The dawn of the drone business era

How companies can reach new heights

beyond the obvious

Contents

1. Executive summary

The drone industry is transitioning from a development phase to commercial scale, generating significant value for companies, public services, consumers and society as a whole. This document serves as a guide for businesses and decision-makers interested in exploring the potential of drone technology and its impacts.

The emerging drone industry represents the next frontier of robotic delivery services, but drones can perform a much wider range of services than logistics alone. Their versatile applications span, for instance, manufacturing, healthcare, surveillance, emergency services as well as environmental monitoring and mapping. Opportunities for drone-based business exist in both urban and rural areas.

The profitability of large-scale drone operations requires major, scalable players that will eventually manage thousands of drones. Within the emerging value network, drone operators can provide fleets with diverse capabilities as a service to companies and public sector organisations, establishing long-term service contracts.

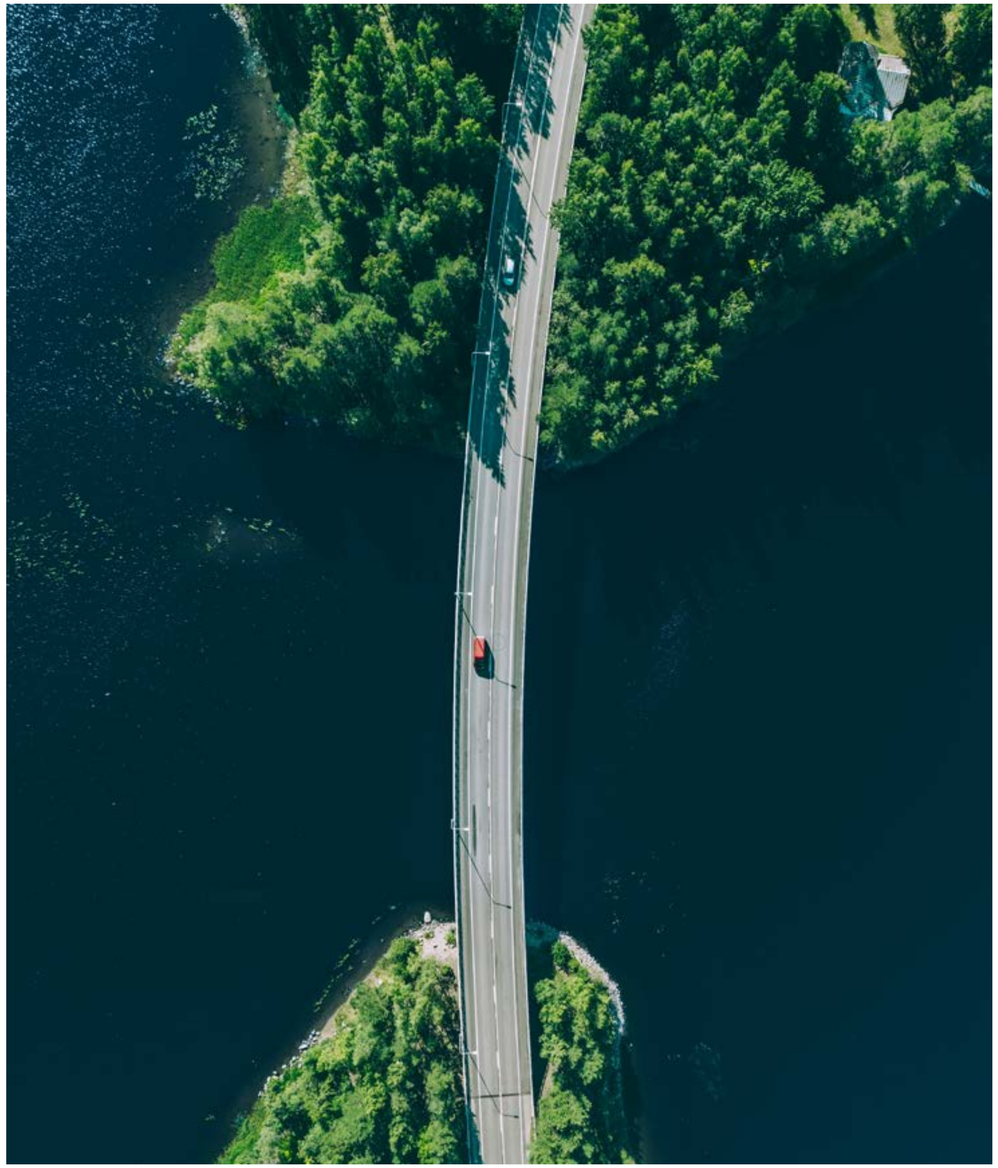
Drone operations will also require digital marketplaces for drone services. The sector offers opportunities for software companies, data analytics providers, packaging solution suppliers and recycling services.

