

Positioning social sciences and humanities actors in the ninth European Union Framework  
Programme: a discourse analysis of Horizon Europe reference documents

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## 1 Introduction

In 2021, the European Union (EU) launched Horizon Europe, a 95.5 billion euro Framework Programme for research and innovation (European Commission, n.d.). Previous Framework Programmes, such as Horizon Europe's predecessor Horizon 2020, featured inadequate involvement of social sciences and humanities (hereafter SSH) disciplines, according to scholars, organisations, and stakeholders (Felt, 2019; Graf, 2019; EASSH, 2019; European Commission, 2018b). This thesis refers to researchers and scholars with expertise in SSH disciplines as "SSH actors" and the increasing efforts to include SSH disciplines into research and innovation as "SSH integration". The Oxford English Dictionary (2022) defines "actor" as a person who performs or takes part in an action – a doer and an agent. For the purpose of this study, actor is a particularly appropriate term for individuals with SSH expertise, as they participate and perform actions in research activities. The term actor is also linked to agency and agential power (Burkitt, 2015, p. 2), and the terms agent and actor are often used in the social sciences to refer to the agential power of individuals. Burkitt (2015) describes an agent as "a person or thing that takes an active role or produces a specified effect" and "the doer of an action" (p. 2). These terms will be elaborated further on. Involving SSH actors in research areas that have traditionally been regarded as belonging only to STEM disciplines (science, technology, engineering, and mathematics) is important for many reasons. SSH actors are able to offer crucial insight on the societal, cultural, ethical, philosophical, and historical aspects of research actions, ensuring that activities and solutions align with the well-being of individuals and society. They can also provide valuable knowledge to help research efforts tackle the many complex challenges that the world is facing currently and will face in the future. In the present thesis, I will examine reference documents published by the European Commission on Horizon Europe to study how SSH actors are positioned across the research activities. Most of the analysis will focus on the 2021–2022 Work Programme documents as they currently contain the most information about Horizon Europe and the various funding opportunities.

I use discourse analysis as my primary approach to the analysis of the documents, and I also utilise document analysis as a qualitative research method in the general examination of the materials. Social positioning theory supports the analysis by providing a framework through which to interpret the findings. The term "discourse" refers to language in use, and in this thesis I approach the study of discourse by combining the three main perspectives that have evolved and been shaped by the influences of scholars such as Foucault, Halliday, Austin, Grice, Widdowson, Gee, and Fairclough

(Jones, 2012). The three perspectives include a formal approach, a functional approach, and a social approach. The formal approach to discourse focuses on different elements of texts, such as linguistic features or broader patterns (Jones, 2012, p. 37). The functional approach focuses on how language is used to do things, such as instruct or persuade (Jones, 2012, p. 36, 37). The social approach studies language in relation to larger systems of beliefs, relationships, and realities (Jones, 2012, pp. 33, 38). These larger systems can be referred to as “Discourses” with a capital letter (Jones, 2012, p. 33) that are made up of specific instances of language use. Therefore, the documents that I analyse are these instances of language use, and the documents can be considered to be a part of and make up the larger Discourse of SSH integration, which includes all previous, current, and future communication surrounding the issue of social sciences and humanities in research activities. As such, my approach with discourse analysis includes studying discourse, (i.e. the instances of language use, which are the documents and feature SSH actors positioned in various ways) and studying the Discourse of SSH integration. These ideas will be elaborated further on in the thesis. Social positioning theory emphasises the role of language in shaping individuals’ actions and what they are able to accomplish in society (Hughes et al., 2017, p. 3), with “positioning” referring to the process of assigning attributes to an individual or a group (p. 4). It can be regarded as a lens that guides the analysis. With a discourse analytical approach, and through social positioning theory, the I study the positioning of SSH actors while also considering how the wider discourse of SSH integration is present and constructed in the documents.

SSH integration is attracting a great deal of interest from various parties, including scholars working in SSH and STEM fields and stakeholders involved in the development and assessment of Horizon Europe. These parties emphasise the importance of including SSH actors into the research activities that relate to health, culture, digital technologies, security, space, energy, food and bioeconomy, and climate, among others. The integration of SSH into these research areas is being officially promoted by the European Commission. The topic was first touched upon in an EU research and innovation context in a decision of the European Parliament and Council in 2013 (Graf, 2019, p. 33). Regarding the establishment of Horizon 2020, the decision stated that SSH research would be mainstreamed as a key part of the programme (Graf, 2019, p. 33). However, as the European Alliance for Social Sciences and Humanities (EASSH) states, “SSH research remained poorly integrated across the societal challenges even in topics explicitly identified as benefiting from a social research dimension” (n.d., p. 1). With the launch of Horizon Europe and with the previous

programme having been met with criticism regarding the underwhelming involvement of SSH disciplines, academia and stakeholders are interested to see how SSH integration is committed to and carried out in the new programme.

At this point it is useful to describe the structure of Horizon Europe in order to make upcoming references more understandable. The programme has three main areas, or “Pillars”. Pillar 1 consists of the European Research Council, Marie Skłodowska-Curie Actions, and Research Infrastructures. As a driver of frontier research, Pillar 1 focuses on supporting “the best researchers... with flexible, long-term funding to pursue ground-breaking, high-gain and high-risk research” in Europe (European Council, 2021, p. 17). The European Research Council funds a smaller percentage of European research but aims for higher scientific impact (p. 18). The Marie Skłodowska-Curie Actions focus on increasing the amount of highly-skilled researchers (p. 21), while Research Infrastructures focus on supporting research infrastructures (p. 23). Pillar 2 focuses on developing solutions that address global challenges, and it includes six subcategories or “Clusters”. The Clusters are divided into the following themes: “Health”, “Culture, Creativity and Inclusive Society”, “Civil Security for Society”, “Digital, Industry and Space”, “Climate, Energy and Mobility”, and “Food, Bioeconomy, Natural Resources, Agriculture and Environment” (European Council, 2021). Pillar 2 also includes an area for non-nuclear direct actions of the Joint Research Centre (European Council, 2021). Pillar 3 includes the European Innovation Council and European innovation ecosystems (European Council, 2021). In addition to the three Pillars, the Horizon Europe includes a focused area for widening participation and strengthening the European Research Area (European Council, 2021). In this thesis, I focus on the activities under Pillar 2 and its six Clusters, as I consider them to be the areas that best represent the majority of research and innovation actions in Horizon Europe.

The topic of SSH integration in Horizon Europe has not yet been studied to the extent of the present thesis, however, my analysis builds on the studies conducted by Vida (2021) on gender mainstreaming in Horizon 2020 Work Programmes and Genus et al. (2018) on SSH in Horizon 2020 Work Programmes. Hughes et al. (2017) similarly utilised discourse analysis and social positioning theory in their study on pharmacists’ roles in primary health care. This thesis contributes to the knowledge and Discourse of a highly current topic, one that scholars are increasingly calling for to be properly acknowledged and studied. Therefore, with my analysis I hope to shed light on the status of SSH integration by answering the following research questions:

How are SSH actors positioned in Horizon Europe reference documents, in particular in the 2021–2022 Work Programmes of Pillar 2?

What does the positioning of SSH actors in the documents reveal about the Discourse of SSH integration?

What does a discourse analytical examination of the reference documents indicate about the prioritisation of SSH in Horizon Europe?

After introducing the materials, I will discuss the theoretical framework of this thesis. This includes the explanation of key concepts, a summary of the Discourse of SSH integration in various areas of research, and overviews of Horizon 2020 and Horizon Europe. I will then discuss social positioning theory, document analysis, and discourse analysis, followed by summaries of the key studies that have motivated the present thesis. The analysis of the documents is divided into subsections by Work Programme, and after the analysis I will discuss the findings and opportunities for future study before concluding this thesis.

## **2 Materials**

The materials that I will be analysing consist of reference documents for Horizon Europe, which are found at the European Commission’s electronic Funding and Tenders Portal (2018).<sup>1</sup> The Funding and Tenders Portal (2018) is used by the European Commission and other services to manage funding, prizes, and procurements (European Commission, 2020, p. 3). It provides access to reference documents of previous and ongoing programmes. The documents are licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) license, publicly available and accessible to all. The documents contain no sensitive data, and no issues relating to human rights or any kind of harm are involved in the present study. The selection process for my materials began at the Portal, with the application of the filter “2021–2027” for the programming period and the filter “Horizon Europe (HORIZON)” for the programme selection. I accessed the documents from November 2021 to December 2021. The European Commission has since published edited versions of some of the documents. After applying the filters, I examined all of the reference documents,

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<sup>1</sup> <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON>

which included legal documents, work programmes, model grant agreements, cost decisions, project reporting templates, application forms, evaluation forms, and guides, among other types of texts. I narrowed the initial 106 documents down to ten. For example, I found that documents such as financial texts and grant agreement templates contained no relevant information for my study. Some documents contained no text at all as they were still being created. For the most part, I selected the documents that had mentions of social sciences and humanities. The documents that are analysed are listed in the primary sources.

### **3 Theoretical framework**

In this section I will present the theoretical framework that supports this thesis, including descriptions of key concepts, information on STEM and SSH disciplines in general, background information on SSH integration, summaries of SSH integration in various research areas, and some key points relating to how SSH integration might happen in practice. I will briefly discuss Horizon 2020 and Horizon Europe and summarise the feedback that has been given by scholars and organisations.

#### **3.1 Key concepts**

The introduction mentioned the notions of agency and agential power in relation to SSH actors. The Oxford English Dictionary (2022) defines agency as “action, capacity to act” and as the “ability or capacity to act or exert power; active working or operation”. Dahl (2009) refers to agency as the “human ability and will to act freely and to effectively have an impact on the world” (p. 397). Burkitt describes an agent as a person or thing that takes an active role or produces a certain effect (2015, p. 2). In studies such as the present thesis, agency is often used to refer to individuals who perform actions and produce an effect on the world (Burkitt, 2015, p. 2). Although the notion of agency is surrounded by debate regarding its nature, it is generally agreed to be something that an individual possesses (Burkitt, 2015, p. 2). The definition by Barnes (2000) can be applied to describe the positions of SSH actors in the reference documents; Barnes describes: “For an individual to possess agency is for them to possess internal powers and capacities, which, through their exercise, makes them an *active* entity constantly intervening in the course of events surrounding them” (2000, p. 25). Similarly, Moulaert, Jessop, and Mehmood (2016) describe agency as “meaningful human behaviour” and action that “makes a significant difference in the natural and/or social worlds” (p.



169). They list some things that can affect agency, such as motivation, personal creativity and innovation, and the defence of given identities and interests (2016, p. 171). In the analysis, agency will be a useful concept in studying the positioning of SSH actors, for example whether they are described in ways that emphasise their ability to provide valuable insight and to affect research actions in a meaningful way.

The terms “transdisciplinarity”, “multidisciplinarity”, and “interdisciplinarity” are common in research activities, particularly those that encourage the involvement of experts from many fields. Interdisciplinarity refers to the integration of knowledge, techniques, tools, perspectives, or theories from two or more disciplines (Graf, 2019, p. 33). Rosenfield (1992) describes interdisciplinary research as research that involves many disciplines using their expertise to work on a common problem (p. 1351). Transdisciplinarity covers interdisciplinarity and the inclusion of non-academic and non-formalised knowledge (Graf, 2019, p. 34). Multidisciplinary research has experts and disciplines working independently, only collaborating at the end of a project when they share their separate results (Rosenfield, 1992, p. 1350). SSH integration can thus be considered a specific form of interdisciplinarity, however it may also involve transdisciplinarity (Graf, 2019, p. 34).

The distinction between natural sciences, social sciences, and humanities is often used when comparing fields of academic research. Nisbet and Greenfeld (2021) define social sciences as study that is concerned with human behaviour in social and cultural aspects. According to Merriam-Webster, social sciences deal with the institutions and functioning of human society and with the interpersonal relationships of individuals as members of society (2022). The University of Helsinki describes research in social sciences as research that aims to understand social phenomena and place them in a historical and social context (2022). Social sciences include, among others, educational research, anthropology, sociology, psychology, political science, economics, and women, gender, and sexuality studies (Nisbet & Greenfeld, 2021; European Commission, 2021a). Humanities study human beings, the culture of people, and human constructs and concerns. The humanities include research in human constructs and concerns as opposed to natural processes (Britannica, 2021; Merriam-Webster, 2022). Humanities include, among others, the study of all languages and literatures, the arts, law, history, religion, theology, ethics, and philosophy (Britannica, 2021; European Commission, 2021a).

## 3.2 SSH integration

I refer to SSH integration as the active inclusion of experts with SSH expertise into various areas of research. The concept has become increasingly common in academia over the past years during the Horizon 2020 programme. Up until 2016, Horizon 2020 texts featured many different references to SSH, including social sciences, socio-economic sciences, and humanities (Genus et al., 2018, p. 135). Today, the use of SSH to refer to social sciences and humanities is most prominent, as well as the notion of SSH integration. I believe that SSH integration is strongly connected to the Discourse that surrounds it, as many texts that feature SSH integration also discuss the history, related issues, and future expectations of it. Next, I will provide some further background information on SSH integration.

### 3.2.1 Background

In 2009, changes occurred regarding the Executive Agencies of the European Commission that reduced SSH competences (López-Varela Azcárate, 2020, p. 13). Researchers teamed up to counter these changes in the support of the European Alliance for Social Sciences and Humanities (EASSH) (López-Varela Azcárate, 2020, p. 13). EASSH has mobilised concerned scholars and groups, and it serves as “an environment for reflection and analysis... in the integration of SSH in European research” (López-Varela Azcárate, 2020, pp. 13–14). In 2011, the European Commission took action to respond to the concerns of researchers and stakeholders, after which SSH involvement in Marie Skłodowska-Curie Actions improved and a dedicated SSH area was created for Horizon 2020 (López-Varela Azcárate, 2020, p. 14). The emphasis on further involvement of SSH in different activities increased.

Within the sphere of European research and innovation, SSH integration can be regarded as having roots in the decision of the European Parliament and European Council, described in a 2013 document regarding the establishment of Horizon 2020, which states:

Social sciences and humanities research *will be fully integrated* [my emphasis] into each of the priorities of Horizon 2020 and each of the specific objectives and will contribute to the evidence base for policy making at international, Union, national, regional and local level. In relation to societal challenges, social sciences and humanities *will be mainstreamed* [my emphasis] as an *essential element* [my emphasis] of the activities needed to tackle each of the societal challenges to enhance their impact. The specific objective of the societal challenge 'Europe in a changing world - Inclusive, innovative and reflective societies' will support social

sciences and humanities research by focusing on inclusive, innovative and reflective societies. (European Parliament and Council, 2013, p. 18)

The passage shows a strong rhetorical commitment to SSH integration and emphasises its importance and cross-cutting nature with phrases like “will be fully integrated”, “will be mainstreamed”, and “an essential element of the activities”. The same document also describes:

Social sciences and humanities research plays *a leading role* [my emphasis] here as it explores changes over time and space and enables exploration of imagined futures. Europe has a huge shared history of both co-operation and conflict. Its dynamic cultural interactions provide inspiration and opportunities. Research is needed to understand identity and belonging across communities, regions and nations. Research will support policymakers in designing policies that foster employment, combat poverty and prevent the development of various forms of divisions, conflict and political and social exclusion, discrimination and inequalities, such as gender and intergenerational inequalities, discrimination due to disability or ethnic origin, or digital or innovation divides, in European societies and in other regions of the world. (European Parliament and Council, 2013, p. 60)

It is noteworthy that SSH research is described as having a leading role in research actions. In 2019, Jean-Eric Paquet, the Directorate-General for Research and Innovation, described that “SSH integration offers almost endless opportunities” (qtd. in Spaapen & Sivertsen, 2020, p. 2). He further emphasised that in Horizon Europe, SSH should be a core element rather than an add-on (Spaapen & Sivertsen, 2020, p. 2). In my analysis, through the positioning of SSH actors, I hope to find out how the European Commission’s official commitment to SSH integration is reflected in the reference documents.

SSH integration is a concern due to their underrepresentation in research activities, and this underutilised role of SSH actors may be due to their orientation toward results that cannot be assessed in the same way as natural sciences – SSH scholarship is often not aimed at producing “usable” results (Reale et al., 2018, p. 299). Furthermore, even if it may seem obvious that challenges must include SSH expertise, for many governments this is far from obvious (Spaapen & Sivertsen, 2020, p. 1). SSH integration is an issue that must be addressed by both organisations and governments. Outside of Europe, some universities have attempted to remove SSH disciplines, while some governments consider reallocating money from SSH-focused universities to technical universities (Spaapen & Sivertsen, 2020, p. 1). There is a clear difference in attitudes toward SSH research in comparison to STEM disciplines (Reale et al., 2018). This difference can be seen in the evaluation of research impact, as the predominant methods used to assess the impact of SSH research tend to underestimate the value of SSH research because efforts fail to properly consider

the distinctive features of SSH disciplines that differ from the natural sciences (2018, p. 305). López-Varela Azcárate describes:

Numerous studies show that SSH disciplines cannot be treated in the same way as STEM... Their effectiveness cannot be measured in the same way because they often make a self-reflexive and complex relationship with reality, in many cases seeking to reveal ambiguities and contradictions instead of choosing to show the most marked evidences from the probabilistic and empirical point of view. (López- Varela Azcárate, 2020, p. 13)

SSH researchers are more focused on helping and transforming society, maintaining cultural heritage, and creating capabilities of self-understanding in various contexts (Reale et al., 2018, p. 299). However, the separation between SSH and other fields may be a category mistake since all contribute to the well-being of people (2018, p. 305). SSH impacts may often be long-term and therefore not seen instantly, one reason why their involvement is not prioritised. The European Commission differentiates three variations of impacts. Outputs refer to short-term results, outcomes refer to mid-term results, and impacts refer to well-established, long-term improvements (European Commission, 2005).

The League of European Research Universities (hereafter LERU) advocates for more research activities at European universities, and in 2013 it published a paper on the future of SSH in Europe. In the paper LERU (2013) discusses the importance of SSH research in addressing challenges relating to, among other topics, international conflicts, human rights, ethics, religious traditions, economic and educational inclusion, social and environmental resilience, changing media, identities and cultural memories, linguistic diversity, lifelong education and learning, psychological disorders, addiction, and human-machine interactions (p. 3). LERU (2013) states that SSH involvement is as crucial as contributions from STEM disciplines in the creation, implementation, and evaluation of policies and innovative structures (p. 3).

Outside of Europe, SSH is being included into the education and research of STEM fields. For example, Penn Engineering – the University of Pennsylvania’s School of Engineering and Applied Science – features requirements for undergraduates to include SSH courses in their coursework. The school’s Student Handbook describes how SSH is an integral part of engineering education because the disciplines provide valuable knowledge on the broader contexts within which technology and engineering practice operates (2017). The Student Handbook also states: “Because of the importance of good communication skills to success in all endeavors, each student should seek to

enhance these skills by the choice of SSH courses” (2017, para. 2). The successful communication of STEM research to different audiences is a crucial and current topic, and SSH knowledge can help STEM researchers share information in an accessible and understandable way.

The general consensus among scholars and stakeholders is that SSH integration is crucial to tackle the many complex challenges that society faces. Felt describes how SSH actors are often seen as lesser partners when STEM disciplines are involved in a project (2014, p. 385). It is vital to utilise the many disciplines of the social sciences and humanities in order to harness their full potential. Therefore, activities such as those of Horizon Europe must not focus on only certain, more prominently-featured disciplines. The next subsections discuss SSH integration in research relating to health, culture and society, security, digital technologies and space, climate and energy, and bioeconomy, natural resources, and agriculture. Essentially this will further illustrate why SSH actors would be expected to be positioned in prominent roles in the Horizon Europe Work Programmes.

### **3.2.2 SSH integration in health research**

In the 1600s, William Petty was among the first nonmedical practitioners to systematically study the complex interactions of health, demographic, social, and economic conditions (Rosenfield, 1992, p. 1343). Since the first World Health Organisation assembly in 1948, there have been periods of active collaboration between medical and social scientists (Rosenfield, 1992, p. 1343). The 1970s witnessed an interest in human ecology and lifestyles, leading to more awareness of social, cultural, and economic factors affecting disease control and illness prevention (Rosenfield, 1992, p. 1343). The role of citizen engagement and public awareness in health care has been more actively recognised since 1978, when the Alma Ata conference set the goal of Health for All by the Year 2000 – a goal that promoted community-based primary health care, community participation, and intersectoral actions for health (Rosenfield, 1992, p. 1343). Towards the end of the twentieth century, cultural and behavioural aspects of diseases were actively studied, as were social pathologies, broad programmatic themes, economics of health and health services, and policy issues (Rosenfield, 1992, pp. 1343–1344). The 1990 report of the international Independent Commission on Health Research for Development presented at a Nobel Symposium further highlighted the growing support for interdisciplinary research (Rosenfield, 1992, p. 1344). The report urged countries to establish and strengthen an appropriate health research base and connect research, policy, and action together (Rosenfield, 1992, p. 1344).

