Testing: Design activities on the NB Tooling (Batch 1) will start subject to contract signature. The preliminary design of the tools included in Batch 1, Batch 2 and Batch 3 will be completed. The cost assessment for the general assembly pre SRO and post SRO will be further refined in view of the centralization of scope under IO leadership.
- NB Beam Sources and Beam Line Components – Pre-procurement and pre-PA activities will progress.
- NB Vessels: Manufacturing readiness will be reached upon successful closure of the MRR meeting and manufacturing activities will start.
- NB Drift Ducts: Procurement procedure to manufacture two Drift Ducts for ITER will proceed up to the contract signature.
- NB Drift Duct Feedthroughs: Strategy for implementation will be defined and agreed with IO.
- NB Absolute Valves: Joint IO/F4E work will progress towards successful completion of the feasibility study by IO.
- NB Magnetic Shielding: The PA 5.3.P5.EU.01 for NB Magnetic Shielding will be signed. Preparation of technical documentation will proceed, and the procedure will be launched.
- NB Power Supplies: Detailed design activities for ISEPS will progress towards FDR provided that the contract is resumed in Q3 2025, delivery of Acceleration Grid Power Supply – Conversion System (AGPS-CS) and first deliveries of Ground Related Power Supplies (GRPS) will be completed, and installation will start subject to building availability. Delivery of the High Voltage Deck (HVD) and High Voltage Bushing will be completed. Engineering activities for ITER Heating Neutral Beam (IHNB) control system will progress towards advanced Conceptual Design Review.

Procurement Activities

- Some Engineering Studies and Engineering Support activities might be performed, including ITAs.
- Specific Contracts under existing Framework Contracts will be signed for insourcing and technical follow-up of the HNB components.
- NB Assembly & Testing: The task order for structural analysis support for the Assembly Tooling will be signed. Other specific contracts under existing Framework Contracts are foreseen to support the execution of the NB Tooling contract (e.g. CAD support)
- NB Vessels: Task orders related to quality inspection services or production support will be signed to support further the NB Vessels manufacturing activities.
- NB Drift Duct: The contract for the manufacturing design, manufacturing and delivery will be signed. Task Orders for the Engineering Support might be signed to support the Drift Duct contract execution.
- NB Magnetic Shielding: An expert contract for the follow up of PMS and ACCC activities will be signed.
- NB Power Supplies: Specific tasks and options will be released, in accordance with the contract implementation status.

Ion Cyclotron Antenna

No activities are foreseen in 2025.

Following agreement between F4E and IO, the IC antenna procurement scope was transferred through a Level-0 PCR (#1271) from the original share of F4E, without contractual impact, since the PA had not yet been signed.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU52.01.4007740	[M40] UL FDR Kick of Meeting	Q2 2025	Predecessor of GB46	PA 5.2.P1B.EU.02 Electron Cyclotron Upper Launcher
EU52.03.21570	OMF-1108 - MS-09 Participation to the FDR Meeting of the ITER RF Sources	Q3 2025	Predecessor of GB48	PA 5.2.P3.EU.01 Electron Cyclotron Gyrotrons
EU52.03.227120	EC Power Supplies - SCP-52HV05 - SAT Completed (M3.1.5)	Q2 2025	WP25 objective	PA 5.2.P4.EU.01 Electron Cyclotron High Voltage Power Supply
EU53.04.01440	OPE-1180 - NB Vessels Manufacturing Readiness Review Closure	Q3 2025	WP25 objective	PA 5.3.P4B1.EU.01 Heating Neutral Beam Vessel
EU53.06.09160	IPL > Delivery of EU-HVD1 & EU-Bushing of IHNB-1 to ITER Site by EU-DA	Q4 2025	Predecessor of GB30	PA 5.3.P6.EU Neutral Beam Power Supply

EU53.TF.15690	Delivery of MITICA Beam Source to PRIMA Site	Q4 2025	WP25 objective	PA 5.3.P9.EU.01 Neutral Beam Test Facility Components
EU53.TF.4447660	Delivery On-Site Completed (M97) - MITICA Calorimeter	Q3 2025	WP25 objective	PA 5.3.P9.EU.01 Neutral Beam Test Facility Components

EXPECTED RESULTS

The main expected results for this action, on top of the annual objectives listed above, are:

1. F4E-OMF-1120 TO1 Option 3 for the Manufacturing & Assembly of the Launcher Body will be released.
2. The MRRs for the EC Launchers BSM will be held.
3. Final Design review for the EC Gyrotrons control system completed.
4. F4E-OPE-1203 End of preliminary design and 3D models tools for pre-SRO phase (Batch 1,2 & 3).
5. PA signature for NB Magnetic Shielding.
6. Pre-procurement activities for NB magnetic Shielding started.
7. Acceleration Grid Power Supply – Conversion System (AGPS-CS) second delivery to ITER site
8. Ground Related Power Supply (GRPS) first delivery to ITER site
9. Delivery of MITICA Electrostatic Residual Ion Dump
10. Delivery of MITICA Interlock System

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 9. Diagnostics

Action 9	**Diagnostics**

Progress of Work

During 2025 the Diagnostics Programme will continue with, or begin, the manufacture of several components or systems for delivery to ITER. These include in-vessel supports, vacuum vessel electrical feedthroughs, final batches of in-vessel cables, port plug components of the visible/IR wide-angle viewing system in equatorial port 12, fission chambers and port plug components of the radial neutron camera. Some of these will be delivered within the year.

Several Diagnostic systems and subsystems will complete their design activities with approval of the final design review, including the port plug bolometer cameras and sensors, port plug components of the core plasma charge exchange recombination spectrometer, port plug components of the visible/IR wide-angle viewing system in equatorial port 12, and the sensor head and electronics for diagnostic pressure gauges.

The design of all remaining Diagnostics Programme systems and subsystems will also progress; under on-going contracts (e.g. in-divertor electrical services) and specific contracts within existing design framework contracts (e.g. core plasma Thomson scattering system, ex-vessel components of the core plasma charge exchange recombination spectrometer, and vacuum vessel and divertor bolometer cameras), as well as under specific grants of framework partnership agreements (e.g. ex-vessel components of the radial neutron camera) and under the design grant (e.g. visible/IR wide-angle viewing system in equatorial ports 3, 9 and 17)

For integration of systems into ITER ports under F4E responsibility, works will continue to address changes to tenant interfaces with respect to the approved FDR design (ITER Baseline), consistent with associated PCRs.

Procurement Activities

Procurement activities will focus mainly on the manufacture of the diagnostics components that have passed their final design review, either by placement of framework contracts or specific contracts within existing framework contracts, and on any activities necessary for completion of designs.

The tendering process for port engineering system of six diagnostics ports will be as well on going.

These activities will be complemented with contracts and specific contracts for the production and testing of prototypes, specific contracts for the provision of industrial expertise and for engineering analysis, as well as amendments of on-going grants and contracts (including specific contracts) as necessary. In-sourcing of personnel is foreseen to support the Diagnostics Programme during 2025, as is the use of Inspectors for manufacturing contracts and Experts in specialist areas, including in support of design reviews.

A cash transfer to IO is also foreseen, associated with transfer of scope related to support of the commissioning activity for the Magnetics electronics diagnostic.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU55.04.108405	Approval of Joint Final Design Review for Sensor Head and Electronics-target	Q4 2025	WP25 objective	PA 5.5.P1.EU.07 Diagnostics - Pressure Gauges
EU55.06.683180	MRR Meeting for Feethroughs	Q4 2025	Predecessor of GB36	PA 5.5.P1.EU.18 Diagnostics - Tokamak Services
EU55.06.697120	IPL > Delivery of In-vessel clips, clamps and junction boxes for VV Sector 3 (Batch 7)by EU-DA to IO ITER site	Q3 2025	WP25 objective	PA 5.5.P1.EU.18 Diagnostics - Tokamak Services
EU55.07.19160	Task Order Signed for Radial Neutron Camera Port Plug Components Manufacture	Q2 2025	WP25 objective	PA 5.5.P1.EU.15 Diagnostics - Radial Neutron Camera/Gamma Spectrometer
EU55.13.102960	FDR approved by Steering Committee for Eq. Vis/IR WAVS Port Plug Components EQ12	Q1 2025	WP25 objective	PA 5.5.P1.EU.06 Diagnostics - Equatorial Visible/Infrared Wide-Angle Viewing System

EXPECTED RESULTS

The main expected results for this action are:

1. Completion of final design for the pressure gauges sensor head and electronics.
2. Completion of final design for equatorial visible/IR wide-angle viewing system port plug components.
3. Deliveries of tokamak services in-vessel supports and final batches of in-vessel cables.