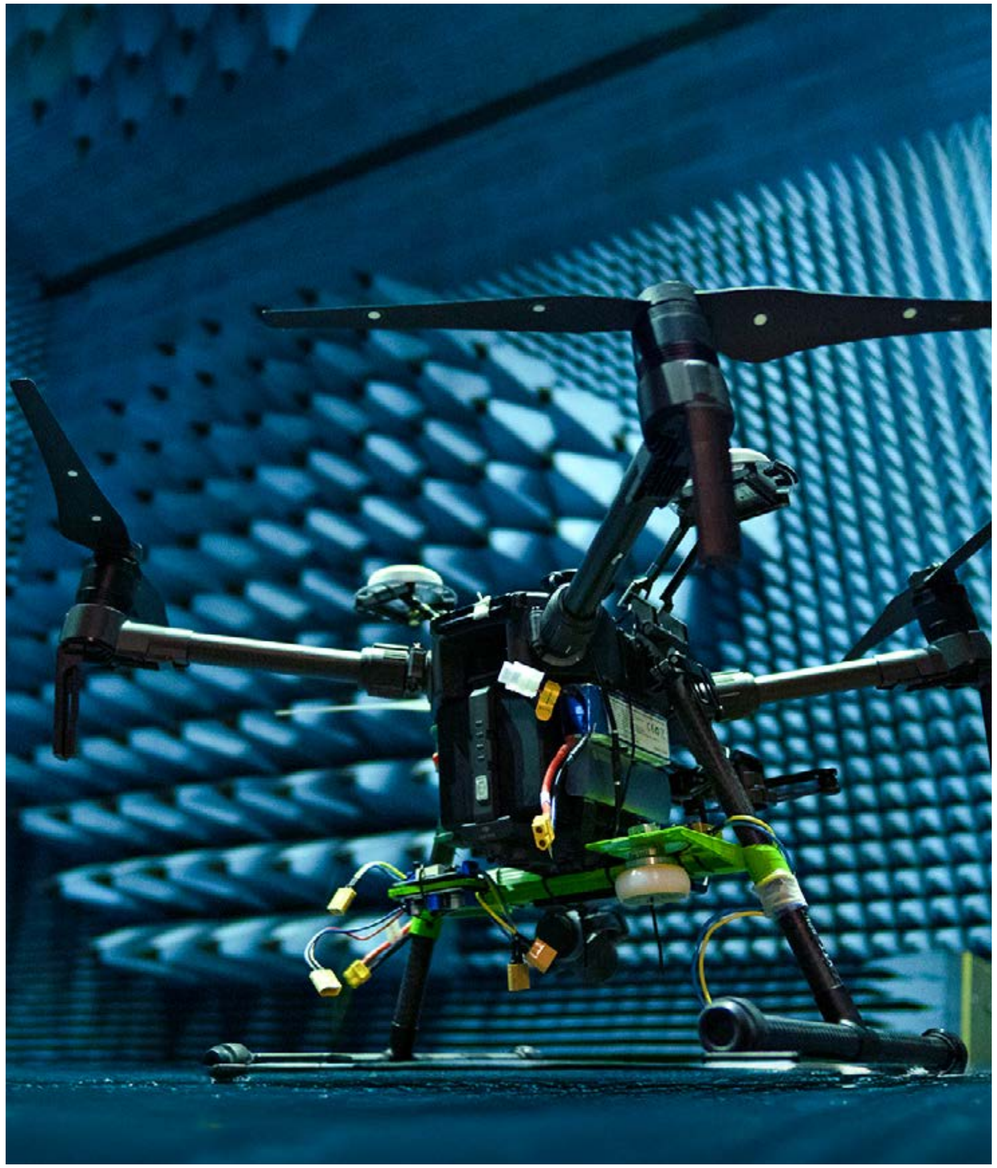
Companies can enter the drone business by leveraging their existing expertise. The most important steps are identifying customer needs and understanding safety and regulatory requirements. Partnerships in technology development and pilot projects are essential for refining business models and achieving commercial viability.

Drones deliver societal benefits by reducing traffic emissions, enabling faster and more efficient service delivery and creating new high-skilled jobs. Transparent communication and visible positive impacts help build trust in drone technology. Collaboration with public sector organisations accelerates adoption and ensures compliance with safety and regulatory standards.

Finland’s world-class deep-tech expertise, strong industrial production capability and advanced digital infrastructure provide excellent conditions for creating a globally significant hub for large-scale commercial drone operations.

VTT offers companies comprehensive services for developing drone businesses, from technology mapping to business validation and feasibility studies. Drawing on extensive expertise in drone technology, together with VTT’s drone operations organisation and test areas, provides companies with the tools and knowledge needed for success. The independent expertise helps ensure scalable, market-ready, and compliant solutions.





