CORDIS Results Pack on social innovation

A thematic collection of innovative EU-funded research results

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Fostering creative solutions to Europe’s societal challenges
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Editorial

Fostering creative solutions to Europe’s societal challenges

Social innovations are inventive responses that provide solutions to unmet social problems and needs, nurture social relationships and build new collaborations. These innovations can be products, services or models that address societal, business and governmental needs more effectively.

Social innovations address societal objectives such as improving the welfare of individuals or communities, supporting climate action, or serving biodiversity and environmental protection and remediation. They can be triggered by the desire to give a new purpose to a closed factory, or the urgency to answer to the needs of vulnerable people, and engage local communities, public authorities, businesses and academia – the ‘Quadruple Helix’ – in the co-creation of solutions.

As such, social innovation is essential to tackle the increasingly complex and interrelated challenges we face today. Yet these solutions often arise from grassroots endeavours where the impact is limited to small, discrete communities. Greater coordination and visibility are needed to achieve critical mass for these ideas and facilitate their widespread adoption.

The European Commission works actively to encourage market uptake of innovative solutions and stimulate employment. Building on the launch of the Innovation Union in 2010 and the 2013 Social Investment Package, the Commission facilitates the inducement, uptake and scaling-up of social innovation solutions.

The main objectives in this space are promoting social innovation as a source of growth and jobs, sharing information about social innovation in Europe, supporting innovative entrepreneurs and mobilising investors and public organisations.

To achieve this, the Commission supports initiatives such as networking events to allow organisations across Europe to learn from each other, provides support to grow the innovation ecosystem through private investment and incubators, organises the annual European Social Innovation Competition to raise awareness of the people and projects making an impact in this space, disseminates evidence on the impact of these efforts, and provides funding through a range of programmes, including the EU Programme for Employment and Social Innovation (EaSI), Horizon 2020, Horizon Europe and the SME Instrument.

This Results Pack highlights 10 projects supported through Horizon 2020 that illustrate the value and broad scope of social innovation. These selected projects give examples of novel approaches and new forms of cooperation to empower civil society and bring social impact, often providing a previously unexplored alternative to conventional approaches in dealing with these challenges.

Social innovation can happen in many areas, as evidenced by the projects in this Pack. It can focus on challenges related to both the urban and rural environments. It fosters new responses by using digital tools, for example to overcome bureaucratic barriers for migrants and for citizens. It applies new approaches to promote the impacts of culture on social cohesion and it can induce positive changes in ways of thinking and acting on social issues and various social communities.

Together, these projects showcase the broad potential of social innovation to tackle societal problems, and the importance of scaling up successful projects.
Co-creating next-gen public services?
There’s an app for that

A new mobile app developed by the EU-funded CO3 project uses social innovation to improve public services in Europe. Tested in three European cities, it uses trending digital technologies to engage citizens and public administrations in co-production processes.
In this increasingly digital and participative era, co-design has become a huge buzzword within public administrations. After all, what better way to guarantee citizen interest in – and compliance with – public services, than to involve citizens in their conception?

The recently completed CO3 (Digital Disruptive Technologies to Co-create, Co-produce and Co-manage Open Public Services along with Citizens) project is one of the latest attempts to do so. The one-of-a-kind mobile application uses trending technologies, including augmented reality (AR), blockchain, interactive democracy, geolocated civic social networks and gamification techniques, to enable the next generation of digital public services.

“Public administrations are increasingly willing to explore the potential of disruptive technologies to enhance digital democracy and boost public engagement,” says Guido Boella, coordinator of the CO3 project on behalf of the University of Turin. “Our project contributed by showcasing possible services for which digital solutions can be applied. We also highlighted relevant public perceptions, identified assets, risk and cost factors, and developed cross-sector pilots.”

Five social innovation pilots in three cities

The consortium tested its model and technologies across three sites for three different scenarios: socio-economic networking, digital urbanism, and knowledge sharing. Each city played host to two pilots. In Athens, for instance, ‘Grocery on Hold’ implemented the distribution of quality food to people in need through a blockchain-based wallet. ‘Urban Modelling in Empty Buildings’ centralised public debates among Athenians on the potential reuse of empty buildings, by means of an AR app and the civic social network ‘First Life’.