4.Completion of Manufacturing Readiness Review of non-critical components for the Collective Thomson Scattering Front-End

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 10. Test Blanket Module

Action 10	Test Blanket Module

Progress of Work

The Design and Safety Analysis activities for the TBM Sets and Ancillary Systems will continue for the completion of the preliminary design and the first step of the final design.

The consultancy of an Agreed Notified Body will continue as well as the handling and storage of EUROFER and other steel products.

The activities for the development of the TBM sets Industrial Feasibility and Fabrication Technologies will continue, as well as for the EUROFER semi-finished product.

The collaboration with EUROfusion and EFLs will continue to be reinforced, and the joint activities with Breeding Blanket will progress. Possible collaborations with private initiatives could also start.

The definition and codification of EUROFER design limits in RCC-MRx design and construction code will continue.

Procurement Activities

It is planned to launch/conclude procurement procedures for the start or the continuation of the following activities among others:

- Progress of the preliminary design of the TBM systems.
- Design of the TBM sets and of the related safety analyses and studies.
- Design and manufacturing of the Ancillary systems.
- Consultancy of an Agreed Notified Body.
- Proof of the TBM-sets fabrication and assembly processes feasibility.
- EUROFER 97-5 finished products procurement – Stage I.
- Handling and Storage of EUROFER and steel materials.
- Definition and codification of EUROFER design limits in RCC-MRx.
- The transport of EUROFER and other materials/products to and from the storage facility.

In addition, specific contracts for support activities like engineering and analysis, experts, project management support, system engineering management and in-sourced staff may be issued depending on the project needs.

Moreover, if requested and approved by the TBM-Project Team Steering Committee, a cash contribution will be transferred to IO in order to execute TBM-PT activities common to several ITER Members.
The Test Blanket Module Systems procurement plan is not in response to PA or ITA but to the TBM Arrangements (TBMAs).

No activities are credited.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU56.01.1242855	F4E-OFC-1497-01 TO-01 Signed for 1st analysis of EUROFER test data from EUROfusion MAT-TBM	Q2 2025	WP25 objective	NA
EU56.05.1239977	ADP1 Issued of TO-02 OFC-1350-01 for Set of Additional Accident Analyses for WCLL TBS	Q3 2025	WP25 objective	NA
EU56.01.89510	F4E-OFC-1017 “former” TO-09 Signed for ANB Consultancy	Q1 2025	WP25 objective	NA
EU56.02.1240470	F4E-OFC-1063-01 TO-05 Signed for Handling, Cutting Storage Serv for Steel Products related to the EU TBMs	Q1 2025	WP25 objective	NA

EXPECTED RESULTS

The main expected results for this action are:

1. Progress of the Preliminary design activities for WCLL TBS and the start-up of Final design phase.
2. progress of the Preliminary design activities for HCCP TBS in collaboration with KO-DA and the start-up of Final design phase.
3. Transmission to IO of the updated set of data in view of the update of the ITER Preliminary safety Report.
4. Progress of the activities for the joint team TBM-BB

TARGET

The target for 2024 is “Annual M-SPI ≥ 0.8”

Action 11. Site and Buildings and Power Supplies

Action 11	Site and Buildings and Power Supplies

Progress of Work

The focus of the Buildings works will be to complete the Tritium building (B14); to progress on the installation of the Cargo Lift in the Machinery Room on the Tokamak building (B11); to complete the installation of the Cargo Lift Lobby Doors, to progress installing the Doors in Tritium Building (B14); to deliver the building services components (HVAC, piping, electrical, Instrumentation & Control) to IO for installation in the Tokamak Complex; to complete the NB High Voltage Power supply Building (B37), the Control building (B71 Non PIC part) and the NB Power supply building (B34).

Load Centers LC04, LC09, will be operational (Ready for use).

The Emergency Power Supply Buildings (B44, B46), Medium Voltage Distribution Buildings (B45, B47), the Load Centers LC01, LC02, LC08, LC09, LC15 & LC16 and the Medium Voltage MV04, MV05 & MV06, construction will continue progressing.

Procurement Activities

Contracts to be signed by 2025 include:

• TB25 – Site Infrastructure and remaining Building services in the auxiliary buildings (Q2 2025)

• Provision of Mandatory Health and Safety Advisory Services for the Worksite (HSPC) (joint call with IO) (Q1 2025)

• Legal Inspection (LI) (joint call with IO) (Q4 2025)

Hot Cell Facility Buildings:

Procurement activities for the Hot Cell Facility Buildings might be launched to cover the Design (as a minimum, depending on IO and F4E's governance agreement) of both IO and F4E scopes (DT1 phase). Design Works are required on functions due for pre-assembly phase and SRO operation phase.

Specific contracts will be signed under ongoing framework support services and supply/works contracts. This includes, for example, Task Orders, Structural analysis, Building HMI Development, Engineering and Contract Management Consultancy Services (with special respect to cost and schedule assessment) and consultancy for advice on interpretation of French Regulatory Law.

Changes and exercise of options to the ongoing services and construction contracts in relation with PCRs, input data delays, and re-allocation of scope between contracts, will be implemented through amendments to the ongoing contracts in line with the provisions of the Financial Regulation.

Cash contribution will cover the ITER site host agreement and the ITER Site Services Agreement.

Specific cash compensation to IO as required in case of transfer of some activities from F4E to IO.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU62.05.235	IPL > NB Power Supply Building (34) RFE (RFE #9)	Q1 2025	WP25 objective	MAIN MILESTONES
EU62.05.275	IPL > NB High Voltage Power Supply Building (37) RFE (RFE #9)	Q1 2025	WP25 objective	MAIN MILESTONES
EU41-43.129830	IPL > Low Voltage LC 04 for Bldg 71 Ready for Use	Q3 2025	WP25 objective	MAIN MILESTONES
EU62.03.14285	IPL > TB21 TO#110 : completion of PBS44: Cable trays and supports zone 6&9 installation & testing completion	Q2 2025	WP25 objective	Main Contracts

EU62.05.580	IPL > Construction of Control Building (71 non PIC part) Completed	Q3 2025	WP25 objective	MAIN MILESTONES

EXPECTED RESULTS

The main expected results for this action are:

1. To deliver Low Voltage Low Center 04 for B71 to the IO for its suppliers works (ready for equipment - RFE)
2. PBS44 Cable trays and supports (Zone 6 and 9) installation and testing completion
3. To deliver the Neutral Beam Power Supply Building to the IO for its suppliers works (ready for equipment - RFE)
4. To deliver the Neutral Beam High Voltage Power Supply Building to the IO for its suppliers works (ready for equipment - RFE)
5. Construction completed of the control Building (71 non PIC part).

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”

Action 12. Cash Contributions

Action 12	Cash Contributions

Cash contribution to IO

This action covers the EURATOM in-cash contribution that F4E[13] shall deliver to ITER International Organisation (IO) in cash together with its contribution in-kind for the ITER project in accordance with ITER Agreement[14].

The present Work Programme includes the cash contributions to IO due by F4E for the following year N+1. The whole amount is committed in advance based on estimates of the IO draft budget N+1 and under the terms approved by ITER Council[15].

Cash Contribution to Japan

The action also covers the transfer of procurement responsibility from EURATOM to Japan under the supervision of the ITER Organization in accordance with ITER Agreement. This is financed through a cash contribution from EU to Japan paid by F4E. An update of the schedule of payments is provided by the Japanese Domestic Agency (JA DA) twice a year.

