DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

DEVELOPING and **BUILDING** aerial robots for security, safety and inspection, **DISRUPTING** and replacing unnecessary human interaction.

THE COMPANY

BASIC INFO & KEY NUMBERS

DroneMatrix, Limited Company – Est. 2015 – 11 FTE
HQ - Herkenrodesingel 4 B-3500 Hasselt Belgium
DRONEFAB - Groeningenweg 10b4 B-3511 Diepenbeek Belgium
www.dronematrix.eu

We are building **intelligent, automated drones** to operate over industrial environments, smart cities, smart regions and smart ports. It is a cost-efficient solution for many industries and essential to ensure a safer future.

Our versatile drone YACOB is the main driver that enables the 6th NeTWorK. Our mission is to offer drone technology on an industrial scale in **a shared services model** where a single drone installation will deliver **multiple services to multiple end-users**.

	2017	**2018**	**2019**	**2020**
Turnover	328.556,17	767.600,25	865.525,68	/
Net profit	13.465,30	161.125,94	15.608	/
Equity	501.149,07	730.954,76	698.781	/
Workforce	5	7	9	11

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

THE VALUE PROPOSITION
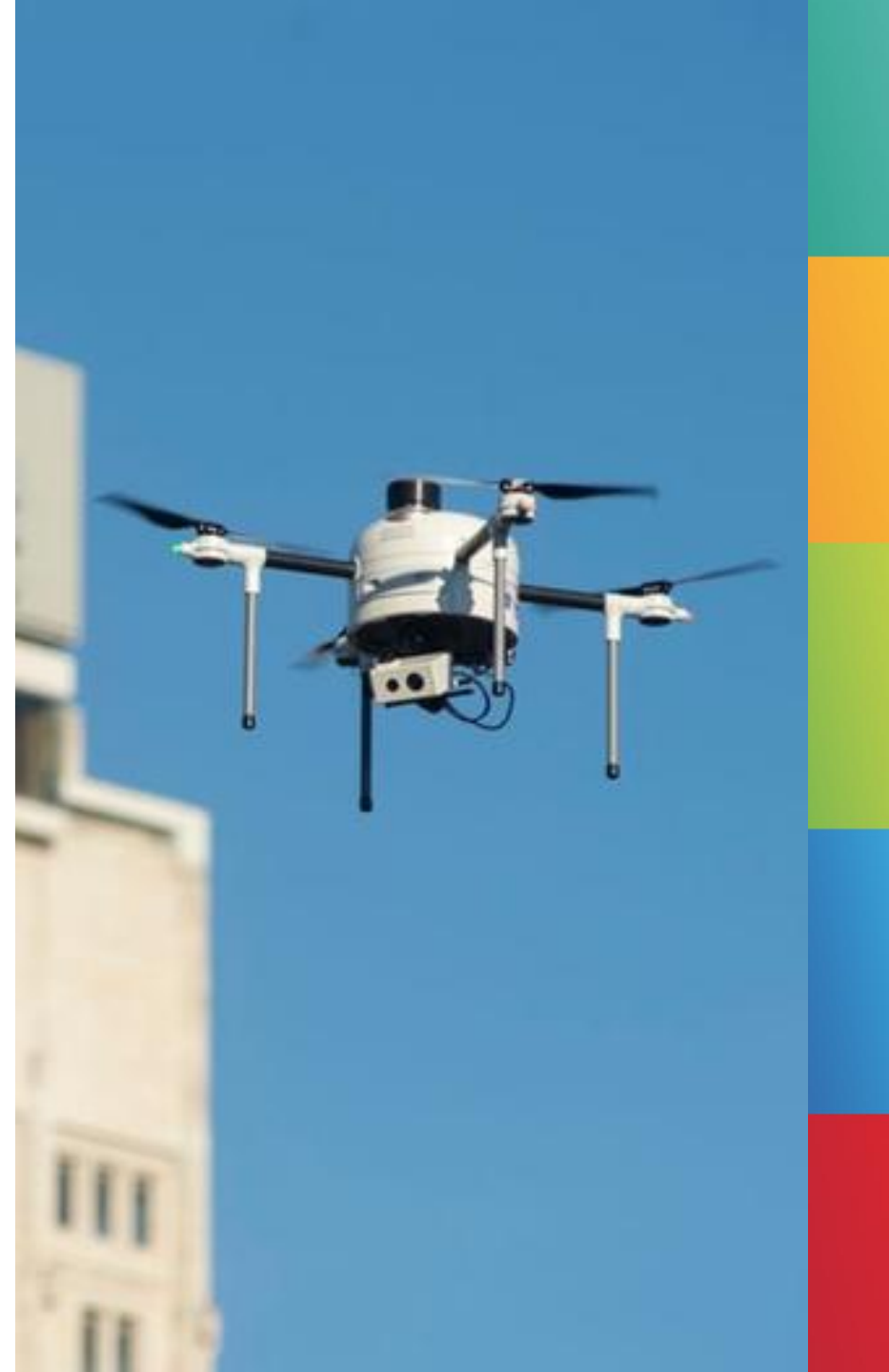
INTELLIGENT DRONES – MANUFACTURED LOCALLY

The ideal partners for **security**, **safety** and **inspections** – offering a solution for the rising stress on augmenting cost efficiency and overall cost reduction.

Faster interventions, **better overviews** of situations

Pro-active and **re-active** missions, reducing errors and human intervention. The drones go beyond human limitations – again increasing effectiveness at a reduced cost.

