



GUIDEBOOK for **SME Drone Business**

INTRODUCTION

This guide is for you if you're an:

- Entrepreneur venturing into drones
- Drone expert launching a business
- Hobbyist seeking to elevate your passion

This guide serves as a valuable reference to confidently start integrating drones into your business.

Why Drones?

- Drone services rapidly replace conventional applications in the commercial sector (e.g., aerial surveys, cinematography, search & rescue).
- Drones operate for extended periods, either remotely by human operators or autonomously by onboard computers.
- Increased adoption driven by exceptional endurance and cost-effectiveness in various civil and commercial applications.
- Integration of emerging technologies like AI, IoT, and cloud computing expected to boost demand across sectors.



Why You?

- Even though there are plenty of opportunities in business-wise, ask yourself why before fully committing to launching a drone business. The internal motivation needs to be right as well.

Idea and Scope

- Enhance your skills through training.
- Get licensed for a clear career path.
- Envision your future work.
- Enjoy unlimited opportunities in markets, services, learning, and profit.
- Explore global markets, offering diverse services from photography to full-package projects.
- Develop your skills limitlessly – fly, learn new software, and analyze data.
- Become a skilled drone operator with a strong customer base, securing the legacy and protection of your work and clients.





THE MARKET

Photo and equipment in the photo: Cantria
University of Applied Sciences 2024

THE MARKET

Industries

- 3D Modeling
- Agriculture
- Construction
- Mining
- Oil & Gas
- Photo & Filming
- Real Estate
- Renewables
- Search & Rescue
- Survey & Mapping
- Utilities (power lines, pipelines, and other facilities)

The Six Divisions of Global Drone Service Market

- Filming and photography
- Inspection and monitoring
- Mapping and surveying
- Security, search, and rescue
- Spraying and seeding
- Transport and delivery
- + (Repairs & trainings)

The current legislation of drone operations restricts activities such as some spraying and siding activities.

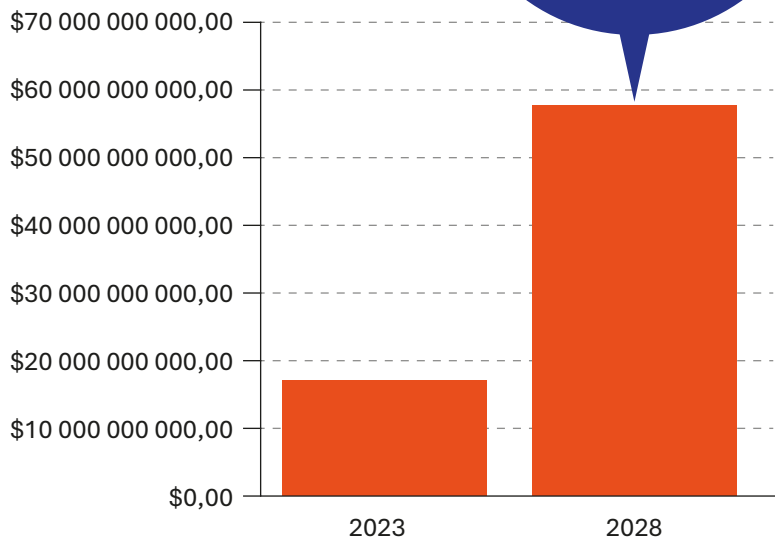
Selecting your target market is an essential step to establish achievable goals and a clear vision.

THE MARKET

The Size of the Global Drone Service Market Forecast

- The Drones market in Finland is projected to generate a revenue of US\$9.3m in 2024.
- The Drones market in The USA is projected to grow between 2023 and 2028 up to 239.41%.
- Even conservative estimates point to a potential value of 14 billion euros and 100,000 jobs by 2030.

The need for drones is growing as well as the need for drone captured data analytics.



