

CHAPTER 1

INTRODUCTION

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Climate change is one of the main challenges of our times. It is a wicked, complex and systemic challenge with enormous consequences requiring innovative solutions and transitions in all corners of society. For this reason, it cannot be handled by one single actor with one set of tools but rather calls for collaboration and joint problem-solving. This is notoriously demonstrated by the case of the yellow vests in France, where the government attempted to mitigate climate change via tax reforms, which instead ended up fueling riots. This case not only illustrates the importance of collaboration in general, but it also stresses the importance of collaborating with civil society in particular when seeking solutions to handle the challenges of climate change.

This importance of collaborating with civil society when addressing climate change also applies to innovation processes. When water levels rise, there is a need for adapting inhabited areas by putting into production innovative solutions such as drainage systems or dikes based on research and enabled by governance frameworks. Nonetheless, the *RiConfigure* project’s investigation of innovation processes within climate change adaptation shows that entrepreneurship, know-how and regulation are not always sufficient. Sometimes, robust, innovative climate change adaptations also involve civil society, as they can provide collective intelligence that refines the adaptations, local insights that are important to context-specific adjustments, public ownership and more. This added value of civil society engagement in innovation processes not only applies to climate change adaptation but also a variety of wicked and complex challenges connected to topics such as the fourth industrial revolution, green energy, social innovation and mobility, all of which are investigated in the *RiConfigure* project.

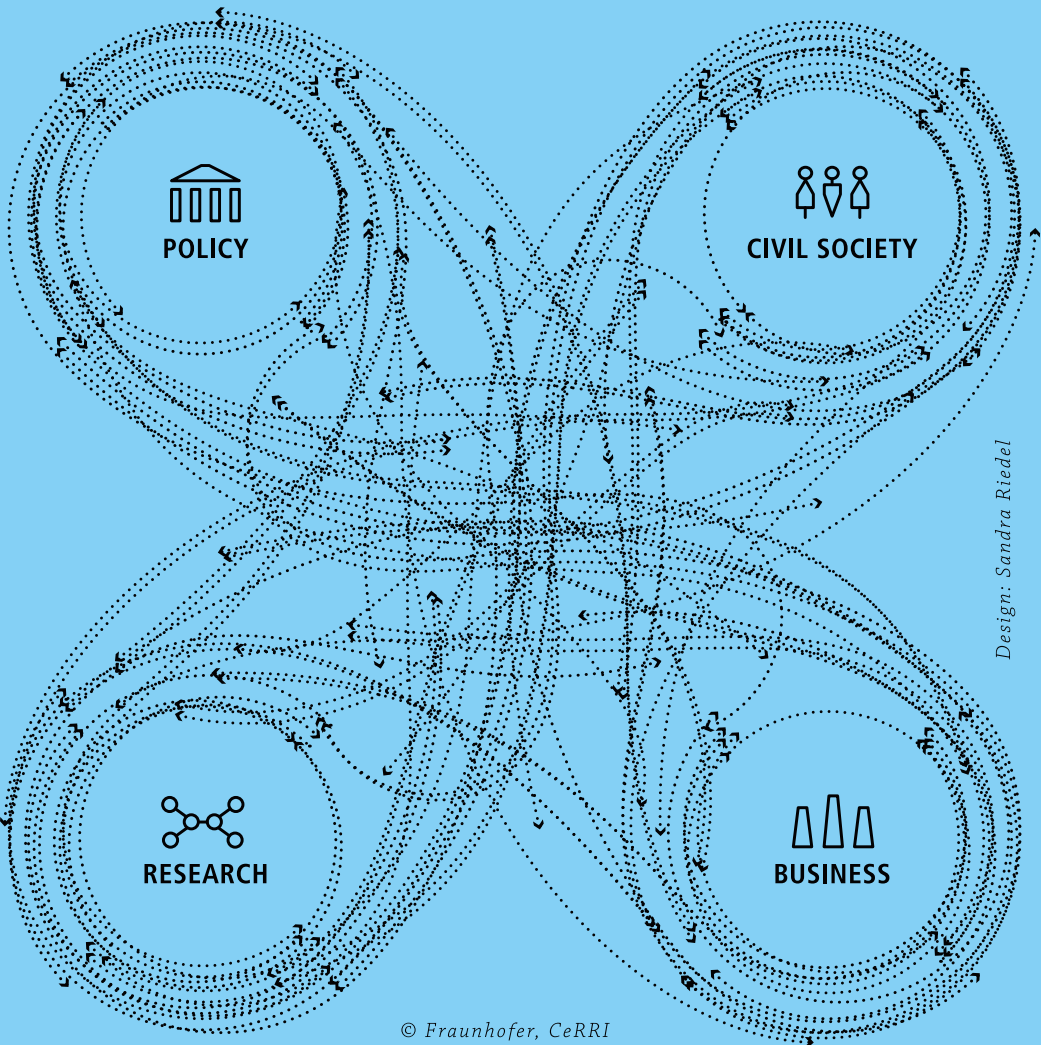


FIGURE 1\_ The Quadruple Helix Model

### WHY SHOULD THE CIVIL SOCIETY BE INCLUDED IN INNOVATION?

This promise of benefits from involving civil society in innovation processes is the starting point of the *RiConfigure* project’s focus on so-called Quadruple Helix Collaboration (QHC) throughout Europe, i.e. innovation constellations including actors from policy, business, research and civil society (see FIGURE 1).