No more need for as many expensive drone pilots, remote operators or security guards, technical experts – **security and inspections on a higher level at a lower cost**.

Local / smart **manufacturing** – local **servicing** – local **expertise**
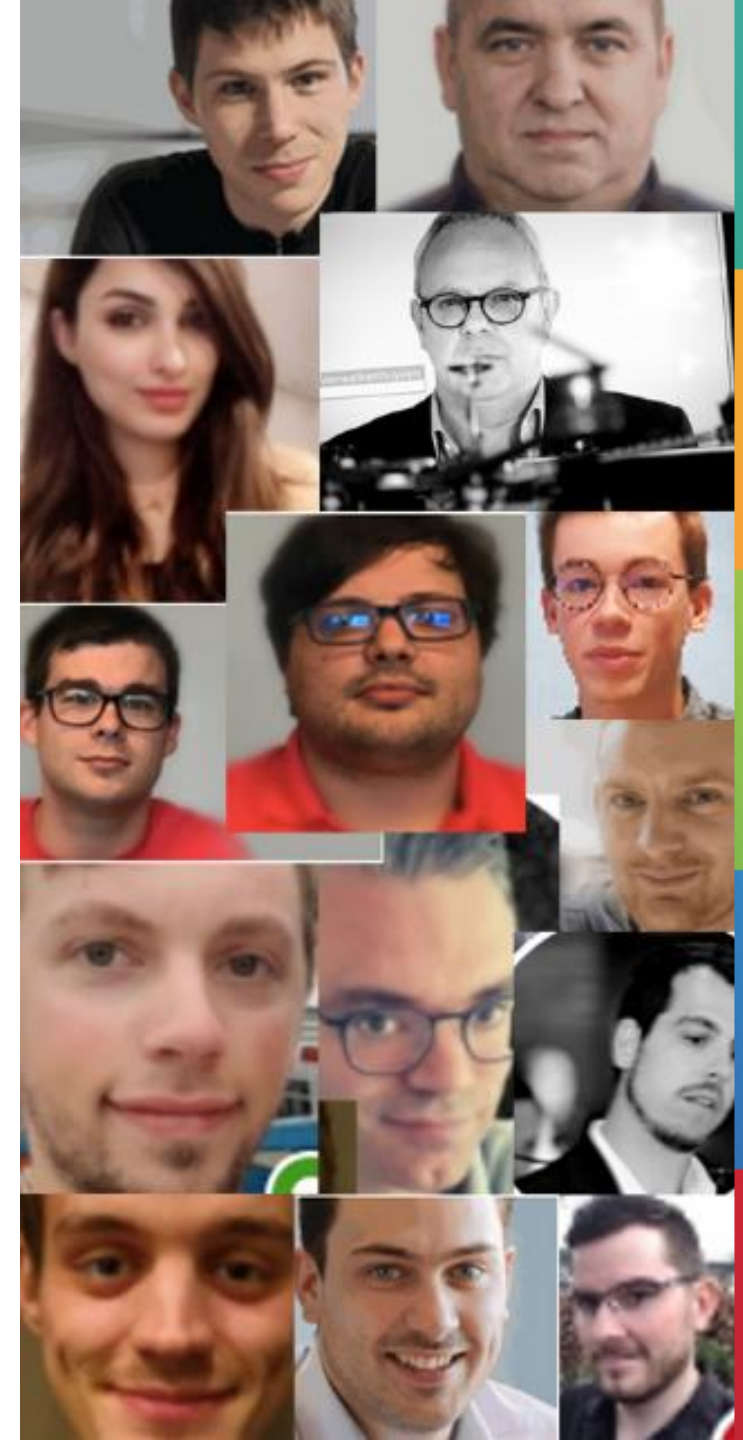
DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

THE TEAM

1. **Frank Vanwelkenhuyzen** – Founder & Chairman

2. **Lander Vanwelkenhuyzen** – Founder & General Manager

3. **Harm Vanwelkenhuyzen** – Founder &Senior Project Manager

4. **Frederik Winters** - Business Development Officer – Board Member

5. **Dimitri Marechal** – Chief Technology Officer

6. **Roel Helsen** – Flight Control Engineer

7. **Michiel Arits** – Electronics & Mechanical Engineer

8. **Thiago Struys** – Electronics & Mechanical Engineer

9. **Manar Ahmed** – Operational Assistant

10. **Karel Vandenbergh** – Compliance Officer

11. **Joachim Schmitz** – Software Engineer

12. **Christiaan VanHerck** – Software Engineer

13. **Kevin Logist** – Marketing and Communications Manager

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

IDENTIFIED FINDINGS/PROBLEMS

We live in a **fast-changing world**, facing many economic and environmental threats and opportunities at the same time. The climate change and the corona outbreak are important wake up calls for our society.

With ever improving robotics, artificial intelligence and legislative frameworks for unmanned aerial vehicles (UAV's) in Europe, we have no choice but to implement simpler, faster, more reliable and more cost-efficient automated security, safety and inspection checks. **The tolerance for human error is at an all-time low**!