Sources:

<https://www.prnewswire.co.uk/news-releases/drone-services-market-worth-57-8-billion-by-2028---exclusive-report-by-marketsandmarkets-301968554.html>

<https://www.statista.com/outlook/cmo/consumer-electronics/drones/finland>

<https://www.marketsandmarkets.com/Market-Reports/drone-services-market-80726041.html>

The Size of the Global Drone Service Market

INDUSTRY	INDUSTRY SHARE	PERCENTAGE
Infrastructure	\$45 200 000 000	35.6%
Agriculture	\$32 400 000 000	25.5%
Transport	\$13 00 000 000	10.2%
Security	\$10 00 000 000	7.9%
Entertainment	\$8 800 000 000	6.9%
Insurance	\$6 800 000 000	5.4%
Communication	\$6 300 000 000	5.0%
Mining	\$4 400 000 000	3.5%

The leader of the drone industry

- North America to lead the market in 2024.
- Online retail growth fuels this leadership.
- Favorable FAA regulations in the United States.
- Anticipated increased investments from key players.

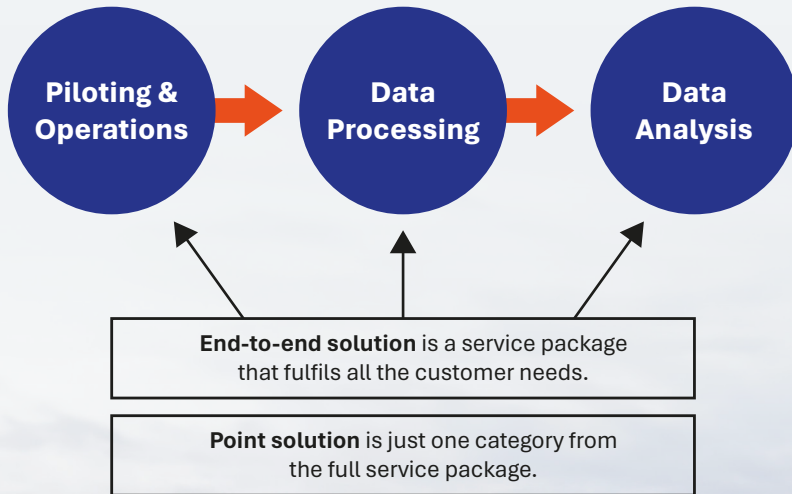


45% say rules matter in the drone industry. Clear guidelines on BVLOS flight, remote ID, and traffic management are crucial for growth.

Sources:
<https://dronelife.com/2022/09/01/droneiiis-drone-industry-barometer-2022-is-out-why-most-companies-use-drones/>

THE MARKET

The Three Parts of Drone Work



One can participate in drone-related business by focusing on data analysis rather than owning and directly managing drones.



EU REGULATIONS

EU REGULATIONS



Scan the QR code to explore the Cenria leaflet containing information about EU regulations.

An Important Notice about the EU regulations

- For the latest information on flying restrictions and limitations based on specific areas, visit flyk.com.
- Understanding the environment in which you plan to use your drone is crucial.
- The lack of C-classification can impose severe limitations on the usage of your drone.
- Old drones weighting under 25 kg can be used in the open A3 subcategory even after January 1, 2024, without the need for C2, C3, or C4 classification markings.



Find more info about the regulations by scanning the QR code, or visit:
<https://www.droneinfo.fi/fi/ajankohtaista/muutoksia-dronen-lennattamiseen-112024-alkaen>

EU REGULATIONS

Drones With Class Identification Label (Q1 2024)

LABEL	DRONE MODEL	MANUFACTURER
C0	Mini 2 SE	DJI
C0	Mini 3 & Mini 3 Pro	DJI
C0	Mini 4 Pro	DJI
C1	Mavic 3	DJI
C1	Mavic 3 v2.0	DJI
C1	Mavic Cine v2.0	DJI
C1	Air 3	DJI
C2	Ebee	AgEagle
C2	Mavic 3E EU, Mavic 3T EU & Mavic 3M EU	DJI
C2	Matrice M30 EU & Matrice M30T EU	DJI
C3	Trinity F90+	Quantum System
C3	Inspire	DJI
C3	Matrice 350 RTK	DJI
C3	WingtraOne	Wingtra
C3	M350 RTK	DJI
C5	M350 RTK (through kit developed by Flyingeye)	DJI
C6	UX11	Delair

Tip: Centria offers specialized piloting courses for drones to assist you in obtaining your A2 license.



