

The EIB guide to finance for drone projects



European
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Bank

The EU bank 

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The EIB guide to finance for drone projects

Drones, also known as unmanned aircraft systems, are playing an expanding role in many parts of society. With demand surging, more innovation and investment are needed in the air mobility sector. Drones offer huge potential for the private and public sectors and can provide societies with an array of benefits, from lowering pollution in transport to offering emergency medical assistance and making agriculture more precise and efficient. In the next 20 years, the European Commission expects urban air mobility to create 150 000 to 200 000 jobs in the European Union alone. But growth in the sector will also bring many challenges.

The European Investment Bank is the lending arm of the European Union and focuses on the following priority areas: climate and environment, development, innovation and skills, small and medium-sized businesses, infrastructure and cohesion. All of these priorities are consistent with the development of the (urban) air mobility ecosystem. The European Investment Bank is here to guide and support clients in all areas of the air mobility ecosystem, including drones (equipment), maintenance and repair activities, flight operations, air traffic management, ground infrastructure, IT solutions and other related areas. We want to help them achieve their vision.

Additionally, clients should seek complete buy-in from local, regional and national authorities for the development of drone projects, as well as a supportive regulatory framework. It is crucial to ensure that the project is fully compliant with these requirements.

The European Commission is drafting a Drone Strategy 2.0 for Europe with an indicative date for publication in Q4 2022. This document might provide further guidance on drone financing.

Sectoral definition

There is a wide array of definitions for the services based on drones' usage. Advanced air (or aerial) mobility (AAM) has been used to define drone operations regardless of the location where the operation takes place. Urban air mobility (UAM) for operations in the urban environment and regional air mobility (RAM) for longer-distance operations across regions have appeared as subsets of advanced air mobility.

In the absence of agreed standard definitions, urban air mobility is defined as “the provision of airborne services and functions in urban and suburban environments, integrated into the smart city ecosystem and wider urban mobility fabric” in the European Investment Bank’s A Market Assessment Report on the Urban Air Mobility Sector. These services may cover transport services like passenger and cargo transport but also public security, medical deliveries, emergency response and ambulance services, and other relevant public services. However, in some other sources, urban air mobility refers to a much narrower segment —“air taxis” or “flying taxis” primarily for passenger transport.

Policy context

The development of drone services supported by a competitive industry can strongly support Europe’s twin transition to a green and digital economy, and contribute to the post-COVID-19 recovery and the future resilience of the EU economy. From daily commuting and goods delivery to the proper functioning of global supply chains and the development of a wide spectrum of new applications and services, drones are changing our economic and social life. The European Green Deal¹, the new growth strategy for the European Union, calls for the reduction of greenhouse gas emissions, with Europe striving to be the first climate-neutral continent by 2050. To achieve this, the entire transport system needs to be made smart and sustainable, with the use of electric and hydrogen-powered aircraft. The communication on the European Green Deal therefore announced a strategy for sustainable and smart mobility, which was adopted by the European Commission in December 2020².

This document shows clear support for drone development (paragraph 66): “The Commission fully supports the deployment of drones and unmanned aircraft, and will further develop the relevant rules, including on the U-space, to make it fit for enhancing safe and sustainable mobility. The Commission will also adopt a ‘Drone Strategy 2.0’ setting out possible ways to guide the further development of this technology and its regulatory and commercial environment.”

1. The European Green Deal, COM(2019) 640 final.

2. Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final.

Strategic context

Today, further and new action is needed at EU level, as the air mobility sector is developing rapidly with new innovative ways of using drones emerging at a fast pace, requiring an assessment of the regulatory and enabling framework to ensure that these new services can thrive in the EU internal market. Related technologies such as radiofrequency communication, artificial intelligence (AI), advanced sensors and improvements in power sources are opening up new prospects. Drones are used as day-to-day tools in an increasingly broad range of data-demanding economic sectors such as agriculture, construction, surveillance, filming, healthcare, energy, environment, public safety and security³. Future visions include the use of drones, for example, as platforms for communication hubs or weather or pollution monitoring. In the transport sector, the use of drones for deliveries is already being tested in many countries. The first pilot trials in passenger transport in Europe are expected to take place within the next few years.

