Executive Summary:

URBAN-NEXUS

This coordination action is presented to further the long-term strategic framework for scientific co-operation related to urban research. This will be achieved by enabling knowledge transfer and building a structured dialogue. The ultimate aim is to develop long-term strategic partnerships. The call highlights a range of interconnected issues that must be considered including the environment and urban planning, energy, water scarcity, transport, tourism, technology and innovation, governance and education, social equity and cohesion, and sustainable consumption. Throughout this effort, we are reminded to focus on the critical issues and challenges facing European cities today within the overarching frame of reducing the ‘urban ecological footprint’. The essential starting point in meeting the objectives of the call and attaining the necessary impact is the development of a common basis for communication between the diverse stakeholder groups in order to facilitate knowledge transfer and structured dialogue.

Creating a network and partnerships

The main goals of URBAN-NEXUS was to create a dialogue and successful partnerships. The dialogue will be on integrated sustainable urban development and the partnerships that we aim to create are between the different stakeholders with all their different geographical, cultural and professional backgrounds. From the start of the project the aim was to use the Learning Spiral approach. The Learning Spiral approach aims to ensure the formation of new, supported knowledge, the transition from knowledge to action, as well as the constant updating of the acquired knowledge. New insights on how to shape partnerships and to create interaction will gradually improve as the URBAN-NEXUS trajectory progresses.

A Dialogue Café

For each work package of URBAN-NEXUS we have used the same approach. An approach that has been worked out at the start of URBAN-NEXUS and describes all the steps on how to prepare an event, how to host an event and how to do give the right follow-up after an event. The events of URBAN-NEXUS had a interactive character, this to maximize interaction and give the participants the ability to mingle properly.

Results

The diversity and sheer number of different stakeholders of sustainable urban development also create difficulties in getting a complete set of stakeholders in our network. To set up a meeting where all people have a connection with the topic discussed and having all stakeholders present is a difficult task. Creating long-term partnerships is something that definitely does not happen overnight. The partners of URBAN-NEXUS have taken big steps in the last years in creating the right atmosphere and discuss the right content during the Dialogue Cafés. Our last Dialogue Café meeting in Bristol in April 2014 was the proof that lessons were taken from the previous Dialogue Cafés. A taste of this methodology was given during the final event in Brussels on June 18th.
Where to go with these results

One of the main outcomes and conclusions of the Urban Nexus project is that it is absolutely necessary to have all stakeholders on board when it comes to decision making. There are a number of views what role and responsibilities each different stakeholder would have in the urban processes. One of the ongoing projects that URBAN-NEXUS partnered with is SEiSMiC.

The goal of SEiSMiC is to engage society in urban research. As such, these networks will include civil society organizations, media, education establishments, science academies, museums, science centers, research performing or funding organizations, industry/business and policy makers. Bringing these networks together and creating a structured dialogue will build a bridge between the scientific community and society.

Looking at the results of Urban-Nexus we have seen that with the Dialogue Cafés more and more diverse groups have entered the discussions along these topics. We have learned how to engage society and seen many practical examples where society was involved in urban processes. The links made with Urban Nexus could feed in for the research done in within Seismic.

Where Urban Nexus will end in August 2014, Seismic has just started recently.

Project Context and Objectives:

Summary description and main objectives

European cities are some of the most attractive and desirable places in the world, offering unmatched opportunities for culture, recreation, living, and working. Our cities also play a vital role in the development of Europe and contribute to economic growth and innovation, knowledge-building and a cohesive society. However, European cities must work in concert to face a number of important challenges ranging from the current economic crisis, to sprawling development and the natural environment, as well as the longer-term implications related to climate change and resource scarcity (e.g. peak oil and water). The dire implications and potential impact of these challenges for our environment, economy and society suggests that urgent action is needed to ensure for smart, sustainable and inclusive growth (Europe 2020). By working together and following a collaborative approach to problem solving Europe will emerge stronger and more resilient. This coordination action is put forward to enable and further strategic urban research which can address these real challenges and advance sustainable urban development and planning towards reduction of the ‘urban ecological footprint’. Current ESPON estimates suggest that the average European citizen’s footprint is over two times the Earth’s capacity (ESPON 2013 Synthesis Report, p. 75). More than a quarter of the European Union’s territory has been directly affected by urban land use and by 2020 approximately 80% of Europeans will be living in urban areas. As a result, the demands for land in and around cities are becoming increasingly acute. However, through resolute, collaborative working we can address the complex, interrelated issues which drive energy and resource consumption, environmental degradation, and climate change.

In 2006, URBAN-NET was established through FP5 funding as a European Research Area (ERA) network to strengthen the pan-European approach to research on these critical issues with a remit to forge links between the member state’s urban research priorities and to support the development of a common framework for urban policy orientated research and policy understanding. Our URBAN-NEXUS proposal builds directly upon the successes and efforts of URBAN-NET. Including many of the existing URBAN-NET partners, our consortium is well-placed to deliver this coordination action. As a starting point to our project, we have taken the URBAN-NET themes, developed in consultation with stakeholders in a workshop in Berlin (2008), as an overarching frame for our project framework. However, we have developed and updated our partnership to respond directly to the competencies and expertise required to successfully deliver and execute this project. For this reason a number of working themes have been identified and these will be picked up by an individual work package.