Please always check the most recent version of this list.



HARDWARE & SOFTWARE

Photo and equipment in the photo:
Centria University of Applied Sciences 2024.

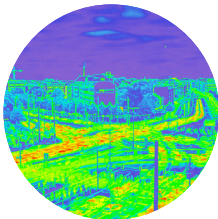
HARDWARE

Basic Drone Equipment



Lidar

- 3D scanning of the environment
- Digital twin creation
- Area analysis



Infrared Camera

- Night Vision
- Studying heat sources



Multispectral camera

- Specific wavelengths offer information that is otherwise inaccessible.



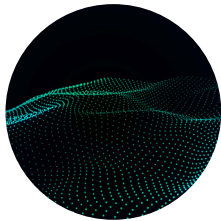
RTK Module

- RTK technology achieves exceptional accuracy compared to GPS, which makes them valuable for land surveying, construction planning, and environmental monitoring.

Operating a business is possible even without possessing a drone, there is demand for the analysis of data captured by drones.

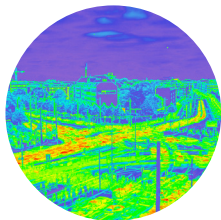
HARDWARE

Ways to Do Business



Point Clouds/Lidar

- Minimum equipment cost: 20000€+
- Earnings: 500-1000€/hour*
- Equipment: a drone + lidar, a software for pointclouds.



Thermal & Multispectral

- Minimum equipment cost: 5000€-10000€
- Earnings: 200€/hour*
- Equipment: a drone + thermal and/or multispectral camera, a software for photogrammetry.



Photogrammetry

- Minimum equipment cost: 3000€
- Earnings: 150€/hour*
- Equipment: a drone and a software for photogrammetry.



Photo & Videos

- Minimum equipment cost: 1000€
- Earnings: 75€/hour*
- Equipment: a Drone + image editing/ video editing software.

****The potential figures are shown on this slide represent the results of research by contacting of drone owners in the region and the searching of global internet resources. The price can vary widely depending on many factors, such as the scope of the project.***

HARDWARE

Budged Drone Hardware for Specialization (EU approved)

LABEL	DRONE	INFORMATION	COMPANY	PRICE
No label (C3)	DJI Phantom 4 Pro v2.0	One of the cheapest with a mechanical shutter that improves the quality of photogrammetry.	DJI	Approx. 1500 € *
No label (C3)	Anafi Thermal	Cheapest access to thermal camera	Parrot	Approx. 1700 € *
C1	Mini 3 Pro	The most budget-friendly option for photography, videography, and observation purposes.	DJI	Approx. 700€

** The prices listed here were researched online from various internet retailers as of February 2024.*

Always check the latest regulations to ensure that the drone you intend to purchase can be used for your specific purpose!

The crucial decision is determining what kind of C-Classification you need for your drone's intended use.



Drones weighing over 250g without C-approval automatically receive a C3 label, while those under 250g are classified as C1.

HARDWARE

Costly Drone Hardware for Specialization (EU approved)

LABEL	DRONE	INFORMATION	COMPANY	PRICE
C1	Mavic 3 v2.0	v2.0 is labeled with the EASA C1 Class sticker for less restricted flight in the EU/EEA	DJI	Approx. 1800 €*
C1	Mavic Cine v2.0	Excellent camera features & quality	DJI	Approx. 4700 € *
C2	Mavic 3 Enterprise EU	Comes with a mechanical shutter that improves the quality of photogrammetry	DJI	Approx. 3700 € *
C2	Mavic 3 Thermal EU	Comes with a thermal camera	DJI	Approx. 5700 € *
C2	Mavic 3 Multispectral EU	Comes with a multispectral camera.	DJI	Approx. 4700 € *
C3	Matrice 350 RTK	The Drone's changeable camera allows for thermal, multispectral, and lidar capabilities.	DJI	Approx. 10000 €*

* The prices listed here were researched online from various internet retailers as of February 2024.

