SUSTAINABLE INTELLIGENCE

FOUNDATIONAL DESIGN CHARTER

Industry 5.0 Benchmark Framework

Framework Version 2.0 | Charter Version 1.0 | 5th Sept. 2026

Developed by Sustainable Intelligence ASBL and SUSTIN C.I.C.

Formal definition. i5Benchmark is a global consensus and verification framework for human-centred industrial transformation. It discovers shared values through diverse cultural traditions and the lived experience of affected people, translates them into actionable and verifiable commitments interoperable with international standards, and examines whether the value created by technology and industry genuinely and fairly benefits people, society and the planet.

Foundational proposition. Industry 5.0 is not de-technologisation; it is the de-centring of technology. It does not stop innovation; it gives innovation a human and ecological ground, legitimate limits, and the capacity to be understood, challenged and corrected.

Distinctive contribution. i5Benchmark does not add another isolated standard. It discovers and consolidates shared values, connects existing standards with local experience, and uses evidence to verify commitments, impacts and the distribution of value—so technological progress becomes progress that people can genuinely experience and share.

Advancing Europe's Industry 5.0 vision worldwide—and verifying who truly benefits.

1. Function, scope and lineage

This Charter establishes the stable foundational baseline of the Industry 5.0 Benchmark Framework. It defines why the Framework exists, the values and boundaries it must preserve, its domain architecture, and the methodological commitments that all subsequent specifications, requirements, implementation profiles, assessments and digital services must follow.

The Charter is principle-level. It establishes the direction and integrity of the system without placing technology-specific controls, indicators, thresholds or scoring rules in the constitutional baseline. Those operational elements are maintained in separately governed and versioned instruments.

Framework Version 2.0 formalises the second generation of the initiative. It builds on the Industry 5.0 Guidelines developed and updated in 2025, while introducing a five-domain assessment architecture, a consensus-and-verification method, machine-readable evidence chains and structured interoperability. Charter Version 1.0 denotes formal adoption of this foundational baseline, not the maturity of the initiative as a whole.

2. Origin, purpose and contribution

2.1 Policy origin and institutional basis

The Framework is grounded in the European Union's pioneering Industry 5.0 vision of human-centric, sustainable and resilient industrial transformation. It supports the practical reach and global relevance of that vision by translating it into adaptable operational requirements, traceable evidence and continuous-improvement pathways across sectors and regions.

Sustainable Intelligence is an institutional member of the European Commission's Industry 5.0 Community of Practice and is classified in its membership register as a private research organisation. Industry 5.0 Benchmark is registered on the United Nations platform as an SDG Acceleration Action. These foundations connect the initiative to active policy, research and public-interest communities; the authority of individual findings will arise from the Framework's governed methods, evidence and review.

2.2 Purpose

i5Benchmark turns the Industry 5.0 vision into accountable practice. It enables organisations, projects, technologies, services, sites and industrial ecosystems to establish a transition purpose and baseline; define commitments; assemble reusable evidence; determine impacts and value distribution; make contestable judgements; and direct measurable improvement.

2.3 Contribution

As an independent and complementary implementation framework, i5Benchmark connects EU policy leadership with international standards, local knowledge and evidence from practice worldwide. It supports responsible adoption beyond Europe while providing a structured feedback channel through which global experience can strengthen the continuing development, relevance and influence of Industry 5.0.

Its intended public-facing form is an independent assessment, benchmarking and improvement system with a governed pathway from self-assessment and evidence preparation to independent review, benchmark profiles, reassessment and recognition. It is a living global framework: evidence and mappings can evolve continuously, while every relied-upon assessment remains bound to stable, versioned rules.

3. Core principles

Principle	Foundational commitment
EU leadership	Acknowledge the European Union's policy leadership and strengthen the practical and global reach of its Industry 5.0 vision.
Human benefit	Judge transition from the rights, dignity, health, agency, capabilities and lived experience of affected people—not from technological novelty alone.
Shared value	Examine who receives the value created, who bears costs and risks, and whether concentrated or exclusionary outcomes are corrected.
Evidence traceability	Connect every material claim and judgement to identifiable sources, provenance, scope, time and version.
Local legitimacy	Make requirements locally intelligible and contextually relevant, with affected people participating in interpretation and validation.
Independent judgement	Keep organisational claims distinct from evidence and findings, preserve dissent, and provide challenge, correction and remedy.
Continuous improvement	Translate findings into owned actions, test effectiveness and renew commitments as conditions and evidence change.