“For each pilot, we could draw different lessons on how public administrations can work to introduce disruptive technologies in co-production processes. These technologies quickly emerged as an excellent facilitator or accelerator, as long as public authorities were willing to change their approach,” Boella explains.

In each case, the initiatives had to be built around stakeholders’ needs and expectations. In Turin, the pilot ‘Augmented Commoning’ aimed to increase citizen participation in the governance of community hubs known as ‘case del quartiere’.

They did so through a virtual currency used to advertise, manage and reward volunteering activities and augmented content, which allowed neighbours to visualise and collaborate on materials about these activities.

Finally, in Paris the pilot ‘Contributory Clinic’ aimed to create a physical space for dialogue on concerns about overexposure to screens among children up to three years old, and ‘Urban Modelling’ was launched to involve local architects, public administrations, students and professors in the replanning of their neighbourhood.

“CO3 is all about social innovation - the deployment of effective solutions for social needs and challenges through products, services and processes that are innovative in both their ends and their means. We wanted to transform public services and boost citizen engagement by taking advantage of new technologies and co-design methodologies,” Boella adds.

Looking back at the project’s achievements, Boella says they are twofold: the CO3 technological platform and AR-based mobile app from a technological perspective, and the hands-on knowledge generated of the implementation of integrated disruptive technologies in real-life public services scenarios on the methodological side.

“Stakeholders can learn about all these findings thanks to the guidelines, glossaries, methodological toolkits, NOOC training resources and policy briefs made public on the website,” says Boella. “Even though the project has come to an end, project partners in each city keep experimenting with digitally enabled innovative economic models to this day.”

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**PROJECT**

**CO3 – Digital Disruptive Technologies to Co-create, Co-produce and Co-manage Open Public Services along with Citizens**

**COORDINATED BY**

University of Turin in Italy

**FUNDED UNDER**

Horizon 2020-SOCIETY

**CORDIS FACTSHEET**

cordis.europa.eu/project/id/822615

**PROJECT WEBSITE**

projectco3.eu
Digital tools to support the free movement of data in the EU

The EU-funded DE4A project has devised new technical solutions and pilots to enable the digital single market across the EU. Three selected pilots helped clarify the benefits of the market and should facilitate its future implementation.

The Digital Single Market (DSM) Strategy, adopted in 2015, aims to enable the free movement of data across the EU to improve the efficiency of public services. But we’re not there yet. For the DSM to become a reality, everyone needs to be convinced of the benefits of sharing common digital services across borders.

The DE4A (Digital Europe for All) project brought together 22 partner organisations to demonstrate how the DSM can help deliver better public services that are fully digitalised, user-centric, data-driven and trustworthy. The pilots cover three scenarios often faced by EU citizens: studying abroad, doing business abroad, and moving abroad.
The first pilot aims to demonstrate the benefits of the DSM to higher education students who study abroad and who often face challenges in getting their diplomas recognised. Students can use a mobile app developed by the project to provide their diploma to any authority that requests it.

“We now have a mature prototype that demonstrates real use in a cross-border context of a user-centric information exchange pattern,” says project coordinator Ana Piñuela from Atos Research & Innovation in Spain.

The second pilot was designed to tackle the administrative burden of doing business in another Member State. “With the innovative automated approach demonstrated in the pilot, we can reuse information about a company cross-border,” Piñuela explains.

“This substantially reduces time to register for business-oriented services in another Member State, and is expected to save companies over EUR 11 billion per year.”

The entire process is fully online and secure, using the same authentication and authorisation protocols of the home country.

The third pilot addresses moving abroad. It aims to reduce the administrative burden of citizens moving from one Member State to another by harmonising cross-border information exchange on domicile, birth and marriage certificates.

A passport for data

The project team has already made several breakthroughs. They created software to facilitate cross-border exchange of evidence between authorities. They also devised a framework providing the interoperability needed for evidence exchange at pan-European level.

“The discussions and analysis on the most important challenges facing the implementation of Single Digital Gateway Regulation (SDGR), the process of adapting the national systems to integrate with the DE4A’s common components, along with the cross-border testing of use cases, have enabled Member States to learn about challenges, integration problems and interoperability barriers at different levels,” adds Piñuela.

As a result, she says, the participating Member States are now more aware of legal, technical, semantic and organisational obstacles to the DSM. “They have access to pragmatic solutions to overcome them. Overall, these lessons on efforts and costs will be valuable for other Member States addressing a similar challenge,” Piñuela remarks.

