CIMULACT

CITIZEN AND MULTI-ACTOR CONSULTATION ON HORIZON 2020

23 CITIZEN-BASED TOPICS FOR FUTURE EU RESEARCH

CIMULACT

ABOUT THIS PUBLICATION

CIMULACT is a project funded by the European Commission with the vision to engage citizens in defining European Research and Innovation (R&I) agendas, thereby making them more relevant and accountable to society. The results of the project include concrete recommendations for the EU Framework Programme for R&I –Horizon 2020 and beyond.

Engaging society is a central element of the principles behind Responsible Research and Innovation (RRI) and implies that societal actors work together to align the values, needs and expectations of society. Being the most ambitious 'open research agenda setting' project ever funded by the European Commission, CIMULACT serves as a model for citizen-based research agenda settings, hereby making RRI concrete. The CIMULACT results demonstrate that it is possible to open up research and that citizens – alongside experts and stakeholders – are capable of producing unique and innovative input for European R&I agenda setting. The results address societal challenges experienced by lay citizens themselves, which show us how important it is to open the discussion to ensure that these challenges are addressed in the research agendas. In the format of concrete research and policy recommendations, the CIMULACT results provide a direction for where R&I should go to be in compliance with societal needs.

The 23 topics presented in this booklet have been produced for the Horizon 2020 programme and beyond. They address challenges European citizens see in society or meet in their everyday life and specify how research may address these challenges. The topics are deeply rooted in 179 visions formulated by more than 1000 European citizens and were defined and further elaborated through a highly participatory process engaging citizens, experts, stakeholders and policymakers from 30 European countries. The citizen-based research topics were finalized in Brussels December 2016 by European Commission Project Officers, experts and CIMULACT partners. The end result of the entire CIMULACT process is the 23 research topics presented in this booklet.

The European Commission has taken the first steps in listening to citizens when defining research agendas. However, national and private funding programmes are also responsible for opening up research agendas to civil society and may find inspiration from CIMULACT on how to engage citizens, and what they are concerned about.

We believe that a paradigm shift is taking place where citizens' wishes, needs and concerns are increasingly being addressed when defining future directions for research. This will not only strengthen RRI, but also adapt R&I to a changing world.

Lars Klüver
Coordinator of CIMULACT
Director of the Danish Board of Technology Foundation

CIMULACT PARTNERS

TEKNOLOGIRÅDET – DANISH BOARD OF TECHNOLOGY (DBT)
Arnold Nielsens Boulevard 68E, 2650 Hvidovre – Denmark,
Contact: Lars Klüver
lk@tekno.dk
www.tekno.dk

FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV (ISI)
Breslauer Strasse 48, 76139 Karlsruhe – Germany
Contact: Philine Warnke
Philine.Warnke@isi.frauenhofer.de
https://www.isi.fraunhofer.de/

OESTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN (ITA)
Apostelgasse 23, 1030 Vienna - Austria
Contact: Niklas Gudowsky
niklas.gudowsky@oeaw.ac.at
http://www.oeaw.ac.at/

MISSIONS PUBLIQUES (MP)
35 Rue du Sentier, 75002 Paris – France
Contact: Yves Mathieu
Yves.Mathieu@missionspubliques.com
http://missionspubliques.fr/

STRATEGIC DESIGN SCENARIOS SPRL (SDS)
Rue Dautzenberg, 36-38, BE-1050 Brussels - Belgium
Contact: François Jégou
f.jegou@gmail.com
http://www.strategicdesignscenarios.net/

TECHNOLOGICKE CENTRUM AKADEMIE VED CESKE REPUBLIKY (TC ASCR)
Ve Struhách 1076/27, 160 00 Praha 6- Bubeneč -Czech Republic
Contact: Lenka Hebakova
hebakova@tc.cz
http://www.tc.cz/cs

ASOCIATIA INSTITUTUL DE PROSPECTIVA (Prospectiva)
Bucharest, Sector 5, Aleea Sălaj no. 6, Rômânia, postal code 051907
Contact: Radu Gheorghiu
Gheorghiu.Radu.Christian@gmail.com
http://www.prospectiva.ro/

APPLIED RESEARCH AND COMMUNICATIONS FUND (ARC Fund)
1113, Sofia 5, Alexander Zhendov St. Bulgaria
Contact: Zoya Damianova
Zoya.Damianova@online.bg
http://www.arcfund.net/

GREENDEPENDENT INTEZET NONPROFIT KOZHASZNU KORLATOLT FELELOSSEGU TARSASAG (GDI)
2100 Gödöllő, Éva u. 4. , Hungary
Contact: Edina Vadovic
Edina@greendependent.org
http://www.intezet.greendependent.org/

POLITECNICO DI MILANO (POLIMI)
Via Durando, 38a, 20158 Milano, Italy
Contact: Anna Meroni
Anna.Meroni@polimi.it
http://www.polimi.it/

THE ASSOCIATION FOR SCIENCE AND DISCOVERY CENTRES (SCIENCE)
Suite 101, QC30, 30 Queen Charlotte Street; Bristol BS1 4HJ, United Kingdom
Contact: Penny Fidler
Penny.Fidler@sciencecentres.org.uk
http://sciencecentres.org.uk/

FUNDACIO CATALANA PER A LA RECERCA I LA INNOVACIO (FCRi)
Paseo Lluís Companys, 23m Barcelona 08010 Spain
Contact: Belén Lopez
Belen.Lopez@fundaciorecerca.cat
http://www.fundaciorecerca.cat

AKADEMIEN DER WISSENSCHAFTEN SCHWEIZ VEREIN (TA Swiss)
Brunngasse 36, CH-3001 Bern – Switzerland
Contact: Elise Gortchacow
elise.gortchacow@ta-swiss.ch
www.akademien-schweiz.ch

HELSINGIN YLIOPISTO (UH)
Fabianinkatu 33, 00014 Helsinki – Finland
Contact: Petteri Repo
Petteri.Repo@helsinki.fi
https://www.helsinki.fi/fi

TEKNOLOGIRADET – THE NORWEGIAN BOARD OF TECHNOLOGY (NBT)
Kongens Gate 14, N-0153 Oslo, Norway
Contact: Åke Refsdal Moe
Ake.refsdal.moe@teknologiraadet.no
http://teknologiradet.no/

INSTYTUT TECHNOLOGII EKSPLOATACJI-PANSTWOWY INSTYTUT BADAWCZY (ITeE-PIB)
ul. K. Pułaskiego 6/10, Radom 26-600, Poland
Contact: Beata Poteralska
Beata.Poteralska@itea.radom.pl
http://www.itee.radom.pl/

ASOCIACIJA ZINIU EKONOMIXOS FORUMAS (KEF)
J. Galvydžio g. 5, LT-08236, Vilnius Lithuania
Contact: Edgaras Leichteris
Edgaras@zef.lt
http://www.zef.lt/

SIA BALTIJAS KONSULTACIJAS (BC)
Vīlandes 6-1, Riga, LV-1010, Latvia
Contact: Sandra Smalina
Sandra@granti.eu
http://www.balticconsulting.com/

UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK (UCC)
Western Road, Cork – Ireland
Contact: Stephen McCarthy
Stephen.mccarthy@ucc.ie
http://www.ucc.ie/

WAGENINGEN ECONOMIC RESEARCH
Alexanderveld 5, 2585 DB Den Haag – Netherlands
Contact: Volkert Beekman
Volkert.Beekman@wur.nl
www.lei.wur.nl

MEDIATEDOMAIN LDA (Mediatedomain)
Rua Nery Delgado 9-1, P-2775-253 Parede – Portugal
Contact: Ursula Caser
ursicaser@gmail.com
http://uc-mediation.eu/

UNIVERSITA TA MALTA (UoM)
Msida MSD 2080 – Malta
Contact: Sandra M. Dingli Sandra.m.dingli@um.edu.mt
http://www.um.edu.mt/

SLOVENSKA AKADEMIA VIED (SAS)
Štefánikova 49, 814 38 Bratislava 1 - Slovakia
Contact: Tomas Michalek
Michalek@up.upsav.sk
https://www.sav.sk/

SLOVENIAN BUSINESS & RESEARCH ASSOCIATION (SBRA)
Av. Lloyd George 6, 1000 Brussels, Belgium
Contact: Draško Veselinovič
drasko.veselinovic@sbra.be
http://www.sbra.be/

RTD TALOS LIMITED (RTD Talos)
P.O. BOX 21722, 1512 Lefkosia, Cyprus
Contact: Melinda Kuthy
mk@talos-rtd.com
http://www.talos-rtd.com/

4MOTION ASBL (4motion)
10, rue du Commerce, L-4067 Esch/Alzett – Luxembourg
Contact: Gary Diderich
Gary@4motion.lu
http://www.4motion.lu/

