Welcome to the webinar

Before we start…

- Please keep your microphones muted during the webinar and make sure your webcam is switched off.

- You can use the conversation function anytime to submit your questions. They will be addressed during the Q&A at the end of the webinar
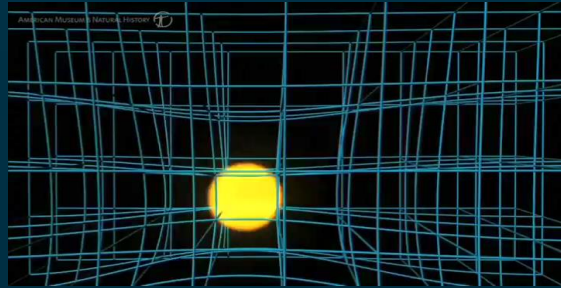
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Agenda

- ESA Welcome and **Introduction**
- About ESA Business Applications
- About the Opportunity: **Space for Sustainable, Connected and Liveable Cities**
- Our Guest Speakers:
  - Jan Schäfer – Team Lead, City of Essen
  - Mathieu Luinaud – Project Manager, City of Paris
- **How to Apply** to the competition
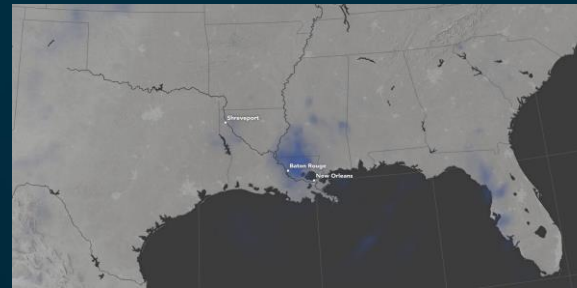- **Q&A** Session

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European Space Agency's Four Main Pillars

Science and Exploration

Enabling and Support

Safety and Security

Applications

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Business Applications: Space-enabled services

BASS aims at reaching **commercial exploitation of space assets, data and capabilities** addressing **technical feasibility and business development.** This includes the development **of operational services for a wide range of users** through the combination of different systems, and **support in creating viable companies as well as to existing companies**

- Space Weather
- Earth Observation
- Satellite Navigation
- Satellite Communication
- Maritime
- Healthcare
- Transport
- Environment
- Agriculture
- Media
- Energy
- Education
- Aviation
- Financial

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What's in it for us?

SOCIO-ECONOMIC IMPACT

Deliver social value and economic sustainability

USE OF SPACE TECHNOLOGY

Expand the utilization of space in new markets and user communities

INDUSTRY COMPETITIVENESS

Strengthen European Industry competitiveness on the global space and non-space markets

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What can BASS offer to companies?

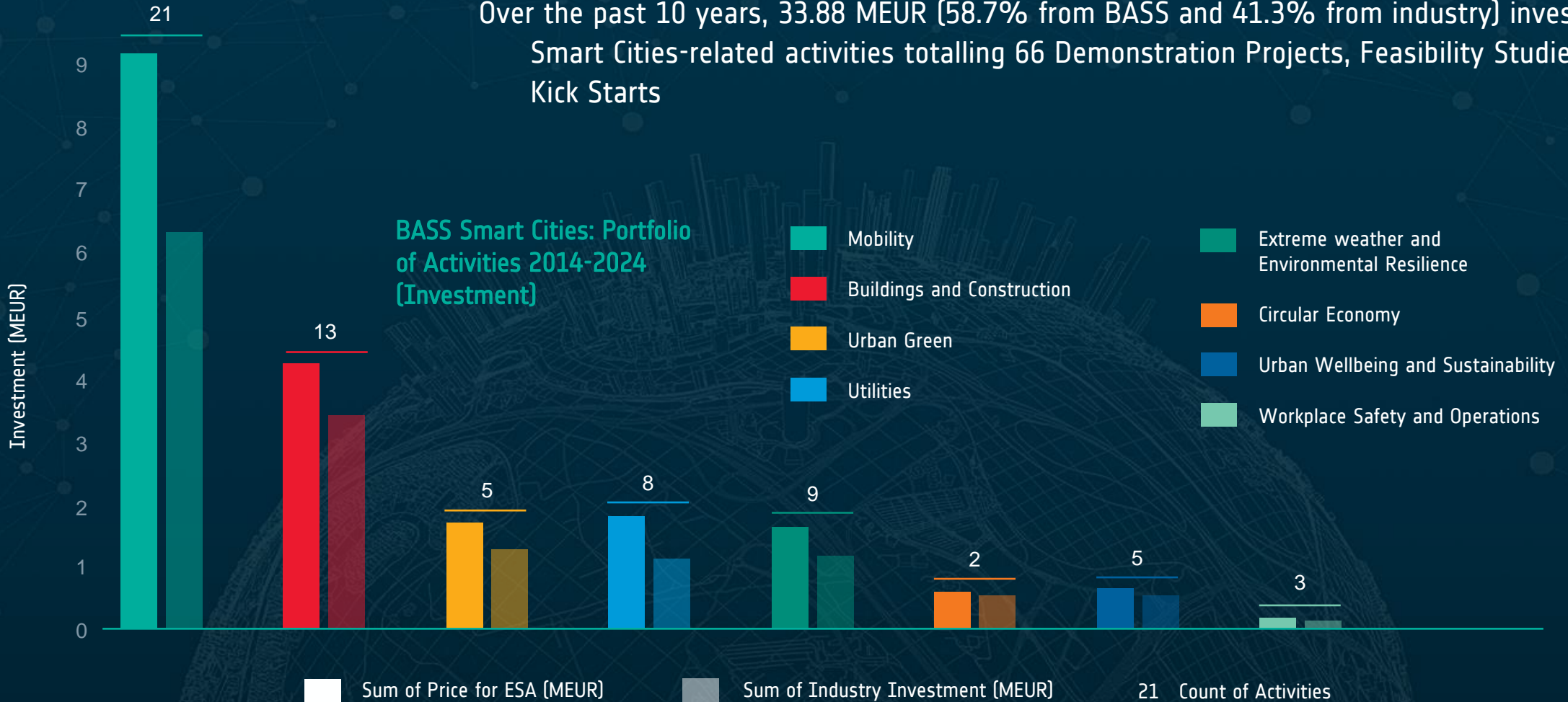Our aim is to work together to make your idea commercially viable, with:

