



ASTRA

AEROSPACE STANDARD

DOCUMENTATION DEVELOPMENT PLAN

Documentation Architecture and Development Plan

AF-AST-DP-001

FIRST EDITION

30 September 2026 | English master text

Aviation / Space / Defense / Future systems

Publication identity and use

Control	Publication information
Code and title	AF-AST-DP-001 – Documentation Architecture and Development Plan
Edition and publication date	FIRST EDITION 30 September 2026 English master text
Accountable function	Assurance Programme Manager
Controlling technical basis	AF-AST-STD-001 / AF ASTRA-100:2026; supplied 248-page FIRST EDITION, Clauses 0–80 and Annexes A–AR.
Source fingerprint	fe0f775b3f57e43c7ad6b3d4ab17ac0ff872d3ce8c88fcd9ae9a0116b23209b1
Portfolio	108 retained document codes; F01–F08; 68 retained technical subjects. All-space and verification domains are applicability tags, not additional families.
Publication and operation	Prepared publication. Actual technical approval, consultation, institutional adoption, operational effectivity and individual scope activation require separate authentic records.

Purpose and application

Dependency-led development and implementation of the retained 108-document ASTRA portfolio against the supplied 248-page FIRST EDITION. Eight families and 68 technical subjects remain unchanged; space and verification tags extend technical applicability without new family codes.

Source requirements and added implementation detail

The controlling ASTRA source is identified above by content fingerprint. Numbered source clauses and annexes retain their own authority. The retained operating material is restructured and expanded with implementation methods, additional profile controls, worked synthetic examples, decision diagrams and record contracts. Added implementation detail is not presented as an earlier institutional approval or as a change to the supplied core standard. Any additional binding criterion requires the applicable technical adoption process.

The displayed publication date identifies the edition; it is not a fabricated authoring, test, approval or operational date. Actual records retain genuine event times and controlled versions. No named outside organisation or standard is incorporated as a normative reference. AF internal instruments and separate legal or contractual duties remain applicable within their actual scope.

Acceptance boundary

A positive grant requires every applicable mandatory condition to PASS, every N/A to have independent justification, every in-scope nonconformity to be verified closed, and competent independent authority. HOLD, unknown state, missing evidence, a favourable average, a signature image or a completed form cannot substitute for those conditions.

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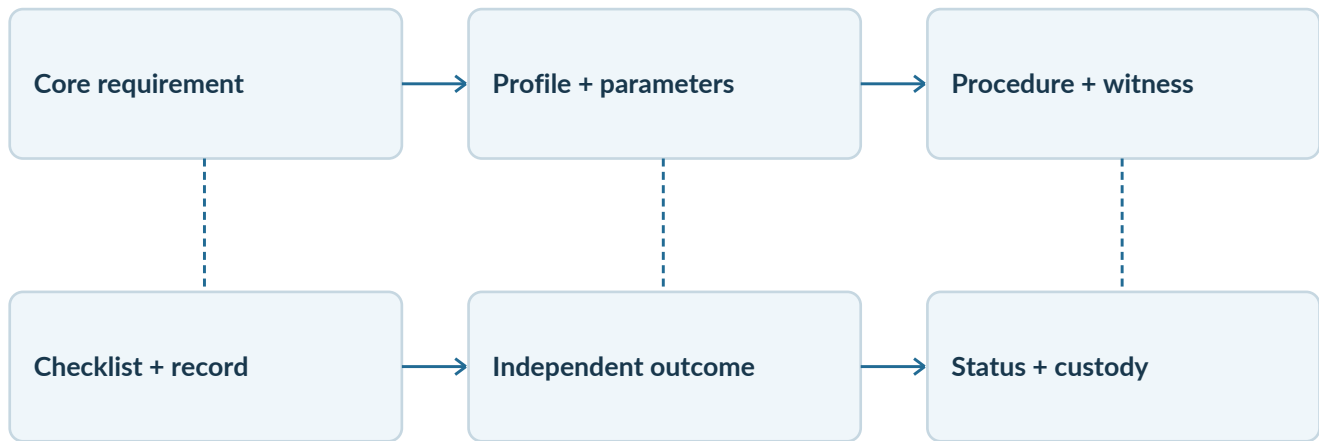
1 Retained architecture and delivery boundary

This prepared PDF collection retains all 108 original document identities, including the unchanged supplied core standard. The other 107 publications are expanded implementation documents. File completion, technical approval, institutional adoption, local deployment acceptance and live scope activation are separate states. No historical approval, applicant or operational event is manufactured by this plan.

Class	Retained titles	Primary role
STD	1	Core standard
DP	1	DOCUMENTATION DEVELOPMENT PLAN
ML	1	MASTER LIST AND PACKAGE INDEX
PL	4	POLICY
HB	5	OPERATIONS MANUAL
GD	12	IMPLEMENTATION GUIDE
PR	28	PROCEDURE
TP	8	TECHNICAL PROFILE BOOK
CL	9	ASSESSMENT CHECKLIST
FR	28	FILLABLE RECORD FORM
RG	7	REGISTER AND DATA DICTIONARY
SC	4	CONTROLLED SCHEDULE

2 Source-to-operating-system integration

Select a complete operational slice for the actual object: core and applicable annexes, technical profile, procedure, competent people, checklist, form, register, schedule, independent decision and continuing custody. The 68 subjects remain development and assessment categories, not 68 active accreditations. Annex AK adds 32 domain tags, Annex T supplies 38 verification planning domains and Annex AO supplies 18 parameter groups. None replaces a mission-specific technical basis.



Each relationship carries object identity, controlled version, actual event time and purpose-specific validity.

Figure — A complete operational slice. All links require actual controlled versions and responsible owners.

3 Explicit acceptance and publication status

Apply the following logic to the exact evaluated object and responsible function. A procedural checkpoint, product characteristic, competence decision and public credential are different objects. Their states shall not be collapsed into one score. Source: ASTRA 62.1–62.7 and Annex AL.

State	Sufficient basis	Required next action
PASS	Applicable; current approved predicate met by valid, purpose-specific evidence.	Retain the original evidence and bounded inference. Other mandatory gates still apply.
FAIL	Applicable; valid evidence demonstrates that the approved predicate is not met.	Contain affected use; retain the failure; assess cause, extent and required corrective verification.
HOLD	Applicability, criterion, method, evidence, uncertainty or authority is unresolved.	Resolve the missing basis. Do not manufacture a value, favourable default or product-defect conclusion.
N/A	Activity trigger and retained responsibility are absent; independent exclusion approval exists.	Retain the scope-specific reason and reassess when activity or responsibility changes.
UNSET	Only an uncompleted field in this PDF; not a conformity state.	No conclusion is recorded. Complete review before the field can support a decision.

For a compound source clause, create a child-condition ledger containing every separately testable condition, location, phase and operating mode. A sentence-level checkpoint is a navigation aid, not permission to merge unrelated predicates. Each child receives an ID, responsible owner, criterion, method, source evidence, uncertainty where relevant, current state and independent review. The parent cannot PASS while any mandatory child is FAIL, HOLD or UNSET.

An acceptable measurement interval and an acceptable authority chain are independent prerequisites. Use finite, unit-consistent, unrounded values; negative uncertainty, reversed limits, unknown version or wrong-object evidence produce HOLD. For inclusive [L,H] and accepted interval [a,b], PASS requires $a \geq L$ and $b \leq H$; FAIL requires $b < L$ or $a > H$; otherwise HOLD. Approved one-sided or exclusive boundaries retain their own declared predicate.

Positive-decision conjunction

Every applicable mandatory child is PASS AND each N/A is independently justified AND every in-scope nonconformity is verified closed AND scope, competence, independence and actual authority are valid AND required panel participation and voting rules are satisfied. No average, majority preference or payment supplies missing evidence.

4 Eight dependency-led delivery work packages

WP01 – Foundation and control

Core, plan, master inventory, permissible result terms, actual programme mandates and source fingerprints.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP02 – Common operating system

Policies, manuals, application, scope, impartiality, competence, methods, evidence, findings, decisions, records and remedies.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP03 – Technical providers

F03 provider activity, method/range/site, equipment, measurement uncertainty, independent reporting and witnessing.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP04 – Education

F04 programme/level/mode, outcome map, actual learner work, practical essential steps, moderation and teach-out.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP05 – Operational services

F05–F07 local site, facility, station and task evidence; exact permissions; interfaces and shared-failure controls.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP06 – Environment and climate

F08 statement boundaries, actual historical evidence, prospective assumptions, factors, quantities, uncertainty and exclusive claims.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP07 – Systems, processes and space-domain integration

F01/F02 qualified routes, all 68 subjects, triggered AK/T/AO tags, actual environment and changed-configuration evidence.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.

Control	Completion evidence
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

WP08 – Integrated local validation and scope activation

Representative real technical demonstrations and safe synthetic workflow tests, independent correction verification and genuine exact-scope release.