ODRAZ - ODRZIVI RAZVOJ ZAJEDNICE (ODRAZ)
Ul. kneza Ljudevita Posavskog 2, 10000, Zagreb - Croatia
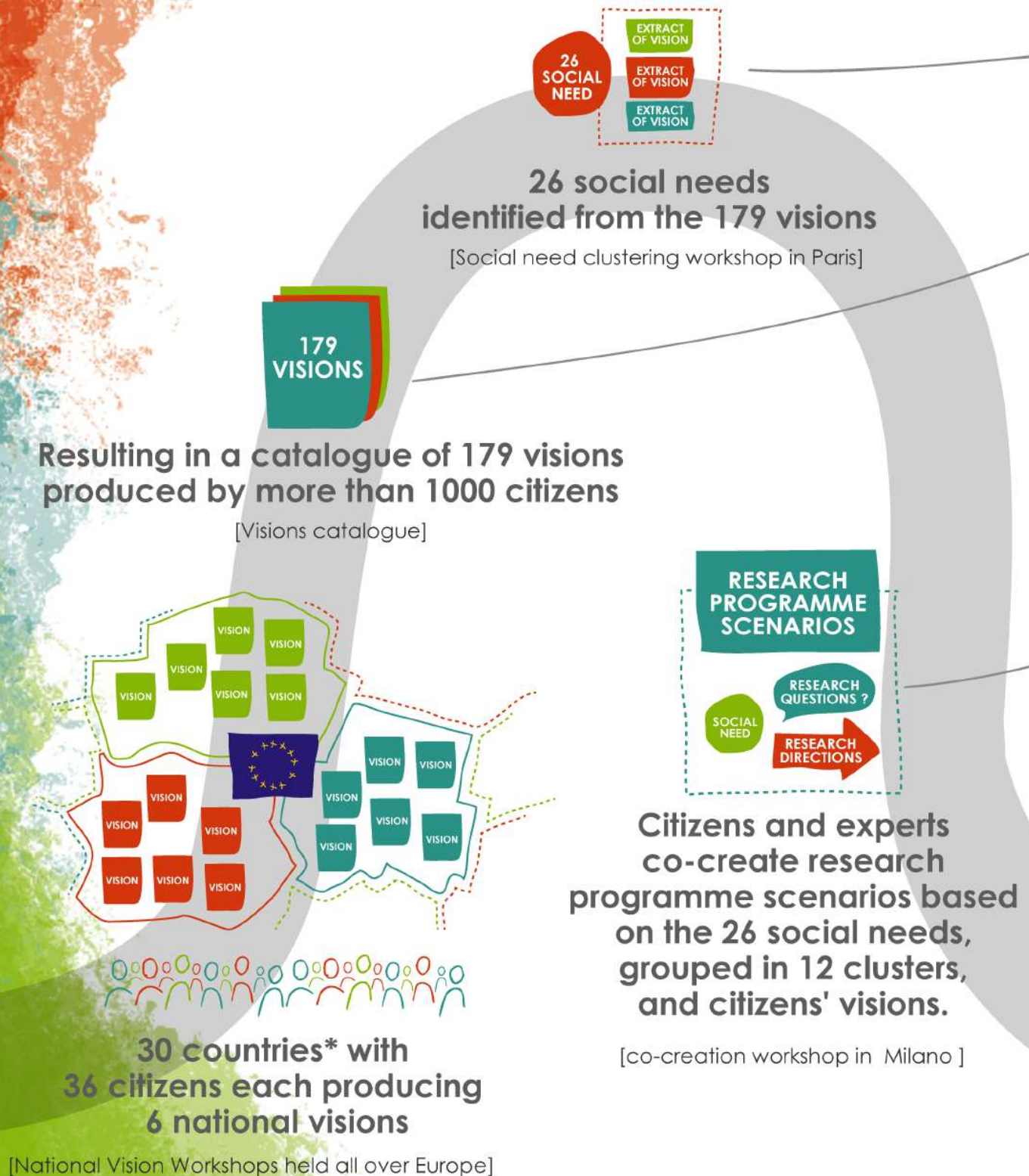Contact: Lidija Pavic-Rogosic
lidija@odraz.hr
http://www.odraz.hr/

STATENS GEOTEKNISKA INSTITUT (SGI)
Månstorpsvägen 14, 263 32 Höganäs – Sweden
Contact: Lisa Van Well
Lisa.VanWell@swedgeo.se
http://www.swedgeo.se/

ATLANTIS SYMVOULEFTIKI ANONYMI ETAIREIA ATLANTIS CONSULTING (SA ATL)
9th klm of Thessaloniki - Thermi, GR-570 01 – Greece
Contact: Magda Chatzi
chatzi@atlantisresearch.gr
http://www.atlantisresear

FROM CITIZENS' VISIONS
TO FUTURE EU RESEARCH AND INNOVATION AGENDA

26 SOCIAL NEED

EXTRACT OF VISION

EXTRACT OF VISION

EXTRACT OF VISION

26 social needs identified from the 179 visions

[Social need clustering workshop in Paris]

179 VISIONS

Resulting in a catalogue of 179 visions produced by more than 1000 citizens

[Visions catalogue]

VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION VISION

RESEARCH PROGRAMME SCENARIOS

SOCIAL NEED

RESEARCH QUESTIONS ?

RESEARCH DIRECTIONS

Citizens and experts co-create research programme scenarios based on the 26 social needs, grouped in 12 clusters, and citizens' visions.

[co-creation workshop in Milano]

30 countries* with 36 citizens each producing 6 national visions

[National Vision Workshops held all over Europe]

* 28 EU countries + Norway and Switzerland

Figure 1: Methodology -- How did we get here? The CIMULACT process going from citizens' visions to citizen-based research topics. For further details, see www.cimulact.eu.
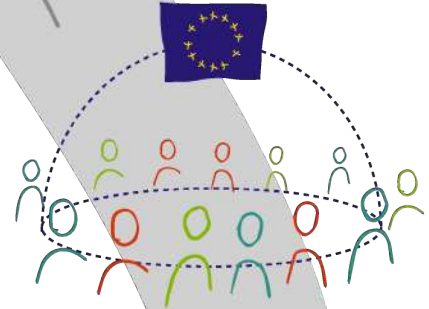
CIMULACT
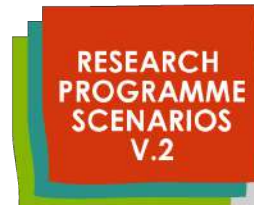**PROJECT FLOW**

FUTURE EU RESEARCH

Research topics

Policy options

48 research programme scenarios

Defining research topics in a Pan European conference

RESEARCH PROGRAMME SCENARIOS

RESEARCH PROGRAMME SCENARIOS V.2

Discussing the 48 research programme scenarios through an open online consultation and through a serie of face to face consultations

Leading to enriched and prioritized research programme scenarios

INTRODUCTION

FROM 179 CITIZEN VISIONS TO 48 DRAFT RESEARCH PROGRAMME SCENARIO

From November 2015 to January 2016, the CIMULACT consortium organised **National Citizen Vision Workshops in 30 countries**. In each of these workshops a group of around 35 citizens – that was carefully selected to maximise diversity with respect to age, gender, educational, professional and regional background - generated 6 visions of a desirable and sustainable future following the same methodology. In total, 1088 citizens participated across Europe in the National Citizen Vision Workshops, which resulted in 179 visions.

Figure 2: National Citizen Vision Workshop

In February 2016, the **179 visions** were reviewed by the CIMULACT core partners with the support of 10 external experts (also called challengers) within a "Clustering Workshop". In this process, **a set of 26 social needs** was identified underlying the 179 visions.

Figure 3: Clustering Workshop, February 2016, Paris

In April 2016, a two-day **co-creation workshop** was held where **48 research programmes addressing the social needs** were developed. The participants at this workshop included 30 citizens from 30 European countries who were selected from the National Citizen Vision Workshops, 30 experts with expertise within the indentified social needs and the 35 CIMULACT partners. Together they co-created 48 research programme scenarios.

ENRICHING AND ASSESSING THE RESEARCH PROGRAMME SCENARIOS

From August to October 2016, two parallel activities were carried out in order to assess and enrich the suggested research programmes:

In a Europe-wide online survey, citizens and experts were invited to comment on the research programmes by assessing their relevance, supporting their assessment with arguments and suggest additional research questions. In total, 3.458 people participated in the survey.

Then, in each of the 30 European countries, one or more workshops were held to review and enrich the research programmes. For this pro-

cess, the national CIMULACT partners were free to choose between a set of three methods or develop their own approach, involving citizens, stakeholders, policy-makers, and experts.

