Potential Future EIT Thematic Areas –

Input to the EIT Strategic Innovation Agenda 2021-2027

DRAFT FACTSHEETS

A. Context

The European Institute of Innovation and Technology (EIT) has been working on developing the **next Strategic Innovation Agenda 2021 -2027** (SIA) since October 2016. An integral part of this process is the identification **of potential future global, major societal challenges** to address. The first part of this process consisted of a **mapping** aimed at identifying the major challenges of concern to citizens covered by the current EIT Innovation Communities and those not yet covered. The outcome of this mapping clearly indicated that the existing Innovation Communities already cover the majority of societal challenges and priorities in their respective areas. On this basis and building on **foresight studies and EU or international strategic documents** (in particular the European Commission's Bohemia study[1], Joint Research Centre (JRC), Institute for Future Studies, the UN 2030 Sustainable Development Goals[2] etc.) additional **major societal challenges have been identified.**

Regarding these **new challenges, where potential Innovation Communities could be established in the future**, the EIT **Governing Board** (EIT GB) adopted the following **strategic directions**:

- Potential new themes should follow the logic of **major societal challenges** with the need and **potential for technological and social innovation** to address them.
- Themes should be selected based on a **citizen-centred approach**, i.e. what issues are important for citizens in order to substantially improve their quality of life.
- Themes should be sufficiently **broad** to leave room for innovation potential and the existing skill gap. A certain overlap between themes is therefore also unavoidable.
- Themes should be **based on a variety of foresight studies**, i.e. as the future is unknown, the EIT should not rely on a single source.

Based on this approach, the EIT GB in its meeting of 15 June 2017 decided to **analyse in more detail the following thematic areas** with the support of selected GB members and external experts (including a valuable input from the JRC):

- **Security and resilience**: ensure European freedom of action with regard to **security and resilience related threats to citizens, goods and organisations**, including protection of infrastructures and cyber security.

[1] New Horizons: Future Scenarios for Research & Innovation Policies in Europe, FORESIGHT, European Commission Directorate-General for Research and Innovation, 2017 https://ec.europa.eu/research/foresight/index.cfm?pg=strategic

[2] https://sustainabledevelopment.un.org/post2015/transformingourworld

- **Inclusion, integration and migration**: foster inclusion and integration in European societies, in the context of **demographic and social changes**, including inequalities and migration trends.
- **Water, marine and maritime**: create **sustainable, circular and blue economies** that are based on healthy water and marine ecosystems.
- **Cultural and creative industries**: unlock the potential of cultural and creative industries in **promoting cultural diversity, European citizens' creativity and social cohesion** as well as in creating **sustainable economic growth and jobs**.

These thematic areas were intentionally left broad to allow for future EIT Innovation Communities to suggest a focus where the biggest impact can be made based on innovation opportunities addressed through the EIT model by connecting and empowering people and organisations across the knowledge triangle of business, education and research.

Additionally the EIT GB decided that the **option of an open call for Innovation Communities** *("Out of the box idea")* should be developed in more detail.

These four themes were then further analysed by **external experts against a set of criteria** adopted by the EIT GB to verify their suitability for the EIT model:

- Is the scope broad enough? Does it leave enough room for creativity and desired results/ impact?
- Is there a (societal) challenge to be solved? Is there enough interest?
- Is the area important for citizens in order to substantially improve their quality of life?
- Is there a possibility and advantage for Europe to bring in its knowledge and capacity? What are the other relevant existing (or planned) innovation initiatives (EIT Innovation Community similar or complementary) in this area?
- Is there an added value of applying the EIT Model? (interconnected innovation ecosystem applying knowledge triangle integration, pan-European partnership, potential for synergies with other initiatives and/or across innovation communities)
- In what way is the area already covered through activities by existing EIT Innovation Communities?

The work of the experts resulted **in four reports** (outlining the challenges, the potential impact of addressing them and the EIT added value), all concluding that the **identified challenges could be successfully addressed through the establishment of an EIT Innovation Community** as this would bring high added value. The final result of this process consists of four **factsheets on the topics** (see below) which would constitute an integral part of the future Strategic Innovation Agenda.

The EIT would like to engage in a wide consultation to receive feedback and comments on these societal challenges and themes with a view to including a solid 2-page outline per thematic area in the new strategy.