WORK PROGRAMME OBJECTIVES

Milestone	Scope Description	Forecast achievement date	Type of milestone	PA

13 F4E is the European Domestic Agency that manages the EURATOM contribution to the ITER project.

14 Article 8 "Resources of ITER Organization" (ITER Agreement 2006)

15 According to Article 9 of ITER Agreement, the ITER Project Resource Management Regulations (PRMR Regulations) shall govern the administration of the resources of the ITER Organization. It provides a detailed description of the applicable rules for contributions in kind, cash income, commitments and payments for the ITER Organization. The final figures are approved or modified by the ITER Council.

EUCC.01.300	Cash Contributions to ITER Organization 2026	Q4 2025	WP25 objective	Cash Contributions to ITER Organization

EXPECTED RESULTS

The expected result for this Action is to pay the cash contributions to ITER Organization as agreed by the ITER Council and to Japan as defined in the schedule for the relevant credits assigned to JA DA for those components transferred by the EU to them.

The target for 2025 is to commit the cash contribution to IO for 2026 according to the decisions due to be taken by the ITER Council in November 2025.

As far as the cash to Japan is concerned, the target for 2025 is to reinforce the commitment for the escalation revision PA 3.2.PA.JA.01[16] and to reinforce the commitment linked to the Settlement Agreement for offsetting of Upper Port #10[17].

Annual M-SPI NA

Action 13. Technical Support Activities

Action 13	**Technical Support Activities**

The procurement of the supporting activities is mainly performed through Framework contracts and specific contracts.

Technical Support to In-Kind Procurement

Engineering Support activities

Progress of Work:

The Fusion Technology and Engineering Department during 2025 will continue supporting the Project by offering a combination of services ranging from taking responsibility of the delivery of standardized components and self-contained subprojects, to long-term contributing to the project engineering and finally to helping to address specific and punctual needs. This is accomplished both by directly developing technical solution to be endorsed by the project teams and by providing technical services and high qualified technical resources in the key domains of fusion technologies and engineering to be matrixed to the project teams according to the needs and the priorities.

The Department will provide technical expertise in the following areas:
Design office activities, Technical Data Management, System Design, Mechanical Engineering, Multi-physics Engineering Analysis (Mechanical, Structural Dynamics, Civil engineering, Fluid Dynamics, Electro Magnetism, Nuclear Analyses), Plasma Engineering, Design Codes and Standards, Electrical Engineering, Instrumentation and Control, CODAC, Project Engineering, Metrology, Reverse Engineering, Manufacturing, Material, Assembly Integration and Validation (AIV) and testing facility (e.g FALCON), and RAMI (Reliability, Availability, Maintainability and Inspectability), AI for Engineering.

[16] As per LGA-2021-A-55 Addendum#1

[17] Implementing Arrangement on Additional Cash Contribution between F4E and QST signed 10 December 2020

Procurement Activities:

Beyond the preparation of task orders, the procurement activities in the Fusion Technology and Engineering Department will
be mainly focused on signing contracts, renewing Framework Contracts for adapting the level of support to the needs of the Programmes. Grants may also be signed for various activities.

Safety & Quality

Progress of Work

The scope of Nuclear Safety includes the oversight of the implementation of all nuclear safety requirements by F4E and its contractors. The Nuclear Safety activities also provide support to the project teams involved in PIC/PIA (Protection Important Components/Activities) to ensure compliance with the necessary regulation. This includes support to nuclear safety management, identification of optimum positions for key nuclear safety issues, review of relevant documentation and nuclear safety inspections in F4E suppliers' premises. Nuclear Safety also includes CE marking support to F4E Project Teams in assessments and reviews, for each PBS, of the compliance with CE marking directives and regulations (mainly Pressure Equipment Directive, Machinery Directive, Low Voltage Directive, Electromagnetic Compatibility Directive, Explosion Protection and Construction Product Regulation). The Nuclear Safety group also organizes workshops, seminars and other activities to raise and re-enforce the nuclear safety awareness within F4E.

The scope of Quality Assurance includes the support to project teams to ensure that the F4E quality requirements are correctly implemented and managed for the F4E contribution to ITER. In particular, support is provided in both domains of Quality Assurance (QA) and Quality Control (QC). As for QA, support aims at ensuring that F4E's QA processes are properly followed in the development of the different ITER projects and in line with the F4E Quality Management Policy. As for QC, the support to the projects will be provided in the follow-up and control of the activities performed by F4E's contractors.

The scope of Quality Management & Documentation Management includes the support the operational departments and the project teams to ensure that the Quality Management System (including its processes) and the Documentation Management System are maintained and improved, with focus on reporting, digitalisation and simplification.

Safety & Quality also includes the support activities for Occupational Health & Safety.

Another stream of support that might be needed is the activity of alignment of the Quality Management System with the ISO19443.

Procurement Activities

Task Orders and contractual Options of Task Orders already in force, Purchase Orders and Procurement Procedures for Direct Service Contracts will be issued to continue to support the Project Teams at F4E's or at suppliers' premises. F4E will be also supported by experts on Nuclear Safety expertise, funded by F4E through expert contracts.

Systems Integration and Performance

Progress of Work

System Integration and performance supports the Head of Projects Department with respect to the scope of the EU in-kind components for ITER, in representing F4E towards the ITER Organisation and to the scope of Broader Approach and Roadmap projects. Among the main tasks are: the interaction with IO on the project technical baseline, including change control, and participation to the Configuration Control Boards, the management of transversal technical issues impacting several PTs, the coordination of F4E participation to ITER Independent Reviews and working groups focused on technical matters and the assurance of consistency, adequacy and maturity in relevant Design Reviews. The scope includes also the development and implementation of Systems Engineering practices, processes and tools and to support their correct deployment by the Project Teams. To cover this scope, external manpower is contracted across several areas, including Requirements Management and Verification (RMV) with emphasis on Verification, Design and Manufacturing Readiness Reviews, Interface Management, and other Systems Engineering topics.

Procurement Activities

Task Orders, contractual Options of Task Orders already in force and Procurement Procedures for Direct Service Contracts will be issued to continue to support the F4E Project Teams and to complement the in-house Configuration Management, Technical Integration and Issues Management capabilities with expert support from specialized companies.

Project Performance Management

Progress of Work

The Project Performance Management (PPM) Unit contributes to the delivery of project results by providing project management expertise and qualified project management professionals in the key areas of project management, namely schedule, cost, and risk management. PPM unit is responsible for developing project baselines, identifying risks, issues, and deviations from project baseline, and proposing preventive/corrective actions. It performs the activities of schedule management, risk plan, EAC (maintaining EAC data in the systems) with an independent role for schedule forecast, cost estimation and risk assessment in the programmes/projects, following the Head of Projects' delegation. The unit also coordinates and prepares the performance monitoring and reporting during project execution and drive project decisions ensuring proper consideration of schedule, cost and risk aspects. The preparation and update of the project teams actions as part of the annual and multi-annual programme planning documents is also included.

Procurement Activities

Task Orders and contractual Options of Task Orders already in force will be issued to continue to ensure the maintenance and update of the cost, schedule, risk information in the specific tools.

WORK PROGRAMME OBJECTIVES				
Milestone ID	**Scope Description**	**Forecast achievement date**	**Type of milestone**	**PA**

EU.ES.01.110360	Contract Signed for Engineering Support Contract LOT 1	Q3 2025	WP25 objective	All

EXPECTED RESULTS

The main expected results for Technical Support to In-Kind Procurement are:

1. Continuation of Implementation of the framework contracts which will allow Fusion for Energy to get external support in the field of NDT Testing of Materials, Seismic Analysis, Engineering Support.

2. On time signature of the required Task Orders in order to support the F4E Project Teams.

3. Provide high quality Project Performance Management services to F4E and all Project Teams.

4. Provide the requested support to F4E and all Project Teams on the matters described in the Scope of Work. In general, the target for 2025 is to keep safeguarding the EURATOM's investment in ITER while achieving the cumulative credit forecasted for each action in this WP2025 thanks to the support granted to the work under each specific action.

Transportation

Transportation

Progress of work:

During 2025, Transportation project will be in charge of the management, on the F4E side, of the joint procurement with IO for the transportation of ITER components to the site in Cadarache. The scope includes the transportation of all ITER Components from the port/airport of entry (Fos or Marignane) to ITER site.
During 2025, this activity will mainly cover transportation of NON EU loads between Fos and Cadarache (EU-leg). The main cost driver is for Highly Exceptional Loads (HEL) that follow the dedicated ITER itinerary.