Zero-Equity Funding (€50K-€2M+)

Tailored Project Management Support

Access to our Network and Partners

Use of ESA Brand for Credibility

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Sustainable Services for Society

Environmental Benefits

Green Buildings and Sustainable Cities
Clean Water
Protecting Ecosystems
Sustainable Farm to Fork
Circular Economy
Energy Transition
Sustainable Tourism
Green Finance
Sustainable Mobility

€41 22%
€40 22%
€11 6%
€6 3%
€4 2%
€3 2%
€34 19%
€39 22%
€4 2%

183 M€ Investment in 300 BASS
Green Activities since 2010

Societal Benefits

17 PARTNERSHIPS FOR THE GOALS — 0.5 M — 0%
10 REDUCED INEQUALITIES — 0.6 M — 0%
1 NO POVERTY — 2.6 M — 1%
8 DECENT WORK AND ECONOMIC GROWTH — 2.6 M — 1%
6 CLEAN WATER AND SANITATION — 4.6 M — 1%
12 RESPONSIBLE CONSUMPTION AND PRODUCTION — 6.1 M — 2%
4 QUALITY EDUCATION — 14.6 M — 4%
15 LIFE ON LAND — 18.7 M — 5%

7 AFFORDABLE AND CLEAN ENERGY — 20 M — 6%
16 PEACE, JUSTICE AND STRONG INSTITUTIONS — 20.8 M — 6%
13 CLIMATE ACTION — 27.5 M — 8%
14 LIFE BELOW WATER — 28.8 M — 8%
11 SUSTAINABLE CITIES AND COMMUNITIES — 37.5 M — 11%
2 ZERO HUNGER — 42.9 M — 12%
3 GOOD HEALTH AND WELL-BEING — 47.13 M — 13%
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE — 81 M — 23%

355 MEUR
total investment in over
300 demonstration projects

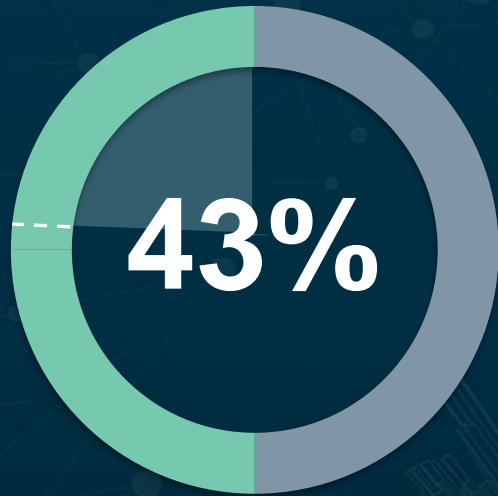→ THE EUROPEAN SPACE AGENCY

Investment from BASS

Over the past 10 years, 33.88 MEUR (58.7% from BASS and 41.3% from industry) invested in Smart Cities-related activities totalling 66 Demonstration Projects, Feasibility Studies and Kick Starts

BASS Smart Cities: Portfolio of Activities 2014-2024 (Investment)

Legend:
- Mobility
- Buildings and Construction
- Urban Green
- Utilities
- Extreme weather and Environmental Resilience
- Circular Economy
- Urban Wellbeing and Sustainability
- Workplace Safety and Operations

Count of Activities values: 21, 13, 5, 8, 9, 2, 5, 3

- Sum of Price for ESA (MEUR)
- Sum of Industry Investment (MEUR)
- 21 Count of Activities

Impact for European Industry

43%

■ Companies new to BASS   ■ SMEs

Smart Cities Sector

43% of SC projects have been implemented by companies that are new to BASS and nearly half (46%) were classified as SMEs.

39%
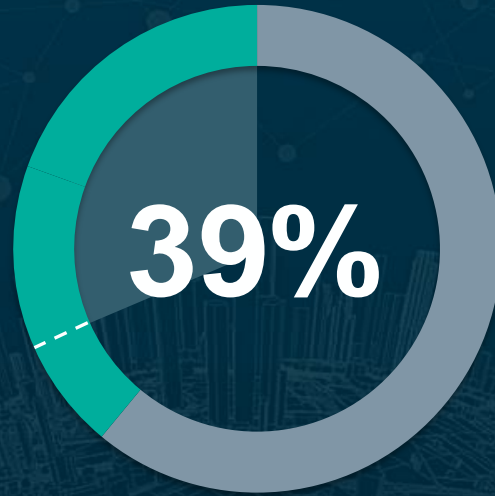
■ Companies new to BASS   ■ SMEs

BASS Programme

In comparison, 39% of companies supported by the BASS Programme as a whole are newcomers, and 70% are classified as SMEs.

