ENFIELD

Policy Recommendations for Human-Centric AI

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Abstract

This Brainstorming Session highlights

1. Policy actions to make AI trustworthy, sustainable, and Human-Centric by design.

2. Current brainstormed recommendations include aligning with the EU AI Act while creating sector-specific standards, strengthening trustworthiness pillars (robustness, transparency, fairness, privacy), and promoting Green AI through incentives, PPPs, and open-source ecosystems.

3. A tentative AI R&D roadmap is proposed to support interoperable AI systems within Enfield consortium internal research projects, TIS (Third Party Innovation Scheme) and TES (Third Party Exchange Scheme).

Potential Policy Gaps: Human-Centric AI Pillar

Identified Gap

Fragmented regulations, lack of sector-specific standards.

Recommendations

- Align with **EU AI Act** while developing **sector-specific standards** (e.g., Federated Learning in energy, Digital Twins in manufacturing).
- Standardize **AI compliance requirements**, test protocols, and accountability.

IMPACT

Stronger trust and interoperability in high-risk AI sectors

Alignment with other ENFIELD Research Pillars & Industrial Domains

Robustness

- ❑ Standardize verification methods, KPIs for reliability & resilience.

Explainability/Interpretability

- ✓ Promote physics-informed & symbolic AI, with clear human-AI interaction protocols.

Transparency & Fairness

- ➢ Mandate documentation, model cards, and traceability
- ➢ Define fairness metrics in grid codes and enforce fairness audits.

Privacy

- ❖ Encourage federated learning, foundation models, and privacy engineering tools (e.g., Eclipse Models)

Investments, Incentives & Enforcement
R&D Roadmap

1. Promote HC AI adoption through: 1) Public-private partnerships (PPPs). 2) Open datasets, testbeds, and reference architectures. 3) Strengthening the **open-source AI ecosystem**

2. Introduce **human related energy efficiency & consumption labels for AI software** (carbon footprint, lifecycle energy use, efficiency). Enforce **carbon-aware & grid-aware computing** (e.g., emissions-integrated job scheduling).

3. **Short-term**: Focus on **local energy communities** to overcome data-sharing barriers
Medium-term: Support **reuse of foundation models** and modular, interoperable AI.
Long-term: Develop **autonomous, self-healing AI systems** for grid operations and cross-sector convergence (energy + mobility, energy + water)

Thank You!

Any Questions?

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