- Urban Climate resilience;
- health and quality of life;
- Competing for urban land;
- integrated information and monitoring.
- integrated urban management;

Through URBAN-NEXUS we will engage with these issues through the development of a structured dialogue designed to enable rich communication, knowledge transfer and partnership-building. This will include engagement with a wide span of public, private, and civil society organisations involved with urban research ensuring for wide EU27 representation. Our
collaborating partners – which include stakeholders in urban governance – will be instrumental to the project. These civic leaders, policy-makers, businesspeople, researchers and educators are already actively involved with addressing the challenges of urban development. In addition to the 13 partners who make up URBAN-NEXUS, we have over 20 organisations signed on to our proposed approach including, for example, the WHO European Healthy Cities Network, International Society for City and Regional Planners (ISOCARP), METREX (a European network of major metropolitan regions and areas) and Polis (a pan-European network of transport related municipalities and transportation planning agencies). This form of direct engagement will help to build upon and strengthen the relationship between stakeholders and policy-making through engagement, collaborative prioritisation, and knowledge transfer.

Summarizing, URBAN-NEXUS is a Coordination and Support Action that aims to create a structured dialogue among a wide range of stakeholders interested in reducing the ecological footprint of cities and city regions. The project is all about enabling knowledge transfer and creating long-lasting partnerships in and between cities and regions to deal with integrated sustainable urban development. In order to achieve a sustainable city, a vast range of interconnected issues need to be linked up: these include environment and urban planning, energy, water scarcity, transport, tourism, technology and innovation, governance and education, social equity and cohesion, and sustainable consumption.

URBAN-NEXUS has three main objectives, all dedicated to the overarching theme sustainable urban development:

1. Identify innovative ways to solve the complex problems that confront sustainable urban development.
2. Increase awareness among relevant stakeholders along different themes, and allow them to exchange knowledge, collaborate and cooperate.
3. Make partnerships possible between these stakeholders, in particular researchers, and those who implement research findings, for long-term strategic cooperation across scales and disciplines.

URBAN-NEXUS has developed a Strategic Dialogue and Partnership Framework (SDPF) to organize a long-term collaboration with stakeholders in relation to the key dimensions of sustainable urban development. Cities in Europe today must respond to this variety of sometimes conflicting demands. Our URBAN-NEXUS conceptual framework provides the basis for ordering and prioritisation of the various elements, highlighting the strategically critical elements, and also providing principles to define the interconnectedness of all elements.

URBAN-NEXUS will focus on combining existing knowledge into useful and shared “integration perspectives”. Through these integration perspectives URBAN-NEXUS will identify which practices and innovations from various policy fields – urban climate resilience, health and quality of life, competing for urban land – can practically be combined with the practices and innovations from other policy fields to create integrated and viable solutions for more sustainable cities. Moreover, URBAN-NEXUS seeks to promote long-term strategic partnerships that respond to the dynamics of self-organising governance and that act as platforms to bring forward the integration perspectives.

Project Results:

URBAN NEXUS Main S&T Results

European cities face many significant challenges, including the current economic crisis, urban sprawl, and the longer-term implications of climate change and resource scarcity. Cities themselves currently account for around 70% of global emissions and are major contributors to the overall ecological footprint. However, cities present opportunities as well. Many cities are growing, and concentration of people can lead to more efficient use of space, water, energy and other resources. More people means more creative ideas too. Urban-Nexus wants to live up to this creativity and put forward new ideas to enhance urban sustainability. A lot of research already either exists or is being executed. This particular urban field is characterized by a multiplicity and diversity of overlapping and typically disconnected urban policy research. There is a huge potential benefit to be gained in reviewing and connecting this urban research, rather than initiating new research. By uniting stakeholders with extensive knowledge, and by discussing and combining this knowledge, new and fruitful results have been produced.

Interactive dialogue and creating partnerships

The main goals of Urban-Nexus were creating a dialogue on integrated sustainable urban development and successful
partnerships between diverse stakeholders with different geographical, cultural and professional backgrounds. This, by using the so called Learning Spiral approach for each Urban-Nexus work package. This approach aims to ensure the formation of new, supported knowledge, the transition from knowledge to action, as well as the constant updating of the acquired knowledge. New insights on how to shape partnerships and to create interaction have gradually improved as Urban-Nexus progressed. The set up of events of Urban-Nexus was aimed to maximize interaction and give the participants the ability to mingle properly.

Dialogue Cafés
In a series of Dialogue Cafés five work packages were approached and analyzed:

• Urban Climate Resilience
• Health and Quality of Life
• Competing for Urban Land
• Integrated Data and Information
• Integrated Urban Management

The involvement of relevant stakeholders and EC experts in the provision of spatial and statistical harmonized data, efficient mechanisms for monitoring of urban changes and mainly, with their participation in the Dialogue Cafés, are crucial parts of the Urban-Nexus project development.