B. The four thematic areas

1. Security and Resilience

I. The challenge

An overall societal challenge concerns how EU over time can ensure European freedom of action with regard to Security and Resilience (SR) related threats. Numerous threats to European freedom of action are currently developing, transforming quickly and creating a new security landscape, with threats that can affect the whole society and that can be no longer contained geographically. Based on the Bohemia study, one of the 7 scenario areas (covering key concerns related to UN Sustainable Development Goals and to the potential of EU policy on Research and Innovation to enable key transitions) is represented by SR.

SR represents a wide and diverse thematic area with a number of societal challenges that constitute fertile ground for innovation based on the EIT model. This breakdown of challenges relate to the identification of threats to citizens, goods and organizations, risk and crisis management, resilience of systems, protection of infrastructures, information security, and human control of highly automated systems. International security issues, military defence and actions concurrent to armament development – addressed by national or European level defence policies - are not considered to be part of the theme.

The societal importance of SR development is clearly apparent with the defence and security industry being a major industrial sector and a key for Europe's ongoing development as a world leader in manufacturing and innovation. The sector is highly innovative and centred on high-end engineering and technologies. Its cutting-edge research has created important knock-on effects in other sectors such as electronics, space, and civil aviation. It is estimated that the security sector represents a 200 billion EUR turnover and 5 million employees; defence industry represents a 100 billion EUR turnover and 500 000 employees; space industry represents an 8 billion EUR turnover and 40 000 employees.

The European Commission is actively promoting the competitiveness of and innovation in this sector as part of its effective implementation of the Common Security and Defence Policy. Also, the European Defence Agency's (EDA) Capability Development Plan, the European Security Industrial Policy, the Internal Security Strategy, and the Cyber Security Strategy express definite European needs related to SR.

The level of ambition for security, including space, was set in June with the Global Strategy presented by the High Representative Federica Mogherini and adopted in October 2016 by the EU ministers[3]. It is important to consider a dual approach when building up space capabilities, security issues should be taken into account right from the inception of any space programme.

[3] https://europa.eu/globalstrategy/en/global-strategy-foreign-and-security-policy-european-union

II. The relevance and impact of addressing the challenge

The challenge mostly addresses disruptive situations, where a crisis happens or could happen. For citizens, addressing the challenge will not only be assessed on the improvement of their quality of life, but mostly on the confidence that can be granted to them that this quality of life will be preserved and maintained if a crisis occurs.

Also, awareness of Europeans with respect to the crisis possibility fact will be enhanced, making Europe as a whole more resilient. Preparedness of the population, the general feeling of being well protected, as citizens, as well as actors of the society and economy would therefore definitely improve the quality of life of citizens in a crisis situation. In a similar way, awareness and preparedness of the economic environment before a crisis and continuity of economic activities in crisis situations are expected.

Several technologies to be implemented will have to be brought to or remain at the utmost high level when addressing the challenges; among them:

- Complex systems of systems engineering are prominent when it comes to protection of infrastructures, to global economy and network resilience or to highly automated systems;

- Human factors strongly impact threat detection, crisis management, system usability and interfaces between humans and complex systems, especially when including Artificial Intelligence (AI);

- IT represents the spinal cord: it directly intervenes in issues related to information security and warfare, or cyber-security; it mostly builds bridges between all the actors of an economy (human actors, organisations, systems, infrastructures, networks…) and its proficiency must be pushed to the extreme limit in order to respond to the complexity of its implementation to the benefit of the challenges (crisis management, resilience and protection of systems and infrastructures, highly automated systems and AI, systems usability);

- More “traditional” technologies (material, chemistry, biology, electronics) will also remain of interest considering for example the multiplicity of potential threats and corresponding countermeasures to be taken into account (biological, chemical, explosive, kinetic), or the possible solutions contributing to basic societal resilience.

- Space technology, including the *Joint Technology Initiative (JTI)* addressing de-orbiting, orbit servicing, launcher critical technologies, and smart digital satellites.