The Smart and Green Cities initiative is attractive for both SMEs and corporates and equally appealing to entities that want to explore business opportunities in the downstream sector for the first time.

Half of the projects have been able to sell during the pilot.

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Space for Smart and Green Cities Task Force

esa

Antwerp

Liverpool
Paris

Glasgow
Amsterdam

Portsmouth
Darmstadt

West of England
Essen

Los Angeles
Frankfurt

Bari
Hanover

Bologna
Munich

Mexico
Florence
Potsdam

Genoa

L'Aquila

Naples

Taranto

Torino

Venice
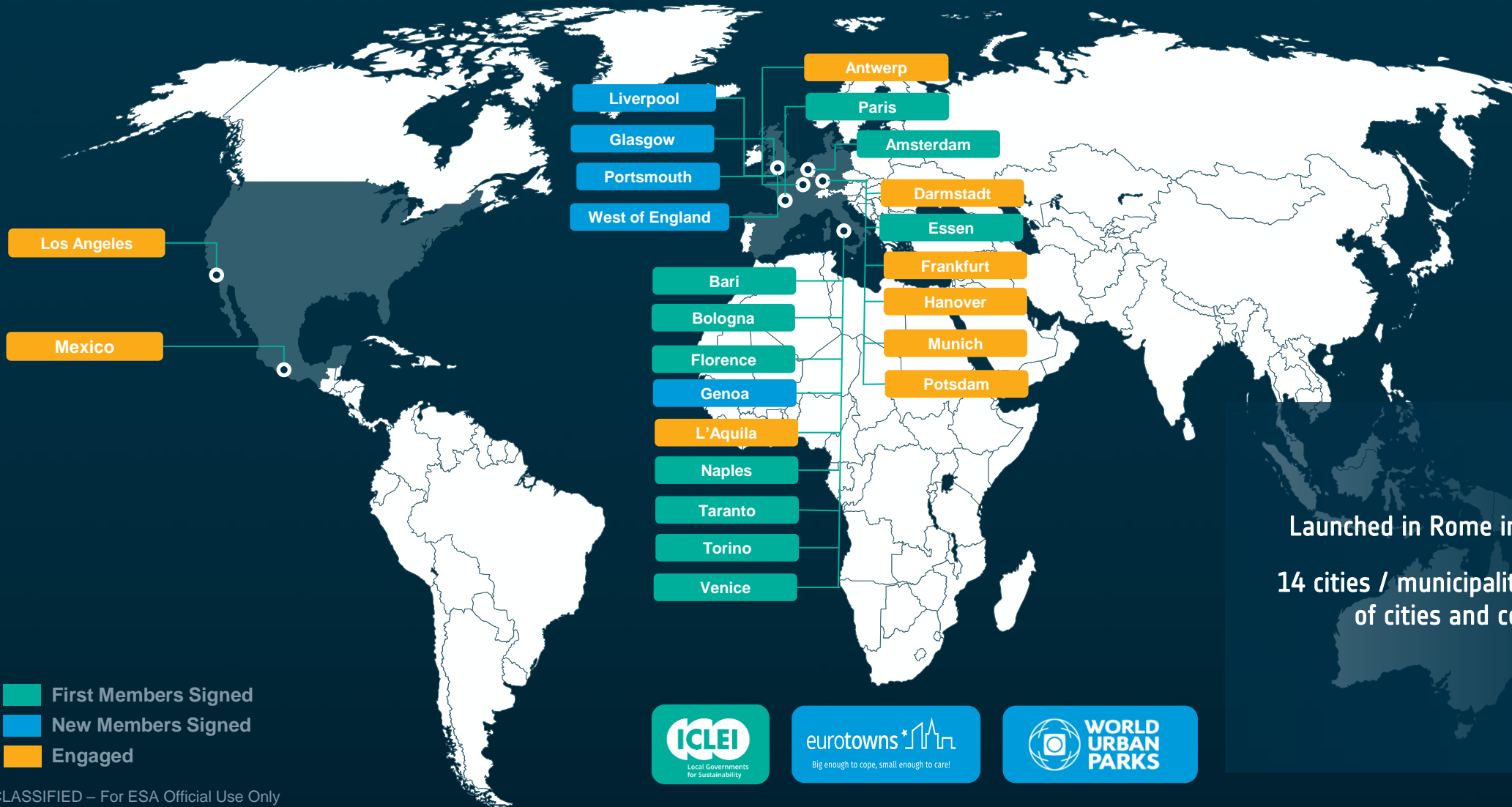
Launched in Rome in September 2023.

14 cities / municipalities and 3 networks of cities and continues to grow.

First Members Signed
New Members Signed
Engaged

ICLEI Local Governments for Sustainability

eurotowns Big enough to cope, small enough to care!