DJI drones are a good choice because the company actively pursues C-classifications for its new models. However, as a Chinese manufacturer blacklisted in the US, it's crucial to stay updated on European restrictions to protect your business. Stay informed to adapt to changing regulations.

SOFTWARE

Choosing the software

PRODUCT NAME	LIDAR	PHOTO- GRAMMETRY	THERMAL	MULTI- SPECTRAL
Pix4D				
Dronedeploy				
DJI Terra				
Metashape				
Bentley iTwin Capture Modeller				
RealityCapture				
Maps Made Easy				
Birdi				
3D-Mapper				
CloudCompare				
OpenDroneMap + QGIS				

Keep in mind that some software providers often offer various programs tailored for specific purposes.

The actual capabilities of the software depend on the specific software package you buy from their website.

SOFTWARE

Choosing the software

PRODUCT NAME	FREE TRIAL	FREE	PAY-PER-INPUT *	SUBSCRIPTION	PERMANENT OWNERSHIP
Pix4D	Yes			40-250 € / mo	
Dronedeploy	Yes			150-600 \$ / mo	
DJI Terra	Yes				
Metashape	Yes			3500 € / y	
Bentley iTwin Capture Modeller				300-3600 € / y	5080 €
RealityCapture			Check the website		180-3500 \$
Maps Made Easy			Check the website	5-50 \$ / mo	
Birdi		Partly		60-120 \$ / mo	
3D-Mapper			Check the website		
CloudCompare		Fully			
OpenDroneMap + QGIS		Fully			

** Pay-Per-Input prices change with task complexity. You only pay for what you use, but estimating costs can be challenging.*

The prices listed here were researched online from various internet retailers as of February 2024.

Without a clear understanding of the customer pricing structure, monthly payments can become burdensome.



THE BUSINESS

THE BUSINESS

The Starting Cost

Estimated 4000€ is required to start a drone business.

Estimated 7200€ for one year operating costs.

ITEM	NOTE	COST
Free & Paid Courses		
YouTube & other similar free services	<i>Don't underestimate the quality of free learning</i>	0 €
Udemy & other similar paid learning services	<i>Paid courses provide more niche topics or deeper information</i>	10 - 90 € /Course
Trusted professional tutors on their own website	<i>Not just the information, but the level of teaching is high</i>	100 - 1000 € /Course
Certification		
A1/A3 certification	<i>5 years certification has the best price/time ratio</i>	100 € /5 years
A2 certification	<i>Only if you know you need this</i>	50 €
Equipment		
Mavic Pro 3	<i>The best overall drone</i>	3500 €
DJI Mini 3 Pro	<i>The cheapest budgeted drone</i>	750 €
Software		
Recommended software	<i>Please check the slide about software</i>	0-500 € /mo
Insurance		
Drone Insurance (providers: Coverdrone, Marineservices.lv, DJI Offers extra insurance)	<i>The price depends on the cost of your equipment</i>	70 - 300 € /year
Online Presence		
Domain		approx. 12 € /y
Web Hosting		approx. 48 € /y
Social Media Presence	<i>Facebook, Instagram, X, TikTok...</i>	starting from 0 €
Other Important Expenses		
Travel expenses	<i>Gasoline etc.</i>	
Banking services		5-20 € / mo
Bookkeeping		50-100 € / mo

We take the average basic numbers to show the result for this presented case.

Your individual case can be calculated carefully upon request with business advisor.