Procurement activities:

Task Orders for Transportation of Highly Exceptional Loads between Maritime Port of Marseille and ITER site. Gendarmerie Task Orders to escort the HEL convoys and Task Orders for Management fees and for component transportation with contractor Daher will be signed.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU.TR.3028480	Task Order Signed for TO 22 for Convention 4 for Real Convoys for Gendarmerie Services	Q2 2025	WP25 objective	All
EU.TR.3028600	Task Order Signed for TO 23 for Convention 4 for Real Convoys for Gendarmerie Services	Q4 2025	WP25 objective	All

EXPECTED RESULTS

The main expected results for Transportation are:

1. Transportation of Highly Exceptional Loads amongst others, VV-sector between Maritime Port of Marseille and ITER site.

2. Gendarmerie Task Orders to escort the HEL convoys and Task Orders for Management fees and for component transportation with contractor Daher will be signed.

Other Technical Support Activities

Project Management Office

Progress of Work

The main focus of Project Management Office is on performance oversight and reporting, preparation of the annual and multi-annual programme planning documents, scheduling support, change control, the maintenance and update of the cost situation, the continuous integration of risk management into every aspect of the organisation, ensuring that all decisions and processes are aligned with F4E's objectives and risk tolerance, increased standardization of reporting within the organization, the implementation of the Internal Compliance Programme for export control. Overall project management support and support to the use and maintenance of specific tools to support project and program management are also included.

Procurement Activities

Task Orders and contractual Options of Task Orders already in force, Purchase Orders and Procurement Procedures for Direct Service Contracts will be issued to continue to support the F4E Project Management Office and F4E Project Teams.

Technical Support Activities of administrative nature provided by DTU, LSU, CSU and Finance Unit

Progress of Work

A general provision is foreseen for technical support activities, including operational consultancy, legal, logistics and assurance services. The action also includes operational meetings, missions as well as hardware and software tools used for the direct benefit of the operational projects.

Procurement Activities

The above scope will be implemented mainly by issuing Task Orders under existing/new framework contracts.

Contracts and Procurements (including insurance)

Progress of Work

A general provision is foreseen for operational services to F4E Project Teams in Pre-procurement (this covers Business Intelligence & Market Analysis), Commercial Reporting, Procurement areas and Commercial contract management.

This part also includes insurances related to risk occurring during construction activities on the ITER Site such as All Risk Insurance, Building and property and Third Party liability. It does not include Decennial insurance, Third Party liability related to the escort of convoys of component transport to ITER Site.

Procurement Activities

The above scope will be implemented mainly by issuing Task Orders under existing/new framework contracts. F4E will be also supported by experts, funded by F4E through expert contracts.

Insurances will be mainly implemented via reimbursement of IO according to the Agreement on provision of insurance services signed 20/07/2020 and its renewal/extension. For insurances not falling in the scope of this scheme, such as decennial insurance for buildings, complement to F4E Third Party Liability, they are procured or renewed by F4E directly.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU.PM.3076540	Framework Contract F4E-OMF-1831-LOT3 signed for EcoSys EPC Support Services (continuation of F4E-OMF-1147-LOT3)	Q4 2025	WP25 objective	All
EU.PM.3159400	Framework Contract F4E-OMF-1751 signed for Cost estimation consultancy services	Q3 2025	WP25 objective	All

EXPECTED RESULTS

The main expected results for Other Technical Support Activities are:

1. On time signature of the required Task Orders in order to support the F4E Project Teams and Project Management areas.

2. Provide high quality Project Management Support Services to F4E and all Project Teams.

3. Signature of a new Framework Contract to provide support services in the area of Cost Estimation Support.

4. Signature of a new Framework Contract to continue to provide EcoSys EPC- Enterprise Planning & Controls support services as part of Project Management Systems Support.

5. Signature of a new Framework Contract to continue providing Operational Services in the area of Contracts and Procurements.

6. Provide the requested support to F4E and all Project Teams on the matters described in the Scope of Work. In general, the target for 2025 is to keep safeguarding the EURATOM's investment in ITER while achieving the cumulative credit forecasted for each action in this WP2025 thanks to the support granted to the work under each specific action.

Annual M-SPI NA

Action 14. Broader Approach

Action 14	Broader Approach

JT-60SA

Progress of Work

The year 2025 is dedicated to the maintenance and enhancement phase preparing for Operation 2. This period includes the procurement of critical spare parts and engineering services for EU already supplied systems and components, and selected machine enhancements and diagnostics in collaboration with EUROfusion (including maintenance and assistance to on-site assembly and commissioning). F4E is expected to take part in the installation of additional equipment necessary for the Operation phase 2, and in actions related to the repair of certain components.

Regarding the repair work on the Central Solenoid, an in-situ solution has been defined, after extensive qualification carried out both in Europe and Japan. The work is expected to start in April 2025, including preparation, execution and clean-up. In late 2024 the final decision to skip the actively cooled carbon divertor was taken. In parallel manufacturing and testing of tungsten plasma facing components is progressing.

The first components of the actively cooled divertor will be manufactured. These activities are carried out through a portfolio of industrial contracts across Europe. F4E follows these contracts directly with the support of EUROfusion for specific scientific tasks, like high heat flux testing and material testing.

Procurement Activities

In year 2025 several contracts for the maintenance and spare parts are planned to be launched. These contracts cover all components supplied by the EU including the cryoplant and magnet power supplies. Further contracts for additional diagnostics are also planned. Changes to the actively cooled divertor contracts will be implemented as a result of the project's decision (Broader Approach Steering Committee) to go directly to a tungsten actively cooled divertor, and new contracts will be placed. In addition, there may be additional contracting activities related to the central solenoid repair.

In the frame of capital protection activities and safety, a new PA will be signed for a development of the monitoring system for the cryostat insulation vacuum and a series of contracts will be placed to proceed with this development.

The activities under the responsibility of F4E are carried out through task orders of existing/new framework contracts or existing/new supply and service contracts. F4E will be continuously supported by experts, and on-site health and safety services to ensure safe operations, funded respectively by F4E through expert contracts and specific contracts. Specific contracts for support activities like engineering, inspections and analysis will be issued depending on the project needs.

Beyond the cash contributions yearly transferred on the basis of the STP Work Programme on specific QST call for fund (covering EU Contribution to operation, maintenance and assembly) additional cash transfers for partial funding of machine insulation repair activities and electron cyclotron plant upgrade will also be made.

IFMIF/EVEDA

Progress of Work

In 2025, the LIPAc (Linear IFMIF Prototype Accelerator) activities at Rokkasho will be centered on integrating the superconducting Linac, also referred to as the cryomodule, into the accelerator's beamline. This phase will follow the relocation of the cryomodule to the accelerator

vault within the LIPAc building for the final assembly steps. Subsequent stages include its integration into the beamline followed by comprehensive checkout tests. Upon completion, the LIPAc accelerator will reach its final configuration, ready for the last phases of the beam operation campaigns to start the following year. These campaigns aim to demonstrate the nominal performance of the LIPAc accelerator and validate the feasibility of the IFMIF accelerator concept.

Concurrently, enhancement activities for the LIPAc injector, Control System, and RF Power system of the RFQ will be conducted to improve their maintainability, reliability, and availability. Notably, efforts will begin on an enhanced injector design including the LIPAc operational feedback, alongside the manufacturing of a new series of solid-state RF power amplifiers, following the prototype's factory acceptance tests in 2025. The deployment of the enhanced subsystems is scheduled to occur after achieving LIPAc's primary objective, namely the full-scale demonstration of the IFMIF accelerator concept, namely after 2028. This entails the acceleration and transport of a 9-MeV, 125-mA deuteron beam in continuous waves, meeting the beam characteristics requirements for a fusion neutron source. The aforementioned enhancement will also aim to prove the reliability and availability necessary for the future Fusion Neutron Source. Furthermore, to augment LIPAc's availability, a study focusing on obsolescence management and spare parts provisioning is expected to be implemented starting from 2025.