Value of participation
To set up a meeting where all people have a connection with the topic discussed and having all stakeholders present is a difficult task. Creating long-term partnerships definitely does not happen overnight. The partners of Urban-Nexus have taken big steps in creating the right atmosphere and discuss the right content during the Dialogue Cafés. The last meeting in Bristol in April 2014 proved lessons were taken from the previous Dialogue Cafés. A critical element for participants of the Dialogue Cafés is the value of participation. It is important to be aware of the position of the potential participants. Urban Nexus has been facilitating several meetings with various subjects, all related to sustainable urban development. Invitations were done within the own network of the Urban Nexus partners and with the detailed approach explained in a document especially developed for Urban-Nexus. The document ‘Strategic Dialogue and Partnership Framework’.

Key messages of creating partnerships
One of the main outcomes and conclusions of the Urban Nexus project is that it is necessary to have all stakeholders on board when it comes to decision making. There are several views on the stakeholders role and responsibilities in the urban processes. Projects and programmes that strive to engage society in urban research can benefit from the results of Urban-Nexus. These networks will include civil society organizations, media, education establishments, science academies, museums, science centres, research performing or funding organizations, industry/business and policy makers. Bringing these networks together and creating a structured dialogue will build a bridge between the scientific community and society.

The results of the Dialogue Cafés show that an increasing number of diverse groups have entered the discussions along these topics.

We have learned how to engage society and seen many practical examples where society was involved in urban processes.

The links made with Urban Nexus could feed in for the research done in within SEiSMiC. Where Urban Nexus will end in August 2014, SEiSMiC has started recently.

URBAN CLIMATE RESILIENCE
Higher temperatures, changes in precipitation patterns, rising sea levels and increasing frequency and intensity of weather extremes pose significant risks to urban communities and the complex systems and processes that support everyday life in European cities. Climate resilience requires positive action and effective partnerships to reduce vulnerability and promote optimal benefits for urban communities. Four dimensions/topics that are of importance for Urban Climate Resilience will be highlighted in more detail.
1. Risk
This first topic concerns the problems of assessing climate risks at a city level. Modelling climate change and predicting future trends at different spatial and temporal scales introduces a range of uncertainties, including feedback loops and potential tipping points in the natural environment and environmental processes and unknown impacts from socio-economic drivers which will influence future emission trajectories. These uncertainties are compounded by a range of data and monitoring issues.

2. Issues
Understanding how uncertainty influences policy and decision-making and how communications can help effect positive behaviour change is an important element of our second topic on Governance. As a cross-cutting issue, climate change highlights the need for new approaches to governance in order to overcome the lack of coordination and integration. We conclude that the integration of social sciences and associated skills are vital in influencing key decision-making processes and behaviours.

3. People
Governance may be thought of as being fundamentally about people and how people live and carry on their social, cultural, personal and economic activities in a place. People and place are of course inextricably linked and are the final two topics to be considered. A changing climate will have direct effects on people’s health and quality of life and will also bring indirect risks to broader social and economic activities. People’s vulnerability and their ability to respond to climate change impacts are not determined solely by geographical location or physical attributes. Economic factors also play a substantive role in determining the vulnerability and adaptive capacity of households and communities.

4. Place
How we develop and redevelop land, build and modify infrastructure, design, (re)configure the urban fabric plays host to how the changing climate is impacting and will impact urban lives. The impacts of climate change on place, include: flooding, landslides, drought, subsidence and the urban heat island effect. All of these have implications for the social, cultural and economic activities that take place in cities. The design and use of urban space and infrastructure is a fundamental driver in how resilient our cities are to climate change. Urban green space offers a relatively low-cost solution to managing a range of impacts such as flooding, drought, urban heat island effect etc., while bringing wider health and quality of life benefits and favouring economic investment.

Key Messages of Urban Climate Resilience
1. There is a profusion of scientific and business research on climate change but a relative dearth of coordinated studies that adopt an integrated perspective.
2. The majority of urban climate change research, policy and practice appears to be concerned with mitigation, energy efficiency, new developments, eco-towns etc.
3. There is a potentially confusing array of “urban sustainability models”, many of which omit any climate resilience considerations.
4. It is imperative to integrate the social sciences into cross-disciplinary research on urban climate resilience.
5. There appears to be more emphasis on research and technological measures for flood prevention, than on drought alleviation and associated risks from lower rainfall such as subsidence and wildfires.
6. Just as the climate and climatic projections are changing, adaptation and building resilience must be understood as a continually evolving process.
7. Building resilience at the city scale requires more partnership working and collaborative approaches.

HEALTH AND QUALITY OF LIFE
The challenge of urban health and quality of life is to find solutions tackling environment and health problems together; it is essential to meet a balance between all policies and developments, and integrate the solutions into future urban planning.