WORLD URBAN PARKS

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Priority Topics

The Task Force has identified four key priority topics:

Energy – focusing on a secure and sustainable supply of clean energy, as the risks of climate change and the need to reduce our carbon footprint grow ever more urgent

Urban Development – prioritising environmental impact reduction and the green economy to create and maintain healthier, more sustainable places to live and work

Energy

Urban Development

Sustainable Mobility
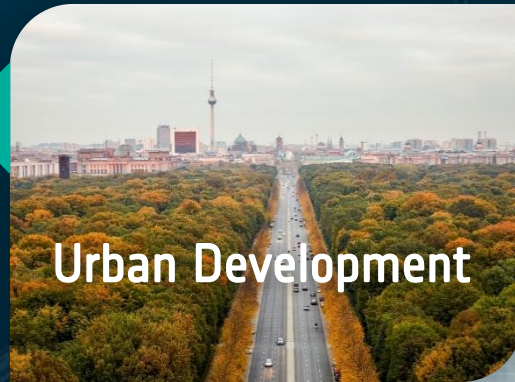
Wellbeing and Inclusiveness – creating positive impacts which are environmental, societal, and economic, improving the quality of life for all citizens.

Wellbeing and Inclusiveness

Sustainable Mobility – engaging technologies to reduce emissions in the transport sector and improve city infrastructure to support a green transition.

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Initiates since 2019

Coastal Resilience to Climate Change

2026

Follow-up Demonstration Projects

Urban and Peri-Urban Agriculture

Sustainable, Connected and Liveable Cities

2025

Commercial Applications of Space-enabled Robotics: Smart Cities And Infrastructure

Space For Sport, Culture And Education Infrastructure

Commercial Applications of Space-enabled Robotics: Transport and Logistics

2024

Satellite Connectivity for Autonomous Land Vehicles Safety

Sustainable Micromobility

Future of Work for Sustainable Growth

2023

Space for Green Construction

Post-COVID Health and Well-being

Space for Olympic Games

Space Applications Supporting Digital Transformation in Public Safety

5G/6G Services

2022

Space Applications to Advance Innovation on Circular Cities

Space for Urban Air Mobility

Urban Green

New Education

2021

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THE POWER OF SPACE

Satellite Earth Observation (SatEO)

- Mapping of urban sprawl and spatial analysis
- Air pollution data with ground-based monitors to develop spatially resolved maps of air pollution.
- 'Digital Twin' generation for urban asset management and planning.
- Provision of mapping information, feature characterisation, boundary delineation, and change detection.
- Monitoring and managing natural resources

Satellite Navigation (SatNav)

- Supporting smart traffic management
- Real-time traffic updates and navigation assistance to help alleviate congestion.
- Location based services and navigation analytics to keep visitors safe and crowds flowing.
- Providing route optimisation for better flow of traffic and easier walkability.
- Enhancing navigation for emergency services ensuring faster response times, making streets safer.

Satellite Communication (SatCom)

- Support seamless data transfer whenever the terrestrial communications are absent or not reliable; provide with a faster connectivity to support smart city infrastructure

Space for Sustainable, Connected and Liveable Cities

Space for Sustainable, Connected and Liveable Cities

The Call for Proposals will be open for Feasibility Studies and Demonstration Projects.

Awarded Contracts:

- Are **co-funded up to 50%** by the European Space Agency, up to 80% in case of SMEs (pending authorization from National Delegation).
- Team needs to be based in one of the **eligible countries**: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Norway, the Netherlands, Poland, Portugal, Romania, Slovenia, Sweden, Switzerland and United Kingdom.

Call opens on **28 March** and Closing date is **30 September 2025**

Please do not wait until the end of the opening period to apply! ESA will be reviewing proposals regularly throughout the opening period.

New Use Cases will be added.

Check regularly the webpage of the Call

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Sustainable Cities (Urban Sustainability)

- Requalification of abandoned industrial areas
- Local energy production
- Building Energy Consumption
- Circular economy

Connected Cities (Urban Infrastructure)

- City walkability
- Optimising traffic flow
- Improving street lighting management
- Affordable housing

Liveable Cities (Urban Environment)

- Climate change and emissions
- Urban park management
- Monitoring of Air Quality

Circular Economy

Urban Energy

Extreme Weather and Environmental Resilience

Urban Green and Wellbeing

Mobility

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Building Energy Consumption

Air Quality Monitoring

Smart Lighting

Production of Local Energy

Green Index Measurements

Water quality monitoring and flood risk management

Space for Sustainable, Connected and Liveable Cities
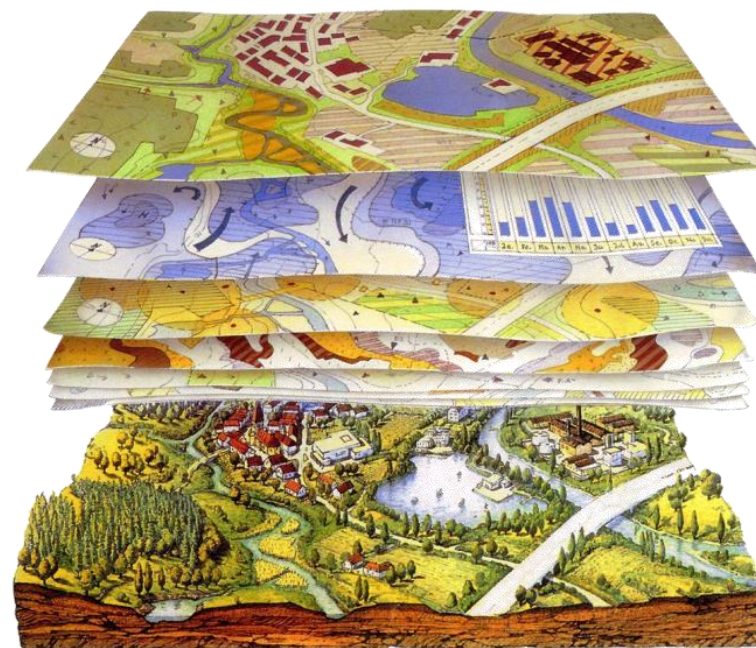
Data collection and processing at the Metropolregion Ruhr & City of Essen