2. Introduction

Millions of Europeans are growing accustomed to seeing robotic grocery delivery vehicles on their city streets. Next on the horizon are flying robots – or drones – capable of transporting items for various purposes while observing their operating environment, creating new possibilities for value and security for businesses and consumers.

The uncongested low-altitude airspace creates a market for drone-based services with significant opportunities for companies in both urban and rural areas. The breakthrough of the large-scale drone business is approaching rapidly. There is substantial room for companies looking to produce and develop innovative services and operate or manufacture drones and their ground infrastructure. Solutions in development for the Finnish market have the potential to expand to international markets. This is especially true for sparsely populated countries similar to Finland, found both in Europe and around the world.

Does your company want to be among the leading drone industry players in Europe by 2030?

The time to map out the opportunities is now. The drone sector is developing rapidly, and companies that embrace new solutions early in a systematic manner will thrive in the market.

Drones are currently viewed mainly through a defence-oriented lens. Devices originally designed for commercial use have been used in ongoing conflicts. Consequently, technical development has recently accelerated due to increased investment. The expectation is that technologies developed for defence will, in turn, be transferable to commercial and public service applications.

Finland has an exceptional opportunity to become Europe's leading country for the future of aviation. This review by VTT gives insight to European companies on why and how to seek a role in the drone business, and how Finland can assist other European countries in this endeavour. Although the review centres on Finland, it also highlights the opportunities, barriers and strategic measures necessary to develop a large-scale ecosystem for globally competitive innovations.

VTT's drone research and development, based on VTT's expertise, development and testing infrastructure and intellectual property portfolio represents the peak of European excellence. VTT can support a wide range of companies on their journey towards new business opportunities and help them to create networks for joint projects.

3. Business opportunities in the drone industry

The many dimensions of drone operations

Speed and reliability requirements are increasing for both corporate and consumer services. Industrial customers need aerial imaging, analytics and efficient delivery of components, tools and samples. Citizens expect goods and services to be readily available alongside real-time situational information. The modern drone business enables both, and much more.

In the future, the largest **drone operator companies** may manage fleets of hundreds of drones, delivering orders to consumers and businesses while also transporting laboratory samples and instruments. Additionally, as multi-purpose devices, they can inspect power lines or traffic routes while performing the delivery tasks. Operators like these will always have several drones on standby within a short flight distance from customers.

The drone industry also includes the development and manufacturing of drone platforms and their hardware components, such as motors, electronics and sensors. The sector also offers plenty of opportunities for software companies and data analytics services. In addition, commercial operations will require providers of cold chain technology and new opportunities may arise in recycling and reverse logistics utilising drones.

Alongside drones, ground-based **infrastructure services** and digital **marketplaces for drone services** are needed. The marketplaces will allow varying user segments to reserve service time and equipment at various price points and service levels.

Drone logistics has gained publicity in China and the United States. However, operations in these countries are not directly applicable to European or Finnish markets due to differences in population density and urban structure. Particularly in Finland, the volume for low-margin mass-market deliveries remains insufficient, so drone logistics must inherently be combined with other services.

Large-scale commercial drone services can collaborate with authorities. In the event of an accident, fire, water hazard over fragile ice or any other acute emergency, the nearest available drone could automatically fly to the scene. During an emergency, a drone providing commercial services could relay visual and sensor data from the site to first responders until they arrive. Authorities could also take remote control of the drone, provided that the necessary technical solutions and commercial cooperation models are in place beforehand. This requires a small number of large drone operators instead of the current fragmented operator landscape.

Example sectors

- **Manufacturing industry:** continuous material flow, time-critical ad hoc spare parts deliveries
- **Healthcare:** samples, home deliveries to rural areas
- **Mass-market package deliveries:** small parcel deliveries to consumers and return recycling services
- **Surveillance services:** digital twins of urban areas, infrastructure and construction site monitoring (roads, bridges, railways, wind turbines, telecommunication networks, energy networks), security services, wildfires, floods, and hard-to-predict natural phenomena
- **Emergency services:** rapid first response, traffic control, maritime search and rescue
- **Research and mapping:** agricultural and forestry surveys and monitoring, land use planning, scientific research requiring environmental data

