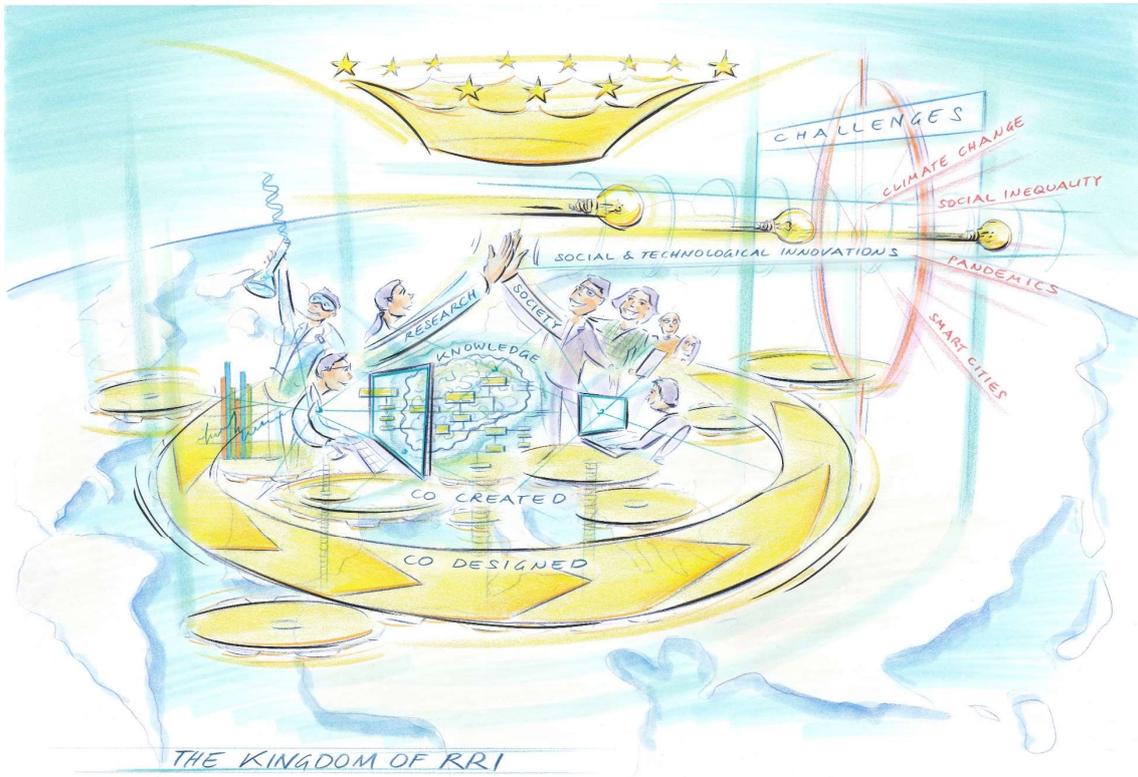


## **Possible futures: four scenarios**

*Interactions of societal and professional actors in research and innovation in the EU in 2038*

The four scenarios – future worlds –, in which RRI might unfold or may be hampered around twenty years from today, pose extreme and different developments of society and politics in the EU, which in turn implies that the fundamental framings of what scientific results and innovation mean for society appear to be quite different. Although these are extreme developments, we consider them to be plausible.

We explored a broad range of *possible* developments. It is up to the various observers' and actors' perspectives if a certain development is desirable or undesirable. Most scenarios describe developments provocatively, mainly with the intention to invite us to reflect on strategies and actions today, which might help to influence developments in a way we consider to be favourable.



Scenario 1:

**The Kingdom of RRI**

EU leaders have, for a long time, failed to adequately respond to major crises such as demographic change, refugee crises, revival of populist ideology, or climate change. Chronic negligence and inefficient governments during times of hardship urged paradigmatic political change. Starting in Scandinavia and spreading to Central Europe and some other countries, established green parties or new political movements were able to present a new generation of politicians to voters. In a series of game-changing elections, the new governments pursued agendas directed towards appealing and bold societal goals (e.g., carbon-neutral mobility for all) as the key to societal wellbeing.