Control	Completion evidence
Entry	Actual responsible owner, preserved source baseline, available dependencies, competent reviewers and lawful source access.
Work	Produce the complete requirement-to-evidence trail for a bounded representative case; include failed, interrupted and unavailable evidence paths.
Exit	Verified content and local execution evidence, resolved blocking findings, accepted receiving duties and authentic approval for the next bounded activity.
Hold	A missing essential method, parameter, competence, authority or source remains HOLD. Progress elsewhere does not compensate for this dependency.

5 Document-specific expanded authoring requirements

Type	Expanded payload	Validation boundary
Policy	Scope, roles, commitments, prohibitions, access and exception control; actual reporting and review.	No new binding technical thresholds hidden in policy advice.
Manual / guide	End-to-end operating route, handovers, detailed procedures, source crosswalks, practical cases, calculations and diagrams.	Explanatory examples are not real cases or automatic credentials.
Procedure	Trigger, owner, original steps, four added implementation steps, parameter contracts, expected-state tests and receiving acceptance.	No undefined actor, criterion, required record or escalation.
Technical profile	68 unchanged subjects; original R01–R06 plus new R07–R12; scope, variables, risks, observing capability and requalification.	All actual application parameters and specialist methods require prospective approval.
Checklist	Source sentence checkpoints, child-condition ledger, states, evidence, reviewer and actions; family controls mirror the profile.	A parent cannot pass if a mandatory child fails, is held or is unrecorded.
Form / register / schedule	Original field identities, expanded domain/phase/parameter/validity/replay fields, state dictionaries and controlled continuations.	PDF is a recording instrument, not deployed access-control or decision software.

6 Complete code-preserving catalogue

Code	Title	Implementation relationship
AF-AST-STD-001	ASTRA – AEROSPACE STANDARD	Unchanged 248-page supplied FIRST EDITION.
AF-AST-DP-001	Documentation Architecture and Development Plan	Related processes: PR-001, PR-002, PR-003, PR-004, PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014, PR-015, PR-016, PR-017, PR-018, PR-019, PR-020, PR-021, PR-022, PR-023, PR-024, PR-025, PR-026, PR-027, PR-028
AF-AST-ML-001	Documentation Development Master List	Related processes: PR-001, PR-002, PR-003, PR-004, PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014, PR-015, PR-016, PR-017, PR-018, PR-019, PR-020, PR-021, PR-022, PR-023, PR-024, PR-025, PR-026, PR-027, PR-028
AF-AST-PL-001	Participation, Scope and Service Access Policy	Related processes: PR-003, PR-004, PR-006, PR-017, PR-023
AF-AST-PL-002	Technical Assurance and Evidence Reliance Policy	Related processes: PR-004, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014
AF-AST-PL-003	Environmental Statements and Claims Policy	Related processes: PR-027, PR-019, PR-021, PR-028
AF-AST-PL-004	Future Technology and Digital Assurance Policy	Related processes: PR-002, PR-008, PR-010, PR-019, PR-020, PR-028
AF-AST-HB-001	Programme Operations Manual	Related processes: PR-001, PR-002, PR-003, PR-004, PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014, PR-015, PR-016, PR-017, PR-018, PR-019, PR-020, PR-021, PR-022, PR-023, PR-024, PR-025, PR-026, PR-027, PR-028
AF-AST-HB-002	Technical Provider Accreditation Manual	Related processes: PR-003, PR-004, PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014, PR-015, PR-016, PR-025
AF-AST-HB-003	Sector Capability Assessment Manual	Related processes: PR-004, PR-007, PR-008, PR-009, PR-013, PR-014, PR-015, PR-026, PR-027, PR-028
AF-AST-HB-004	Independent Review and Decision Manual	Related processes: PR-004, PR-006, PR-010, PR-012, PR-013, PR-014, PR-016, PR-017, PR-021

Code	Title	Implementation relationship
AF-AST-HB-005	Registry and Evidence Administration Manual	Related processes: PR-001, PR-004, PR-012, PR-019, PR-020, PR-021, PR-028
AF-AST-GD-001	Applicant Guide	Related processes: PR-003, PR-004, PR-007, PR-013, PR-014, PR-015, PR-017, PR-021
AF-AST-GD-002	Assessor and Technical Expert Guide	Related processes: PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-012, PR-013, PR-014
AF-AST-GD-003	Technical Profile Development Guide	Related processes: PR-002, PR-004, PR-009, PR-010, PR-011, PR-028
AF-AST-GD-004	Self-Assessment and Readiness Guide	Related processes: PR-004, PR-005, PR-007, PR-010, PR-013, PR-014, PR-024
AF-AST-GD-005	Laboratory, Calibration and Inspection Guide	Related processes: PR-004, PR-005, PR-009, PR-010, PR-011, PR-012, PR-013
AF-AST-GD-006	Education Programme Guide	Related processes: PR-005, PR-006, PR-026, PR-028
AF-AST-GD-007	Airport and Aerodrome Guide	Related processes: PR-004, PR-007, PR-008, PR-013, PR-015, PR-020, PR-028
AF-AST-GD-008	Maintenance and Technical Services Guide	Related processes: PR-004, PR-005, PR-009, PR-010, PR-013, PR-015, PR-028
AF-AST-GD-009	Ground Operations and Station Guide	Related processes: PR-004, PR-005, PR-007, PR-008, PR-012, PR-020, PR-028
AF-AST-GD-010	Carbon, Environment and Climate Guide	Related processes: PR-004, PR-010, PR-011, PR-019, PR-027
AF-AST-GD-011	Digital and Emerging Methods Guide	Related processes: PR-002, PR-008, PR-010, PR-019, PR-020, PR-028
AF-AST-GD-012	Frequently Asked Questions	Related processes: PR-003, PR-004, PR-005, PR-006, PR-010, PR-014, PR-015, PR-020, PR-021, PR-026, PR-027, PR-028
AF-AST-PR-001	Document, Record and Version Control	Related processes: PR-001
AF-AST-PR-002	Normative Development, Consultation and Profile Release	Related processes: PR-002
AF-AST-PR-003	Application, Eligibility and Contract Review	Related processes: PR-003
AF-AST-PR-004	Scope Definition, Applicability and Evidence Reuse	Related processes: PR-004
AF-AST-PR-005	Personnel Qualification, Authorisation and Monitoring	Related processes: PR-005
AF-AST-PR-006	Impartiality Screening and Case Recusal	Related processes: PR-006

Code	Title	Implementation relationship
AF-AST-PR-007	Assessment Planning, Resources and Site Coverage	Related processes: PR-007
AF-AST-PR-008	Remote and Hybrid Assessment Control	Related processes: PR-008
AF-AST-PR-009	Technical Witnessing and Method-Family Coverage	Related processes: PR-009
AF-AST-PR-010	Measurement Traceability, Uncertainty and Decision Rules	Related processes: PR-010
AF-AST-PR-011	Continuing Validity, Comparisons and Proficiency Activities	Related processes: PR-011
AF-AST-PR-012	Technical Reporting, Amendments and Report Review	Related processes: PR-012
AF-AST-PR-013	Nonconformity, Containment and Corrective Action	Related processes: PR-013
AF-AST-PR-014	Independent Review and Outcome Decisions	Related processes: PR-014
AF-AST-PR-015	Surveillance, Renewal and Scope Extension	Related processes: PR-015
AF-AST-PR-016	Restriction, Suspension, Restoration and Withdrawal	Related processes: PR-016
AF-AST-PR-017	Complaints, Appeals and Independent Remedy	Related processes: PR-017
AF-AST-PR-018	Protected Reporting and Investigation Interfaces	Related processes: PR-018
AF-AST-PR-019	Privacy, Confidentiality and Controlled Access	Related processes: PR-019
AF-AST-PR-020	Cyber Incidents, Evidence Recovery and Service Continuity	Related processes: PR-020
AF-AST-PR-021	Credential, Registry and Mark Approval	Related processes: PR-021
AF-AST-PR-022	Provider Agreements, Authorisation and Outsourced Work	Related processes: PR-022
AF-AST-PR-023	Fees, Resources and Financial Separation	Related processes: PR-023
AF-AST-PR-024	Internal Audit, Management Review and Improvement	Related processes: PR-024
AF-AST-PR-025	Independent Operator Review and Reliance Arrangements	Related processes: PR-025
AF-AST-PR-026	Education Attainment, Cohort Review and Learner Protection	Related processes: PR-026
AF-AST-PR-027	Environmental Statement Verification and Validation	Related processes: PR-027
AF-AST-PR-028	Change, Transition, Transfer and Programme Closure	Related processes: PR-028
AF-AST-TP-001	Management Systems Assurance - Technical Criteria and Profile Book	Related processes: PR-004, PR-007, PR-014, PR-024
AF-AST-TP-002	Critical Processes and Products - Technical Criteria and Profile Book	Related processes: PR-004, PR-009, PR-010, PR-013, PR-028
AF-AST-TP-003	Testing and Inspection - Technical Criteria and Profile Book	Related processes: PR-005, PR-009, PR-010, PR-011, PR-012, PR-025
AF-AST-TP-004	Education Programmes - Technical Criteria and Profile Book	Related processes: PR-005, PR-006, PR-026, PR-028
AF-AST-TP-005	Airports and Aerodromes - Technical Criteria and Profile Book	Related processes: PR-004, PR-007, PR-008, PR-013, PR-020