**According to theory, such constellations provide three benefits.**

**Input benefit:** Civil society organizations and citizens can provide societal perspectives, insights regarding the needs of users and customers as well as lay knowledge: What are the needs of society? What problems do societal actors face? What are the experiences of civil society?

**Throughput benefit:** Creativity is stimulated when people from different backgrounds come together, share their knowledge and perspectives and are open to each other’s inputs.

**Output benefit:** Innovation processes that involve civil society are more likely to address societal needs and be ethically responsible.

### FROM THEORY TO PRAXIS

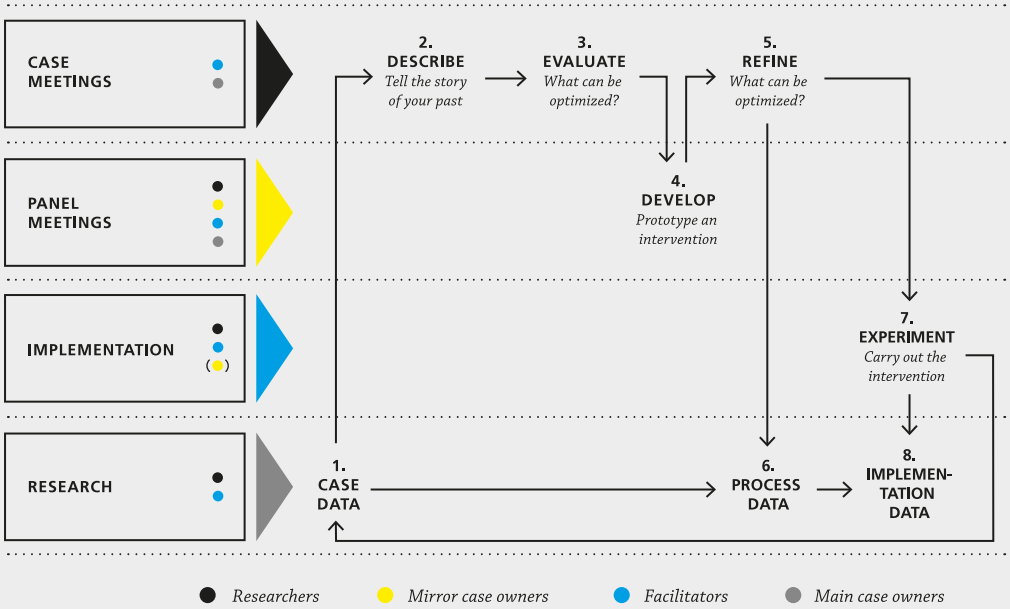
Despite these promised benefits and indications of the importance of collaborating with civil society, the *RiConfigure* project’s investigation of existing QHCs show that reality is more complex than theory. By establishing social laboratories in Denmark, Germany, the Netherlands, Austria and Colombia, the partners of the project have gathered, observed and interacted with multiple QHCs addressing complex challenges of automatization, hydrogen technology, mobility, climate change adaptation and social innovation.

Data from these labs reveals that the integration of civil society is quite challenging, and hence reality cannot (yet) fully deliver the theoretically-described benefits. In practice, there are attempts to set up QHCs, although most of them do not involve civil society actors as theoretically imagined, i.e. as equal partners in a co-innovation process. This booklet shares stories and observations from the laboratories to provide practical insights for innovation practitioners involved in cross-sector collaborations and actors working to facilitate the multiplication of such collaboration with a particular focus on the involvement of civil society.

### CHALLENGES TO ENGAGE CIVIL SOCIETY

Furthermore, the *RiConfigure* project’s investigation of QHCs shows that challenges to set up these types of collaborations – and especially to include civil society – emerge at three levels.

FIGURE 2  
The life cycle of the RiConfigure social labs



First, the activity level, at which actors intending to open up their processes are confronted with questions such as: Who is civil society anyway? Who should be contacted? What are the concrete benefits? This booklet provides examples of how to address these challenges in practice.

Second, the governance level, at which the background conditions for QHCs are found. Companies and research organizations are well funded and have highly trained staff, but civil society organizations often lack the necessary resources to contribute meaningfully to innovation activities. Further, while elaborated metrics exist to measure the benefit of research-industry relations, metrics to assess the social benefits of innovation are missing, which this is exactly what civil society might contribute. Consequently, it can seem risky to executives to allocate resources that support a meaningful integration of civil society actors into innovations processes. Chapter seven provides recommendations for policy-makers on how to change the background conditions to strengthen QHCs in practice.