Physical (human) proximity is extremely expensive – Remote proximity is cheaper, faster and often better.
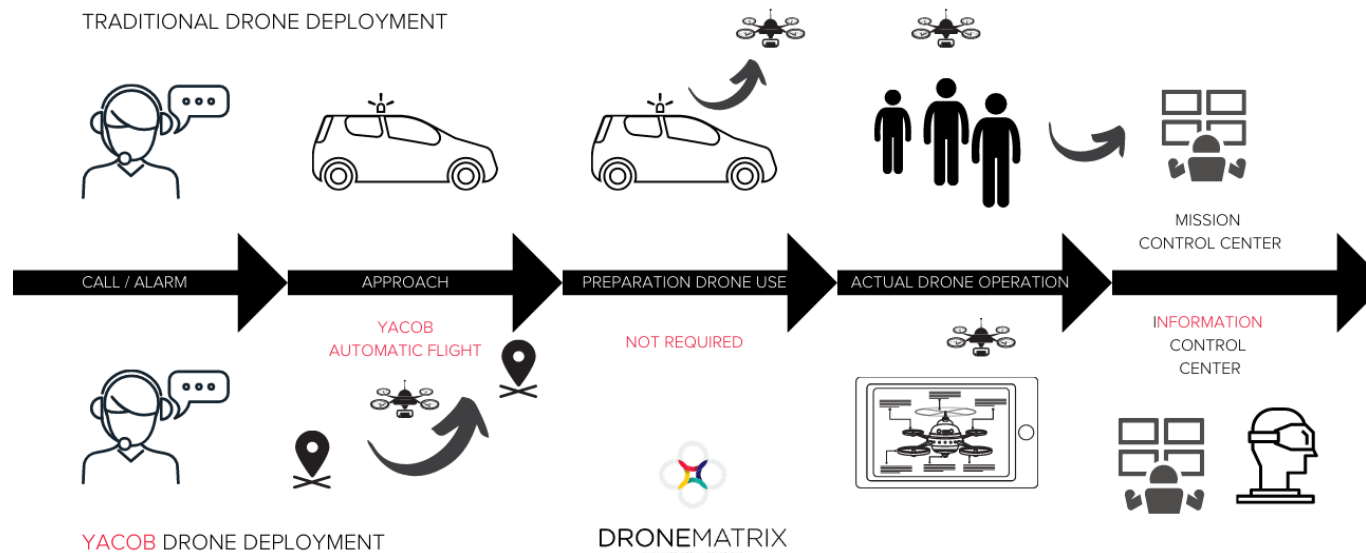
IDENTIFIED FINDINGS/PROBLEMS

The **highly price competitive market of security and service companies overall** is looking for solutions. There is a need for automatization / robotization with same or higher output as human personnel.

Helicopter deployment for inspections / crowd control / overall emergency support **is very expensive**. Police / emergency services need more frequent situational overview not constrained by budget.

Sea Ports are in need of general overviews and **inspection of infrastructure and docks**. The security aspect is also very important for sea ports. Today it requires an immense deployment of personnel and it's quite impossible to have a complete overview. Human oversights and errors are common.

Renewable energy plants (wind turbines, solar panel plants, etc…) are in need of **affordable and precise inspections and maintenance solutions**. Having maintenance teams onsite is expensive, but repairing and cleaning on time is very important for optimal energy supply. So a balance must be found between cheaper and more frequent inspections and the actual human maintenance interventions.

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS
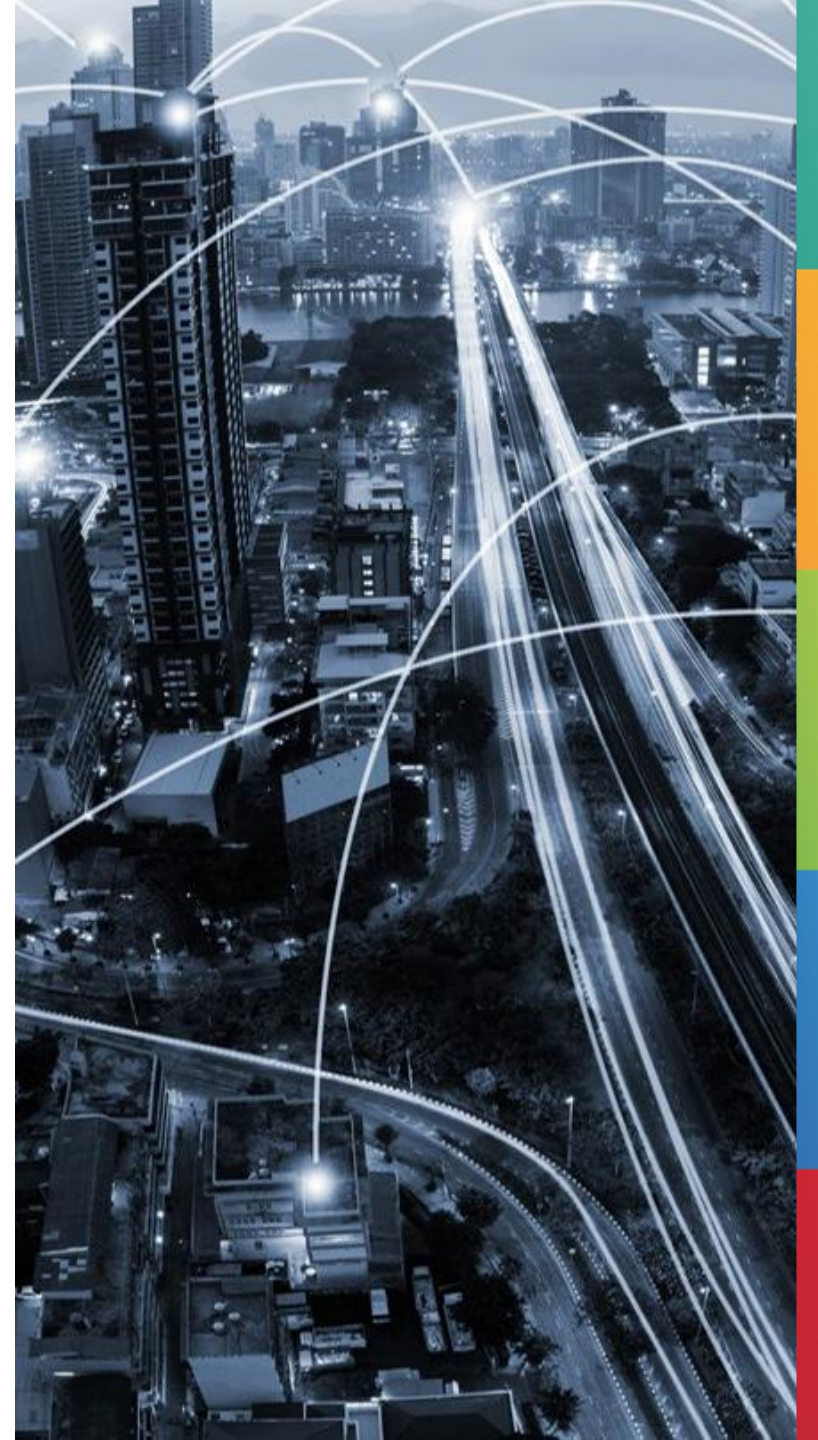
THE SOLUTION