It is important that Europe safeguards its open strategic autonomy in this area. For the competitiveness of the European drone ecosystem as well as Europe's defence capabilities, exploiting synergies between the civilian and military use of drones, including counter-drone technologies, is key to success.

In this regard, in February 2021, the European Commission published an Action Plan on synergies between civil, defence and space industries⁴, launching three flagship projects, one of which is called "EU drone technologies." This flagship project will aim to enhance the competitiveness of EU industry in this critical technology area. It will identify areas of cross-fertilisation, so that defence projects benefit from innovative developments emerging from small and medium businesses active in the field of civilian drones and that civil aeronautics benefit from developments in the field of defence. In particular, it will look at the unmanned aircraft itself as well as the development of technological building blocks needed for further automation of drone traffic.

Purpose of the access to finance guide

The guide provides information to help public and private sector promoters identify potential sources of finance at each stage of development. It also guides promoters in collecting and drafting the documentation needed to access finance. The guide helps promoters improve their funding options and make better decisions each step of the way. This will make their drone project investment more likely to succeed, and bring about climate benefits as well as positive economic and job creation impacts for the European Union. The guide was developed by European Investment Bank experts mobilised by the European Investment Advisory Hub, and by an external service provider.

It addresses the two initial steps of the European Investment Bank project cycle: the proposal and appraisal steps. The full project cycle is illustrated in **Annex 1**.

3. Towards a common European data space, COM(2018) 232 final.

4. Action Plan on synergies between civil, defence and space industries, COM(2021) 70 final.

How will the guide help?

The guide will:

- Provide promoters with a structured approach to assess project development, identify missing components and outline various sources of funding;
- Support the development of high-quality, efficient air mobility investment projects backed by a sound implementation plan;
- Help promoters prepare clearly defined requests for technical assistance and/or financing.

The guide **answers questions** such as:

- Where along the development cycle is the project situated?
- What steps need to be taken to move to the next step/complete the project?
- What financial support is available at each stage?
- When would the project be ready to move from grants or equity investments to applying for loans from the European Investment Bank and other institutions?
- What documentation/information is needed to apply for financing?

How does the guide work?

The guide focuses on two main parts of a project:

- 1) **Preparation** — the project objective is defined, the vision is developed and a solution is identified.
- 2) **Realisation** — the implementation stage, where the project is rolled out and monitored, using key performance indicators that are evaluated against the objectives.

Phase 1: Preparation

Programming

This initial stage identifies the promoter's vision, strategy and objectives and their timeframe, providing a framework to identify and prepare projects. It involves developing an initial idea and creating an outline of the business case and its implementation.

Tasks

- **Vision:** What is the project's vision? Is it a specific project, or an initiative to develop an ecosystem?
- **Opportunity:** What societal problems will be improved and what are the opportunities (social, environmental or economic benefits, for instance)?
- **Context and conditions:** What is the context of the project and what are the existing conditions? What are the public perceptions? What is the environmental situation? What policies are in place?
- **Market appetite:** What is the market like for the project? Who are the key market players? Who are the regulators? Are they national, European or international, and what are their requirements? Is there a market analysis? What level of market development and growth is expected for the project?
- **Objectives and strategy:** Who will benefit from this project? What are the objectives? How will success be measured? What are the constraints? Is there a business strategy? What are the key requirements of the project (regulatory, financing, procurement, production)?
- **Policy context:** What political support does the project have? How does the project fit in with European, national, regional and local policy objectives?
- **Stakeholder identification:** Have all of the parties who will be involved in the project through its expected social, environmental and economic benefits been identified? How closely are these stakeholders involved? What is the communication strategy and how will stakeholders be managed?
- **Project definition:** Define the project solution and any key sub-elements (to be defined along with the objectives, with the delivery process identified).
- **Preparation framework:** Has a development and delivery programme been developed? Is there a risk management strategy? What is the strategy for achieving benefits through the project development process?

