

Applying an intergenerational mindset to European technology investments

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Executive summary

Europe remains in permacrisis, accelerated by Russia's invasion. In addition, the EU has to manage fundamental transitions, including climate change and the technological revolution. The rising cost-of-living will fuel a 'winter of discontent', where necessary policy responses carry painful trade-offs that have the potential to destabilise Europe.

Not making the right decisions now implies bequeathing a world to next generations where Europe will be painfully constrained. But we can and should not give up. A starting point should be to apply **an intergenerational mindset** to our policy considerations: how will our reactions to today's severe challenges affect future generations? This has to go beyond rhetoric and be pervasive in all policies. But this inevitably entails bearing costs now to protect future generations from negative outcomes, for example through investment in hard security.

But 'only' protecting our citizens from future threat does not necessarily generate hope, which is necessary to bring citizens on board. A positive signal for the

future would be to invest in Europe's human and intellectual capital, which is instrumental to meeting our common societal challenges, transformations and crises. To ensure that technology delivers societal benefits, there will be a need to have access to and control over new technologies, with societal equity stakes ensuring that these 'public goods' are, at least in part, in common ownership. This should be at the heart of the new **European Sovereignty Fund** announced by Commission President Ursula von der Leyen in the State of the Union speech 2022, coupled with a concerted effort to create a better environment for private investment by fully harnessing the power of the Single Market and by completing the Capital Markets Union.

By applying an intergenerational mindset in the area of technology investment, the EU can start the process of building technological wealth for the future for all of society, helping to tackle Europe's fundamental societal challenges. It will offer hope for the future, ensuring that the EU can provide peace, prosperity, sustainability for current and, more importantly, future generations.

From permacrisis to the watershed

Russia's invasion was a watershed moment¹, accelerating the permacrisis² we have been experiencing for the last 15 years. The upcoming 'winter of discontent', with an ongoing war in Ukraine, high inflation, increasing fiscal pressures (carrying the risk of a financial crisis and recession or even depression) will be fuelled by the rising cost of living, which will be felt directly by ever more households struggling to pay for the food and energy they need.

The challenge facing Europe is enormous, not only in the short term but even more so when it comes to the

long-term structural and systemic decisions the EU has to take, which cut across many if not all policy areas.³ These decisions are necessitated by both 'internal' (to the EU) and 'external' forces (the international environment) where the established direction of travel (e.g. related to international relations, and security across the spectrum of well-being, food, energy and defence) has been turned on its head. New responses carry painful trade-offs that have the potential to destabilise European societies and politics.

The cost of failure and hope over fear

While governments and the EU will do what they can to shield citizens from these effects, there has to be a degree of realism in what can be done. Our leadership must thus be more honest about what we will need to live through, helping Europeans realise that this is a war that is not only aimed at Ukraine but at liberal democracy. If Europe is unable to endure the pain that Russia is still able to inflict, and if the EU and the member states do not stay the course by working hand-in-hand with national governments, underpinned by citizens' support, we will collectively lose the ability to defend our interests and the values that underpin our lives. The long-term consequence of such a loss of control is that the world we are bequeathing to the next generations will be one that will be painfully constrained politically, economically, and socially. This implies that our leverage and determination to prevent the apocalyptic scenario of irreversible and catastrophic climate change also will diminish.

But this is not the moment for defeatism – we can and should not give up. Rather, it is the moment to resist and fight back, through unwavering support for Ukraine, through the decoupling from Russian energy, through

the build-up of our defences and resilience. As Herman Van Rompuy has often reminded us people need hope, especially in trying circumstances, and we must turn fear into hope.⁴ In the current circumstances, fear is more justified than ever, and its long-term impacts will have political consequences – unless we address it head on.

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An intergenerational mindset

A starting point is a change in mindset. Our policy responses, be it at EU or at national level, are shaped by immediate problems, concerns and challenges and by short electoral cycles. In short, we do not take into account the risks that we are bequeathing to the next generations, or the opportunities that lie in the future. The long-term horizon, which is much more appropriate in a world of persistent systemic challenges, is mostly neglected. This has long been the case in the area of climate change and environmental degradation, but we are also seeing this very clearly now in areas such as

economic resilience and energy security, or the response to COVID-19, and the long-term approach to pandemics, health inequalities, and well-being. These long-term challenges are structural in nature, with their effect accumulating over time, not unlike the snowball that causes an avalanche.