Future value network: overview

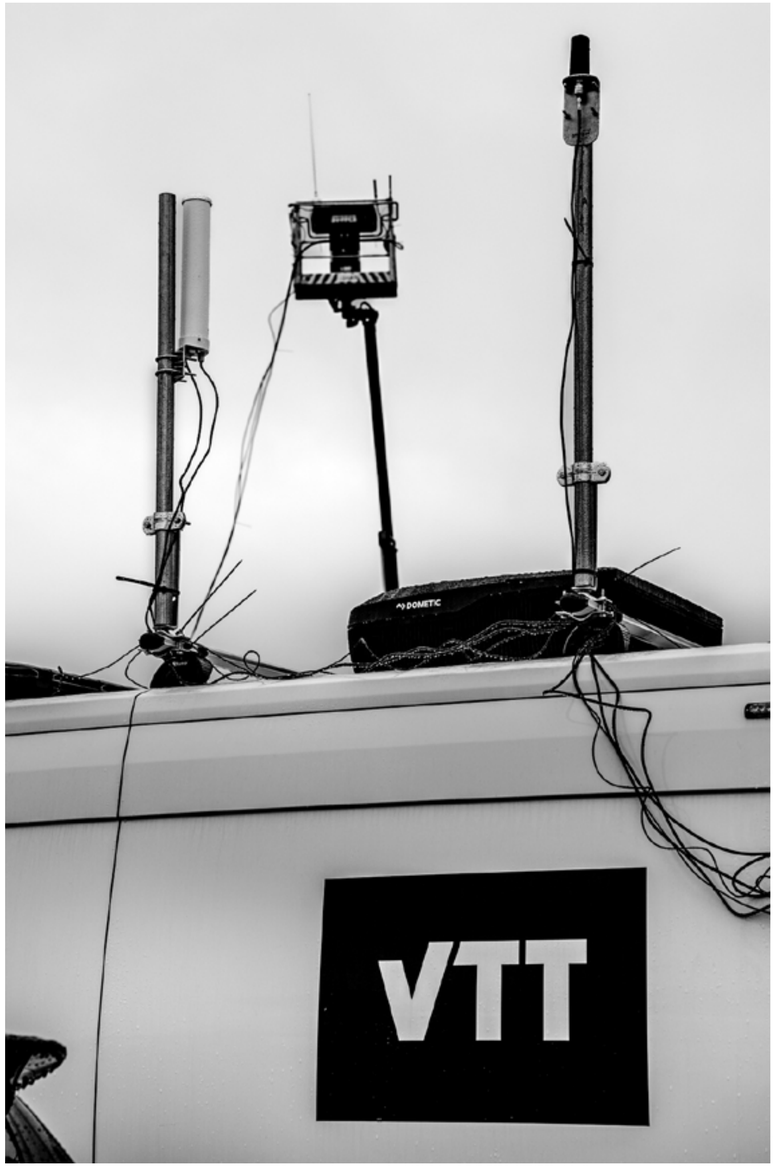
0. End-Users	Use or benefit from services
1. End-customers	Buy services from the service providers to meet their needs
2. Service providers	Buy drone operations from fleet operators to deliver their services
3. Fleet operators	Provide drone-enabled services and operations and possibly other modes of transportation as-a-service for service providers
4. Solution providers	Provide enabling solutions & services for fleet operators
5. Cities as enablers	Provides spatial planning, permissions, infrastructure, etc.
6. Supporting functions	Provides support with regulation, permissions, insurance, etc.

Drone providers | Flight operation solution providers | Payload solution providers | Ground and air infra solution providers | U-space solution providers

Service provider companies utilise drones to serve their end-customers faster and with smaller investments and risks.

Fleet operators both manage and operate a fleet of drones with the help of different types of **solution providers** (drone, infra, ICT, U-space, etc.).

Different private and public actors (Cities, regulators, consultants, research organisations, etc.) enable drone services from their own point of view.



Towards a commercially viable scale

Major drone operators – comparable to today's telecom operators – are required to emerge in the market to achieve national coverage, commercially viable business with significant market value and large-scale industry growth. This is also a requisite for aviation safety, as fragmenting into hundreds of small companies does not foster the safety culture needed.

In the future, Finland could have a maximum of about ten large drone operators with nationally scalable operations and the means to utilise economies of scale. Their operations will be based on professional, highly automated processes, large traffic volumes and continuous fleet utilisation. Small-scale single-pilot companies will serve only limited use cases and rely on the ecosystem of the larger players.

Highly automated operations are key to the profitability of large-scale drone operations. Essentially, drone operators must function as remote operators whose role will evolve from controlling individual flights to supervising tens or hundreds of drones, supported by predictive maintenance and automated ground operations. Cost efficiency will improve in comparison to road transport especially in small consignment logistics.

Companies outside the traditional logistics sector may take leadership positions in the market due to their established operational processes and strong brands. For example, leading **retail companies** could integrate drones into their autonomous supply chains. Instead of a delivery travelling across a large urban area via slow human- or robotic-based transport, a drone could quickly bring it to the ground logistics hub nearest to the customer. The short final leg of the journey could be completed by robotic delivery on the streets.