III. EIT added value

In the increasingly connected world, with very extensive global dependencies between nation states concerning logistics, economy and infrastructure the responsibility for solutions to the identified societal challenges will require changes in international legislation, extensive national collaboration and active change management during a longer time period than some commercial actors have business interest for. The societal challenges that have been identified will often require solutions that go

beyond technological innovations. For a traditional system development company, an EIT Innovation Community can thus represent an arena for innovative development where perspectives and requirements from different parts of society can meet. For the larger industrial partners from defence industry an EIT Innovation Community could also be used as an arena where the effects of commercial competitiveness are reduced, provided that the EIT Innovation Community engages in needs assessments, requirements generation, and early stages of innovation. Ideally this focus on early stages of innovation supports a work climate with stronger intrinsic motivation and autonomy for employees, which in turn stimulates innovation.

Many excellent European actors are available, of all different types in the Knowledge Triangle. For the identified societal challenges the EIT model would provide an important arena for the required trans-sectional and trans-disciplinary teams that can develop the solutions.

IV. Conclusion

An EIT Innovation Community related to SR has a large potential to be a fruitful investment for the EU. Challenges related to SR are wide and diverse, spanning from quite mundane societal functions to more futuristic and high-tech functions and systems. Europe has a strong competence base to draw from with excellent actors of all categories within the Knowledge Triangle. The competence base is quite varied across EU Member States and many countries have national research and development agendas that also address SR challenges, with which an EIT Innovation Community would need to be coordinated.

In relation to the identified challenges, a fruitful area for European innovation and an EIT Innovation Community related to SR, has been identified. On a broader point of view, an EIT Innovation Community would contribute to instil within the European society awareness on these important matters, and to reinforce the links between the citizens and the defence and security community at large.

2. Inclusion and Integration

I. The challenge

Europe is facing a complex set of challenges posed by demographic change; migratory flows, and transformation into a multi-cultural society with profound political, economic and cultural implications. Up to 2050, the share of the age group above 60 will be around 37% in Europe, while the proportion of young population will go down from 21.3% to 14% in 2030. Migration will continue to be a complex phenomenon combined with diversity in types and patterns. By 2050, through internal migration, 75% of us will live in cities. According to most recent EU reports, net migration into the EU has tripled to around 2 million people per year since 2002, and migratory pressure at the EU's borders will increase exponentially. Educational chances of children still remarkably depend on their family origin, socio-economic status, cultural characteristics, etc. To reduce incidence of low-performers among the young, inclusive policies need to be targeted. One of the major problems defined in the *European Innovation Agenda* is supporting inclusive, innovative, and reflective societies as a prerequisite for reducing

inequalities and social exclusion in Europe. In this context, two major societal challenges are identified and assessed according to the innovation potential they represent:

1. Demographic change: Ageing population in developed countries
2. Social inclusion and active citizenship as drivers for economic growth:
   2.1. Inclusion and Integration of young people
   2.2. Inclusion and integration of migrants; immigrants, refugees and asylum-seekers

A wide scope of policies addressing demographic change was advocated already since the Stockholm European Council of 2001. The Europe 2020 strategy emphasises the need to promote active ageing policies and the third pillar of the Horizon 2020 programme considers demographic change as a societal challenge. At EU level there is also a long ongoing discussion on the active inclusion of people excluded from the labour market, including challenges linked to education. The EU adopted *The New Skills for New Jobs* initiative which was further enhanced by the renewed *EU Youth Strategy in 2015* placing social inclusion[4] as a top priority. These challenges related to social inclusion will continue staying high on the EU's political agenda also after 2020, based on the UN 2030 Sustainable Development Goals.

II. The relevance and impact of addressing the challenge

Inclusion and Integration lies in the very heart of European integration and the EU as a whole, next to being integral for Research and Innovation (R&I). Addressing the related challenges would result in several social, economic and research and innovation impacts. An EIT Innovation Community on Inclusion and Integration means meeting not only Europe 2020 or Horizon 2020 priorities, but also allows for addressing the above described challenges as they develop (resulting from demographic change and integration of young people and migrants) beyond 2020. Changes in demography have a great impact on future growth as they affect the market potential of companies, i.e. opportunities exist for companies that are able to capitalize on the knowledge and skills of an ageing workforce. R&I on ageing is pivotal for EU policy-makers. Innovation must be the response to today's challenges, in particular social innovation as driver for positive changes in policies that have a direct impact and concrete consequences for the life of EU citizens and also contribute to make our social market economy more competitive. There will also be a high demand for new skills - in many sectors of our life and economy – social workers; educators and trainers. In line with already articulated needs and measures to stimulate social inclusion of young people, there is also a need to formulate new policies in education, professional training, social and healthcare that make the full use of human potential on the labour market.