This makes these challenges increasingly difficult to handle, and thus, a future correction is much more difficult (if not impossible) than dealing with the issue now.

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We should start to apply an intergenerational mindset to our policy considerations: how will our reactions to today's severe challenges affect future generations? We have to stop the discounting of future negative outcomes. The crisis mentality has reinforced the EU's systemic focus on current spending rather than planning long-term future investments. This implies a step-change in building capacity and collective appetite to work together to meet future challenges. This inevitably entails bearing costs now, for example, through investment in hard security. An intergenerational mindset will require a different approach across all policy areas and at all levels, such as deciding how to connect skills, training, and education policies at the member state level with European priorities. Thus, providing a revitalised purpose for education in a new global context, and equipping EU citizens with agency to become drivers for a better future. It should be the guiding thought underlying EU strategic

Hope for a better future

But 'only' protecting our citizens from future threats does not necessarily generate hope. The danger is that this is an agenda that proves impossible to 'sell' to many citizens, unless they can believe that there is a positive future for themselves, but even more importantly, for the next generations. This is difficult where ageing electorates drive policy priorities and the actions we should be taking today are not only costly, but also carry a high degree of uneven distributional consequences, within and between countries. This could further cement, rather than address, the EU's worrying trends of fragmentation and divides.⁵ The EU needs a new push for solidarity, with a focus on the well-being economy, not least in the context of an uncertain future.

So how do we address the need to create hope, for the day after tomorrow, meeting the intergenerational challenge in a positive and appealing way? There is no single or simple answer, and it will require action by decision-makers at all levels. But a clear signal for the future would be an unwavering focus on technology and education, increasing Europe's human and intellectual capital. This investment is at the heart of meeting the

planning, including in the assessment of potential responses to the cost-of-living and energy crisis and in the readjustment of EU policies and spending, given that it should be pervasive in all policies, including industrial and energy policy, cohesion policy and economic governance.

We should apply an intergenerational mindset to our policy considerations: how will our reactions to today's severe challenges affect future generations?

Applying an intergenerational mindset has to go beyond rhetoric. It requires setting up new structures and mechanisms, for example, by reforming and upgrading strategic foresight, and integrating them much better into existing decision-making mechanisms. It requires real commitment and resources. However, this is not impossible to achieve: the logic behind NextGenerationEU already goes in this direction. Such an EU political shift to focusing on future challenges might even be politically beneficial, removing some ammunition from populists who claim that their main anxiety is that the world their children will live in will be much worse than their own experience.

societal challenges, transformations and crises we are facing: whether in climate change and environment, in security and cybersecurity, in economic growth and global competitiveness, in maintaining Europe's global standard-setting power, in meeting the needs of ageing societies and global pandemics, in strengthening healthcare systems, in creating economic resilience and energy security.

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Technology will be vital to address societal challenges, not only with regard to the challenges the EU faces but also on a global level. Without such technological progress, it will be impossible to achieve the goals embodied in the Sustainable Development Goals (SDGs). Perhaps, more importantly, will be the demonstration effect: if Europe can show that, through technology and education, addressing societal challenges such as climate change, inequality, pandemics and security can be complementary to economic growth and competitiveness rather than a trade-off, it will serve as a powerful beacon for the rest of the world.

To ensure that technology delivers societal benefits, there will be a need to have access to and control over new technologies, with societal equity stakes ensuring that these 'public goods', common solutions to societal challenges that benefit all, are, at least in part, in common ownership. People will also need to produce and utilise them within the Union, providing an impetus to rethink and reinvest in education and training for all groups in society. This follows a public/social investment logic, which will provide greater long-term returns for society as a whole than what is required to invest upfront.

This focus and investment were needed before Russia's war of aggression, and they are needed even more so now. But it remains to be seen whether the EU (the institutions and the member states) can step up to the plate with a collective response, putting in place the policies, systems and structures to address this systemic challenge. Technology/digitalisation has been a priority of EU policymaking for a long time, recalling, for example, the Lisbon Strategy of 2000, which aimed to make the EU the most competitive and dynamic knowledge-based economy in the world. More recently, the Recovery and Resilience Facility earmarked substantive investments in technology.

