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Preview



EU Sustainability Performance Tier Classification

Contributor: Thrive

Organization: Kiron

Organization origin: Germany

Tested in: Germany

Type: Social impact

Stage: Prototype

Social use case attributes

Government and Public Services • Others

SDG alignment

Industry

SDG 1: No poverty • SDG 2: Zero Hunger •

SDG 3: Good Health and Well-being •

SDG 4: Quality Education • SDG 5: Gender Equality •

SDG 6: Clean Water and Sanitation •

SDG 7: Affordable and Clean Energy •

SDG 8: Decent Work and Economic Growth •

SDG 9: Industry, Innovation and Infrastructure •

SDG 10: Reduced Inequalities •

SDG 11: Sustainable Cities and Communities •

SDG 12: Responsible Consumption and Production •

SDG 13: Climate Action • SDG 14: Life Below Water •

SDG 15: Life on Land •

Impact

SDG 16: Peace, Justice and Strong Institutions •

SDG 17: Partnerships for the Goals

Improved Policy and Decision-Making

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♠ About

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years; machine learning models can identify meaningful patterns and distinguish

Social use case attributes



Implementation & Ethical AI



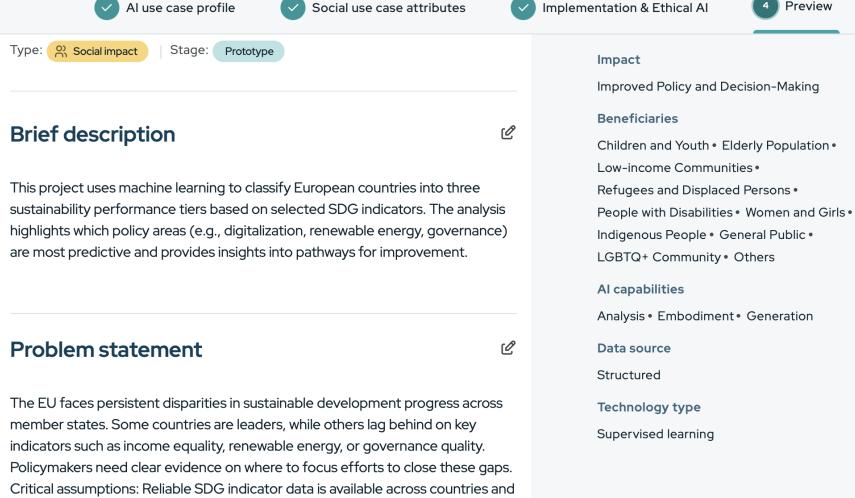


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Success metrics

Risk classification	0
Low risk	



performance levels.





Al use case profile



Social use case attributes



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Implementation & Ethical AI



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The idea or concept

We propose an Al-based classification system that groups EU countries into performance tiers and identifies the most influential drivers of sustainability. By analyzing SDG indicators with machine learning, the project generates actionable insights for targeted policy interventions and long-term planning.

Who are the users?

Primary users: EU policymakers and institutions (e.g., European Commission, national governments). Think tanks and sustainability research organizations. Civil society groups advocating for sustainable development.

Goal

The goal is to validate whether machine learning can accurately classify sustainability performance tiers (>90% accuracy achieved) and identify the top predictive features. At this stage, we are testing the feasibility and usefulness of such models for policy analysis.

Success metrics

Societal benefit in economical value • Others







Al use case profile









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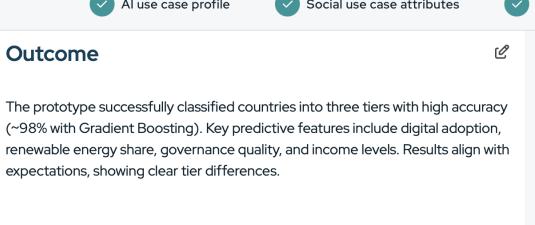
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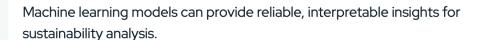








Learnings



Gradient Boosting outperformed other models (Logistic Regression, Random Forest) in accuracy and balance.

Feature importance analysis revealed consistent policy drivers across models. What could be improved: Incorporating more SDG indicators (beyond the 15 selected) and testing robustness across time horizons.

Critical milestones & next steps

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Machine learning models can provide reliable, interpretable insights for sustainability analysis.

Gradient Boosting outperformed other models (Logistic Regression, Random Forest) in accuracy and balance.

Feature importance analysis revealed consistent policy drivers across models. What could be improved: Incorporating more SDG indicators (beyond the 15 selected) and testing robustness across time horizons.

Critical milestones & next steps

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Next steps: Expand analysis to the full set of 100+ SDG indicators for richer insights. Develop a simple dashboard for policymakers to visualize country tier classification and recommendations. Collaborate with EU institutions for validation and refinement. Challenges: Ensuring continuous access to harmonized, high-quality data; translating model outputs into actionable, context-specific policies.