

AIRMAP

Business & Solution Design

Developing Drone Integration Roadmaps with
Airspace Authorities



WHITEPAPER



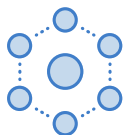
Air Navigation Service Providers (ANSPs) are experts in managing manned air traffic around the globe. But unmanned vehicles operate differently: they are remotely piloted and low-flying, and safely managing their integration into the airspace requires a new air traffic management paradigm.

Drone integration poses a host of considerations for regulators, ANSPs, and key stakeholders: how does a country create regulations around what drones can and can't do, and how does it communicate them to law enforcement, enterprises, and the general public? What is the best way to manage drone operations in controlled airspace and urban and industrial areas? What technology solutions are available, and how can they be implemented in a sustainable way?

To fully answer these questions, airspace authorities should consider the entire drone ecosystem. Successful nationwide drone integration requires careful planning and thoughtful action. AirMap has developed deep expertise in providing airspace solutions to authorities. We recommend using the following framework to develop a comprehensive roadmap for enabling the drone market at scale.



Conduct a Market Assessment



Determine the size and scope of the drone market in your nation. How many drone pilots, operators, and government agencies will want to fly drones? Who are your core constituencies and how can you serve them? What value will your drone ecosystem add to your nation's economy, and can your drone expertise be exported to create additional value?

Identify Your Stakeholders



Determine who your stakeholders are: what groups are already conducting regular drone operations, and who will start doing so once regulations are in place? Who is in a position to create or contribute to supportive drone policy? Potential stakeholder groups include lawmakers, public safety officials, enterprises, recreational drone operators, and the news media.

Consider how drone integration affects these groups, and how your agency can make safe and optimal drone use possible for all stakeholders.

Conduct a Regulatory Analysis



Understand the drone laws that are already in place in your country. Reaching full drone enablement may require lawmakers and regulators to amend existing laws and regulations or create new ones. Look to countries that are already integrating drones into their airspace and analyze the regulations they have enacted.

Determine whether there are other laws or regulations that your country must comply with. In Europe, for example, EASA and the European Commission are preparing European U-space regulations which individual nations must adopt. Lawmakers are likely to look to your organization for expertise, so make sure that you understand what sorts of laws will best support a safe and vibrant drone economy and then make recommendations accordingly.

Create a Business Plan



One of the biggest questions facing ANSPs is how to create a sustainable economic model that supports drone integration. In order to best serve drone operators, ANSPs may need to build out their drone teams, adopt new technology, and train public safety groups on specific drone procedures, all of which come at a cost.

Consider how you can develop new revenue streams to support your drone integration framework. Will you charge a drone registration fee, require operators to pay to access essential data, or charge for authorization to access specific airspace? How can you simultaneously create a self-sustaining business model, serve the drone market, and keep low-altitude airspace safe, open and accessible for all?

Drones for a Digital Nation

Estonia is a vibrant digital society: it was one of the first countries in the world to digitize and automate state services and has since exported its e-governance expertise to dozens of other nations. Tallinn, Estonia's capital, is home to a robust IT sector and start-up scene.

Estonian Air Navigation Services (EANS), in keeping with that ethos, was eager to safely integrate drones into controlled and urban airspace. They were a project leader in the SESAR JU GOF USPACE project, which demonstrated complex international and beyond visual line of sight (BVLOS) drone operations, including emergency maritime search and rescue, eVTOL transport, and cross-border package delivery.

EANS officials knew that once the proper drone regulations were in place, Estonian businesses and public safety officials would

be quick to integrate drones into their work. But managing drone traffic lay outside the organization's direct expertise. A technical solution, they realized, simply wasn't enough—they needed a comprehensive roadmap for the creation of a drone ecosystem.

In 2019, EANS selected AirMap to provide Business and Solution Design consulting services. As part of the multi-phase joint project, AirMap is conducting market, business, and regulatory analyses, determining best practices for business planning and stakeholder onboarding, and working closely with EANS, the Estonian Civil Aviation Administration, and the Ministry of Economic Affairs and Communications to create a uniquely tailored ConOps. The results will allow EANS to accelerate U-space roll-out and serve a growing drone community.

Determine Your Messaging and Educate Stakeholders



As an airspace authority, you have the ability to lead your nation's conversation around drones. What messages do you have for various stakeholder groups, and how will you disseminate them? How will you communicate important information, such as new drone regulations, to the general public? As you create marketing and communication tools, consider the tone you would like to take. Is it authoritative? Inviting? Cautionary? Your messaging is powerful—it will jump-start conversation around drone use and set the tone for drone culture nationwide.

Create a Concept of Operations (ConOps)



A ConOps is a foundational document that outlines the scope, objectives, and parameters of a nation's low-altitude airspace management plan. It details operational concepts and requirements, sets out multiple parties' rules and responsibilities, and codifies them into a workflow. It also includes use cases that demonstrate those workflows in action. Creating a ConOps requires you to determine how you will put your drone integration roadmap into practice. It can be updated as the drone ecosystem evolves.

Take Action



It is easy to get bogged down in discussing drone integration, and that's when the process of actually implementing solutions can slow to a crawl. Remember that drone technology and adoption are progressing fast. The sooner national authorities and ANSPs develop frameworks for UTM/U-space rollout, the safer the airspace becomes.

Create a timeline for drone integration and do your best to deploy solutions on schedule. Your analyses and ConOps have laid the foundation for drone enablement—now it's time to make it a reality.



More Information

If you are interested in working with AirMap to create a roadmap toward drone enablement, please contact sales@airmap.com.

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