Interreg Baltic Sea Region

Co-funded by the European Union

SMART GREEN MOBILITY CITYAM

CITYAM

CITYAM Roadmap

A Phased Step-by-Step Approach to Urban Air Mobility Integration

1 → Preparation & Analysis

2 → Strategy Development

3 → Policy Measures

4 → Implementation & Monitoring

☆ Goals Achieved

1 →

Preparation & Analysis

Stakeholder Engagement & Management

- **Identify key city departments** (i.e., urban planners, city administration, environmental planners, citizens, politicians, other relevant public authorities)
- **Identify key industry stakeholders:** This could include drone manufacturers, potential drone-based services providers, software developers
- **Map out stakeholders** and experts in the fields of technology, education, research, training, business development, incl. universities
- **Identify key civil stakeholders** (i.e., citizen groups)
- **Identify stakeholders decision-making power** / hierarchy / who needs to be involved in decisions
- **Identify and contact** persons & representative organizations that need to be involved in UAM integration
- **Bring stakeholders together** to set the knowledge base and collect initial opinions
- **Prepare for negative reactions** to a new technology by having information ready to be shared with the public, media, etc.
- **Identify technical capabilities** inside city administration (drone usage, existing GIS tools and their use etc.)

Regulation & Policy

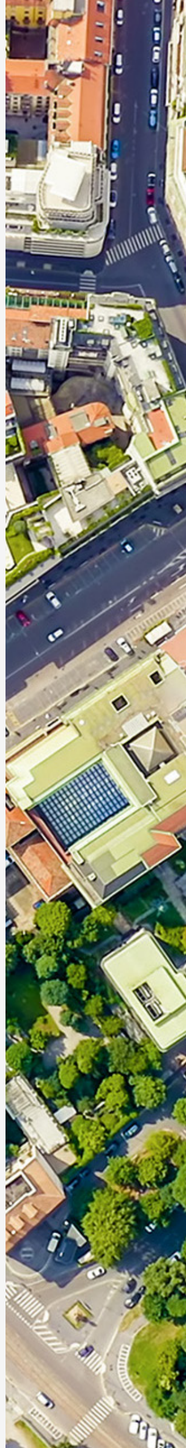
- **Map out** existing local, regional, state and federal regulations and/or policies that could relate to drones
- **Ensure** political & institutional ownership of drone integration issues
- **Identify regulatory/policy gaps** that may exist in UAM integration
- **Identify the current limits and possibilities** in the context of current air traffic control rules
- **Agree on the “acceptance” criteria**, for example on noise levels or landing site locations. Identify which stakeholder has the final say
- **Identify security requirements** in cooperation with police & rescue services (software, data protection requirements, etc.)

Technology & Innovation

- **Inventory** existing technology and innovation solutions using UAM
- **Develop an overview** of UAM topics being researched at universities & research centers
- **Assess the potential impact** on the environment of emerging tech/innovation
- **Map airspaces within the city** preferrable for drone flights; include the civil aviation authority (CAA) and the air navigation service provider (ANSP)
- **Work with local universities, vocational schools & industry to identify skills/training that is necessary for UAM integration** in cities, as well as available courses and education
- **Map UAM knowledge gaps** in cities
- **Assess** what kind of risk analysis needs to be done and in what timeframe

Business & Drone Services Development

- **Define the role of the city:** Does the city wish to be an enabler, frontrunner or other?
- **Define technology & innovation goals** for UAM within the city
- **Define use cases for the city:** define use cases/needs and develop/identify different use cases
- **Explore potential commercial use cases:** Consider doing a feasibility study for useful commercial uses
- **Identify drone manufactures** that meet the city’s needs
- **Map the need for investments** in digital and physical infrastructure



Strategy Development

Stakeholder Engagement & Management

- **Develop an engagement strategy for internal stakeholders**
- **Develop an engagement strategy for city-external stakeholders**, incl. type / size of meetings, how often, with whom and the desired output
- **Plan a series of city-internal meetings or workshops** on different aspects/UAM themes to come to a joint understanding
- **Begin to engage stakeholders** and set up calls, meetings, or roundtables to discuss their interest in participating
- **Create clear communication plans** in cooperation with relevant departments/divisions
- **Exchange/share experiences** with other cities on how they identified and engaged stakeholders