Now more than ever, global challenges such as the COVID-19 pandemic have demonstrated how health crises impact individuals and the workings of society in disastrous ways. The pandemic has shown that crises cannot be handled by a single discipline, and that in order to prepare for future challenges, knowledge from all areas must be combined and utilised in a collaborative effort. Demographic change, wellbeing, and adaptive behaviour are aspects that medical disciplines cannot handle on their own (LERU, 2013). Demographic change as a social issue, for example, involves biological, genetic, cognitive, social, and cultural variables, therefore requiring SSH involvement (LERU, 2013, p. 5). Pickersgill and Smith (2021) describe how despite this, crucial insight from SSH actors has “too often been under-utilised by policymakers tackling the pandemic” (para. 2). Similarly in 2018, the UK’s higher education funding nearly cut fees in SSH disciplines (Pickersgill et al., 2018, p. 1462). The announcement was met with resistance from researchers, who emphasised the crucial importance of SSH disciplines (Pickersgill et al., 2018, p. 1462).

LERU (2013) discusses the importance of research focusing equally on somatic and mental health (p. 6). SSH actors are needed in ensuring that solutions relating to physical and mental health cover the variety in age, gender, culture, and socio-economic circumstances of people (LERU, 2013, p. 6). In addition, psychological and behavioural factors affect overall wellbeing and must be studied by SSH (LERU, 2013, p. 6). Humanities, and the arts in particular, have great potential in medical activities. For example, music, pictorial art, and literature can be used to understand cognitive and affective function, while the study of literature can improve the emotional intelligence of caregivers (LERU, 2013, p. 10). Other cultural activities can be used to improve healing processes and reduce anxiety and distress (LERU, 2013, p. 11).

With the involvement of SSH, health practitioners are better prepared to consider the moral, social, and political dimensions of health care, and doctors are increasingly embracing the approach to medicine as both scientific and humanistic (Pickersgill & Smith, 2021, p. 1462). There are various ethical and cultural issues relating to end-of-life care and health regulation (LERU, 2013, p. 11). Some funders and health institutes have been developing their plans with more focus on sociology, history of medicine, and bioethics. There is a need for research that will introduce “new perspectives and ways of thinking to the historical, ethical and cultural contexts in which medical science takes place” (Pickersgill et al., 2018, p. 1462). Lechopier et al. (2018) discuss ethical and social issues in biomedicine, life science, and technologies, a topic of public debate in France in recent years. In particular, they call for “well integrated and sufficiently developed Social Sciences and Humanities

courses in French medical schools” (2018, p. 1), stating that the training of health professionals in SSH disciplines is decisive to solve demanding challenges.

Lechopier et al. (2018) mention how patients want to become more informed and involved in the decisions made by health professionals (p. 2). Some key benefits of SSH knowledge in this issue include increased knowledge about private and social experiences and the biographical trajectories of a patient, improved understanding of the social and cultural constructs of health and disease, and an increase in the critical reflexivity and responsabilisation of carers (Lechopier et al., 2018, p. 4). SSH knowledge helps decrease prejudices of both doctors and patients and improve the relationships between carers and patients, and it ensures a human-centred viewpoint at a time when standards and recommendations, economic constraints, and productivity dominate health care actions and decision-making (Lechopier et al., 2018, p. 4). SSH actors can help ensure that health-related actions do not disregard the socio-cultural conditions of people’s lives and how people perceive their bodies, disease, death, among other major questions (Lechopier et al., 2018, p. 4). This inclusion of SSH expertise must occur during the entire duration of all projects, from patient-level research to policymaking, from the beginning stages of research to uptake and evaluation (Pickersgill et al., 2018, p. 1462).

An important example that illustrates the need for SSH integration in health decisions is discussed by Ganguli-Mitra et al. (2020). They describe a model proposed by epidemiologists and biomedical scientists for easing the lockdown in the UK during the COVID-19 pandemic (2020, p. 3). The model did not properly consider public health ethics, existing health inequalities, or the long history of the harmful effects of segmenting vulnerable populations (Ganguli-Mitra et al., 2020, p. 3). Research in medical sociology and anthropology show that solutions to public health problems must address how social inequalities will be affected (Ganguli-Mitra et al., 2020, p. 3). In addition, blame and injustices are strongly present in public health responses. Ganguli-Mitra et al. (2020) mention cases from history, describing how AIDS and cholera accounts show that the “attribution of vulnerability incorporates geographies of blame” (p. 4) and that segmentation is closely connected to socio-economics divisions and worsens existing injustices (p. 4). This highlights the importance of studying how institutional, cultural, and economic contexts shape people, and how social and economic developments impact populations (LERU, 2013, pp. 7–8).

### **3.2.3 SSH integration in research on society and culture**

Naturally, research in the social sciences and humanities considers aspects of society and culture. Therefore, research activities that concern culture and society would seem to naturally integrate SSH expertise in all actions. LERU states that “SSH scholarship, particularly through a multidisciplinary cooperation of historians, legal scholars, political scientists, and political philosophers, has much to offer” (p. 44). A key concern of scholars, however, is the importance of ensuring social protection and cultural protection, particularly for vulnerable groups (LERU, 2013, p. 38). Emphasis is also placed on the need to safeguard knowledge and heritage in areas of philosophy, religion, and art (LERU, 2013, p. 42). Reale et al. (2018) state one of the most crucial social contributions of SSH expertise is in providing an understanding of shared values and improving social awareness regarding history and cultural heritage (p. 305). The role of the humanities cannot be minimised, and research and innovation would greatly benefit from proper utilisation of the arts – music, design, literature, and architecture – in the transformation and empowerment of societies (LERU, 2013, p. 42). In addition, the digital humanities and technologies provide opportunities to explore Europe’s rich historic and cultural heritage in new ways (LERU, 2013, p. 38). Digital humanities combine knowledge from languages and literature, history, the arts, computer science, and information studies to develop methods such as statistical analysis and data visualisation (Berry, 2019). These methods can be used to study areas of SSH research in new and exciting ways, as Berry (2019) describes, digital humanities gives us “new ways of seeing past and present cultures” (para. 4). LERU (2013) states that proper utilisation and cultivation of European heritage demands a “fundamentally cross-disciplinary research agenda, ranging from research in the arts and humanities to scientific and technology research” (p. 44), with an equal consideration of “cultural landscapes, buildings, collections, associated practices, and digital resources” (p. 44).

The differences found in Europe’s rich cultural and historical diversity must be considered and taken into account, as knowledge in these areas is vital for understanding conflict. In particular, the effects of intense language contact, linguistic diversity and hybridity are to be studied, so as to solve social tensions (LERU, 2013, p. 43). Phenomena that involve linguistic identities are important, sensitive issues, and activities that relate to them must be handled with expertise. LERU (2013) emphasises the importance of studying the many Discourses of Europe – the way representations of Europe as a cultural whole, as a political project, and as a region in the world are generated across different media (p. 43). It is crucial that research activities consider historical and contemporary perspectives,



so that present trends and phenomena can be mapped while they are also connected to longer-term trends (LERU, 2013, p. 43).

### **3.2.4 SSH integration in security research**

The global nature of the Internet has allowed faster and more effective communication, and cyberspace is being described as a new social space, one that suffers from the same issues as social spaces in the real world (Oleksiewicz, 2019, p. 138). In addition to Internet use and technology being embedded in peoples' lives, important infrastructure is connected to the Internet due to convenience and efficiency ("Cybersecurity governance", 2021). Along with this use of digital tools and innovation, security has become increasingly jeopardised, and experts directly state the urgency of cybersecurity ("Cybersecurity governance", 2021), as cybercrimes are spreading rapidly in highly computerised societies (Oleksiewicz, 2019, p. 139). Mokha (2017) describes cybercrimes as crimes that are committed through computers and networks. She emphasises how these crimes have serious financial, emotional, moral, and ethical implications for individuals and societies (2017, p. 460). Professor of Cybersecurity Governance Bibi van den Berg highlights the inclusion of human behaviour into recent security questions ("Cybersecurity governance", 2021), as cybersecurity has so far been addressed from technical viewpoints, and security-by-design has largely focused on technical issues. The best cybersecurity solutions require that human behaviour is taken into account due to the significant role of human actors in the use of technology ("Cybersecurity governance", 2021). Due to the sophisticated nature of cyber criminals and the complexity of cybercrimes, actions toward their prevention and response need to utilise all possible expertise. Unique and varied perspectives from SSH disciplines have been included in research such as that of van den Berg's own research group, which features experts in psychology, political science, public administration, law, philosophy, and sociology. Each discipline provides valuable perspectives on digital security ("Cybersecurity governance", 2021). Research groups such as this benefit from bringing together ethical, legal, organisational, and political perspectives early on in the projects ("Cybersecurity governance", 2021).

Citizens must be informed and made aware of the risks relating to cybersecurity and Internet use. As Mokha states, "it is the need of today's world to have knowledge about these crimes which are associated with the internet" (2017, p. 464). There are differences in cybercrime awareness among individuals (Mehta & Singh, 2013), and this complex nature highlights the need for experts from various disciplines to address the diverse needs of citizens. Informing people about cybersecurity

comes with challenges such as the one mentioned by Guinchard (n.d.), in how cybersecurity suffers from a reputation of being understandable only for those who are already familiar with the digital world. So far, campaigns have been launched to raise awareness about online safety, but more interdisciplinary research actions including SSH involvement are needed. For example, scholars are emphasising the potential of informing citizens through the arts and humanities with more creative and communicative methods to engage with people (Guinchard, n.d.).

In addition to cybersecurity, LERU (2013) states that more SSH insight is needed to understand how real and imagined threats to security emerge and disappear and how these threats influence people, societies, and governments (p. 45). The complexity of security threats demands that all possible knowledge is utilised, as technology alone cannot create secure societies. LERU (2013) describes that since many security threats emerge from society itself, a deep understanding of society is needed (p. 46). In particular, a better understanding of the behavioural, social, and cultural sides of security, as well as the historical causes of insecurity, the role of media and communication, and citizens' perceptions is required (LERU, 2013, p. 46). SSH actors can provide knowledge on how people perceive and react to various threats, and on how they feel distrust and insecurity (p. 45, 46). The education of new generations is also vital – people must be educated on freedom, security, and justice (p. 47). The many threats that people face daily include cross-border crime, terrorism, man-made and natural emergencies, human trafficking, and war, in addition to many other conflicts (p. 45). It is important that SSH actors participate in research actions with their understanding of human rights, ethics, justice, and public acceptability – areas which form the basis of legal and security regimes (p. 46). LERU (2013) strongly urges security research to utilise the cultural, political, and legal expertise of SSH disciplines to further understanding security and civic confidence (p. 47). Activities will greatly benefit from the proper consideration of the history of Europe and all of the trauma, destruction, warnings, and records of courage and resilience that are present in history (LERU, 2013, p. 47).

### **3.2.5 SSH integration in digital, industry, and space research**

Space exploration has been a research area typically associated with the natural sciences (Daveri & Thiele, 2011). However, as Daveri and Thiele (2011) point out, many of the fundamental questions in space research – such as understanding how space exploration impacts humankind – concern SSH disciplines the most. Space research is justified by the need to advance scientific research, unite nations, ensure the survival of humanity, and develop strategic advantages over other countries

(Daveri & Thiele, 2011, p. 2). Again, most of these topics concern SSH. There is a great deal of discussion regarding how space research is being addressed by SSH disciplines, or whether social sciences and humanities remain an afterthought within natural sciences (Daveri & Thiele, 2011). At the impressive stage of development in current space research, Daveri and Thiele (2011) emphasise that activities must no longer be seen as purely technological innovations, due to the major social, cultural, and economic impacts of space exploration on the world (p. 2). SSH disciplines have vital roles to play in defining humanity's relationship with the cosmos, and in studying how space as an area of negotiation and colonisation should be treated ("What role do the humanities and social sciences have in space", 2021). SSH researchers can provide important outlooks on how we understand space, how space enables us to understand ourselves and our societies, and various other existential questions (Obiakor, 2021). There is a need for a more holistic understanding of space exploration as a collective human accomplishment (Obiakor, 2021). Among other disciplines, expertise in anthropology, politics, philosophy, history, ethics, and art has been increasing in space studies (Obiakor, 2021; Daveri & Thiele, 2011, p. 4). Obiakor (2021) discusses the Mars Perseverance Rover mission, a remarkable example of SSH integration in space research. Visual arts and artistic interpretations were involved in illustrating findings and inspiring return trips to Mars, and the entire mission was overseen by an interdisciplinary team (Obiakor, 2021). The arts have an important role in making scientific findings more understandable and accessible, as well as in designing technology and machinery for space exploration (Obiakor, 2021).

In addition to space, digital and industry research require the same amount of SSH involvement, particularly in ensuring ethical and people-centred outcomes. Digital technologies have changed the way people and societies do things, and new platforms, solutions, and other innovations are continuously increasing (Haddington et al., 2021, p. 6). Technologies have produced countless benefits and useful solutions for societies, but these developments in technology have also produced the current conditions that threaten the well-being of the Earth, which in turn causes massive uncertainty for individuals and societies (López-Varela Azcárate, 2020, p. 7). Therefore, knowledge is needed on the potential benefits of digitalisation but also on potential risks and challenges (Haddington et al., 2021, p. 6). Scholars call for "human-centric answers and solutions that advance the benefits of and mitigate the possible adverse effects of digitalisation" (Haddington et al., 2021, p. 6). The human dimension in digital technologies is vital for future success and safety. Haddington et al. (2021) emphasise that instead of overly relying on technologies, people and

societies must take the lead in the ongoing era of digitalisation, as only humans can ensure that challenges are met in ethical, creative, and flexible ways (p. 6). In addition, empowering people to act in a changing, digitised world must happen in an inclusive way (p. 6). This requires deep knowledge of the different habits, beliefs, and attitudes of people (LERU, 2013) – knowledge that SSH actors can provide.

Not only can SSH actors ensure human-centric and ethical changes in the world, but they can also provide valuable insight in the development of digital tools and artificial intelligence. Lee (2017) states that the inclusion of humanities into User Experience design is extremely important. Similarly, SSH actors can provide expertise in Interaction design, an area of technology development that requires a deep understanding of interaction, communication, linguistics, behaviour, psychology, and visual arts (Babich, 2019). User Experience refers to the way that users experience interaction with a product or a service (Lee, 2017, para. 1). Lee (2017) describes how the study of User Experience involves studying “everything in people” (para. 1). Therefore, information is needed on people’s behaviour, emotions, and ways of doing and being (Lee, 2017), and SSH actors have an important role in gaining this knowledge. Today, it is not enough for products to work, they must also meet the various demands and needs of people (Lee, 2017). SSH actors can contribute to the development of user-centred products and services (Lee, 2017). Artificial intelligence already relates to strong areas of SSH expertise, such as image and speech recognition, natural language processing and interaction, and semantic information handling (Braunschweig & Ghallab, 2021, p. 2). In addition, as Braunschweig and Ghallab (2021) state, artificial intelligence affects social interaction, health, human rights, diversity, equality, inclusion, and social cohesion (p. v). They also emphasise how these effects “need to be better assessed” (2021, p. v).

### **3.2.6 SSH integration in climate, energy, and mobility research**

Energy transitions affect individual lifestyles and entire societies, economies, and political systems. Therefore, research and innovation in energy should thoroughly consider how potential changes may impact people and the world. Since the urgent changes that must take place to ensure future wellbeing on Earth are largely social and political, SSH actors can be regarded as crucial actors in energy research (Foulds & Robison, 2018, p. 2). Experts highlight the need for interdisciplinary collaboration in research relating to sustainability and the environment (Timpote et al., 2017, p. 1). Schönwälder (2018) similarly emphasises that decision-making in energy policy requires the active involvement of citizens and SSH actors (p. v). Currently, energy research is fragmented, lacking the

necessary interdisciplinary actions and effective dialogue between STEM and SSH disciplines (Schönwälder, 2018, p. v). Genus et al. (2018) state that “SSH remains ineffectively integrated within EU energy research and policymaking” (p. 132).

Despite the emphasis from scholars on the importance of SSH in energy research, it remains largely technically focused (Wilhite, 2018, p. 178) and “little progress has been made in finding ways to actually make it [SSH integration] happen in practice” (p. 179). SSH expertise is needed to ensure that solutions are based on desired social values and that vulnerable groups are thoroughly taken into account in the clean energy transition (Middlemiss et al., 2018, p. 27). Genus et al. (2018) emphasise that without the involvement of SSH expertise, key moral questions may be neglected in energy solutions (p. 132). SSH actors can also help prevent societal tensions that may emerge from future changes (Wilhite, 2018, p. 180). All of these areas require an understanding of the workings of society and people’s everyday life (Middlemiss et al., 2018, p. 27). LERU (2013) mentions that SSH knowledge regarding how people have interacted with their environments in history is required in energy and environmental research (p. 34). SSH actors can provide important knowledge on how the arts and media can be harnessed to enable people to act in sustainable ways (LERU, 2013, p. 21).

Robison et al. (2020) outline seven main priorities for SSH research in energy research actions in Horizon Europe. They include power relations and smart energy transitions, engagement and trust in relation to smart technologies, equality in smart futures, the creation of communities for smart consumption, smart consumption in everyday life, the evaluation of assumptions and alternatives, and lastly, consideration of the different roles involved in smart consumption (Robison et al., 2020, p. 3). Energy research that affects local communities must properly consider diverse cultural and emotional aspects (Kerr et al., 2018, p. 31). For example, the industry of Marine Renewable Energy (MRE) impacts areas where people have physical, psychological, and spiritual connections to the sea (Kerr et al., 2018, p. 33). SSH expertise can be extremely beneficial in this aspect, for example in helping integrate MRE technologies into the culture of local communities (Kerr et al., 2018, p. 32). SSH researchers are called to ensure that socio-cultural issues are embedded in actions from the very beginning (Kerr et al., 2018, p. 37), and in realising the potential of community-driven actions (Wilhite, 2018, p. 180).

Borrell-Damián (2018) describes UNI-SET, a project involving 500 universities that demonstrated how reaching clean energy goals demands “in-depth interdisciplinary work and the integration of social sciences and humanities” (p. viii). Scholars call for the utilisation of SSH concepts, methodologies, and theoretical frameworks in a manner that “meaningfully represents SSH on its own terms” (Foulds & Robison, 2018, p. 4). This relates to the demand for SSH actors to take the lead in energy research, as STEM disciplines have typically set the agenda for the roles of SSH (Foulds & Robison, 2018, p. 4). Genus et al. discuss possibilities for improving SSH integration in Horizon Europe, suggesting that the issue be addressed “by adapting the language of energy work programmes and funding calls in favour of under-represented aspects of SSH” (2018, p. 142). Wilhite (2018) emphasises that SSH integration requires effective fostering in order to have an impact (p. 178).

### **3.2.7 SSH integration in food, agriculture and bioeconomy research**

Worldwide, nations and organisations are developing sustainable bioeconomy strategies and policies (Sanz-Hernández, Esteban & Garrido, 2019, p. 3). Issues surrounding increasing environmental problems, fossil fuel dependence, population growth, and food-related lifestyle diseases have increased the urgency for change in food, natural resource, and bioeconomy sectors (Sanz-Hernández, Esteban & Garrido, 2019, p. 2; Heimann & Svedin, 2018, p. 1). Contributions from chemistry, engineering, technology, biomedicine, and biology dominate strategies, but SSH perspectives “are largely lacking” (Sanz-Hernández, Esteban & Garrido, 2019, p. 22). LERU (2013) emphasises the importance of SSH integration in food, agriculture, natural resource, and bioeconomy research to ensure that cultural and socio-economic aspects of areas and communities are addressed when implementing food policies (p. 13). SSH research is required in understanding people’s preferences, behaviours, and attitudes, and in empowering people to act in more sustainable ways (LERU, 2013, p. 17; Sanz-Hernández, Esteban & Garrido, 2019, p. 2).

Scholars acknowledge the driving role of technology and innovation in the development of more sustainable agrifood and bioeconomy industries, but they also highlight the concern of the broader implications of these developments, for example the effects on people and societies (Heimann & Svedin, 2018, pp. 1, 2). Heimann and Svedin (2018) state that changes relating to food and the environment will influence everybody in some way or another because everyone depends on food and its availability, and everyone lives in and depends on some kind of landscape (p. 2). Furthermore, the digitalisation of the agriculture, food, and bioeconomy industries comes with

various legal, societal, economic, ethical, and political risks (Heimann & Svedin, 2018, p. 4). New technologies will be accompanied by shifts in gender-related aspects, relationships, power relations, and economics (p. 2). SSH actors are needed to consider the different perceptions, values, and emotional ties to food culture and production (Heimann & Svedin, 2018, p. 3). As Sanz-Hernández, Esteban, and Garrido (2019) emphasise, a holistic and multidisciplinary vision is needed in research to address the complex, multidimensional issues relating to food, bioeconomy, natural resources, agriculture, and the environment (p. 25).