With Member States both driving and benefiting from DE4A pilots, the project is sure to help overcome challenges and barriers to the application of the SDGR and the Once Only principle (that citizens, institutions and companies only have to provide certain standard information to the authorities and administrations once), and provide valuable insights on the implementation and evolution of the SDG Once Only Technical System.
Fostering design-led innovation to benefit European cities

From toy phones to noise monitors, the DESIGNSCAPES project helped launch 100 innovative design-led ideas to improve social and business enterprises.

Design is something normally associated with aesthetics and the creation of products and services. But design-enabled innovation can also bring about societal change, driving citizen engagement through the co-creation of public initiatives, and ultimately increasing both business performance and social inclusion.

With this in mind, the EU-funded DESIGNSCAPES (Building Capacity for Design enabled Innovation in Urban Environments) project sought to put design at the forefront of urban innovation, by supporting design-enabled projects aiming to transform the way people live and work in Europe’s cities.

“DESIGNSCAPES aimed, and successfully managed, to tackle an evident gap in the current state of affairs,” says Francesco Molinari, DESIGNSCAPES project manager. "Namely that too few private or public organisations in Europe take advantage of or make strategic use of design within their innovation-generation processes," he notes.

DESIGNSCAPES launched a cascade funding call, selecting - through an open, transparent and inclusive procedure - a suite of projects that would receive financial support from the European
Commission. Each of these projects was tasked with fostering innovation in urban contexts through design.

Successful applicants had to demonstrate the potential of their project to address some of the major problems currently faced by Europe’s cities, such as climate change, demographic imbalance, social tensions and political disengagement.

The funding call was open to a wide range of applicants, including individuals, universities, government bodies and enterprises. The funding call drew hundreds of applicants, and 99 projects were selected to receive grants. Co-creation – the involvement of citizens within the innovation process – was core to every project selected by the DESIGNSCAPES fund.

Designing the future of cities

DESIGNSCAPES fostered participatory, place-based innovations to creatively tackle global challenges at urban level. In doing this, it anticipated the 100 Climate-Neutral and Smart Cities Mission approach and the spirit of the New European Bauhaus movement.

Molinari highlights some of the successful design-enabled projects, and the innovative services they provide to Europe’s citizens. They include: a georeferenced app to measure noise pollution in cities; a system to highlight pedestrian crossings when street lighting is inadequate; a children’s toy which calls an elderly person willing to read them a story; a welcome and support service for out-of-town relatives of hospital patients; and a standard approach for cities to adopt nature-based solutions to urban problems.

“I am only doing injustice to those that don’t come to my mind now, and there were many for which there was simply not enough funding,” Molinari adds.

One unexpected effect was the additional support many of the winners received due to their initial success. “A good 20% of our innovators attracted further financing for their ideas and prototypes, thanks to the positive reputation acquired by winning the call,” says Molinari.

The team hopes that Europe’s urban societies can build on the progress made under the DESIGNSCAPES project, and continue to transform through design-enabled innovation. “Design, coupled with innovation in cities, can produce results that are fruitful for their proposers and transformative for the environment they move within, having both individual interest and common good as legitimate targets,” Molinari concludes.
A pan-European fund to spur innovation in social services

Social services need constant innovation to deliver for the most vulnerable in society. The EU-supported ESCF project helped turn innovative ideas into practical action.

The 21st century will present radical social and environmental challenges, which governments across the European Union will need to face head-on. This includes providing social services that can protect the livelihoods and rights of their citizens. But successful social initiatives need more than just good ideas in order to grow.

"Many innovations have been developed and are tried and tested to have a positive social and environmental impact, but they struggle to scale," explains Madeleine Clarke, ESCF (European Social Catalyst Fund) project coordinator, and executive director of Genio, an Ireland-based NGO.

In light of this, the ESCF was created to provide the financial backing and support for social innovation projects, allowing them to develop plans for scaling up within or across EU Member States.
The ESCF pulled together resources from public and private spheres, joining philanthropy with social impact investing to help governments target public spending towards the social projects that would benefit EU citizens most. It was established and co-funded by the European Union’s Horizon 2020 Research and Innovation Programme, the Genio Trust, the Robert Bosch Stiftung and the King Baudouin Foundation. The ESCF grants supported initiatives to create comprehensive scaling plans aimed at overcoming pressing social challenges.