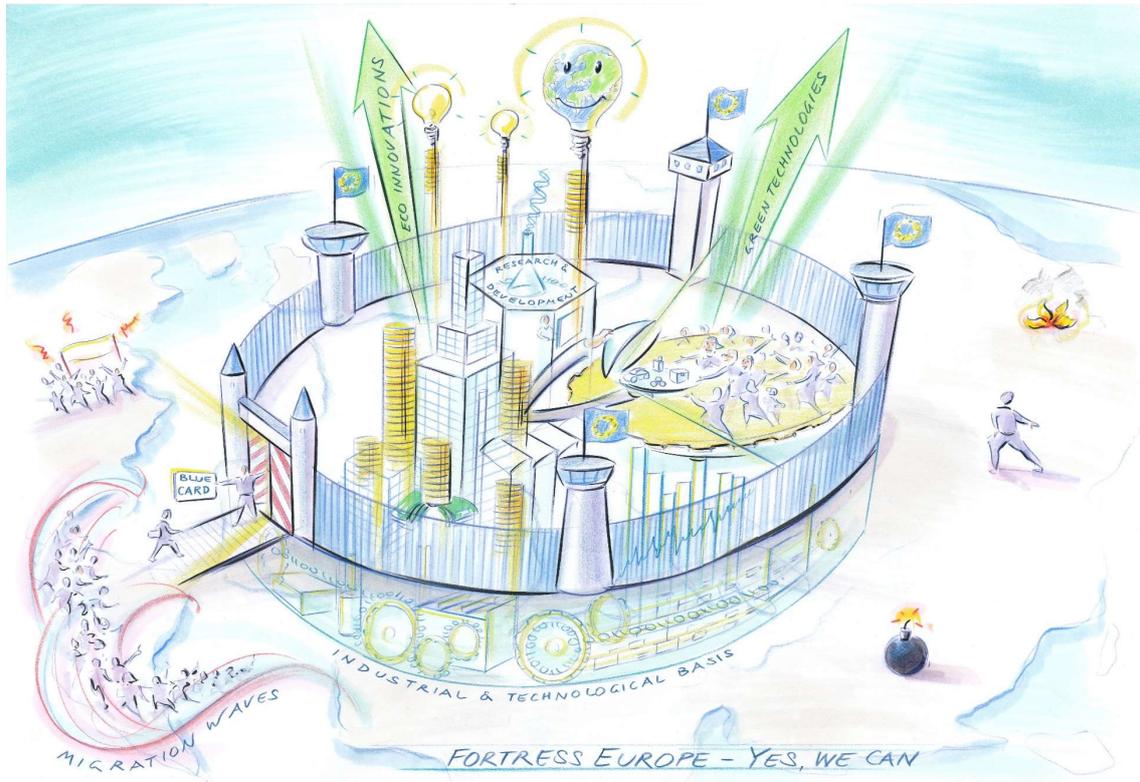
Now, response to crises (e.g., ecological crisis) is systematic and strategic, with a proactive approach. Globally, the EU is pioneering its way of responding to grand societal challenges. Yet, it does not aspire to assume global leadership. The manifold benefits of this mission- and responsibility-oriented policy approach has become the major narrative and rationale, informing many other areas of life. Putting society's wellbeing first enables the exploitation of synergies and untapped potentials. It brings healing by rescuing society, economy, and RTDI from the past 'paralysis' and develops a strong belief in a better future.

The positive spiral of benefits is an immense source of innovation capacity. In this sense, innovation is socially motivated and challenge-driven. Knowledge is co-created; innovation processes are co-designed.

Participative processes are highly prevalent. Inclusive, open structures enable not only participation, but provide empowerment and are a source of appreciation and societal satisfaction. EU societies flourish and celebrate life, strong social movements promote a shared vision with an unbreakable optimism.