Code	Title	Implementation relationship
AF-AST-TP-006	Aircraft Maintenance and Technical Services - Technical Criteria and Profile Book	Related processes: PR-004, PR-005, PR-009, PR-013, PR-028
AF-AST-TP-007	Ground Operations and Aviation Support Services - Technical Criteria and Profile Book	Related processes: PR-004, PR-007, PR-008, PR-020, PR-028
AF-AST-TP-008	Carbon, Environment and Climate Assurance - Technical Criteria and Profile Book	Related processes: PR-010, PR-011, PR-019, PR-027
AF-AST-CL-001	Common Core and Release-Gate Checklist	Related processes: PR-001, PR-002, PR-003, PR-004, PR-005, PR-006, PR-007, PR-008, PR-009, PR-010, PR-011, PR-012, PR-013, PR-014, PR-015, PR-016, PR-017, PR-018, PR-019, PR-020, PR-021, PR-022, PR-023, PR-024, PR-025, PR-026, PR-027, PR-028
AF-AST-CL-002	Management Systems Assurance - Technical Assessment Checklist	Related processes: PR-004, PR-007, PR-014, PR-024
AF-AST-CL-003	Critical Processes and Products - Technical Assessment Checklist	Related processes: PR-004, PR-009, PR-010, PR-013, PR-028
AF-AST-CL-004	Testing and Inspection - Technical Assessment Checklist	Related processes: PR-005, PR-009, PR-010, PR-011, PR-012, PR-025
AF-AST-CL-005	Education Programmes - Technical Assessment Checklist	Related processes: PR-005, PR-006, PR-026, PR-028
AF-AST-CL-006	Airports and Aerodromes - Technical Assessment Checklist	Related processes: PR-004, PR-007, PR-008, PR-013, PR-020
AF-AST-CL-007	Aircraft Maintenance and Technical Services - Technical Assessment Checklist	Related processes: PR-004, PR-005, PR-009, PR-013, PR-028
AF-AST-CL-008	Ground Operations and Aviation Support Services - Technical Assessment Checklist	Related processes: PR-004, PR-007, PR-008, PR-020, PR-028
AF-AST-CL-009	Carbon, Environment and Climate Assurance - Technical Assessment Checklist	Related processes: PR-010, PR-011, PR-019, PR-027
AF-AST-FR-001	Programme adoption and scope activation	Related processes: PR-002, PR-014, PR-025, PR-028
AF-AST-FR-002	Application and requested scope	Related processes: PR-003, PR-004
AF-AST-FR-003	Admission and evidence-reuse review	Related processes: PR-003, PR-004, PR-006
AF-AST-FR-004	Technical-profile and criterion schedule	Related processes: PR-002, PR-004, PR-010
AF-AST-FR-005	Competence, experience and authorisation	Related processes: PR-005
AF-AST-FR-006	Case conflict and assignment	Related processes: PR-006
AF-AST-FR-007	Assessment plan and time	Related processes: PR-007
AF-AST-FR-008	Remote-method suitability and session	Related processes: PR-008

Code	Title	Implementation relationship
AF-AST-FR-009	Witness and vertical technical trail	Related processes: PR-009
AF-AST-FR-010	Evidence and sample index	Related processes: PR-004, PR-009, PR-011
AF-AST-FR-011	Technical result and measurement decision	Related processes: PR-010, PR-012
AF-AST-FR-012	Finding, containment and corrective action	Related processes: PR-013
AF-AST-FR-013	Independent review and decision	Related processes: PR-014
AF-AST-FR-014	Scope schedule and certificate instruction	Related processes: PR-021
AF-AST-FR-015	Surveillance, change and renewal	Related processes: PR-015
AF-AST-FR-016	Suspension, restriction, restoration and withdrawal	Related processes: PR-016
AF-AST-FR-017	Complaint, appeal and protected disclosure	Related processes: PR-017, PR-018
AF-AST-FR-018	Operator agreement and authorisation schedule	Related processes: PR-022
AF-AST-FR-019	Laboratory/inspection competence and validity	Related processes: PR-009, PR-010, PR-011
AF-AST-FR-020	Process qualification and product readiness	Related processes: PR-004, PR-009, PR-010, PR-013
AF-AST-FR-021	Education self-study and outcome attainment	Related processes: PR-026
AF-AST-FR-022	Airport and operational-interface dossier	Related processes: PR-004, PR-007, PR-013, PR-020
AF-AST-FR-023	Maintenance facility/type/task capability	Related processes: PR-004, PR-005, PR-009, PR-013
AF-AST-FR-024	Station/service and local-variation dossier	Related processes: PR-004, PR-007, PR-008, PR-020
AF-AST-FR-025	Environmental statement and verification	Related processes: PR-027
AF-AST-FR-026	Digital evidence, incident and recovery	Related processes: PR-019, PR-020
AF-AST-FR-027	Internal audit, management and independent operator review	Related processes: PR-024, PR-025
AF-AST-FR-028	Programme change, transition and closure	Related processes: PR-028
AF-AST-RG-001	Applicant, Scope and Case Register	Related processes: PR-003, PR-004
AF-AST-RG-002	Personnel, Authorisation and Conflict Register	Related processes: PR-005, PR-006
AF-AST-RG-003	Technical Methods, Equipment and Validity Register	Related processes: PR-009, PR-010, PR-011
AF-AST-RG-004	Evidence, Findings and Corrective Action Register	Related processes: PR-009, PR-012, PR-013
AF-AST-RG-005	Outcome Status, Claims and Registry Change Register	Related processes: PR-014, PR-015, PR-016, PR-021
AF-AST-RG-006	Education and Environmental Programme Records	Related processes: PR-026, PR-027

Code	Title	Implementation relationship
AF-AST-RG-007	Governance, Profile Release and Improvement Register	Related processes: PR-001, PR-002, PR-024, PR-025, PR-028
AF-AST-SC-001	Competence, Coverage and Witnessing Schedule	Related processes: PR-005, PR-007, PR-009
AF-AST-SC-002	Programme Service Terms, Fees and Local Conditions Schedule	Related processes: PR-003, PR-022, PR-023
AF-AST-SC-003	Notifications, Deadlines and Retention Schedule	Related processes: PR-013, PR-015, PR-016, PR-017, PR-019, PR-028
AF-AST-SC-004	Authority, Compatibility and Activation Schedule	Related processes: PR-002, PR-006, PR-014, PR-022, PR-025, PR-028

7 Retained technical-subject catalogue

Subject ID	Retained title	Boundary
F01-S01	Design and production system	An organisational system result does not approve every product, laboratory method, process, maintenance task or employee.
F01-S02	Maintenance system	Management-system certification is not maintenance authorisation or a release-to-service instrument.
F01-S03	Distribution system	A distribution system result is not product design approval, repair capability or certification of every supplied item.
F02-CP01	Thermal treatment	Qualification applies to the stated thermal process envelope, not every material, furnace load or delivered article.
F02-CP02	Fusion joining	No universal joining parameters or permission to fabricate restricted products is supplied; the outcome is limited to the demonstrated joining scope.
F02-CP03	Solid-state joining	A qualified machine or process principle does not establish every joined interface or product duty.
F02-CP04	Brazing and soldering	Brazing/soldering capability is bounded by the demonstrated joint family and function, not all structural and electronic applications.
F02-CP05	Chemical surface preparation	This scope supplies assurance controls, not chemical formulations or hazardous processing instructions.
F02-CP06	Plating and conversion coatings	Qualification does not authorise every substrate, coating or service-life claim; actual property limits require the approved technical basis.
F02-CP07	Thermal spray processes	No universal deposition settings are supplied; each coating process and product configuration retains its own acceptance boundary.
F02-CP08	Organic coating processes	A coating-process result is not a universal corrosion life, fire performance or complete aircraft approval.
F02-CP09	Composite material processing	Qualified material or cure equipment does not qualify every laminate, geometry or complete structure.
F02-CP10	Structural bonding	A passed coupon or nominal adhesive strength does not establish every installed structural bond.
F02-CP11	Metal additive manufacture	In-process sensor evidence supports only a validated property/detection boundary and does not automatically replace product acceptance.
F02-CP12	Polymer additive manufacture	Prototype appearance, dimensional fit or a material trade name does not establish full product qualification.
F02-CP13	Casting	Lot test values support only the justified parent-material and processing relationship, not every unrepresented casting.
F02-CP14	Forging and forming	A dimensionally correct formed part is not proof that all material and through-life properties are satisfied.