Call for innovative social solutions

The ESCF project issued a call across all EU Member States asking for social initiatives to submit proposals. Applicants had to show how their aims were relevant in light of social challenges identified in the UN Sustainable Development Goals, and the European Pillar of Social Rights.

The call drew 120 applications from 22 countries, which were then evaluated by a series of measures including expected impact, scaling capabilities of the project, and quality of the application.

The ESCF team selected seven groups to be awarded grants up to EUR 100 000 each to create scaling plans for their projects. Most projects developed growth strategies which stretched beyond national borders, leading to plans for scaling social initiatives across 15 countries.

The selected projects included Long Live the Elderly! (LLE), a community-based project helping improve the quality of life for citizens over the age of 80. LLE proved itself effective in reducing the risk of health problems by helping people prepare for old age and maintain a social network.

Another project highlighted by Clarke was DUO for a JOB, an initiative that matches young migrant jobseekers with older mentors to help them gain employment. DUO started in Brussels in 2013, and thanks to the ESCF grant is now scaling its operations to Lille, Lyon and Marseille in France and Rotterdam in the Netherlands.

The creation of a new European Social Innovation Fund

The success of the ESCF project sparked the setting up of a new call for proposal, included in the Horizon Europe Framework Programme, aimed at upscaling successful social innovations to support the objectives of the five EU Missions. The winning proposal will set up a European Social Innovation Fund to be co-funded by Horizon Europe and other public and private funding sources.
Augmented reality to create a shared cultural heritage

Social inclusion can be particularly difficult for immigrant communities. An EU-funded project is using digital storytelling to bridge the gap between cultural experiences.

People can feel ostracised from society for many reasons, particularly if they are living in a country not of their origin. Shared storytelling is a powerful way to build social inclusion and cohesion in society, and digital technologies are opening up new ways to create a shared cultural heritage in Europe’s cities.

The EU-funded MEMEX (MEMories and EXperiences for inclusive digital storytelling) project is working to counter social and cultural exclusion by developing interactive digital tools using augmented reality (AR) to creatively engage people in the narration and reinterpretation of cultural heritage.

“The aim is to promote creativity and personal expression, social and cultural participation and empowerment, and the expression and recognition of cultural diversity,” explains Alessio Del Bue, MEMEX project coordinator and senior researcher at the Italian Institute of Technology in Genoa, Italy.
The MEMEX project is working with three groups at risk of exclusion in Europe: migrant women in Barcelona, the citizens of the 19th arrondissement of Paris, and first-, second- and third-generation migrants living in Lisbon. The project uses a community-based approach, with the active support of local participants from these groups.

Digital storytelling and a memory map

The MEMEX project used digital storytelling to let participants develop short personal stories, making connections between tangible and intangible cultural heritage. The team designed a prototype of a smartphone app that allows users to create, share and visualise geo-localised stories – including audio, text and video – in AR. Through the app, personal memories and experiences are visible in the real world and accessible at specific locations throughout cities.

“The app visualises the stories as fixed landmarks on a map on the smartphone, localising the stories at the very same places where we live. In this way, MEMEX works as a map of memories, experiences, emotions and relationships with cultural heritage,” says Del Bue. “In the three pilot cities, participants showed strong emotional involvement in the creation of the stories, as well as in their sharing among peers, and a sense of pride when seeing them in the app.”

The tools are advanced, incorporating elements of artificial intelligence (AI) and AR, but are designed to be easily used by non-experts. Through a series of co-design workshops, the app has gradually evolved to improve the user experience.

The team hopes communities at risk of exclusion, along with social groups or authorities working with them, will use the app to gather memories, intertwining these with physical places, locations and objects to promote social cohesion.

Eliminating social exclusion through stories

The project has almost reached its end, but the technology is still under evaluation. While participants enjoyed and appreciated the concept of the app, social, cultural and economic deprivation meant that some participants couldn’t use or master the technology.

“An additional aspect of the MEMEX project, and future research projects, could therefore be teaching communities how to use the technology and tell their stories digitally, to avoid these pitfalls, increase engagement and boost social inclusion,” remarks Del Bue.