4. Global Core, implementation profiles and collaboration

4.1 Global Core and implementation profiles

A common Global Core preserves the formal definition, principles, domain boundaries, evidence logic and judgement integrity required for global comparability. EU Implementation and UK Implementation are established in parallel as the first two profiles of that core.

EU Implementation. Connects the Global Core to EU Industry 5.0 policy, Community of Practice outputs, applicable EU legislation, European standards and industrial-transition programmes.

UK Implementation. Connects the same Global Core to UKRI/EPSRC responsible innovation practice, relevant BSI standards, UK regulation, market expectations and assurance practice.

Implementation profiles may specify jurisdictional sources, evidence routes, terminology and contextual thresholds. They must not redefine the Global Core's intended outcomes. Further national and sector profiles may be added through governed consultation and validation, reporting local legitimacy and global comparability as related but distinct qualities.

4.2 Open research and project contribution

The Framework is open to structured research and development partnerships with universities, research organisations, industry, public authorities, standards bodies, social partners, investors, civil-society organisations and affected communities. Collaboration may contribute requirements, reference mappings, pilot cases, evidence protocols, datasets, translations, validation studies and methodological challenge.

Reusable methods, mappings, evidence structures and research findings may be contributed to complementary EU, UK and international programmes. Contributions to the Global Core or an implementation profile will follow documented review with attribution, data rights, confidentiality, research integrity and conflict-of-interest safeguards.

5. Five-domain assessment baseline

The Framework uses three Core Domains and two Enabling Domains. Core Domains define the primary outcome conditions of an Industry 5.0 transition. Enabling Domains provide the means to implement, govern and verify those outcomes, while retaining independently assessable requirements, evidence and findings.

Domain	Baseline assessment question
CORE DOMAINS | Primary outcome conditions	
Human Experience	What do affected people experience in practice, and are rights, health, safety, dignity, agency, inclusion, capabilities and opportunity demonstrably improved?
Sustainable Practices	Do operations and value chains reduce environmental burdens, respect ecological limits and move towards circular, restorative or regenerative practice?
Resilience & Adaptability	Can critical functions persist, recover, learn and adjust to disruption and long-term change without transferring unacceptable costs or vulnerability?
ENABLING DOMAINS | Implementation, governance and verification conditions	
Responsible Innovation	Is a new or materially changed technology or arrangement necessary, responsibly selected, designed, tested and supported by the capabilities, resources and operations required for beneficial use?
Accountability	Who answers for decisions, claims, impacts and value distribution, and how can affected parties obtain explanation, scrutiny, correction and remedy?

Every assessed matter shall have one clear primary home, an identifiable evidence route and an independent judgement. Related domains may be linked, but the same achievement shall not be counted repeatedly and strength in one domain shall not erase a material failure in another.

6. Consensus, cultural grounding and contextual legitimacy

6.1 Consensus and the Cultural Grounding Layer

Consensus is used as a method for cross-cultural adoption and stakeholder participation. It begins before standard mapping: affected people and other legitimate stakeholders identify common concerns, explain differences and form commitments that can be understood and acted upon in context. Consensus does not require unanimity and cannot override fundamental rights, safety, non-discrimination or ecological limits.

A Cultural Grounding & Contextual Legitimacy Layer applies across all five domains. It connects universal safeguards and international standards with the language, knowledge, production realities, ecological conditions and lived experience through which a requirement becomes meaningful in a particular place.

Horizontal test	Question applied to every requirement
Local intelligibility	Can affected people understand the requirement through their own language and experience?
Contextual relevance	Does it respond to actual ways of living and producing, and to local social and ecological conditions?
Participatory legitimacy	Did local people help interpret and shape its application rather than merely receive an external framework?
Rights compatibility	Does the interpretation remain within fundamental rights, safety and non-discrimination safeguards?
Knowledge provenance	Whose knowledge, thought and data are used, and who may interpret, use and communicate them?