Subject ID	Retained title	Boundary
F02-CP15	Precision machining	A capability index or successful first article does not approve every future unit or untested configuration.
F02-CP16	Non-conventional machining	No universal energy settings or process recipes are supplied; apparently correct geometry does not establish hidden material integrity.
F02-CP17	Mechanical surface enhancement	A qualified surface process does not by itself establish a universal fatigue-life improvement or unrestricted retreatment allowance.
F02-CP18	Electronics assembly	A successful bench test or workmanship inspection does not establish complete aircraft/spacecraft installation suitability.
F02-CP19	Wire and harness assembly	Continuity alone does not establish insulation, shielding, grounding, mechanical integrity or suitability for every installation.
F02-CP20	Optical assembly	Assembly qualification is configuration- and environment-specific and does not establish every optical or mission-performance characteristic.
F02-CP21	Critical mechanical assembly	A completed checklist or qualified torque tool does not prove that every hidden assembly requirement was satisfied.
F02-CP22	Cleanliness and contamination-sensitive processing	Cleanliness acceptance is limited to the defined contaminants, surfaces, method and time/condition boundary.
F03-L01	Non-destructive testing	Accreditation concerns the declared body competence; neither a test report nor a personnel credential automatically certifies the inspected product.
F03-L02	Materials testing	Test competence and sample results do not imply conformity of an unrepresented lot, product family or future production.
F03-L03	Calibration and metrology	A calibration capability is not product conformity or assurance that every later user measurement is suitable for its decision.
F03-L04	Inspection body activities	An inspection competence result does not certify every inspected item or convert internal inspection into third-party certification.
F03-L05	Management-system certification bodies	Accreditation of the body does not certify the body own consultancy work or establish conformity of every client without a separate case decision.
F03-L06	Product, process and service certification bodies	Body accreditation is not blanket product approval; one instance test cannot authorise indefinite family production.
F03-L07	Personnel certification bodies	A personnel credential does not itself authorise aircraft release, restricted testing or every task performed by the employer.
F03-L08	Validation and verification bodies	Accreditation concerns body competence and is not endorsement of every future statement it issues.
F03-L09	Proficiency activity providers	No universal proficiency score or assigned-value recipe is supplied; the technical profile must justify them for the actual exercise.
F03-L10	Reference material producers	A nominal value with unknown provenance cannot support metrological traceability or a broader property claim.

Subject ID	Retained title	Boundary
F04-E01	Engineering degree programmes	Programme recognition does not license graduates or recognise every programme offered by the institution.
F04-E02	Engineering technology programmes	An applied programme result does not authorise every industrial task or become a professional licence.
F04-E03	Computing and digital programmes	Tool capability, benchmark scores and attendance are not evidence of learner competence or product certification.
F04-E04	Applied science programmes	Programme recognition is not laboratory accreditation or permission for unsupervised hazardous scientific work.
F04-E05	Technical and vocational programmes	Attendance and programme completion do not themselves grant maintenance-release, inspection or other restricted task privileges.
F04-E06	Professional continuing-development programmes	Continuing-development hours contribute evidence only where relevant; they do not automatically renew a role or credential.
F05-A01	Conventional aerodromes: international, regional, cargo and general aviation	Capability recognition is not an aerodrome operating licence, airline approval or universal tenant certificate.
F05-A02	Heliports	No universal heliport dimensions, performance thresholds or flight-operating instructions are provided.
F05-A03	Vertiports	A vertiport capability result does not establish aircraft airworthiness or permission for passenger flight operations.
F05-A04	Spaceports and launch-site interfaces	No launch permission, hazardous parameter, mission trajectory or operational command is created by ASTRA.
F05-A05	Civil/military shared aerodrome interfaces	A shared-site result does not transfer military, public-security, air-navigation or civil operating powers.
F06-M01	Line maintenance	Capability recognition neither authorises flight nor grants all aircraft types, all line stations, a personal maintenance licence or design privileges.
F06-M02	Base maintenance	A base-maintenance result is not approval to design repairs, certify an internal training centre or accredit every laboratory method used in the package.
F06-M03	Engine and APU services	No propulsion design settings, hazardous operating recipe, unrestricted engine approval or reset of accumulated service life is supplied by this profile.
F06-M04	Component maintenance	A bench pass does not establish suitability for every installation, restore missing life history or accredit the component laboratory automatically.
F06-M05	Structures, cabin and modification embodiment	ASTRA recognition of embodiment capability does not confer repair design authority or establish approval of an unassessed modification.
F06-M06	Technical asset support	Technical support is not maintenance release, aircraft operating approval, a guarantee of future reliability or authority to extend an asset life limit.
F06-M07	Storage, preservation and end of life	Neither storage capability nor material recovery certifies an item as airworthy, resets life limits or permits restricted disposal operations.

Subject ID	Retained title	Boundary
F07-G01	Ground handling and turnaround	No loading, pushback or de-icing recipe, flight clearance or general airline operating authority is created.
F07-G02	Cargo, mail and specialist logistics	Capability recognition does not validate unknown contents, replace transport permissions or establish a shipment's technical eligibility solely from its paperwork.
F07-G03	Fuel and energy services	No fuel formulation, pressure, hazardous operating procedure or whole-flight zero-emission assertion is supplied by this profile.
F07-G04	Ground equipment and technical facilities	Equipment service capability is not unrestricted aircraft compatibility, statutory plant approval or proof that every connected device is conforming.
F07-G05	Catering, cabin and sanitation services	An ASTRA service result is not a substitute for applicable food, water or workplace permissions and does not authorise use of an incompatible aircraft chemical.
F07-G06	FBO and business-aviation support	Coordination capability does not certify every underlying provider, give aircraft release powers or prove services at unassessed network locations.
F07-G07	Flight and air-navigation support	No public air-navigation authority, airline operating licence, flight clearance or guaranteed operational safety follows from a generic support-service outcome.
F07-G08	Aviation digital and operational systems	A platform outcome is not certification of every generated output, every connected provider or the safety of all customer operations.
F07-G09	Specialist aviation security services	ASTRA does not transfer public security powers, authorise intrusive activity or supply tactical bypass, offensive or operational attack instructions.
F08-C01	Inventory and data	A verified airport or supplier inventory is not the footprint of every flight, tenant or customer and does not establish a reduction without comparable historical evidence.
F08-C02	Reduction and transition	Plan validation neither guarantees future reductions nor proves present reduction. A lower intensity can coexist with higher total emissions and must be reported accurately.
F08-C03	Energy and circular resources	A recovery percentage is not proof that a critical part is fit for service, that all waste was recycled or that internal recirculation represents new recovered material.
F08-C04	Local environmental performance	An inventory or general sustainability label cannot establish compliance with every local environmental duty or guarantee absence of effects at unmeasured receptors.
F08-C05	Climate resilience	Neither a scenario report nor capability recognition guarantees that a facility will withstand every climate event or replaces engineering design and statutory approval.
F08-C06	Low-carbon energy and supply claims	An attribute purchase does not necessarily mean physical delivery, verified operational reduction, fuel compatibility or zero emissions for an entire flight or service.

8 All-space responsibility selection

The following Annex AK tags are selected because the document can support these responsibilities. Applicability is decided for the actual case. Tags do not expand a family, create an operating permission or place a whole mission inside a supplier's limited scope. Resolve domain, phase, mode, environment and retained duty before accepting a claim.

