

Reaching for the stars: R&I Moonshots for a competitive and resilient society

Introduction

As the EU defines its vision through the Multiannual Financial Framework (MFF), and the role of research and innovation (R&I) to ensure Europe's competitiveness, it is essential that its ambitions focus front and centre on the needs of our societies. Europe's competitiveness, sustainability, and democratic vitality do not hinge on technological advancement alone; these depend equally on our ability to develop a path towards societal progress by better understanding behaviours, values, cultures, institutions and histories at a time of deep transformation. Effective commercial, policy and governance innovations must rest on research-based understandings of what underpins European society.

If the EU wants to articulate an exciting vision for future progress through R&I, it cannot reduce this to moonshots that seek to achieve technological and scientific transformation only. Europe will also need R&I ambitions that reach deep into society, to ensure technological progress is aligned with societal welfare. The success of European R&I will crucially depend on our ability to design and implement R&I agendas that mobilise people, institutions, and communities to collaborate, adapt and transform innovation into societal value.

Building on this vision, The Guild proposes four societal moonshots, each aligned with a policy window proposed for the European Competitiveness Fund and the next Horizon Europe programme (FP10). Each moonshot articulates a major interdisciplinary research challenge in itself and provides a deeper socio-cultural embedding of more technologically driven R&I projects in their respective policy windows.

Moonshots

1. Ethical Global Leadership for Climate Resilience and Competitive Economies

➤ Policy window: Clean Transition and Industrial Decarbonisation

What: Europe's success in addressing the climate crisis is critical for its competitiveness¹. Its ambitions provide a unique opportunity to offer global leadership and ethical economic partnership to the vast majority of countries worldwide that recognise the urgency of the crisis.

Why: Public and political support in Europe for addressing climate change is waning fast as the EU Green Deal is increasingly pinned against industrial competitiveness. And yet, the urgency of the climate crisis is increasing: the past two years have already breached the Paris Agreement's target²

¹ The Draghi Report: European Commission: European Political Strategy Centre. (2025). *The future of European competitiveness. Part A, A competitiveness strategy for Europe*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2872/9356120>

² United Nations Environment Programme (2025). *Emissions Gap Report 2025: Off Target - Continued Collective inaction puts Global Temperature Goal at Risk*. <https://wedocs.unep.org/20.500.11822/48854>

to limit global warming to a 1.5% increase relative to pre-industrial levels, leading to hunger, displacement and biodiversity loss.

How: To address the climate and nature crisis, we need to harness research on biodiversity loss, materials, energy consumption and production, food and water systems, and the governance of resources, and relate this work to research on mitigating climate change, biodiversity loss, and the transgression of planetary boundaries³. Moreover, this moonshot will harness the power of social sciences and humanities to connect technological innovation with deep insights into societal behaviours and evolving cultural norms through holistic and macro-level perspectives. It will critically examine the technologically driven historical transformation of socio-economic systems, focusing on periods of disruption and rapid change. This will provide critical depth to contemporary innovation systems, by integrating insights from science and technology as well as sustainability transition studies with political economy and ethical reflection. Crucially, the moonshot will also translate systemic analysis into actionable policy, exploring how socio-political frameworks can foster systems thinking and manage disruptive transitions responsibly. In addition, this moonshot will bring together researchers, innovators, policymakers, industry, civil society, and actors in Lower and Middle-Income Countries (LMIC) where appropriate, to strengthen Europe's global partnerships in addressing the climate crisis.

2. Building Equitable Healthcare for All

➤ **Policy window: Health, Biotech, Agriculture and Bioeconomy**

What: Europe's position as a global leader in health must be secured through a reinvigorated and realigned healthcare system. In the face of mounting pressures of cost and demand, national healthcare systems must become sustainable, able to provide high quality, equitable health services for all through a holistic approach towards prevention, diagnostics, treatment and care.

Why: Europe's national healthcare systems are under acute stress⁴. Healthcare costs are increasing, putting pressure on welfare systems and healthcare coverage. The challenge to continue ensuring equitable access to state-of-the-art healthcare in turn reconfigures the market for innovative healthcare products, leading to increasing misalignments between developments in medical research, spiralling costs, the innovation system, and the systems for healthcare provision and reimbursement. Without decisive action, these gaps will widen, undermining both public health and Europe's global competitiveness.

How: Governance innovation should be advanced through research that focuses on understanding and systematically redesigning the interfaces between healthcare delivery, the innovation system, the pharmaceutical and medical technology markets, and regulatory science. The reconfiguration of the crucial interface between research and healthcare delivery and services will need to include more patient- and needs-led prioritisations and approaches as well as new ways to valorise practitioner and patient-co-led innovation and research that is at times undertaken for non-commercial purposes. This includes research and innovation relating to appropriate, trustworthy

³ Breton et al. (2025). *Universities in the face of the climate and nature crises: Redoubling our commitment to a sustainable future* (The Guild Insight Paper No. 6). The Guild of European Research-Intensive Universities and Bern Open Publishing. DOI: <https://doi.org/10.48620/86536>

⁴ OECD/European Commission, (2024) *Health at a Glance: Europe 2024: State of Health in the EU Cycle*, OECD Publishing, Paris, <https://doi.org/10.1787/b3704e14-en>

and ethical uses of AI innovations, as well as participatory and culturally sensitive interventions to meet the healthcare needs of an increasingly diverse, and ageing, population. Since the spread of diseases are geographically agnostic, this moonshot must reach out to researchers and practitioners in partner countries and systems in LMIC, not least to improve the global effectiveness of new therapeutics and drug discoveries, benefiting Europe and its partners in equal measure. This moonshot will require forging new research collaborations across public health, medical humanities and behavioural sciences, and close collaborations with industry (including pharmaceutical providers), innovators, start-ups and patient groups.