III. EIT added value

As a thematic area "Inclusion and integration" is cross-functional and intersects with other thematic areas directly. Thus addressing this thematic area within the EIT framework will help fostering the ecosystems inherent to other thematic areas while enhancing innovation at all levels and dimensions.

[4] *https://ec.europa.eu/youth/policy/youth-strategy/social-inclusion_en*

The EIT model will add value to build multidisciplinary and cross-thematic teams to tackle complex issues of inclusion and integration while accumulating the knowledge and expertise of different stakeholders – research, innovation, public sector, private sector, and citizens. A large interdisciplinary group of researchers are needed to tackle the challenges – economists, lawyers, sociologists, mathematicians, engineers combined with experts in non-formal learning skills, social entrepreneurs and many other specialists. Addressing Inclusion and Integration through an EIT Innovation Community will thus give the possibility to address not only the major societal challenges Europe is facing, but also to mobilise investment and long-term commitment from both the business and public sector – namely, in the deployment of new and innovative technologies, processes and knowledge to increase sustainable delivery of services, organizational and business models to reduce exclusion and promote better quality of life. Through its integrative approach, an EIT Innovation Community in this area will be able to influence the industry approach to focus more on citizens-driven innovation, thereby benefiting people's health and quality of life. This will go along with the potential of new business models and market strategies that focus on targeted groups of citizens' needs. The Innovation Community will promote social innovation by using some of the tools of innovation policy - intervening to support new initiatives to start up and scale, investing in innovation skills, creating a stronger market for social innovations and helping to create a more vibrant 'ecosystem' of support for social innovation. Based on the Bohemia study, concerning the importance of social innovation, by 2030 the EU will focus its research and innovation policy on projects with "high social returns" and will create "open ecosystems for research, innovation and education." Another major added value of an EIT Innovation Community in this theme will be to bring in the significant potential of its education pillar with a cross-cutting focus. This dimension of the EIT model would have a particularly important leverage in this thematic area. An EIT Innovation Community will have a key role in addressing the current shortage of skills and human resources which are now neither in place nor yet recognized which is a barrier to innovation. By integrating education with other sectors of the knowledge triangle, the EIT Innovation Community will definitely address this issue successfully. It will simultaneously offer the opportunity to stimulate new educated entrepreneurial people, capable of developing new innovative technologies. This focus on social entrepreneurship will be particularly significant for this theme.

IV. Conclusion

An EIT Innovation Community on Inclusion and Integration will provide a window of opportunity to tackle challenges described above. It also meets the criteria put forward for the selection of new themes in the SIA, more specifically:

- It addresses a major economic and societal challenge (changing world, EU's new role and the need for inclusive, innovative and reflective societies);
- An Innovation Community on Inclusion and Integration is aligned with the priorities of Horizon 2020 and with other key EU initiatives and policies on healthy ageing, social inclusion, education for all, youth, employment;
- Though in the area of social sciences, this Innovation Community has the potential to mobilize interdisciplinary research teams and to offer high potential for business and technological sector to innovate;

- It will add value to the engagement of citizens and policy-makers with other stakeholders of the Knowledge triangle;
- It creates sustainable impact, measured in terms of new educated entrepreneurial people, new technologies; new business and rising of new actors for social innovations' development.

3. Water, Marine and Maritime

I. The challenge

The theme of water, marine and maritime focuses on the societal challenge of creating sustainable, circular and blue economies that are based on healthy freshwater and marine ecosystems. This is a major challenge as it requires that the maintenance of ecosystem functioning is fully enshrined into socio-economic and political decision making. The thematic field addresses a number of topics such as: a) water scarcity, floods and droughts, b) ecosystems degradation (freshwater and marine), and c) creating a circular and blue economy, all of which are highly relevant in terms of both socio-economic and environmental impact. The overarching aim is to improve the quality of life for European citizens by providing water security and continued access to sustainable freshwater, marine and maritime resources, all of which provide a critical underpinning of Europe's economic performance.