Domain / source page	Coverage	Required boundary
AK01 / 187 Terrestrial engineering and supply	Design offices, manufacturing, material sources, procurement and integration.	Every delivered characteristic and essential supplier interface is traceable to accepted evidence.
AK02 / 187 Test facilities and technical providers	Environmental, structural, materials, calibration and inspection services, including mobile and remote work.	Actual method competence and valid result evidence are separately demonstrated.
AK03 / 187 Launch sites and spaceports	Site infrastructure, handling, ground services, emergency interfaces and actual permissions.	No site outcome is used as vehicle, launch or mission permission.
AK04 / 187 Launch and deployment interfaces	Vehicle/payload integration, handling, ascent environment, separation and commissioning.	Every required integration and protective condition is met before the actual commitment.
AK05 / 188 Reusable launch and return articles	Cumulative exposure, refurbishment, thermal protection, hidden damage and life decisions.	Reuse is based on actual history and accepted condition, never a reset life.
AK06 / 188 Low Earth orbit systems	Satellites, stations and services in the declared near-Earth operating environment.	Environment-specific qualification and end-of-life capability support the bounded mission.
AK07 / 188 Medium, geosynchronous and high Earth orbits	Navigation, communication, relay and other specified orbit-dependent services.	No lower-orbit or nominal-link evidence automatically covers a different environment.
AK08 / 188 Highly elliptical and transfer regions	Missions crossing materially different exposure, geometry and communication regimes.	Every phase and transition has a supported envelope and verification path.
AK09 / 189 Cislunar and libration-region systems	Lunar vicinity, relays, gateways, transportation interfaces and regional services.	The exact operating domain and service dependencies are technically complete.
AK10 / 189 Constellations and formation services	Distributed functions, inter-satellite links, fleet management and shared ground support.	Distributed performance and independent redundancy assumptions are validated.
AK11 / 189 Orbital traffic and tracking support	Tracking, conjunction information, data services and inter-operator coordination.	A metric is accepted only for its validated data/model scope; missing data are not zero risk.
AK12 / 189 Cooperative docking and servicing	Authorised inspection, connection, transfer, repair and service interventions.	All essential interface and completion states are independently supported.
AK13 / 190 On-orbit assembly and manufacture	Assembly, additive or other production, finishing and output verification in space.	Process execution is not substituted for evidence of required output properties.
AK14 / 190 Stations and inhabited orbital platforms	Habitation, payload integration, visiting vehicles, occupants and support.	Integrated human protection and resources are accepted independently of mission success.
AK15 / 190 Extravehicular and isolated crew work	Individual equipment, user/task, environment, support and rescue dependencies.	Essential individual and integrated protective tasks pass without averaging.

Domain / source page	Coverage	Required boundary
AK16 / 190 Lunar surface systems	Landers, rovers, infrastructure, observation and processing on the Moon.	Destination-specific evidence bounds the actual region, phase and operating mode.
AK17 / 191 Planetary landers and surface vehicles	Surface exploration, scientific instruments, mobility and handling.	Terrestrial analogy is justified; unknown critical surface conditions remain restricted.
AK18 / 191 Atmospheric and buoyant exploration	Planetary atmospheric vehicles, balloons, aircraft and relevant instruments.	All relevant environment-specific structural and functional predicates pass.
AK19 / 191 Small-body and comet operations	Observation, cooperative contact, sampling and resource demonstrations.	Uncertain body/interaction properties are not treated as established terrestrial conditions.
AK20 / 191 Subsurface and ocean-world exploration	Subsurface, liquid, ice and extreme-pressure exploration systems and their interfaces.	Specialist boundary and contamination evidence precedes dependent use.
AK21 / 192 Interplanetary cruise and deep-space missions	Spacecraft, relays, science operations and long-delay mission support.	Human and autonomous actions are feasible within actual timing and resource limits.
AK22 / 192 Solar and heliophysics missions	Solar observations and missions with relevant thermal, plasma and radiation extremes.	Protection and data-quality evidence cover the actual mission envelope, not a screening equation alone.
AK23 / 192 Outer-system and distant observatories	Low-flux, long-life, long-delay science and infrastructure applications.	Required lifetime and survival margins are met with credible continuity and data integrity.
AK24 / 192 Interstellar precursor and future distant systems	Bounded research and demonstrable capabilities for very long-range or novel concepts.	Research promise is not an operational grant; unsupported capability stays in development.
AK25 / 193 Human exploration and surface habitats	Crew transport interfaces, habitation, exploration support and emergency protection.	Every essential human protection and feasibility predicate is supported by specialists.
AK26 / 193 Planetary protection and sample return	Forward/backward contamination, scientific cleanliness, samples and receiving chain.	No dependent commitment precedes complete protection and receiving evidence.
AK27 / 193 Resource utilisation and remote processing	Resource characterisation, processing, quality, storage, use and residues.	Resource yield, product eligibility and permission remain distinct.
AK28 / 193 Space logistics and distributed supply	Warehousing, transfer, spares, custody, condition, receiving and service continuity.	Only physically or otherwise validly confirmed accepted usable inventory supports mission budgets.
AK29 / 194 Specialised energy infrastructure	Generation, storage, conversion, remote delivery and controlled high-hazard power interfaces.	Performance never substitutes for safety, source authority or terminal accountability.
AK30 / 194 Ground, communication and navigation services	Mission control, RF/optical links, timing, data processing, relays and PNT support.	Availability, correctness, authority and completion are separately demonstrated.
AK31 / 194 Digital and autonomous space systems	Software, programmable hardware, AI, models, twins and defensive security.	All essential behaviours and prohibited transitions are verified for the actual deployment.
AK32 / 194 Retirement and long-term stewardship	Disposal, passivation governance, loss-of-contact states, records and residual obligations.	Final-state claims are truthful and every unresolved duty has an accepted owner.

9 Parameter completion and quantitative integrity

These are required information groups from Annex AO, not pre-approved engineering limits. For every triggered group, populate actual values or observable attributes before evaluation, with unit, inclusivity, phase/mode, technical derivation, uncertainty/dependence, method version, owner, independent review, authentic approval and change trigger. An absent trigger requires an approved exclusion; an unsupported or missing essential value is HOLD.

P01 — Mission and scope

Legal owner, performer, family/module, object, domain, configuration, location, duration and modes.

Derivation and evidence: Scope tuple and mission concept; approved applicability matrix.

Completion test: No undefined essential object, duty, phase or exclusion.

P02 — Environment and exposure

Quantity, spatial/temporal boundary, distribution or bound, source/model, uncertainty and coupled effects.

Derivation and evidence: Mission environment baseline and qualified specialist rationale.

Completion test: Selected conditions bound each claimed use; unknown critical mechanisms remain HOLD.

P03 — Requirements and acceptance

Stable ID, owner, characteristic, units, bound inclusivity, predicate, observation and essential-step marker.

Derivation and evidence: Requirement baseline and Annex AL decision rule.

Completion test: Every condition is evaluable before observations are judged.

P04 — Geometry and reference systems

Frame origin/orientation, epoch, time scale, coordinate units, transformation and covariance.

Derivation and evidence: Validated transformation and independent known-answer checks.

Completion test: Correct frame and time are maintained through every interface.

P05 — Materials and process qualification

Material type/condition, geometry, sources, variables, qualified window, machine/tool state and hidden properties.

Derivation and evidence: Actual representative qualification; lot/build genealogy.

Completion test: All influential variables and required product properties are supported.

P06 — Test article and fixtures

Article pedigree, differences from delivered object, mounting, boundary conditions, operating state and exposure history.

Derivation and evidence: Approved representativeness and cumulative-test analysis.

Completion test: No material difference or prior damage invalidates the intended inference.

P07 — Measurement and uncertainty

Measurand, instrument/range, corrections, sensitivity, covariance, coverage, time/space sampling and calibration.

Derivation and evidence: Complete measurement model; valid raw data.

Completion test: Uncertainty and detection capability are fit for the approved decision rule.

P08 — Structure, life and mechanisms

Loads, allowables, factors, life, geometry, material state, mechanisms, detectability and approved reserve.

Derivation and evidence: Qualified structural/life model and representative evidence.

Completion test: Each prospectively defined margin and essential mechanism predicate passes.

P09 – Power and energy

End-of-life generation, peak load, usable storage, efficiency, outage/eclipses, mode durations and terminal reserve.

Derivation and evidence: Configuration-specific phase budget and protection tests.

Completion test: Power and energy limits both pass without duplicate reserve credit.

P10 – Thermal and environmental control

Node/location, mode, temperatures/gradients, heat inputs, sink/view factors, properties, uncertainty and transient cases.

Derivation and evidence: Correlated thermal model and applicable environment tests.

Completion test: All required hot, cold and transition conditions meet approved limits.

P11 – Communication and timing

Distance, frequency/wavelength, gain/loss, noise, rate, margin, latency, event time, age, clock error and outage.

Derivation and evidence: Validated end-to-end budget and adverse service tests.

Completion test: Required quality, delay and integrity conditions all pass.

P12 – Human and protective response

User/task, representative conditions, essential steps, feasible intervention, health-support interface and emergency resources.

Derivation and evidence: Specialist criteria and observed performance.

Completion test: Every essential protection is effective; no invented universal physiological limit.

P13 – Contamination and samples

Relevant substances/particles, pathway, limit, method/detection, custody, cleanliness, containment and receiving.

Derivation and evidence: Mission-specific technical/protection basis.

Completion test: Required integrity and scientific cleanliness are demonstrated for the actual sample/use.

P14 – Software, AI and models

Purpose/domain, source/build/weights/data, dependencies, target, errors, uncertainty, prohibited behaviour and change limits.

Derivation and evidence: Independent verification and model/use validation.

Completion test: Essential scenarios and target conditions pass; experimental outputs remain separate.

P15 – Security and command authority

Identities, roles, privileges, keys/trust, target, validity window, command sequence, integrity and interruption response.

Derivation and evidence: Written test authorisation and deployed workflow validation.

Completion test: No prohibited authority or unverified command state is accepted.

