POLITECNICO DI MILANO

PhD in DESIGN - 41st cycle

THEMATIC Research Field: AI FOR PUBLIC SECTOR INNOVATION

Monthly net income of PhDscholarship (max 36 months)
1300.0 In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity	
Motivation and objectives of the research in this field	Recent years have seen increasing momentum across Europe to explore how AI can be appropriately integrated into public sector innovation. AI offers new ways to redesign internal procedures, enhance citizen engagement and participation, and improve the delivery, up to personalisation of public services. However, its application raises deep questions about trustworthiness, social equity, democratic accountability, sustainability, and the responsible use of public resources. The European Commission has emphasised the need for human-centric, trustworthy, and sustainable AI, particularly within public sector contexts. Public administrations are facing significant pressure to modernize while ensuring that such transformation aligns with European values—such as inclusion, transparency, and environmental responsibility. Within this landscape, the JRC supports evidence-informed policymaking and anticipatory governance models, while POLIMI's design research promotes user-centered, systemic, and socially responsive approaches to innovation. This PhD research takes place at the intersection of these agendas. It investigates how AI systems can be designed and deployed in public sector contexts in ways that are appropriate (legitimate, inclusive, aligned with democratic norms) and proportionate (sensitive to context, impact, and scale). The project will explore models of stakeholder engagement, responsible experimentation, and the sustainability of AI in real-world service design and policy-making mechanisms.

	There is urgent need to understand how AI can support the transformation of government without undermining its foundational values. While AI can improve operational efficiency and enable more tailored, predictive services, its deployment in public institutions remains highly sensitive. Cases of algorithmic bias, lack of transparency, and exclusion have undermined trust, highlighting the risks of AI when adopted without careful deliberation. This research aims to contribute actionable knowledge about how public administrations can adopt AI technologies in ways that are democratic, inclusive, and sustainable. It seeks to identify scalable yet context-sensitive approaches to AI adoption that account for citizen expectations, ethical dilemmas, procurement challenges, and environmental impacts. Central research questions include: How can public services adapt to varying community needs while maintaining fairness? What governance models are needed to ensure trust and accountability in AI-enabled services? And how can experimentation with AI tools be responsibly scaled? The overarching objective is to co-develop principles, frameworks, and practical design strategies that can guide European governments in navigating the opportunities and limits of AI-driven public sector innovation.
Methods and techniques that will be developed and used to carry out the research	The research should explore a mixed-method and iterative design approach, combining theoretical investigation with direct experimentation.Key methods may include the following, either in their entirety or selectively, depending on the research focus: • Systematic literature review to map ongoing debates, policy frameworks, and implementation barriers in AI-driven public innovation. • Case study analysis of relevant AI use cases across European public administrations (e.g., decision support systems, citizen feedback analytics, digital twins). • Scoping interviews with policymakers, designers, technologists, and civil society actors to identify stakeholder needs, values, and concerns. • Action research involving co-creation and co-design

	with partner public bodies to examine AI adoption processes in the real context. • Participatory evaluation techniques to assess inclusiveness, fairness, and sustainability impacts of proposed solutions. • Scenario building and speculative design may also be used to explore future pathways for AI use under different regulatory and societal conditions.
Educational objectives	This project is designed to support the development of advanced competencies in the design and governance of digital innovation in the public sector, with a focus on responsible and sustainable AI. Educational objectives include: • Developing a critical understanding of the socio-technical dynamics of AI, especially in relation to public values such as transparency, fairness, and sustainability. • Strengthening methodological expertise in design research—particularly in applying co-creation, participatory design, and speculative methods—while integrating these with complementary approaches such as case study analysis, action research, and eventually ethnographic research in governance settings. • Building analytical skills in evaluating public sector needs for socio-technical innovation using qualitative and mixed methods. • Strengthening interdisciplinary communication and project management skills through collaborative research with public sector partners and EU institutions. • Exploring the intersection of digital technologies and decision-making processes, with an emphasis on how AI can support deliberative democracy, civic participation, and more accountable, inclusive public governance. • Enhancing stakeholder engagement, particularly in facilitating dialogue among diverse actors such as public officials, citizens, civil society organizations, and technology providers throughout the design and

	evaluation of AI-enabled services. • Strengthening interdisciplinary project management competencies through collaborative research with public sector partners and European institutions. • Enhancing policy literacy, with a focus on European regulatory frameworks and strategic agendas related to digital transformation, AI ethics, public procurement, and innovation in governance.
Job opportunities	Graduates from this PhD programme will be well equipped for interdisciplinary careers at the intersection of design, public governance, digital transformation, and responsible AI. The training will provide a robust foundation in both conceptual frameworks and applied methodologies, enabling diverse professional opportunities across academia, policy, and practice. Potential career paths include: • Academic research and teaching in design, digital governance, public administration, or human-computer interaction, especially within universities and research centers focused on responsible innovation. • Strategic design and foresight roles in public innovation labs, civic tech organizations, or non-governmental organizations that focus on participatory governance, democratic experimentation, stakeholder engagement, and the design of inclusive digital services. • Policy analysis and advisory positions in European and national institutions working on digital transformation and public sector innovation, such as the European Commission, the OECD, or national digital and AI agencies, with a focus on AI governance, ethical frameworks, and public value creation. • Consultancy and design research positions in innovation consultancies, design studios, or policy think tanks that support public sector transformation through AI, data-driven services, and human-centred approaches to emerging technologies. • Project management and leadership roles in local,

	regional, or international public sector bodies implementing AI-enabled services, responsible data infrastructures, and citizen participation strategies. • Cross-sector innovation roles in multi-stakeholder consortia, EU-funded research projects, or philanthropic initiatives that aim to advance trustworthy AI, deliberative platforms, or anticipatory public governance.
Composition of the research group	2 Full Professors 4 Associated Professors 1 Assistant Professors 5 PhD Students
Name of the research directors	Alessandro Deserti, Ilaria Mariani,Francesca Rizzo

Contacts
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Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents	--

Scholarship Increase for a period abroad	
Amount monthly	650.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
Educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences): financial aid per PhD student **5.300,25 euros per student (total for 3 years)** Teaching assistantship:availability of funding in recognition of supporting teaching activities by the PhD student: there are various forms of financial aid both for research and teaching activities. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations. Computer availability (1st year, 2nd year and 3rd year): Each research group may supply phd student with a laptop/desktop PC, if necessary. Desk availability (1st year, 2nd year and 3rd year): Each research group may supply phd student with a desk.