[A strategic business case may be required. More information is provided below.](#)

Identification

The purpose of this stage is to identify a preferred solution that is consistent with the development priorities, and to assess its feasibility.

Tasks

- **Explore options to identify the preferred solution:** Have other solutions and options been considered? Have feasibility studies been planned or executed to test the viability of the proposed solutions? What are the benefits of the proposed solutions over their alternatives?
- **Refine the definition of the preferred solution:** Have the project details been fully agreed on with relevant sponsors or stakeholders?
- **Identify technology and infrastructure development requirements:** What technologies or infrastructure will the project require and what is the status of the existing facilities? Has an analysis of the missing technology or infrastructure been completed?
- **Define the strategy and approach for developing the preferred solution:** Review other key political, technological and financial requirements. What are the other gaps/constraints that need addressing?
- **Establish a plan for complying with the regulatory framework:** Is there evidence of a plan to ensure full compliance with national and EU regulations?
- **Examine alignment with the wider ecosystem:** What broader objectives/agendas does the project support? In what key areas does the project interconnect with the wider ecosystem (known as project dependencies)?
- **Engage stakeholders:** Are key stakeholders already engaged and are their expectations properly understood? Have individual stakeholder roadmaps been developed to help navigate development?
- **Identify the full impact of the preferred solution:** Has an approach for identifying, benchmarking, measuring, quantifying and monetising the solution's full range of effects been developed?
- **Demonstrate the alignment of the preferred option with the strategic objectives:** How will the solution meet the strategic objectives?
- **Produce a development plan for the solution:** Develop a programme outlining the steps to achieve the preferred solution.

[An outline business case for the preferred solution may be required. More information is provided below.](#)

Development

In this stage, the preferred solution is fully developed and made ready for implementation. The data and information gathered in feasibility studies and collated in the outline business case will guide the development process.

Tasks

- **Develop the preferred solution and get ready to roll it out:** Develop the solution across work streams, with a focus on the technological, infrastructure, regulatory, economic, commercial and financial requirements, and on deliverability and feasibility.
- **Demonstrate that the preferred solution is viable:** Prepare a comprehensive business case including a detailed appraisal of the preferred, fully specified solution.
- **Develop** a clear implementation plan for the proposed solution to complete this development stage successfully.

[A full business case may be required. More information is provided below.](#)

Phase 2: Realisation — Implementation and Evaluation

Implementation

In this stage, the project is rolled out.

Tasks

- **Enact the solution and roll out the project:** Is the solution ready to go into operation? Have contract(s) been enacted? Has the service been sufficiently tested and deemed safe to roll out to the public?
- **Monitor compliance:** Has the implementation's compliance with the delivery plan been assessed? Has the implementation of technology/infrastructure been monitored? Have the budget and expected benefits been monitored? Is the certification of compliance with the applicable regulatory requirements available?

Evaluation

In this stage, a post-implementation analysis is conducted and the solution's delivery of its intended outcomes is assessed.

Tasks

- **Demonstrate the success of the solution's implementation and its outcomes:** In the assessment of what the project delivered, were the intended benefits and objectives achieved?
- **Assess and improve the solution throughout its lifecycle:** Is there a system of continuous assessment in operation to optimise and improve the solution?
- **Identify lessons learnt:** Have lessons learnt been identified and documented to improve the planning, design and delivery of future interventions? Has a benchmarking exercise to evaluate the solution against other initiatives pursuing similar objectives been undertaken?

Preparing a business case

A business case is a document made available to decision-makers when promoters seek key decisions that determine the project's future (such as financing or authorisation to proceed). The business case demonstrates that promoters are ready to proceed to the next stage of project development or implementation. The level of evidence required depends on the project stage, and increasing levels of detail and refinement must be provided as the project progresses through the preparation phase. The business case is specific to the decision and to the decision-makers, but should follow the structure described below⁵.