The vision is supported by a new social contract between lay people and professional RTDI actors. Researchers follow agendas jointly set with citizens, understanding and accepting that targeting societal needs is a cornerstone of excellent research. Funding systems are arranged accordingly, having sufficient resources. Research organisations and STI policy-making bodies have opened their decision-making processes. Without doubt, all elements of the concept of Responsible Research and Innovation (RRI), invented already 25 years ago, are now blossoming and fitting together; the Kingdom of RRI has arrived.

# **N** ■ NEW ■ HORIZON



**Scenario 2:**

**Fortress Europe – Yes, EU can**

# **N** ■ **NEW** ■ **HORIZON**

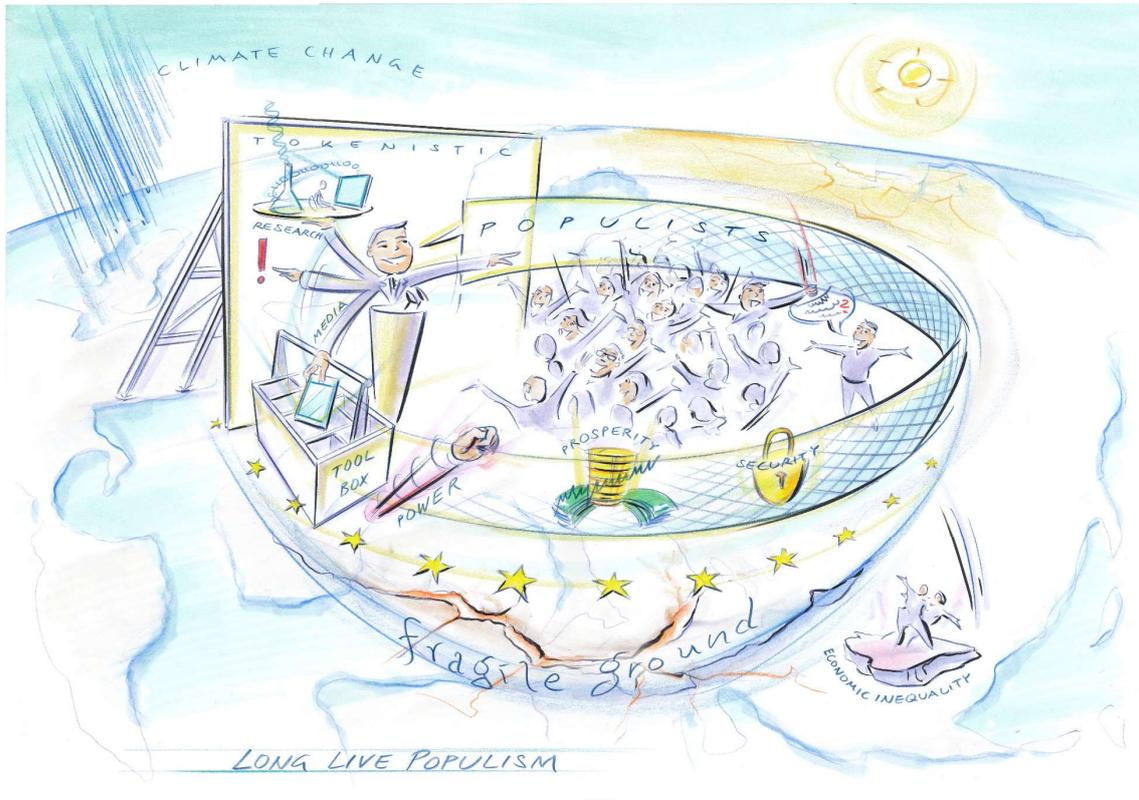
Global crises have escalated. Nevertheless, Fortress Europe is prospering and flourishing. It is strong; stronger than ever. To withstand crises, the EU has started setting its priorities towards sustaining a strong economy with a sovereign technological and industrial basis. The concept of an isolationist unity is key to the EU's strength, success, and perseverance in times of global difficulties. The EU has learnt from previous crises to intervene and actively address crises when they take effect.