After this process, a meeting of the CIMULACT core partners was held where the results of the enrichments from both the online survey and the face to face consultations were integrated. This process resulted in **48 suggestions for research topics**. For each topic a **cover page** was generated giving the main aspects of challenge, scope and expected impact of the proposed research.

The material developed in this meeting formed the basis of the work in the final step of CIMULACT – the **Pan-European Conference**. The Pan European Conference was a crucial step in the CIMULACT process where European Commission Project Officers, experts and CIMULACT partners joined forces to transform the outcome of CIMULACT into research topics. At the end of the day, 23 draft citizen-based research topics and 40 policy recommendations were generated.

Figure 5: Pan European Conference, December 2016, Brussels

In this booklet, **we only document the 23 research topics that were further elaborated at the Pan-European Conference. It should be noted that the remaining 25 topics that can be found on CIMULACT's website may well be of equal relevance and urgency.**

We present the topics following the structure of current Horizon 2020 calls outlining the "challenge" addressed by the research, the "scope" with the key focus areas of the proposed research and the expected "impact" of the research. For each topic we indicate on the top of the page to which of the seven "Grand Societal Challenges" of H2020, which is most closely related. **In many cases, however, topics cover several Grand Societal Challenges.**

For each research topic we have indicated a ranking score shown as 1-3 stars. The score is based on the online consultation where participants were asked to value the importance of the research programmes in each of the two selected themes/needs based on a 1-5 point scale.

The 23 Citizen-Based Research Topics

1. Personal Development

I'm empowered to lead my changes

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C4. Smart, green and integrated transport
C6. Europe in a changing world - inclusive, innovative and reflective societies

CHALLENGE

Uncertainty is rising due to a rapidly changing living and working environment and there is a shift of risks and responsibilities from the state and employer to (vulnerable) individuals. Today's life-job-education pathways do not respond to the need of acquiring new skills and knowledge for having a fulfilled life. Citizens need technical, social, individual skills and an entrepreneurial mindset to stay competitive in the labor market and be able to adapt to a changing environment. They need to be able to make individual choices to cope with the quest for flexible and adaptive careers over a lifetime. There is not enough psychological knowledge on barriers for changing life-job-education paths and for dealing effectively with uncertainty. Responsibilities of state, businesses, individuals and other actors are dissolving and new mechanisms for coping with these challenges are needed.

SCOPE

Research should underpin the set-up of experiments with new models of coping with changing environments. Research could focus on one or more of the following key aspects:

• Better understanding the current situation especially consequences such as resignation, depression, polarization, social inclusions, exclusion
• Better understanding the labor market and its future changes through theories, models and foresight approaches
• New practices and tools to empower people to make good choices and orient themselves in order to be better prepared for possible future changes (sociology, educational theory, psychology)
• Exploring possible roles of communities for enabling alternative life-job-education pathways

Citizens of all ages should be involved not only in the research but also in the implementation phase. Particular attention should be paid to differences between different generations.

EXPECTED IMPACT

Online consultation rating ★★

• Means are available that empower individuals to harmonize life choices in a changing world
• Improved personalized education
• A more flexible job market with the individual in the center
• Possible models are developed for introducing alternative life-job-education pathways, which involves different actors and shares responsibilities (e.g. communities, NGOs, CSOs, businesses, etc.)

Dissemination and continuous exploitation of research and innovation in the healthcare system

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C6. Europe in a changing world - inclusive, innovative and reflective societies

CHALLENGE

There is a gap of awareness at the local level about the research and innovation achievements at the European level.
In fact, research and innovation actually occur in the healthcare system but they do not come easily available to the local service providers, citizens and other relevant stakeholders.
This can be due to the inherent complexity of the system, but also to a lack of dissemination and exploitation.
Therefore, there is a need of doing actual exploitation at a granular level and of creating local awareness, through local actions, about the results of research.

SCOPE

A dissemination and support action should be conceived to spread and exploit results of research in the healthcare system at the national and local levels. This may imply working with local entities and grassroots organisations (organizations, associations, communities, national contact points and companies) to engage people and stakeholders in discussing, adopting and adapting on-going research and innovation achievements. Local funding entities can facilitate the continuous implementation of research results.
Best practices at the local level must be identified. The action needs to identify and then to map out the local entities that can be in charge of this exploitation and dissemination activities, in order to understand their responsibilities and capacities. Contextual and infrastructure factors must be also investigated in order to understand how they influence the exploitation.

EXPECTED IMPACT

Online consultation rating

- Better exploitation of research and innovation at a local level
- Increased availability of services and solutions for the citizens
- Increased awareness of science progresses and achievements
- Better understanding of the role of EU research and innovation programmes
- Improved roles of national contact points

Evidence-based personalized healthcare

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C6. Europe in a changing world - inclusive, innovative and reflective societies
C7. Secure societies - protecting freedom and security of Europe and its citizens

CHALLENGE

Today, almost everyone gets a "standard" treatment for a specific symptom and not a personalised one, whilst new technologies may realise healthcare for all which is more equal, of higher quality and more personalised. Additionally, e-health can secure digitalised medical documentation and facilitate common policies overcoming the issue of fragmented data, which hinders linkages across countries/sectors/systems. This can enable faster diagnostics, and therapy can be more effective, whilst saving resources. This needs to go together with a redefinition of responsibilities and duties of every type of medical staff in order to avoid misunderstanding and confusion, while increasing the capacity of the doctors to humanise the relationship with the patient and the way in which information is shared. Finally, this can bring about a more holistic approach to healthcare, that is considering patients' symptoms in the context of overall health conditions and curtail treatments that concentrate merely on symptoms. This should help building trust between patients and doctors.

SCOPE

Research should explore the conditions for evidence-based, personalised and human-centric services for health promotion, prevention, treatment and rehabilitation. Reliable user lifestyle profiling methods and technologies should be developed, in order to achieve personalised holistic data-based health services. For this purpose, large amounts of data provided by miniaturised, environmentally friendly (wearable or distributed) systems could be combined with existing data from other sources (e.g. EHR7, insurance data). This needs to go together with research on skill training programs for both doctors and citizens in order to:
• For doctors to complement the curriculum with social psychology (i.e empathy training) on one hand, and digital literacy and data mining on the other
• For the citizens to be trained on health and digital literacy
Research should finally explore ways to make health-related data from diverse sources and destinations interoperable, and to investigate new processing techniques for personalised analysis and reporting.

EXPECTED IMPACT

Online consultation rating ★★

• Effective use of data for personal health
• Individuals enabled to take care of themselves
• Contributing to treat patients comprehensively, not only to solve an acute proble
• More satisfied patients and among health staff
• New economic and financial indicators of effectiveness
• Reduction in primary care in the long term
• Awareness of personal health through data
• More human relationship between the doctor and the patient

2. Holistic Health

Access to equal and holistic health services and resources for all citizens

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C6. Europe in a changing world - inclusive, innovative and reflective societies

CHALLENGE

EU citizens do not receive the same standards of health. There are huge differences in EU countries regarding:

1_**Equity**: Access to health services, availability of drugs and non-pharmaceutical interventions, access to rehabilitation and nursing.

2_**Awareness of health**: health promotion and healthy living to prevent illness, locus of control, how people can help themselves, public health strategies, methods of addressing mental health, knowledge access and education of health professionals, etc..

3_ **Holistic approach**: what is this about in the different cultures and circumstances, and how to achieve truly patient-centred healthcare

Finding solutions to this challenge can prioritize humanity over money, but can also minimize the negative economic impact of bad health. Moreover, they can create better links between the European and the local levels, and add value to local healthcare approaches, yet complying with the European standards.

SCOPE

Research should define the state of the art of the healthcare system in the different European countries in order to promote an equal distribution of resources and knowledge with a Pan-European dimension. The action may imply:

1) Setting the indicators to carry out a comparative analysis of the good and bad practices in the different countries across Europe in the healthcare system, funding models, incentives and in the education/training system. This may lead to knowledge and data distribution with open access and guidelines agreed upon by all stakeholders to create a European health network and to harmonize medical care.

2) Understanding and developing the local knowledge about healthcare with regard to:

a) local approaches and medicines that are complementary to the European standard approach;

b) the specific situation and circumstances of the patient, in order to set more holistic, person-centred approaches. This may be reflected in the education courses for citizens and healthcare professionals to promote health awareness.