Types of business case

- The **strategic business case** focuses on the development of a clear strategic narrative and justification for the project. It is a key part of the approval process which allows a project to proceed from the programming stage to the option identification stage.
- The **outline business case** identifies the preferred solution, explains why it was selected and provides evidence for its viability. This type of business case includes evidence of the process of exploring options and the cost-benefit appraisal, and sets the commercial and management requirements for implementing the solution. Generally, the outline business case must be approved before the project can proceed to the development funding stage.
- Finally, the **full business case** focuses on the procurement, implementation and management of the solution and provides evidence of its deliverability, affordability and viability. The full business case is used to justify authorisation to proceed to implementation and to request capital funding for implementation.

This guide includes a template to help structure a business case. It may be necessary to adjust the level of detail, depending on the type of business case being developed.

5. More detailed guidance on developing business cases is publicly available here: [Guide to developing the Project Business Case \(better business cases; for better outcomes\)](#), UK HM Treasury (2018).

The following table identifies the level of information required for each business case type:

Business case content	Section	Strategic business case	Outline business case	Full business case
Strategic case	Context, rationale and project description	Confirmed ⁶	Confirmed	Confirmed
	Objectives of the project	Identified ⁷	Refined	Confirmed
	Measures of success	Identified	Refined	Confirmed
	Constraints to success	Identified	Refined	Confirmed
	Business strategy	Identified	Refined	Confirmed
	Stakeholders	Identified	Confirmed	Confirmed
Economic case	Approach to identifying, assessing and appraising impact	Identified	Confirmed	Confirmed
	Logic mapping and identifying impact	Identified	Confirmed	Confirmed
	Key appraisal assumptions including demand analysis and appraisal methodology	Identified	Confirmed	Confirmed
	Outcome / results of appraisal	High level estimates	Quantified estimates	Final quantified and monetised estimates
	Project investment costs for appraisal	High level estimates	Quantified estimates	Final quantified and monetised estimates
	Uncertainties	Identified ⁸	Refined	Confirmed
Financial case	Detailed breakdown of scheme's cost (development, capital and operating expenditure) profiled over the investment period	High level estimates	Refined estimates	Full and final estimates
	Gaps in cost information and approach to closing the gap	Identified	Refined and gaps narrowed	No gaps, full and final cost estimate
	Revenue and funding sources	Identified	Refined	Full and final estimates
	Project promoter's risk assessment of project cost: high level, or where available, a quantified risk assessment	High level risk assessment: risks identified and ranked	Quantified risk assessment	Risks fully identified and quantified
	Available funding sources and financial instruments, and resulting funding gap	Identified	Refined	Confirmed
	Recommendations for closing funding gap	Identified	Refined	Confirmed
Commercial case	Market analysis and evaluation of procurement / supply side conditions	Identified	Refined	Confirmed
	Strategy and approach to project implementation	Identified	Refined	Confirmed
	Market development (growth) and scalability of the project	Identified	Refined	Confirmed
	Pricing structure	Identified	Refined	Confirmed
	Procurement method	Identified	Refined	Confirmed
	Contracting method	Identified	Refined	Confirmed
Management case	Assessment of project deliverability	High level	Refined	Confirmed
	Benchmarking against similar projects (if applicable)	Provided	Refined	N/A
	Project dependencies	Identified	Confirmed	Resolved
	Project governance and regulatory accountability	Identified	Fully assigned	Confirmed
	Programme	Provided	Reviewed and updated as necessary	Monitored and confirmed
	Quality control and compliance	Identified	Reviewed and updated as necessary	Monitored and confirmed
	Communication and stakeholder management strategy	Identified	Reviewed and confirmed	Monitored
	Risk management strategy	Identified	Reviewed and confirmed	Monitored
Benefits realisation and monitoring strategy	Identified	Reviewed and confirmed	Monitored	

6. *Confirmed*: finalised, not subject to further change.

7. *Refined*: after the initial strategy and proposal are defined, and as the proposal progresses to the more detailed design phase, the evidence becomes more nuanced, more specific and more tailored to the definition and requirements of the proposal and its design.