### **3.2.8 SSH integration in practice**

Graf (2019) comments on SSH integration in Horizon programmes and raises the important question of how exactly it should happen in practice (p. 33). Due to the significant differences in disciplinary backgrounds, the coordination of interdisciplinary research poses challenges (Pedersen, 2016). I am interested to study how the integration of SSH actors would happen in practice, based on the reference documents under analysis. Graf (2019) comments on the rhetorical commitment of the EU and the European Commission, stating that while their guarantees sounds convincing and seem intuitively plausible, the past years have shown that SSH integration requires proper fostering and methodological tools (p. 33), and these have not been previously ensured. Spaapen and Sivertsen (2021) also comment on how the actual implementation and methodology for prioritising SSH aspects have not been fully developed in the past (p. 1). Graf (2019) describes how the question of how to integrate the social sciences and humanities in Horizon 2020 was not a focus for the European Commission, but for the individual applicant (p. 33). The past failures in SSH integration may be due to the dominating presence of previous quantitative structures (Spaapen & Sivertsen, 2021, p. 1) and of deeply entrenched attitudes and traditions (Felt, 2014, p. 386).

Some effective strategies that can help enhance the impact of SSH research and research activities in general are discussed by Aiello et al. (2021) in their study on the post evaluation of projects funded during previous EU Framework Programmes. Aiello et al. (2021) describe how scientists are being encouraged to reach out to their communities and interact with citizens about how research impacts the everyday lives of people (p. 132). The prioritisation of involving SSH actors in these outreach activities is one possible strategy to ensure that SSH actors are involved. Aiello et al. (2021) found that projects are successful when they develop different strategies that address different aspects and stages of the research process. They describe how impact can be increased early on in the beginning stages of a project, during the design phase and the establishment of a diverse

research network (2021). SSH actors should be included throughout the entire duration of project and in the dissemination of results (2021). Aiello et al. (2021) emphasise that collaboration during all stages of a project is a crucial part of successfully achieving social impact (p. 142).

Other suggestions for the practical implementation of SSH into all research areas includes the involvement of interdisciplinary experts in the framing of collaborative projects and in the proposal-writing process (Graf, 2019, p. 36). Graf (2019) states that bringing in experts on inter- and transdisciplinarity together improves proposals and project implementation (p. 34). He describes how in 2018, the Swiss advisory network on European Research and Innovation held an event on transdisciplinarity in Horizon 2020 (2019, p. 35). Experts on transdisciplinary methodologies assessed the design of collaborative projects in Horizon 2020, and all of them agreed that an explicit consideration of transdisciplinarity would make proposals more credible (Graf, 2019, p. 35). It is also important that applicants address potential methodological issues regarding the integration of knowledge and the elaboration of common R&I results (Graf, 2019). Graf mentions that evaluators should be thoroughly briefed about SSH integration, in particular about the actual process of how specific competences are integrated. He also mentions that National Contact Points should advise applicants about the basic challenges of integrating knowledge from different areas within collaborative projects (2019, p. 36). Dedicated tools such as webinars, factsheets, and other specific events are helpful tools that should be utilised (Graf, 2019, p. 36). Daveri and Thiele (2011) note that other institutions have implemented workshops, debates, conferences, and publications to increase communication between scholars from various sciences (p. 2). The European Commission could make these activities a priority as well.

Hiteva et al. (2018) further emphasise that concrete efforts and investments must be made toward a community of policymakers willing to accept and embrace interdisciplinary research (pp. 123–124). Genus et al. (2018) note that interdisciplinarity is not a magic solution, and therefore it must be properly facilitated with practical ways (Genus et al., 2018, p. 135). Heimann & Svedin (2018) emphasise:

All stakeholders must be willing to get involved despite differences in approach and research philosophy and traditions, with a clear focus on the aim. This will require all participants to be innovative with regard to their research methods and their willingness to learn and try different approaches... Sometimes the natural science stakeholder will take the leading role; *sometimes the problems will require the SSH stakeholder take the lead* [my emphasis], such as when certain problem causes can be clearly identified. In other cases, both natural science and SSH stakeholders will



need to cooperate *from the start* [my emphasis] to incorporate SSH in the development of technologies from the earliest stages. (p. 4)

This passage highlights the need for SSH integration in the beginning stages of a project. Heimann and Svedin (2018) make an important note about how the nature of the research goal will determine which discipline takes the lead in actions. The researchers must be flexible in this regard and not focus on how they have proceeded in the past.

Heimann and Svedin (2018) also mention that research funders must truly acknowledge the importance of SSH involvement – not only as a recommendation or afterthought, but as a need (p. 4). This requires more precision in research calls (Heimann & Svedin, 2018, p. 4). SSH questions are often only implicitly integrated into research programmes, which creates an indirect dominance for STEM contributions. Heimann and Svedin (2018) state that all aims and expected changes must be explicitly mentioned and programmes must be created accordingly (p. 4). Galvini et al. (2020) describe how researchers taking part in a SHAPE-ID learning case workshop emphasised the need for humble attitudes in interdisciplinary collaboration (p. 15). There are often hierarchies present between disciplines, but these must be put aside for interdisciplinary teamwork to succeed and produce effective results. (Galvini et al., 2020, p. 15). In addition, collaboration must provide benefits for all contributing disciplines and serve everyone's interests (Galvini et al., 2020, p. 12). Furthermore, Graf (2019) states that expertise on interdisciplinary methodologies should be a focus of all stakeholders, including the European Commission, applicants, evaluators, and National Contact Points (p. 34). In Horizon Europe, National Contact Points should be thoroughly advised on how to overcome the challenges of integrating knowledge from different disciplines and stakeholders in projects (Graf, 2019, p. 36). Graf (2019) emphasises that SSH integration can only be successful if facilitating actions meet state of the art principles (p. 34).

### **3.3 Horizon 2020 and Horizon Europe**

This portion will provide further information on the Discourse of SSH integration, focusing on the feedback of stakeholders and scholars regarding Horizon 2020. As mentioned, Horizon 2020 was the predecessor to Horizon Europe from 2014 to 2020. It was developed by the EU as a collaborative financial instrument that would help ensure Europe's global competitiveness in research and innovation ("Horizon 2020", 2022). In June 2018, the European Commission published its proposal for the ninth European framework programme (Graf, 2019, p. 35), and in April 2019, Horizon Europe

was signed by the European Commission. The programme will span from 2017 to 2027, and it is the largest research funding programme in the world (Castel Pietra et al., 2020, p. 2).

As mentioned earlier, Horizon 2020 already had various cross-cutting issues being promoted, such as SSH integration. Organisations such as EASSH have since published papers evaluating and discussing the topic. EASSH (2019) describes that in Horizon 2020, “the integration of SSH across the societal challenges... remained very weak” during Horizon 2020 (p. 1). In the context of Horizon Europe, EASSH calls for significant improvements in SSH integration, for example in the consistency of interdisciplinary approaches and in the quality of monitoring and evaluating SSH integration (2019). Foulds and Robison (2018) describe how there were major differences in the allocation of funding between SSH and STEM in Horizon 2020 (p. 5). They describe: “it is the case that SSH expertise... is awarded a very much smaller proportion of this funding than STEM—4% vs. 96% of the €403M energy Work Programme budget in 2016, for example” (2018, p. 5). Efforts have been made to address this issue, for example through the implementation of SSH flagged topics. Projects under these topics are required to include at least one SSH partner (López-Varela Azcárate, 2020, p. 14).

In 2017, the number of projects flagged for SSH participation began to grow, increasing from 40% in 2014 to 56%. However, in February 2019, the European Commission published the latest report on 2017 funded projects, when 37.5% of the total was marked as susceptible to SSH integration (López-Varela Azcárate, 2020, p. 16). Although the report shows a 71% to 86% increase in SSH participation, this means that almost a quarter of them did not have SSH participation (López-Varela Azcárate, 2020, p. 16). Additionally, only a small portion of SSH fields were represented, such as economics, political science, law, education, and communication (López-Varela Azcárate, 2020, p. 16). Reports show that on average, 20% of SSH participants were involved only in management or communication roles, rather than in the actual research activities. In addition, the expert evaluators who evaluate the projects represent a very small group of SSH professionals, mostly coming from areas such as economics and management (López-Varela Azcárate, 2020, p. 16). Furthermore, EASSH describes how between 2014 and 2016, a third of the awarded projects did not fully meet the call requirements in that they had no SSH partners involved (2019). EASSH (2019) emphasises the importance of showing equal appreciation for SSH actors from different disciplines, with social scientists being favoured over humanities scientists. The need for appropriate legal and ethical frameworks in Horizon Europe is emphasised by EASSH (2019, p. 2). EASSH also calls for equal

resources to be provided to Cluster 2, which is the main area of SSH research (p. 2). EASSH (2019) emphasises the need for improvements: “We repeat this call more vigorously in light of the failure to address the integration of social and humanistic research across Horizon 2020” (p. 3).

A European Commission report (2018a) summarising the responses from stakeholder consultations describes the request of stakeholders for a reinforced role for SSH actors in Horizon Europe. The report (2018a) states: “SSH offers strong value for tackling societal challenges and achieving missions, and should be better reflected in the design of collaborative calls within the EU R&I programme” (p. 4). This highlights the significance of call design. Stakeholders also asked for a broader view of impact in Horizon Europe, one that covers social, scientific, and cultural impacts. Another document published by the European Commission, namely an impact assessment (2018b), describes how the Regulatory Scrutiny Board suggested important changes in documents. One suggestion was that “the report should clarify how the concerns expressed by stakeholders on the need for a balanced integration of social sciences and humanities is taken on board” (2018b, p. 4). Another plea was also made for better reflection of SSH integration in the design of call and consortium requirements, proposal evaluations, and impact measurements (2018b, p. 18). Stakeholders also emphasised the value of SSH in relation to societal challenges (2018b, p. 18). In addition, more SSH representation is requested in the evaluation committees. The Council Decision of 10 May 2021 describes that the role of “social sciences, humanities, and arts... is fundamental” in meeting EU goals (European Council, 2021, p. 32). In the document’s subsection on the “Digital, Industry and Space” Cluster, the text describes that “perspectives from social sciences and humanities on the relation between technology and people in production will be vital to help generate added value” (European Council, 2021, p. 40). Horizon Europe is expected to embed expertise of SSH actors throughout in order to fully assess the impact of research and innovation on societies and individuals (EASSH, 2019, p. 4). Lastly, EASSH (2019) emphasises that the integration of SSH research should be valued for its own research and knowledge production, rather than for the single purpose of enhancing social impact (p. 2).

#### **4 Methodological framework**

As mentioned, the present study combines social positioning theory, discourse analysis, and document analysis. Social positioning theory is a central framework to the analysis and interpretation of findings, as the act of positioning, i.e. the process of assigning attributes to an

individual or a group (Hughes et al., 2017, p. 4), is explored in how the documents describe SSH actors. Galvini et al. (2020) state that the ways in which funding calls and topics are written is “critical to promoting the inclusion and integration of different disciplinary perspectives” (2020, p. 9). Therefore, with this acknowledgement of the value of the reference documents under study, I believe that social positioning theory, discourse analysis, and document analysis are excellent methodological approaches to the examination of the current Horizon Europe texts, and that they will allow me to observe how research actions are formulated and communicated. The following subsections further introduce these three concepts and the key studies by Hughes et al. (2017), Genus et al. (2018), and Vida (2021) that have motivated the present thesis.

#### **4.1 Social positioning theory**

During the later half of the 1900s, following revolutionary changes in psychology, Harré and Gillette introduced a representational view of cognitive functions. Green et al. (2020) describe this view: “individuals build mental pictures of the world from their contact with it; these pictures are derived from features of reality in the world; individuals then perform operations on the resulting (pictured) combinations of these features” (p. 120). Scholars including Harré and Gillette recognised problems with this view, such as the fact that it focused on mental actions as solely internal processes (Green et al., 2020, p. 120). Therefore, Harré and Gillette expanded their view, describing how “understanding and the phenomena of meaning or intentionality, in general, could only be approached by looking at what people actually do with word patterns and other sign systems” (qtd. in Green et al., 2020, p. 120). Social positioning theory has thus evolved into a framework for exploring how people are constructed, how they construct themselves, and how they construct their worlds through discourse (Green et al., 2020, p. 121). With its roots in social and discursive psychology<sup>2</sup>, the theory has been used to study the identities of scientists and teachers, among other professionals (McVee, 2011; Green et al., 2020; Hughes et al., 2017). Davies and Harré (1990/2007) describe the study of social positioning as an opportunity to observe, through discourse and discursive practices, “the roles that are recognizably allocated to people within those [social] structures” (p. 56).

Social positioning theory emphasises the central role of language in shaping people’s understanding and perception of what they are able to accomplish in society (Hughes et al., 2017, p. 3). Phenomena

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<sup>2</sup> See Moghaddam (2004) and Moghaddam (2006) for information on the connection between psychology and literature.

such as emotions, decision-making, prejudices, and beliefs are tied to discourse (Sorbin, 1998, p. 254), and this enables a discourse analyst to study how the values, attitudes, and priorities of a language user are evident in their discursive practices. Hughes et al. (2017) describe social positioning theory as the study of “how people *use words* [my emphasis] to locate themselves and others” (p. 8).

Harré (2010) describes a position as a cluster of rights and duties recognised in a certain social milieu (p. ix), and the process during which a person has these rights and duties allocated to them is the act of positioning. Hughes et al. (2017) describes positioning as the process during which attributes are assigned to a person or a group (p. 4). An individual can position themselves, or they can be positioned by someone else. Other positioning and interactive positioning refer to the positioning of someone else (Green et al., 2020, p. 127; Hughes et al., 2017). Similarly, positioning can be intentional or unintentional (Hughes et al., 2017, p. 4). Intentional positioning occurs when someone describes an individual or group as having certain credentials, expertise, or skills (Hughes et al., 2017, p. 4). In my analysis, I hope to observe how the European Commission describes SSH actors in the Horizon Europe documents. Harré (2011) mentions that positioning often “*crystallizes* out of the background of social practices within which people are embedded” (p. ix).

Drawing on the work of Davies, Harré, and other scholars, McVee (2011) lists some key aspects of social positioning theory: (1) a position includes the rights, duties, and obligations of a person in any social context, (2) these responsibilities are carried out in relation to the person’s individual attributes (i.e., what qualities and characteristics are used to describe the person), (3) positioning also involves expectations about how a person may enact their responsibilities, (4) multiple positions can emerge in any setting, and (5) examining a position requires analysing discursive processes (p. 5). McVee (2011) describes this examination of discourse as paying attention to how people use particular ways of writing to position themselves and their knowledge (p. 5). Green et al. (2020) describe some steps that scholars utilising social positioning theory have taken in their analytical process. These steps include the categorisation of positioning patterns and the grouping of these categories based on the amount of agency of the positioned individual (Green et al., 2020, p. 125). In addition, the analyst may consider what the positioned individual can or cannot do in consequence of the positioning that they are assigned (Green et al., 2020, p. 125). The analyst can consider whether there are environments to which the positioned individual cannot access due to the positioning (Green et al., 2020, p. 125). Social positioning theory acknowledges societal roles,

such as the professional roles of those working in SSH disciplines, as dynamic and ever-changing (Hughes et al., 2017, p. 3). As Green et al. (2020) describe, positions are “always in the process of being constructed in particular contexts” (p. 121). Davies and Harré (1999) describe this process:

An individual emerges through the processes of social interaction, not as a relatively fixed end product but as one who is constituted and reconstituted through the various discursive practices in which they participate. (Davies & Harré, 1999, p. 35)

This is a particularly appropriate notion for the analysis of SSH actors since they are being encouraged to move beyond their traditional roles and they are featured in many different research contexts. Positioning can also restrict the activities of individuals, or it may determine what actions are possible for someone (Hughes et al., 2017, p. 4).

Scholars such as Skillington (1997), who have utilised social positioning theory, have highlighted the tactical use of verbs and nouns in the emphasis of certain themes (p. 495). By utilising social positioning theory, I hope to also draw attention to the fact that behind the term SSH disciplines there are agential individuals, rather than approaching the topic of SSH integration with a focus on abstract concepts of disciplines. With its emphasis on language, social positioning theory ties in well with discourse analysis, as both involve the observation of the ways in which information is formulated and communicated to an audience (Skillington, 1997, p. 497). As Hausendorf and Bora (2006) point out, it is useful to observe the linguistic forms and communicative means that are associated with the acts of positioning individuals or groups (p. 4). I strongly agree with the sentiments of Tirado and Gálvez (2008) that emphasise the nature of positioning as being particularly well-suited for studying interaction and discourse as it considers “that all interaction is discursive” and “it understands that this is a changing, fragmented and absolutely contextual phenomenon” (p. 231). Lastly, it is worth mentioning the close relation of social positioning to the conception of *performance style*, which is described by Harré and Moghaddam (2003) as the “way people do things and the meanings ascribed to what they do” (p. 3). Future studies on the topic of SSH actors in research and innovation could feature a focus on performance style to investigate how individuals do the things that they were attributed as capable of doing. This idea will be expanded upon later in the discussion.

## **4.2 Document analysis**

Document analysis is a systematic way of examining texts (Bowen, 2009, p. 27), and its goal is to help the reader gain understanding of documents. Document analysis includes finding, selecting,

and making sense of document data (Bowen, 2009). Making sense of data involves skimming, reading, thoroughly examining, and interpreting the texts (2009). The themes, patterns, understandings, and insights that are gathered from this process are qualitative findings (Patton, 2002, p. 5). It is clear that document analysis and discourse analysis feature similar methods, making their combination in the present thesis most suitable. In his own study of how Social Fund - supported projects were conceived and implemented, Bowen (2009) reviewed line, phrase, sentence, and paragraph segments from documents. In my analysis, I proceed with the same steps.

A qualitative method, document analysis includes studying excerpts and passages from organisational texts and official publications and reports (Patton, 2002, p. 4). Other types of documents include background papers, program proposals, and application forms (Bowen, 2009). These are texts that have been produced without the researcher's intervention. Due to the nature of the Horizon Europe reference documents, I utilise document analysis to ensure a structured and comprehensive examination of the materials. A practical benefit in using official documents such as the ones published by the European Commission is that they are available for the public (Bowen, 2009). Therefore, there is no risk of the researcher contaminating or affecting the data. Bowen (2009) does emphasise, however, that the researcher must take care to avoid biased selectivity. To ensure a complete and comprehensive collection of documents, I first examined all of the documents published in the EU Funding and Tenders Portal, after which I narrowed the texts down to the relevant ones by focusing on my main research questions and the substance of the documents. Even though my approach to language is that all language has something to offer and interpret, some of the documents contained little to no information – many simply stated “coming soon” or something equally brief. Similarly, some documents included contractor details and tables to be filled with private information. These types of documents were ruled out as not fruitful for further analysis. Bowen (2009) emphasises that the analyst must have the capacity to identify useful information and to separate it from that which is not relevant to the study.

Next I read all of the selected texts multiple times, collecting notes on passages that pertained meaningful information with my research questions in mind (Bowen, 2009). It was quite necessary to read the documents over and over again in order to gain an understanding of the nature of the texts and to thoroughly understand them. Each reading provided new insight into the texts. For example, quotations and passages that related to the topic of SSH integration either directly or indirectly were gathered into a table, after which more notes were taken on the key points of each

passage or quote. This made it easy to keep note of emerging themes that cut across many pages and documents. These steps utilise elements of thematic analysis, an approach also discussed by Bowen (2009). Thematic analysis is “a form of pattern recognition within the data”, and the emerging patterns or themes make up categories for analysis (Bowen, 2009, p. 32). This type of examination also utilises elements of content analysis, which similarly involves observing the presence of certain words and themes and analysing their meanings and relationships (“Content Analysis” 2019; Bowen, 2009). Bowen (2009) notes, however, that the analyst must not simply ‘lift’ words and passages from their data to fit a research report (p. 33). The goal is to gain meaningful knowledge of the data, and this requires more than observing individual words and passages alone. Studying major themes and noting linguistic choices in words and phrases must all contribute to the understanding of the documents and research topic. Bowen (2009) emphasises that the process of analysis should be as rigorous and transparent as possible (p. 38).

In document analysis, it is important that the analyst considers the original purpose of the text as well – the reasons for the creation of the documents should be recognised, as well as the target audience (Bowen, 2009). In this thesis, I acknowledge that the reference documents were created to provide information and instruction to potential applicants and stakeholders. Therefore, the reference documents have a significant role and importance, shaping the future research and innovation of Europe. The steps described in this portion provided crucial structure to the analysis. The analysis is further deepened with a discourse analytical approach, which is described in the next subsection.

### **4.3 Discourse analysis**

In this thesis, I refer to discourse as language in use. Therefore, discourse analysis is the study of language (in use) and the study of how sentences and utterances are put together by people to communicate and do things (Jones, 2012, p. 2). Paltridge (2012) describes discourse analysis as the study of patterns of language across texts and the consideration of the relationship between language and the social and cultural contexts in which it is used (p. 2). The term discourse analysis was first used by Harris in 1952 as an approach to studying connected speech and writing (Paltridge, 2012, p. 2). Due to the ambiguous nature of language (Jones, 2012, p. 3), understanding it requires effort and interpretation (p. 2). Through discourse analysis, I approach language in the context of European research and innovation. Similar to social positioning theory, discourse analysis emphasises the power of language in creating and shaping roles and positions.