EXPECTED IMPACT

Online consultation rating

- Social responsibility at a local level to reach a global community taking care of all individuals and their needs at different ages
- Providing knowledge on effectiveness of a holistic approach
- More humanity-based approaches and less "business as usual"
- Minimize the negative economic impact of bad health
- Better links between the European and local level
- Value added to the local healthcare approaches

Technology as a means of well-being

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C7. Secure societies – protecting freedom and security of Europe and its citizens

CHALLENGE

1. On an individual perspective: wellbeing (emotional, mental, spiritual, physical) can be understood as freedom to choose / self-determination/ autonomy. The challenging question is: what does a "good life" mean and in which way will technology be used in personal and professional lives?

2. On a public perspective:
 • Guarantee the access to technology with equivalent opportunities, in order to ensure to each person a self-determined "good life" and a "balanced and ethical use of technology"
 • Creation of frame conditions in order to avoid abuses both from the employees and employers point of view. Today, people are not completely aware of the possibility to create "boundaries" between them and technology. The challenge is to avoid that employers take advantage of technology to abuse employees.

• Encouraging engagement from citizens
We should keep in mind: technology is a means, not a goal. The objective is to reach a good life (self-determined).
3. On an organisational (business) level there's the need to integrate the perspective of the individuals into the workplace/ working environment, with an "integrated system design" process: start with social need and develop new technology later; not the other way around. A challenge exists between consumer technology and technologies in the workplace. So far the employees have to go through the technologies the business imposes on them. Technology development in business should learn from the consumer technology development in order to start from the final user need (employees).

SCOPE

Instead of being governed by technological devices, we want to govern them. Especially in the workplace, the aim is that final users (employees) play an active role in the development and process of introduction of new technologies, so that the development is end user centric.
The promotion of a higher level of awareness in the use of technology will allow reaping the benefits it offers without suffering negative consequences such as screen addiction, shifting relationships from physical to virtual space, thinner boundaries between virtual and real actions and exploitation at the workplace.

EXPECTED IMPACT

Online consultation rating ★

• Better understand the relation between virtual and real
• Better deal with privacy issues
• Dialogical development of our claim to technology, society and self
• Promote critical thinking as a basic requirement for all that follows
• Promoting risk assessment research (generate data & evaluate data)
• Avoid being overwhelmed by the constant pressure to make far-reaching decisions with regard to fast-paced technological developments which are outside the reach
• Holistic focus
• Measuring wellbeing
• High ethical standards of societies and constant dialog

Balanced work-life model

GRAND CHALLENGES :
C1. Health, demographic change and wellbeing
C4. Smart, green and integrated transport
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Work-life unbalance can be felt at many levels: time wasted in commuting between home and work, long working hours preventing from social interactions, work stability, lack of time for personal development and family and children care, restricted work flexibility, unhealthy lifestyles. In the future, it will be important to distribute work flexibly throughout life and also flexibly shift between employed (paid) and unemployed (volunteer) work.
This is needed and proved by research from two perspectives:
- From the organisational perspective: a more balanced model would make employees more productive and efficient.
- From a societal perspective: a more balanced model would make people more fulfilled and by consequence healthier.
Thereby people will be able to take care of their loved ones when needed, pursue personal fulfilment and/or follow multiple careers and slowly shift into retirement. Nowadays workers experience a tension between too much flexibility and too strict boundaries and vice versa. If from one side there is a need of more flexibility on the workplace, on the other side there is a concern that too much flexibility would destroy boundaries between personal and professional life. This can negatively affect well-being. There is a need for making the negotiation between employees and employers more balanced and fair.

SCOPE

Research should rethink the definition of "work" and develop approaches that permit to recognize and reward as "work" all different kinds of human activities including socially valuable daily life activities such as domestic work, childcare, caring for the elderly and social work. Research should help identify and define the different flexible forms of work. Studies could be carried out to analyse the sectors that would fit and not fit for different flexible forms of work, and identify/evaluate the barriers for introducing new forms of flexible work. Research should also pay a particular attention to the relation of negotiation between enterprises and employees (balanced and fair). However, research should also investigate different frameworks to assess the workload and/or it's accomplishment. It will intend to help people feeling satisfied (and healthy) with their tasks/work, as well as with their personal life as they experience a sufficient degree of flexibility. In this sense, research should help to create a setting where there is flexibility within boundaries and boundaries within flexibility. What is missing is performance research from the organisational perspective, in order to link it with the existing on personal life research. As work-life balance has been researched for a long time, there is a need that the research that has been done is put into practice.

EXPECTED IMPACT

Online consultation rating ★★★

- Assessed impact on family and social relations of more balanced work-life models
- Workers would be more satisfied overall and even more productive during working time
- This will allow people to more freely choose their lifestyles and reduce social judgments and prejudices
- Greater understanding and recognition of the impact on the society in short and long term of extra-work activities/personal activities

Good quality food for all

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing

C2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy

C5. Climate action, environment, resource efficiency and raw materials

CHALLENGE

Accessibility to good and healthy food is not equally available to all. Socio-economic factors, pricing, education, culture, location are critical factors that may limit access to healthy quality food and related dietary habits. Unequal access to food has a strong local and global impact in both urban and rural areas. This is expected to become even worse in a changing climate. This inequality is challenging public health as well as social and economic cohesion. Food poverty and food wastage are also pressing challenges in the EU. Consumers are, at times, receiving conflicting and contradictory information about healthy diets and nutritional value and this causes confusion.

SCOPE

Both basic and applied research should be developed with an interdisciplinary approach to understand and assess the processes generating food inequalities and examine how this affects social and economic cohesion locally and globally.
Research should focus on the following aspects:
• Map the food access in rural and urban areas
• Calculate and assess food poverty in the EU
• Look at supply regulation and issues connected to distribution and prices (transnational level)
• Investigate the socio-economic inequalities existing inside a country with regard to food and nutrition (national level)
• Analyse all questions surrounding sustainable nutrition: quality, health (use of pesticides), access to healthy food (local level)
In addition, concrete approaches to addressing the issues could be explored such as:
• Design and assess educational programmes to encourage healthy sustainable food habits in particular in primary education
• The universal basic income as a way to provide equal access to quality food
Transnational, national and local level

EXPECTED IMPACT

Online consultation rating ★★★

• Reduced inequalities of access to sustainable healthy food
• Reduced food poverty in the EU
• More sustainable urban and rural food systems
• Effective strategies to neutralize actors /institutions contributing to food injustice/ inequalities and food waste around the world
• Effective strategies to fix the flaws/instances of injustice of the transnational food commerce
• Fostering better quality nutrition to prevent long-term health problems, diseases and infections, food disorders (obesity and malnutrition) and antibiotic resistance

4. Sustainable food

Evolving food culture in growing cities

GRAND CHALLENGES :

C2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy

C5. Climate action, environment, resource efficiency and raw materials

CHALLENGE

Many people in cities come from diverse cultures. For a long time, people who migrated were expected to adapt to the local food culture. Things have changed and today migrants feel the need to maintain their traditional culture and gastronomy. In ever growing cities, this raises challenges in terms of sustainability due to the need of providing a huge diversity of food cultures, in terms of social-economics impact and in terms of social inclusion and cohesion. Challenges may arise e.g. when a city hosts Mediterranean, African or Asian food cultures which rely on food products which require to be imported from distant regions. Specific challenges include issues related to personalized food diets, food provision, social cohesion, diversity in communities, and impact on environment.

SCOPE

Research should investigate the following aspects:
• Comparative study of food supply chains and their social, ecological and economic impact
• Studies on the role of food as an enabler for social inclusion and cohesion in cities
• Sociological and behavioural research on food practices and habits taking into consideration aspects related to flavour, taste and emotions
• Historical research of nutrition flows during periods of migration
• All stakeholders (including the actors of the food service economy, food providers in cities, producers, importers, etc.) and in particular citizens, should be included in the research on more sustainable food production, consumption and delivery

Research should help developing and demonstrating practical solutions such as:
• Policy tools for management of mixed food cultures in cities
• Sustainable non-indigenous local growing techniques
• Intervention options into diverse and multicultural food consumption practices
• Non-prescriptive tools to define the footprint (co2, water, land use) of food
• Scenarios and strategies for integrated local food production for different cities with different climates (dynamic modelling)
• Urban planning, architecture and design should shape cities in order for them to facilitate and increase community collaboration and social cohesion via a more sustainable food production and consumption

EXPECTED IMPACT

Online consultation rating ★

• More sustainable cultural mix
• Improved social inclusion and cohesion through food diversity in cities
• Personalized sustainable and healthy food diets taking into consideration the food culture mix and diversity
• More integration of citizens in the food system research, innovation and development
• Efficient food value supply chains tailored for culturally diverse sustainable and resilient food systems
• Functioning interventions for the implementation of change and the promotion of new and sustainable ways to consume food
• A sound, well communicated knowledge basis for consumers' food decisions