Neoliberal governments, now in place in many EU member states, support an integration towards a single market and a strong private sector. Innovation is driven by consumer demand. Technology-based sectors, especially the new ICT- or bio- and gene tech-based companies, are growing fast, while the service economy is booming. The private sector has increased its R&D spending, while public R&D expenditures have not kept the pace. Thus, private interests dominate the innovation system. High level technological advancement provides a strong basis for innovative solutions for addressing global problems, especially the environmental ones.

Societies make green eco-innovations important. Society is a key driver for new demand and catalyst of technological advancement and service innovation. Strong social movements have significantly shaped and contributed to transforming the economy, for example by hyping new entrepreneurs for their eco-innovations.

The rich EU countries have become even more attractive for economic migrants. New, big migration waves from all over the world are on the way, putting pressure on existing borders – the start of a humanitarian crisis? The EU, however, can protect its borders and prevent its social systems from collapsing. Border control is strengthened, relying on the latest technologies, a sign of the EU's remarkable technological advance and its capability to effectively tackle acute problems that could threaten its safety and integrity. Young professional, qualified migrants, who can contribute to easing a skills shortage and other negative effects of an ageing society, are welcome with a Blue Card.

Researchers are valued only if they are working for the private sector, developing applicable solutions; in this case, they are well-funded. Researchers in public research organisations are left far behind. Responsible research is ignored as it has no economic value.



**Scenario 3:**

**Failed Democracy – Long live Populism**

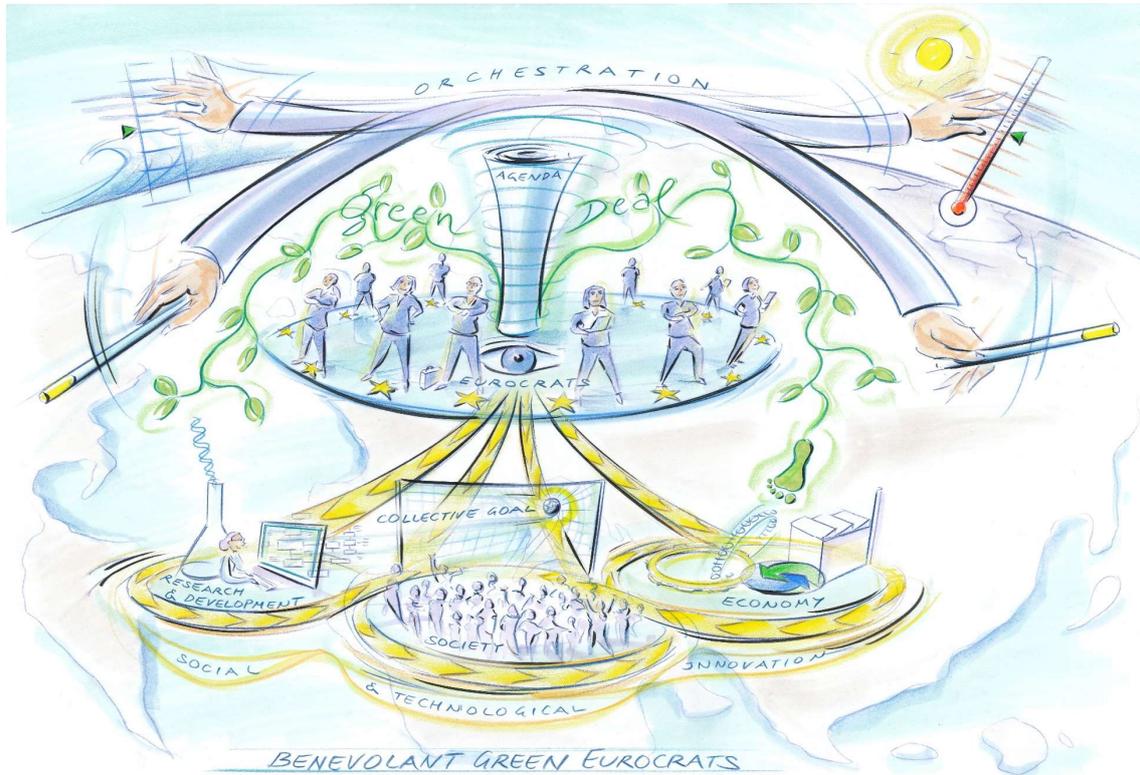
The original core values of the EU have been abandoned; they faded away due to the failure and systematic neglect by EU leaders to respond to global crises, especially the refugee crisis, economic inequality, and climate change. Most of the burden was imposed on a few rich EU member states, until society's dissatisfaction and frustration with politicians increased massively in these countries.