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Mining

Green spaces

Connections

RUHR GEBIET
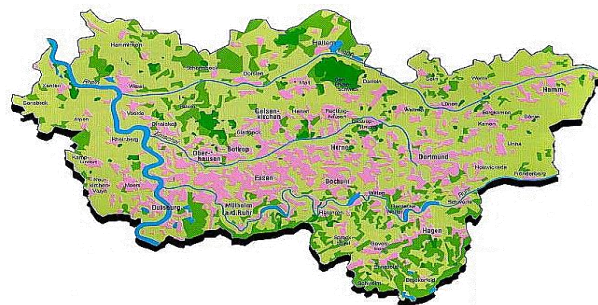
5 mio. people

Industry

Administration

Culture

Jan Schäfer - Stadt Essen, Amt f. Geoinformation, Vermessung und Kataster

STADT ESSEN

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City of Essen

Area size	210 km²
Population	575.000
Buildings	93.000
Parcels	135.000

Jan Schäfer - Stadt Essen, Amt f. Geoinformation, Vermessung und Kataster

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Interested in detailed information (in terms of spatial and temporal resolution) of the

- Energy consumption and

- Heat emission.

Needed for:

- Planning phase

- Implementation phase

- Existing buildings

- Better designing new buildings or

- Retrofitting existing ones.
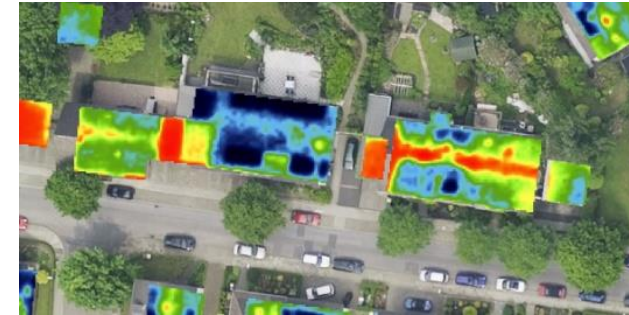
Heat Emission

Energy consumption in a city quarter

Jan Schäfer - Stadt Essen, Amt f. Geoinformation, Vermessung und Kataster

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Production of Local Energy

- Urban heat energy planning has been conducted by external consultancy.

- Its implementation is the major challenge for the coming years.

- Monitoring of solar potential / installations will be an important component of urban green energy transformation.

Freiraum mit planerischen Restriktionen und zeitlicher Realisierbarkeit
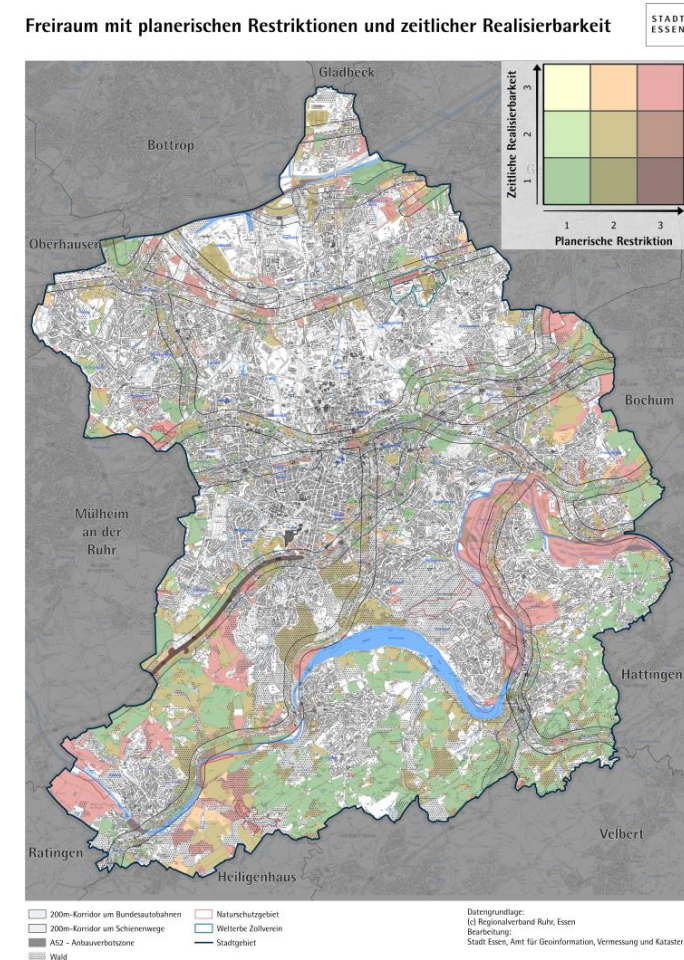
Photovoltaics potential based on German Modernization package for climate protection and planning acceleration

Air Quality Monitoring

Goals:

- Better health for the population

- Minimizing emissions from conventional vehicles

- Monitoring of current emissions

- Climate-change adaptation / mitigation

Project CoMo (Connected Mobility Essen)