Smart energy governance

GRAND CHALLENGES :
C3. Secure, clean and efficient energy
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Smart energy systems are characterised by the increasing importance of new actors and a new diversified and sustainable energy mix in the energy systems, facilitated by ICT technologies. Decentralised and individualised energy production (prosumers) and highly regulated energy consumption will be made possible through price signals and the availability of cheap renewable energy technologies, leading to distributed investments in the energy system, higher energy efficiency, lower transmission losses, better resilience and energy security, and generally supporting the development towards a low-carbon European energy system, a defining feature of a European Energy Union. Smart energy systems are at the pilot phase and it seems urgent to begin to focus on the implementation paradigms. However, smart energy systems potentially include serious tensions inhibitory to their implementation. They are dependent upon local management and backup by consumers in their households, but at the same time they may develop to become top-down regimes creating resistance among users. They will be dependent upon investments by consumers, but the rules, including prices (sell and buy), may be set by the big operators in the system. Taxation systems may counteract the intentions on getting the smart systems out into all corners of society, because higher efficiency may result in higher taxes in order for the states to gain constant revenue. Self-sufficient prosumers may be hindered by legislation, because of the needs for them to contribute to the collective systems. Renewable energy production, prosuming and higher efficiency may result in considerably lower costs of energy in the future, which creates a risk for 'hyper-rebound' effects, creating a down-spiraling development towards much higher energy consumption. To be smart the energy systems of the future must live up to a wide range of quality criteria, including making use of ICT and "ubiquitous computing", but also having the right energy mix, being based on sustainable renewables, making clever use of storage options, and making use of existing infrastructures. Adding to this, the smart energy system needs to be attractive to consumers and prosumers, not requiring too high energy system knowledge for them to participate, being socially and economically just and fair, counteracting energy poverty, and involving ownership structures which motivates citizen to contribute and to accept the energy system transition.
These requirements do not necessarily fit well with national energy systems as they are now, many being largely monopolistic and governed by single strong central public agencies.

SCOPE

In order to reduce carbon emissions, combat pollution, nuclear failure and energy poverty, and reduce energy dependency it is urgent to find locally managed, decentralised, fair and democratic energy solutions. A decentralised energy supply system can, however, be severely hampered by even small tensions and lack of trust. Therefore it is important to find participatory modes of governance that balance all interests.

Research should develop, test and make policy discourse about new governance models, which are able to mitigate the tensions around the economic, technical, social and democratic implications of smart energy systems. It should thereby create trust, fairness, justice, avoiding energy poverty, and facilitating democratic governance and public participation. The governance models must have a sector-coupling approach, so that i.e. costs and prices will be distributed fairly in an accountable manner between e.g. heat, power, fuels, and between sources, such as biomass and waste. Further, these models need to create a set of effective incentives including creating motivation for private investments, consumer behaviour, avoidance of rebound effects, and for collective ownership.

Ownership structures should be part of the governance models and should be investigated for their ability to support the development towards broadly accepted smart energy systems. The mobilisation of prosumers and energy conscious consumers should be considered as an important aim for the governance models, as should the future need for "energy communities" in which citizens locally support each other in participatory processes to implement the smart systems, which are the right ones for them and their context. Projects should, thus, provide a definition and validation of tools for transparent, participatory and multi-disciplinary energy governance, enabling multi-layered integration of stakeholders' interests and investigate barriers and success factors for such governance models. Specific attention should also be paid to aspects of security, data handling and privacy in a Big Data scenario to ensure trust among end-users. The research should map and engage the relevant actors, including consumers/prosumers/citizens, and should be highly active to create policy dialogues nationally and on a European scale, as several European members states should be engaged in the project facilitated discourse. The research is expected to be anticipatory, participatory and highly multi-disciplinary, involving tight collaboration between e.g. smart energy systems experts, system modellers, sociologists, legal expertise, organisational expertise and public education and participation expertise. The consortia will need to have skills regarding policy discourse and implementation.

EXPECTED IMPACT

Online consultation rating ★

- Reconstruction of the notion of smart energy systems to be inclusive, encompassing new governance structures
- Creation of multi-actor dialogues and re-orientation among actors regarding the policy implications of smart energy systems
- Contribute to a cross-European common understanding of the need for smart energy systems, based on a more participatory governance paradigm

Sustainable transport solutions that enable us to live where we choose

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C4. Smart, green and integrated transport
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Definition of sustainable transport: Sustainable transport is not polluting, not detrimental to health, CO2 neutral, affordable, accessible, available (there when you need/want it), durable and resists to climate variations.
Life is nowadays mostly concentrated and centralised in big cities, due to better job opportunities, education, services etc. In reality, people do not have the free choice to live where they wish. Therefore, we need to rethink society's organisation into more distributed communities that (might) produce and consume locally, find themselves supported by more flexible, innovative and sustainable transport solutions, considering the future context of a reduced need to move people and things into bigger cities. Another challenge is to find out (using a holistic approach), what are the new infrastructures, the virtual tools and possible innovative business models in the area of transport, that can make local communities more attractive for living. Quality of people's lives should be improved by allowing distributed living aiming at a sustainable life style. The overarching challenge is to determine the best balance between connectivity and self-sustainability of local communities, taking into account the requirements for sustainability of transport.

SCOPE

Research and innovation should investigate how to enable distributed living that is economically feasible and sustainable for the environment. In this context there is a need to define what is understood by "local" and what is meant by "communities that are organized locally" as this is not necessarily the same as "rural". However, research should look also to the needs of the rural (poorer?) areas, e.g. low cost, small impact, and efficient infrastructure. Current transport strategies solutions should be identified, as well as the current and future transport needs in an (interactive) collaborative process including all users and other target groups (the people).
One of the crucial questions is "What remains as transport needs - in and between - the local communities in the new societal contexts of life organization (change of lifestyle, chance of behaviour, social trends). In a localized organization of life, what would be the transport needs (frequency, distance covered, and reason to move) and what transport services would be needed to satisfy those needs (are walking and biking enough?).
Furthermore there is a need for analysing which services have to remain in the city and which services can be provided on a local level (also in the "rural"), how to articulate and interlink them and how to guarantee access to everybody.
Research should look to the most appropriate equilibrium (relationship) between the connectivity of the "local" with the "urban" and the idea of "self-sustainability" of local communities. This should be done by developing infrastructures, new/innovative business models and virtual tools of all kinds (provided by "digitalisation") for the provision of public and private services in remote areas. Research should also look into the ways to anticipate, handle and manage the changing transport needs created by new technologies and social media, in an ever changing world, where technological development is very quick, and alike quick are the changes in communication behaviour and transportation needs as a response to those changes. The reduction of imbalance in transportation choices, and the promotion of a decrease of the isolation of people in distant rural areas are paramount in this context.

EXPECTED IMPACT

Online consultation rating ★

• Provide an overview of needs of the local citizens
• Increase the attractiveness of non-urban life
• Provide tools and models that can show the socio-economic benefits of distributed living
• Reduce number of cars in cities and in places where nowadays the use of cars seems to be inevitable
• Reduce time spent in commuting
• More effective choices for transport solutions
• More attractive public/collective transport solutions
• Reduced CO2 emissions
• Employment and work opportunities, services and goods are available locally
• Increased opportunities for rural inhabitants (job access, care access, public services, etc.)
• A changed mind set of policy makers
• Provide policy solutions to support sustainable development of local communities

At one with nature

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C5. Climate action, environment, resource efficiency and raw materials
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Humans are part of nature, and ecology has an enormous influence of our lives In light of growing urbanisation, it becomes increasingly important for research to be directed towards understanding how the carrying capacity of our environmental resource base interacts with our social and economic systems. It is important to change behaviour and attitudes in order to live in harmony with nature. The challenge is to counteract the current trends in development practices that distance humans from a relationship with nature that promotes psychological and physical well-being and health. An approach of stewardship is vital to guarantee a liveable environment for future generations. As citizens expressed, "we do not inherit the world from our ancestors, we only borrowed the world from our descendants".
In Europe consumerism is now part of culture, identity, values, and considered part of economic and national progress. We also live in a "post-fact" society where faith in scientific methods and results is dwindling. In order to change perspectives towards ecological futures, sustainability must become easily understandable, desirable and accessible.