Procurement Activities

Additional contracts will have to be placed for the enhancement of key LIPAc subsystems and components such as the injector, the RF power system, and the control systems, as well as for demonstrating the operation and for optimizing the maintainability of the accelerator and subsequently the beam availability. Further contracts cover procurement of spare parts and services necessary for maintenance and obsolescence management. Activities for the preparation of the LIPAc accelerator in its final configuration for the forthcoming operation phases will continue in 2025. F4E will be continuously supported by experts, and on-site health and safety services to ensure safe operations, funded respectively by F4E through expert contracts, specific contracts, Agreements of Collaboration with European Institutes, including a collaboration agreement with CERN, and a multi annual programme plan signed with EUROfusion. Cash contributions as contribution to Common Fund and Common Expenses will also be made.

IFERC

Progress of Work

The IFERC project comprises three activities, CSC (Computer Simulation Centre), REC (Remote experimentation Centre) and DEMO design and R&D:

The CSC objective is to provide high power computer (HPC) resources for JA and EU scientists in order to advance simulation studies for ITER, JT-60SA and fusion reactors in general (e.g. DEMO). CSC fosters collaboration research projects between JA and EU by sharing computer resources and by further jointly developing state-of-the art models. In 2025 two HPC (one in EU, one in JA) will be installed. A collaboration with ITER for high priority simulation projects will continue.

REC activities focus on the implementation of the remote collaboration tools agreed with JT-60SA, ITER, and the IFMIF-EVEDA LIPAc accelerator. The collaboration under the ITER BA agreement continues to advance test technologies for remote experiments and data transfer,

including remote CODAC application testing, remote data access, live data viewing for ITER, fast data transfer, and secure remote connection.

In the DEMO design activities, priority is given to activities relevant for ITER and JT-60SA exploitation, such as breeding blanket (BB) design and divertor design and plasma exhaust. The objective of activities in fusion materials R&D is to continue to support ITER in issues related to Tritium retention in first wall materials, and to contribute to the materials databases and handbooks for future reactors. All activities are performed in collaboration with EUROfusion.

Procurement Activities

There are contracts to be placed for preparation of remote participation rooms for tests with BA Projects and ITER, and testing activities. F4E will be supported by experts, funded by F4E through expert contracts and specific contracts. Cash contribution will also be made as EU contribution to the Project Team.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU.BA.01.23360	Placement of the contract for the Injector upgrade	Q4 2025	WP25 objective	LIPAc Enhancement - Injector
EU.BA.01.27610	Completion of the SRF Linac assembly in the accelerator vault	Q4 2025	WP25 objective	LIPAc Activities
EU.BA.01.31350	Delivery at Naka of ECRF PS set A	Q3 2025	WP25 objective	ECRH Power Supplies
EU.BA.01.12510	On-site acceptance test of 1st unit of JT-60SA Diamond windows	Q1 2025	WP25 objective	ECRH Transmission
EU.BA.01.38810	Supply of equipment or services for tests with BA Projects and ITER	Q4 2025	WP25 objective	Collaborative activities with JT-60SA, ITER, and the IFMIF/EVEDA LIPAc accelerator
EU.BA.01.38880	Delivery of the centrifuge accelerator for JT60SA pellet launching system	Q3 2025	WP25 objective	Pellet Injector
EU.BA.01.38970	Detailed design of the new PSYS (Protection SYStem) for LIPAc RF power system	Q3 2025	WP25 objective	LIPAc Enhancement - RF Power System

EXPECTED RESULTS

The main expected results for this action are:

J T-60SA:

1. Delivery of the 2nd set of the dummy loads for the transmission lines
2. Completion of the manufacturing of the first 12 cassette frames
3. Delivery of the first high temperature superconducting current lead
4. Completion of the on-site commissioning of the resistive wall mode power supply
5. Completion of the on-site commissioning of the electro cyclotron resonance heating power supply and operation with gyrotrons

IFMIF/EVEDA

1. Completion of the integration of the cryomodule into the LIPAc beam line
2. Delivery of the technical report on the experimental results obtained in the Ga-In-Sn loop
3. Delivery of the technical Report on validation of Neutronics calculations at LIPAc

IFERC

1. Functional tests on the newly developed or updated CODAC applications from CODAC Operational Applications from REC for the collaboration REC-IO (Remote data access to ITER Database)
2. End of Neutron Irradiation Phase for Post-Irradiation Experiments (PIEs) in BR2 reactor and start of the preparation of transportation of the irradiated PIEs samples to KIT on the Neutron Irradiation experiments of Breeding Functional Materials for the DEMO R&D
3. Report on the T analysis of JET-ILW 3 tiles and dusts by using 2 analytical approaches: (i) depth profiling of T in bulk W by a dissolution method; (ii) T removal and re-saturation of co-deposited layers on bulk beryllium for the analysis of plasma wall interaction using JET DT samples for Evaluation of Tritium inventory and Tritium recovery.
4. Start of CAD work and multi-physics design studies on the design for both Plasma Facing Components (PFCs) and cassette body for DEMO Design activities (Divertor design and plasma exhaust)
5. Supply of high-performance computer resources and supply of high-level support to make the best use of the computer resources.
6.
6. Signature of the Procurement Arrangement (PA) or of the amendment to the PA for DEMO Design Activities (DDA) and DEMO R&D Task 1, 2 and 4 to extend the work beyond March 2025.

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”.

Action 15. DONES

Action 15	**DONES**

Progress of Work

After the approval of the F4E Work Programme for the contribution to the DONES Programme, the plan for 2025 is to start with the procurement of the equipment for the IFMIF-DONES Facility, the procurement of the raw material and to provide manpower to the DONES Programme Team either by F4E own resources or by external support to be contracted.
Considering the DONES mitigation plan with respect to the ongoing IFMIF/EVEDA Engineering Validation Activities, it is expected to start in 2025 with the tendering process of the accelerator equipment for the configuration @ 5 MeV.
In the meantime, the activities initiated in 2024 with respect to the early contribution, being seen as a risk mitigation considering the F4E contribution, will continue with the manufacturing of the 1st pair of RFQ coupler prototype for the DONES accelerator.

Procurement Activities

Taking into account the possible F4E contribution to the DONES Programme, it is expected to continue with early procurements of essential equipment for DONES and raw material for cost saving.

The activities are carried out through task orders of existing/new framework contracts or existing/new supply and service contracts. F4E will be continuously supported by experts funded respectively by F4E through expert contracts and specific contracts.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU.DO.01410	Completion of Stage 1 of Supply of the RF Couplers for the Radiofrequency Quadrupole for LIPAc	Q2 2025	WP25 objective	RFQ
EU.DO.01490	PO signed for Lithium Jet Diagnostic testing at CEA SATELIT (ASE)	Q1 2025	WP25 objective	PA DONES - Diagnostics Lithium
EU.DO.01260	Placement of the engineering support contract for DONES Project Management	Q1 2025	WP25 objective	Programme Team and System Integrated Management
EU.DO.02830	Approval of Technical Specifications for Radiofrequency (RF) Power System	Q4 2025	WP25 objective	PA DONES - RF Power system

EXPECTED RESULTS

The main expected results for this action are:

1. System Engineering and Project Integrated Management set up
2. Preparatory activities of In-Kind Contribution to the DONES Programme
3. Industrialization of LIPAc Protype for DONES

TARGET

The target for 2025 is “Annual M-SPI ≥ 0.8”.

Action 16. Technology Development Programme

Action 16	Technology Development Programme

Progress of Work

The procurement of the two TDP24 Pilots will be finalized with the signature of several contracts for each Pilot, as required by the Pre-Commercial Procurement (PCP) instrument to assure competition and reduce risks on R&D efforts. The scope of the pilot actions will be targeted at two different technology development actions.