The urban structure highly depends on urban management and policies applied at different levels of government, together with other drivers like market and globalisation. These aspects determine urban development, influence urban patterns, flows and, at the same time, the quality of the surroundings of the urban areas. Moreover, people’s perception, aspirations and behaviour influence to a great extent many socio-economic dynamics and even
certain developments in the urban context. Linking quality of life and health of citizens, the primary components of people's well-being, with urban structures, patterns and flows is the main objective of this work package.

Key messages Health and Quality of Life
1. Environmental stressors and alleviators. Air pollution is a major environmental risk to health. The exceedance of air quality standards seriously increases respiratory and cardiovascular diseases, in particular in young children and in the elderly people. This is also harmful for the environment, causing soil and water acidification and damage on vegetation.
2. Noise and air pollution are mainly caused by road transport in most European cities. Only an integrated approach will be successful concerning policy, legislation and measures at all levels and extended beyond air and sound quality to include urban management, mobility and social policies, but also energy, safety, urban design, and public space.
3. Green cities keep doctors away! There is empirical evidence for different beneficial effects of natural environments and green spaces on health and well-being. The more often a person visits urban open green spaces, the less often he or she will report stress-related illnesses.
4. Socio-economic and cultural stressors and alleviators. Social health inequality refers to the differences in health opportunities and resources in relation to a person's social class, gender, geographic area and race, which generally lead to a lower health status for under-privileged groups. Improving data quantity and quality for the evidence base for the assessment is required. Inequalities in health outcomes should be recognised at the urban scale but the state and European level policies are decisive to build social cohesion.
5. It is needed to identify the most vulnerable population to environmental risks and health inequalities, who usually coincide with social and economic disadvantaged groups. Policies on disadvantaged areas are expected to reduce social inequalities in health. Urban renewal or gentrification often results in negative consequences for the most deprived populations.

Urban-Nexus Dialogue Café
The resulting analysis of state of the art on Health and Quality of Life is described in the Synthesis Report, mainly focused on health aspects in cities, considering quality of air and green areas, noise and social aspects. This speech was enriched along the Dialogue Café, stressing the focus to the society and the public space, as well as highlighting the importance of sharing knowledge, in particular in local planning.

COMPETING FOR URBAN LAND
The quality of urban development and the urban structure highly depend on management style and policies, as well as on forces related to globalization and the market. The appreciation of the urban environment is also connected to people’s perceptions, aspirations and behaviour. The achievement of sustainable land-use and settlement structures seems to be mainly a question of decision-making and implementation. Thus scientific analyses, advice and evaluation are important parts of implementation.

Europe has a polycentric structure of large, medium and small cities. Some cities will grow, some will be stable, and others will shrink. In European policy the compact city seems to be a key response to urbanization. It is argued that cities no longer can be allowed to sprawl out over unsafe locations, valuable agricultural land and areas of natural resources and values. The compact city ideal is, however, not unproblematic. By focusing on dense and dynamic urban cores, and by emphasizing economic growth, it may conflict with or overlook essential local needs, not least in how to improve life in small towns and sprawling suburbia.

However, 40 per cent of all European cities with more than 200,000 inhabitants are currently experiencing population decline. Shrinking cities find themselves in the unusual situation of an abundance of land with no demand for new industrial, commercial or housing structures. There is no investment, prices are declining, and estates lose their value. Very few cities will be able to turn this around, and competition between cities and city districts will only make things worse. We argue that cooperation between cities or city districts, qualitative regulation of land use on a regional level and equalisation of financial burdens between those municipalities that won inhabitants and income and those, where poorer inhabitants were left is the only way out.

Well-functioning green-blue infrastructure offers many benefits to cities, and often for comparatively low investment and management costs. It improves a city’s resilience and capacity to adapt to climate change effects, such as heavy rains, flooding, heat island effects and heat waves. Urban greenery also improves the health and wellbeing of its citizens, both by
reducing air and noise pollution and by offering appealing areas that stimulate physical activities and strengthen cognitive abilities. Urban green space furthermore provides opportunities for citizens’ initiatives – such as community gardens and allotment gardens – in this way fostering social networks and cohesion.

Making cities “smarter” is put forward as a key response to urban development challenges, where the opportunities of innovative technologies can only be realized by research and practice in collaboration. However, such approaches need to shift from seeing “smartness” as an engineering challenge to dealing with “smart cities” as a wider societal challenge involving a multitude of urban stakeholders and to placing justness and users perspectives first.

Key messages of Competing for Urban Land

There are several paths to sustainability making it difficult to advocate general strategies as well as universal advice. Conditions and potentials for cities with different backgrounds differ profoundly making advices either to general or irrelevant. However, research and experience from “flagship” cities point to some success factors. Our six key messages will thus be:

1. Develop strategies, instruments and procedures to negotiate conflicting interests
2. Aim for multifaceted solutions across city and regional levels
3. Make the most of what is already there
4. Invest in green-blue infrastructure
5. Promote dense, mixed-use and polycentric cities
6. Increase the smartness of “smart cities”

INTEGRATED DATA AND MONITORING

The “Integrated Information and Monitoring” Work Package tackles important issues such as information quality, availability, transparency, accuracy and accessibility of various spatial and non-spatial databases, as well as their integration and harmonization. Regular monitoring of urban changes are an important base for objective analyses of the public benefit results or to prepare prognosis for future development and to avoid risks and challenges. Nowadays innovation technologies are widely applicable in planning and sustainable city management, and the new developed IT opportunities for remote and in-situ services must be implemented by the city administration and urban planners.