While this prioritisation is a step in the right direction, the inherent promises have not always been delivered. At times, the focus has been on allowing member states to pursue this investment but not necessarily on a common, EU-wide strategic approach.⁶ This is not to say that nothing is happening at the EU level. For instance, there is a stronger emphasis on technological progress and delivering common societal missions (drawing inspiration from the Mission Economy in the Horizon programme).⁷ There is now a more pro-active industrial policy, including the Important Projects of Common European

Interest (IPCEIs), as well as the European Innovation Council (EIC), which aims to support the commercialisation of high-risk, high-impact technologies in the EU.

While this is positive, it does not change the fundamental challenge: we continue to be too fragmented and we often tinker at the edges rather than tackling the issues decisively. We still have not recognised the enormous scale and scope of the challenge we are facing. Only by addressing the societal challenges can we stand up to Russia's aggression and similar future challenges. For example, by investing in technology that saves energy and reduces dependence on fossil fuels, we can also improve our energy security. Similarly, by being at the forefront of emerging technologies, can we provide an effective, Europe-controlled cyber defence or a European Health Data Space.

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But the reality is that the EU has been falling behind in many of the transversal technologies, which will be the underlying drivers and determinators of our future world. Other parts of the world have taken a more strategic view of what technologies are needed, and as a result the EU is in danger of, or already, falling behind even in areas where we had a competitive advantage in the past, such as advanced manufacturing and telecommunications. A recent report by McKinsey Global Institute diagnoses a 'slow-motion competitiveness crisis that has quietly been unfolding for two decades, centred on its [Europe] corporate and technology gap with other major regions.'⁸ A systemic response is needed that challenges institutional culture and risk-taking in the EU to ensure that Europe can create Deep-Tech Giants⁹ that will enable it to become a full and determining part of the technological revolution we are living through.

A new momentum for European innovation

In part, this is down to Europe's perception of risk when it comes to new technologies, within the institutions and national civil services, often aggravated by different national attitudes to specific technologies that often leads to the most cautious response becoming the European baseline. Very often, it seems that the focus is on slowing down the use of new technologies, often with reference to the precautionary principle. Undeniably,

there are risks and the precautionary principle is an important test when it comes to potential effects on, for example, human health. However, what is not taken into account sufficiently is the risk of not having access or control over these technologies, reducing the EU's ability to foresee and deal with our common societal challenges. In our consideration of technology, both upside and downside risks need to be considered.

The public sector will also need to get used to a more commercial, even entrepreneurial, approach, accepting that many investments will fail but that it is worth it for those that succeed. The focus will need to be on technological progress that can make a real impact on competitiveness.

The public sector will also need to get used to a more commercial, even entrepreneurial, approach, accepting that many investments will fail but that it is worth it for those that succeed. The focus will need to be on technological progress that can make a real impact on competitiveness, for example, continuing to support businesses by funding common technological infrastructure. This will require building capacity and incentive mechanisms, changing culture and redefining

A role for Europe

Working together at the European level avoids duplication of effort and ensures that there is sufficient funding to provide a critical mass for investments. It can also help to overcome the uneven playing field in terms of relative 'health' of investment environments across the EU, avoiding further the technological investment divide that is already present. Public investment can also help to bridge the financing difficulties that will arise for companies, given the effect the economic downturn will have on banks and the level of bad debt they will hold. This is particularly important in areas such as the venture capital market, where the departure of the UK has further impacted on availability of investment funding.

Clearly, public investment, even if coupled with private funds, is not the whole answer. There also needs to be a concerted effort to create a better environment for private investment in innovation. This requires coordinated policy action to accompany these investments, including large-scale regulatory sandboxes. It also necessitates opening up the critical infrastructure for use across the EU (open innovation). Without this, technological sovereignty would be impossible. The EU must be the key player in this, in particular when the focus is on technological investment and Single Market policies, rather than education and skills where the member state level has almost all necessary levers. In addition to enabling commercial/public partnerships and ensuring that they do not distort the Single Market, the EU can create the right framework conditions, most importantly by fully harnessing the power of the Single Market and by completing the Capital Markets Union. It is not a question of deregulation but

purpose at the EU and even more importantly at the national level. EU funding and mechanisms needs to support such a reform agenda. Explaining a risk-taking approach to the public will be difficult, not least in the context of increased borrowing and great pressure on public spending. There will need to be a clear message that this is not only a way to ensure a positive future for next generations by addressing Europe's fundamental challenges, but it follows an investment logic – the returns will be higher in the long run than the money that needs to be invested now.

