

Evidence Integrity for Responsible Industrial AI

Technology collaboration brief for the UNIDO AIM Global community

Who we are

GRM808–TRUST manages research-related intellectual property through a trust arrangement and supports the responsible development and potential transfer of ethical intelligence methods. Its GRM808 research portfolio explores auditable, human-centred AI-assisted decision support, with a deliberate distinction between research concepts, internal tests and independently validated capabilities.

The current priority is to work with researchers and industrial partners on bounded, falsifiable pilot questions—not to present the framework as a certified technology or a completed global AI standard.

Research portfolio

TUDOK	Experimental, model-agnostic evaluation methodology for AI output integrity: Coherence (C), Consistency (K), Contextual truth-alignment (I) and Distortion pressure (D). Designed for audit preparation and human review routing; not a truth detector.
PFOS	A research architecture for integrating multi-source risk signals with source-quality controls, uncertainty handling, traceable analysis and expert review. Water and climate-resilience applications are under pilot preparation.
CIVIS	A human-centred governance application layer exploring accountable institutional decision support, privacy, consent and audit trails. Intended as a candidate research and pilot component, not a deployed product claim.

Where we propose to collaborate

- **Industrial AI output assurance** — Test whether structured evidence and uncertainty checks improve the reviewability of AI-assisted operational summaries and recommendations.
- **Industrial data integrity** — Explore data-provenance, missingness, conflict detection and traceable assessment across multi-source information flows.
- **Industrial climate and water resilience** — Study how risk signals and expert review could support water-related operations and resilience planning, using a proposed Hungarian water-system demonstration as an initial research context.

Selected public research references

TUDOK Operator (research reference): doi.org/10.5281/zenodo.21320434

Additional ethical intelligence research: doi.org/10.5281/zenodo.20382213

Open research repository: github.com/grm808-cos/tudok-operator

From a research method to a testable industrial pilot

Proposed independent validation

A limited pilot would compare AI-assisted outputs with and without the proposed TUDOK assessment workflow under a pre-specified protocol. Industrial scenarios and benchmark materials would be agreed with the partner, with protected information handled only under suitable access and licensing terms.

- **Study design** — Pre-registered cases, fixed evaluation outputs, transparent baselines and clear exclusion criteria.
- **Evaluation** — Independent domain and AI evaluators; inter-rater agreement; false positives, missed issues, evidence adequacy and review time.
- **Decision discipline** — Documented uncertainty, escalation to human experts and retention of decision responsibility by the relevant institution.

Partnerships sought

Research institutions	Independent construct validation, reproducibility tests and critical comparison with existing assurance methods.
Industrial partners	Bounded use cases, representative non-sensitive data and co-defined operational value metrics.
AI / digital providers	Interoperability exploration, controlled evaluation workflows and explainable human-review integration.

Evidence status and boundaries

The GRM808 and TUDOK materials contain public research descriptions and internal pilot documentation. The TUDOK approach remains experimental; broader independent validation is an explicit next step. A high TUDOK calibration score does not prove that a statement is true. No certification, industrial deployment, general forecasting performance or UNIDO endorsement is claimed.

This document is a partner-introduction draft. The underlying protected runtime, internal master materials, detailed parameterisation and confidential rights documentation are not offered for open distribution.

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