In this thesis, I combine various discourse analytical approaches in my analysis. Rapley (2018) describes how discourse analysis can take on many meanings, as some scholars interpret it as focusing on how some specific Discourses, such as the Discourse of racism or Discourse of nationalism, are used in a variety of texts like newspapers. Other researchers regard discourse analysis as focusing on how specific words and other linguistic features present in a text can affect the reader's interpretation (Rapley, 2018, p. 2). As mentioned in the introduction of this thesis, Discourse with a capitalised "D" refers to what is created by individual instances of language use. This view of discourse and Discourse is influenced by Gee, who describes Discourses as systems which integrate words, acts, values, beliefs, attitudes, and identities (Jones, 2012, p. 38). This idea is linked to Fairclough's influential work in Critical Discourse Analysis, an approach that emphasises the link between language and political, social, cultural issues relating to power. This social approach to discourse analysis is influenced by the work of Foucault, who viewed discourse as the main medium through which knowledge and power is constructed in the world (Jones, 2012, p. 38). I include this notion of larger Discourses, namely the Discourse of SSH integration, in my study, although I do not take up the critical approach of Fairclough. Therefore, while this thesis observes sentence-level aspects in individual texts, it also considers how the instances of language use relate to the broader social situation (Jones, 2014) and context – the documents' external environment. Of course, beliefs or practices cannot be reduced into one single word or phrase, but a word or expression can activate or signal perspectives, interpretations, and Discourses. To illustrate, the reference documents under analysis in this study make up the individual instances of language use, which in turn – along with the countless other texts and conversations relating to the topic – shape and make up the larger Discourse of SSH integration.

Discourse analysis can further be regarded as a collection of related practices and theories for analysing talk and texts. Rapley (2018) points out that the study of discourse links to social constructionism, which suggests that knowledge is created, sustained, and renewed by social processes, and that our knowledge and actions are closely related and reflexively inform each other (2018). In other words, concepts and ideas are not natural or innate, but the products of our actions, history, society, and culture. Thus, the roles of SSH researchers in research and academia can be considered as being constructed and enforced through language in documents such as those published about Horizon Europe. Even though this thesis does not take up the critical approach of scholars like Fairclough, a certain level of criticality is needed due to the fact that language is political

in that it affects how the world, cultures, and institutions are built and sustained (Gee, 2011, pp. 9–10). Rapley (2018) states that language, written or spoken, can never be regarded as neutral or transparent communication (p. 2). The way that a text describes something in a specific way rather than another type of way is significant and can indicate certain meanings. Rapley (2018) urges analysts to inspect how a certain argument is developed by paying attention to the rhetorical work of the text. By analysing and interrogating texts, the discourse analyst can understand the organisation of contemporary institutions and see how identities are produced and negotiated through language. It is important to note that language produces many possible understandings, rather than referring to one stable reality.

In addition to the social approach to discourse analysis, I also combine the formal and functional approaches described by Jones (2012). The formal approach to discourse is seen in the observation of linguistic features, such as words and grammar, as well as broader patterns and themes (Jones, 2012, p. 37). The functional approach to discourse focuses on the concept of language in use that I referred to earlier. As Jones (2012) describes, this perspective leads analysts to observe how people use language to do specific things, such as inform and instruct (p. 36). This functional approach is influenced by the works of Halliday, Austin, Grice, and Widdowson (Jones, 2012, p. 37).

Jones (2012) emphasises that language is always combined with other features such as fonts, layouts, and graphics (p. 2). A discourse analyst views language as “a rich source of analysis rather than ‘just’ words” (Larsen, 2004, p. 62). The analysis portion of the study will demonstrate this by observations of seemingly minor details in the texts, however, even elements that appear ordinary and insignificant can provide valuable insight. According to Gee (2011), the analysis is more valid the more tightly it is tied to details of linguistic structure (p. 123). As described earlier, it is useful to acknowledge the purpose of the text that is being analysed. According to Jones (2012), what language means is always a matter of where it is used and what it is used to do. Furthermore, observing that the writer, an active agent, reflects their attitudes and judgements in their texts allows the analyst to make certain conclusions and interpretations about the priorities of the individual or group behind the document. Similarly, the values of an individual or an organisation constitute important aspects of professional communication as they construct a certain image, and documents published by an organisation can be regarded as windows through which outsiders can perceive an organisation’s values and priorities (Schnurr, 2013, p. 7). Language has many effects on

people, and the attitudes and priorities that are reflected in a text influences the reader to act based on those factors.

In the context of this study, the way that the European Commission talks about and describes SSH researchers and SSH integration can affect how researchers, applicants, and those working on projects consider and involve SSH disciplines. For example, even seemingly minor choices in vocabulary can affect how “seriously” the inclusion of SSH expertise is made out to be. Documents produce specific realities which in turn have effects. Subjects such as SSH actors can be described in various ways, but as Rapley (2018) points out, it is important to focus on which description, identity, or subject position is relevant. Rapley (2018) mentions that people never neutrally engage with texts. Texts and documents are always read or used in a specific way, to do specific work. Gee (2011) offers some constructive questions to apply to the analysis of a text, questions that I utilise in my analysis. They include: (1) How is this instance of language being used to make certain things significant or not, and in what ways?, (2) What identity or role is this piece of language attributing to others?, and (3) What is being communicated as to what is taken to be valuable and correct? (Gee, 2011, p. 19). I trust that this combination of tools and approaches will allow the analysis to be as thorough and vigorous as possible, ultimately providing a comprehensive understanding of how SSH actors are positioned in Horizon Europe reference documents.

Discourse analysis is well-suited for the present study and its examination of Work Programmes and other reference documents. The importance of language in communicating policy and priorities is recognised in other organisations as well. Reuter, Timpte, and Nesshöver (2017) describe, regarding the inclusion of SSH disciplines in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), that “IPBES communications about the details and implications of the IPBES process itself might not be effectively engaging the social-science and humanities communities” and that “IPBES calls need to be circulated more widely and avoid language and expressions that are tailored specifically for natural scientists” (p. 173). They also describe how “calls should recognize differences in the social-science and humanities communities and target these more specifically” (2017, p.173). This strong recognition of the role of language in the context of research and innovation serves as an excellent introduction to the upcoming analysis. But first, I will summarise three key studies.

#### 4.4 Key studies

I will describe three studies by Hughes et al. (2017), Vida (2021), and Genus et al. (2018), studies which have motivated and inspired the present thesis with their topics and methodologies. The use of social positioning theory will be briefly illustrated with a discussion of the study by Hughes et al. (2017). Their work focused on the positioning of pharmacists' roles in primary health care, utilising discourse analysis as a method in addition to social positioning theory. Similar to SSH actors being included in wider areas of research, Hughes et al. (2017) describe how pharmacists' roles and responsibilities in patient care are greatly changing as well (p. 2). With their close relationship to the public, pharmacists are becoming more and more involved in primary health care, namely in providing clinical services (2017, p. 2). However, poor collaboration with other professionals, lack of a shared understanding about the different services provided by pharmacists, and a lack of remuneration are some main factors behind the underutilisation of pharmacists (Hughes et al., 2017, p. 2). The study materials consisted of 65 public documents related to the Alberta Compensation Plan, published between 2012 and 2015. The article states that texts such as government communications are useful sources of data when studying the context and implementation of policy (Hughes et al., 2017, p. 3). Texts relating to the Compensation Plan communicated important information about the services of pharmacists and the expectations related to the profession (2017, p. 3). With the changes in pharmacist practice and the development of the Compensation Plan, Hughes et al. (2017) highlight the need for research on how pharmacists are providing various services, and how these services are valued (p. 3). A similar situation is the present study's Horizon Europe texts, which provide information to stakeholders and the general public about the activities of SSH experts.

Hughes et al. (2017) describe their use of social positioning theory and emphasise the theory's approach to the influential role of language in shaping people's understanding, actions, and what they are able to do in the world (p. 3). With this framework, a focus is placed on the changing societal roles of professionals such as pharmacists (p. 3). For this thesis, the focus is on the various societal roles of SSH actors. As described earlier, positioning "is the process of assigning attributes to an individual or a group" (p. 4), and it refers to the ways in which language is used to enable actions through the assignment of roles and responsibilities (p. 4). This framework of positioning, and namely intentional self-repositioning and other positioning, allows the analyst to examine how texts relating to the Compensation Plan construct pharmacists' roles (p. 4). Self-repositioning and other

positioning refers to how pharmacists' roles are constructed by policymakers, professional organisations, pharmacists themselves, and public audiences (Hughes et al., 2017, p. 4). In this thesis, only other positioning is present as the materials consist only of documents published by the European Commission, not of any other texts that might be created by SSH actors themselves or other professionals.

Hughes et al. (2017) identified three main positioning themes: the expanding roles of pharmacists, the contributions to primary health care, and the facilitation of collaboration (p. 4). In the first theme, pharmacists were found to be positioned as having unique and valuable expertise and abilities to provide various services (p. 5). This involved pharmacists taking on more roles and providing more services, and it emphasised the expanding roles of pharmacists to the general public (p. 5). In the second theme, relating to contributions to primary health care, pharmacists were positioned as playing "a larger role in primary care" (p. 6), as an important part of the wider health care system, and as a convenient health care option for citizens (p. 7). The third theme found pharmacists positioned as facilitating collaboration and sharing information, in particular sharing information about specific services such as drug therapy (p. 7). The data showed pharmacists as "full partners" of physicians in the health care system (p. 8). Pharmacists were thus positioned as "more fully integrated", "taking on larger roles", and providing "team-based primary health care services" (Hughes et al., 2017, p. 8).

A relevant and comparative study relating to EU Framework Programmes is Vida's (2021) study on gender mainstreaming in Horizon 2020 Work Programmes. Similar to SSH integration, gender mainstreaming is seen by scholars as an example of "disappointing implementation" in EU research policy (Vida, 2021, p. 1). Like SSH integration, gender mainstreaming is surrounded by strong rhetorical commitment on the part of the EU, but practical implementation and facilitation has remained poor. Vida (2021) describes how "despite the European Union's (EU) official commitment to include gender mainstreaming (GM) in all EU policies since the 1990s, the actual implementation of gender equality has not been executed" (p. 1) and "Horizon 2020 work programmes exemplify a failure of implementing GM" (p. 1).

Work Programmes are a useful and illuminating choice of material for examining the priorities of the EU and the practical facilitation of policies. Vida (2021) describes: "Given the importance of planning and executing Horizon 2020, its work programme documents are crucial for consideration,

as they are considered to be the basic frames of mainstreaming gender equality” (p. 6). Discussion surrounding SSH integration in Horizon Europe highlights the Commission’s rhetorical emphasis, but as Vida shows in her study, the examination of Work Programmes can shed light on the actual, practical implementation of such issues. Her study highlights how institutional and individual resistance influence the implementation of issues such as gender mainstreaming in the framework programmes (p. 9). She also provides information on the creation of Work Programmes. The texts are first developed by the Commission’s Directorate-General, after which advisory group experts are included in the preparation and final drafting (p. 6). She states that “the appointment of the advisory group experts is highly political” (p. 6) and that the experts may reflect various interests and political agendas in their input (p. 6). Vida describes gender mainstreaming as an on-going political struggle, in which policymaking is an object of change and where implementation is constantly contested and resisted (p. 5). Vida found that regarding gender mainstreaming, the documents failed to describe responsible actors and specific measures (p. 10). One interviewee in the study described that some experts considered the frequent mentions of gender as counterproductive (p. 10). Vida concludes that gender mainstreaming remains “more of a promise than a reality” in EU Framework Programmes, and that the documents reveal “a normative shift from transforming gender equality as a horizontal issue to only a social dimension of research” (p. 7). Similar to Vida’s study, the present study aims to examine “the gap between rhetoric and practice” (Vida, 2021, p. 1) of SSH integration.

Genus et al. (2018) have also examined Horizon 2020 Work Programmes closely, focusing on how SSH is referred to over time in different Work Programme documents. Their analysis examined aspects such as the quantity and prominence of references to SSH, choices in wording, and tone. Their analysis found that in the 2014–15 Work Programme for Secure, Clean and Efficient Energy, social sciences were mentioned only once (p. 135). Examples of their observations are the following:

There were two references to SSH in headings in the competitive and low carbon energy call within the SC3 work programme and a stronger and more frequent appeal to SSH both in the introductory blurb of the programme and in the subsequent text. For example (on p. 10), it is considered that ‘New approaches will therefore have to be stimulated as regards business models, competitive services, and an increasingly smart and dynamic system utilizing, wherever possible, a multidisciplinary approach, integrating different Social Sciences and Humanities fields’ (Genus et al., 2018, p. 136)

Further, it is recognised... that ‘researchers in the Social Sciences and Humanities (SSH) have a particular expertise in analysing and understanding deep change and in

designing innovation processes, including social innovations’ and that ‘they *must* [our italics] play a stronger role in addressing energy-related challenges. Accordingly, SSH aspects *must* be better integrated into all stages of the research process’. However, other references to SSH continue to exemplify weaker integration of SSH. (Genus et al., 2018, p. 136)

In addition, they provide an example of a passage in one 2018–2020 Work Programme which states that “the complexity of [the] challenges... calls for multidisciplinary research designs, which should include contributions also from the social sciences and humanities” (qtd. in Genus et al., 2018, p.136). The use of the word “also” is interesting, as Genus et al. (2018) point out: “There remains a sense of SSH being necessary yet subordinate to science and engineering” (p. 136).

## 5 Analysis

All interpretations and conclusions are founded on the materials and texts themselves, and I aim to show this by showing examples from the documents. Although the analysis does not focus on quantifiable data, some mentions will be made in regard to the number of references to SSH. Genus et al. (2018) pointed out how one Horizon 2020 Work Programme for energy research contained only one reference to social sciences (p. 135). These types of observations can be useful in making general notes regarding the presence of a topic or theme. It must be mentioned that the length of the Work Programmes for the six Clusters vary greatly. The following analysis focuses on in-depth examination of the Work Programme documents for Clusters 1–6, as these documents contain the information for funding opportunities, providing requirements, criteria, and expectations for potential applicants and research projects. As Vida (2021) mentioned earlier, Work Programme documents are the basic frames that mainstream key issues such as gender (and SSH) (p. 6). First, I will summarise findings from other reference documents accessed through the Funding and Tenders Portal. This provides an introduction to the Work Programmes that follow, as the documents outline the general, foundational priorities of Horizon Europe. As such, the texts contain additional illuminating information on the positioning of SSH actors and the importance of SSH integration. The positioning themes that emerge in the Work Programmes are interrelated, with many themes overlapping into each other. The use of positioning theory, “a dynamic and developing analytic lens, not a static or predefined theoretical perspective” (Green et al., 2020, p. 138), combined with a discourse analytical approach provide a diverse and comprehensive analysis of how SSH actors are positioned in the documents.

## 5.1 Introduction to the documents

This portion discusses the analysis of the reference documents that were determined to be relevant for closer examination. The Work Programmes will be discussed following this introductory analysis. The documents analysed here include the following: the Horizon Europe Programme Guide (European Commission, 2021a), the document describing Regulation 2021/695 (European Parliament and Council, 2021), the document describing Council Decision 2021/764 (European Council, 2021), and the standard application form (“Standard Application Form (HE RI)”, 2021). The positioning of SSH actors varies in the texts. For example, the European Council (2021) describes that under Pillar 2, “the SSH shall be fully integrated *across all clusters* [my emphasis], including specific dedicated activities” and that the role of research and innovation in SSH disciplines is “fundamental” in the response to challenges and in achieving goals (p. 32). These challenges include, as listed in the document (European Council, 2021), reaping benefits of technological advancements, enhancing trust and promoting democracy, fostering education, combatting inequalities, unemployment, marginalisation, discrimination, and radicalisation, safeguarding human rights, cultural diversity, and European cultural heritage, empowering citizens, and the integration of migrants (p. 32). The first statement regarding the full integration of SSH actors across all Clusters emphasises the research skills of SSH actors as they are attributed expertise that can be utilised in all six Clusters. However, the next phrase in the document (European Council, 2021), “in particular SSH aspects are included in all intervention areas of this cluster” (p. 32) features a different nuance as SSH actors are somewhat reduced to “aspects” that are to be “included” in areas, rather than emphasising the active agency of SSH actors. In addition, the phrase does not specify what these SSH aspects are, which adds a vague quality to the necessity of social sciences and humanities.

The European Council (2021) describes strategic planning in Horizon Europe in a section of the text. The strategic planning includes implementing objectives in an integrated manner, increasing coherence between specific parts of the programme, the creation of synergies, the reduction of fragmentation, and general cross-disciplinarity in actions (p. 15). Below this section the document describes other specific programme activities, where the integration of social sciences and humanities is mentioned alongside efforts relating to the EU’s Integrated Maritime Policy. The subheading lists other activities, such as the inclusion of end-users in activities, the Future Emerging Technologies (FET) Flagships activities, and the cooperation with international partners. The



placement of SSH integration outside of the strategic planning list elicits questioning regarding its prioritisation. Furthermore, the placement and wording of the phrase “the SSH shall be fully integrated” in this setting features SSH actors as a mere vague concept, especially since the passage does not elaborate on the value of the social sciences and humanities nor the actual integration. The document’s dedicated portion for Pillar 2 does not mention social sciences or humanities at all. It does describe the integrated, non-siloed nature of the activities (European Council, 2021), stating that “none of the clusters is intended for only one set of actors” (p. 26). It also describes the prioritisation of gender equality in all actions (p. 27), but the integration of SSH is not specifically mentioned. To summarise, the European Council (European Council, 2021) positions SSH actors as a valuable inclusion to research and innovation, stating that they will be integrated across all Clusters, but it also positions SSH actors as part of a vague, passive concept that is mentioned as an addition without further elaboration.

EASSH (2019) calls for SSH representation in strategic programming committees, drafting teams, and evaluation panels, emphasising the abilities of SSH actors to assess the effects of research on societies and individuals (p. 4). The European Parliament and Council (2021) state that “beyond the promotion of SSH in projects, the integration of SSH should also be supported through the inclusion, whenever appropriate, of independent external experts from the field of SSH in expert committees and evaluation panels” (p. 3). The phrase “whenever appropriate” leaves plenty of room for open interpretation. Further on in the text it is described that Horizon Europe “shall be structured... taking into account that SSH play an important role across all clusters” (European Parliament and Council, 2021, p. 19). Here the importance of SSH actors is directly recognised, and they are attributed valuable qualities that make them an important participant in all Clusters. The agency of SSH actors is emphasised with them “*playing* [my emphasis] an important role” (p. 19). The text includes an acknowledgment of the potential of SSH research to increase “the economic and societal impact of the Programme” (p. 3). SSH actors are recognised not only for their expertise in societal aspects but also as drivers of economic impact. The text emphasises the “multidisciplinary approach” (p. 21) of Horizon Europe, continuing with the statement that the programme shall “where appropriate, provide for the integration of SSH across all clusters and activities” (p. 21). Similar to before, the wording and use of the phrase “where appropriate” takes away from the prioritisation of SSH integration. The text describes that, in practice, SSH integration will be supported through “timely monitoring and reporting of SSH in funded research actions” (European Parliament and Council,

2021, p. 3). A database shall be made available that includes “information on the level of mainstreaming SSH” (European Parliament and Council, 2021, p. 47).

The Programme Guide (European Commission, 2021a) describes Horizon Europe’s cross-cutting elements and key specific issues, among which are gender and social sciences and humanities integration (2021a, p.9). The gender dimension is an interesting point of comparison to SSH integration. The Programme Guide describes in its subsection on gender:

The integration of the gender dimension into R&I content *is mandatory* [my emphasis]. It is a requirement set by default across all Work Programmes, destinations and topics, unless its non-relevance for a specific topic is specified in the topic description, e.g. by the mention “*In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement*”. (European Commission, 2021a, p. 16)

The gender dimension is described as a mandatory requirement, and topics that do not require for it to be considered will be directly specified as such. The Programme Guide describes SSH integration in the subsection for Social Science and Humanities, stating:

Under Horizon Europe, the effective integration of social SSH in all clusters, including all Missions and European Partnerships, is a principle throughout the programme. The aim of SSH integration is to improve our assessment of and response to complex societal issues. Thus, SSH are a key constituent of research and innovation, especially regarding the twin green and digital transitions. (European Commission, 2021a, p. 20)

SSH integration is described as principle, however not a mandatory one like the gender dimension. The text continues that “where relevant, the R&I chain should include contributions from SSH disciplines” (p. 20). We have seen that many texts feature the phrase “where appropriate” or “whenever appropriate” in descriptions of SSH inclusion, and as mentioned, this takes away from the vital necessity of SSH and leaves room for interpretation. An alternative version of the phrase might be something along the lines of “Unless explicitly stated otherwise, the R&I chain should include contributions from SSH disciplines”. The text describes that the reason for SSH integration is “to improve our assessment of and response to complex societal issues” (European Commission, 2021a, p. 20). This implies that instead of SSH actors producing their own knowledge, they solely improve existing solutions. Again SSH actors are positioned as additional inclusions to activities.