Freshwater, coastal and marine ecosystems face major pressures around the world associated with a variety of human activities and climate change. Today, 50% of European water bodies are affected by water scarcity, and globally floods impact 250 million people on an annual basis[5]. In Europe, only 4% of marine ecosystems have a 'good environmental status' and more than half of the surface water bodies need restoration measures to meet the Water Framework Directive objective[6].

Building a truly green (circular, blue) economy involves considering trade-offs between economic, social and environmental objectives[7]. EU citizens and policy makers are increasingly aware about the relationship between ecosystems quality and human well-being. Indeed, the EU has embarked on ambitious strategies and programs in the water, marine and maritime area, including the Water Framework Directive, Marine Strategic Framework Directive, the Maritime Spatial Planning Directive, the Blueprint to safeguard Europe's Water Resources, the Blue Growth Strategy and the Circular Economy Action Plan. Under the scenario area on "Environment and Ecosystems Resources and Services" in the Bohemia study, issues related to freshwater shortages and collapsing oceans represent key challenges to be addressed.

II. The relevance and impact of addressing the challenge

The economics of water innovations is significant. Water security underpins the health and well-being of any livelihood, business or economy. The water industry in Europe has ca. 600,000 full-time equivalent jobs and employment in the sector is likely to rise in the coming years. Water scarcity and

[5] A Blueprint to safeguard Europe's Water Resources, COM(2012) 673 final, 14.11.2012
[6] ETC/ICM 2012

floods in Europe have an average negative economic value impact of respectively € 2 billion and € 6 billion per year.

The impacts from innovations in the marine and maritime sectors are significant as well. World-wide, the livelihoods of 3 billion people depend upon services from marine and coastal ecosystem. Indeed, coastal zones and oceans are crucial for global food security, human health and regulation of climate. Investing in innovations in sustainable resource use and management, will create resilience and long-term value for society and business supply chains fostering the creation of smart, integrated nature-based solutions.

A dedicated EIT Innovation Community and innovation network on the water, marine, maritime area will contribute greatly to accelerating the building of circular and blue economies. It will have a positive impact on citizens' quality of life by addressing a variety of key issues such as: water scarcity, droughts and floods, production and prosperity of coastal regions and healthy and productive freshwater bodies, seas and oceans. Protecting and wisely managing freshwater and marine ecosystems creates healthy urban, rural and coastal environments that are hugely attractive for people and businesses as they enhance human health and well-being.

III. EIT added value

The major opportunities around the water, marine and maritime societal challenge lie in building a broad-based innovation community that can turn the challenge of freshwater and marine ecosystem degradation into an opportunity for a vibrant circular-blue economy. The EIT innovation model with the integration across the Knowledge Triangle involving research and technology developers, businesses, policy makers and other key stakeholders - that together focus on development and adoption of technical and social innovations - is particularly suited for this. It can facilitate synergies and strategic alliances using a unique structured network of experts, practitioners and societal actors from different disciplines. As such, an EIT Innovation Community is well placed to spearhead a transition to a more applied, integrated and holistic approach coupling the sustainable use of ecosystems' resources with sustainable economic development, and create a lasting impact.

For a transition in this area, a special emphasis needs to be placed on start-ups and small and medium-sized enterprises (SMEs). There is a major opportunity to provide support and guidance to bridge skills gaps and combine science-technology know-how with marketing and sales skills to involve other businesses and consumers to thrive in a growing water and marine market. The EIT Innovation model is very well suited for this purpose and can help entrepreneurs to accelerate the transition from innovations to mainstream applications and uptake in national markets and, increasingly, European and overseas markets.

The European water, marine and maritime sectors are world-leading in terms of science and technology development. Also, a wide-range of businesses work in this area. As such, there is an excellent level of science, technology and business capacity to innovate through close collaboration with partners across the Knowledge Triangle. There is a proven track-record on breakthrough innovations, start-up

companies and creating new markets and hence there is ample capacity to scale-up innovations arising from an EIT Innovation Community in this area.