Operations will likely begin through consolidated public sector demand, whereby an organisation in the public sector forges a service contract with a large drone operator that spans all drone services from healthcare to infrastructure. With growing public approval, operations will expand to national coverage and cross borders in the same way as the telecom and parcel logistics industries. Local operators can also merge with nationally coordinated service providers, much like regional broadband providers in the early 2000s. Large drone operators may also emerge organically from companies capable of making significant investments in equipment and maintaining them with a high-level safety culture.

Large-scale drone operations enable:

- Optimisation of capital expenditures (CapEx) through volume procurement of equipment and standardised systems
- Reduction of operating expenditures (OpEx) through centralised control, automation, shared maintenance and related subcontracting structures
- Efficient, highly automated, centrally managed, remotely controlled operations
- High utilisation rates, as the same multi-purpose equipment can serve multiple customer segments in both the private and public sectors
- Diverse revenue streams from logistics and flight-based services, such as data collection

Ground services and transport technology for drone operations

The drone business also requires ground services that are scalable in tandem with aerial systems. Companies need an ecosystem similar to that of traditional aviation to run operations. This ecosystem must also ensure seamless multimodal logistics and interoperability between drones and autonomous ground vehicles.

Drones require base areas of various sizes with maintenance facilities, take-off and landing sites and charging services.

For example, **facility management and maintenance companies** can offer ground services and become part of the local service economy for drone operations. Shared take-off and landing sites with wireless charging points on apartment building rooftops would provide infrastructure where demand is high. Building owners and existing mobile towers could act as service providers, while digital platforms manage charging services.

The industry also needs new types of **transport handling technology** and packaging that can be integrated with ground logistics. So far, the drone sector lacks standardised transport solutions equivalent to those in traditional aviation, such as unit load devices (ULDs). However, VTT and Finnish companies are already developing new, lightweight and recyclable logistics cargo solutions that can also be adapted for drones. Additionally, cold chain solutions, safe cargo handling and robotic loading and unloading are under development.

4. How to get involved in the drone business?

A single company can take a step-by-step approach to drone-based business from concept development to commercial operations, even if it has no prior experience in fields such as logistics. Companies may begin by considering how to combine internal expertise with drones in areas such as inspections, mapping, security, healthcare or maintenance services.

In the initial phase, it is essential to identify a genuine **customer problem** that drones can address and add value to by improving speed, reducing costs, enabling data collection or increasing safety. Conceptualising and validating the business idea involves **market analysis** to determine the commercial potential, estimate the pricing model and survey the competitive situation.

Early on, it is crucial to study all regulations and safety requirements. Operations require registration according to authority guidelines as well as liability insurance and training measures for drone operations.

For **technology choices**, it is imperative to define which equipment best matches needs and what level of technical development to anticipate. In addition to drones, a company must map out which ground infrastructure technologies are needed, which digital services to offer customers and how to refine added value from the data generated by the operations.

It is likely that the company will need to seek partners for technical development and customers interested in piloting. Based on pilot projects, operational models can be streamlined towards full-scale commercialisation. Critical factors include achieving sufficient utilisation rates, upscaling potential and obtaining long-term contracts.

Business models and market readiness

It is worthwhile to build the business model on the premise that the same drone fleet can be offered for both low-margin, high-volume deliveries and high-margin premium services depending on demand. A digital marketplace catering to drone-based services, can offer different customer groups an easy way to make reservations and choose their desired level of availability and service.

For example, urgent healthcare supplies or factory spare parts can be transported as a premium service. Simultaneously, many other tasks may include mass-market parcel logistics, which provide a steady volume and operational stability.

Considering different **service levels** and customer groups should be a part of the equipment procurement stage. The more versatile the drones in the service provider's fleet, the better they can maximise value creation. The same drones can inspect infrastructure or perform environmental monitoring along their route. This increases revenue per flight without incurring high additional costs, accelerating profitability in the early stages of operations.

A well-equipped drone handles multiple tasks

Drones equipped with multi-sensor systems are more expensive than basic models. However, they generate cost savings and new revenue streams by e.g., performing thermal imaging alongside photography and video capture, collecting environmental samples and serving as communication relay nodes. Combining different data sources produces real-time, comprehensive situational awareness for infrastructure owners, healthcare providers and authorities.

What are commercial drones like?

Versatile commercial drones differ significantly from hobbyist models not designed for transport tasks. Carrying loads of varying weights and shapes requires drones with much more powerful electric motors, larger propellers and more robust batteries. Special equipment is needed for refrigerated cargo. Commercial drones can be as large as a small car.

Drones can be classified based on factors such as their intended use, structural design, number of rotors, operating environment and level of autonomy.