In the document (European Commission, 2021a), SSH flagged topics are described: “Many topics invite contributions from the SSH” (p. 20). This features SSH actors positioned as a passive, complementary element to topics. Furthermore, SSH actors are positioned in relation to STEM

actors, not as independent sources of knowledge in their own right, but as complementary aids to other disciplines. The Programme Guide (European Commission, 2021a) states that proposals lacking sufficient contribution or integration of SSH will receive a lower evaluation score (p. 20). This would appear to provide an added incentive for applicants to ensure SSH integration on their part. Although SSH integration is described as a principle and key issue in Horizon Europe, the fact that the need for social sciences and humanities is mentioned specifically alludes to the constant, dominating presence of STEM disciplines in research and innovation. To elaborate, the reference documents could have featured statements that emphasised an equal presence of SSH and STEM actors in all activities.

In application forms such as “Standard Application Form (HE RI)” (2021), applicants must explain to what extent they are including necessary expertise and to what extent the consortium members have the required expertise to carry out the project (p. 14). The applicant is instructed to “explain *how* [my emphasis] expertise and methods from different disciplines will be brought together and integrated” (p. 33). This instruction places responsibility of the required integration on the applicant. However, the applicant is given an opportunity to exclude interdisciplinary approaches: “If you consider that an inter-disciplinary approach is unnecessary in the context of the proposed work, please provide a justification” (p. 33). In addition, the applicant is asked:

For topics where the work programme indicates the need for the integration of social sciences and humanities, show the role of these disciplines in the project or provide a justification if you consider that these disciplines are not relevant to you proposed project”. (“Standard Application Form (HE RI), 2021, p. 8)

These instructions for the applicants are one way of monitoring and supporting SSH integration. The application form also features a checkbox table where a box must be marked if the project includes contributions from SSH disciplines (“Standard Application Form (HE RI), 2021, p. 13). In general, the Application Form positions SSH actors as a secondary add-on or extension to the “main” research and innovation activities, something that the other, “primary” actors are required to consider.

All of the discussed reference documents specifically mention the integration of social sciences and humanities, acknowledging the importance of SSH inclusion in research. However, the analysis showed some variation in the positioning of SSH actors. The European Council positions SSH actors as a valuable inclusion to activities but also as a vague concept that is not expanded upon (2021). None of the documents feature SSH actors positioned as taking the lead in research actions,

although the European Parliament and Council (2021) emphasise the agency of SSH actors in one part of their text (2021). Phrases like “where appropriate” that are used throughout the documents leave room for open interpretation on the importance of SSH actors, implying that there are actions where SSH inclusion would not be appropriate or necessary. The application form (“Standard Application Form (HE RI)”, 2021) shows how applicants are expected to make explicit their inclusion of social sciences and humanities. However, the form positions SSH actors as an extension to primary research, as lesser partners in activities (Felt, 2014, p. 385) with STEM disciplines taking on the main responsibility in actions. Felt (2014) describes how SSH actors have been simultaneously portrayed as crucial for reaching goals and “conceptualized as the junior partners” with the leading role remaining with science and engineering (p. 385).

## **5.2 Health Work Programme**

This subsection discusses the analysis of the 2021-2022 Work Programme for Cluster 1, Health (European Commission, 2021b). The well-being of individuals and the working of health care systems are some main concerns of the Cluster. It has six impacts that are expected to be achieved: (1) staying healthy in a rapidly changing society, which involves understanding behaviours and lifestyles, (2) living and working in a health-promoting environment, which involves understanding occupational and social determinants of health (3) tackling diseases and reducing disease burden, which involves better preparedness and ability to manage diseases (4) ensuring access to innovative, sustainable, and high-quality health care, which involves the development of people-centred solutions (5) unlocking the full potential of new tools, technologies, and digital solutions for a healthy society, which involves the inclusive, secure, and ethical development and integration of solutions, and (6) maintaining an innovative, sustainable, and globally competitive health-related industry (European Commission, 2021b, p. 11). All six impacts feature human-centred aspects such as behaviour and lifestyle, living and working, preparedness and coping ability, creating people-centred solutions, and an effective working of the health industry. These are strong areas for SSH expertise. As a whole, the Health Work Programme (European Commission, 2021b) does not feature SSH integration strongly, with only some references to SSH integration and a few SSH flagged topics. It contains eight direct references to social sciences and the humanities, but nonetheless, five main positioning themes emerge where SSH actors are positioned as (1) contributing to emergency response, (2) contributing to mental health, (3) contributing to knowledge on digitalisation, (4) contributing to improved patient care, and (5) contributing to antimicrobial resistance research. The

last subsection under the Health Work Programme analysis discusses additional themes that do not directly link to the main positioning themes.

### **5.2.1 Contributing to emergency response**

The Work Programme (European Commission, 2021b) highlights the urgent need for faster and more efficient responses to health emergencies. The document specifically mentions the inclusion of social sciences in a larger framework of health emergency response (European Commission, 2021b, p. 96). It describes how, under the topic “Support for the functioning of the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R)” (p. 95), proposals are expected to contribute to the following outcome:

International research funders *can rely* [my emphasis] on a tested framework underpinning a rapid and effective research response, and as such *ensure stronger research preparedness and response for public health emergencies* [my emphasis], including in cross-cutting areas such as data sharing, social science, clinical trial networks and others. (European Commission, 2021b, p. 95)

The Work Programme also describes ongoing efforts with the GloPID-R network to improve data sharing and strengthen the inclusion of social sciences into the health emergency response (p. 96). SSH actors are thus positioned as a reliable resource to be called upon during a disease outbreak or other health emergency and as having the necessary expertise for the improvement of emergency response networks. This positioning aligns with previous literature regarding the valuable insight of SSH disciplines regarding public health responses (Ganguli-Mitra, 2020, p. 1). The Work Programme (European Commission, 2021b) emphasises the impacts of the COVID-19 pandemic as one reason affecting the urgency for actions.

### **5.2.2 Contributing to mental health**

The Health Work Programme (European Commission, 2021b) has SSH actors positioned as contributing to mental health research. Their involvement is directly called for in the topic “Towards a molecular and neurobiological understanding of mental health and mental illness for the benefit of citizens and patients” (European Commission, 2021b, p. 16). The topic focuses on raising people’s awareness on the neurobiological basis of mental illness and decreasing stigma around mental health. The instructions for proposals state: “International cooperation is encouraged and the proposed research is expected to be multidisciplinary, including through the involvement of medical sciences, psychological sciences, social sciences and the humanities” (pp. 18–19). Research in areas such as cognitive neuroscience has seen interdisciplinary collaboration as a great source of

knowledge production (Pedersen, 2016), while SSH disciplines are crucial in improving insight into “the human condition, development, suffering, personhood, our responsibility to each other” (LERU, 2013, p. 7). They provide valuable aid in increasing observation and analysis skills, empathy, language, and self-reflection (LERU, 2013, p. 7). The Work Programme (European Commission, 2021b) appears to foster future success in these areas, with SSH actors being linked to multidisciplinary actions and positioned equally alongside STEM disciplines in increasing understanding of mental wellbeing. This equality is evident in the absence of phrases such as “as well as” or “where appropriate”. With this, the Work Programme (European Commission, 2021b) recognises the need to involve all possible sources of knowledge, as the medical sciences alone are not equipped to handle the various complex aspects that are involved in health.

The topic “Boosting mental health in Europe in times of change” (European Commission, 2021b, p. 26) states that related actions are expected to lessen the mental health burden of individuals and help people cope with the effects of changes stemming from crises such as the COVID-19 pandemic, climate change, digitalisation, and technological advancements (p. 26). The text instructs that research “should be multidisciplinary, including medical sciences, social sciences, the humanities, and the arts, if relevant” (p. 28). In contrast to the previously mentioned topic, this instruction contains the phrase “if relevant”, which immediately decreases the importance of including the various disciplines. It is worth noting the order in which the sciences are listed, as medical sciences are mentioned first before the SSH disciplines. However, the statement is followed by a recognition of the need for research on behavioural patterns, stigma, social dynamics, and socioeconomic and cultural aspects (p. 28). This indicates a recognition of the value of SSH knowledge. The text emphasises the need for a patient-centred approach and the empowerment of patients (p. 29). In addition, the activities under the topic are encouraged to promote “a culture of dialogue and openness between health professionals, patients and their families” (European Commission, 2021b, p. 29). This would appear to align with the sentiments of scholars regarding the importance of SSH insight in the ethical and social aspects of health activities. As mentioned by LERU (2013) earlier, SSH disciplines can help ensure a human-centred viewpoint, empower patients, and improve the relationships between health professionals and patients (p. 4). The Work Programme (European Commission, 2021b) answers to the calls from stakeholders (LERU, 2013, p. 5) to pay proper attention to mental health in addition to physical health.

### **5.2.3 Contributing to knowledge on digitalisation**

The Health Work Programme (European Commission, 2021b) answers to the concerns of scholars regarding digitalisation. It recognises the power of digital technologies in the shaping of society and mentions some damaging effects of digitalisation, for example the impact on the mental health and cognitive abilities of people (European Commission, 2021b, p. 28). The Work Programme states:

Digitalisation, including digitally-enabled technologies such as robotics and artificial intelligence, are penetrating much faster into societies than in the past and affect us all. Accordingly, the “Fourth Industrial Revolution” is changing the way we work (e.g. workplaces, working practices and patterns, the workforce and its skills, and how we perceive work) as well as the way we live. The exponential incorporation of digital technologies in our daily lives has already caused profound changes in the way we communicate. (European Commission, 2021b, p. 27)

Precisely these aspects of study – the way people and society work and communicate – are strong areas demanding SSH involvement. The Work Programme calls for multidisciplinary research that includes social sciences and humanities (p. 28) and for activities that will provide interdisciplinary approaches to the evaluation of emerging health technologies (p. 147). SSH actors are thus positioned as contributing to knowledge on digitalisation and the ways in which technologies affect people’s lives. The uptake of technological solutions in healthcare requires public acceptance and trust, but SSH actors are not directly called for in these actions. Although, some specific areas of SSH expertise are described, such as the development of natural language processing tools and solutions that improve the accessibility, translation, and analysis of health data (European Commission, 2021b, p. 137).

### **5.2.4 Contributing to improved patient care**

In this main positioning theme SSH actors are positioned as providers of unique and beneficial expertise that can be utilised in the improvement of patient care. The Work Programme (European Commission, 2021b) places a strong emphasis on the need for expertise of SSH disciplines in activities relating to the improvement of end-of-life care for cancer patients and their support circle. The topic “Improved supportive, palliative, survivorship and end-of-life care of cancer patients” (2021b, p. 66) explicitly calls for the involvement of SSH experts: “This topic requires effective contributions from the social sciences and humanities (SSH) through the involvement of SSH experts and institutions as well as the inclusion of relevant SSH expertise” (p. 68). Said involvement is expected to produce “meaningful and significant effects” (p. 68) that will enhance the societal impact of the activities. The placement of this passage is noteworthy when compared to other

mentions of SSH in the upcoming Work Programmes. Rather than having the request for SSH involvement at the very end, this topic features it more prominently at the start of a paragraph. The passage also features a committed tone, as there is no sense of negotiation regarding the need for SSH actors. It emphasises the requirement through the repetition of SSH three times in the statement. Thus, the Work Programme (European Commission, 2021b) answers to the calls from scholars to recognise the complexity of health care systems (LERU, 2013), attributing SSH actors with valuable and necessary knowledge on the complex human, social, cultural, legal, familial, religious, and ethical perspectives that are involved in health and patient care (European Commission, 2021b, pp. 67–68).

### **5.2.5 Contributing to antimicrobial resistance research**

This main theme features SSH actors positioned as participants in antimicrobial resistance research. The topic “A roadmap towards the creation of the European partnership on One Health antimicrobial resistance (OH AMR)” (European Commission, 2021b, p. 77) specifically calls for the involvement of SSH actors. It states that more knowledge is needed on the socioeconomic drivers affecting the use of antimicrobials, and that related proposals “should cover all of the following activities” (p. 78) which include “robust communication and effective information exchange between diverse scientific disciplines and among multiple sectors of the society... (including those working in the social sciences and humanities)” (p. 79). SSH actors are attributed the ability to effectively communicate and exchange knowledge. Although the passage states the need for SSH actors, it also features them as an uncommon, almost isolated entity that would not be included if not for the specific mention to do so. Instead of describing SSH actors as key participants, they are mentioned inside parentheses as an additional requirement. The text continues, describing how proposals are expected to “mobilise experts from diverse disciplines, including from the social sciences and humanities” to increase knowledge on the “prevention, monitoring, epidemiology (e.g. emergence, spread, persistence), treatments, and detection of AMR” (p. 79). This second mention of SSH actors emphasises their importance, and they are attributed key expertise in further understanding and preventing antimicrobial resistance. The topic describes the fragmented nature of research and innovation in antimicrobial resistance, stating that “there is the need to move towards the integration of the various disciplines to overcome this fragmentation” (European Commission, 2021b, p. 78). SSH actors are positioned as part of these efforts of integration.



### 5.2.6 Other aspects

The Health Work Programme (European Commission, 2021b) includes one practical method of supporting SSH integration. The working of a network of National Contact Points (NCPs) “will support researchers of the social sciences and humanities *to connect* [my emphasis] into all Clusters of Horizon Europe” (2021b, p. 23). This statement highlights the agency of SSH actors, as the network will aid them to connect to activities, as opposed to the network supporting other researchers in their integration of SSH disciplines. The responsibility of SSH integration is placed on both the National Contact Points and SSH actors. The network has a dedicated topic, “Mobilising a network of National Contact Points (NCPs) for the Health Cluster” (p. 22). Activities in the network include NCP Information Days, NCP trainings, events for interested participants, and the provision of tools to support NCPs and researchers (European Commission, 2021b, p. 23).

### 5.3 Culture, Creativity and Inclusive Society Work Programme

It is to be expected that Cluster 2 – Culture, creativity and inclusive society – most prominently features SSH actors, with the strengthening of democracy, the preservation of cultural heritage, and the supervision of social and economic changes as the Cluster’s main goals (European Commission, 2021c, p. 6). The introduction of the Work Programme directly states that social sciences and humanities have a role in the Cluster’s activities (p. 6). The Work Programme ties the concept of multidisciplinary to SSH disciplines in its statement how “Cluster 2 mobilises multidisciplinary expertise of European social sciences and humanities for understanding fundamental contemporary transformations of society, economy, politics and culture” (p. 6). The inclusion of SSH disciplines is described as a requirement:

The topics in this cluster require the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. (European Commission, 2021c, p. 10)

This statement recognises the benefits of including SSH expertise in all actions of the Cluster, and the placement of the passage at the end of the introduction, as well as its wording suggests that all of the topics in the Work Programme require the inclusion of SSH actors. The passage repeatedly emphasises SSH through the mentions of “contribution of SSH disciplines”, “involvement of SSH experts”, and “inclusion of relevant SSH expertise”. The Work Programme contains 13 references to social sciences and humanities. The main positioning themes that emerge in the Work Programme

are SSH actors (1) providing expertise in all activities, (2) contributing to UN Sustainable Development Goals, and (3) collaborating with Clusters. The first theme features SSH actors positioned as providing the key expertise for all actions in the Cluster, offering crucial insight in societal, economic, political, cultural, historical, legal, ethical, philosophical, and people-centred aspects. The second theme has SSH actors positioned as contributing to the UN Sustainable Development Goals. Third, the Work Programme (European Commission, 2021c) positions SSH actors in collaborative efforts between Clusters.

### **5.3.1 Providing expertise in all activities**

Since SSH actors are essentially positioned as contributors to all of the Cluster's activities, given the general nature of the Cluster, I will outline some specific topics that feature a need for their expertise in societal, historical, economic, political, cultural, legal, ethical, and philosophical aspects. These make up the first main positioning theme. The Work Programme (European Commission, 2021c) discusses the fragile nature of democracies and people's trust in political institutions (p. 11). SSH actors are involved in facilitating democratic values, improving citizens' trust, increasing political participation, improving social inclusion and equality, and in engaging citizens (pp. 6, 11). The text states that "rich historical, cultural, and philosophical perspectives... will set the frame for soundly understanding present developments and help to map future pathways" in democracy (p. 11). In particular, knowledge in history, culture, and philosophy is important in understanding the present state of democratic institutions and strengthening their role for the future. The text describes that "a philosophic, sociological, legal, economic, historical and political reflection is needed... in order to establish a viable conception of liberal democracy for the future" (p. 15). LERU (2013) highlights the value of historians, legal scholars, and political scientists and philosophers in understanding present phenomena (p. 43). The Work Programme (European Commission, 2021c) features a need for historical expertise in the analysis of the COVID-19 pandemic, for example in analysing how responses to the pandemic have affected citizens' trust in public authorities (p. 21).

Regarding education, the Work Programme (European Commission, 2021c) describes a need for research into how education can improve the production of historical and cultural consciousness, which relates to cultural and textual literacy and critical historical learning (p. 28). The Cluster appears to respond to the concerns of scholars (LERU, 2013, p. 21) for a proper focus on education and learning. LERU (2013) highlights the important influence of SSH disciplines on teacher education (p. 21). It describes the need for pedagogical research: "the challenges we burden future

generations with can be mediated to the emerging generations in our institutions for primary and secondary education” (2013, p. 21). The Work Programme (European Commission, 2021c) calls for actions that utilise educational material in the mediation of key issues regarding sustainability, migration, tolerance, diversity, and inequality, among other topics (p. 28). A specific focus is placed on actions supporting vulnerable and marginalised populations throughout the Work Programme, which aligns with the concerns of scholars regarding the importance of ensuring social and cultural protection for vulnerable groups (LERU, 2013).

Strongly relating to equality in society and culture, the Work Programme emphasises a need for more research on feminism and gender equality. It describes gender equality as “a fundamental value of the European Union” (European Commission, 2021c, p. 17), and calls for projects to examine how feminism and gender are featured in extreme populist discourses, namely “traditionalist, masculinist and authoritarian discourses” (p. 17). The topic “Feminisms for a new age of democracy” (p. 17) outlines the need for contributions from care ethics, ecofeminism, intersectional theory, queer theory, and masculinity studies (p. 17). Activities relating to the topic are urged to consider social class, ethnicity, sexual orientation, and religion in their research. The Work Programme (European Commission, 2021c) also mentions that gender equality is to be studied in relation to policy- and decision-making, labour market participation, the gender pay gap, workplace and work-life balance arrangements, gender-based and domestic violence, reproductive rights, gender roles in education, and cultural representations in art and the media (p. 94).

The Work Programme (European Commission, 2021c) urges proposals to study the Discourses and narratives employed by the EU in supporting political change (p. 19). In addition, the text calls for a deeper understanding of the causes and effects of extremist narratives and Discourses. The Work Programme recognises the impact of the COVID-19 pandemic on the amount of extremist narratives, and these narratives are encouraged to be studied in relation to historical, social, and cultural contexts (p. 29). The Work Programme’s emphasis on the study of Discourses aligns with the recommendations of scholars regarding the crucial study of Discourses, narratives, and representation of Europe (LERU, 2013). As emphasised in previous literature, SSH research is invaluable in understanding cultural construction, the transformation of identities, and the resistance to these transformations (LERU, 2013, p. 55). LERU (2013) describes how “the people of Europe... live increasingly mediated lives in a rapidly changing media landscape that directly and indirectly shapes public discourse” (p. 38). Furthermore, “attitudes to the institutions and policies

that govern our lives, the ways in which we imagine the communities to which we belong... all are shaped through a wide range of genres (from daily news to entertainment to informal exchanges) carried by multiple platforms (from mobile phones, internet and television, to more traditional print-based forms)” (LERU, 2013, p. 38). This can initiate the formation of networked communities that can have negative impacts (e.g. hate media) can also be used in conflict resolution, peace-building, or the enhancement of social cohesion (LERU, 2013, p. 38). Relating to communities, the Work Programme (European Commission, 2021c) describes how languages “are the expression of the identity, culture and the way communities and people perceive the world” (p. 55) and that “when languages disappear, our cultural diversity is impoverished” (p. 9). Languages are thus placed strongly at the core of identity and expression. Matching the concerns of scholars regarding proper consideration of language contact and linguistic identities (LERU, 2013, p. 43), the Work Programme (European Commission, 2021c) emphasises the promotion and utilisation of linguistic diversity.

The Work Programme (European Commission, 2021c) describes how “big data and AI are shaping our societies at an unprecedented rate” (p. 23). The expertise of SSH actors is therefore needed to study how artificial intelligence and big data applications affect societies and the views of individuals. This includes knowledge regarding philosophical, legal, and ethical values in the use of technologies (p. 23). The Work Programme highlights the importance of studying how the arts can drive social inclusion and shape societies (p. 52). It describes the role of cultural traditions and arts in building a sense of belonging, in bringing people together, and in improving well-being (European Commission, 2021c, p. 37). This recognition aligns with the emphasis of scholars regarding the influence of philosophy, religion, and art in Europe (LERU, 2013, p. 42). LERU (2013) describes the powerful function of music, design, literature, and architecture in transforming and strengthening societies (p. 42).