3. Digital Literacy for All

➤ Policy window: Digital leadership

What: Europeans must become frontrunners in digital literacy, enabling them to take up and use digital tools that improve their opportunities and wellbeing, while having the capacity to reject those that are malign.

Why: Without digital literacy for all, Europe cannot achieve strategic autonomy in digital technologies. A large number of Europeans are digitally illiterate⁵, compounding unacceptable levels of functional illiteracy, even in countries with well-performing educational systems. If left unaddressed this could exacerbate problems that are already apparent from functional illiteracy, including mental and physical health, social exclusion, and marginalisation. More broadly, large numbers of citizens remain concerned about the risks of digital technologies, including AI⁶, with public concerns about digitalisation already correlating to education and social status⁷. It will be critical that Europe's populations can fully embrace the breakthrough digital technologies envisaged by European leaders, in this way also sustaining our democracies by ensuring that nobody is left behind by Europe's digital transformation.

How: This moonshot will address a wider range of disciplines, from neurosciences to sociology and educational sciences, examining cognitive diversity, how digital tools can be used by people with low literacy levels, and understanding the complexities of social networks for the successful implementation of digital tools. This moonshot will advance cutting-edge research on how digital and AI literacy should empower and assist citizens, strengthening human creativity and critical thought, and overcoming misuse and malign impact. It will mobilise relevant institutions, educators (from the primary to the tertiary education sector, including lifelong learning), policymakers, civil society and industry to ensure all citizens can benefit and engage with digital transformation.

⁵ European Commission, Eurostat (2023). *Digital literacy in the EU: An overview*. Retrieved November 20, 2025, from <https://data.europa.eu/en/publications/datastories/digital-literacy-eu-overview>

⁶ European Commission: Directorate-General for Employment, Social Affairs and Inclusion. (2025). *Artificial intelligence and the future of work: Eurobarometer report*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2767/8591026>.

⁷ McDonnell, A., Verdin, R., & O'Reilly, J. (2022). EUROSHIP Working Paper No. 12: *EU Citizens' attitudes to digitalisation and the use of digital public services: Evidence from Eurobarometers and eGovernment Benchmark* (Version 2). figshare. <https://doi.org/10.6084/m9.figshare.19188227.v2>; YouGov. (2025, October 20). *European Political Monthly: Where do Europeans stand on artificial intelligence?* YouGov. Retrieved November 19, 2025, from <https://yougov.co.uk/international/articles/53210-european-political-monthly-where-do-europeans-stand-on-artificial-intelligence>

4. Demographics, Cultures, Labour Markets: Responsibly managing the changing face(s) of Europe

➤ **Policy window: Resilience and Security, Defence industry and Space**

What: Reinforce Europe's leadership in providing sustainable welfare systems, cultural cohesion and economic resilience, based on strengthened intersocietal and intergenerational trust. This moonshot will meet the urgent need for Europe to sustain the welfare of its ageing societies while ensuring its populations can embrace rapidly changing labour markets.

Why: According to Eurostat⁸, without any immigration, Europe's population is set to decline by a third by 2100, with (for instance) Germany's population declining from 84m to 53m, Italy's from 50m to 28m, and Spain from 45m to 24m. Even with immigration stabilising according to current trends, Europe's population is set to shrink by 6% by 2100. Demographic shifts threaten the foundations of Europe's consensus-driven social model, its cultural diversity and cohesion, its tax base, the vitality of its economies, and ultimately the Single Market.

How: This moonshot will bring together economists, sociologists, media and communication researchers, statisticians and humanists not just to articulate the nature and impact of population and information flows. It will also stimulate effective action based on societal trust, understanding and consensus.

This moonshot will produce new insight into how trust and solidarity can be strengthened across communities and polities in the face of demographic and economic change. It will design strategies to sustain welfare systems and economic productivity in ageing societies by rethinking intergenerational solidarity, lifelong learning, and adaptive labour markets. This moonshot will thus have a principal goal of societal and political impact, working with policymakers as well as non-governmental agencies to articulate new strategies of cultural, economic and social integration. It will also collaborate with media, social platforms, and opinion leaders to reshape public discourse on migration, ageing, trust, cultural change, and workforce transformation in their diverse national and regional contexts.

⁸ Clark, A. (2025, February 18). Europe's population crisis: see how your country compares – visualised. *The Guardian*. Retrieved November 19, 2025, from <https://www.theguardian.com/world/ng-interactive/2025/feb/18/europes-population-crisis-see-how-your-country-compares-visualised>