IV. Conclusion

An EIT Innovation Community focused on the water, marine and maritime area is most suited to address the challenges outlined above. It also meets the criteria put forward for the selection of new themes in the following way:

- It addresses a major socio-economic and relevant societal challenge (creating sustainable, circular and blue economies that are based on healthy water and marine ecosystems);
- It is aligned with the priorities defined in the Water Framework Directive, the Marine Strategy Framework Directive, the Maritime Spatial Planning Directive and complimentary with other Union activities in the water, marine and maritime area;
- It will be able to mobilise investments and long-term commitments from the private sector and offers major opportunities for the development of new products and services, through the development and application of new technologies and processes, the scaling-up of knowledge exchange, capacities and skills;
- It will create sustainable and systemic impact through the development of a thriving network of enterprises and knowledge-technology centres that foster new thinking, new businesses, new products, new services, and a new kind of entrepreneurs;
- It will address the high level of fragmentation of the water, marine and maritime area; bringing together a critical mass of excellent research, innovation, education and business actors with a wide variety of capacities and capabilities;
- It will focus on increasing awareness of citizens on the close connection between human welfare and well-functioning ecosystems, building adaptive capacities and supporting behaviour change;
- It will pursue actions towards sustainable exploitation of freshwater and marine resources while enabling ecosystem friendly investments and strengthen freshwater and ocean governance through the uptake and use of information in decision making.

4. Cultural and Creative Industries

I. Challenge

Contemporary European societies and economies are increasingly solicited internally and externally by complexity and uncertainty, as also described in the Bohemia study. This includes extreme competition on a world scale, scientific breakthroughs, economic and social crises, unemployment, in particular of youth, ageing population, weak civic engagement, national political shifts, migration and difficult

cohabitation with new cultures, gradual erosion of traditional know-how (including crafts), congested cities and abandoned industrial sites and rural areas.

Cultural and Creative industries (CCIs) are those industries that are based on cultural values, cultural diversity, individual and collective creativity, skills and talent with the potential to generate innovation, wealth and jobs through the creation of social and economic value, in particular from intellectual property.

CCIs have a largely untapped potential as an important resource for creativity and innovation in the context of global competition and as catalysers of smart, inclusive growth and jobs, including at local/regional level. At the same time, CCIs - by their very nature - promote cultural diversity, pluralism and strengthen social cohesion in Europe. Moreover, CCIs – being a European brand worldwide - have an important potential in enhancing Europe's role on a global stage, not only economic terms, but also as ambassadors of values. In fact, Europe has a distinctive competitive advantage in the field of cultural heritage, cultural/linguistic diversity and top class education and technologies. Provided that this potential related to the above mentioned challenges can be unlocked and innovation builds on and interconnects Europe's rich cultural diversity, CCIs can strongly contribute to initiatives such as the Innovation Union, the Digital Agenda, tackling climate change, the Agenda for new skills and new jobs or an industrial policy for the globalisation era. The EIT innovation model – connecting technology with content - would be a suitable way of addressing challenges in this thematic area. It is in this spirit that the European Parliament resolution of 8 September 2015 "Towards an integrated approach to cultural heritage for Europe"[8] invited the Commission to consider the possibility of the EIT establishing, under its next Strategic Innovation Agenda, an EIT Innovation Community in the field of cultural heritage and creative industries.

II. Relevance and Impact

An EIT Innovation Community on CCIs – with its holistic and integrated approach - will help addressing challenges defined by Europe 2020 and beyond. By addressing nearly all sectors of our lives, society and economy, such an Innovation Community will be highly relevant in terms of economic and societal impact, unlocking strategic opportunities for economic, technological as well as social innovation.

CCIs are increasingly seen as new sources of smart, sustainable and inclusive growth and jobs. CCIs in Europe make a significant contribution to the EU economy, employing more than 12 million people in the EU, which is 7.5% of all persons employed in the total economy (2.5 times more people than automotive manufacturers and 5 times more than the chemical industry). CCIs constitute an important and qualified destination of youth employment and women. CCIs create about 5.3% of the total EU gross value added (GVA) and further 4% of EU gross domestic product (GDP). In specific regions with high economic growth, CCIs represent a significantly higher percentage of GDP and employ a higher percentage of the local workforce. The largest majority of CCI firms are SMEs.

Culture and participation in cultural activities has a direct impact on the well-being of citizens. CCIs enhance societal values of identity, democracy and community participation. Culture has a great

[8] http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0293+0+DOC+XML+V0//EN

potential to reinforce a European sense of belonging, where diversity represents an asset. CCIs foster co-creation in innovative ways, where citizens' and social innovation are nurtured by new ideas, processes critical mind-sets and social organization models. This is of fundamental importance to enable resilience, social access, society cohesion, anti-radicalisation and gender equality, and to tackle Europe's political crises with increased nationalism. Based on the Bohemia study, radicalisation and more in general tensions between different ethnic and religious communities living in Europe represent a cultural gap and not a political one.