SCOPE

Research should explore how to make a system of policy and planning frameworks, with legal structures and institutions that promote more affordable and accessible sustainability lifestyles. In forming smart consumer habits, while continuing to improve quality of life and sustainable development across the social spectrum, a specific focus could be on forms of integrating natural environments and contacts with nature into land use planning. Relevant research aspects may be:
• Exploring how attitudes and behaviors have an influence on consumer patterns and societal relationships with the natural environment
• Researching the possibilities for establishing legal rights for ecological entities and systems (trees, water ways, fauna, etc.,) as a way to help support behavioral and attitude change
• Targeting social innovation programs, education, incentive schema and awareness raising campaigns to explore and disseminate good practices for individuals, communities and cities
• Studying the economic, social governance and legal environments underpinning the good practices and methods to remove barriers to an accessible, sustainable lifestyle

EXPECTED IMPACT

Online consultation rating ★★★

• Positive ecological prospects for future generations and integration with the UN Sustainable Development Goals
• Reconciling urbanisation processes with sustainable development actions
• Steps towards a regulative or legal framework for "the rights for nature", working towards reduced pollution, restoration of biodiversity, and legal recognition of natural entities
• Better physical and mental health ; better quality of life and happiness

Consume smarter, increase well-being

GRAND CHALLENGES :

C5. Climate action, environment, resource efficiency and raw materials
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Today conspicuous consumption is the norm and goods are used and thrown away with a very short life cycle. There are good examples of responsible consumerism but only limited adoption on a larger scale. We want to support citizens to become more responsible consumers by making information about the product and services lifecycles more transparent and available than it is today. Behavioural economics shows that consumers do not always act rationally and increased information does not always mean more responsible decisions. Therefore the insights of behavioural economics and psychology (ie consumer behaviour patterns) should be used to inform market policies and regulations for both consumers and producers. Innovative methods and actions are needed to enable policy makers, regulators, corporations and citizens to create a market place in which more responsible decisions are made easily. We expect these to (positively) affect work-life balance and personal well-being.

SCOPE

To shift our long-term thinking, re-evaluate our consumption and shift the emphasis from material wealth to healthy wellbeing are all essential for the development of proper values which are necessary for sustaining our social, economic and natural environments.

To explore policy with explicit goals for conducting market and behaviour research in line with alternative economies (for example the service society, the sharing economy). Additional research can be directed to developing experiments with the contract terms, legal frameworks and consumer protection policies to explore and disseminate responsible consumption patterns.

To gain knowledge on more responsible handling of the resources and co-responsibility of corporations, public actors and citizens, with a focus on promoting the circular economy. Examples of this include subsidies for recycling and renewable energies, technologies and applications for supporting responsible consumption, legislation and incentives for long-life goods and products, and resource recovery.

To explore how to pilot experimental communities with legal frameworks and incentives that might promote good practices (i.e. through educational curricula, information campaigns).

EXPECTED IMPACT

Online consultation rating

- Smarter consumption patterns and lifestyle changes impacting the use of resources (including time resources)
- The first step in co-creation of policy initiatives with the inclusion of citizens and public interest groups
- Input into new standards and regulations concerning sustainable products and services with responsibility of all the stakeholders to be accountable - companies and policies – and proper contract terms, legal framework & consumer protection
- Generation of new sustainable business models, products and services
- The development of robust legal and governance frameworks that support co-responsibility for the promotion of sustainable consumption patterns
- Greater movement towards a circular economy, with the preservation of resources and materials and higher quality of life
- Increased well-being, in terms of physical and psychological health, including new strategies for personal life management

Urban-rural symbiosis

GRAND CHALLENGES :

- C1. Health, demographic change and wellbeing
- C2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy
- C3. Secure, clean and efficient energy
- C4. Smart, green and integrated transport
- C5. Climate action, environment, resource efficiency and raw materials
- C6. Europe in a Changing World – inclusive, innovative and reflective societies
- C7. Secure societies - protecting freedom and security of Europe and its citizens

CHALLENGE

A better-balanced urban rural integration - considering the diversity of rural areas (i.e. suburb, outer periphery, deep rural) - is seen as vital for the quality of life for both urban and rural citizens. There is widespread concern in different countries about a declining quality of life in rural areas and migration from the countryside to urban areas. They point to the need for integration of spatial planning of cities and rural areas to improve social, ecological and economic sustainability while preserving the distinctiveness of each space. Participatory governance is currently largely missing. As a basis for solutions, a deeper understanding of the diversity of situations is needed. Also we need more differentiated notions than the simple rural/urban dichotomy - city and countryside do not really stop at the border, the mayor's responsibility stops there, but we should consider the functional urban area.

SCOPE

Research should investigate one or several of the following aspects:
- Differentiated notions of diverse types of spatial development patterns based on empirical studies of concrete cases across Europe
- Ways to establish cultural and physical linkages across diverse types of spaces
- Solutions for sustainable urban/rural environmental resource flows, identification of asset bases and means of co-governing in order to share them
- Ways to improve the quality of life and attractiveness of countryside in deprived rural areas,
- Integrating urban rural planning approaches
- Participatory governance of spatial planning, shared urban-rural participative governance structures to be explored
- Exploring the drivers of migration both from rural to urban and urban to rural areas
- Collecting, analysing and disseminating case studies of good practice of urban-rural symbiosis from different parts of the world

EXPECTED IMPACT

- The tendency to focus on the differences between the city and the countryside has been minimized and there is a mutual understanding between the two
- Ways to develop rural areas to preserve their identities, and to retain their human and social capital
- Solutions developed for rural areas to attract more inhabitants
- A differentiated view on diverse conditions in different areas
- More locally integrated value chains, reduced environmental footprint
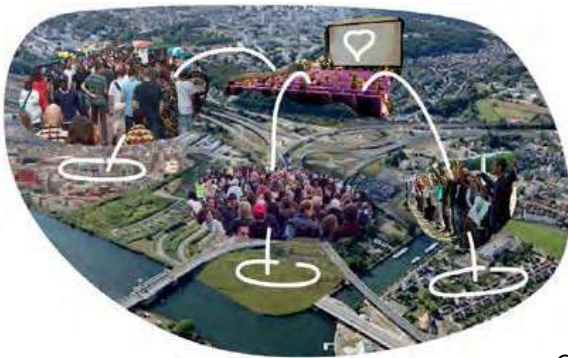- Increased resilience of cities

Making dense and growing urban areas more sustainable and liveable

GRAND CHALLENGES :
C4. Smart, green and integrated transport
C5. Climate action, environment, resource efficiency and raw materials

CHALLENGE

Highly dense and growing big cities, which have more cultural services, better health care, more education possibilities, should become more liveable for everybody. This can happen through different actions, implemented not only within the city but also across the whole Functional Urban Area (FUA). Actions include: making big parks from urban neglected areas; architecturally integrate more green in buildings and interstitial public/private shared spaces; reactivating public spaces and inventing new use of urban infrastructures; renovating public/private housing and encouraging environmentally positive externalities; creating traffic limited zones and cycling mobility. The city should not really stop at the border - the mayor's responsibility stops there, but we know otherwise the city does not stop there - so, think in the functional urban area.

SCOPE

Research should answer to the challenges of density, diversity, ecology, populations development, and financial sustainability of dense and growing cities, by addressing the following areas in combination, not on their own, using different forms of citizen consultation in every area:
• The mixed/integrated urban fabric: distribute common services in time and space in order to avoid centralization and crowding and reduce tension between centres and suburbs
• Facilitating the adoption of new efficient sustainable practices (i.e. behaviour change; sustainable lifestyles)
• Identification of innovative practices and social innovation, including from outside Europe, that can be scaled up
• The diffusion/dissemination of "promising/good" practices (i.e. advanced urban sustainability; urban agriculture; urban regeneration…)
• The creation of an integrated system of public (macro) and private (micro) transportation

EXPECTED IMPACT

Online consultation rating ★

• Land and people flows analysed and mapped
• A strategy to identify places and services to integrate with view to governance solutions for the FUA, including citizen participation
• Increased sustainability, e.g., by reducing the need for cars. This will foster vibrant cities both in terms of economic and cultural activities
• Links with local SMEs and the development of potential business plans (that can be picked up and adopted once projects finish)
• Citizens' increased understanding of science/policy interface as well as science.
• More empowered citizens

9. Community building

Empowering diversity in communities

CHALLENGE

Equality in diversity: in principle, all people are equal. Still, it is important to find ways to make equality real in the daily life. Our societies undergo socio-cultural changes connected to migration, globalization, democracy crisis, that we can either study and act upon or neglect and remain unprepared. Diversity should be seen as a potential rather than a drawback.

Moreover, there is potential to improve the implementation of existing policies that tackle these changes on national and European level. There is a need to develop new models and innovative approaches for social inclusion.

SCOPE

Research should investigate approaches for empowering diversity in communities by creating better models for understanding the relation between societal conditions and readiness for social inclusion taking into account differences across cultures. There is a need to search for successful models of empowering diversity in communities from abroad and examine their transferability into local policies and educational activities. Research should also investigate the compatibility between legal and social norms. In processes of empowerment for diversity, models of collaborative conflict resolution should be explored.