### **5.3.2 Contributing to Sustainable Development Goals**

SSH actors are positioned as part of the efforts being made to reach the UN’s Sustainable Development Goals. The Work Programme (European Commission, 2021c) describes: “The EU is strongly committed to the UN Sustainable Development Goals (SDGs), many of which have an important impact on culture, creativity, and inclusive society” (p. 6). Therefore, with the key expertise of SSH actors in these areas of culture and society, they are positioned as participating in the Sustainable Development Goals. The goals include the following: no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable

and clean energy, decent work and economic growth, industry, innovation, and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions, and partnerships for the goals (United Nations, n.d.). The Work Programme (European Commission, 2021c) states that research and innovation activities in cultural and creative industries will “contribute... to realising the UN Sustainable Development Goals” (p. 37). In practice, this is described as happening through the safeguarding and fostering of cultural heritage, the promotion of cultural diversity, the protection of historical sites, artefacts, cultural landscapes, and cultural institutions, languages, customs, traditions, and values (p. 38). SSH actors are positioned as part of these actions, as per the statement at the beginning of the Work Programme (European Commission, 2021c) which describes the mobilisation of SSH disciplines in the Cluster (pp. 6, 10).

### **5.3.3 Collaborating with Clusters**

This positioning theme features SSH actors as collaborating with the other Clusters and other research programmes. The Work Programme (European Commission, 2021c) emphasises how collaboration and synergies with other Clusters “will be ensured” (p. 9). Collaboration is described between Clusters 2 and 3, and it will support security for society and cultural heritage, with Cluster 2 providing knowledge on the drivers of violent political transformations and on how to build societies’ trust in democratic institutions (p. 9). Collaboration between Clusters 2 and 4 will focus on digital and industrial technologies, with Cluster 2 providing crucial knowledge on how to utilise existing technologies for the support of democracy, safeguarding of cultural heritage and arts, and fostering social and economic resilience and inclusivity (p. 9). Synergies between Clusters 2 and 5 will utilise SSH knowledge on societies, democratic processes, education, and social welfare, while simultaneously working toward the goals of Cluster 5 that relate to climate neutrality and the resilience of society (p. 9). Clusters 2 and 6 will have researchers working together to build sustainable and inclusive rural, coastal, and urban areas, with SSH actors providing knowledge on cultural landscapes, cultural heritage protection, inequalities, migration, demography, and well-being (p. 9). Cluster 2 is expected to create synergies with other EU programmes as well, among which are Creative Europe, Erasmus+, Neighbourhood, Development and International Cooperation Instrument, and the Digital Europe Programme (European Commission, 2021c, pp. 7–8). In all of these collaborative actions, SSH actors are in a key role. The collaboration and synergies are emphasised in the introduction of the Work Programme (European Commission, 2021), where they

are described at length. This reflects the prioritisation and importance of these collaborative efforts. This positioning theme is particularly significant as it features particularly widespread and extensive efforts with SSH actors as prominent participants.

## **5.4 Civil Security for Society Work Programme**

The key areas of action for Cluster 3, Civil Security for Society, include fighting crime and terrorism, developing effective border management, building resilient societies and infrastructures, improving cybersecurity, and strengthening security research and innovation (European Commission, 2021d, pp. 9–10). All of these areas strongly relate to human and societal aspects, and this is highlighted in the text: “In the field of security research it is particularly important that projects take into account human factors and the societal context” (European Commission, 2021d, p. 9). Throughout the Work Programme, the requirement for topics to involve SSH disciplines is repeated, which emphasises the importance of SSH actors. The Work Programme (European Commission, 2021e) contains 73 references to social sciences and humanities. Three main positioning themes emerge from the text: (1) expanding roles in security research, which positions SSH actors as a crucial, previously underutilised inclusion, (2) providing expertise in societal, cultural, ethical, and people-centred activities, which has SSH actors positioned as important participants in various security-related topics, and (3) increasing preparedness, a theme that focuses on the importance of SSH actors in increasing societies’ preparedness and awareness of risks and threats.

### **5.4.1 Expanding roles in security research**

The Work Programme (European Commission, 2021d) features SSH actors as having expanding roles in security research. A direct requirement is stated in the introduction of the text: “SSH (social sciences and humanities) disciplines and social innovation *need to be better integrated* [my emphasis] into security research” (European Commission, 2021d, p. 9). This statement goes further than the Work Programmes for Clusters 1 and 2, as it specifically requests better integration of SSH – the mere presence and inclusion of SSH disciplines is not enough. The reflective way that the statement is phrased appears to acknowledge previous shortcomings in SSH integration. Furthermore, the wording of “need to be” is stronger than an alternative “should be”. The text appears to recognise the rich potential of SSH actors’ involvement for the security sector, thus expanding their roles. The statement is featured under the introduction’s subsection “Ensuring ethical outcomes that are supported by society”, which describes the importance of considering

human factors and society in security research, as well as the proper attention to rights, privacy, and data protection (European Commission, 2021d, p. 9). The placement of the statement on the second page of the introduction casts it in a prominent light.

#### **5.4.2 Providing expertise in societal, cultural, ethical, and people-centred activities**

The previous positioning theme overlaps into this next theme. As SSH actors' roles were determined to be expanding in security research, their expertise is required in various activities relating to societal, cultural, ethical, and people-centred aspects. Many societal challenges have been exacerbated due to the COVID-19 pandemic (European Commission, 2021d, p. 135). Some of these challenges include domestic violence, sexual violence, and Child Sexual Exploitation (hereafter CSE). The Work Programme describes how "there was an increased online activity in dedicated forums by offenders exploiting opportunities to engage with children who were more vulnerable due to isolation, greater online exposure and less supervision" (p. 47). This activity saw an increase specifically during the COVID-19 pandemic, and therefore "the importance of CSE prevention, early detection and effective actions" is extremely urgent. The text states that due to the societal dimension of activities in these areas, topics such as "Prevention of child sexual exploitation" (p. 45) require "the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise" (p. 47). This statement is direct in its tone, particularly when compared to a possible alternative such as "the topic should involve SSH disciplines". SSH actors are mentioned alongside health professionals, forensic psychologists, and criminologists (p. 47). The text states that "the societal dimension should be *in the core* [my emphasis] of proposed activities" (p. 47). The Work Programme (European Commission, 2021d) also states that activities need to be based on "a deeper knowledge of human and social aspects" (p. 13). SSH actors are attributed the necessary expertise and skills in these aspects, in studying behaviour and in ensuring proper ethical considerations and protection of rights. The need for their involvement is made clear through repetition and the use of the term "require" in addressing this need.

In addition to CSE, the prevention and response to domestic and sexual violence also demand socio-psychological knowledge, raised awareness of citizens, innovation in interactive tools, and modern approaches in victim assistance (European Commission, 2021d, pp. 32, 33). The text outlines a need for improvements of interactive tools that can help victims. The topic "Domestic and sexual violence are prevented and combated" (p. 30) is described: "This topic requires the effective contribution of

SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise” (p. 34). In addition, the text states proposals should include IT specialists, Policy Authorities, Civil Society Organisations, sociologists, social workers, and psychologists (p. 33). Dobash and Dobash (2015) describe domestic violence as encompassing social, political, and economic institutions and involving ideological beliefs, institutional policies, personal attitudes, prejudices, and individual behaviour (p. 633). The key issues involved in domestic and sexual violence, such as agency, gender, hegemony, discourse, male privilege, power, control, and patriarchal beliefs, require expertise in sociology, law, women’s studies, and history, among other critical perspectives (Dobash & Dobash, 2015, p. 636; Hearn, 2012, p. 153). Hearn (2012) describes domestic violence as “deeply embedded political-economic-cultural phenomena with wider social formations” (p. 160). The Work Programme (European Commission, 2021d) appears to recognise the nature of these crimes and describes the need for SSH actors’ involvement.

The Work Programme (European Commission, 2021d) also features SSH actors positioned as providers of expertise in research on extremism and violent radicalisation in online gaming culture (p. 57). The text describes how gaming environments are being used as recruitment tools by violent extremists (p. 57). SSH actors are needed in legal and ethical aspects and in increasing the awareness of citizens regarding the threats (p. 57). Research is needed on the virtual environments, chatrooms, social media platforms, and on aspects of the games, which include themes, design, and aesthetics (p. 58). The Work Programme emphasises the societal dimension of these actions and highlights the need to consider European multiculturalism (p. 58). In addition to describing how SSH actors are needed in these activities, the Work Programme states that the “societal dimension should be in the core of proposed activities, with a support of technologies” (p. 58). Typically technologies have led the way in activities, but this statement uniquely features the societal aspect of the activities at the forefront, with the technological aspect as a supportive element. Similarly, the Work Programme (European Commission, 2021d) highlights how activities relating to violent radicalisation need to “be based on a deeper knowledge of human and social aspects” (p. 13). This aligns with the emphasis by scholars regarding how security cannot rely solely on technological advances, and that security research requires an active focus on behavioural, social, and cultural aspects (LERU, 2013, p. 46).

The Work Programme (European Commission, 2021d) positions SSH actors as contributing to research on identity theft and trafficking, emphasising the need for further knowledge on the



societal aspects of these crimes. The text describes the need for proper knowledge of human and social aspects of cyber criminality and trafficking (2021d, p. 13). This is emphasised multiple times throughout the Work Programme, and the topic “Online identity theft is countered” (p. 48) is expected to contribute to an “improved understanding on the societal aspects and impacts of identity theft” (p. 49). Identity theft involves the use of new technology to create child abuse material, create fake social media accounts, or spread misinformation. Activities combating identity theft involve many complex aspects, such as analysing trends, protecting fundamental rights, ensuring proper ethics, and understanding phenomena that emerge in social media (pp. 49–50). Given the nature of these aspects and the effects of identity theft on individuals and society, SSH actors are to be involved as per the following description:

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. (European Commission, 2021d, p. 50)

The Work Programme describes how identity theft has taken on a new dimension with the advances in technology (p. 49). The crimes involve various new changes that require consideration of societal aspects, and thus the Work Programme (European Commission, 2021d) appears to be harnessing the potential of SSH actors.

As mentioned, SSH experts are also positioned as providing expertise in the activities combating human trafficking and cultural goods trafficking. The art and antiquity market remains poorly regulated (European Commission, 2021d, p. 38), and challenging questions have emerged regarding the role of online markets and social networks, reliable and ethical ways of collecting information, the roles of museums and cultural institutions, and the ownership of antiquities (p. 39). Activities under the topic “Fight against trafficking in cultural goods” (p. 37) are instructed to address the crimes “from various angles, combining both social research with technological development and applications in a logical manner” (p. 39). The text continues, stating the need for SSH actors’ involvement. As noted in earlier topics, the Work Programme emphasises societal and technological aspects equally, at times prioritising societal points more. Activities under the topic “Effective fight against trafficking in human beings” (p. 66) are instructed to “address both societal and technological dimensions of trafficking in human beings in a balanced way, taking care of the applicable EU legal and policy framework including fundamental rights and ethics” (p. 69). The nature of this form of crime demands the involvement of SSH actors, as the Work Programme

describes: “Trafficking in human beings is a serious and organised form of crime that involves the criminal exploitation of vulnerable people... the vast majority of its victims are women and girls” (p. 68). Furthermore, human trafficking is “a grave violation of people’s fundamental rights and dignity” (European Commission, 2021d, p. 68).

The Work Programme has SSH actors positioned as providing expertise in the societal and cultural aspects of fighting corruption and fake news (European Commission, 2021d, pp. 24–25, 63–64). Their involvement is explicitly required under the topics “Disinformation and fake news are combated and trust in the digital world is raised” (p. 23) and “Effective fight against corruption” (p. 61):

Thus, this topic *requires* [my emphasis] the effective contribution of Social Science and Humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. (European Commission, 2021d, p. 25)

This topic *requires* [my emphasis] the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. (European Commission, 2021d, pp. 63–64)

The same passages are used to mark the topics requiring SSH expertise throughout the Work Programmes. The near identical wording in these passages may be to ensure clarity and make it easy for applicants to recognise these topics. As mentioned, these instructions are direct in how SSH inclusion is required in the activities, and in how the passages acknowledge the meaningful and significant effects of this inclusion.

The Work Programme (European Commission, 2021d) positions SSH actors as important participants in assessing the societal impacts of security solutions. These impacts include the influence of solutions on people and potential privacy and confidentiality issues, among other aspects. The text describes that the societal aspect “covers all those areas that influence the citizen, society and the state” (2021d, p. 194). The topics “Security research technologies driven by active civil society engagement: transdisciplinary methods for societal impact assessment and impact creation” (p. 192) and “Social innovation as enablers of security solutions and increased security perception” (p. 207) are instructed:

Proposals' consortia should comprehend security practitioners, system developers, public sector, technology and civil society organisations, communication specialists on security research, researchers and Social Sciences and Humanities Experts from a variety of EU Member States and Associated Countries. In order to ensure a meaningful democratic oversight of the EU's security research programme, projects and policies at national and European level, proposals should ensure a multidisciplinary approach and have the appropriate balance of industry, citizens' representatives and social sciences and humanities experts. (2021d, pp. 195, 210)

SSH actors are referred to multiple times, which emphasises their importance in the actions. They are attributed the expertise needed to help ensure democratic and inclusive security solutions. In addition to these passages, both topics feature additional mentions of the need for SSH actors. In addition to security solutions, the Work Programme positions SSH actors in cybersecurity research. Scholarship highlights the value of SSH disciplines in cybersecurity actions, and the Work Programme recognises their importance as well, describing the need for research in cybersecurity solutions to consider human factors – behavioural, psychological, physical, cultural, and gender – “in all aspects” of solutions (p. 118). The text continues with additional mentions for activities to involve SSH actors (European Commission, 2021d, p. 119).

The Work Programme (European Commission, 2021d) describes how research projects relating to forensics generally focus on technologies and only pay minor attention to the evidence interpretation process (p. 55). It highlights the need to thoroughly consider the role of cognitive methods and human judgment in this process (p. 55). The text describes how the cultures, languages, and backgrounds of actors working in forensic settings can create biases which can affect outcomes (p. 55). Therefore, the Work Programme emphasises the need for a better understanding of the human aspect in these investigative settings, and this is expected to improve decision-making processes and justice outcomes (p. 55). Furthermore, the Work Programme describes a need for better communication methods and the development of a shared vocabulary for forensic experts (p. 56). SSH actors are expected to be involved in these activities, as explicitly stated in the text (European Commission, 2021d, p. 56).

### **5.4.3 Increasing preparedness**

Scholarship surrounding SSH in security research emphasised the importance of understanding people's behaviour and ability to cope during security threats in order to prepare them for future challenges (LERU, 2013, p. 45). The Work Programme (European Commission, 2021d) recognises

this as well and positions SSH actors in activities that aim to increase citizens' preparedness (p. 36). Security threats that require this preparedness include attacks on squares, sporting venues, shopping areas, places of worship, and tourist attractions (p. 35). The Work Programme states that crimes carried out in these areas are challenging to prevent, and so proper preparedness and awareness is crucial to reduce the impact of attacks (p. 36). In addition, due to the complex and transboundary nature of these threats, prevention efforts require strong collaboration across disciplines, sectors, and borders (European Commission, 2021d, pp. 136, 137). These activities strongly involve behavioural, legal, and ethical aspects. In line with surrounding discussion on the importance of including SSH knowledge of past crises in history (LERU, 2013, p. 47), the Work Programme (European Commission, 2021d) positions SSH actors in activities that utilise knowledge about past events, cultures, and traditions (p. 142). The topic "Improved understanding of risk exposure and its public awareness in areas exposed to multi-hazards" (p. 140) features emphasis on the use of historical data and information to improve preparedness of society for potential disasters (p. 142). The text describes that projects are expected to involve interdisciplinary teams which include different fields such as geology, climate, history, health sciences, economics, and social sciences (p. 141). The issue of vulnerability is also present in these activities, as the text describes that "risk awareness, understanding and preparedness are unequally distributed along a wide range of variables (socio-economic, cultural, regional etc.)" (p. 142). The text continues with a passage stating the requirement of SSH actors (European Commission, 2021d, p. 142).

The Work Programme (European Commission, 2021d) also acknowledges how risk reduction for climate events requires more active community engagement, cooperation between scientific and technical communities, and interdisciplinary collaboration (pp. 143–144). Projects are encouraged to consider the utilisation of new communication tools and different media for preparedness. The text outlines the need for social and behavioural sciences in improving multi-risk thinking (p. 144) and in considering societal side-effects of actions (p. 145). The need for SSH actors is explicitly mentioned in various topics relating to disaster preparedness. SSH actors are attributed the necessary expertise in understanding the behavioural, emotional, and psychological reactions of people during crises, as the programme describes that "human actions and behaviour may strongly influence the effects and dynamics of a disaster or crisis situation and on the response, potentially modifying the vulnerability of the population" (p. 162). The Work Programme describes the need

for research on these qualities between different societal groups, as historical and cultural factors can impact the way people act (European Commission, 2021d, p. 163).

## **5.5 Digital, Industry and Space Work Programme**

Cluster 4 focuses on research and innovation in digital and industrial technologies and space (European Commission, 2021e, p. 16). The Cluster's Work Programme (European Commission, 2021e) highlights how the COVID-19 pandemic has intensified Europe's need to strengthen these areas of research (p. 16). The Work Programme includes 34 references to social sciences and humanities. Analysis of the text shows four main positioning themes: (1) Widening inclusion of SSH actors, (2) Providing expertise in people-centred and ethical aspects, (3) Providing legal expertise, and (4) Utilising the arts in technology development. The involvement of SSH actors in space research is not prominent in the Work Programme. Given the discussion surrounding SSH actors' inclusion in space-related activities, their role could have been more significant in the Work Programme. SSH actors are positioned more strongly in industry actions, artificial intelligence, and human-machine interaction.

### **5.5.1 Widening inclusion of SSH actors**

The Work Programme (European Commission, 2021e) features SSH actors positioned in various areas of research, widening their inclusion in collaborative efforts with other disciplines. Actions under the topic "AI enhanced robotics systems for smart manufacturing (AI, Data And Robotics – Made in Europe Partnerships) (IA)" (p. 26) are expected to "demonstrate significant improvements towards a meaningful and seamless social collaboration in teams of human workers, autonomous agents and robots" through the utilisation of advances "in AI, robotics and Social Sciences and Humanities (SSH)" (p. 26). This is a noteworthy passage as it features SSH actors in an equal role collaborating with STEM actors. It is also significant as the mention of SSH is at the very beginning of the topic's description, at a prominent place. The topic continues:

SSH should provide a variety of human-centric approaches to develop smooth collaboration in the human-machine teams; to improve user experience; and increase awareness comfort, trust, skill and safety (physical and social) of workers in highly automated industrial environments by incorporating a greater understanding of linguistic, historic, and cultural concerns of end-users and workers, while taking into consideration a gender and intersectional perspective. (European Commission, 2021e, p. 27)

This passage is featured in the list of research activities that are to be addressed by projects under the topic. SSH actors are positioned as providers of approaches, and they are attributed various important areas of expertise – user experience, safety, linguistics, history, culture, gender, and intersectionality. The topic thus clearly recognises the diversity of SSH actors’ skills and emphasises the importance of involving them in robotics and manufacturing systems. Activities are expected to target sectors and tasks that have previously been challenging to automate (p. 27). The linguistic expertise of SSH actors is recognised in many parts of the Work Programme. For example, the text describes:

There is significant potential for advances of data analytics at the intersection of many scientific, technology and societal fields (e.g. data mining, AI, complex systems, network science, statistics, natural language understanding, mathematics, particle physics, astronomy, earth observation... ). (European Commission, 2021e, p. 189)

Natural language understanding, a field that strongly involves linguistics (Allen, 1987), is mentioned alongside other STEM disciplines. Similarly, the topic “Trustworthy open search and discovery (RIA)” (European Commission, 2021e, p. 389) instructs proposals to utilise “advanced methods of search and discovery such as voice-based search or cognitive search combining technologies for natural language processing, semantic analysis,... social computing and data visualisation” (p. 390). These areas of research are linked to digital humanities, an interdisciplinary field that connects languages and literature, history, music, media and communications, computer science, information studies, machine-learning, data science, and artificial intelligence (Berry, 2019, para. 3). It should be noted that topics such as “eXtended Reality Modelling (RIA)” (European Commission, 2021e, p. 395) emphasise the role of natural language understanding and the importance of languages in the research activities, but the topics do not specifically mention SSH actors.

Other activities in AI development, such as the topic “Verifiable robustness, energy efficiency and transparency for Trustworthy AI: Scientific excellence boosting industrial competitiveness (AI, Data and Robotics Partnership) (RIA)” (European Commission, 2021e, p. 369), are instructed: “In all these topics, involvement of multidisciplinary teams and transdisciplinary research, including SSH as appropriate, will be essential” (p. 371). Although the passage acknowledges the need for SSH actors, the phrase “as appropriate” reduces their importance. The topic “Increased robotics capabilities demonstrated in key sectors (AI, Data and Robotics Partnership) (IA)” (p. 286) includes a mention of the need for SSH actors in the “behavioural intelligibility of robot interaction and action” (European

Commission, 2021e, p. 287). This features SSH actors in a beneficial role in improving specific qualities of robotics.