Regulation & Policy

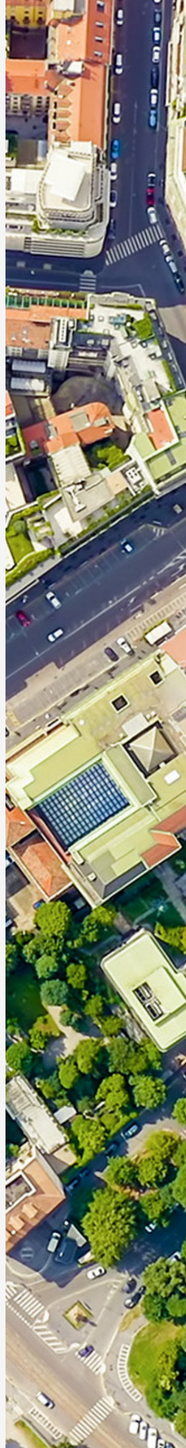
- **Research what regulatory steps** need to happen in order for possible use cases to take place
- **Map** airspace of the city that might not yet be regulated
- **Use the CITYAM-developed GIS tool** to support decision-making in your city and identify key/priority areas for takeoff/landing sites
- **Identify possible flight routes**/test case routes if starting out, or for standard operations if the city is ready
- **Develop a strategic plan** to include local/regional/national authorities in discussions and raise awareness of local UAM needs
- **Secure political approval** for UAM strategy through statements, letters of intent

Technology & Innovation

- **Involve** universities & facilitate knowledge transfer/academic exchanges on UAM topics
- **Prioritize** scenarios/test cases according to city/citizen needs
- **Identify management and operation costs**
- **Define UAM integration goals** based on Phase 1 goals; what is needed on a technical level, how can institutions support?

Business & Drone Services Development

- **Surveil industry to identify drone (service) companies** that would be interested in testing solutions in urban environment; conduct requests for information (RFIs)
- **Agree on new technological investments** by the city to enable new innovations and technologies in city environment
- **Identify city's needs** for UAM services together with stakeholders identified in phase 1
- **Meet with industry groups, city investment department** to see what potential commercial applications could take place in the city
- **Engage with industry and city stakeholders** to identify investment possibilities



Policy Measures

Stakeholder Engagement & Management

- **Plan for public acceptance surveys:** decide on minimum number of required responses, whether to carry out before and/or after demo flights & how often to carry out the surveys
- **Set up demo flights/open days** as a tool to engage stakeholders and provide information about the city's goals and possible impact of drones
- **Identify KPIs** to evaluate stakeholder engagement
- **Prepare for crisis communication** in case of accident

Regulation & Policy

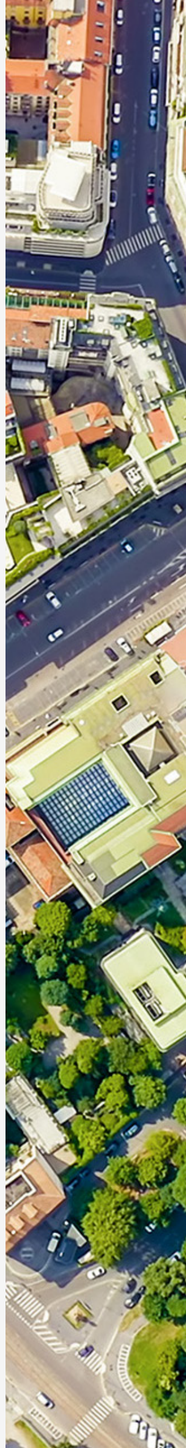
- **Identify** which permits are necessary (regional, national?)
- **Plan small scale activities/demo flights** within regulatory framework and include regulatory/policy decision makers
- **Support the implementation of testbeds**
- **Develop lobby statements/gather support** from the municipality towards the civil aviation authority. Attend events, plan lobby meetings, or send written statements
- **Draft up potential** regulatory/policy changes to be discussed with decision makers/stakeholders