8. *Identified*: known, defined and understood at a high level during the initial stages of a proposal but subject to further refinement as the proposal progresses.

Available funding and financing

The European Union funds projects and organisations that foster European integration, promote the development of the European Union, and contribute to the implementation of its programmes and policies. A short guide to EU funding can be found [here](#).

There are several types of funding provided by the European Union as follows:

Funding type	Source	Conditions
Grants	European Commission	Non-repayable
Prizes	EU research, development and innovation programmes, such as Horizon Europe from 2021	Non-repayable
Equity, guarantees and direct loans	EIB Group	Repayable
Subsidies	EU national governments	Conditions vary

The EU budget is regulated by a seven-year multiannual financial framework. The current framework runs from 2021 to 2027 and has a long-term budget of €1.07 trillion for the EU27 in 2018 prices.

The 2021-2027 multiannual financial framework set up the [InvestEU programme](#) as the main financial instrument to support investment in the European Union. InvestEU brings together the EU financial instruments available under the previous 2014-2020 framework and will invest in four policy areas: sustainable infrastructure; research, innovation and digitalisation; small and medium-sized businesses; and social investment and skills.

InvestEU brings together the multitude of EU financial instruments currently available, mobilising public and private investment using guarantees from the EU budget. The European Investment Bank will remain the European Commission's main partner for advisory services, helping to meet the climate, digital and social objectives of the European Union.

The future [InvestEU Advisory Hub](#) will act as the entry point for project promoters and intermediaries. It will provide advice and technical assistance for investment platforms and projects. Led by the European Commission, the InvestEU Advisory Hub will offer integrated advisory support, with an increased focus on project-related advice to underpin investment and other financing opportunities. The European Investment Advisory Hub provides a delivery mechanism for such advisory service requests.

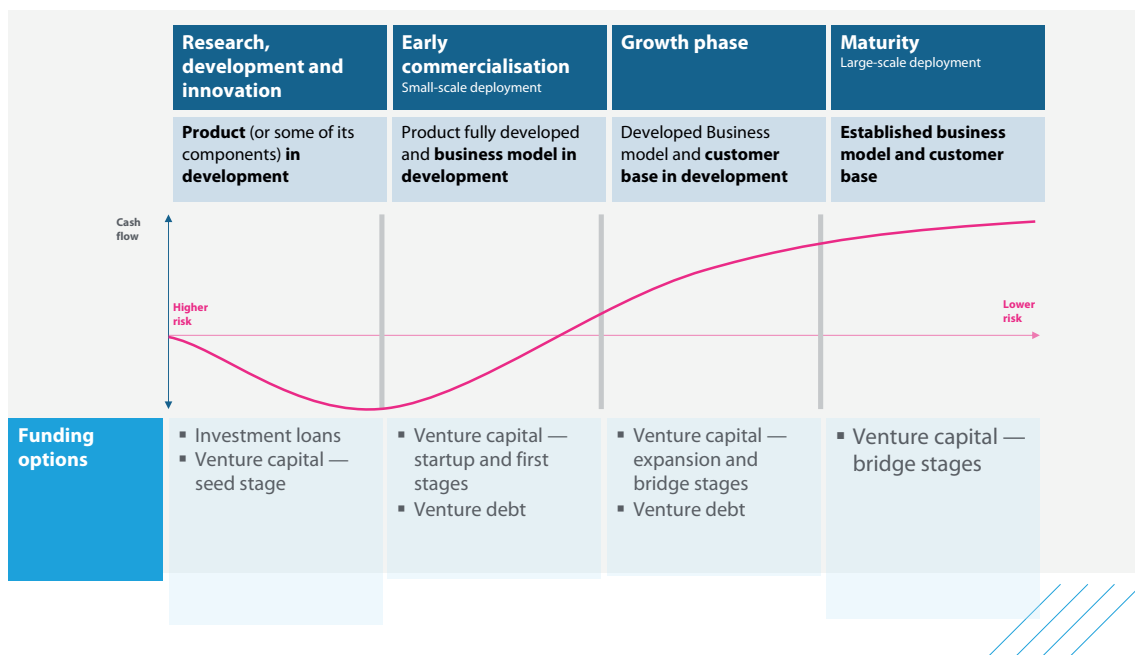
As the lending arm of the European Union, the European Investment Bank will take a leading role in the InvestEU programme and continue to provide repayable forms of finance. Additionally, the European Commission and the Bank will provide risk-sharing financial instruments and blending facilities offering calibrated financial support to higher-risk projects and investments. For more information on available European Investment Bank support, click [here](#).