EXPECTED IMPACT

Online consultation rating ★

- Improvement of communities and diversities integration, better communication and awareness
- Better understanding of barriers and enablers for social inclusion
- More tolerant and vibrant communities
- Stronger social cohesion
- Greater equality of rights for all groups of society
- Behavioural change in attitudes from tolerance to acceptance
- Behavioural change in mindset from stereotyped to complex
- Create communities of practice

Evidence-based community building

GRAND CHALLENGES :

C6. Europe in a changing world - inclusive, innovative and reflective societies

CHALLENGE

Evidence based policy making often involves tapping into knowledge and evidence across various sources. Yet, there is a lot to do for overcoming the challenge of clientelism in society (that is at the basis of arbitrary and self-interested decision-making). Also, there is a need for finding the relation between the citizen contribution (problem detection) and the expert contribution (application of the solution). Moreover, the current educational system does not foster critical and analytical thinking, so citizens have a hard time understanding evidence for the purpose of policy making. There is also the challenge of strengthening the citizens' trust in science, institutions and the policies that are meant to serve the community. In building communities, we need to empower citizens to access and consult data and evidence while accepting space for their own value based judgement.

SCOPE

Research should focus on creating models for evidence based policy across multiple science sectors and creating more informed mindsets among citizens and policy makers. There is a need to study and develop evidence based intervention programs for reducing prejudices within and between communities. There is a need to explore models of participatory processes for collective agenda setting based on different and specific citizens needs and environments. This requires theoretical and empirical research on how communities can be transformed by knowledge, including:
• Introducing steps for change of mind-sets in the society, involving citizens in decision-making
• Empowering citizens through accessible informational campaigns and digital tools
• Grounding decisions in research and data
• Specifying the relation between citizens' and experts' contributions

EXPECTED IMPACT

Online consultation rating ★

• Ability to justify public policies, their sustainability and possibilities for implementation
• Empowered society capable of vision development
• Involvement of stakeholders in the analysis and policy decision-making based on substantial data using methods and tools for policy impact evaluation
• Reduced power of politicians to make decisions for the entire community on their own
• Reduced bias that is generated by disinformation
• Useful and meaningful data for citizens and communities that can be used in real life

Empowered Citizens

GRAND CHALLENGES :
C6. Europe in a changing world - inclusive, innovative and reflective societies
C7. Secure societies - protecting freedom and security of Europe and its citizens

CHALLENGE

Disenfranchised communities, citizens, and NGOs lack awareness of and access to essential services. Moreover, digital tools cannot be applied as a slave on gaping social wounds. The lack of clear channels for meaningful citizen participation furthers the feelings of disempowerment and the distrust of governing bodies. Hampered by asymmetrical knowledge, and seemingly opaque governing process, the dream of achieving an inclusive and reflective European society seems further away than ever.

SCOPE

Understanding the dynamics and challenges of citizen empowerment and participation in a diverse, digital society and exploring, in empirical and/or experimental ways, how citizens could play an active part in designing, producing or running public services as well as democratic processes. The methods and tools, which are developed, should ensure that everyone (society in its diversity) has the capabilities and is motivated to take part in the process; all types of knowledge should be defined and included equally in the participatory processes. The research should take into account how this redesign can improve both the inclusiveness and the outcomes of public services and democratic processes. The research should also explore what are the requirements for participation to be successful, and what are the different impacts of the different participatory methods applied.

EXPECTED IMPACT

Online consultation rating ★★

• Increasing collective responsibility and awareness; for citizens to start to understand their individual responsibility and opportunity for impact
• Finding ways, tools, and techniques to systematize the public participation and transparency of decision making. Citizens will learn about institutions, the decision making process, and the scales of decisions (learning by doing). There is reciprocity in these processes. Everyone involved (institutions, stakeholders, scientists…)will learn from each other
• Promoting new modes of citizen engagement to reduce corruption, increase transparency, and further good governance
• Respecting and treating all types of knowledge and know-how equally
• Engaging citizens in participatory processes in all stages of their lives
• Creating forums for citizen and policy maker dialogues to foster social cohesion and trust in governing institutions. Developing a simple and effective platform to collect and safely communicate data, train involved actors, and target community initiatives

Meaningful research for community

GRAND CHALLENGES :

C6. Europe in a Changing World – inclusive, innovative and reflective societies

SCOPE

Research should explore:

• Ways for research to be evaluated, selected and prioritized according to its ability to contribute to sustainable development and potential beneficial impact to the community
• Better understanding of publicly vs. privately funded research for securing broad perspectives in research
• Ways of building on open access and open science

CHALLENGE

Currently there is no direct relation on how publicly funded research and innovation "gives back" to community. Academic research can be far away from everyday reality. There is a need for framework conditions for linking research, innovation and development projects closer to the potential benefit of the community.

The challenge requires:

• Democratisation of research funding (i.e. larger participation and better research assessment)
• A more transparent research process (evaluation, feedback, use of money, spin offs, and impact)
• Increasing research legitimacy (e.g. considering long term cost-benefit analysis and contributing to community's social and intellectual capacity-building)
• The general public should receive accessible information about the research process and impacts of research results

EXPECTED IMPACT

Online consultation rating ★

• Higher relevance of research through better contact with the grassroots
• Better returns for tax payers
• A deeper sense of engagement in research among citizens
• Results of important research would be put into use faster and more efficiently without private or economic interests
• There are also concerns that important research might struggle to prove its relevance in early stages of maturity and be rejected and that basic research would be very difficult to finance

Debating alternative economic models

GRAND CHALLENGES :

C6. Europe in a Changing World – inclusive, innovative and reflective societies
C8. New economic models

CHALLENGE

The "for profit" economy does not answer to societal needs. There are concerns about the increasing poverty and income gap, social exclusion, and degradation of social values in the member states. (New) alternative economic models are existing and/or emerging around the world. They are based upon diverse social values instead of monetary values, and include different kinds of drivers (gift, exchange, rent, sharing...). Those new models may have potential to help sustain the current European social welfare standards and ensure social cohesion. Multiactors in the member states and on European level do not have the complete overview of content, advantages / disadvantages and potentials of these models. To make a robust policy strategy development it is important to have an overview and a common knowledge base.

SCOPE

There is an absolute necessity for a Europe-wide dialogue about these alternative economic models that exist and are emerging world-wide.
Method: Community Support Actions should design a multi-actor approach (scientists, policy makers, businesses, citizens, civil society organisations) to foster a dialogue about experiences with available alternative models, with the aim of:
• Exploring, assessing, benchmarking and evaluating alternative economic models to build a common knowledge base
• Dissemination to and engagement of all relevant stakeholders in co-creation activities
• Integrating and adapting models for regional / local context
• Developing strategies for policy implementation

EXPECTED IMPACT

Online consultation rating ★★

• Relevant actors have a common overview of available and emerging alternative economic models
• Policy makers and other relevant actors are able to implement strategies to implement the alternative models in their specific situation
• More diversity of alternative economic models in Europe. This might lead to an increased societal resilience
• Formation of new networks, systems, connections and cooperation that can address the societal needs
• A new challenge is added on Horizon 2020 – Challenge 8 – new economic models

Fostering equal opportunities in the digital era

GRAND CHALLENGES :

C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

The on-going digitalization of every-day life is predominated by big players/platforms, and a new generation of Internet provide great opportunities, but also threats to equal conditions for all. We must ensure that new digital technologies do not oppress individuals and create inequality. For this, it is important to ensure equal access to infrastructure cheap or even free devices and services, information (such as online learning resources), and tools (including the AI-based systems). Digital consumers can be empowered and become digital producers themselves.

SCOPE

Research should explore ways to implement a fully distributed information and communication system model. The next generation Internet should be a digital architecture for an information and communication system that covers everybody in an equal way. Every node of the net has similar possibilities and opportunities. Better understand inequalities and access in the next digital era (driven by Internet of Things, virtual reality, use of natural language in men-machine interaction etc), define them in terms of human rights and minimum skills required for ensuring equal opportunities. Finding ways of avoiding the monopolisation of the key capabilities of the new digital era, including of the data on various human behaviour used for training artificial intelligence.

EXPECTED IMPACT

Online consultation rating ★

- Access to digital technologies will be equal and universal for all EU citizens ("basic right of being connected" – including the right to disconnect freely)
- Digital empowerment becomes an important driver for bridging economic, social and generational gaps
- A change in culture of digital education (related to the way data is collected and used)
- Citizens have access to open learning resources, courses

Educational ecosystem as a driver of social innovation and local development

GRAND CHALLENGES :
C6. Europe in a Changing World – inclusive, innovative and reflective societies

CHALLENGE

Generally, the educational system lacks leadership models and well prepared teachers, technical support as well as motivated pupils. The critical and creative thinking in children is not stimulated and there is not a close enough connection to the surrounding societies. The system needs to adopt personalized approaches to empower people, to be adapted to the social needs and to ensure access to different educational levels in different geographical regions. Stakeholders should be more involved since schools play an active role in the local communities. There is a need for a culture of continuous learning (re-learning, adaptation, etc.) and therefore the educational system should work as "hubs" to reconnect educational agents.