6.2 Consensus-to-verification cycle

1 Discover common concerns	2 Form contextual consensus	3 Translate into commitments	4 Act and distribute value	5 Evidence and judge	6 Incentivise, remedy and renew

The Benchmark rewards fulfilment, not declarations of agreement. Participation counts when consensus is converted into clear responsibilities; technological added value and its distribution are disclosed; affected people experience improvement; concentration and inequality are actively corrected; dissent and remedy remain possible; and evidence can be independently reviewed.

7. Human-centred industrial transition and positive value

Human-centred progress test. Technological progress constitutes human-centred progress only when its purpose can be commonly understood, its process meaningfully participated in, its results reasonably shared, its impacts independently verified, and harms corrected.

The Framework is technology-open but not technology-indifferent. It actively recognises advanced technology, improved production models and productivity where they create evidenced additional value. Novelty, automation, investment or adoption alone does not establish benefit; equally, technology is not treated only as a source of risk or prohibition.

Positive recognition will combine minimum safeguards with progressive achievement. It will reward a demonstrated need or opportunity; a credible baseline or counterfactual; responsible selection and implementation; durable improvements for people, society or ecological systems; explicit management of trade-offs; and a fair mechanism for distributing gains, including when technology changes the quantity or nature of human labour.

Detailed controls for particular practices—such as participant-controlled human sensing, consequential automated decisions or technology-specific impact tests—belong in the Requirement & Mapping Registry and the Methodology, not in this Charter.

8. Four-source reference architecture

Every governed requirement and indicator shall be developed and maintained through four source layers. The first two establish normative and technical credibility; the latter two establish cultural intelligibility and contextual legitimacy. Together they prevent both ungrounded local relativism and context-blind external prescription.

Source layer	Function
Normative Basis	International conventions, law, standards and policy establish non-negotiable rights, safety and environmental safeguards and support interoperability.
Empirical & Technical Basis	Research, data and professional methods support indicators, evidence design, causal reasoning and judgement rules.
Cultural Resonances	Classical thought, local traditions, literature and ethical traditions explain why a commitment has meaning in context and reveal possible common ground.
Lived & Local Validation	Affected workers, users, communities and knowledge holders test whether the interpretation is authentic, applicable and properly represented.

9. Methodological baseline and machine-readable chain

The common authoring sequence is: implementation module → specific requirement → indicator or observation → evidence requirement → judgement rule → improvement action. Requirements are stated as observable responsibilities of the assessed user and begin with the needs, rights and legitimate interests of affected people, society and ecological systems.

The Framework shall preserve a complete, machine-readable chain of responsibility, claim, evidence, judgement, action and time. Its canonical objects are:

Object	Role
Requirement	The responsibility to be fulfilled by the assessed user.
Indicator	The observable signal or question used to examine fulfilment.
Evidence Record	A bounded, sourced, time-stamped and versioned evidence item.
Claim–Evidence Link	The explicit relationship between a claim, supporting or contrary evidence, and scope.
Finding	An accountable judgement against a requirement, including confidence and material limitations.
Improvement Action	A named corrective or progressive action with owner, date and effectiveness check.
Score Snapshot	A result fixed to a defined point, scope, evidence state and method version.
Period Rating	A governed summary for a declared interval, preserving safeguards and material adverse findings.
Source Mapping	A provision- and edition-specific link to the four source layers and external frameworks.

The Methodology shall define standards-development and dynamic-revision procedures; object schemas; evidence sufficiency; uncertainty; sampling; judgement; scoring; aggregation; weighting; temporal treatment; stakeholder validation; assessor review and other operational assessment rules. Controlled technical parameters may be maintained in the Requirement & Mapping Registry. Automated systems may support extraction, mapping and analysis; externally relied-upon conclusions require accountable human review and accessible challenge.

10. Interoperability, evidence and controlled evolution

Evidence once, map many. Evidence organised for an i5Benchmark requirement should be reusable against defined provisions in other frameworks, while identifying missing evidence and preserving the distinct judgement required by each source system.

Provision- and edition-specific mappings. Mappings shall distinguish equivalence, partial overlap, broader or narrower scope, related concepts and unresolved differences across EU, UK and international frameworks.

Stable assessments within a living framework. Each assessment freezes its requirement set, profile, evidence period and decision rules. Changes carry effective dates, rationale and migration notes; historical findings remain attached to the method used.

Time-aware ratings. Dynamic evidence may support current signals and score snapshots. A Period Rating shall summarise a declared interval through transparent rules and evidence coverage, not an unexplained lifetime average. Material safeguards and adverse findings cannot be hidden by aggregation.