“Local authorities and sociocultural professionals were very positive about the project and its results, but also its potential for use by them,” adds Corinne Szteinsznaider, policy and projects director at the Michael Culture Association, a MEMEX partner.

PROJECT
MEMEX – MEMories and EXperiences for inclusive digital storytelling

COORDINATED BY
Italian Institute of Technology in Italy

FUNDED UNDER
Horizon 2020-SOCIETY

CORDIS FACTSHEET
cordis.europa.eu/project/id/870743

PROJECT WEBSITE
memexproject.eu/en
Sizing up culture and measuring its societal impact

The EU-funded MESOC project is developing tools to quantitatively measure the impact of culture and cultural policies and practices, based on the Theory of Change.

Culture plays a big role not only in European society, but also in its economy and international relations. To ensure Europe fully leverages its unique cultural advantage, the EU and its Member States have implemented a range of policies and practices such as the New European Agenda for Culture. But how can we measure the impact such policies and practices have?

That's the question asked - and answered - by the EU-funded MESOC (Measuring the Social Dimension of Culture) project. “MESOC aims to propose, test and validate an innovative, original approach to measuring the societal value and impact of culture and cultural policies and practices,” explains Pau Rausell, a professor in the Department of the Economics of Culture at the University of Valencia, who serves as the MESOC project coordinator.
Thinking back to act forward

The project set out to capture the societal impact of culture with a focus on health and well-being, urban and territorial renovation, and citizen engagement. “These three elements, taken individually, influence each other and involve very important aspects of public policy, such as research, education and planning,” adds Rausell. “However, taken together, they form a coherent picture of the way culture carries its societal impacts, creating value for individuals and communities.”

While the value culture brings to society is qualitatively known, and to some extent predictable for policy innovators, Rausell notes that it is very hard to measure quantitatively. “We’re exploring ways of using standardisable quantitative tools to capture the social impact of culture, and we’re doing so using the Theory of Change framework,” he says.

The Theory of Change looks to describe how and why a desired change will likely happen within a particular context. It does this by identifying the desired long-term goals and then works backwards to identify all the conditions that must be in place for the goals to occur.

“In the context of culture’s impact, the Theory of Change is used to fill in the gap between what a policy does and how these actions lead to achieving the desired goals,” notes Rausell.

Bridging the gap between theory and practice

It is in the filling of this gap that MESOC comes into the picture. Although still a work in progress, the project is building the replicable, standardised tools and methods needed to better understand the impact and effectiveness of a given policy or action. For example, researchers are working on a consolidated convergent conceptual model that could explain the causal lines between cultural programmes, policies, and societal impacts.

Other key outcomes include a web/mobile application for evaluating the emotional and rational reaction of individuals after their participation in cultural events, an online database of academic papers and other literature relating to the societal impact of culture, a geo-referenced text mining application, and a tailored search engine.

“These technological tools are very valuable and innovative in their ability to help us better understand the societal impact that culture and cultural experiences have,” remarks Rausell.

They’re also having a direct impact on the cultural landscape of several cities, including Valencia and Jerez. “Both cities have already benefited from using the MESOC tools as a means of facilitating more effective and impactful cultural planning,” concludes Rausell.

PROJECT
MESOC – Measuring the Social Dimension of Culture
COORDINATED BY
University of Valencia in Spain
FUNDED UNDER
Horizon 2020-SOCIETY
CORDIS FACTSHEET
cordis.europa.eu/project/id/870935
PROJECT WEBSITE
mesoc-project.eu
Reversing the decline of Europe’s rural regions

A deeper understanding of the challenges rural communities face is an important first step towards implementing effective, long-term solutions that can bring people back to the countryside.

Over the course of the past 25 years, people have been migrating to cities in pursuit of better jobs and increased opportunities - a trend that shows no signs of slowing. According to the European Spatial Planning Observation Network, Europe’s rural population will decrease by 8 million people by 2050. The EU’s rural population is also getting greyer, with nine out of 10 farmers now aged 55 years or older.

“Depopulation, land abandonment and the loss of biodiversity are just some of the challenges affecting rural areas,” says Pavel Šimek, a researcher in the Faculty of Economics and Management at the Czech University of Life Sciences Prague.

According to Šimek, addressing these challenges requires a local vision for growth and development. It also requires increased capabilities at the local level to ensure that appropriate policy measures are implemented, both on time and in accordance with the agreed upon vision for rural development.