### 5.5.2 Providing expertise in societal, cultural, ethical, and people-centred aspects

SSH actors are positioned as providers of expertise in societal, cultural, ethical, and people-centred aspects. The Work Programme's introduction (European Commission, 2021e) describes "human-centred and ethical development of digital and industrial technologies" as one expected impact of the Cluster's activities (p. 18). The text states that these goals will be achieved through "a two-way engagement in the development of technologies, empowering end-users and workers, and supporting social innovation" (p. 18). The Work Programme highlights the importance of technology development that "is aligned with European social and ethical values, as well as sustainability" (p. 363). The text emphasises the importance of human-centred solutions throughout, for example in activities relating to manufacturing and construction sectors. SSH actors are attributed necessary expertise in these activities, for example in the previously mentioned topic relating to robotics systems, which describes the need for solutions to ensure "safe physical and social interactions and efficient collaboration with human workers" (p. 27). SSH actors are described as providing "a variety of human-centric approaches to develop smooth collaboration in the human-machine teams" and increasing "skill and safety (physical and social) of workers" (p. 27). The topic "AI, Data and Robotics at work (AI, Data and Robotics Partnership) (IA)" (p. 227) is described:

While the focus is on technology, a human-centred approach will be key, with involvement of the workers, professionals, (front-line operators and managers) and other relevant experts, such as experts in human-centred design... Engagement with SSH expertise *is also needed* [my emphasis] to improve interaction design and to provide expertise on trustworthiness and acceptability by workers, as well as ethical perspective of human-machine collaboration. (European Commission, 2021e, p. 228)

The passage emphasises the leading role of technology but recognises the importance of human-centred approaches and the fact that research cannot solely rely on technology. SSH actors are attributed expertise in interaction design development, trustworthiness, acceptability, and ethics. The wording and tone of the passage enforce the idea of STEM disciplines taking the lead in activities, with SSH disciplines as an addition.

SSH actors are described as providing knowledge of linguistic, historic, and cultural aspects of workers in industrial environments, aspects that affect the working of these systems (European

Commission, 2021e, p. 27). In addition, the Work Programme directly states the need for tools provided by SSH actors in the topic “Workforce skills for industry 5.0 (RIA)” (p. 415):

The RIA will investigate the social and economic impacts generated by emerging disruptive technologies... They will explore innovative methodologies in redefining work activities and automatable tasks also through an historical comparison with previous industrial revolutions, including cultural, ethical, and regional perspectives, combining the tools of social sciences and humanities (SSH) disciplines. (European Commission, 2021e, p. 416)

This passage shows recognition of the fourth industrial revolution and the “disruptive” impacts of technologies. SSH actors are attributed the necessary expertise in history, culture, and ethics. The text additionally describes how technologies have been accompanied by social and economic challenges, including income inequalities and legal issues (European Commission, 2021e, p. 416). In addition to the passage, the topic further instructs proposals to involve SSH actors, emphasising their importance.

User acceptance is a cross-cutting issue that is emphasised throughout the Work Programme, particularly in the development of new technologies and digital tools. SSH is needed in communicating research to citizens and raising awareness about the importance of sustainable actions. For example, the topic “Testing innovative solutions on local communities’ demand (CSA)” (European Commission, 2021e, p. 406) describes that societal uptake of new technologies and solutions will occur “through better understanding of societal needs and higher societal acceptance” (p. 406). Knowledge on human behaviour and perceptions is important in the development of accessible and human-centric technologies. In addition, equality challenges relating to gender and race, among other aspects, are required to be addressed in activities. The goal is to develop technologies to evaluate gender, racial, and age bias, bias against persons with disabilities, and bias against people from socially disadvantaged backgrounds (pp. 381, 382). The topic “Tackling gender, race and other biases in AI (RIA)” (p. 381) requires that “a transdisciplinary approach, involving multidisciplinary and intersectorial partners in the consortium will be essential” (p. 383). It is noteworthy that the Work Programme instructs systems to be developed so that they “adapt to the user rather than the opposite” (European Commission, 2021e, p. 419).

### **5.5.3 Providing legal expertise**

The Work Programme (European Commission, 2021e) has SSH actors positioned as providers of legal expertise, for example in activities relating to deep sea exploration. These activities require



thorough preparation including knowledge about environmental impacts, a “robust legal framework”, and reliable, transparent monitoring systems (p. 145). The topic “Monitoring and supervising system for exploration and future exploitation activities in the deep sea (RIA)” (p. 144) is described: “Due to the complexity of such system, the project has to be developed by a multidisciplinary team, looking at environmental, legal and technological solutions” (European Commission, 2021e, p. 145). Although the text emphasises the importance of multidisciplinary teamwork, a proper legal framework, and research of possible impacts of deep sea activities, it does not explicitly mention SSH actors. The topic does, however, exemplify how SSH actors’ inclusion seems to be implied, as any successful proposals would require the consultation of SSH actors in order to meet the topic’s requirements.

#### **5.5.4 Utilising the arts in technology development**

The Work Programme (European Commission, 2021e) positions SSH actors as contributing to technology development through the arts. The topic “Art-driven use experiments and design (RIA)” (p. 409) describes:

The role of the arts will be to (i) conceive challenging human-centred use scenarios, (ii) explore alternative design methods and use scenarios for technologies using artistic practice. Artists are contributing in system design and system testing and by allowing exploration of technology in an artistic context. (European Commission, 2021e, p. 410)

Similarly, activities under the topic “Innovation for Media, including eXtended Reality (IA)” (p. 400) are expected to involve interdisciplinary cooperation and various professions such as artists and designers (p. 401). The launch of a dedicated virtual reality media lab is expected to “bring together skills from a variety of disciplines, including technology and the creative sector” (p. 402). In addition, interaction design is described as needing the expertise of SSH actors (p. 228). Interaction design refers to the designing of interactive digital products and services (Babich, 2019, para. 3). Interaction designers focus on the way users interact with products, and they use principles of good communication to create desired user experiences (para. 4). Interaction design overlaps with user experience design, which focuses more on the experience that takes place when a person uses a product (para. 5). Lee describes the importance of combining humanities and technology in user experience design (2017). He states: “In order to explore and study people’s behaviours, emotions and patterns – to do UX – we need people who have background in humanities and other social

sciences to help us out” (2017). The Work Programme (European Commission, 2021e) appears to recognise these needs as well.

## **5.6 Climate, Energy and Mobility Work Programme**

Cluster 5, Climate, energy and mobility, focuses on clean energy, mobility actions, and the transition to climate neutrality. The Cluster’s Work Programme (European Commission, 2021f) emphasises the uptake of innovation and the importance of engaging society in these actions. Through mentions of “utility for citizens and society” (p. 15), “an economy that works for the people” (p. 15), “behavioural transformations” (p. 17), and “profound changes in social practices” (p. 15), the text highlights a human-centred approach to solutions. The role of people and communities “is key” in successful energy systems (p. 131). As emphasised by Felt (2014), “future making must not be seen as a purely scientific challenge, but also as a democratic one” that activates “societal participation and responsibility” (p. 386). The Work Programme (European Commission, 2021f) contains 174 references to social sciences and humanities. The main positioning themes that emerge are (1) enhancing societal impact and engaging society, (2) increasing collaboration, and (3) shaping people-centred technologies and services.

### **5.6.1 Enhancing societal impact and engaging society**

This theme positions SSH actors as essential participants in citizen engagement and in ensuring desired societal impacts. It is reflected in topics such as “Maximising the impact and synergy of European climate change research and innovation” (European Commission, 2021f, p. 28), which focuses on “raising awareness of citizens, business, social partners, policy-makers and other relevant audiences towards climate change, based on more efficient, transparent and engaging communication” (p. 28). It is further described:

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, *notably as regards exploration of the most effective techniques of communication, dissemination and engagement* [my emphasis], in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. (European Commission, 2021f, p. 31)

SSH actors are attributed valuable skills in communication and engagement. Throughout the Work Programme, passages similar to this one are used to indicate SSH-flagged topics. Variation occurs in wording, from “this topic *requires* [my emphasis] the effective contribution of SSH” (p. 236) to “this topic *will benefit* [my emphasis] from the effective contribution of SSH” (p. 215). Many topics

feature no information regarding the inclusion of SSH actors until a passage at the very end of their description which states the need for SSH. It would seem that SSH integration could be better embedded into the topics, instead of relying on the last passage to showcase this need. These passages mimic stamps in the way that they are added to the topics as almost separate additions. However, this may be to ensure clarity and to show equal consideration for the topics. The text states that activities are to place “a particular emphasis on young people, considering each audience’s specific needs and paying attention to gender differences” (European Commission, 2021f, p. 30).

The topic “Supporting the action of consumers in the energy market and guide them to act as prosumers, communities and other active forms of active participation in the energy activities” (European Commission, 2021f, p. 209) also involves engagement with citizens, and the text describes that “to get the acceptance of different energy technologies in civil society, these demonstrations *should be built on SSH approach* [my emphasis] to take into account the social and behavioural dimension at the stage of their design” (European Commission, 2021f, p. 210). The wording of this passage is a unique example of SSH actors being prioritised in activities, as it describes how demonstrations of tools are to be based on SSH approaches, not just supported by them.

SSH actors are positioned as ensuring the appropriate societal impacts of research. For example, the topic “Decarbonising industry with CCUS” (European Commission, 2021f, p. 225), which involves emissions reduction technology (IEA, 2022), is described:

Technology development *has to be* [my emphasis] balanced by an assessment of the societal readiness towards the proposed innovations... This will be analysed during the project using appropriate techniques and methods from the social sciences and humanities, in order to create awareness, gain feedback on societal impact and advancing society’s readiness for the proposed solutions. (European Commission, 2021f, p. 227)

The passage emphasises the importance of societal aspects in technology development through its wording. Instead of “should be”, the text states that any solution “has to be” assessed for its societal readiness. SSH actors are attributed to required expertise to provide feedback on societal impact. The Work Programme (European Commission, 2021f) features numerous mentions of SSH actors enhancing the societal impact of research activities.

More specifically, SSH actors are addressing various societal aspects of research activities. For example, user needs in mobility and logistics are to be considered. Vehicles with AI technologies should be developed to be understandable, human-like, and free of any biases (European Commission, 2021f, p. 425). SSH actors are attributed expertise in human behaviour regarding factors like gender, cultural and ethnic background, ageing, diseases, driving experience, and mental workload (p. 422). The topic “Fostering a just transition in Europe” (p. 95) focuses on understanding the effects of climate actions across sectors, social groups, and regions, with an emphasis on vulnerable individuals and communities (p. 95). As emphasised by Robison et al. (2020), one priority that demands SSH insight is the consideration of ethics, just transitions, equality, and vulnerability, in order to ensure that no individuals or groups are excluded from smart energy changes (p. 3). The Work Programme (European Commission, 2021f) describes that actions under the topics are expected to mobilise “a broad range of social sciences (including behavioural science, political science, sociology, economics, law, gender studies, etc.) and humanities... in a meaningful transdisciplinary manner and across activities” (pp. 96–97). Social scientists appear to be positioned more strongly than humanities experts, given that specific social science disciplines are specifically listed but humanities are referred to in a general manner.

SSH actors are involved in restoration activities, the rewilding of landscapes, and land-use strategy development. The Work Programme (European Commission, 2021f) calls for “a comprehensive understanding of the key motivations and drivers (economic, regulatory, legal, cultural, environmental, etc.) behind land-use related decisions” (p. 52). Literature on ecological restoration describes wetland restoration as a “cultural phenomenon” (Suman, 2019, para. 1). Restoration actions may conflict with cultural values, which requires that the cultural dimension be properly considered – how people perceive and interact with the ecosystem and their environment (para. 1). The Work Programme (European Commission, 2021f) features one topic relating to wetland restoration, and this topic describes the need for SSH disciplines. However, it does not acknowledge the importance of the cultural dimension that is described by Suman (2019).

The importance of protecting cultural and historical heritage in renovation actions is acknowledged in the Work Programme (European Commission, 2021f). The artistic value of cultural heritage sites is mentioned only once, and humanities and the arts are only mentioned in a topic relating to architectural solutions. The Work Programme (European Commission, 2021f) implies the need for historical research, describing how the climate transition requires an “understanding of past,

present and expected future changes in climate and its implications on ecosystems and society” (p. 21).

### 5.6.2 Increasing collaboration

The Work Programme (European Commission, 2021f) highlights the efforts of stakeholders and research communities in combining knowledge from different disciplines. This theme focuses on the role of SSH actors in this collaborative, interdisciplinary system. Activities under the topic “Strengthening Social Sciences and Humanities (SSH) research communities in climate, energy and mobility disciplines” (p. 97) are expected to integrate SSH actors into climate, energy, and mobility actions to reduce fragmentation (p. 97). Another goal is improved collaboration between STEM and SSH actors (p. 97). The Work Programme describes:

More extensive networks connecting relevant communities of researchers and practitioners are required, to facilitate and enable deeper and more consequential forms of collaboration. In particular, Scientific, Technical, Engineering and Mathematical (STEM) communities in climate science, energy and climate need to work more closely with those in the Social Sciences and Humanities (SSH) disciplines, ensuring adequate outreach”. (European Commission, 2021f, p. 98)

This passage positions SSH actors as somewhat of a passive group that is to be utilised by STEM actors. Rather than instructing SSH actors to actively engage or even take the lead in activities, the text instructs STEM researchers to collaborate with SSH better. The passage reflects the idea of blame being placed on STEM actors; in that they have not engaged with SSH properly before. In addition, responsibility appears to be assigned more strongly onto STEM actors.

The topic “Socio-economic risks of climate change in Europe” (European Commission, 2021f, p. 49) features a need for “a *truly* [my emphasis] interdisciplinary approach” (p. 51). The text describes that “a wide range of disciplines” is needed. The topic lists specific disciplines: economics, climate science, bio-geophysical modelling, data engineering, risk analysis, political and behavioural science (p. 51), but the topic has a separate passage further requiring SSH at the end of the description. The Work Programme features one strong, practical method of ensuring SSH involvement in the broader efforts to increase collaboration. The text describes that “The Commission will make sure that projects benefit from SSH expertise through the cooperation in Bridge” (European Commission, 2021f, p. 138). Bridge is a European Commission initiative that connects various energy and digitalisation projects to better understand cross-cutting issues (“Bridge HORIZON 2020”, n.d.).

However, the text does not go into further detail about the exact process of ensuring SSH actors' inclusion.

### **5.6.3 Shaping people-centred technologies and services**

This theme features SSH actors as providers of expertise in the people-centred aspects of technologies and services. One example is the topic "Safe automation and human factors in aviation – intelligent integration and assistance" (European Commission, 2021f, p. 412). The text describes the need for:

Increased organisational and regulatory preparedness, safety culture and societal acceptance in the advent of more automation in aviation, from earlier integration of human factors and automation into design processes and safety case methods up to ensuring an appropriate level of human factors and automation competence. (European Commission, 2021f, p. 413)

The topic involves multiple key aspects requiring SSH actors' involvement, such as digital interface design, integration of AI into human crews, consideration of age, gender, and ethnography, and the physical and mental wellbeing of people (pp. 413, 414). SSH actors are also involved in the user-centric development of automated vehicles and human-machine-interface solutions (p. 419). The Work Programme describes how these interfaces should be "based on comprehensive knowledge and models of individual human behaviour and capabilities" (p. 419). Similarly, automated vehicles should be designed with thorough consideration of "seating positions and body postures, including sex, age and ability differences" to ensure inclusivity (p. 419). In addition to the people-centred nature of these activities, the need for SSH actors in these activities is explicitly stated (European Commission, 2021f, p. 421).

The topic "Controlling infection on large passenger ships" (European Commission, 2021f, p. 410) focuses on the safety of people working and travelling on ships by preventing and managing diseases and illnesses. This task is challenging due to the high occupancy rates and close proximity of people on board these ships. With large amounts of people, prevention and management strategies require knowledge of behavioural and social aspects, among other factors. The text describes:

Research should in particular address ventilation systems and their airflows, germicidal surfaces and disinfection practices, contamination control in all relevant ship areas, facilitating enhanced quarantine, process separation, the design of social areas... In this respect a better interaction of people with the vessel and its equipment on the basis of social innovations... should also be considered. (pp. 411–412)

The nature of these research activities requires SSH expertise, and the Work Programme also directly calls for the involvement of SSH actors (European Commission, 2021f, p. 412).

## **5.7 Food, Bioeconomy, Natural Resources, Agriculture and Environment Work Programme**

Sustainability is at the core of actions relating to food, bioeconomy, natural resources, agriculture, and the environment in Cluster 6. These actions include supporting biodiversity and ecosystems, increasing circularity in economy and bioeconomy, promoting healthy and environmentally-friendly food systems and changes in production and consumption, keeping the environment clean and free of pollution, increasing the well-being and resiliency of land, ocean, and water areas, empowering green communities, and developing green governance models and policies (European Commission, 2021g, pp. 2–13). Scholars are calling for more SSH involvement in bioeconomy and environmental research, with an emphasis on SSH actors' expertise in human-centred cultural, societal, economic, behavioural, ethical, legal, and political aspects (LERU, 2013; Heimann & Svedin, 2018; Sanz-Hernández, Esteban & Garrido, 2019). The Work Programme (European Commission, 2021g) focuses on the importance of empowering citizens and ensuring the inclusivity of innovations, thus aligning with the views of scholars to thoroughly consider the behaviours, attitudes, actions perceptions, values, and emotional ties that individuals and communities have to their food and the environment (LERU, 2013; Heimann & Svedin, 2018). The text (European Commission, 2021g) contains 90 references to social sciences and humanities. Two main positioning themes emerge from the Work Programme: (1) contributing to key research areas, and (2) empowering citizens and ensuring inclusivity.

### **5.7.1 Contributing to key research areas**

The first positioning theme focuses on many specific areas of expertise of SSH actors. SSH actors are attributed important skills in many topics. The Work Programme's (European Commission, 2021g) introduction strongly acknowledges the role of SSH actors in societal and political aspects, as it states:

Research on a societal and political framework is necessary to achieve the transformation expected and R&I investments under Cluster 6 will therefore emphasise the role of the social sciences and humanities, gender, inter/transdisciplinary and system approaches. (European Commission, 2021g, p. 18)

The placement of this passage at the introduction of the text reflects the prioritisation of SSH actors. Their role is mentioned alongside the gender aspect and inter- and transdisciplinary approaches.

The Work Programme (European Commission, 2021g) calls for a deep understanding of human dimensions, social norms, behaviours, and ethics in biodiversity actions (p. 118). In fact, the text emphasises the need for “improved” and “better” understanding of these aspects (p. 118). SSH actors’ contribution is directly called for (p. 120). In addition, the Work Programme calls for research on the role of lifestyles, and religious, societal, and cultural values (p. 121). It states:

The proposals should explore intersectionality approaches and consider interlocking systems of power between gender and other social categories and identities such as religion, ethnicity and race (including migrants and refugees), social class and wealth, gender identity and sexual orientation and disability to better address to and ownership of nature-based solutions. (European Commission, 2021g, p. 122)

The Work Programme highlights the importance of these societal and people-centred aspects throughout. It acknowledges the need to consider indigenous communities, youth, women, and socially or economically vulnerable and marginalised groups (European Commission, 2021g, p. 76). Throughout the Cluster’s activities, SSH actors are involved in ensuring inclusiveness of individuals and groups.

The topic “Boosting women-led innovation in farming and rural areas” (European Commission, 2021g, p. 415) features SSH actors more prominently than most of the other topics. As opposed to most topics, where SSH inclusion is mentioned in one line at the very end, this topic has the statement “Proposals should be transdisciplinary, with *a key role* [my emphasis] for social sciences and humanities (SSH)...This topic should involve the effective contribution of SSH disciplines” (European Commission, 2021g, p. 417) featured at the beginning of the last paragraph, thus in a more prominent setting. The mention of SSH actors in a key role is a unique reference to SSH actors’ inclusion amongst all the Work Programmes.

The Work Programme (European Commission, 2021g) recognises the potential of design, the arts, and culture in achieving the goals of the Cluster. The humanities are specifically mentioned separate from the social sciences in the topic “Improving understanding of and engagement in bio-based systems with training and skills development” (p. 460). The topic focuses on social creativity and engagement (p. 461). Proposals are instructed to consider “the role of design, arts and culture” (p. 461) and “assess and integrate the contribution from the humanities/art/design/culture into bioeconomy/bio-based economy sectors” (p. 462). Here, SSH actors are attributed expertise required in increasing the safety, user-friendliness, and understanding of solutions (European Commission, 2021g, p. 462).



SSH actors are called for in many topics throughout the Work Programme (European Commission, 2021g), in areas relating to the creation of nature-based solutions, in the implementation of food and nutrition systems changes, in the protection of ecosystems, in the exploration of links between biodiversity, ecosystems, and pandemics, in the increasing of knowledge in agricultural practices, in the understanding of human actions, in the transition toward sustainable farming and food systems, and in the changing of social norms. The involvement of SSH actors is instructed through phrases such as “this topic should involve the effective contribution of SSH disciplines”. The frequent use of the word “effective” in phrases requesting the effective contribution of SSH disciplines implies that in general, SSH contribution has the risk of being ineffective, and that special care must be taken to ensure that the contribution of SSH actors is indeed effective in the research activities.