1. Characterization of Gradient joints on Tungsten/CuCrZr materials
2. Real-time personal monitor for Tritiated water vapor in air

In order to define the scope for TDP25 campaign and carry out a systematic selection of R&D actions in support of a competitive European fusion supply chain, a call for proposals was launched both internally (F4E Programmes) and externally to European Industry. This Call shall

permit to capture a preliminary list of key enabling technologies for fusion by relevant fusion stakeholders. An assessment will be performed within the different technology clusters, based on which F4E will launch the tendering of the annual TDP set of R&D actions corresponding to a first full program. The lessons learned during the execution of the two pilots will be fed into the implementation tools for the new set of TDP actions.
For a comprehensive identification of fusion critical technologies, a series of Technology Roadmapping workshops will be organized by F4E (and also co-organized with EUROfusion). The different stakeholders with relevant expertise will be invited to participate in the assessment of the technologies under the scope of each thematic workshop, including academia, laboratories, private companies, research institutions and startups. A concrete outcome of these workshops' series will be the technology roadmap reports collecting the collectively identified technology gaps, priorities and timelines required to act on them.

Procurement Activities

A brief description of the two Pilot contracts that will be signed:

TDP Pilot Action 1:
Subject: Characterization of Gradient joints on Tungsten/CuCrZr materials
Scope: R&D effort to specify, manufacture and test a series of Tungsten gradient joints samples for a systematic material properties characterization.

TDP Pilot Action 2:
Subject: Real-time personal monitor for Tritiated water vapor in air.
Scope: R&D effort to develop the design of a real-time personal monitor for Tritium vapor. Prototyping and testing such a design. Redesign and further prototyping and testing as needed.

WORK PROGRAMME OBJECTIVES

Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EUTD.100430	Contract Signed for Real-time personal monitor for tritiated water vapour in air 2025	Q2 2025	WP25 objective	Technology Development Program
EUTD.100450	Contract Signed for Gradient joints on Tungsten CuCrZr materials	Q1 2025	WP25 objective	Technology Development Program

EXPECTED RESULTS

The main expected results for this action are:

1. Contracting of two TDP Pilot Actions in 2025.

2. Launching of a call for Fusion Key Enabling Technologies Proposals.

3. Assessment and selection of the 2025 TDP Initiatives.

4. Preparation of the tender for 2025 TDP selected Initiatives.

TARGET

The target for 2025 is "Annual M-SPI ≥ 0.8".

WP_TABLE 1 WORK PROGRAMME 2025 BUDGET SUMMARY

Budget Summary of the 2025 Work Programme

Budget article		Work Programme Commitment appropriations (EUR)
3 1	ITER construction including site preparation	726,023,259.61
3 2	Technology for ITER	6,000,000.00
3 3	Technology for Broader Approach & DEMO	30,000,000.00
3 4	Technology for DONES	839,000.00
3 5	External Support Activities	25,500,000.00
3 6	Other Operational expenditure	6,400,000.00
Total Title III of the Budget		**794,762,259.61**
4 1	ITER construction from ITER host state contribution	93,415,160.77
4 2	Activities linked to ITER Organization	61,952,563.62
4 3	Other earmarked expenditure	52,150.00
Total Title IV of the Budget		**155,419,874.39**
Total amount available for the operational expenditure		**950,182,134.00**

Work Programme		Work Programme Commitment appropriations (EUR)		
		Grants	Procurement	Cash
3 1 + 4 1 + 4 2 + 4 3	Expenditure in support of ITER Construction	202,079.00	428,057,570.00	453,183,485.00
	Sub total ITER construction + RF		**881,443,134.00**	
3 2	Design and R&D in support of ITER, not credited		6,000,000.00	
	Sub total technology for ITER		**6,000,000.00**	
3 3	Expenditure in support of Broader Approach		16,570,225.00	13,429,775.00
	Sub total Technology for Broader Approach and DEMO		**30,000,000.00**	
3 4	Technology for DONES		839,000.00	
	Sub total Technology for DONES		**839,000.00**	
3 5	External Support Activities		25,500,000.00	
	Sub total External Support Activities		**25,500,000.00**	
3 6	Other Expenditure		6,400,000.00	
	Sub total Other Expenditure		**6,400,000.00**	
Totals Operational Expenditure		***202,079.00***	***483,366,795.00***	***466,613,260.00***
		950,182,134.00		

WP_Table 1 . Work Programme Budget Summary

WP_Table 2 - Indicative Value of Financial Resources for the actions in WP2025

Action #	Action	Budgeted forecast WP2025		Total Resources allocated (1)	Budgeted forecast WP2025 AM1 (2)	Provisional budget allocation	Total Resources allocated	Δ WP (Am.1 - Original) (3)=(2)-(1)
		Original Budget	Activities linked to IO**					
1	Magnets	**1,000,000**		1,000,000	**1,000,000**	Appropriations corresponding to external assigned revenue in accordance with Art.12.4.b of the F4E Financial Regulation will be carry over to 2026.	1,000,000	**0**
2,3,4,10*	Main Vessel*	**85,293,870**	**4,100,000**	89,393,870	**116,568,636**		116,568,636	**27,174,766**
5	Remote Handling	**7,790,832**		7,790,832	**7,543,468**		7,543,468	**-247,364**
6	Cryoplant & Fuel Cycle	**3,378,385**		3,378,385	**5,830,410**		5,830,410	**2,452,025**
7	Plasma Engineering & Operations							
8	Heating & current drive	**102,728,970**		102,728,970	**102,619,980**		102,619,980	**-108,989**
9	Diagnostics	**18,207,485**		18,207,485	**21,121,846**		21,121,846	**2,914,361**
11	Building and Site Equipment	**136,108,894**	**1,457,690**	137,566,584	**139,033,656**		139,033,656	**1,467,071**
12	Cash Contributions	**465,954,620**		465,954,620	**435,378,963**		435,378,963	**-30,575,658**
13	Technical Support Activities	**32,827,074**		32,827,074	**36,398,365**		36,398,365	**3,571,291**
14	Broader Approach	**56,669,282**		56,669,282	**30,802,789**		30,802,789	**-25,866,492**
15	Dones	**11,449,621**		11,449,621	**1,621,656**		1,621,656	**-9,827,965**
16	Technology Development Programme	**6,550,000**		6,550,000	**1,981,276**		1,981,276	**-4,568,724**
	Totals	**927,959,033**	**5,557,690**	**933,516,723**	**899,901,044**	**50,281,091**	**950,182,134**	**-33,615,679**
	Stemming from appropriations corresponding to external assigned revenue from ITER IO as per Art.12.4.b FR					50,228,941		
	Stemming from appropriations corresponding to other assigned revenue as per Article 12.4.b FR					52,150		

*The Sub-actions Actions of Vacuum Vessel, In-Vessel Blanket, In-Vessel Divertor and Test Blanket Module are presented merged in one single line due to commercial sensitive information.

** The Original Budget for assigned revenue from ITER IO is declared as p.m. The allocated amount of 5.6 Meur will be covered by the appropriation carried over from 2024 to 2025 which has to be determined after the end of the budgetary year.

WP_Table 2 . Financial Resources per action

WP_TABLE 3 - 2025 MAIN PROCUREMENT ACTIVITIES (PER ACTION)

Action		Type of contract	Signature
Magnets			
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Vacuum Vessel			
CA15017	Task Orders for Engineering activities 2025	SC-PServ	Q4
CA14368	Commitment and Task Order Signed - F4E-OMF-1321-MGR-C25 for 1 VV Resident Inspector & CP support	SC-PServ	Q3
CA16357	Inspector contract F4E-OMF-1321-MGR-D-25 for CP review at MGR (cont. of 1321-01-27)	SC-PServ	Q3
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
In Vessel- Blanket			
CA09286	TASK 3.X for FW Series Fabrication (Manufacturing of Series Panels) - Reopening #1	PSupply	Q3
CA11609	TO 03 Procurement of CuCrZr	SC-PSupply	Q4
CA15617	Implementing contracts for new ITA on W armour qualification - 1st batch (structures, W procurement and bonding trials)	PSupply	Q3
CA14803	Residual obligations on Be Management	SC-PServ	Q3
CA07883	Task Order for Inspectors QA inspector #2 Resource (2026-2027) [1st continuation TO 24 OMF-1321-01] - Tarbes	SC-PServ	Q4
CA08363	TO 03 Material Characterization (Series)	SC-PServ	Q3
CA15620	ESP#2 Resources to support W armour qualification activities [ITA W qualification] 2025-2027	SC-PServ	Q3
CA02651	TO #01 Inspector for Manufacturing for BCM signed	SC-PServ	Q1
CA11618	Task Order for Auditors TO#05 - LOT 1	SC-PServ	Q1
CA13728	Qualification of additional HIP / Solution Annealing Heat Treatment	PServ	Q3
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
In Vessel- Divertor			
CA16129	Flat Rate for OPE-319 (covering 2025-2028)	PSupply	Q3