Technology & Innovation

- **Integrate** public private partnerships that could be helpful & align with the city's plans for UAM integration
- **Collaborate** with researchers on projects, get their expertise/guidance
- **Conduct impact assessment** of different scenarios
- **Specify needed roles/training** for implementation and does it require adjustments in existing roles/jobs/positions
- **Increase capacity/knowledge** of UAM issues within city employees, civil servants through demonstrations, workshops showing the capabilities of UAM (also potential benefits)

Business & Drone Services Development

- **Offer** subsidies, low taxes, provide airspace/test areas for testing their solutions
- **Consider applying for European-funded projects** to support UAM use cases in your own city
- **Test** use/business cases, get citizen & political feedback
- **Identify KPIs** to evaluate the business and drone service development
- **Plan the resources needed** (not only budget but also staff) to carry out the implementation
- **Roll out marketing plan** & monitor participation



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Implementation & Monitoring

Stakeholder Engagement & Management

- **Collect feedback:** Ensure inputs and opinions from stakeholders are collected and feedback is given
- **Carry out public acceptance surveys** (target groups: citizens) **and SEL (societal embeddedness level) questionnaires** (target group: city stakeholders, i.e., public authorities and departments) to continue monitoring stakeholders' attitudes towards UAM integration
- **Measure goals identified in phase 3** & make adjustments where necessary

Regulation & Policy

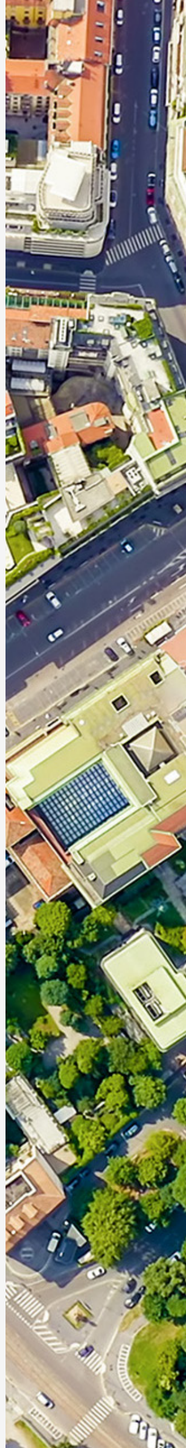
- **Adjust local permitting processes, policies** and internal systems to be suitable for drone operations
- **Lobby** city, regional, statewide, and or nationwide stakeholders, politicians as necessary
- **Implement and monitor** regulatory/policy changes

Technology & Innovation

- **Evaluate the KPI's** set in phase 2
- **Collect lessons learned** and transfer the knowledge to interested city stakeholders and companies that can continue to move the UAM topic forward
- **Monitor the practical application** of the scenarios
- **Organize city/education/industry events** with a focus on innovation (i.e., hackathons)
- **Identify topics** that can be taken further by masters & PhD students
- **Implement risk mitigation** measures

Business & Drone Services Development

- **Promote** UAM test areas
- **Execute** UAM activities/demo flights
- **Consider relevant city stakeholders as a drone operator or procurer** of drone services
- **Ensure data sharing** within the city (departments, relevant authorities) for transparency & promotion of what value the services bring for the city
- **Evaluate/monitor the business and service development** aspects based on the set KPIs



Goals Achieved

Stakeholder Engagement & Management

- ☆ **Stakeholders have been brought together, informed** of the city's planned UAM developments, have played a role in coming up with use cases and solutions on how best to integrate UAM
- ☆ **Stakeholders have helped develop a strategy, specific measures** on how to increase acceptance levels

Regulation & Policy

- ☆ **New regulations regarding UAM integration are known and understood** by city officials - Plans for integration are in place
- ☆ **The city has implemented UAM into their city strategy** - City planning documents have been updated

Technology & Innovation

- ☆ **New policies are in place** - The city has implemented UAM in their city strategy and city planning documents have been updated
- ☆ **Strengthened cooperation between city & educational systems** which leads to UAM tech/innovation that is aligned with city development goals

Business & Drone Services Development

- ☆ **Business-friendly city for drone operations** that contribute to the overall city strategy
- ☆ **Reduction of costs and increased efficiency** of drone-based city services
- ☆ **Majority of citizens are happy with the drone services** in their cities