It is clear that CCIs strengthen the interaction between different sectors, industries or systems, namely through creative crossovers. CCIs constitute particularly favourable environments where people's active participation in different cultural and creative activities will lead to an increased tendency to innovative, risk-taking and entrepreneurial mind-sets, thus strengthening innovation-based growth in the economy and innovation transfer to the rest of the economy and society. This opens up new possibilities for Europe in times of scientific breakthroughs with CCIs contributing to AI, virtual reality and other Information and Communication Technology (ICT) developments, the development of new business models and impact assessment based on intangibles and Intellectual Property Rights (IPR) exploitation, new market strategies, new financing (e.g. crowd-funding and public-private partnerships (PPPs)) and cooperative (e.g. co-working and creative hubs) solutions, corresponding regulatory actions and creating new value chains. CCIs can play a crucial role in keeping and further developing the attractiveness of our territories in the global competition for talents.

While the European Union has excellent research expertise and infrastructure and institutions in the CCIs, much more could be done to capitalise on this. An EIT Innovation Community would be particularly suited for this by building on EU excellence in academic, technical and practical education and research in innovative cultural and creative products, services, processes and value chains, including digitisation, sustainable new business models, IPR exploitation and crossovers with the other sectors of the economy and the society.

III. EIT added value

An EIT Innovation Community on CCIs will empower network opportunities, collaboration, co-creation and know-how transfer between education, research and business, within the cultural and creative sectors and with other sectors of the society and the economy (crossovers). This will provide an attractive basis for industry involvement in the planned activities of the EIT and stimulate innovative partnerships comprising very diverse kinds of actors in terms of size, not/social and for profit orientation and intensive cooperation of multi-sector teams with participants from all sectors of the knowledge triangle (higher education, research and innovation).

An EIT Innovation Community in this area will catalyse bottom up and top down initiatives at regional, national and EU levels, avoiding duplication and putting in place the necessary integration. It will provide researchers and students in many disciplines (including arts, culture, cultural heritage, cultural industries, humanities, economics, business and social sciences, ICT and applied hard sciences) and entrepreneurs of the CCIs and other sectors with the knowledge and skills necessary to deliver innovative solutions and to turn them into new business opportunities. An Innovation Community on

CCIs will attract and retain world-class talent, and develop new skills and collaborations in education, research, practice and business at international level.

The EIT model in this thematic area could also play a strong role at local/regional level to valorise cultural and creative assets at the core of the smart specialisation strategies.

IV. Conclusions

An EIT Innovation Community on innovation for CCIs is most suited to address the challenges outlined above. Creativity is the core of the CCIs, which represents one of the most important conditions for innovation. An Innovation Community on CCIs has the capacity to unleash the potential of culture and creativity as a source of competitiveness and smart growth and thereby meets the criteria put forward for the selection of new themes:

- It addresses a major economic and societal relevant challenge.
- Its focus is aligned with priorities defined in Horizon 2020 and complementary with other Union activities in the global competition and hereby to create growth and jobs.
- It can build on a strong research base and on a solid industrial sector which will be attracted by this Innovation Community. It is able to mobilise investment and long-term commitment from the business sector and offers possibilities for various emerging products and services.
- It will address the European paradox, since it will capitalise the Union's strong research base and find new innovative approaches to improve the quality of life of European citizens and to maintain economic sustainability and social care systems.
- It will develop new collaborative governance models at European, national, regional and local levels, strengthening PPPs with new regulations and create new participatory framework with the society.
- It creates sustainable and systemic impact, measured in terms of new educated entrepreneurial people, new technologies, new businesses and corresponding crossovers. It will foster new technological developments and social innovation.
- It aims at overcoming the high level of fragmentation of the CCIs; and will bring together a critical mass of excellent research, innovation, education and training stakeholders along the sector.
- It takes a systemic approach and thus requires a truly trans-disciplinary work involving different areas of knowledge and innovation, and can inspire and contribute to technical solutions to a series of issues connected with societal, environmental and economic nature, such as smart retail and health care, urban planning and energy.