AERIAL ROBOTS

Aerial Robots are the solution:

- ✓ They are **AUTONOMOUS** (YACOB drones and docking stations)

- ✓ The are **NETWORK CONNECTED** (6th NeTWorK)

- ✓ The use **SECURE COMMUNICATION**

- ✓ The have **A.I. ON BOARD**

- ✓ They are produced through a **SMART MANUFACTURING** process – can be applied anywhere

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

THE OFFER

YACOB – the worker drone and docking station of the 6th NeTWorK

Smart
- ✓ Automatically, take off, fly
- ✓ Automatic precisely landing in the box or on marker
- ✓ Computer control of the drone status
- ✓ Onboard recognition

Safe
- ✓ Safety parachute – Wireless charging – Redundant
- ✓ Safety in case of communication, motor, battery fail

Climate proof
- ✓ Protection against rain, snow dust, temperature (low-high)

Automated
- ✓ Lidar sense and avoid
- ✓ Return algoritmes – focus, track and follow

Communications
- ✓ Live data streaming – Video - Flightdata
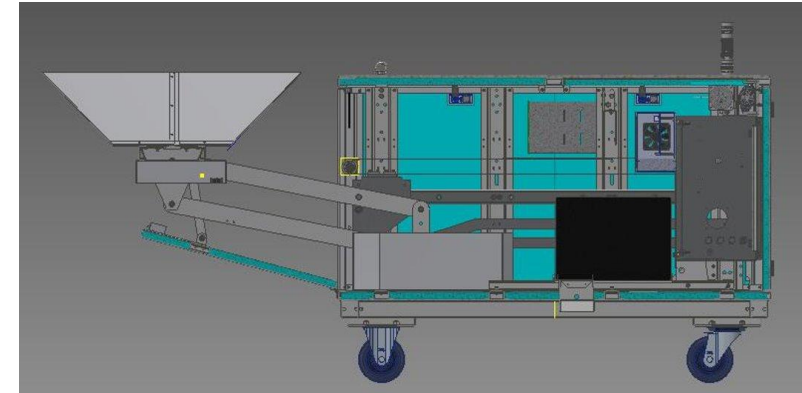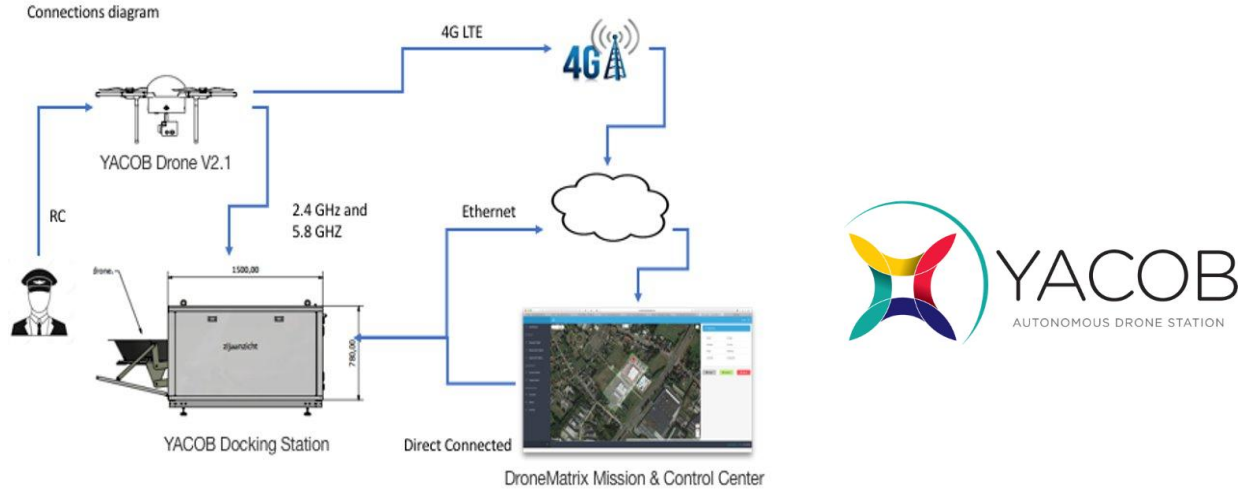- ✓ Remote control on view and flight