Populist reign brought 'salvation and hope': a way out of the 'paralysis'. Some populist regimes helped weakened nations to regain power and provided prosperity and security for certain privileged groups. Particular social groups felt prioritised, listened to, valued, and secure. These groups supported the regime, which in turn ensured stability and protection for them against 'threats and enemies', both beyond and inside the border.

Gaining approval, support, and trust from this part of the population is vital for maintaining and strengthening power and legitimacy, while polarisation and fragmentation in society are still strong features. The populist regimes have a rich toolbox to ensure this. Officially putting 'collective well-being first' is, in fact, only a synonym for instrumentalisation. The majority of citizens is convinced that the official vision of unity (as a source of empowerment and safety) is theirs, but in reality, it is only a tokenistic, pseudo-involvement. All available knowledge of, and new ambition in, society is being controlled and manipulated by the government. Genuine, grassroots, social movements are silenced and oppressed. Dialogues do not take place; citizens are rather passive recipients of selective information. They are, and feel, under control and do not dare behave differently from others; they do what 'good, loyal citizens do'.

The same applies to RTDI: the populist regime supports activities that it considers beneficial for itself and its rule. Scientists who are in favour of democratic ideas, such as RRI, are side-lined and have neither fora to promote these ideas, nor funds to conduct research in such a way. Only a selected group of researchers obtains funds and gains status, others are oppressed and deprived of resources, whilst scientific findings are being distorted to serve the interests of the regime. Freedom of the press is largely suppressed.

Innovation is purely economically driven, for the regime's benefit. Techno-fix solutions are preferred to mitigate some negative effects of global crises. However, the political system is built on fragile grounds; its economic, societal, and environmental sustainability is questionable.



Scenario 4:

**Benevolent Green Eurocrats**

Climate change has remained the prevailing grand challenge since the EU had launched the Green Deal programme almost 20 years ago and has since renewed it several times. The EU is a strong political actor, a pioneer in actively addressing climate change also at the global level. Acknowledging that green climate policy requires a 'whole-of-government' approach, there is strong political integration: the EU is organised in a top-down manner and regulates a circular economy with a strong private sector.

Governing from Brussels is a key mechanism and success factor of accomplishing the goals and inducing desired changes. Member states have transferred regulation and budgeting in all relevant policy domains to the EU level. Bundled efforts for a strong EU, however, are only aligned with the Eurocrats' agenda, which is decided by a small circle of politicians, bureaucrats, and experts, lacking broader societal debate and involvement. Innovation, serving this agenda, is highly important. There is an effective EU-wide transfer of novel solutions.

Utility and usefulness are the overarching value and credo. All good happens in the EU for the Union and for its citizens. Orchestration across all spheres of society, economy, and RTDI take place. An EU managed in a top-down manner is better equipped to tackle grand challenges. The education system is also affected: Eurocrats have pushed the value system towards the new collective values needed. A new way of political communication tries to engage people around the common narrative of collective goals. Individual goals are less important.

RTDI activities are centrally regulated: challenge-driven, mission-oriented research, supported by public investments, serves green business and social innovations. This implies, however, that blue sky research is restricted. Researchers who adhere to, and serve, the EU's missions are financially supported, gain status and power; others do not.

Social movements are perceived useful as long as they support the overall mission. Obedience, adherence and subsuming individual goals under collective goals are key to social status. Responsibility is about what you can do for your country or the EU. Thus, the balance between personal rights and collective goals has changed towards the latter ones. Pseudo-involvement of different societal groups is organised, supporting the new values of 'green', 'circular' and 'steered economy'. These groups organise various events, which, in turn, act as a mechanism to ensure adherence and to create the appearance of having a voice and being heard.

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