### **5.7.2 Complementing multi-actor approaches**

This positioning theme positions SSH actors as participants in the wider efforts of the Cluster to engage, involve, and empower citizens in actions. The Work Programme (European Commission, 2021g) shows an awareness of the role of citizens and society, describing: “system-level change starts with social innovation” (p. 24). It also recognises the damages caused by humans to the environment. The Work Programme describes that some topics will require multi-actor approaches in which key actors, such as the end users of solutions, are thoroughly involved in the projects (p. 20). It also acknowledges the role of actors such as farmers, foresters, fishermen, other citizens, and local communities (p. 20) in addition to the inclusion of SSH actors. It states that the involvement of these actors ensures “socially acceptable interventions” (p. 56) and that their inclusion “should take place all over the whole course of the project: from participation in project planning and experiments to implementation, dissemination of results and a possible demonstration phase” (p. 20). The multi-actor approach involves practical knowledge and tools that are easily understandable and accessible (European Commission, 2021g, p. 21).

Empowering citizens and ensuring inclusivity is related to the topic “Socio-economic empowerment of the users of the sea” (European Commission, 2021g, p. 405). The topic is expected to foster sustainability, empower people and vulnerable groups, and ensure the inclusion of tourism, recreational, and leisure activity development (p. 405). Proposals are expected to increase understanding of the behavioural, cultural, and socio-economic drivers of change and ensure that solutions are socially acceptable (p. 406). The text (European Commission, 2021g) states:

SSH approaches should serve through a multi-actor approach to orient and contextualise coastal STEAM (science, technology, engineering, arts and mathematics) activities related to the above-mentioned challenges in terms of social and economic impact as well as in terms of the deep impact of human behaviour, culture (including indigenous knowledge and practices) and history (including religion literacy) on all societal innovation and integrated sustainable coastal zone development and management. (European Commission, 2021g, p. 407)

The passage uniquely positions SSH actors in the primary, active role in activities. It serves as an example of SSH disciplines “taking the lead” (Heimann & Svedin, 2018, p. 4).

The topic “Grasping rural diversity and strengthening evidence for tailored policies enhancing the contribution of rural communities to ecological, digital and social transitions” (European Commission, 2021g, p. 395) has SSH actors positioned nearly identically to STEM actors. The text states:

Proposals must implement the multi-actor approach, bringing together from the start multiple types of scientific expertise in both hard sciences (e.g. climate, energy, and environment) and social sciences and humanities (e.g. geography, sociology, behavioural sciences, policy, foresight). (European Commission, 2021g, p. 398)

With both SSH and STEM disciplines being listed in the same way, the involvement of SSH actors is regarded as equally important to STEM actors. Then again, the instructions for many topics place emphasis on economic aspects such as cost effectiveness and affordability, with social and cultural aspects mentioned only after.

The topic “Assessing the socio-politics of nature-based solutions for more inclusive and resilient communities” (European Commission, 2021g, p. 425) focuses on furthering understanding of the environmental, economic, social, political, moral, behavioural, and cultural dimensions involved in changes (pp. 425–426). The text emphasises sustainable, balanced, and inclusive approaches to nature-based solutions (p. 425) and acknowledges failures in previous approaches to properly consider all of the complex factors involved in implementing new solutions. In addition, perceptions and expectations of citizens are to be studied. The same topic (European Commission, 2021g, p. 425) describes:

Proposals should bring together from the start multiple types of scientific expertise in both natural sciences and social sciences and humanities (e.g. geography, sociology, political ecology, behavioural sciences, anthropology, philosophy, etc). In particular, this topic should involve the effective contribution of SSH disciplines. (European Commission, 2021g, p. 427)

This features SSH actors in a prominent role through the listing of specific SSH disciplines and the repeated mention of SSH disciplines. Similarly, the topic “Assessing and improving labour conditions and health and safety at work in farming” (European Commission, 2021g, p. 417) describes:

Proposals must implement the multi-actor approach, bringing together multiple science fields, *in particular* [my emphasis] the social sciences and humanities (SSH) (e.g. sociology, behavioural sciences, psychology etc.), actors with complementary knowledge of health. (European Commission, 2021g, p. 419)

The passage emphasises the inclusion of SSH actors in the multi-actor approach with the phrase “in particular”.

However, the Work Programme (European Commission, 2021g) shows variation in the description of SSH actors across topics. In some instances, the inclusion of SSH actors is phrased in a way that features them as an additional inclusion, with natural sciences being the main contributor. For example: “Proposals should bring together from the start multiple types of scientific expertise in both health and natural sciences, as well as social sciences and humanities” (p. 435). The phrasing reflects the idea of SSH inclusion as somewhat of an afterthought. Another example is the topic “Intercropping – understanding and using the benefits of complexity in farming and value chains” (European Commission, 2021g, p. 110) which instructs projects to integrate “knowledge from diverse disciplines (e.g. ecology, agronomy, genetics, physiology as well as social sciences)” (p. 111). The listing of specific natural sciences first and the broad reference to social sciences “as well” casts SSH inclusion in an inferior light in relation to natural sciences.

## **6 Discussion of findings**

The reference documents for Horizon Europe show SSH actors positioned in a variety of roles, both within and across Work Programmes. The positioning themes that emerged in the Work Programmes are:

Cluster 1: Contributing to emergency response; Contributing to mental health; Contributing to knowledge on digitalisation; Contributing to improved patient care; Contributing to antimicrobial resistance research

Cluster 2: Providing expertise in all activities; Contributing to Sustainable Development Goals; Collaborating with Clusters

Cluster 3: Expanding roles in security research; Providing expertise in societal, cultural, ethical, and people-centred areas; Increasing preparedness

Cluster 4: Widening inclusion of SSH actors; Providing expertise in people-centred and ethical aspects; Providing legal expertise; Utilising the arts in technology development

Cluster 5: Enhancing societal impact and engaging society; Increasing collaboration; Shaping people-centred technologies and services

Cluster 6: Contributing to key research areas; Complementing multi-actor approaches.

Inside Work Programmes, SSH actors are positioned as contributors to many different areas of research, and this shows that the European Commission recognises the importance of including SSH actors in research on health, culture, society, security, digital technologies, industry, climate, energy, mobility, food, bioeconomy, natural resources, agriculture, and the environment. Across Clusters, there are similarities in the areas of SSH involvement as well. The themes of providing expertise in all activities, providing expertise in societal, cultural, and people-centred aspects, providing legal expertise, and participating in collaborative efforts are shared across Clusters.

All of the Work Programmes include references to social sciences and humanities, with Cluster 1 featuring eight references, Cluster 2 featuring 13 references, Cluster 3 featuring 73 references, Cluster 4 featuring 34 references, Cluster 5 featuring 174 references, and Cluster 6 featuring 90 references. These findings contrast greatly to those of Genus et al. (2018), who found that a Horizon 2020 Work Programme for energy research featured only one reference to social sciences (p. 135). In addition, the analysis shows that SSH integration is a topic that is emphasised in all of the Clusters. Cluster 3 on security features a particularly strong emphasis on the need for SSH actors, as the Work Programme (European Commission, 2021e) explicitly recognises that social sciences and humanities need to be better integrated in security research. I was surprised to notice how some Work Programmes recognised previous shortcomings in SSH involvement so explicitly.

Some of the reference documents show a strong commitment to SSH integration as they describe how SSH actors will be fully integrated across Horizon Europe. The inclusion of SSH actors is described as fundamental, and they are listed alongside STEM actors. Other instances, such as the

mention of “SSH aspects” (European Council, 2021, p. 32) regard SSH actors as a vague concept, which affects the agency of SSH actors as their contribution is reduced to undefined aspects. SSH actors are also described as necessary for improving already-existing solutions, which minimises the role of SSH actors as producers of their own knowledge. SSH actors are indirectly positioned in the general themes of the Clusters, as the documents strongly recognise the importance of research in areas of SSH expertise. For example, the expected impacts of the Health Cluster all relate to strong areas of SSH expertise. Given the nature of activities, it can be presumed that proposals would automatically have to include SSH actors if they want to reach the goals of their topics.

Although there were many similar themes and consistencies regarding SSH actors across the Work Programmes, there were differences in the prioritisation and description of SSH. Some topics featured SSH actors equally alongside STEM actors, whereas other topics featured STEM disciplines in the dominant role. It is interesting to compare this finding to that of Hughes et al. (2017), who observed how pharmacists were positioned as full partners to physicians in the health care system. Despite some instances where SSH actors were positioned alongside STEM actors, they cannot be regarded as equal partners based on the documents in question. The analysis reveals that the tendency to regard STEM disciplines as the dominant, most important contributors is still present, although the Work Programmes featured multiple instances in which SSH actors were described as the leading contributors. There is a lack of consistency in how SSH actors are described across the Work Programmes. It is noteworthy that none of the documents explicitly stated a need to integrate STEM disciplines into activities – the presence of STEM actors was largely implied and unchanging. This reflects a rather interesting idea regarding the positioning of STEM actors. Whereas SSH actors were positioned in many different and sometimes surprising ways, the roles of STEM actors were consistent and static.

The analysis showed how the placement of a passage has an effect on the positioning of SSH actors. For example, since the majority of SSH mentions were placed in separate paragraphs at the end of topics, the placement of a mention for SSH actors’ inclusion higher up in the topics immediately elevated their importance. Similarly, the European Council (2021) placed the topic of SSH integration outside of the strategic planning list. This raises questions regarding the prioritisation of SSH actors. This is a particularly interesting phenomenon that could be taken into account in the development of future Work Programmes. The analysis showed how word order of a statement affects how it is interpreted by the reader. In addition, choices in syntax affect how meaning is conveyed. For

example, in some instances where STEM disciplines are mentioned first, the order presents them as the dominant participants.

Discourse on SSH integration includes discussion on the significance of design and wording in Work Programmes and funding calls. The analysis showed how words and phrases such as “including”, “where relevant”, “if relevant”, and “effective” greatly affect how the instructions relating to SSH integration are interpreted. For the most part, the use of these phrases minimised the role of SSH actors and the importance of SSH involvement. The analysis showed that repetition is an effective way of increasing emphasis and showing prioritisation of issues such as SSH integration. For example, the frequently featured passage “This topic requires effective contributions from the social sciences and humanities (SSH) through the involvement of SSH experts and institutions as well as the inclusion of relevant SSH expertise” contains three mentions of SSH actors, which emphasises their importance and adds to the weight of the requirement. I believe that this recognition of linguistic features can be useful for the creators of future Work Programmes, and if the writers wish to prioritise or emphasise certain aspects, they can take these observations into consideration. These findings correspond with the observations of Genus et al. (2018) in their analysis of Horizon 2020 Work Programmes. Their study discussed the effects of how SSH actors are described in the texts, and one observation was the use of the word “also”. Genus et al. (2018) determined that “There remains a sense of SSH being necessary yet subordinate to science and engineering” (p. 136). The wording in the documents that I analysed create the same impression. In other instances, the agency of SSH actors is emphasised with word choices like “play” in the statement “SSH play an important role across all clusters” (European Parliament and Council, 2021, p. 19).

The implications of what the analysis shows are various. The instances of language use that feature SSH actors as a less prioritised inclusion in research affect the affordances for SSH actors to enact and grow their academic identity as part of Horizon Europe research and innovation (Green et al., 2020, p. 129). In these instances, SSH actors are not accorded the same recognition or validation as competent actors (Green et al., 2020, p. 129) in research actions – at least not in the same way as their dominant STEM counterparts. Similar to the findings described by Green et al. (2020) regarding positioning in classrooms, the positioning of SSH actors in documents affects how they are regarded in future actions. The positioning has implications for which activities SSH actors are involved in and to what extent. However, SSH actors may engage in re-positioning themselves in the research activities that they participate in. This opportunity for future study will be discussed further on.

The Work Programmes mention the COVID-19 pandemic in many introductory parts, and it would appear that the pandemic is one reason that has served as a key driver for more urgency in research and innovation. Due to the pandemic, the European Commission wants to ensure that all possible resources, such as SSH actors, are utilised and benefited from. All of the Work Programmes clearly featured a people-centred focus toward research and innovation, so even if SSH integration was not explicitly discussed in some areas, their presence was implied in the way that societal aspects were embedded in the Clusters. Therefore, it would appear that if applicants wish to meet the expectations described in the Work Programmes, they will likely have to involve SSH actors. The applicants are also instructed to describe the ways in which they would integrate SSH into their projects, however this raises the question of how to ensure that these requirements are not ignored. In some instances, specific areas of SSH expertise are recognised and directly mentioned, but the role of SSH actors in these areas is not. This indicates that the European Commission acknowledges the importance of these particular research areas even if it does not explicitly request the integration of SSH actors.

The Health Work Programme (European Commission, 2021b) shows the utilisation of National Contact Points in ensuring that SSH actors are involved in activities across Clusters. The dedicated topic for National Contact Points listed specific activities, which reflects a level of prioritisation regarding SSH integration. The National Contact Points will help SSH actors connect into various activities. Other practical efforts regarding SSH integration include the monitoring and reporting of SSH (European Parliament and Council, 2021, p. 3) and the maintenance of a database that shall provide information on how SSH is being mainstreamed in Horizon Europe (p. 47). In addition, the documents describe that SSH actors will be included in expert committees and evaluation panels (European Parliament and Council, 2021, p. 3). The programme features SSH flagged topics which require the involvement of SSH actors, however, it will require monitoring to ensure that these topics do include SSH actors. The application forms feature multiple areas that require the applicant to consider the involvement of SSH actors. For example, the applicant is instructed to describe the interdisciplinary quality of their project and the roles of SSH actors.

The present study has contributed to knowledge on the topic with a close analysis of Horizon Europe 2021-2022 Work Programmes. It has, however, scratched the surface of studying Discourse of SSH integration. There is major potential for further use of discourse analysis in similar studies as Horizon Europe continues. Studies could include more comparative analysis of Horizon Europe texts and

previous framework programme texts. Work Programmes published in the future could be compared to the current ones. As mentioned in the subsection on social positioning theory, the concept of performance style is linked to social positioning (Green et al., 2020, p. 120). Performance style refers to the way that people do things and the attribution of meaning onto the things that they do (Green et al., 2020, p. 120). Moghaddam (2006) discusses the concept, distinguishing it from *performance capacity*, which refers to how well people can do things (p. 841). When people do things, or perform, certain meanings based on local culture are given to the performance (Moghaddam, 2006, p. 841). This idea is illustrated by Moghaddam (2006) with the imaginary example of Joe, who suffers a blow to the head in accident, after which Joe experiences memory impairment. Depending on the local culture, the interpretation of Joe's memory impairment could be along the lines of "things like this always happen to Joe because he is so careless" (Moghaddam, 2006, p. 841). Moghaddam (2006) emphasises the significance of paying close attention "to the narratives people use to make sense of their lives, to ascribe meaning and purpose to events and behaviours, and to structure their activities in different contexts" (p. 842). By utilising this concept of performance style, future studies on the topic of SSH integration could examine the narratives and meanings ascribed to the actions, behaviours, and performances of SSH actors in Horizon Europe activities. This could include ethnographic field data from research projects that feature interdisciplinary collaboration, or it could analyse the broader Discourse of SSH integration to observe how different parties talk about the performance of SSH actors in research activities. Similarly, future studies could utilise social positioning theory to examine how SSH actors reposition and self-position themselves in research projects.

Similar to the work by EASSH (2019), Foulds and Robison (2018), and López-Varela Azcárate (2020), future studies could also examine the representation and percentage of SSH actors in projects. There is much to gain from the examination of budgets and monitoring reports, as they can provide further insight into the prioritisation of SSH in Horizon Europe. Future studies could also combine the present thesis and the study by Vida (2021) on gender mainstreaming to analyse how Discourse of SSH integration emerges in the talk of advisory group experts and other participants involved in the development of Horizon Europe. The study could include both reference documents and interview data. Lastly, there is room to expand this study to global research and innovation, since this thesis has focused on European research activities and policy.



## 7 Conclusion

Horizon Europe's 2021-2022 Work Programmes for Clusters 1–6 continue the strong rhetorical commitment of the European Commission towards integrating social sciences and humanities into all areas of research. Discourse of SSH integration in various areas of research highlighted the value that SSH actors have in health, culture, society, security, digital technologies, industry, climate, energy, mobility, food, bioeconomy, natural resources, agriculture, and the environment. SSH actors provide crucial insight into how the physical and mental well-being of people from different backgrounds is affected. Approaches from SSH can ensure that any solutions or policies that affect individuals are inclusive, ethical, and people-centred. Discourse of SSH integration emphasised the value of history, law, philosophy, art, digital humanities, and literature, among other fields, in empowering societies and fostering the rich cultural diversity of Europe. Security research also requires a proper inclusion of SSH actors, due to complex nature of the many security threats present in the world. SSH actors can provide insight into the social, legal, ethical, and historical aspects of crimes and other disasters that threaten the wellbeing of people and the world. The state of the world requires urgent changes in the way people live and in how the environment is treated. Scholars highlighted the importance of SSH actors in energy and environmental research, as SSH actors can provide valuable knowledge on crucial cultural, ethical, societal, and behavioural aspects relating to climate and energy changes. Similarly, changes are needed in food consumption, agriculture, and bioeconomy. SSH actors are crucial participants in research relating to these areas as they can empower people to act in more sustainable ways, while also ensuring that the effects of any changes are properly taken into account.

With the support and guidance provided to me by social positioning theory, discourse analysis, and document analysis, I examined all of the reference documents found in the EU Funding and Tenders Portal, narrowing down the documents to ten of the most relevant ones for the purpose of my study. The aim of the present thesis was to study how SSH actors are positioned in Horizon Europe reference documents. In my analysis of the documents, I used social positioning theory as one of three methodological approaches to observe how SSH actors are described. Social positioning theory is an excellent approach to combine with discourse analysis, as both emphasise the power of language in shaping and constructing the world. The theory allowed me to study how SSH actors are positioned in the Horizon Europe reference documents, i.e., how they are attributed certain

qualities, skills, capabilities, and rights. This analytical lens highlighted the multifaceted quality of SSH actors as they were positioned in various contexts and areas of research.

The first research question asked, “how are SSH actors positioned in Horizon Europe reference documents, in particular the 2021-2022 Work Programmes of Pillar 2?”. The analysis shows that with linguistic methods, such as placement, repetition, and choices in vocabulary and syntax, SSH actors are positioned in various positions across all Clusters. The positioning varies in how strongly SSH actors are attributed important qualities and in the areas of research. A prominent positioning theme is SSH actors providing expertise in societal, cultural, ethical, and people-centred areas. The second research question asked, “what does the positioning of SSH actors in the documents reveal about the Discourse of SSH integration?”. I believe that the increasing discussion surrounding SSH integration has affected how Horizon Europe deals with the topic. Many topics in the Work Programmes appear to directly answer to or align with the concerns of scholars, organisations, and stakeholders. The Discourse of SSH integration has therefore had an effect on how European research and innovation is shaped in regard to the inclusion of social sciences and humanities. The third research question was “What does a discourse analytical examination of the reference documents indicate about the prioritisation of SSH in Horizon Europe?”. In my analysis, I found that SSH actors and SSH integration is a cross-cutting priority in Horizon Europe, namely across the six Clusters under Pillar 2. However, I found that based on the Work Programmes, this prioritisation is inconsistent. This is not surprising, given the findings of Vida (2021) in her study. As discussed earlier, Vida (2021) showed how the advisory group experts, who are involved in the preparation and final drafting of Work Programmes, reflect different interests and agendas in their contributions.

In my analysis, I found that the role of language is indeed paramount in how values, attitudes, priorities, and other things are conveyed. I observed that the positioning of SSH actors was affected by linguistic features such as word choice, placement, repetition, and syntax. I believe that this finding has a particularly high value for the development of upcoming Horizon Europe Work Programmes. I also found that the active Discourse of SSH integration has affected how the European Commission describes and refers to the inclusion of SSH actors, as the reference documents show a clear prioritisation of SSH integration. In practice, the integration of SSH actors is supported by National Contact Points, the inclusion of SSH actors in expert committees and evaluation panels, a database that contains information on the level of SSH integration, and the application forms that require applicants to consider the inclusion of SSH actors in their projects.

These findings show that there is much more to be studied regarding SSH integration and European research and innovation. As mentioned, the topic of SSH involvement in all areas of research can be expanded to a global level. I believe that this thesis provides a good basis for future studies that may compare Work Programmes over time, particularly as Horizon Europe continues and Discourse of SSH integration evolves further. I believe that the use of social positioning theory, discourse analysis, and document analysis is superb for studying the roles of individuals and groups in instances of language use. I highly recommend that future studies also utilise social positioning theory, for example in a study of the performance style of SSH actors. The theory can also be utilised in the study of how SSH actors potentially self-reposition themselves in Horizon Europe projects. There is huge potential for further studies on reference documents, but also for studies that gather ethnographic field data and examine talk and interaction in research projects. These studies could combine discourse analysis and conversation analysis. Lastly, it would be interesting and useful to compare the actual percentages of SSH actors in projects to the findings of this thesis.

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