Costs

Many key cost factors remain undefined due to the market's low maturity. For instance, insurance structures are still developing because drone operations have only a short operational history. Pricing for lower airspace usage is not yet suited to a multi-operator environment. Resolving these issues requires collaboration between companies, insurers and authorities.

In early 2026, a typical price for a drone suitable for commercial, professional operations is roughly €10,000. The high-end price range may be comparable to that of a new car if there are additional requirements, such as an extensive equipment array or capabilities to haul heavier cargo.

There is no need to overemphasise the capital costs, as personnel will be the biggest expenditure throughout a drone's lifecycle. The second-largest cost component is likely to be insurance and regulatory compliance licenses. Roughly the same amount of money will be used in equipment maintenance and consumables.

Exemplary cost distribution for a drone operator

40% — **personnel:** pilots, ground staff, business operations

25% — **insurance and compliance:** liability insurance, licenses

20% — **equipment maintenance and consumables:** drones, batteries, charging, spare parts

10% — **logistics and facilities:** vehicles, fields, warehouses

5% — **other technology:** flight planning, fleet management, analytics, telecommunications, ICT

Safety requirements

The drone industry's safety requirements resemble those in crewed aviation. There are also situations where drone flights must be coordinated with crewed air traffic. Therefore, companies in the sector need close cooperation with authorities as well as several licences and certifications.

In the future, drones will primarily fly along defined and monitored flight corridors in a manner similar to aeroplane or maritime traffic. These corridors will expand to cover larger areas that account for risks related to ground objects. Drones can also move together as swarms. Properly managed operations are safe, so people won't have to be afraid of colliding or falling drones.

Integration with air traffic management systems

Digital aviation services, such as Fintraffic Sky and Flyk, enable situational awareness of the lower airspace, digital flight planning and coordination of flight operations with crewed aviation. These services form a strong foundation for implementing unmanned aircraft system traffic management (UTM) as traffic volumes grow and multiple operators share the same airspace. Drone operations in Europe will expand from local routes to models utilising U-space airspaces or similar future solutions when multiple parties use the same airspace simultaneously.

Automation and flight safety

Key technical solutions in drones include sense-and-avoid functions. In addition, drone operation automation requires, e.g., automated route replanning and drone swarm route optimisation for surveillance and logistics tasks. In the future, advances in battery technology will extend flight times beyond current levels and enable faster charging. New powertrain solutions, such as those based on hydrogen fuel cells and hybrid systems, will also improve flight and charging times.

5. Society and the drone business

Finland as a globally significant hub for commercial drone operations

Finland may seem too small a country to be the cradle of drone business development. However, Finland has significant strengths such as world-class deep-tech research, a strong industrial production capacity, an exceptionally advanced digital infrastructure and a long history of building globally competitive technological ecosystems.

With coordinated investment, Finland can become a European drone business hub that captures economic value domestically while enhancing Europe's global competitiveness.

The Finnish collaborative ecosystemic mindset is rooted in the success story of mobile technologies. It fosters trust, agility and co-creation across company boundaries. Finland offers an advantageous environment for building shared infrastructure, operational models and robust commercial networks.

With these strengths, Finland is ready for large-scale drone business to show Europe how to design, validate and industrialise uncrewed aviation solutions on a level that facilitates global success.

Finland can serve as a springboard for companies looking to expand operations to multiple countries. Companies from other parts of Europe can use Finland as a testbed for both technological and business development as well as pilot programs.

Finland's strengths:

- Citizens have a positive attitude towards automated services.
- Urban, suburban and rural environments offer diverse use cases year-round.
- The industrial foundation with areas such as heavy machinery manufacturing is well-suited to producing drones and subsystems alongside upscaling.
- World-class digital and connectivity capabilities support safe automated operations and business platforms.

Drone materials and year-round operation

Icephobic materials and coatings designed for arctic conditions, printed electronics heating solutions, cold-resistant batteries and powertrains enable safe operations in extreme weather. Combined with 3D aviation weather forecasts produced by meteorological companies, Finland serves as a reference point for drone operations in challenging climates.

Societal benefits

From a societal perspective, the key advantage of drones is their ability to reduce traffic emissions, supporting national and urban climate targets. As drone technology evolves, the noise they produce will also diminish, which will allow for operations in densely populated or noise-sensitive areas in the future. Noise reduction may enhance opportunities for developing recycling and reverse logistics services for night-time.

Innovative drone business will create new professional roles in remote operations, maintenance, ground operations, telecommunications, digital services and data and fleet management. These high-skill jobs strengthen industrial renewal and regional employment.

Public services will also benefit. Real-time data collection improves situational awareness for authorities. In the future, joint operations with ground-based service robots will increase automation and efficiency. Public trust will be built on visible and positive impact, which will increase overall willingness to adopt drone-based services in everyday life.