Third, the systemic level, at which the broader conditions for both the practical activities and governance frameworks are determined. Here, the central value of innovation is economic profit, which drives the development of new products, services and technologies. Within this paradigm, it is extremely challenging to open up innovation processes to civil society actors. While this is a major barrier for QHCs, this level is not systematically addressed in the booklet.

To summarize, the *RiConfigure* project definitely demonstrates the value of cross-sector collaborations and the inclusion of civil society in innovation. However, cross-sector collaborations are rarely – and not necessarily always – proper QHCs. No systematic general description can capture the myriad of constellations of real-life collaborations. Rather, empirically-based insights acknowledging the particularity of the project, theme, legal and policy framework and partners are crucial to support the often challenging but valuable cross-sector collaborations.

**RiConfigure: Re-thinking innovation from different perspectives**

The EU project *RiConfigure* investigates innovation processes involving actors from research, business, policy and civil society, also known as Quadruple Helix Innovation. The project set up four social labs across Europe and Colombia, in which collaborations including the four helixes were represented. Each social lab concentrated on open innovation initiated by different helixes. In the course of the project, these social labs went through three life cycles (see figure 1) in which they explored, reflected upon and initiated novel ways of including new actors in innovation. The *RiConfigure* project gained insights into the praxis, policy and systemic level of such cross-sectoral constellations.

CHAPTER OVERVIEW

The remainder of this booklet is structured as follows:

Chapter 2 describes how QHCs work in heavy industry. In particular, it analyzes the collaboration in the community of stakeholders pertaining to the production of green hydrogen in the Netherlands. It shows that QHCs are quite frequent, but that civil society participation is primarily indirect. The problem at hand – upscaling green hydrogen – is a typical complex issue that requires the participation of all four helixes. We provide a series of lessons for strengthening QHCs and allowing the infusion of non-economic values into the design of new technologies in the industry.

Chapter 3 provides insights from a research-initiated QHC. A social lab on the future of work was established within an existing local innovation ecosystem, which provided space to reflect on the societal impacts of a new technology. The chapter shows the different resources that the four helixes may contribute to innovation processes in the field of industrial automation. Furthermore, it draws attention to the local innovation ecosystem of a QHC as well as the importance of civil society in making a technological innovation a success.

In chapter 4, the policy-initiated QHC *Community Creates Mobility (CCM)* is used to show how aspects of the Quadruple Helix (QH) Innovation model can be used at the activity level to create an innovation ecosystem for mobility of the future. By including new actors in innovation processes, CCM could take a leap towards democratization and addressing challenges of mobility, social justice and climate crisis. This chapter shows the input and throughput benefits that such a constellation can have for mobility innovation by providing insights into the praxis of setting up structures for innovation collaborations.

Chapter 5 provides insights from civil society-initiated QHCs. It discusses the case of climate change adaptation and reveals the challenges of integrating civil society actors as full-blown partners in QHC, as opposed to actors that are merely consulted. Focusing on the structure of QHC, it provides suggestions concerning how the existing will to collaborate with civil society can be fostered and supported.

In chapter 6, three cases are analyzed in the Colombian social lab to assess QHC. Governance, financing, long-term sustainability and communication must be taken into account when inviting civil society to be part of the QH Innovation process.

Instead of a concluding chapter, we end the booklet with a series of governance insights (chapter 7) specifically directed at policy-makers and legislators at various level of policy (regional, national and international). Governance actors provide the context for QHC and it is here that we see the greatest lever to realize more QHC in the future.

FURTHER READING\_

<b>CARAYANNIS E. G., CAMPBELL F. J. (2012).</b> Mode 3 Knowledge Production in Quadruple Helix Innovation Systems. New York: Springer New York.	Retrieved June 06, 2018, from <a href="http://gbv.ebib.com/patron/FullRecord.aspx?p=1407853">http://gbv.ebib.com/patron/FullRecord.aspx?p=1407853</a> .
<b>HASSAN Z. (2014).</b> The social labs revolution. A new approach to solving our most complex challenges. a Reos Publication. First edition. San Francisco: Berrett-Koehler Publishers Inc (A BK currents book).	<b>RICONFIGURE (2018).</b> D1.2: Social Lab Methodology. Public Report of the RiConfigure H2020 Coordination and Support Action (788047). Retrieved April 21, 2021, from <a href="http://riconfigure.eu/wp-content/uploads/2020/04/D6.5-Progress-Report-Final-Version.pdf">http://riconfigure.eu/wp-content/uploads/2020/04/D6.5-Progress-Report-Final-Version.pdf</a>