Belgium
Spain

Topic:
Innovation

Achievement:
Cross- Sectoral
Pioneers Sustainable
Practices Greening
Practices Innovative
Practices

Sector:
All CCS and Cross-sectoral Design & Fashion

From Pixels to Patches: When AI supports sustainable making

By treating AI as a collaborative tool rather than a competitive threat, two artists, a digital innovator from rural Galicia and a Belgian textile upcycler, developed a methodology that empowers artists to control their creative process, minimise waste, and reimagine sustainable design.

Challenge

Many discussions around artificial intelligence in the creative sector focus on fear or hype rather than practical use. At the same time, most AI tools are proprietary, commercially driven, and difficult for small-scale creatives to access. The challenge was to explore how artists could take control of AI as a tool within their own creative process while maintaining authorship and supporting sustainable making.

Solution

Through a five-day cross-sectoral residency, a digital innovator from Rural Hackers, Ignacio Márquez, and a Belgian textile artist, Lotte Van Ermengem, experimented with AI as a creative companion. By training AI on the artist's visual language and using digital prototyping on second-hand garments, they explored designs before physical production, reducing waste while keeping artistic control over aesthetic and creative decisions.

Impact

The project demonstrated that AI can support creative experimentation while strengthening artistic authorship. By enabling digital prototyping, it reduced material waste and encouraged more intentional design decisions in upcycling practices. Beyond textile art, the methodology showed potential for broader adoption across creative disciplines, positioning AI as a collaborative tool that can support sustainable innovation in the cultural and creative sectors.

Milestones & Learnings

AI was trained using the artist's own drawings and visual patterns to generate stylistically coherent variations.
Digital prototyping allowed sketches to be applied to second-hand garments before physical transformation.
A physical upcycled sweater was produced from AI-generated design suggestions.
The project developed a transferable methodology for artists to explore ideas digitally before using materials.
Both collaborators gained new skills in AI training, dataset preparation, and creative digital workflows.

Key Takeaways

- AI can act as a creative companion, not a replacement for artists.
- Digital prototyping enables experimentation with reduced material waste.
- Artist-centred, accessible AI tools are essential for sustainable practices.
- Rural contexts can function as strong incubators for creative technology.

Learn more about Lotte Van Ermengem and Atelier Luuu here.
Learn more about Ignacio Márquez and Rural Hackers here.