An autonomously operated drone logistics network enables a significant productivity leap. In particular, by applying drone swarm technology, the efficiency and productivity of small-goods logistics can be improved while achieving substantial cost savings.

A high level of autonomy reduces the need for human labour in deliveries, as drones can operate independently around the clock and optimally share tasks.

Benefits of drone operations:

- **Carbon neutrality:** being mostly electric-powered, drones reduce traffic emissions
- **Efficiency:** various monitoring tasks surpass other means in efficiency
- **Accuracy:** highly accurate data collection, e.g., environmental, infrastructure
- **Speed and service predictability:** drones are immune to traffic congestion
- **Employment impact:** drone-based services create new jobs

Public sector collaboration and safety risk management

Public sector organisations are critically important for the drone business, both as its customers and enablers. For companies, long-term contracts with cities, emergency services and healthcare create essential baseline demand for the business – they are the most important single factor accelerating growth in the industry. They also reduce societal risks and strengthen trust among businesses and citizens.

Safety requires shared situational awareness between operators and authorities. Long-standing Finnish expertise in secure communications and digital infrastructure yields a unique competitive edge for the drone sector. Clear operational models for risk management, incident handling and cybersecurity are central to building national trust.

In Finland, safety and innovation in the drone business can be developed side by side. Authorities have a long tradition of close collaboration with companies and research institutions, enabling controlled commercial pilot projects that adhere to compliance, privacy and accountability.

As operations expand, drones will require interference-resistant, secure, and encrypted command-and-control links (C2). Additionally, rigorous system verification, safety management and advanced lower airspace situational awareness solutions are needed. Finland has top-tier expertise in these areas.

Societal acceptance and regulation

The development and investment in the drone business will accelerate as legislation in Finland and Europe evolves to better support the industry. The current regulation is too complex, its development is slow and it does not account for the requirements of large-scale operations and their infrastructure. Faster processing of flight permits by authorities is also necessary for future rapid drone business scalability.

Public trust must be built by demonstrating the positive impact of drones in daily life. Transparent communication, quiet and low-emission aircraft, and clearly beneficial services are essential for building trust. Trust in automated drone solutions will grow as citizens and authorities see that drones reduce risks rather than increase them.

Steps toward a Finnish and European innovative air mobility success story

Timeline	As soon as possible	In the next five years	Later in the future
Technology	Strengthen opportunities for rapid testing and certification by opening test sites for all-weather autonomy and lower airspace management. Demonstrate solutions such as multi-purpose drone reference designs and automated ground infrastructure in real operating environments to companies.	Scale domestic development of drones, robotics-enabled ground operations and secure fleet-management platforms.	Build industrial and digital export capabilities to strengthen Finland's position as a European drone business leader
Economy	Support the development of a business ecosystem based on the competition of fleet operators to ensure services reach a comprehensive service level. Strengthen collaboration between public and private sectors through coordinated RFI/RFP frameworks to anchor demand toward large scale service contracts.	Invest in multi-purpose business models that combine logistics and data operations for high fleet utilisation.	Develop international export networks and cross-border service models leveraging Finnish drone-related expertise.
Regulation and politics	Accelerate and simplify regulations to enable autonomy, swarming and UTM implementations. Develop regulation that places high value on the financial credibility and strong safety culture of a company.	Participate in the discussion on uniform certification of European drone technology and regulation on drone operations and regulatory approval.	Participate in the discussion on international standards that support safe integration of global drone industry.
Society	Promote drones as familiar elements of the existing environment through visible, well-communicated public pilot projects.	Bolster trust and highlight concrete societal benefits and safety in various areas.	Foster continuous citizen engagement and education to ensure long-term acceptance and co-benefit awareness.

6. How VTT serves companies in the drone business

Technological and commercial support for the complete development cycle

A company should not rush into acquiring drone technology and start using it without sufficient expertise. A company interested in the drone business can look to VTT for systematic support covering the entire development cycle from strategy to research, piloting and industrial-scale implementation. VTT's commercial services provide independent expertise in assessing the business potential of the company's concept.

Companies benefit from VTT's technological expertise, system-level knowledge, test areas with required permits, extensive patent portfolio and wide-ranging international networks that include drone technology development and business organisations. Also, authorities and end-users benefit from VTT's safe and approved operating models and validated solutions.

VTT's resources offer companies and public sector organisations a transition from ad hoc, single-operator drone use to validated, scalable solutions. In Finland, VTT acts as a unifying force, integrating relevant technologies into safe, market-ready solutions and developing critical enabling technologies.