P16 – Reliability and availability

Population, exposure, failure definition, observation, dependencies, confidence model, downtime and maintenance exclusions.

Derivation and evidence: Prospective statistical design plus engineering mechanism evidence.

Completion test: The actual demonstrated bound meets the approved claim; zero failures is not zero risk.

P17 — Logistics and environmental claims

Identity, amount, units, condition, losses, allocation, lifecycle boundary, factor provenance and exclusive attributes.

Derivation and evidence: Reconciled custody/quantity records and separate suitability/statement evaluation.

Completion test: Quantity and claim integrity pass independently of technical eligibility.

P18 — Decision, continuity and terminal duties

Closed findings, reviewer competence, independence, authority, status clocks, final-state criteria, custody and open obligations.

Derivation and evidence: Authenticated decisions and verified terminal/transfer evidence.

Completion test: Every mandatory gate is complete; incomplete or unknown terminal state remains explicit.

10 Validation, traceability and controlled local adoption

Validate source clause IDs, code-to-title relationships, profile/checklist control parity, old/new field identities, source core fingerprint, mathematical examples, layout, internal navigation, field persistence and file completeness. Those checks establish publication and recording integrity only. Real technical suitability requires competent specialist review, application-specific inputs, representative observations and actual authority.

Keep the original PDF collection and historical case records separately. New publication identities do not erase earlier decisions or transform their evidence. An actual adoption action identifies affected local profiles, operators, tools and users; records the real effective time; resolves gaps before dependent use; and communicates limitations. The master inventory reports prepared files, not operationally active scope counts.

11 Deployment and handover

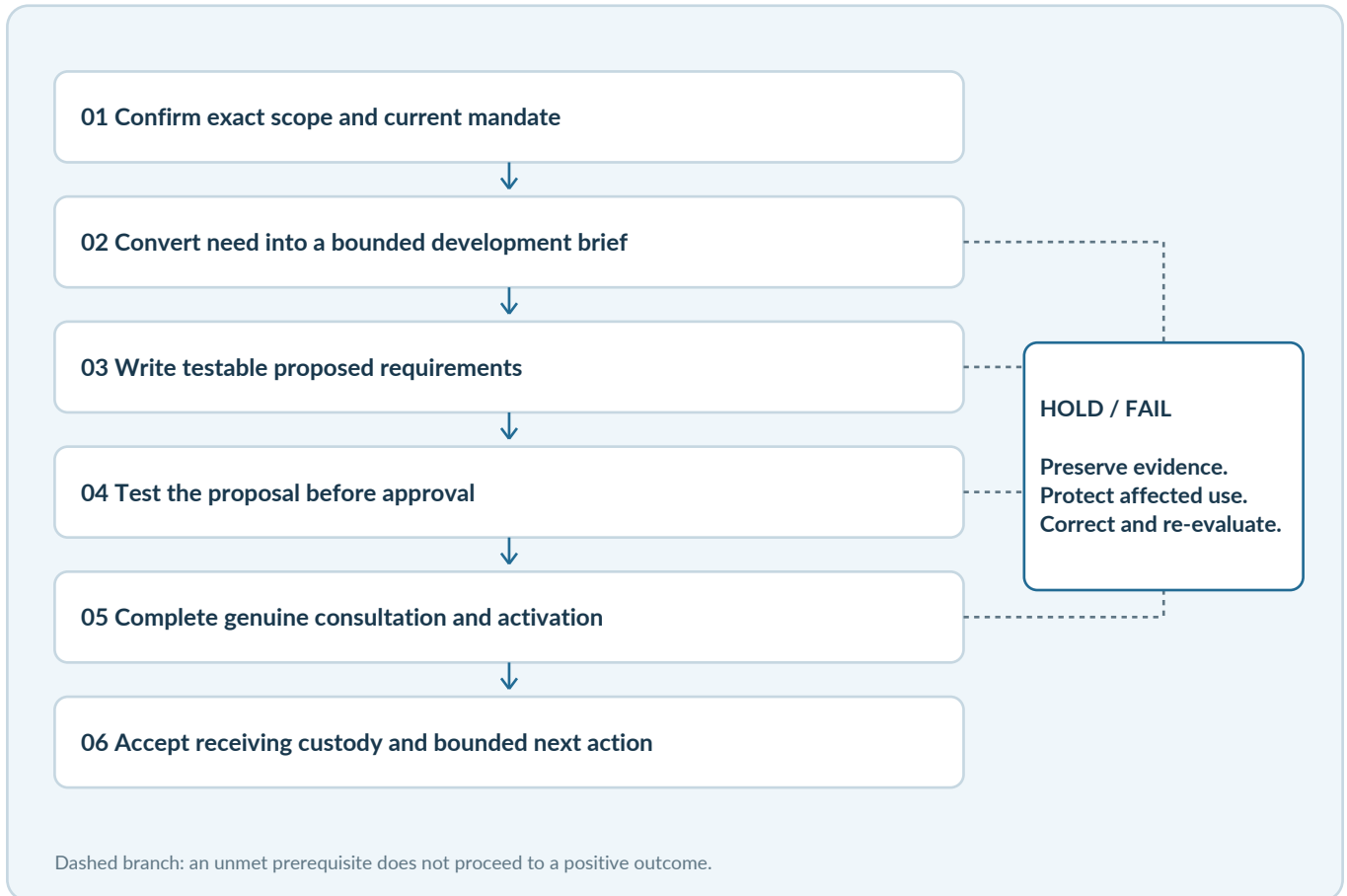
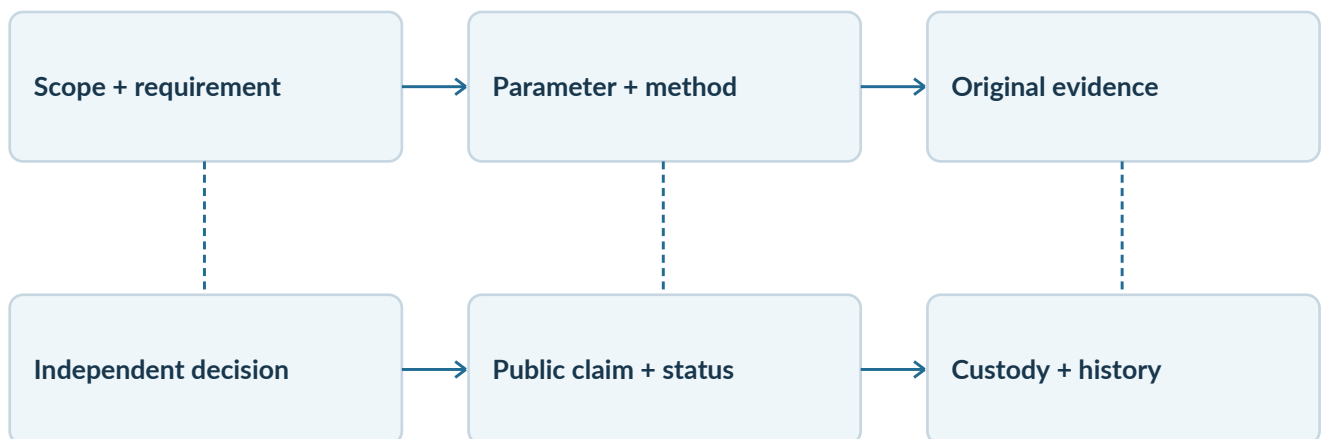


Figure — Implementation sequence for AF-AST-PR-002. Explanatory diagram; the source prerequisites and actual authority remain controlling.



Each relationship carries object identity, controlled version, actual event time and purpose-specific validity.

Figure — Scope-to-custody evidence relationships. A relationship is validated for its decision purpose, not merely because two identifiers exist.

12 Implementation measures without false conformity scores

The worked calculations below reproduce the supplied standard's Annex AM examples. Charted extensions are newly computed synthetic illustrations of those equations, not measured mission performance or new universal limits. A result is usable only when the actual inputs, model, units, uncertainty and approved application predicate are valid. A successful arithmetic check is not field validation.

AM.Q03 Positive-decision conjunction and essential failure

Source: ASTRA Annex AM, Q03, page 202. All numerical inputs in this example are synthetic.

$$G = S \wedge P \wedge E \wedge F \wedge C \wedge I \wedge A$$

Requirement completion = completed applicable rows / all applicable rows

Variables and units

S=valid scope; P=all predicates passed; E=adequate valid evidence; F=all in-scope findings closed; C=competence; I=independence; A=actual authority.

Example inputs

A synthetic file has 200 applicable rows; 190 are complete. One remaining row concerns an essential protective control. Six other gate groups are true.

Calculation and checks

1. Completion = $190/200 = 0.95 = 95\%$.
2. The unverified essential row makes P false and E false for the requested conclusion.
3. $G = \text{true false false} \dots = \text{false}$.

