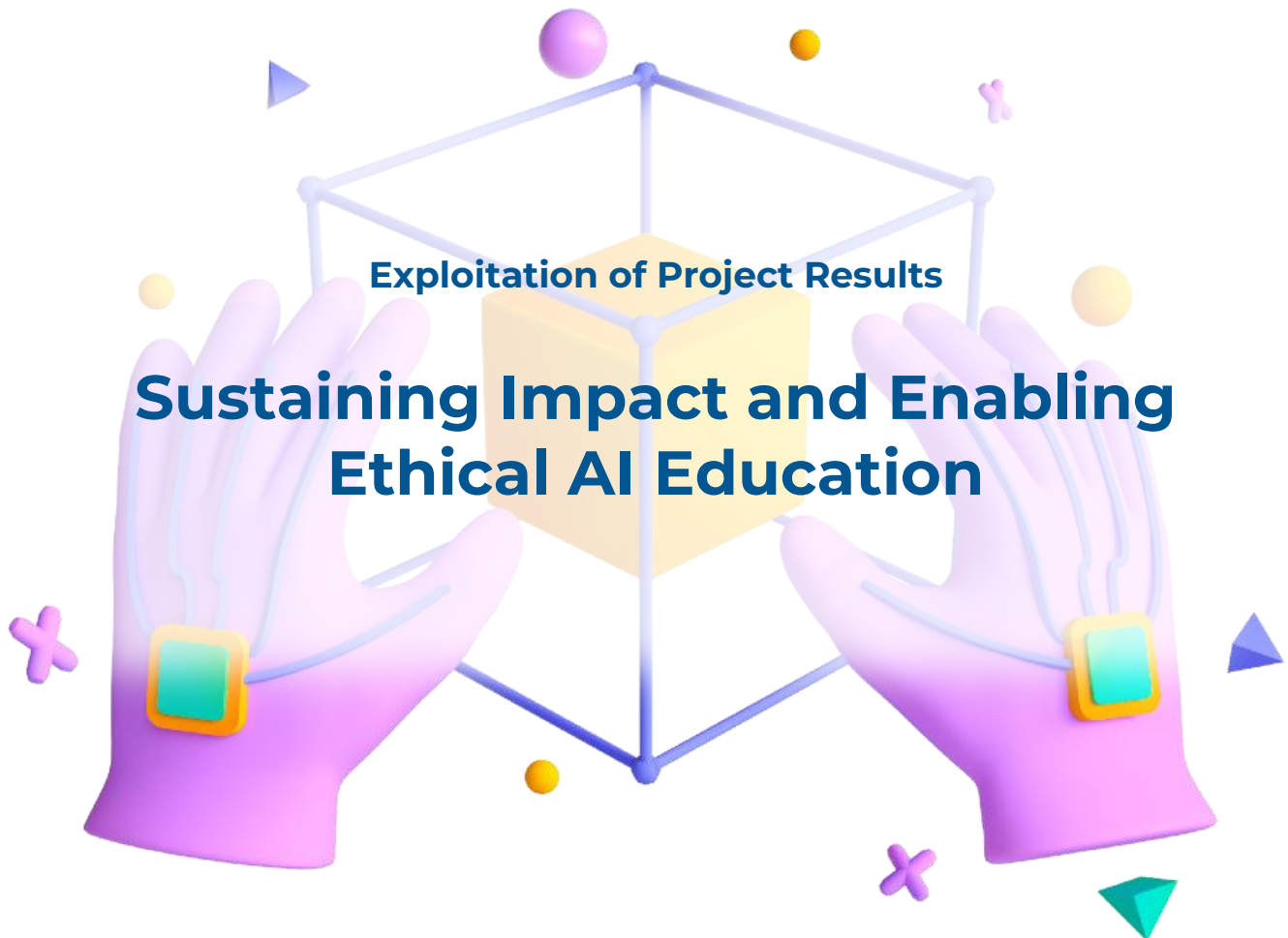




CHALLENGING BIAS IN BIG DATA USER FOR AI AND MACHINE LEARNING



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Introduction

The CHARLIE project has developed a robust ecosystem of educational resources to address the ethical dimensions of Artificial Intelligence (AI), particularly algorithmic bias. As the project reaches its conclusion, the exploitation strategy ensures the sustainability, scalability, and adoption of results across education, training, and policy landscapes. This document outlines why exploitation matters, what was developed, how results will be reused, and how systemic change can be fostered through aligned policy and educational integration.