- Road trajectories are being equipped with sensors (optical and environmental) in order to better measure and manage traffic and emissions;

- Data from Copernicus (Sentinel 5P) is being utilized in order to account for overarching (ambient) emissions brought to the territory of Essen from its surroundings by wind also injecting these data into the emission models utilized for traffic management;

- AI-based strategies are being developed in order to better manage traffic and evaluate/optimize these strategies concerning emission reductions.
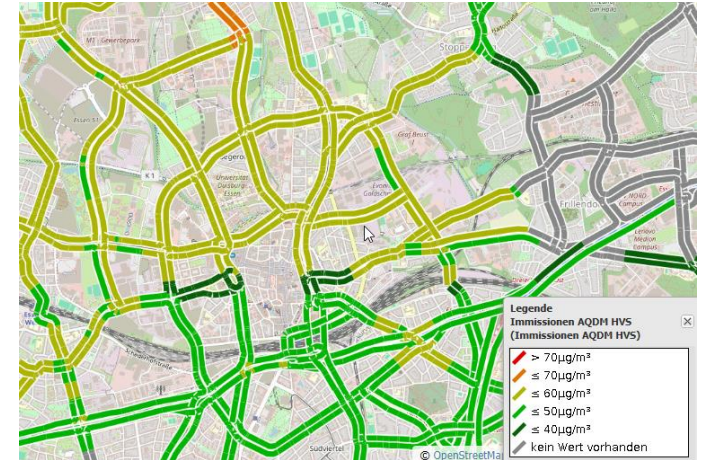
Traffic Emission
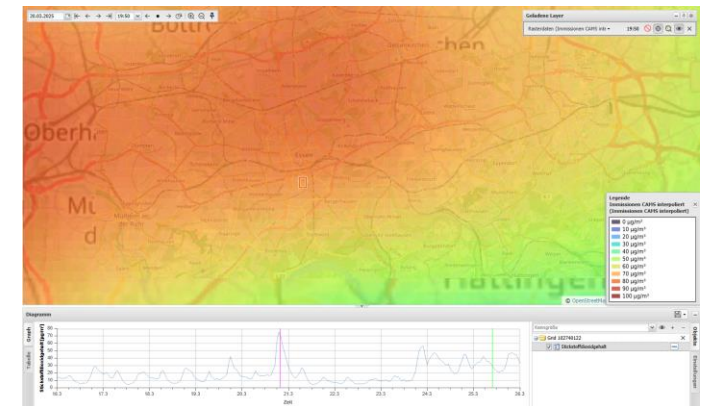
Copernicus Atmospheric Monitoring Service (CAMS)

Green Index Measurements

Needs:

- Better tree health assessment

- Ecosystem service monitoring and preservation

- More effective watering and cost efficiency

- Climate-change adaptation / mitigation services

Essen is already involved in the **ESA BASS Demostration Projects** Urban Green View and AERIUS. Proposed services should build on the results of the previous experience and improve the current performances
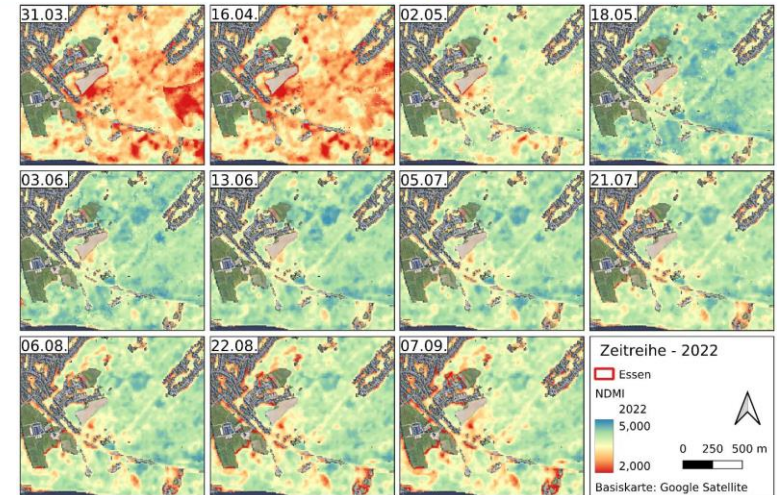
Space based Monitoring Tree Vitality (TreeCop)

Urban Planning based on space based services (Urban Green View, AERIUS)

Summary

The City intends to act as pilot users for the proposals which are addressing their use cases

1. Building Energy Consumption

2. Production of Local Energy

3. Air Quality Monitoring

4. Green Index Measurements

The city has already been using data and innovative technologies

Pilot User in the Demonstraton Projects Urban Green and AERIUS

Proposed services should build on the results of the previous experience and improve the current performances

Jan Schäfer - Stadt Essen, Amt f. Geoinformation, Vermessung und Kataster

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Paris 15th district

Mairie du 15ᵉ arrondissement de Paris

Mathieu Luinaud

Adjoint au Maire, Paris 15ᵉ arrondissement

Mathieu.luinaud@paris.fr

- 232 000 inhabitants, 10% of Paris total population

- Would be equivalent to 11ᵗʰ biggest city in France

- 64 000 m.sq. of green space open to the public

- Direct exposure to the Seine river (quais de Grenelle)

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Legacy of innovation and technology piloting within the broader city of Paris