Decision interpretation: No positive grant. The completion percentage is a planning measure only. A conditional development permission is a separate bounded action, not a conformity certificate.

Validity limits: No averaging, vote or commercial action can change a false mandatory gate. N/A requires independent approval of the absent trigger; it is not a way to remove unfinished work.

ASTRA connections: 15.2; Annex G.1; 62.5; 80

Completion is not the grant decision

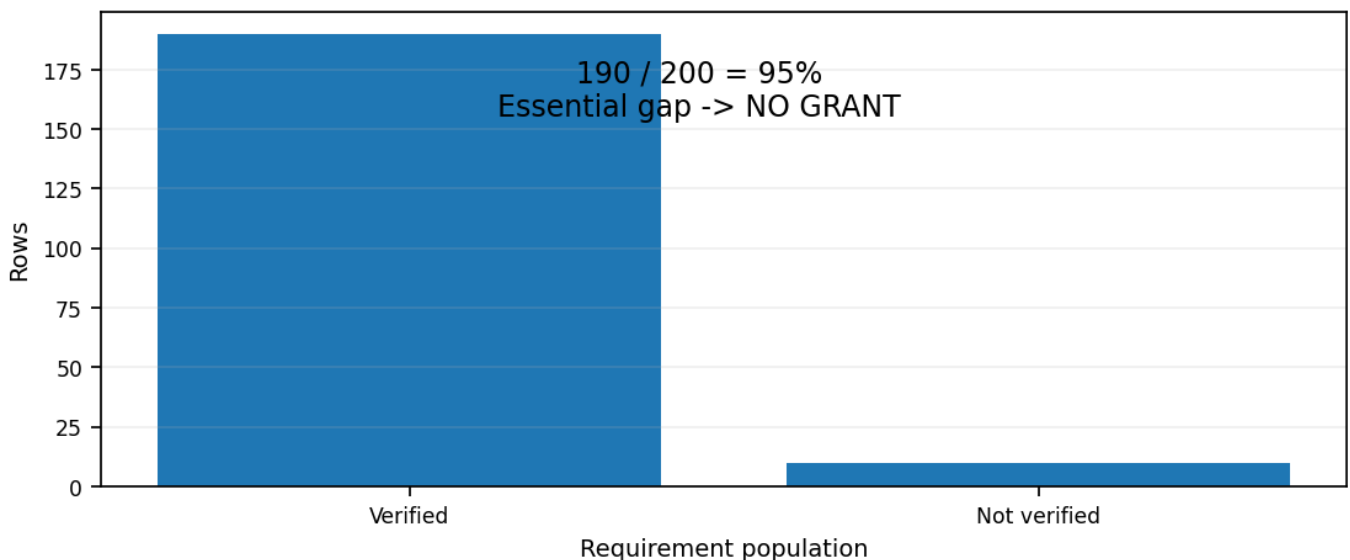


Figure Q03 – Synthetic visualisation. The axes and stated scenario define the quantity; no graph is an accreditation score, approved operating envelope or evidence of a real mission.

Local replay record: retain the actual input manifest, source versions, calculation version, unit checks, independent recomputation, expected/observed boundary results, limitations and decision authority. Do not overwrite the teaching inputs as though they were operational data.

AM.Q05 Productive evaluation time without double counting

Source: ASTRA Annex AM, Q05, page 204. All numerical inputs in this example are synthetic.

$$T_{\text{eval}} = \sum h_i / 8 \text{ evaluator-days}$$

Total resource = evaluation + separate reporting/review/travel resources

Variables and units

h_i are distinct productive technical person-hours. Shared tasks are counted once unless distinct real work is documented.

Example inputs

Synthetic tasks: 12, 12, 12, 8 and 4 productive hours. Report 6 h; independent review 5 h; panel 3 person-hours.

Calculation and checks

1. Evaluation hours = $12+12+12+8+4 = 48$ h.
2. $T_{eval} = 48/8 = 6$ evaluator-days.
3. Separate report/review/panel time = $6+5+3 = 14$ person-hours.
4. Total stated technical resources = 62 person-hours before travel and other separately justified work.

Decision interpretation: Six evaluator-days describes only this synthetic activity breakdown. It is not a universal minimum or quotation.

Validity limits: Do not count a trainee as an independent productive assessor or two passive observers as two completed tasks. Calendar duration, person-hours and evaluator-days are distinct.

ASTRA connections: 12.4; Annex F.1; 58.2

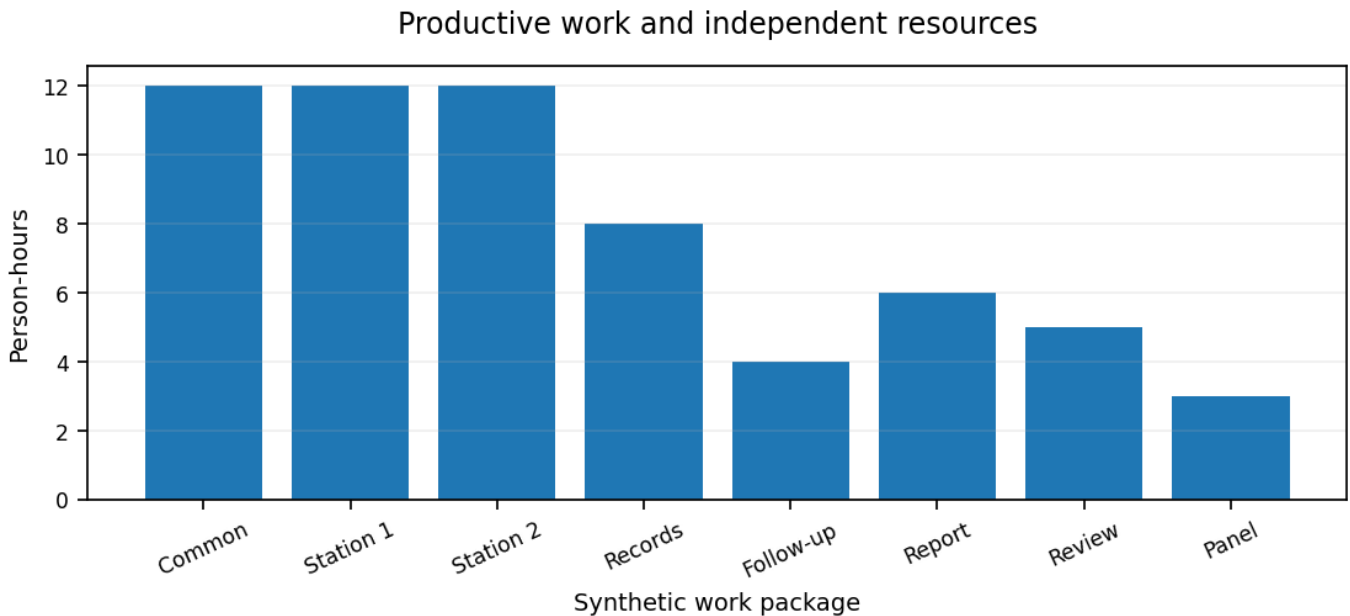


Figure Q05 — Synthetic visualisation. The axes and stated scenario define the quantity; no graph is an accreditation score, approved operating envelope or evidence of a real mission.

Local replay record: retain the actual input manifest, source versions, calculation version, unit checks, independent recomputation, expected/observed boundary results, limitations and decision authority. Do not overwrite the teaching inputs as though they were operational data.

AM.Q06 Random detection sample size

Source: ASTRA Annex AM, Q06, page 205. All numerical inputs in this example are synthetic.

$$P(\text{at least one detection}) = 1 - (1-p)^n$$

$$n_{min} = \text{ceil}[\ln(1-C)/\ln(1-p)]$$

Variables and units

p is a fixed issue probability per independent representative observation; C is the selected target detection probability; n is a positive integer.

Example inputs

Synthetic $p=0.10$ and $C=0.95$.

Calculation and checks

1. $\ln(0.05)/\ln(0.90) = 28.433158...$; round upward to $n=29$.

2. $P(\text{detection at } n=29) = 1 - 0.9^{29} = 0.9528987130$.

3. At $n=28$, $P = 0.9476652367$, below the specified target.

Decision interpretation: 29 is the minimum integer sample for the stated independent model; the demonstration does not certify 95% conformity.

Validity limits: This calculation is invalid for unexamined dependence, changing p , biased selection or a judgemental sample represented as random. Detection is also conditional on an effective observation method.