Moreover, the [European Investment Fund](#) complements the products offered by the Bank by offering an integrated risk finance product range to intermediaries providing small and medium enterprises with financing. The European Investment Fund is part of the European Investment Bank Group and its shareholders are the European Investment Bank, the European Union, represented by the European Commission, and a wide range of European banks and financial institutions. While the European Investment Fund does not provide funding or guarantees to individuals or companies directly, it designs, promotes and implements equity and debt financial instruments through its partners. For more information on how the European Investment Fund supports project promoters, see [here](#).

EU financing

The financial products available to promoters will depend on their project’s level of risk and its maturity. As shown below, risk decreases as the cash flow funding increases with the level of maturity of the business.

Financial products available at each stage of the business cycle



At the earliest stages of the business cycle, the primary sources of funding will be:

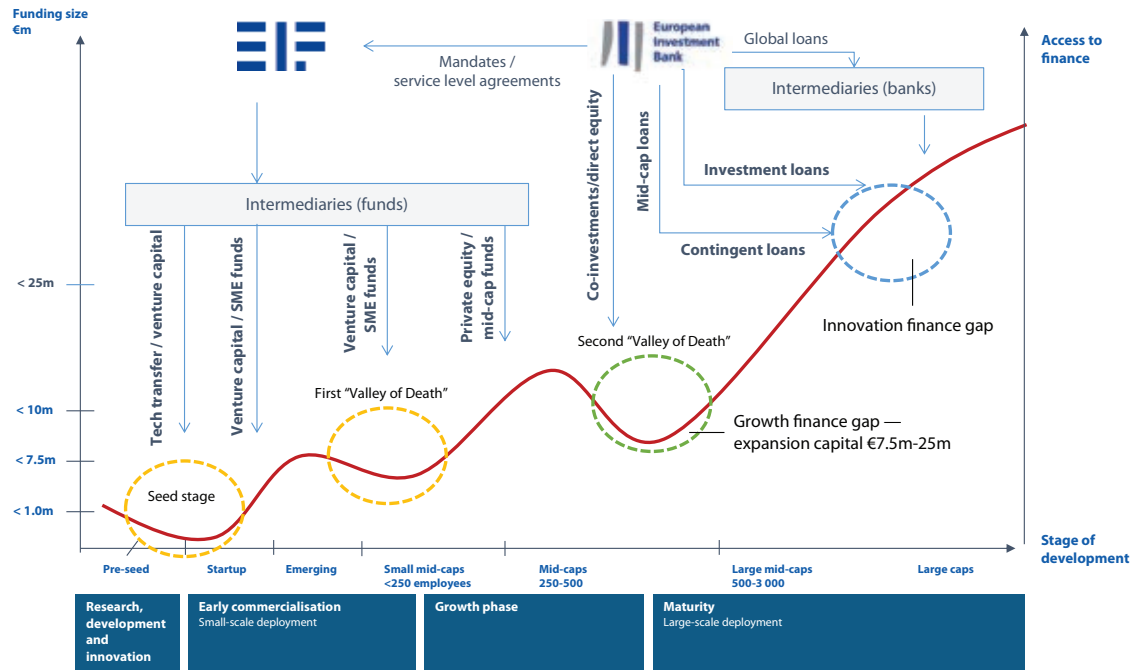
- Sponsor equity
- Grants
- Funds

In the later stages, as cash flows turn positive and risk recedes, debt-type funding becomes available, including:

- Venture debt
- Mezzanine
- Loans

The European Union provides different financial instruments that can support promoters at various stages of the business cycle. While the European Commission only provides grants, the European Investment Fund and the European Investment Bank provide and manage the majority of the financial instruments available. The following figure shows how the Bank, directly or through the European Investment Fund, can support new business.