THE OFFER

THE OFFER

6TH NETWORK – the hardware and application (apps) platform

A shared services model: the lower airspace levels will be transformed in commercial corridors for automated and autonomous drone flights, medical, security, inspection, safety,.... A broad set of services in an as-a-service way, will harvest investments greatly. This network is in development but is already being tested.
3 key elements:

✓ A **strong technological foundation** & infrastructure (drones hard- & software, telecommunications, sensors, …)

✓ A **drone fleet management system** / platform, ARWS – Aerial Robotic Work Management System to integrate the solution through apps

✓ A **living lab that realizes this network**. This may include a partnership with drone research centers, testing facilities, cities & governments, security / inspection / observation / analysis firms, …

THE MARKET

DRONES ARE AN EYECATCHER FOR THE INDUSTRY

The Boston Consulting Group estimates the industrial drone **turnover** in Europe and the US to be **over $30 billion by 2030**.

The European Commission estimates the global number of mass-market drones at **35 million units by 2022** – of which some 25% will be in Europe.

To **tap into this market**, the most profitable and efficient solution for drone technology applications on an industrial scale is **a shared services model** where a single drone installation will deliver **multiple services** to **multiple end-users**.

EXHIBIT 1 | The Evolution of the Drone Market Through 2050

SALES WILL RISE RAPIDLY TO 2030 AS COMMERCIAL FLEETS ARE BUILT

Number of drones in use (thousands)[1]

DRONE SERVICE AND PRODUCT SALES COULD APPROACH $50 BILLION PER YEAR IN 2050

Market for drone products and services ($billions)

Europe   US
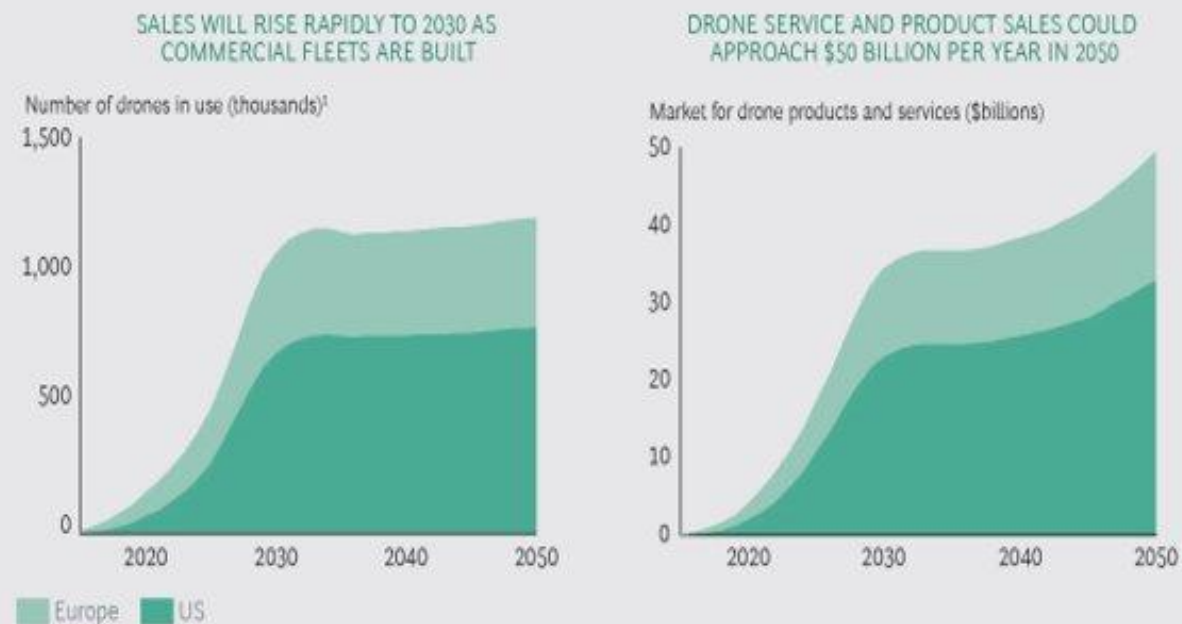
Source: BCG analysis.
[1]Includes nonmilitary government use, for example, police and maritime surveillance.

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

SEGMENTATION - POSITIONING

SPECIFIC INDUSTRIES – UNLIMITED VERTICAL APPLICATIONS

We are aiming at **very specific markets**, that have **very specific needs** – thus enabling us to create niche drone like YACOB, able to compete with mass production robots. With the integration in the 6th NeTWorK the availablity of almost unlimited vertical applications is key for these targets and the industries they work in.

We are aiming at:

- ✓ Smart Cities & Communities
- ✓ Government Agencies and Emergency Services (police, ambulance, fire brigade)
- ✓ Private Industry – companies with very large sites requiring inspection and security
- ✓ Sea Ports
- ✓ Airports
- ✓ Renewable energy sites/plants

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

THE COMPETITION

A NEW CONCEPT - A NEW MARKET

The **main competitors** of YACOB are UAV builders:
- Airobotics (Israel)
- Airscort (Israel)
- Percepto (Israel)
- Skye
- Nightingale (NewZealand)

We have a **strategic advantage** over all these drone builders. We are far more cost efficient with **more affordable drones** with more features. We also have a **different concept development**, thus overcoming many problems these companies face in the building, deploying and operating of these systems. We have almost perfected these steps, being able to service any customer very fast, worldwide.