Our work is also closely related to the implementation of various EU activities and documents with relevance to the sustainable urban management, such as:

- INSPIRE;
- PSI Directive;
- A Digital Agenda for Europe
- JRC Report “Direct & Indirect Land use impacts of the EU Cohesion Policy”

There are two basic horizontal sources of sustainability – the urban management mechanism and integrated information and monitoring. An important upgrade of the primary concept is the inclusion of:

• Integrated risk and strategic foresight planning, as the real basis for an applicable and realistic sustainable management urban action plan.
• Monitoring of land changes/policy effects; reference data control and EEE auditing of the acquired funds.

Key messages of Integrated Data and Monitoring

1. A balanced centralized & decentralized management approach is important for sustainable urban management. This approach provides real time and integrated interpretation of both remote and in-situ data in close relation with the end user needs and EU requirements.
2. Regional networking. The establishment of regional units, centres and clusters could support the sustainable city management by mobilizing several countries from a specific EU region.
3. Special attention should be given to the transition from research to operational capacity when speaking about integrated urban management. It is necessary to foster the transition from pure scientific research and analyses, towards more user-oriented practical tools and mechanisms.
4. Regular monitoring of changes through Earth Observation (EO) is a must. Besides the regular monitoring of physical
changes in the urban environment, all actions, plans and projects impact, realized by city administration or different investors should be regularly monitored.

5. Data harmonization and monitoring, supported by a reference layer and geo-referred statistical information is needed. Earth observation produces important information on the physical status of the environment and the changes in land cover and land use.

6. Economy, Efficacy and Efficiency auditing of EU- and national public funds should also be considered as an important part of the integrated city management. The complexity of the programs increased cases of conflicting goals and unintended side effects caused by overlapping or matching functions. Most decisions on public programs could not guarantee that they will achieve the goals set.

INTEGRATED URBAN GOVERNANCE

When talking about an integrated approach to governance we suggest that it engages the widest possible assemblage of stakeholders in the deliberation of a comprehensive set of issues. This implies a holistic, rather than compartmentalised approach to policy formulation, implementation and evaluation. It seeks to ensure that sustainability objectives are acknowledged and pursued as a priority within and between sectoral policy communities individually (vertical integration) and collectively (horizontal integration). An integrated approach such as this would exploit a variety of modes of government; direct state intervention and regulation plus the galvanising of collective societal action. This implies the need for a strong lead from government in line with an ‘ensuring’ state model; one that animates a co-operative response but enforces adherence to strict targets.

Key messages from Integrated Urban Governance

During the Dialogue Café in Bristol several views and elements of Integrated Urban Governance have been discussed. This has led to the overview below of the most important key messages on Integrated Urban Governance.

1. Sustainable urban development is a ‘super wicked problem’. It is characterised by a high degree of complexity in terms of: defining the nature and scope of the issues to be addressed; deciding which course of action to follow; adapting existing structures and process to meet the challenge. Moreover, the timescale for action is diminishing and the behaviour of politicians, business, citizens and consumer behaviour remains influenced by short term benefits rather than long term risks.

2. A fundamental challenge is moving from dialogue to action. The traditional focus on ‘big bang’ policies is inappropriate. A ‘progressive incremental’ approach that focuses on how small steps cumulatively produce significant returns over time is more appropriate.

3. Sustainable urban development therefore requires a broader societal dialogue. A transition is needed from a rational, technocratic policy process towards a participative process of ‘messy governance’ in pursuit of ‘clumsy solutions’; one that recognises the validity of multiple, subjective stakeholder viewpoints.

4. Collaborative governance is needed to achieve effective policy making. This advocates a collective, consensus-based process based on argument and discussion. It assumes a two way dialogue between public and non-public actors. This transcends mere consultation and involves a genuine sharing of responsibility for outcomes between participants.

5. Sustainable urban development requires ‘social learning’. Social learning seeks to change understandings on the part of urban stakeholders (and, thus, their behaviour) through social interaction and, in so doing, stimulates new ways of thinking about and responding to the challenge of sustainable urban development.

6. Building bridges between stakeholders (‘boundary spanning’) is key to effective social learning. Knowledge ‘boundaries’ between different stakeholder groups represent a key obstacle for sustainable urban development. Boundary ‘spanning’ is possible through the ‘co-production’ of knowledge (intensive engagement of participants on each side of the boundary) and the production of ‘boundary objects’ (common products of negotiation – e.g. maps, diagrams, plans, codes – at the boundary between science and policy).