Financial cycle of a business



The European Commission and the European Investment Bank offer support with finance in the early stages of project development. Drone-related projects were previously supported under the [InnovFin programme that supports innovative companies](#). This programme offered a wide range of loans, guarantees and equity-type funding, much of which will continue to be available under InvestEU. This support covers small and medium enterprises, large companies and research institutions. Eligibility depends on the product.

In the early stages, when debt funding is not available, private companies may enjoy a wider range of funding options. Public sector entities are limited to tax-based funding tools (such as budget allocation and earmarked taxes) and grants. Public-private partnerships can unlock funding available to private companies for projects with public sector participation.

In later stages, the main funding tool is loans, which are managed through the Bank or its financial intermediaries. These repayable forms of financing are only available to projects that expect a sustained financial return.

How the European Investment Advisory Hub helps projects

The European Investment Bank offers advisory support and technical assistance via a single point of entry: the European Investment Advisory Hub. The Advisory Hub builds upon the expertise of the European Commission, the European Investment Bank Group, national promotional banks and institutions, and EU Member States' managing authorities. For the public sector, the services of the Hub are available free of charge, but a fee may be requested for private sector promoters.

The Advisory Hub offers support in the following areas:

- **Programming and identification:** including policy and programme advice and preliminary project assessment.
- **Formulation:** including strategic investment planning, first reactions to mature project proposals, conceptual development and project structuring.
- **Implementation:** including advice on project implementation issues.

The Advisory Hub helps public entities develop their skills by providing advice on technical and regulatory issues in addition to sharing case studies and best practice⁹.

After reviewing the project against this guide and identifying its development stage, think about how the Advisory Hub support can help with your drone product. [Contact us](#) to learn about how our wealth of services and expertise can support your project.

The most important aspect here is to present a clearly defined business strategy with a finance need. This will need to mention specific area(s) where advisory support can have a significant impact to expedite the development and implementation of the project along with the associated economic development.

⁹ Examples of success stories and how the Advisory Hub can help can be found at <https://eiah.eib.org/stories/index>.

Getting the results you need

Here are some key guidelines to ensure you get the best possible support from the Advisory Hub:

- Ensure **the programming stage is thorough and fully documented by a clear strategic business case** reflecting the outcomes of all the activities in the programming stage as described in the guide. While evidence is required for every step, the level of detail for this evidence needs to be proportionate with the level of funding sought.
- Have a **clear understanding of the financing options available** at each stage of the project's development.
- Consider the challenges in accessing financing, and the nature and availability of financing instruments and grants in the EU country or operation as well as from the European Commission and the European Investment Bank.
- Given the limited access to funding, public promoters should explore their role at the early and high-risk stage of development and consider how they can provide additional support to private sector players with access to finance.
- Seek **complete buy-in from local, regional and national authorities** for the development of drone projects, as well as a **supportive regulatory framework. Make sure that you fully comply with requirements.**
- **Public authorities may seek to invest in enabling infrastructure for urban air mobility** as this aspect of the project is not adequately addressed by the private sector.
- Given the complexity of drone projects, promoters must set up a clear governance structure. The regulatory framework for drones should be **fully co-developed with the European Union Aviation Safety Agency and national, regional and local stakeholders, as appropriate.**
- Try to improve all aspects of the business cases and financial components in light of the **general opportunity for improved knowledge transfer in the field.**

Annex 1

The EIB project cycle

The key business process for the financing of projects is the European Investment Bank project cycle. A simplified version is depicted below. This guide addresses only step one and two, the proposal and appraisal steps.



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Europe's gateway to investment support

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