Since this is a new market development all the traditional ways of operating security and inspection missions are potential competitors. Since we are looking to **disrupt the market with cost efficient unmanned solutions**, these should not be problematic to overcome.

We have conducted a more elaborated competitor analysis, which can be consulted **here**.

COMPETITIVE ADVANTAGE

PROVEN TECHNOLOGY

As mentioned before, we have a **strategic advantage** because we offer a far more cost efficient solution with **more affordable drones**. We also have a **different concept development**, almost perfecting building, deploying and operating of our YACOB drone and docking station, thus able to service any customer very fast, worldwide.

Mayor of Antwerp Bart De Wever and his chief of police Serge Muyters (police) and Bert Brugghemans (fire brigade) are satisfied with an experiment that fit into a larger European droneproject. De Wever sees many advantages compared to the current police helicopter. **YACOB is cheaper, much faster and above all much quieter.** "If the people of Antwerp have one complaint about the helicopter, it is the hellish noise it makes", says De Wever.

View all reports about this milestone in innovation:
VRTNWS (Radio 2): https://bit.ly/2QB4q2h and https://bit.ly/2KC4hbe
ATV: https://bit.ly/2OylseI
Het Laatste Nieuws: https://bit.ly/37oY5x1
BDO Digital: https://bit.ly/2KEM7pk

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

COMPETITIVE ADVANTAGE

Police see enormous added value for her tasks, they too should use smart technology:

✓ Automatic sending drone to incident location
✓ Tracking and following the suspect
✓ Feedback to intervention teams
✓ Evaluation of the crisis situation

For the fire department it is often a question of speed, they need the visual information fast:

✓ Automatic sending drone to incident location
✓ Searching victims
✓ Feedback to intervention teams
✓ Evaluation of the crisis situation

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

Willem Willemsens
Politie Antwerpen

Bert Brugghemans
Brandweerzone Antwerpen

COMPETITIVE ADVANTAGE

PROVEN TECHNOLOGY

OUR VALUABLE ECOSYSTEM

RESEARCH AND INNOVATION CENTRE

CENTRE OF EXCELLENCE

BUSINESS INCUBATION CENTER

TESTING CENTRE

PRODUCTION CENTRE

DRONEMATRIX

UNMANNED AERIAL SOLUTIONS

COMPETITIVE ADVANTAGE

PROVEN TECHNOLOGY

OUR VALUABLE ECOSYSTEM

RESEARCH AND INNOVATION CENTER

Our relationships with Universities and knowlegde institutions have grown so strongly over the past years through several VLAIO projects. DroneMatrix is on a daily base in contact with the University of Leuven, PXL, Flanders Make, University of Antwerp, IMEC and many more.

CENTRE OF EXCELLENCE

The employees at DroneMatrix are experts in their field, they come from the most renowned universities such as TU Delf in the Netherlands for flight enginering.
In addition, their experience in drone technology, both software as hardware, has grown so much through all implementations and projects.
Finally, DroneMatrix has all tools available and is equiped with all technology that is needed.

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

COMPETITIVE ADVANTAGE

OUR VALUABLE ECOSYSTEM

BUSINESS INCUBATION CENTER

The presence of Droneport is crucial for DroneMatrix to further develop contacts on the drone business.
We are therefore very involved with all initiatives of Droneport.

TESTING CENTER

For major testing and visits of important partners, Droneport is ideal for presenting our company.