7. The challenge of sustainable urban development requires public authorities to adopt a decisive leadership role. It is vital for the European Union, national, regional and local government to encourage experimentation and but also to monitor and direct this activity to predetermined ends. This is encapsulated in the concept of the ‘ensuring state’

8. Critical success factors for integrating urban governance include long-term strategic vision that provides for local
differentiation of policy and practice and a transparent process that permits consumers, citizens and businesses to make informed choices.

9. Key constraints for integrating urban governance include the democratic electoral cycle that reinforces a political culture of short termism and the proliferation of sector-specific funding regimes, conceived and implemented separately, which compound further the challenges of coordination.

Potential Impact:
Potential impact

INITIAL GOALS

The URBAN-NEXUS coordination action has built upon and strengthened the relationship between researchers, urban policy makers, research policy makers, urban practitioners, SME’s and civil society organisations through engagement, collaborative prioritisation, integral dialogue and knowledge transfer. The project consortium is formed from the stakeholders in urban development and will be further enriched by a Strategic Advisory Board composed by stakeholders that are not directly involved in the project but that do have valuable expertise. Framed by these principles, through collaboration, knowledge-exchange and partnership-building, this coordination action has aimed to achieve the following objectives:

• Identify innovative problem-solving approaches to the complex and interrelated policy issues concerning sustainable urban development based on models that have been developed by URBAN-NET with regard to the connection and collaboration between policy and research;

In this area URBAN-NEXUS has achieved its main goals through research in the different themes that compose sustainable urban development.

• Increase awareness, exchange of knowledge and experience, cooperation and collaboration through structured dialogue; and strengthen the long-term strategic cooperation across scales and disciplines by enabling and building partnerships between researchers, reflective practitioners (at local, regional, national and EU level), policy makers, private sector representatives and civil society organisations.

URBAN-NEXUS did achieve to reach a very large number of experts throughout its project course.

Collaborative approach

URBAN-NEXUS strengthened the long term strategic framework for scientific cooperation through a collaborative approach which bridges the gap between research, policy and implementation. Our position is that high quality urban research benefitted from wide stakeholder engagement across sectors and we can only address the challenges facing urban areas in partnership. The drivers of change (e.g. globalisation, scarcity of natural resources, climate change) produce real challenges ‘on the ground’. Research must be attuned to this reality for European cities and take an applied, problem-solving approach through active involvement with those who make and deliver policy.

The complexity of urban interactions is clearly a major challenge and a number of areas have already been outlined where a lack of integration in the EU research effort is threatening our ability to respond to these challenges. How to integrate these principles and themes has been challenging but also rewarding. Further topics discussed are:

• collective responsiveness and preparedness of individuals, institutions and services to the inevitable consequences of climate change;

• integrated understanding and problem-solving orientation for issues concerning quality of life and sustainability in the urban realm;

• sustainable land-use policy to minimise environmental impacts;

• integrated urban policy solutions and implementation to reduce the fragmentation of the information and intelligence.

There have been a significant number of large EU funded projects examining various aspects of urban research. This includes, for example, research delivered by URBAN-NET over the past 5 years (e.g. SUPER, REPLACIS), Framework Programmes 5, 6 and 7 (e.g. INTEGAIRE, CONCERTO, CIVITAS, LIFE+), ESPON and INTERREG. The substantive focus of URBAN-NEXUS has been to
review, assess and synthesis this research in an accessible manner. This will benefit the stakeholders working in the areas covered by the three vertical thematic strands in URBAN-NEXUS (adapting to climate change, health and quality of life, sustainable land use). All three are extremely complex areas that have enormous impact on the urban environment in Europe and those living and working in it and visiting it. Due to their complexity many research projects working in these themes have only focussed on one or two aspects of the area. For example a project included under the umbrella of ‘climate change research’ may have looked at the vulnerability of elderly persons to heat stress, whilst another may have looked at the emissions of fossil fuels from an industrial source. These two areas will also have very different sets of stakeholders (e.g. air quality groups as opposed to health care professionals), some of who may overlap (e.g. urban planners). URBAN-NEXUS has consolidated this research together into synthesis papers to provide the Stakeholder Advisory Board with an accessible state of the art of current research and the relationships between interrelated projects. The major advantage of URBAN-NEXUS is the inclusion of the two horizontal integration strands. These have ensured that the synthesis papers and the data and information supporting them have continuously been developed throughout the lifetime of the project and that the research evidence that crosses the three thematic strands are integrated. This ensured that the synthesis of research is also applicable to those stakeholders working at the interfaces of the thematic strands (e.g. planners and environmental policy makers) as opposed to those who are primarily focussed on a single theme. In addition this approach to coordinated action also ensured that those stakeholders working on a single theme are aware of the implications of their policies and practices on other areas of urban development. Fundamentally the structured dialogue approach adopted by URBAN-NEXUS aimed to promote a culture change in the stakeholders working in urban areas across Europe. It introduced them, via Dialogue Cafés, to individuals, organisations and disciplines that they would not have previously encountered in their roles. It allowed for an exchange of research, challenges and good practice across these stakeholders in face to face discussion and across social media to develop a shared learning experience and stimulate discussions and ideas on the ways forward to deliver sustainable urban environments now and in the future.