THE BUSINESS

Financial possibilities from Leader group

There is a possibility to apply for financial support from Leader group.
In area of North Ostrobothnia act:

Keskipiste - Leader ry **Rieska - Leader ry**



Keskipiste - Leader ry operating areas:

Haapajärvi, Haapavesi, Kärsämäki, Nivala, Pyhäjärvi,
Pyhäntä, Reisjärvi, Siikalatva

Contact info:

info@keskipisteleader.fi

+358400838528

www.keskipisteleader.fi

Rieska – Leader ry operating areas:

Alavieska, Kalajoki, Kannus, Merijärvi, Oulainen, Sievi,
Ylivieska

Contact info:

toimisto@rieskaleader.fi

+358405537209

www.rieskaleader.fi

Financial support can be up to 40%.

It is worthwhile to get in touch with your own LAG (Local action group) office when planning a new project. The LAG staff can help fine-tune the project plan and help at various stages during the application process. Same conditions are for Rieska Leader. All the time you need to contact about every project. Everything depends on the details.

THE BUSINESS

Financial possibilities from Business Finland

The innovation voucher is intended for small companies under 5 years old. In the financial service, the amount of the grant is 4500 euros and the company's self-financing portion is 1500 euros.

The note's uses have been specified in such a way that the financing encourages companies to engage in R&D.

The conditions for granting financing are described in more detail on this website. Funding is discretionary.

Details:

<https://www.businessfinland.fi/en/for-finnish-customers/services/funding/research-and-development/innovation-voucher>



THE BUSINESS

Pricing Strategy



Definition of project scope
(hours, days, specific project full package)



Calculation of operational costs
(ref. Basic package investments)



Evaluation of the target market
(competitors, pricing policy, area, potential clients)



Determination of value proposition



Setting structure of the price



Forecast expenses, threats – unexpected expenses



Testing your price
(presentation and communication with potential client)



Calculation of *BREAKEVEN POINT* per month:
Fixed cost/(price – variable costs)
This formula will help you to understand how many projects (flights) you need to make per month to be profitable.

THE BUSINESS

How to be Successful

Find your own specialization

- Providing basic drone services valuable, but entering the market is relatively easy, leading to intense competition. See what else you can do with your drones.

Be efficient

- Know the speed and the quality of your work

Build trust

- Having clients that loves your service and knows you will do what you promise keeps the future work coming

Created portfolio

- It is important to build your portfolio early
- Be creative, you may have contacts and ways to create your portfolio you haven't even realized

Define Competitive advantage

- Quality of deliverables
- Timeline
- Legacy and client safety
- To be updated both technically and legacy



***Always
know your
competitors!***

THE BUSINESS

Reasons to fail

- Lack of knowledge about changes
- Pricing mistakes
- Low customer knowledge of their needs
- Inability to build customer relationship
- Not staying up-to-date in rapidly changing market
- Lack of visibility (bad marketing, bad brand presence)
- Lack of willingness to be agile
- Not being prepared for changing customer needs
- Not following drone related regulations



THE BUSINESS

SWOT Analysis

Check the table for your business plan's SWOT analysis. It summarises your strengths, weaknesses, opportunities, and threats, giving a quick overview of internal and external factors effecting to your business.

<p>Strengths</p> <ul style="list-style-type: none"> • Skills, talents, and experience • Basic software proficiency • Solution creation abilities • Willingness to build a portfolio • Competitive pricing strategy • Diverse service offerings • Low startup and operational costs • Self-service model with no staff • Adaptability to new technologies • Environmentally friendly approach 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Unstable income initially • High competition • Learning curve for updated hardware and software • Limited business skills • Ineffective marketing strategy • Poor customer relations • Difficulty estimating project scope and time • Rapid hardware and software advancements • Low cash-flow and problem-solving challenges • Lack of certain skills, talents, and experience
<p>Opportunities</p> <ul style="list-style-type: none"> • Unlimited market potential in choosing markets and services • Rapid development in software/hardware innovations • Growing demand for services due to market development • Opportunity to build a portfolio for free • Expansion to the international market • Expanding markets for digital products 	<p>Threats</p> <ul style="list-style-type: none"> • Legislative changes • Evolving drone or software policies • Restrictions on popular software usage • Limitations in specific areas due to mandatory restrictions • Unforeseen damages to hardware and software • Weather and seasonal conditions affecting operations

CONTACT



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