



EU Research and Innovation for and with **CITIES**

July 2021

WE NEED CITIES IN THE VANGUARD TO ACHIEVE THE EUROPEAN GREEN DEAL OBJECTIVES

3 out of 4

Europeans live in cities.
Europe's level of urbanisation
is expected to **increase** to
approximately **83.7% in 2050**.

80%

of all economic growth
is estimated to be generated
by cities.

~85%

of the EU's urban population
is being exposed to fine
particulate matter (PM2.5)
at levels deemed harmful
to health.

2% GDP

is the estimated cost
of time losses from traffic
as urban areas congestion
continues to rise. Most of our
emissions are generated in cities.

Research and innovation is key for innovative urban planning and design to address current challenges and to make cities sustainable, climate resilient, energy and resource efficient, circular, creative, socially innovative, inclusive and diverse, healthy and safe.

Envisioning a climate-neutral future for our cities means putting together the perspectives, knowledge, tools and resources from a variety of urban players (such as local authorities, planners and designers, practitioners, investors, creative industries and SMEs), in areas such as energy and resource efficiency, urban mobility, circularity, health and well-being and social innovation.

INVESTMENTS FROM EU RESEARCH AND INNOVATION PROGRAMMES ARE CRUCIAL TO DEVELOP INNOVATIVE SOLUTIONS FOR SMART AND CLIMATE NEUTRAL CITIES

EU Framework Programmes for research and innovation have:



Created a network of more than
450 twinning cities.



Invested EUR 2.8 billion from Framework
Programmes between 1990 and 2014 and
EUR 3.1 billion from the Horizon 2020 programme.



Created a significant EU knowledge base of tools
and innovative solutions, strengthening the interface
between science and policy as well as between the
public sector, the private sector and citizens.

Piloted solutions in city test sites, in co-design
and co-implementation with the citizens at local
level, delivering benefits for health, well-being
and prosperity.













Promoted a cross-sectoral integration of all kind
of innovations - such as technological, digital,
social, cultural, financial, governance and nature-
based ones and supported a human-centred city,
fully engaging citizens as 'city makers'.



Research and
Innovation

HORIZON 2020 FLAGSHIP PROJECTS WITH IMPACT

	Innovative urban and mobility planning solutions leading to reduced car traffic, CO ₂ emissions and significant fuel savings were the key deliveries of the HORIZON 2020 CIVITAS Projects ECCENTRIC , PORTIS , DESTINATIONS , CIVITAS PLUS II (e.g. DYN@MO).
	Energy efficiency was improved and standards and protocols for electric vehicles charging were released as a result of the HORIZON 2020 project ASSURED , involving the deployment of public electric buses with high power charging.
	Using renewable energy sources for heating, smart lighting and smart mobility, the HORIZON 2020 SmartEnCity project retrofitted about 2,500 dwellings (over 165,000 m ² and benefitting 29,300 inhabitants), generating energy savings of about 30,000,000 kWh/y and a CO ₂ reduction of 19,000 Tn/y.
	76,000 m ² residential buildings were renovated with energy savings of 70% by the HORIZON 2020 POLICITY and HORIZON 2020 CITY-ZEN projects . The projects contributed to the implementation of the new EU Directive for Energy Performance in buildings.
	Mentoring training programmes and awards were launched by the HORIZON 2020 CLIC project for the best business ideas and start-ups in the field of cultural heritage, adaptive reuse and circular economy and tourism.
	City climate emergency planning was revised by the HORIZON 2020 Climate-fit.City and GrowGreen projects which delivered maps with detailed locations of flooded zones and socio-economic consequences.
	Green and grey infrastructures were combined by the HORIZON 2020 GrowGreen project, which successfully addressed risks from flooding in a neighbourhood near the city centre through storing rain water.
	Nature-based solutions, technological and social innovations were combined by the HORIZON 2020 URBAN GREEN UP project to increase the resilience to climate change effects, improve air quality and efficient water management.
	Operational cloud-based climate services were provided by the HORIZON 2020 CLARITY project, which calculated the expected effects of climate change induced hazards.
	The best available scientific urban climate data was translated into relevant information for public and private end-users, urban planners, and cities authorities resulting in more efficient emergency responses to climate change with the HORIZON 2020 Climate-fit.City project .

The Yearly Mapping Report 2021

The yearly mapping report *[EU Research and Innovation for and with Cities](#)* presents a wide range of Horizon 2020 R&I actions, networks and initiatives and shows their contribution to preparing cities for the systemic transformation that will be needed to achieve the European Green Deal targets. They form a strong basis for the new Horizon Europe Mission to achieve 100 climate-neutral and smart cities by 2030.