The EU-funded PoliRural (Future Oriented Collaborative Policy Development for Rural Areas and People) project is working to address both aspects. And to do so, it relies on modern ICT tools and ‘Foresight’, an approach to policymaking that considers future eventualities, scenarios and outcomes.
“PoliRural is based on the execution of regional Foresight exercises across Europe’s rural regions, where success has been defined as the implementation of locally co-designed policy measures aligned with a local vision,” explains Patrick Crehan, a management consultant at CKA, one of the project’s 36 partners.

An innovative toolbox

With the goal of making rural places and professions more attractive for the people who already live there and to potential newcomers, the PoliRural team delivered an innovative and effective approach to rural policy co-design based on regional Foresight.

“Our approach stands out in its ability to provide decision-makers with evidence on how current policies are performing and what impact new measures might have,” remarks Šimek, who serves as the project coordinator.

Specifically, the PoliRural approach includes the use of advanced policy simulation, focused training sessions on Foresight, taking a mission-oriented approach to decision-making, and using cutting-edge tools for text mining and system dynamics modelling. “Together, these tools provide policymakers with an innovative toolbox for increasing the attractiveness of their region or territory,” says Pavel Kogut, a researcher at project partner 21c Consultancy.

Demonstrating its effectiveness

To demonstrate the effectiveness of this approach to decision-making, the project worked directly with 12 rural communities, involving local policymakers, farmers and the agro-industry.

In Slovakia, for example, the team used the PoliRural toolbox to develop a strategy for increasing the attractiveness of the country’s rural areas by 2040. This process involved multiple rounds of discussions with various stakeholders, who ultimately endorsed the initiative in the Slovak Parliament. The resulting Rural Doctrine is expected to be enshrined in Slovak constitutional law, thus ensuring its long-term stability and continuity, along with a clear strategic direction for Slovak rural areas.

“This shows how the project can contribute to creating a deeper understanding of the real challenges faced by Europe’s rural regions - an understanding that is essential to the implementation of effective, long-term solutions,” concludes Crehan.
Planting the seeds for Europe’s rural regeneration

To reverse the trend of rural depopulation, RURALIZATION is exploring the creation of a policy-supported virtuous cycle which enables young people to thrive in rural areas.

Europe’s rural areas are in decline as younger generations are drawn to urban areas. Working with young people across Europe, the EU-funded RURALIZATION (The opening of rural areas to renew rural generations, jobs and farms) project sought to better understand their life aspirations and how these might be met in rural settings.
"It’s not true that most young people dream only of urban living, and although some trends have disadvantaged rural areas, we see new opportunities which can be boosted with the right policies and incentives,” says project coordinator Willem Korthals Altes, professor of Land Development at Delft University of Technology in the Netherlands.

Dreams, trends and promising practices

The project team has asked over 2 000 young people across 20 European regions about their dream futures – where would they like to live, doing what for a living, with what lifestyles and facing which obstacles?

“Comparing respondents’ current locations to their ideal locations, there is clearly a trend towards aspirational ruralisation,” adds Altes. “For example while 21% were currently living in a city centre, only 10% wanted to be in 15 years.”

Within the scope of the project, 10 megatrends affecting most areas, 20 trends specific to some regions and 30 localised signs of change, which they termed weak signals have been identified.

While some megatrends, such as the impact of climate change and ageing populations, are fairly well established, of particular interest were the trajectories of emerging weak signals and trends.

“For example, there has been talk of COVID creating more appreciation for rural living, driven by remote working and an interest in sustainability, but to become a megatrend or even a trend would require enabling policies,” Altes explains.

To take the issue of access to land, after investigating legal and policy arrangements across all EU Member States, few were found to focus on generational renewal, with little emphasis on attracting new farming entrants and more on land consolidation.

“The EU agricultural land market isn’t functioning equitably, with 52.6% of land controlled by 3.4% of farms. Most farmers are over 55 and with farm succession usually based on patriarchal inheritance, gender inequality is stark,” remarks Altes.

To tackle these challenges, 30 case studies were conducted to identify promising access to land practices: 10 of rural newcomers, 10 of new farming entrants and 10 of farm inheritors.

Sixty-four innovative practices were selected, including support to new entrants before land is identified, farmland accessibility, prioritisation of sustainable and multifunctional land use and securing access for individual farmers.