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS
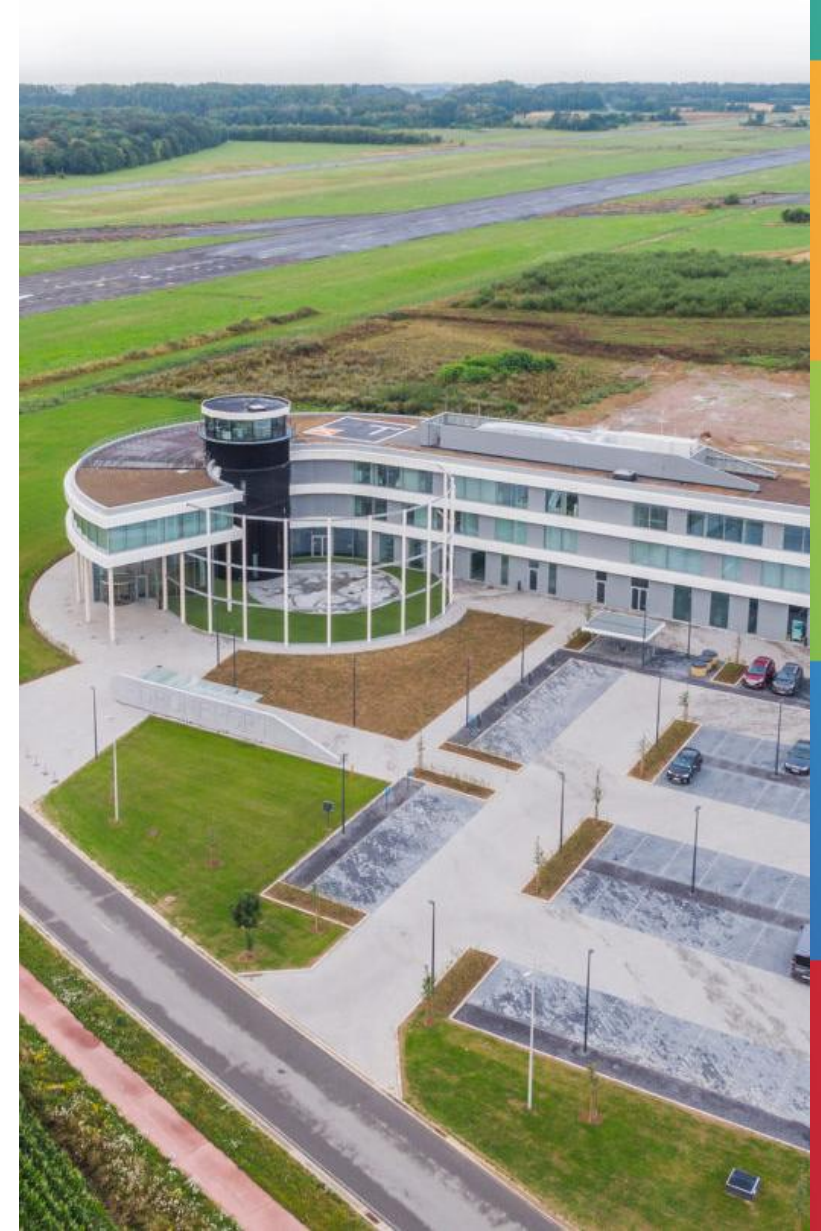
COMPETITIVE ADVANTAGE

PROVEN TECHNOLOGY

OUR VALUABLE ECOSYSTEM

PRODUCTION CENTER

Our technology is key. The concept of the hardware gives us a competitive edge.
Artificial intelligence on board – DroneMatrix inside!
Total Cost of Ownership is low!
Smart-factory… smart-everything – can be locally assembled by lowtech personel (competitive)

THE ECONOMIC MODEL

PLATFORM FOR DRONE HARDWARE & SOFTWARE

The business model of the YACOB system and the 6th NeTWorK is **quite straight-forward**. The **sales of the hardware installations to key segments is important** (along with maintenance and service contracts). The continuous development of the operating software platform on the 6th NeTWorK will be key to drive hardware sales. There will be **licencing fees** for the usage of the operating software/platform by end users.

There will also be a fee to allow the **integration of vertical applications** by third parties (app builders). We will not develop our own apps but are driving partnerships to have large IT-integrators develop their own. Next to this we will also be supporting the **integration of third party hardware** into the network (up to par with 6th NeTWorK standards), by the same operating software licencing fees.
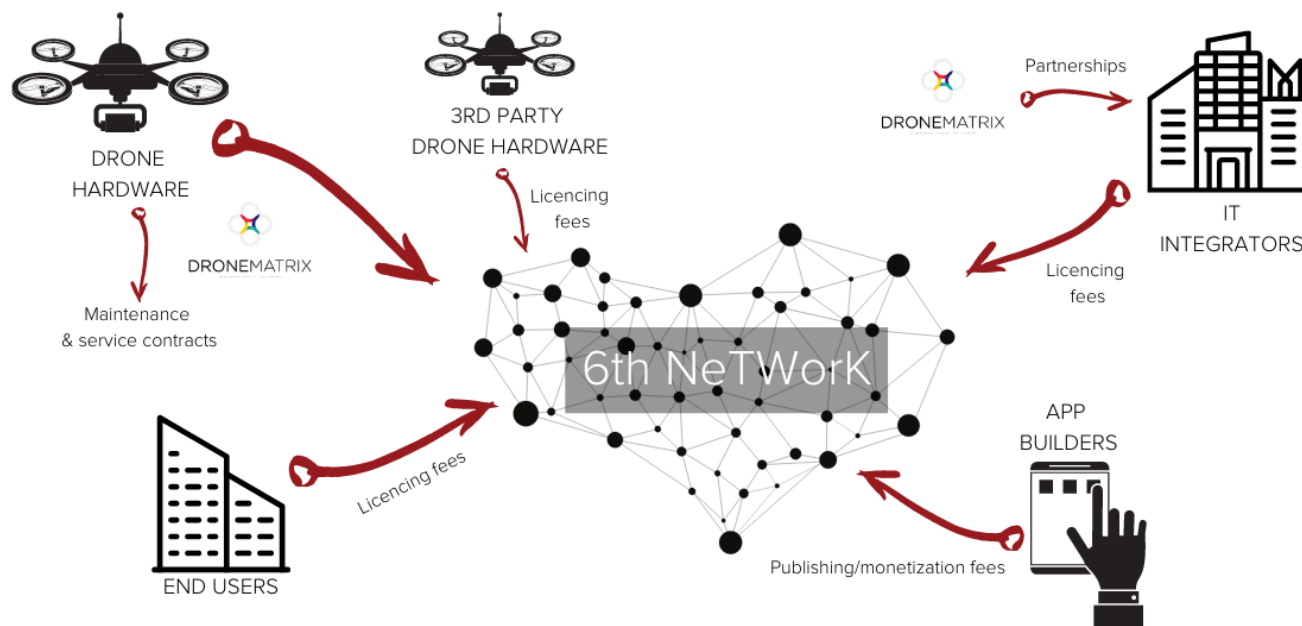
INDUSTRIALIZATION

A ROADMAP

The YACOB can be described as MVP where the technology nor the production is a challenge today. Delivery times are maximum 4 weeks and the cost price clearly lower than competitors due to smart manufacturing and conceptual differences.