Overall strategy and general description
This coordination action was put forward to enable and further strategic urban research, which can address these real challenges and advance sustainable urban development and planning towards reduction of the ‘urban ecological footprint’. Current ESPON estimates suggest that the average European citizen’s footprint is over two times the Earth’s capacity (ESPON 2013 Synthesis Report, p. 75). More than a quarter of the European Union’s territory has been directly affected by urban land use and by 2020 approximately 80% of Europeans will be living in urban areas. As a result, the demands for land in and around cities are becoming increasingly acute. However, through resolute, collaborative working we can address the complex, interrelated issues that drive energy and resource consumption, environmental degradation, and climate change.

Dialogue Cafés
Five Dialogue Cafés have been held during the 36 month project period (months 8, 13, 18, 23 and 28); one event per theme. All Dialogue Cafés addressed multi-stakeholder communities to ensure that full consideration is given to the variety of stakeholder perspectives at each events. Events were used to develop the synthesis papers and reports from all events have been made available to the urban research stakeholder community, via social networking media and the URBAN-NEXUS web portal. Horizontal work packages (WP5 and WP6) collaborated closely with the thematic work packages in workshop design and delivery to ensure a consistent and integrated approach.

The added value generated by each Dialogue Café according to the specific theme has been incorporated successfully into the integration perspective by the horizontal work packages, and used as an important input to the subsequent thematic workshops. Dialogue Cafes from the horizontal work packages focussed on integrated urban management and integrated information and monitoring, respectively and used the thematic workshops’ results to show the integration aspect. The final event, ‘Strategic Partnership Launch Event’ held on June 18th focussed on the continuity of the long-term strategic framework for scientific cooperation. Links were made with JPI Urban Europe, SEiSMIC and results were presented to URBACT as well to ensure connected stakeholders would have the opportunity to stay connected with activities being done in the field of sustainable urban development.

Timing of work packages and their components
At the start of the project, WP1 has the important task to provide the general framework for the analysis of key issues and the stakeholder analysis. We have chosen an approach which ensures an iterative learning process in which experiences from the first thematic work package fed into the work of following work packages. During this phase some tasks, such as parts of the desk research, can be executed in parallel. What is crucial though is that experiences from the first thematic work package (WP2) have been used by the second and third thematic work packages. All three thematic (horizontal) strands have taken a similar overarching approach to integrating and synthesising the structured dialogue outputs and activities from the thematic strands. The two horizontal integration strands both participated in this reiterative process and benefited from the these experiences.

Insights from the iterative activities, e.g. synthesis papers, stakeholder analyses, organisation dialogue cafés and reporting of the outcomes, have fed the structured dialogue tools. The use of the structured dialogue tools document was rather limited. Partners have indicated they have learned the most from the creation of the document and that the set-up of the Dialogue Cafés did not change too much during the project due to the fact it was successful already. One of the URBAN-NEXUS results is the document that provides structure for active meetings and how to approach a large group of stakeholders.

Effective engagement with stakeholders in Dialogue Cafés required assembly of relevant expertise to debate various thematic issues, in order to support stakeholder testing of concepts identified, and inputs to the elaboration of synthesis report. Options to meet this requirement included targeting new thematic experts for each dialogue café. Alternatively, seeking maximum continuity of stakeholders from dialogue café to dialogue café would be a major benefit, as the urban Nexus strategic partnership has sufficient diversity of expertise to support the different thematic areas of urban Nexus dialogue cafes. Furthermore, continuity of engagement offers benefits not only richer dialogue in subsequent dialogue cafes amongst those familiar with our aims, objectives and processes, but also a strong platform for the development of a continuing partnership based on mutual understanding, trust and common interest. It should be noted that there will always be a local component of membership of the dialogue cafes in any region of Europe, and therefore always new faces.

The participation during the Dialogue Cafés, participation on the LinkedIn site and website of URBAN-NEXUS have been successful to a certain amount. The group of Stakeholders of URBAN-NEXUS have learned a lot during its lifetime and that is one of key-success factors of the project. The group of 25 supporting stakeholders were not all actively engaged even despite the fact there was funding available for travel and hotel. Each Dialogue Café provided an opportunity for (local) stakeholders to attend a meeting where multiple experts of URBAN-NEXUS were present. The research done by URBAN-NEXUS partners in the Synthesis reports provided the input to create the right topics for discussion and further research. Each meeting had a number of key-questions that were discussed during the Dialogue Cafés. The results of which was used in the development of the Follow-Up reports.

The total amount of people reached with the research of URBAN-NEXUS is rather difficult to measure. The network of all URBAN-NEXUS stakeholders is very large and everyone has shared the URBAN-NEXUS results and methodology within its own network. With the 13 partners and further supporting stakeholders these results are certainly not to be underestimated. Especially given the fact that the URBAN-NEXUS stakeholder became a group that was getting to know each other and this did proof beneficial for the partnership. Continuation of this network will be difficult without additional funding since the added value for attending a number of days abroad is also difficult to measure.