“We defined four building blocks for change: better promotion of innovation; adaptation of land regulations to benefit new entrants; more local authority empowerment; and a revamped CAP to enable access to land,” adds Altes. “We are currently integrating these into advisory material for local authorities and rural change-makers.”

Turning the tide

Urban populations have been forecast to grow by 12% between 2014 and 2050, but rural regions to decline by 8%. Meanwhile, urban gross domestic product per person has been calculated at EUR 34 179 compared to EUR 19 104 in rural regions. Such discrepancies threaten social and economic cohesion across the EU.

While the EU did allocate EUR 9.6 billion between 2007 and 2020 to support young farmers, in its special 2017 report, the Court of Auditors concluded this was "based on a poorly-defined intervention logic" and it "should be better targeted to foster effective generational renewal."

“We need a novel approach to buck the long-term trend of urbanisation, one which dovetails with regions’ strategies, while contributing to the Cork 2.0 Declaration ‘A Better Life in Rural Areas’,” says Altes.

Towards this end, the project team has launched 10 pilot actions related to access to land and land stewardship, alongside the development of a Massive Open Online Course, designed for rural development professionals.
Digital curation deepens our understanding of the Holocaust

Using cutting-edge digital tools, the VHH project is making archive material of the Holocaust available for co-creation and research practices.

Commemorating the Holocaust helps ensure that neither victims nor perpetrators are forgotten. While much visual material is available thanks to Allied military personnel, little has been digitised or exists in formats useful for contemporary research.

The EU-supported VHH (Visual History of the Holocaust: Rethinking Curation in the Digital Age) project is using digital techniques to dynamically link film about the discovery of Nazi concentration camps and other sites of atrocities, with supplementary photographs, audio and text.

“We are developing new types of user interaction and learning experience, at various engagement levels, ensuring inclusivity while opening up content for co-creation,” explains project coordinator Ingo Zechner.

The system is intended for media researchers and producers, teachers, cultural heritage curators and tourism professionals, amongst others. While some software components were off-the-shelf, such as the optical character recognition engine Tesseract, much was customised – creating new solutions.
A modular system

VHH set out to make available as much visual media about the Holocaust as possible, sourcing material often previously restricted to specialist institutes, such as the Imperial War Museums in the United Kingdom.

To achieve this, the material – film, audio, photographs and text documents – is digitised for a digital repository. Text documents, once scanned, are processed with transcription software that provides the basis for indexing and searchability. Translation software has also been piloted to capture foreign language text.

With film, automated analysis software, created by the project, detects individual shots, camera techniques and objects, with meta tags added for searchability. The system then suggests related or similar material and links items. Users view the digitised films on a new media player designed to preserve the specifics of the analogue originals.

It was important for the project to make material available in its raw state. “With film, users can view unedited footage, learning about the immediate context, inferring something about why footage was selected or left out and sometimes about the people behind the production,” says Zechner, director of the Ludwig Boltzmann Institute for Digital History, the project host.

The system is accessed via a website, and as it has a geolocation function can highlight available resources for that location, especially useful for areas which may have little material. “You can imagine a user accessing what we have via a mobile device as they wander around a site,” adds Zechner. It also has a timeline feature, allowing users to access material for an event or location over time.

Recontextualising place and time

VHH’s approach offers a richer understanding of history to offer society an innovative approach to learn about the past. For example, while the American military were recording evidence of atrocities in the spring of 1945, the Soviets had already been doing so since 1941.

“Seeing footage of Soviet soldiers encountering atrocity sites beyond concentration camps, reinforces just how decentralised the barbarism was, with cruelty meted out face to face. We wouldn’t have known much about that otherwise,” remarks Zechner.

VHH’s prototype has been undergoing seven sets of user trials with film students, media producers, tour guides and schoolteachers in university courses, carried out at memorial sites Mauthausen and Gusen and at the office or home of participants. Feedback has already been integrated to improve the system and ensure the most relevant features.

The team has also worked on a digitisation toolkit for cultural heritage objects and the release of their metadata model, adapted from the previous EU-supported EFG project. All the software developed is open-source and the code will be released as open access on GitHub.

“Our modular system is adaptable to many scenarios. We’ve been looking, for example, at how it could be used for urban history to explore how cities change over time,” concludes Zechner.