Why Exploitation Matters

The exploitation strategy of the CHARLIE project is built around four core goals:

- Long-term use and real-world adoption: Ensuring that project results are used beyond the project lifecycle by embedding them in formal and non-formal educational systems.
- Support for diverse educational systems: Enabling Higher Education (HE), Adult Education (AE), and Youth sectors to integrate CHARLIE's open and high-quality digital learning materials.
- Systemic change: Promoting new standards in how AI ethics and algorithmic bias are understood and addressed within curricula and institutional policies.
- Stakeholder empowerment: Enabling stakeholders—including educators, training providers, NGOs, and public institutions—to adapt, localize, and reuse CHARLIE outputs in their own contexts.

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Key Resources Developed

The CHARLIE project developed a coherent suite of educational resources aligned to the European Qualifications Framework (EQF) and tailored to different audiences:

EQF Level 6: Algorithmic Bias Course & Toolkit

- Target: Higher Education institutions (BSc/MSc levels)
- Focus: Technical and ethical dimensions of algorithmic decision-making, case studies, and policy frameworks.

EQF Level 4: Ethical AI Microcredential

- Target: Adult and VET learners
- Focus: Awareness and practical understanding of AI ethics, digital citizenship, and responsible AI use.

EQF Level 2: Serious Game “Charlie’s House”

- Target: Young learners (ages 12–18)
- Focus: Introduction to AI, fairness, and inclusion through an immersive digital storytelling experience.

Supporting Materials

All main outputs are reinforced by downloadable toolkits, webinars, policy briefs, recorded learning sessions, and integration guides.

Exploitation Paths from Project Partners

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1. Formal Education Integration

- UIB (Spain): Integrates EQF6 in BSc/MSc degrees; recognizes EQF4 in admissions processes.
- AU (Denmark): Implements EQF6 in cognitive and digital programmes; uses EQF4 in “Quota 2” alternative admissions.
- VAMK (Finland): Combines EQF4 and EQF6 in ICT and business courses; aligns outputs with Finland’s Digivisio 2030 strategy.

2. Lifelong Learning and Adult Education

- ITC (Spain): Offers CPD using EQF4 and EQF6 for teachers, social workers, and professionals.
- Helix (EU): Promotes results through webinars, international CPD sessions, and cross-border capacity building.
- ISQe (Portugal): Delivers SCORM-based short digital courses and integrates the EQF4 microcredential in CETs (Cursos de Especialização Tecnológica).

Exploitation for External Organisations

CHARLIE's resources are intentionally designed for broad reuse beyond the consortium, including by:

- Educational institutions (HEIs, schools, VET providers)
- Libraries and NGOs
- Civic education and youth organisations
- Teacher training centres

3. Ready-to-Use Features

- SCORM-compliant and multilingual
- Downloadable under open license (Creative Commons)
- Demo versions in HTML hosted on the project website
- Easily integrated into Moodle or institutional LMS platforms

4. Use Cases

- National and regional digital competence programmes
- Youth clubs and civic education initiatives
- Teacher training, upskilling, and inclusion strategies

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Sustainability Measures

To ensure long-term access and relevance of project outputs, the CHARLIE consortium has implemented the following sustainability actions:

- Project Website Maintenance: Guaranteed access until at least 2028.
- Open Licensing: All materials are available in SCORM, PDF, MP4, and PPT formats.
- Demo/Test Navigation: HTML versions allow previewing without installation barriers.
- Institutional Uptake Plans: All core partners committed to continued integration of CHARLIE content.
- Promotion Activities: Resources will continue to be featured in webinars, academic conferences, national training programmes, and public education campaigns.

Policy Alignment & Systemic Impact

CHARLIE is strategically aligned with major EU frameworks and policy directions:

- AI Act – Contributes to trustworthy, transparent AI development.
- Digital Education Action Plan 2021–2027 – Advances AI literacy and digital competence.
- EQF, DigComp, GreenComp, LifeComp – Ensures compatibility with EU-recognised competence frameworks.
- Inclusion, accessibility, and gender sensitivity – Embedded across all learning materials.
- Interoperability – CHARLIE resources support smooth adoption across HE, AE, and Youth education systems.

5. Systemic Contributions

- Scalable and modular learning architecture for AI ethics education
- Open-access models for widespread institutional and non-institutional use
- Cross-border partnerships supporting harmonisation of digital ethics training in Europe
- Contributions to critical thinking, ethical awareness, and inclusive digital futures

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Conclusion

The CHARLIE project has laid the groundwork for a transformative approach to AI ethics education, focusing on inclusion, awareness, and real-world applicability. Through its open-access, SCORM-based resources; multi-sectoral integration paths; and policy-aligned frameworks, CHARLIE ensures that its impact will continue well beyond the project's end. The commitment of its partners and the adaptability of its outputs create strong conditions for sustainable, systemic change in how Europe educates future generations about the ethical implications of AI.