Reaching practitioners and growth of the URBAN-NEXUS

One of the objectives of URBAN-NEXUS was to grow the partnership of URBAN-NEXUS during its project lifetime. With each new topic and each event URBAN-NEXUS aimed to connect to more people and ‘hook’ them to the project. By continuously updating the website with new research material and information on upcoming events the group of people linked with URBAN-NEXUS grew over time. It would depend on the topic and location of the Dialogue Cafés whether or not people would attend. In general we have learned that the core group (13 partners) of URBAN-NEXUS was participating at all of the meetings and some of the wider stakeholder group (25 stakeholders) would attend as well. It must be said that there was budget available for those groups as well. The other participants of meetings were mostly local practitioners or experts. The evaluation forms of
the Dialogue Cafés underlined the confidence we had that we were on the right track and although most of the local participants would not join other Dialogue Cafés, they still connected to URBAN-NEXUS through the website and LinkedIn. On average over a 100 people were involved with each Dialogue Café of which 60% was new to the URBAN-NEXUS group. The core group of people working with URBAN-NEXUS shared their good experiences among their contacts in meetings and within newsletters (e.g. EUKN shared some key results on their website and through newsletters as well, reaching over 3500 experts within Europe)

Legacy of URBAN-NEXUS

After 3 years of creating a network among Urban experts who are interested in the field of sustainable urban development it was key to ensure that this network would not be lost after the project end date. There have been talks with partners to partner up again in connected research, but so far this has not yet resulted in a concrete proposal.

For the final event, the first goal was to share the findings of the URBAN-NEXUS research and methodology, secondly the aim was to connect the partners of URBAN-NEXUS to existing network organisations in Europe that were working on the same topics. During the preparation of the final event the results of URBAN-NEXUS were shared and explained with Joint Programme Initiative Urban Europe (JPI UE) and SEiSMiC.

JPI UE is a Member States initiative with the ambition to strengthen and enhance research and innovation in the urban context. JPI UE strives to establish a large scale, long term, international research and development programme dedicated to urban development and it follows a holistic approach to create attractive, sustainable, liveable and economically viable urban areas. 14 European Countries decided to pool resources to create the JPI Urban Europe to strengthen research and innovation in the area of urbanisation. The currently participating countries are: Austria, Belgium, Cyprus, Denmark, Finland, France, Ireland, Italy, Malta, The Netherlands, Norway, Sweden, Turkey and the United Kingdom. The principles of JPI UE are closely connected to the goals of URBAN-NEXUS and are:

- anticipating European urban characteristics and finding innovative solutions to urban challenges.
- provide input for evidence based policies.
- utilize new technologies and investigate new governance concepts.
- Bringing forward radical interdisciplinarity as needed to address research topics.
- fostering transdisciplinary research: Collaboration between academia and non-academic partners.

Early 2014 JPI UE were preparing the Strategic Research and Innovation agenda (which will be completed in 2015). During several meetings the results and lessons of URBAN-NEXUS were used as input for the discussions and drafts. It was also for this reasons the URBAN-NEXUS team developed a very concise and accessible report with final recommendations. Urban Nexus is underpinning the Importance of JPI Urban Europe’s approach. The research priorities for JPI UE were discussed by the Strategic Advisory Board of JPI UE and it was also here that the lessons of URBAN-NEXUS were presented. During the final event JPI UE explained their goals and invited all of the participants to keep track of the progress of JPI UE. The topics of the strategic research agenda are currently developed and are

The second link was made with SEiSMiC. The SEiSMiC project (Societal Engagement in Science, Mutual Learning in Cities) helps tackle Europe's biggest urban problems by engaging citizens, identifying social innovation needs, and contributing to future urban policies and research strategies. It organises diverse networks of urban stakeholders to work together and exchange ideas about social innovation. Within the project, national networks have been established in 10 European countries. The networks include civil society organisations, media, schools and universities, scientists, museum curators, research funders, business people and policy makers. Bringing these networks together for structured dialogue will build a bridge between the scientific community and society. The URBAN-NEXUS network was invited to participate in the activities set out by SEiSMIC. The experience of the URBAN-NEXUS partnership could be very valuable for the SEiSMIC network. The methodology of the Dialogue Cafés and the trajectory that is used to prepare the Dialogue Cafes are valuable tools SEiSMIC have used in preparing their events as well.

Lastly, we have invited URBACT to join our final conference and presented our results as well, since we believe that URBACT is an organisations that also relates its strength to the network. URBACT helps cities to develop pragmatic solutions that are new and sustainable and that integrate economic, social and environmental urban topics. The practitioners that were
connected to URBAN-NEXUS can use their experience and knowledge in URBACT as well if their city joins one of the calls.

List of Websites:
www.urban-nexus.eu

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