ASTRA connections: 9.3; Annex F.5; 55.3

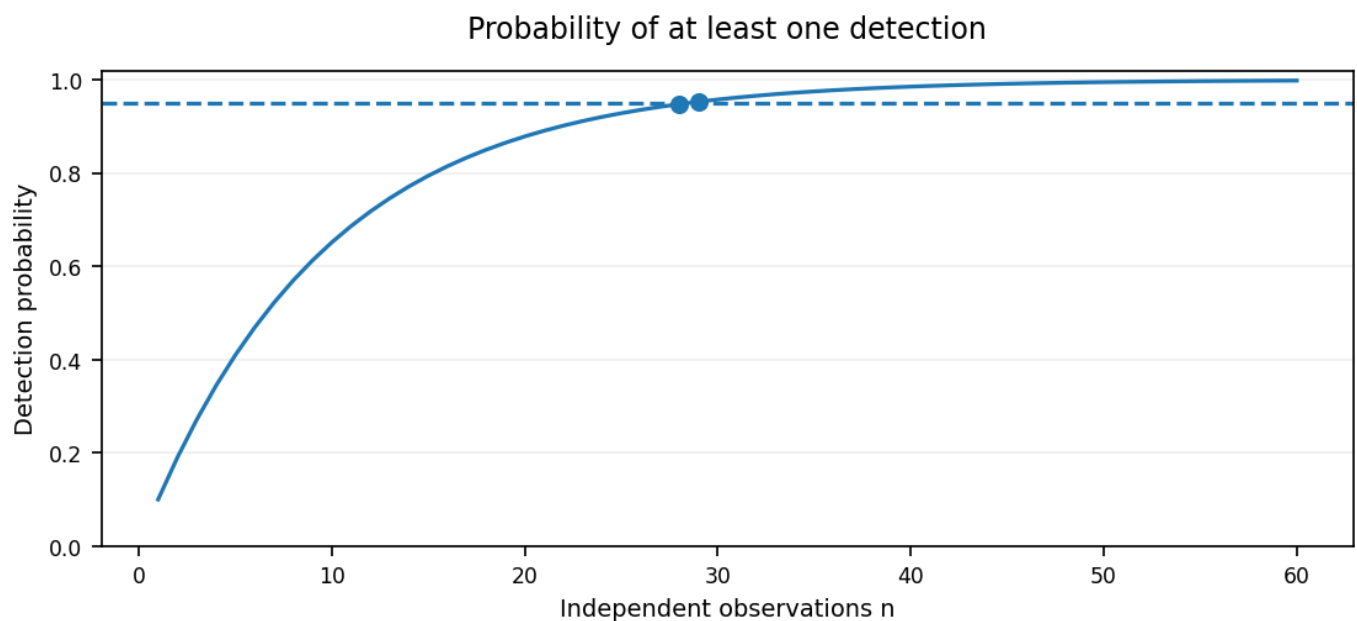


Figure Q06 – Synthetic visualisation. The axes and stated scenario define the quantity; no graph is an accreditation score, approved operating envelope or evidence of a real mission.

Local replay record: retain the actual input manifest, source versions, calculation version, unit checks, independent recomputation, expected/observed boundary results, limitations and decision authority. Do not overwrite the teaching inputs as though they were operational data.

AM.Q09 Availability is not output correctness

Source: ASTRA Annex AM, Q09, page 208. All numerical inputs in this example are synthetic.

$$A_{\text{observed}} = T_{\text{available}} / T_{\text{window}}$$

$$\text{Correct-service fraction} = T_{\text{available_and_correct}} / T_{\text{window}}$$

Variables and units

All categories shall use the same declared window and explicit downtime and integrity definitions. Missing time is separately recorded.

Example inputs

Synthetic window=1,000 h; available=960 h; unavailable=40 h. Of the available time, 20 h produced unacceptable information.

Calculation and checks

1. Availability = $960 / 1,000 = 96\%$.

2. Available-and-correct time = $960 - 20 = 940$ h.

3. Correct-service fraction = $940 / 1,000 = 94\%$.

Decision interpretation: The 96% availability value does not prove correctness during every available hour. The two measures support different requirements.

Validity limits: The service boundary, outages, correctness test, unknown intervals and planned exclusions must be established in advance. A high uptime percentage cannot close an integrity failure.

ASTRA connections: 51.4; 55.1; 66.7; 78.7

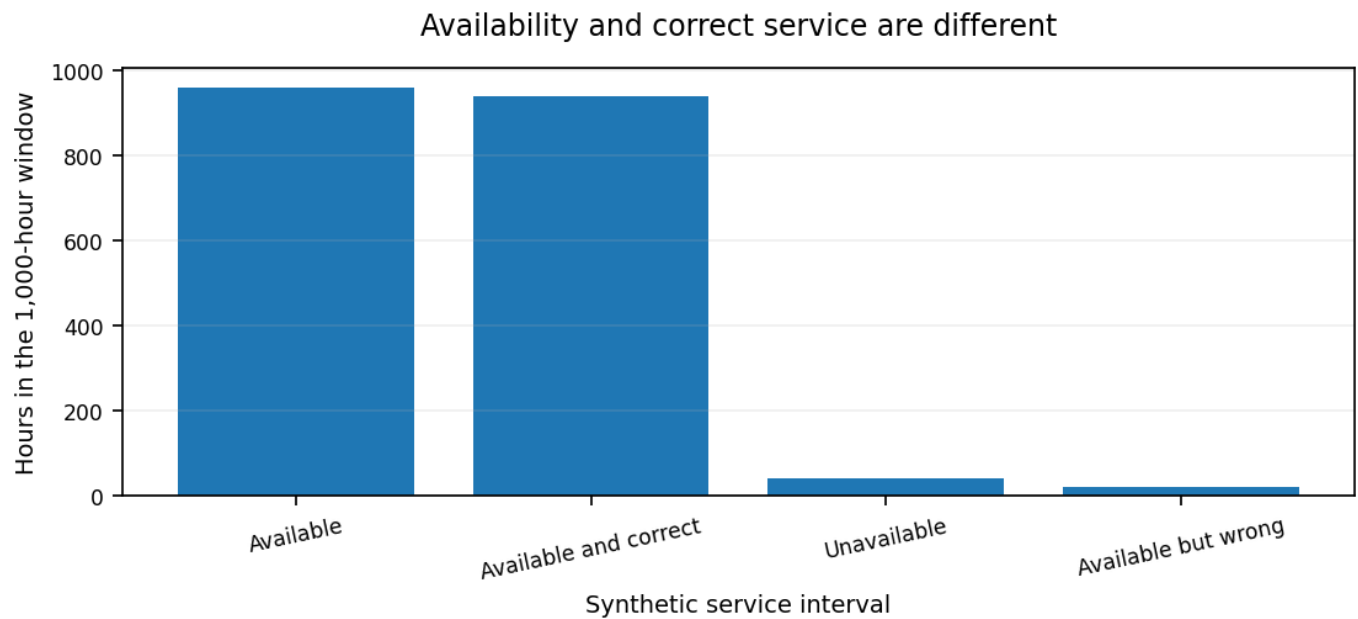


Figure Q09 — Synthetic visualisation. The axes and stated scenario define the quantity; no graph is an accreditation score, approved operating envelope or evidence of a real mission.

Local replay record: retain the actual input manifest, source versions, calculation version, unit checks, independent recomputation, expected/observed boundary results, limitations and decision authority. Do not overwrite the teaching inputs as though they were operational data.

Appendix B — Local adoption, validation and receiving acceptance

Gate	Required evidence	Outcome when incomplete
Authority and identity	Actual operator, scoped mandate, permissible result class, named owner, independent decision and remedy functions.	No live scope release.
Requirement population	All applicable clauses and annexes mapped to child conditions, with reasons and independent approval for exclusions.	HOLD the affected conclusion.
Parameters and methods	Prospective values/attributes; technical basis; valid methods; representativeness; calibration, uncertainty and approved predicates.	No dependent acceptance.
People and evidence	Current demonstrated competence; conflict clearance; original usable source evidence; actual configuration and event times.	Reassign or obtain sufficient evidence.
Local tools and tests	Actual deployment tested with positive, boundary, missing, invalid and prohibited inputs; original failed cases retested.	No consequential reliance on unaccepted tools.
Independent closure	Every mandatory requirement PASS, approved N/A, all in-scope nonconformities verified closed, panel rules where required.	No grant, renewal or extension.
Claims and continuity	Decision-linked scope/status; source history; genuine custody, receiving access, retention, urgent notices and terminal duties.	Restrict publication or transfer until resolved.

Record authentic approval and activation in AF-AST-FR-001 and AF-AST-SC-004 or an equivalent controlled record. The edition label is not an effective date for a particular case. Preserve historical decisions under their actual controlling basis; a newer document does not retroactively create missing competence or evidence. Source: Clauses 4, 31, 61, 62 and 80; Annexes P and AR.

PDF recording limits: text fields may scroll beyond their visible area. A printed or flattened copy shall include controlled continuations whenever the full response is not visible. A typed name is not a certificate-based authenticated signature. An actual signed instrument or authenticated workflow shall establish approval. Record custody and privacy are implemented by the receiving organisation, not by this PDF alone.