CA13298	Task Order 30 OMF-1321-01 Signed for Resident Inspector at Monoblocks Supplier #2 for IVT Series (China)	SC-PServ	Q2
CA12829	Task Order WJ.01 OMF-1321-03 Signed for Resident Inspector at Monoblocks' Supplier for IVT Series (Japan) (cont. TO-0	SC-PServ	Q4
CA09568	TO-16 OMF-1327-01 signed for Metrology Support for CB Series - Action I	SC-PServ	Q1
CA13023	Task Order DP1.01 OMF-1321-01 Signed for Resident Inspector at DPI for LOT-1 for IVT Series (JC) (cont TO-03)	SC-PServ	Q2
CA11556	TO-XY.01 OMF-1327-01 signed for Metrology Support for IVT Series	SC-PServ	Q4
CA07957	Task Order RI1.01 OMF-1321-01 Signed for Resident Inspector at RI for LOT-1 for IVT Series (DGL) (cont. TO-13)	SC-PServ	Q3
CA12952	Task Order 31 OMF-1321-01 Signed for Resident Inspector ALX (BDX) for LOT-2 for IVT Series (TBD)	SC-PServ	Q3
CA15257	Task Order 07.01 OMF-1321-01 Signed for Resident Inspector for CSC-Welding	SC-PServ	Q3
CA09616	Task Order WW.01 OMF-1321-01 signed for WTO - Welding (cont. TO-09)	SC-PServ	Q4
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Remote Handling			
CA10459	Task Order 1 (OFC-1546) for TELBOT customization	SC-PSupply	Q2
CA16200	Task Order (OMF-1159-01-01-146) for Engineering Insourcing Support for Remote HAndling (2024-2026) Action II	SC-PServ	Q1
CA11731	Task Order for Engineering Insourcing Contract (MS-1) CPRHS 2025	SC-PServ	Q4
CA11778	Task Order for Engineering Insourcing Contract NBRHS 2025	SC-PServ	Q3
CA11589	Purchase order for F4E Lab and VR License Maintenance 2025	SC-PServ	Q3
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Cryoplant and Fuel Cycle			
CA15533	TO Signed for OFC-1087 procurement of TMPs	SC-PSupply	Q1
CA13597	Update Preliminary design - REMS TKM	SC-PServ	Q4
CA15390	TO Signed for OFC-1087 procurement of remaining Long Lead Components for the LD Project	SC-PSupply	Q3
CA16330	OMF-0989 TO 16 for Agile I&C Service Team	SC-PServ	Q1
CA16763	External support 2025 (new FwC) CPFC	SC-PServ	Q4
CA16137	TO-Duct monitoring and CFD modelling of tritium spreading in room	SC-PServ	Q1

Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Plasma Engineering & Operations			
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Heating and Current Drive			
CA10966	OMF-1120 TO05 Signed for Manufacturing & Assembly of the EW Systems	SC-PSupply	Q3
CA15170	OMF-1120 TO04 Signed for Manufacturing the Remaining UL Systems (EW IW-WG/M3-M4/Cooling System)	SC-PSupply	Q3
CA06569	OPE-1578: Contract Signed for HNB-1&2 Drift Duct	PSupply	Q4
CA16330	OMF-0989 TO 16 for Agile I&C Service Team	SC-PServ	Q1
CA08971	OFC-1007: Commitment for Technical Support of Neutral Beam Components for 2026 -27	SC-PServ	Q4
CA15793	OFC-958-01 Txx signed for Provision of ECH expertise	SC-PServ	Q3
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Diagnostics			
CA11216-1	TO for CTS MRR and supply of non-critical components	SC-PSupply	Q1
CA10541	Task Order Signed for MfG PP EP12	SC-PSupply	Q1
CA06777	Task Order Signed for Radial Neutron Camera Port Plug Components Manufacture	SC-PSupply	Q2
CA11178	Task Order signed for DPG Electronics and Power Supplies and Coding, FAT & Integration under OFC-1087	SC-PSupply	Q4
CA12556	Task Order signed for Final Design and Manufacturing of Bolometer bespoke electronics	SC-PServ	Q2
CA15371	Optional Part signed for Support to the Diagnostics Programme (2024-2026) - Action XVII	SC-PServ	Q4
CA16679	Deviation for Propagation of new divertor radiative loads - DNO #264049	PServ	Q2
CA10816	Commitment for in-souce activities 2025 and part of 2026	SC-PServ	Q3
CA05664	Task Order Signed for Development of Mfg Specs for RNC port-interspace/cell components	SC-PServ	Q4
CA16672	TO signed for CAD Design Support for Diagnostics System (WAVS) - 55.G1	PServ	Q2
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Test Blanket Module			

CA13358	OFC-0950-01-05 signed for Preliminary Design refinement and preparation of PDR documentation	SC-PServ	Q3
CA10946	OFC-1497-01-01 First analysis of EUROFER test data from the EUROfusion MAT-TBM program	SC-PServ	Q2
CA12701	TO-5 for Preliminary Design of HCPB Ancillary Systems	SC-PServ	Q1
CA10940	TO#02 for WCLL TBM Set PD & FD	SC-PServ	Q3
CA13469	Task Order Signed for TO 04 for WCLL Ancillary Systems PDR docs	SC-PServ	Q2
CA08946	TO 09 signed for ANB Consultancy TBM box Qualification - MZ	SC-PServ	Q4
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Site and Buildings and Power Supplies			
CA15758	TB21 - Lot#2 TO#202 B11 - Mech & HVAC (TB04)	SC-PSupply	Q3
CA14052	TB21 - Lot#1 TO#101 PBS43 Cables + PBS43 Busbars + B74 PBS43 SDBs + LC08 - Tender Phase (TB04)	SC-PSupply	Q2
CA15748	TB21 - Lot#1 TO#103 B74 Conv: PBS62 Cables + PBS62 SDB + PBS62 I&C (Cables and comp) (TB04)	SC-PSupply	Q4
CA15759	TB21 - Lot#2 TO#202 B11 - Mech & HVAC (TB04) (Increase of Raw Material)	SC-PSupply	Q3
CA12407	TB22 - Commitment for Secondary structural works - Lot B TO#03	SC-PSupply	Q2
CA13191	TB21 - Lot#2 TO#205B Commitment LAC (TB04)	SC-PSupply	Q4
CA12854	TB21 - Lot#2 TO#205A Commitment LAC (TB04)	SC-PSupply	Q4
CA16142	TB21 - Lot#1 TO#101 PBS43 Cables + PBS43 Busbars + B74 PBS43 SDBs + LC08 - Tender Phase	SC-PSupply	Q2
CA14053	TB21 - Lot#1 TO#101 PBS43 Cables + PBS43 Busbars + B74 PBS43 SDBs + LC08 - Tender Phase(TB04) (Increase of Raw Material)	SC-PSupply	Q2
CA16188	TB21 - Lot#1 TO#101 - Options for Commitment for IO test and commissioning and Busbars	SC-PSupply	Q2
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Supporting Activities			
CA13213	ITER Site Insurance Construction Risk 2026 - 2033	PServ	Q4
CA06504	Commitment 2025 - Global transportation of HEL NON-EU ITER components	SC-PServ	Q4
CA09711	Commitment 2025 for Operational Missions	PServ	Q1
CA08980	2025 Commitments and Budget Reserves for Legal Services charged against Operational Budget	SC-PServ	Q1