The resulting applications deliver new impulses to a range of industry sectors in education, museums, libraries and archives, cultural tourism and the content industries.
Digital assistants to help third-country nationals settle

Adapting recent advances in interaction technologies, WELCOME is co-designing with beneficiaries a digital platform that helps third-country nationals integrate into their host countries.

On arrival in a new country, migrants and refugees, collectively referred to as third-country nationals (TCNs), have to quickly adapt to new social and linguistic contexts. Many are suffering from physical and emotional stress after long, often dangerous, journeys before facing significant bureaucratic requirements to get access to social, health or legal services.

To ease the burden of this integration process, the EU-funded WELCOME (Multiple Intelligent Conversation Agent Services for Reception, Management and Integration of Third Country Nationals in the EU) project is developing a platform called MyWELCOME, which includes a multilingual personal assistant app, based on conversational agent technologies. The team also drew on learning from the previous KRISTINA project, which had included several WELCOME partners.

“Each TCN is assigned their own digital agent to help with tasks such as form filling or providing local information on topics such as schooling and health services,” explains project coordinator Leo Wanner from Pompeu Fabra University in Spain.

To complement the app, WELCOME is also developing virtual reality (VR) learning and coaching, alongside a decision support module targeted at public administration and NGO TCN integration support workers.

Understanding the needs of new arrivals

To first ensure that the technology would meet the needs of TCNs arriving in Europe, the team conducted interviews with around 45 TCNs, alongside 20 NGO and local authority staff members.

By understanding their personal and family situation, including their legal status, origin, cultural background, skills and medical records, WELCOME, is able to better meet the needs of migrants.

The approach is shared by the cluster of projects funded under the same call, all putting co-creation and co-design at the core of their ICT solution.

easyRights is focused on ensuring the right to public services is met, MICT on removal of bias in public service provision, MICADO on developing effective communication and data exchange, NADINE on improving employment prospects, and REBUILD on enabling personalised support in accessing public services and to informing policymaking.

The cluster, besides working together in pilot activities, workshops and policy roundtable events, successfully prepared scientific publications and a policy white paper to support the EU's future migration policy.

“What we all want to achieve is customised support. A lot of bureaucracy is designed to be one-size-fits-all, but TCNs have very different needs and also qualifications and skills to offer that we just don’t tap into,” says Wanner. “By automating processes and joining up information across services, our technology can do some of the integration heavy lifting, freeing up time for a more personalised welcome.”

Promising prototypes

After installing the MyWELCOME app on a mobile device and registering basic personal information, users are assigned their personal agent.
Interaction can be voice- or text-based. User speech is automatically translated into English for semantic analysis with the underlying planning algorithms triggering the appropriate responses - as information, guidance or answers to questions. The agent expresses itself using natural language generation and text-to-speech techniques.

The system currently accommodates English, alongside Catalan, German, Greek and Spanish, representing host countries. Moroccan and Levantine Arabic (the most common TCN languages in Catalonia and the rest of Spain, Germany and Greece) are currently under development. “While we want to extend the languages available, for now modules for processing other languages can be added easily as plug-ins,” adds Wanner.

WELCOME also offers educational VR-based activities, with language and social inclusion training delivered through serious gaming, where TCNs solve specific task challenges or rehearse scenarios such as job interviews.

The decision support module, accessed via the system’s Platform Manager, helps support workers with tasks related to the analysis and correlation of TCN data. This includes performing functions such as clustering TCNs with similar characteristics, notably language proficiency, using visual analytics to present the information in accessible ways.

WELCOME has already tested the entire platform, with 54 TCNs and 15 stakeholder organisations participating in the first prototype trials. The team is currently fine-tuning the second prototype, co-designed, as was the first, by user groups (including TCNs), technical developers and external TCN stakeholders.

“The platform has been warmly welcomed. After ironing out teething problems, we might further enhance and possibly commercialise the final project version or expand the system, potentially to include health or social work settings,” concludes Wanner.

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A range of possibilities

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**PROJECT**

WELCOME – Multiple Intelligent Conversation Agent Services for Reception, Management and Integration of Third Country Nationals in the EU

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The EU is committed to becoming climate-neutral by 2050. The 14 research projects featured in this CORDIS Results Pack support policymakers, business and society to make informed choices about ending reliance on fossil fuels and building a greener and more equitable future for Europe.