Investing this money will require further close cooperation with the private sector, including entering into strategic partnerships that share common objectives and returns from any investment. To ensure that sufficient investments take place public investment must leverage private investment, attracted by the ability of the public sector to cushion risks. This mechanism will be similar to InvestEU which builds on the European Fund for Strategic Investments (EFSI) for infrastructure, ensuring greater risk-bearing capacity in public investment, incentivising investment in projects with a higher risk profile than usual.

rather one of setting the right regulatory and standard-setting framework that incentivises private companies while managing excessive risks.

There also needs to be a concerted effort to create a better environment for private investment in innovation. This requires coordinated policy action to accompany these investments.

Achieving a change in mindset will be even more difficult. But, here, again the EU can play an important role. By pioneering joint working and by demonstrating a different approach, the intergenerational mindset, in its activities and legislative proposals, the EU can act as a trailblazer. Focusing on implementing more principles that underlie a better policy-making approach would be a good starting point.

But the EU can also be the core funder of such a scheme, underpinned by future generation bonds, coupled with EU-wide borrowing as pioneered in the RRF. A crucial difference would, however, be that this money will be

raised to carry out joint technological investments in line with Commissioner Thierry Breton's call for an industry 'Made in Europe' overcoming national fiscal constraints.¹⁰ Rather than having the national implementation as seen in the RRF, it would build up a technological wealth fund at EU level, based on technology investment in the Union. Investments at EU level rather than at national level would draw on deeper capital markets, much higher volumes of investments and would spread risk more effectively. This should be at the heart of the new European Sovereignty Fund announced by Commission President von der Leyen in the State of the Union 2022. This could form part of a permanent fiscal capacity to address Europe's triple challenge of solidarity, investment and economic security.¹¹

An intergenerational mindset, leading to a technology-based European Sovereignty Fund, will offer hope for the future, ensuring that the EU can provide peace, prosperity and sustainability, benefitting not only current but future generations.

Such a Fund, built around equity stakes in new technologies, will take time, with an even longer timeline before there are returns, financially and in terms of technological developments. But, by applying an intergenerational mindset, it will start the process of building technological wealth for the future, able to tackle Europe's fundamental societal challenges. An intergenerational mindset, leading to a technology-based European Sovereignty Fund, will offer hope for the future, ensuring that the EU can provide peace, prosperity and sustainability, benefitting not only current but future generations.

¹ See Zuleeg, Fabian (2022), "[A watershed moment in European history: Decision time for the EU](#)", Brussels: European Policy Centre.

² See Zuleeg, Fabian; Janis A. Emmanouilidis and Ricardo Borges de Castro (2021), "[Europe in the age of permacrisis](#)", Brussels: European Policy Centre.

³ See Zuleeg and Emmanouilidis (2022), "[Europe's moment of truth: United by adversity?](#)", Brussels: European Policy Centre.

⁴ Van Rompuy, Herman (2020), "[President Van Rompuy's opening address at the EPC Annual Conference](#)", Brussels: European Policy Centre.

⁵ See European Parliament (2020), "[EU lagging regions: state of play and future challenges](#)"; PE 652.219, Brussels.

⁶ See Zuleeg (2020), "[Going beyond the Single Market: Why Europe must become a Single Economic Territory \(SET\)](#)", Brussels: European Policy Centre.

⁷ Mazzucato, Marianna (2021), *Mission Economy: A moonshot guide to changing capitalism*, Allen Lane.

⁸ Smit, Sven *et al.* (2022), "[Securing Europe's competitiveness: Addressing its technology gap](#)", McKinsey Global Institute.

⁹ See Bobier, Jean-François *et al.* (2022), "[Can Europe Create Its Own Deep-Tech Giants?](#)", Boston Consulting Group.

¹⁰ Breton, Thierry, "[A European Sovereignty Fund for an industry 'Made in Europe'](#)", *LinkedIn*, 25 November 2022.

¹¹ See Riekeles, Georg E. and Philipp Lausberg, "[The EU's Trillion – Euro Question](#)", *Project Syndicate*, 16 November 2022.

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