VTT's services for drone business development

- Technology mapping and foresight
- Technology development and validation – all resulting IP is owned by VTT's client
- Test areas with the needed permits
- Licensing of VTT's patent portfolio
- Technical support and consulting
- Profitability assessment
- Business validation
- Feasibility studies

The most significant singular advantage of VTT's services is our up-to-date knowledge of technical requirements and solutions. This helps companies avoid negotiating with numerous developers and vendors individually. This also aids to prevent procuring technology that will be hard to certify or is already outdated at the point of purchase.

VTT has extensive technological, operational and business development capabilities for drone operations. VTT's unique expertise includes a patent portfolio in swarm technology, which can be transferred to companies to accelerate product development. As an applied research organisation VTT has the capabilities to incorporate the latest scientific discoveries into practical solutions.

For interference resistance, VTT has world-class expertise in security and 5G technologies and emerging 6G systems. VTT's patented 3D forecasting of mobile connectivity performance supports autonomous route planning based on predicted network coverage.

In the operational development of drone technology and applications, VTT supports companies in areas such as:

- Lower airspace management and U-space
- Concepts of Operations (ConOps) and safety culture
- Increasing the level of autonomy, swarm intelligence and remote operation
- Human-machine interface design and new interaction methods
- Telecommunications and positioning solutions
- Computer vision, sensors and radars
- Robotics for air and ground operations
- Battery cells and new powertrains
- Physical safety and cybersecurity

VTT's drone operations organisation and VTT Drone Test Centre

VTT operates one of Europe's most advanced outdoor research environments for civilian drones, conducting over 1,000 flight operations annually.

VTT's drone operations organisation:

- Over 30 drones, including heavy-lift and eVTOL drones
- Certified pilots and safety management systems
- Operations in EASA's open, specific and certified categories
- Insurance and maintenance procedures aligned with aviation requirements

The VTT flight organisation can integrate digital lower airspace management systems from multiple suppliers and support safe interaction with other airspace users.

VTT Drone Test Centre – a European reference environment

The VTT Drone Test Centre's test area (20 x 30 km + 150 km flight corridor to the East) **enables:**

- Swarming operations
- Harsh weather and icing trials
- Ground-air robotics interoperability
- Lower airspace management testing
- Safe uncrewed aviation validation
- Heavy uncrewed aircraft testing
- ADS-B and radar-based situational awareness

The mobile test infrastructure is also easy to relocate, allowing rapid testing in other locations.

7. Conclusions

The drone business is transitioning from the development phase to commercial scale. Technologies originating in the defence sector will soon be used to enhance societal services such as healthcare, logistics, security and infrastructure.

Now is the moment for Finnish and European companies to act. Decisive action will determine how the opportunities at hand are seized – or left unclaimed.

VTT is ready to support Finland and Europe with its strong scientific and technological expertise.

Contact

Tuulia Haiko
Solution Sales Lead
tuulia.haiko@vtt.fi
+358 40 7177 796

Markku Kivinen
Business Development Manager
markku.kivinen@vtt.fi
+358 50 4871 621

Learn more about our drone business services:
https://www.vttresearch.com/en/ourservices/innovative-air-mobility

Master the terminology of the drone industry

ADS-B (*Automatic Dependent Surveillance-Broadcast*)
A safety-critical surveillance technology through which drones can broadcast their position data to other aircraft and ground stations. Drones become visible to air traffic control and crewed aircraft equipped with ADS-B receivers.

Lower airspace
The airspace up to 150 metres above ground level.

BVLOS (*Beyond Visual Line of Sight*)
Drone operations beyond the direct visual line of sight of a human pilot. To ensure control and safety, BVLOS flights utilise various security solutions.

ConOps (*Concept of Operations*)
A functional description of the used technical system, as well as information about the operation and overall sociotechnical system.

EASA (*European Union Aviation Safety Agency*)
The European Union's aviation safety agency regulating and overseeing aviation safety, including drones.

eVTOL (*electric vertical take-off and landing*)
An electric aircraft capable of vertical take-off and landing.

SORA (*Specific Operations Risk Assessment*)
A methodology for assessing the risks of UAS operations.

UAS (*Unmanned Aircraft System*)
An unmanned aircraft system, including the drone, ground control station, and communication links.

UA (*Unmanned Aircraft*)
An unmanned aircraft, commonly referred to as a drone.

UAS airspace zone
A geographically defined area, either temporary or permanent, designated for drone operations or restricted airspace.

U-space
A regulated and managed airspace designed for uncrewed aircraft. The term is used mostly in Europe.

UTM (*Unmanned aircraft system traffic management*)
A digital, automated and cooperative solution to manage drone traffic. The term is used mostly in the United States.

beyond the obvious

VTT is a visionary research, development and innovation partner for companies and society, and one of the leading technical research organisations in Europe.
We promise to always think beyond the obvious.

www.vttresearch.com