CA15237	TO for IRIS 2025	SC-PServ	Q3
CA15215	Commitments 2025 for Software Maintenance	SC-PServ	Q1
CA06037	TO for Embedded Control Data Access and Communication 2025	SC-PServ	Q4
CA16834	Task Order Signed TO 120 for IO DA 1 HEL MCTB	SC-PServ	Q2
CA06467	TO for Management fees 2026	SC-PServ	Q4
CA16760	Task Order Signed TO 119 for CN DA 1 HEL Feeder	SC-PServ	Q2
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
Broader Approach			
CA16214	Procurement of Tungsten Raw material	PSupply	Q3
CA15339	TO01 F4E-OFC-1696 for the Maintenance and Optimization of RFPS of LIPAc	SC-PSupply	Q3
CA15830	Collaboration with CERN for the procurement of a set of 10 RFQ Couplers for Phase C and D	PSupply	Q2
CA15341	TO01 F4E-OFC-1697 for the Maintenance and Optimization of RFPS of LIPAc	SC-PSupply	Q3
CA10366	TO for Spare parts for Cryoplant and maintenance and repair 2025	SC-PSupply	Q3
CA11810	Task order for the on-site support of the LIPAc Control System	SC-PServ	Q3
CA14159	Supply of a Tangential Phase-Contrast Imaging (TPCI) for JT-60SA	PServ	Q4
CA14487	Spare HTSCL	PSupply	Q3
CA16333	TO07 for the Mfg, test and transport of explosive cartridges for ITER Pyrobreaker	SC-PSupply	Q2
CA12541	TO 09 for supporting LIPAc SRF and associated RFPS commissioning	SC-PSupply	Q2
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A
DONES			
CA16224	TOxxx OMF-1159 for Engineering Support for DONES - Remote Handling Engineering	SC-PServ	Q2
CA16226	TOxxx OMF-1159 for Engineering Support for DONES - Accelerator Engineer	SC-PServ	Q2
CA15438	TO154 OMF-1159 for Engineering Support for the DONES - System Engineer	SC-PServ	Q1
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A

Technology Development Programme			
CA15394	Contracts 2025 for Technology Development Programme & Collaboration	PServ	Q4
CA15575	CON OPE-1775-01 for Real-time personal monitor for tritiated water vapour in air 2025	PServ	Q2
CA16547	CON OPE-1775-02 for Real-time personal monitor for tritiated water vapour in air 2025	PServ	Q2
CA15427	CON OPE-1776-02 for Gradient joints on Tungsten CuCrZr materials	PServ	Q1
CA16533	CON OPE-1776-01 for Gradient joints on Tungsten CuCrZr materials	PServ	Q2
CA16534	CON OPE-1776-03 for Gradient joints on Tungsten CuCrZr materials	PServ	Q1
Provision for amendments, claims, reimbursement, indexation and late interest		N/A	N/A

Table 3 . Main procurement activities per action

WP_TABLE 4 – PLAN FOR GRANTS

2025 GRANTS

Grant Agreements Reference	Expected date of Signature	Forecasted value to be committed	Duration	Counterpart (Leader Company)	Short Description
F4E-GRT-1446	Q1 2025	€ 58,975.00	*NA*	CEA	Manufacture of dummy FMUs for WAVS in EP12
F4E-GRT-1446	Q1 2025	€ 123,104.00	*NA*	CEA	Update design of the Optical Hinge and of the AFocal Module - DNO 249933
F4E-GRT-1446	Q2 2025	€ 20,000.00	*NA*	CEA	DNO#280471 signed for price increase in the market after call for tender
Total		**€ 202,079.00**			

ON-GOING GRANTS[18]

Grant Agreements Reference	Date of Signature	Commitment Value (Euros)	Duration (In months)	Counterpart (Leader Company)	Short description
F4E-FPA-327 (PMS-DG)-07	20/02/2020	€2,100,941.00	68	AGENZIA NAZIONALE PER LE NUOVE TECN	Development of the Final Design and Prototyping
F4E-FPA-364-06	22/10/2018	€1,485,307.76	68	MAX-PLANCK-GESELLSCHAFT ZUR FORDERU	Development of the Design and Critical Prototyping
F4E-FPA-384 (DG)-05	30/07/2018	€2,661,530.56	74	MAX-PLANCK-GESELLSCHAFT ZUR FORDERU	Development of the Design and Prototyping
F4E-GRT-0901-01	09/03/2018	€2,024,913.50	76	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY*T	Development and integration of 3D Machine Vision, HLCS modules and GENROBOT at DTP2
F4E-GRT-1146-01	25/07/2021	€2,346,561.37	48	COMMISSARIAT A L ENERGIE ATOMIQUE	Completion of the design of Equatorial Wide Angle Viewing System (EP-WAVS) in EP12 and post-design technical support
F4E-GRT-553	09/07/2014	€2,562,993.00	88	ECOLE POLYTECHNIQUE FEDERALE DE LAU	DESIGN, DEVELOPMENT AND VALIDATION OF THE EUROPEAN GYROTRON
F4E-GRT-1446-01	06/10/2023	€3,099,974.00	64	COMMISSARIAT A L ENERGIE ATOMIQUE	Completion of the design of Equatorial Wide Angle Viewing System (EP-WAVS) in EP#3, 9 and 17 and post-design technical support
F4E-GRT-1530-01	13/12/2023	€75,670.00	13	C.R.E.A.T.E. CONSORZIO DI RICERCA P	Design, manufacture and experiment of a benchmark problem set up for the validation of electromagnetic codes
Total		**€16,357,891.19**			

WP_Table 4. Plan for grants[19]

[18] Any 2024 Grant that was included in the original WP2024 but was not signed by the cut-off date of 31st March 2024 is not reflected in this table. Grants that were not known when the original WP2024 was drafted and that would be signed following a related WP2024 amendment are not listed neither.

[19] The Commission guidelines require to produce two additional tables covering Service Level agreement and Contribution Agreements. These are not displayed since F4E has no Service Level agreement nor Contribution Agreements under operational expenditure.

WP_TABLE 5 TIME OF CALL FOR THE PROCUREMENT PLAN

Indicative number, type of contract and timeframe for launching the procurement procedures.

Procurement Procedures	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025
P Serv - Contract	3	9	2	2	4	4
P Supply - Contract	1	9	2	4	3	4
Pserv - Specific Contracts	16	44	20	16	17	35
PSupply - Specific Contracts	6	5	16	7	5	10

WP_Table 5 . Indicative number and type of contracts per quarter

NB:

- During the implementation of the Work Programme activities, F4E may identify the need for new calls, group more activities in a single call or split one activity in more calls. This will in any case be performed preserving the scope and objective presented in WP2025.
- When a call for tender is not defined yet, the call is indicatively assigned to 6 months before the signature of the contract.
- For the specific contract, as they do not have call for tender, the table refers to its signature date.

ESSENTIAL SELECTION, AWARD CRITERIA AND UPPER FUNDING LIMITS FOR GRANTS

With regard to grant actions referred to in this Work Programme, the essential selection and award criteria are:

Essential Selection Criteria

- The applicants' technical and operational capacity: professional, scientific and/or technological competencies, qualifications and relevant experience required to complete the action.
- The applicants' financial capacity: stable and sufficient sources of funding in order to maintain the activity throughout the action.

Essential Award Criteria

- Relevance and quality of the proposal with regard to the objectives and priorities set out in this Work Programme and in the relevant call for proposals.
- Effectiveness of the implementation as well as of the management structure and procedures in relation to the proposed action.
- Cost-effectiveness and sound financial management, specifically with regard to F4E's needs and objectives and the expected results.

With regard to the specific action, more details will be provided in the call for proposals. Thresholds and weighting for the essential and additional award criteria will also be indicated in the call for proposals.

A proposal which does not fulfill the conditions set out in the Work Programme or in the call for proposals shall not be selected. Such a proposal may be excluded from the evaluation procedure at any time.

The timetable and indicative aggregated amounts for the actions are defined in this Work Programme.

Upper funding Criteria

With the entry into force of the recast F4E Financial Regulation and Implementing Rules on 1st January 2016, the following upper funding limits apply for grants:

1.	Research, technological development and demonstration activities	40%
2.	Purchase/manufacturing of durable equipment or assets and of ancillary services approved by the Joint Undertaking as necessary to carry out such activities	100%
3.	Coordination and support actions, including studies	100%
4.	Management activities, including certificates on the financial statements, and other activities not covered by paragraphs 1 and 2	100%

List of Tables