- **Pilot district for EU projects including "Cool & Low Noise Asphalt"**
- **Smart Lighting** pilot district in several streets, funded via "participatory budgeting"
- **Innovative solutions widely plebiscite** by the population
- We often propose broadening the initiatives to the entire City of Paris

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- About **16 streets covered today** with smart lighting devices

- Objectives to **reduce energy consumption** and better **protect biodiversity while not compromising safety of citizens** in a night environment

- 3 initiatives via the smart lighting testing initiative:

  - Turning on/off the lighting based on pedestrian presence,

  - Modifying lighting temperature from neutral white (3000K) to an orange white (2200K)

  - Identifying free parking lots available via light sensors

- **Phased deployment**: started in 2018 with a 900k€ participatory budgeting pilot followed by a 2nd testing phase in 2021 and potentially new phases in the years to come

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We **face multiple challenges in the daily management of the municipality services and the adaptation of the City to climate change** with strong focus on :

- Green spaces monitoring and biodiversity protection

- Seine river quality monitoring

- Innovative solutions for lighting

- Pollution and air-quality monitoring

- Street quality management and monitoring

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BASS Funding Schemes

Entry point	Type of activity	Total cost of activity & funding
Direct Negotiation	Feasibility studies	Max 500k EUR, 50-80% funded by ESA (can be 100% for research institutions)
	Kick-Starts (KS)	Upto 60k EUR funding, 75% funded by ESA
	Demonstration projects	No max cost, 50-80% funded by ESA (dependent on delegation decision)
Invitation To Tender - ITT (Open competition)	Feasibility studies	Max 200k EUR, 50-100% funded by ESA
	Kick-Starts (KS)	Upto 60k EUR funding, 75% funded by ESA

IPRs remain with companies

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How to apply – process
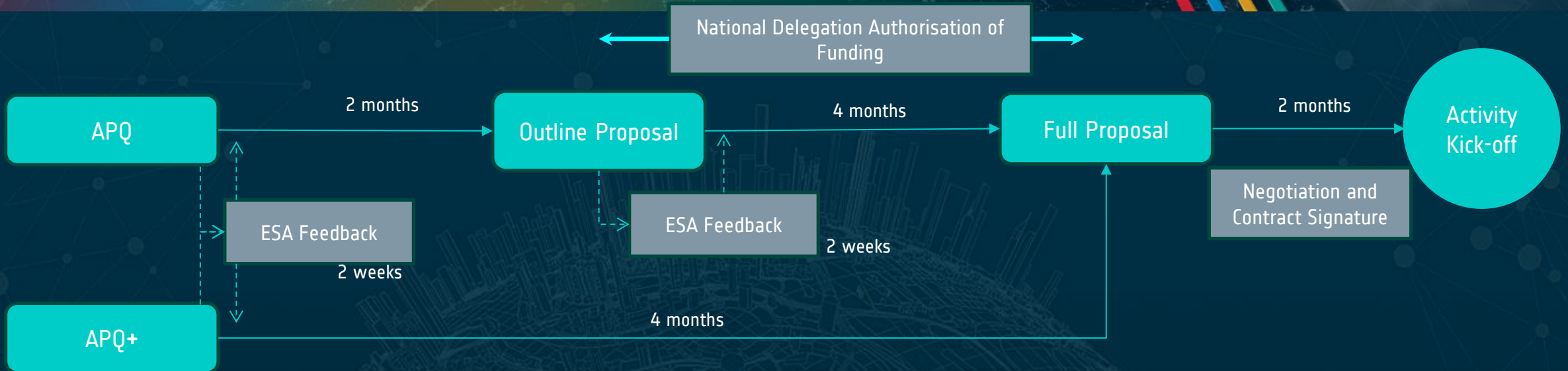
- Incremental procurement approach: APQ is the starting point – max. 8-page document with a standard template to present WHAT, WHY, HOW

- The APQ+ may substitute the outline proposal as an alternative entry point for mature propositions only

- Multiple Pitches with different ideas can be submitted

- Standard templates for proposals and deliverables before and during activity implementation

How to apply – Activity Pitch Questionnaire (APQ)

1. **(WHO)** Company Background Information

2. **(WHAT)** do you want to offer your customers and what is the added-value?

3. **(WHY)** Who are the target beneficiaries addressed by your offer, and what is the expected impact?

4. **(HOW)** How do you intend to implement?

(OPTIONAL) APQ+ Fast-Track Questions

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ACTIVITY PITCH QUESTIONNAIRE (APQ)
ESA-TIAA-PO-2017-1054 - V. 3.19

The Activity Pitch Questionnaire (APQ) allows you to present your business idea in a reduced, standardised pitch. It helps ESA to quickly take informed decisions on next steps, pointing you to the most appropriate activity stream in case the APQ is considered acceptable (e.g., additional preparatory work, training, teaming up with some other partners, go ahead targeting a Feasibility Study or a Demonstration Project).

Gated and incremental approach: The submission process is based on the following three stages: the Activity Pitch Questionnaire (this form), the Outline Proposal, and the Full Proposal. In case the APQ is accepted by ESA, the answers to the questions of this APQ will be directly integrated in the Outline Proposal and extended as needed. In a similar way, the elements of the Outline Proposal, if accepted by ESA, can be directly integrated in the Full Proposal.