SCOPE

Research should investigate how systematic learning could be used as driver for local innovation and development. Traditional schools should be supplemented or modified to become multi-thematic hubs, dedicated to education and collaboration among citizens of all ages. Every hub should be as integrated as possible with the human context and material culture. Thereby they should promote values and foster cooperation among learning agents (schools, families, territorial stakeholders, communities, technology, environment, etc.), to satisfy individual and community needs and expectations (including personalized and practical education), promote cohesion and inclusion, and support capacity building and the increase of social capital.

EXPECTED IMPACT

Online consultation rating

- Reduced school drop-outs
- Improved personalised education
- Much more engaging education for young people
- No shortage of specialists in certain fields
- Schools and kindergartens equipped with modern technology
- Teachers are motivated, well-prepared for their work, adequately paid and everyone respects them
- Well-educated people with critical and creative thinking build free and peaceful societies
- All education institutions form a single network
- Classes are held also in other organizations, not only in schools
- Teachers actively involve field professionals in classes and use innovative programmes/teaching applications
- Contribution to implementation of Global sustainable development goals (particularly SDG 4 and 7), taking into consideration all three aspects of sustainability (economic, societal and environmental)
- Proposals/solutions on how to develop and implement multi-thematic hubs and how to connect different forms of education (formal, non-formal, informal)
- Proposals on how to develop evidence based educational programmes fitted to national needs
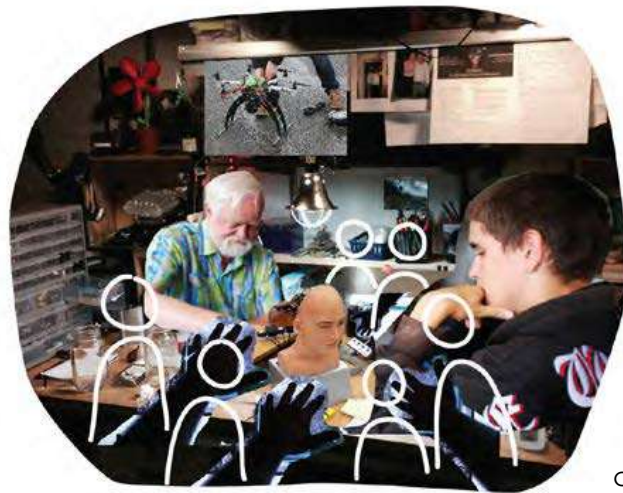- Innovative programmes for teacher's education

Design thinking & doing and life skills for all

GRAND CHALLENGES :

C7. Europe in a changing world - inclusive, innovative and reflective societies

CHALLENGE

There is not enough design thinking & doing and creative co-creation approaches in schools. How do we design learning activities, settings and processes to foster the acquisition of design thinking & doing and life skills? How to integrate these settings and processes in the curricula and, simultaneously, rethink limitations of existing curricula? A lack of focus on how to support self-directed and informal learning can be observed. How do we foster educating creators of 'content' and not only consumers of 'content'. There is a need to focus on the design process instead of focusing on end-results. Only one teacher per class is not enough to achieve differentiated teaching and answer the needs of all children in class. The rigid silos of academic fields and funneled [non-bridgeable] educational tracks, leaving no room for flexibility. Current curricula are conservative and linear: not "à la carte". The tension between historically fundamental subjects and an updated common curricular core at European level which reflects societal needs is challenging.

SCOPE

The research should investigate the power of design inquiry, thinking & doing/ as a mean to foster creativity and innovation and boost learners' abilities to think "out of the box" (set and solve the so called wicked or "ill-defined" problems). By adopting a system's approach (systemic) in studying the scaling up and potentialities of design thinking & doing from individual to communities' organizations (learning ecosystem). The research should identify good practices and methods in developing creativity. Also, the development of concrete approaches and tools in order to enable teachers and schools to implement design thinking and doing as a core educational process. The research should develop methods of diagnostics of students' talents (indicating tools, stages in development of psychological knowledge, evaluation of effectiveness of changes introduced) in order to spot and encourage particular skills and inclinations.

Also, an evaluation of the implementation of design thinking & doing at every stage of the educational process and analysis of impact of the changes achieved.

EXPECTED IMPACT

Online consultation rating ★★

- Design thinking & doing-based education is seen as a key issue in tackling Grand Challenges and Sustainable Development Goals.
- Creative citizens (from kindergarten kids to senior citizens) who are open, courageous, full of self-esteem, free from inhibitions, ready to take action and responsibility.
- Capacity for collective action and solution finding at community level.
- Improved innovation action of the European social, environmental and economic spheres.
- The wellbeing of society is improved by the innovative approached to sustainable development.
- Job creation raises because people realise what they are good at, new professions and research centres emerge
- The society is happy because people are fulfilled at work, mentally healthy, and less frustrated.

Learning for society

GRAND CHALLENGES :

C1. Health, demographic change and wellbeing
C6. Europe in a Changing World – inclusive, innovative and reflective societies
C7. Secure societies - protecting freedom and security of Europe and its citizens

CHALLENGE

A more sustainable economy and ways of living, that promotes well-being, require a more balanced position between the common good and the individual good. For this shift to occur, citizens need to be educated in a life-long process, on the balance between personal fulfilment and the benefits of collective goals. Society needs to move from "I" to "we", building motivation and trust for change. We are too individualist, which exacerbates social problems. Society needs to re-think the community's political integration (participation in the collective framework and in the global dialogue), reflecting upon the social and economic cohesion in diversity. Freedom needs to be redefined. There is a need to look for interests, responsibilities and habits of people and define their fundamental needs.

SCOPE

Research should explore the following aspects:
• Educational leverages to the sense of community and common good/progress
• Promoting collective intelligence (working together, consultation and co-creation)
• Facilitate the transformation of "education into action" and development of a new civic sense
• Promoting by education the intergenerational connections for the constant rethinking and sharing of values and priorities
• Ways to acknowledge the community's problems and understanding the community/ies culture/s
• Ways to provide holistic educational lifelong learning opportunities capable of empowering people to take charge of their continuous learning and development

EXPECTED IMPACT

Online consultation rating ★

• Developing a sense of community and understanding of mutual dependencies and the effects of one's choices to others' lives
• Social cohesion: respect for human rights in order to be able to protect one's own and not hurt those of others, especially the rights of minority groups
• More collective thinking, citizen participation, and achieving common goals
• Promote innovative needs that allow to take risk and fail
• Contribution to SDG`s (Global Sustainable development goals) and in particular in SDG4 and SDG7

ACKNOWLEDGEMENT

We thank all citizens who contributed to the CIMULACT process by formulating and sharing their visions, needs and concerns about the future. We are also grateful to all the people (including citizens, experts, stakeholders, creative thinkers and policy makers) who volunteered to participate at our face-to-face and online consultations to produce and enrich the material leading to the 23 citizen-based research topics. Special thanks goes to the SWAFS team and Project Officers for making their resources at disposal and for providing feedback to the CIMULACT process and the content of the final topics. Likewise, the feedback and comments from our independent Advisory Board has been extremely valuable for the process, and we are grateful for their time invested in the project. Lastly, we wish to thank the European Commission for funding the project and for taking the first steps in making open research agenda settings.

More information on www.cimulact.eu

CITIZENS TO PROVIDE CONCRETE AND UNIQUE INPUT TO THE EUROPEAN UNION'S RESEARCH AND INNOVATION AGENDA

CIMULACT stands for 'Citizen and Multi-Actor Consultation on Horizon 2020'. It engages citizens, along with a wide range of other actors, in defining the European Research and Innovation agenda, thereby increasing the relevance and accountability of research to society.

This booklet documents 23 citizen-based research topics produced for the Work Programme Horizon 2020. These citizen-based research topics are rooted in visions formulated by more than 1000 citizens from 30 European countries. The topics were elaborated and finalized during a highly participatory process by experts, citizens, European Commission Project Officers and the CIMULACT project partners.

All citizen-based material, including citizens' visions, citizen-based research programme scenarios and topics, as well as recommendations for research and innovation policies can be found on the CIMULACT website. The material can be used as an input for the Horizon 2020 Work Programmes and beyond including national research agenda settings.

More information on www.cimulact.eu

CIMULACT