11. Governed document and data suite

This Charter is the first instrument in a controlled suite. Separation between the instruments protects the foundational baseline while allowing operational knowledge, requirements, mappings and evidence to evolve at the appropriate pace. Each instrument will be versioned and published on the i5Benchmark website with its status, effective date and change history.

Instrument	Primary authority
Foundational Design Charter	Definition, purpose, origin, principles, domain architecture, governance baseline, global boundaries and non-negotiable methodological commitments.
Methodology	Standards development, dynamic revision, evidence, validation, indicators, weighting, judgement, scoring, temporal and assessment methods.
Requirement & Mapping Registry	Controlled modules, requirements, indicators, evidence rules, judgement rules, improvement routes, source records and edition-specific crosswalks.
Evidence & Rating Layer	Assessment-instance records, claim–evidence links, findings, actions, score snapshots, period ratings, reviewer provenance, audit history and user-facing outputs.

Institutional stewardship. Sustainable Intelligence ASBL, Belgium, is the institutional steward and Secretariat of i5Benchmark. It maintains the controlled Framework suite, administers the standard-setting process and retains legal, fiduciary and administrative responsibility for the Framework.

Scientific & Standardization Committee. This Charter establishes the i5Benchmark Scientific & Standardization Committee (SSC) as the Framework's scientific and standardization authority. Under the Methodology, the SSC reviews and approves the Global Core, standards, methodological requirements and substantive amendments.

Authority separation. The SSC exercises delegated authority within the Framework for scientific and normative review and approval. The institutional steward may refer a proposal back for reconsideration where legal, procedural or public-interest concerns arise, but shall not unilaterally alter SSC-approved normative content.

12. Integrity, adoption and next development gate

Adoption and amendment. Following adoption of this Charter, adoption or substantive amendment of the Global Core, standards, implementation profiles or Methodology, and any substantive amendment of this Charter, shall follow the published Methodology's standards-development and dynamic-revision rules, including documented consultation, consideration of material comments, competent review, conflict safeguards and publication of the decision rationale and change history.

- **Method transparency.** Publish applicable requirements, sources, evidence rules, decision logic, limitations and change history.
- **Competence and independence.** Govern assessor competence, conflicts, review responsibilities and proportionate independence for each type of claim.
- **Stakeholder legitimacy.** Protect participation, record disagreement and provide effective challenge, correction, appeal and remedy routes.
- **Recognition discipline.** Bind every assessment, benchmark profile and future recognition mark to a scope, period, method version, review status and renewal condition.
- **Improvement orientation.** Connect findings to named actions, owners, dates and effectiveness checks; reassessment must show what changed.

Charter Version 1.0 establishes the adopted foundational baseline of Framework 2.0. Framework 2.0 and downstream instruments retain their own controlled version histories. The next development gate is Methodology Version 1.0, followed by the Requirement & Mapping Registry, Evidence & Rating Layer, EU and UK profiles, bounded pilots and recognition protocols.

Selected foundation references

Reference footer. *The authoritative editions, source records, cultural references and provision-level mappings are maintained in the i5Benchmark Reference Library and Requirement & Mapping Registry.*

1. European Commission, Industry 5.0: Towards a Sustainable, Human-centric and Resilient European Industry (2021). Source
2. European Commission, Industry 5.0 and the Future of Work: Making Europe the Centre of Gravity for Future Good-quality Jobs (2023).
3. European Commission, Industry 5.0 policy and research area. Source
4. Industry 5.0 Community of Practice, Final Report; and European Commission membership register for the Industry 5.0 Community of Practice. Source
5. UK Research and Innovation / EPSRC, Framework for Responsible Innovation: AREA. Source
6. United Nations, Guiding Principles on Business and Human Rights (2011). Source
7. OECD, Guidelines for Multinational Enterprises on Responsible Business Conduct (2023). Source
8. International Labour Organization, Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy. Source
9. Relevant ISO and ISO/IEC families, including ISO 26000, ISO 14001, ISO 45001, ISO 22301, ISO 56002 and ISO/IEC 42001; editions governed in the Reference Register.
10. United Nations SDG Partnerships Platform, Industry 5.0 Benchmark — SDG Acceleration Action. Source