Activity Pitch Questionnaire (APQ) → Outline Proposal → Full Proposal

Prepare your pitch:
- Make sure you use the **LATEST VERSION** of the APQ template.
- Explanations of terminology used here can be found in the document 'Terminology used in ESA Business Applications'.
- Some explanations on how to prepare the APQ are available in the presentation 'ESA Business Applications - Guidelines for APQ Preparation'.
- Choose the appropriate Open or Thematic Call. For further details, visit 'ESA Opportunities for Open Calls'.

Call: [_____]   Activity: [_____]
"Please be aware, it's important to ensure you have selected the right options."

Submit your pitch:
- Contact your National Delegation[1] as specific rules may apply depending on your country.
- Please note that for a given idea, ONLY ONE APQ submission is possible (no subsequent submission of revised APQ Form(s) is allowed!).
- The APQ has a validity of ONE YEAR: in case of no draft of Outline Proposal is submitted within one year from the date of the APQ submission, the APQ will be considered by ESA as withdrawn.
- Your APQ shall be submitted using the **online web form submitter** accessible at 'APQ Submit'. Please note that only PDF formats are accepted.

Activity Pitch Process:

Upon submission of your Activity Pitch Questionnaire:
- ESA may provide this Activity Pitch Questionnaire to and discuss it with the National Delegations of the countries of your consortium.
- ESA will assess your pitch.
- ESA will provide written feedback typically within 10 working days from the date of the APQ submission.

[1] Contact details of the National Delegations can be found under:
https://business.esa.int/national-delegations
For Greek entities, please note that Greece does not support non-competitive bids, therefore Greek proposals are not admissible under this call.

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Important Note:
- For optimal viewing and accurate completion of the template, please download and install the latest version of Acrobat Reader, which is available for free.
- Click on " ⓘ " for more information.

Section AP.1 Background information

ⓘ **AP.1.1 Idea name:**

Brand name: [_____]   Full name: [_____]

ⓘ **Thematic market area**

Primary 1: [_____]   Subcategories 1: [_____]
Primary 2: [_____]   Subcategories 2: [_____]
Keywords 1: --   Keywords 2: --   Keywords 3: --

ⓘ **AP.1.2 Basic company information**

Name: [_____]   Website: [_____]
Address: [_____]   Country: [_____]   Phone: [_____]
Contact point name: [_____]   Email: [_____]

ⓘ **AP.1.3 Company background**

Year of creation: [yyyy]   Revenues (Most recent figure in EUR) / Year: [_____] [yyyy]
Number of employees: [_____]   ⓘ Industry / sector: [_____]
Coming from ESA BIC(*): [_____]   (*) If Yes, conclusion date of BIC contract: [mm/yyyy]
More details: Max 155 characters (no spaces)

ⓘ **AP.1.4 Have you had any previous activities within Business Applications?** [___]

If Yes, indicate name of any previous activities and possible commercial outcomes
Max 270 characters (no spaces)

ⓘ **AP.1.5 Are you applying with sub-contractors?** [___]

If Yes, who are the other entities?
Name: [___]   Website: [___]   Industry: [___]   Country: [___]
Name: --   Website: --   Industry: --   Country: [___]
Name: --   Website: --   Industry: --   Country: [___]

Roles in Activity: Max 360 characters (no spaces)

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Authorisation from National Delegation

1. The authorisation form the National Delegation will be required for the submission of the Full Proposal (third step in the application process), thus it is a good idea to initiate a dialogue with your National Delegation early on.

2. Please note that funding is open to consortiums, however all organisations and businesses must be located in an ESA member state participating in the programme BASS

3. To date, these countries include Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Hungary, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Sweden, Switzerland, United Kingdom, Lithuania, or Slovakia.

4. The contact information of the National Delegations can be found at https://business.esa.int/national-delegations

Thank you for your attention: Q&A

SPACE FOR SUSTAINABLE, CONNECTED AND LIVEABLE CITIES

Home » Funding » Space For Sustainable, Connected and Liveable Cities

ESA-STAR REFERENCE	1-10494
OPPORTUNITY	Call for Proposals (Non-Competitive)
ACTIVITY	Feasibility Study, Demonstration Project
OPENING DATE	28-03-2025
CLOSING DATE	30-09-2025
WEBINAR	27 March 2025 - 11:00 CET REGISTER

Funding Opportunity

This Call for Proposals invites proposals for feasibility studies and demonstration projects for services that leverage space-based services and applications for the smart cities sector. Successful bidders may have the opportunity to work closely with Space for Smart and Green Cities Task Force members who are supporting this call in the development of the proposed service. Please refer to the 'authorisation of funding' section below to determine whether your team is eligible for this funding.

The Challenge

Cities are facing numerous challenges that arise from rapid population growth, as well as the rapid effects of climate change. Over 140 experts from 65 countries came together in Riga, Latvia from 16 to 19 April 2024, to draft the outline of the Intergovernmental Panel on Climate Change (IPCC)'s Special Report on Climate Change and Cities. Several challenges and opportunities were identified for scoping this report. These included urban development, urban emissions, urban carbon cycle, air pollution, digital communication, transport, heat islands and urban overheating.

The challenges described are, to varying degrees, common to all cities. However, each city has its own unique set of questions and issues to address. This fragmented situation became evident during the several bilateral discussions that the European Space Agency (ESA) had with cities and towns participating in the Smart and Green Cities Task Force.

Opening Date: 28th March 2025

Closing Date: 30th September 2025

Click here and visit
Space for Sustainable, Connected and Liveable Cities

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