Our network of partners goes beyond national and European borders as we know the important players and experts in their field.

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

MARKETING – SALES - COMMUNICATION

A NICHE APPROACH

Since we are aiming for a very specific target market, the sales of hardware solutions and the network that supports this, should not be marketed by general means. We should therefor aim to:

- Send out **targeted e-mailings**
- Use the **personal networks** to get in touch with key decision makers
- Conduct and organize **demo events** and opportunities
- **Highlight success stories** via social media – preferably LinkedIn (of which we already have multiple – internationally)
- Seek out the **key players** in every targeted segment (Sea Ports – Airports – Captains of Industry)
- Seek out and grow a network within emergency services and government agencies. We have currently one of the **best networks** of Belgium in this segment, so we could build on this internationally
- Have **web visibility** (website – Google ranking) – enhanced web contact forms (PipeDrive CRM system – proven system on the DroneMatrix website – drives in leads).

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS
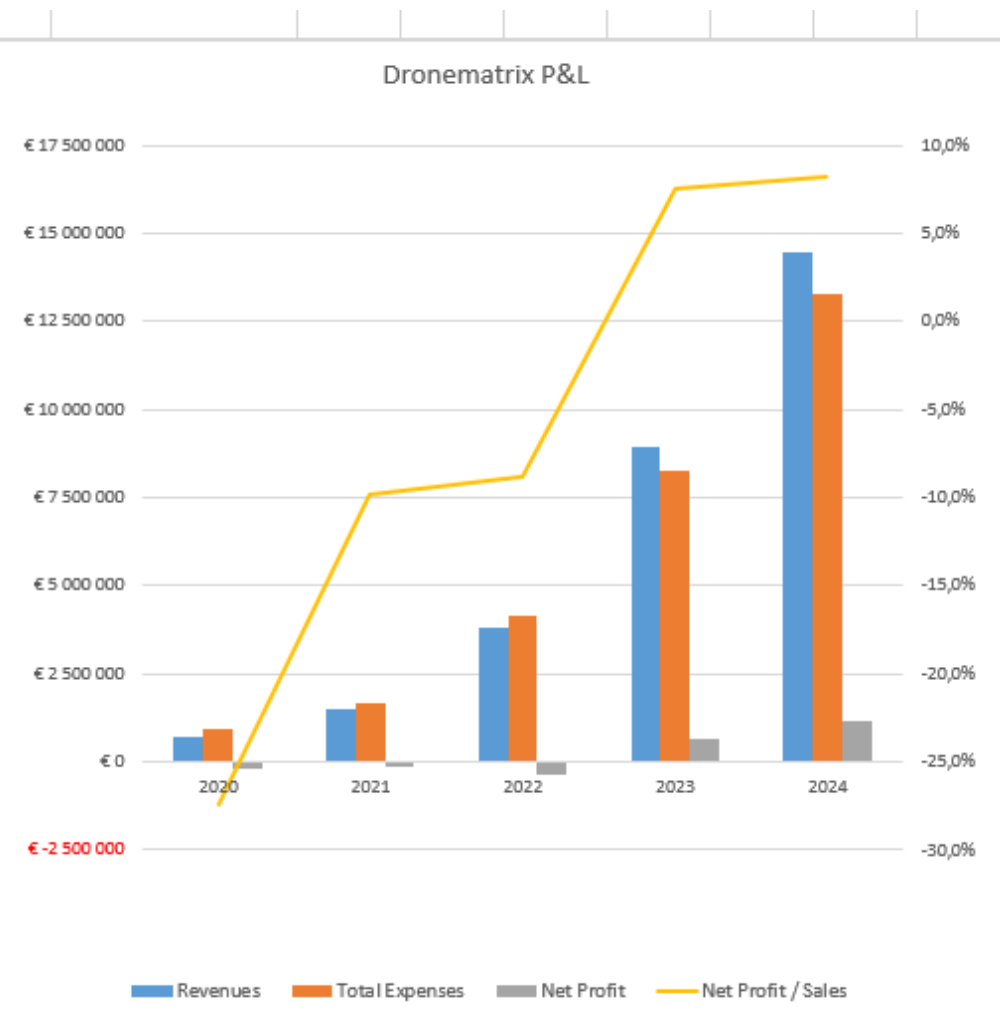
FINANCIAL INFORMATION

SUMMARY - Revenues

Revenues	2020	2021	2022	2023	2024
TYTHUS V3	€ 170 000	€ 340 000	€ 640 000	€ 900 000	€ 1 330 000
YACOB V2.X	€ 120 000	€ 180 000	€ 300 000	€ 525 000	€ 710 500
YACOB VX.Newest	€ 0	€ 0	€ 420 000	€ 1 210 000	€ 2 050 000
YUSTUS 261	€ 60 000	€ 195 000	€ 385 000	€ 1 215 000	€ 1 575 000
YUSTUS 262.Newest	€ 0	€ 0	€ 595 000	€ 1 650 000	€ 2 665 000
YOSHUA (MDDC)	€ 10 000	€ 30 000	€ 75 000	€ 180 000	€ 425 000
DM SERVICES	€ 54 000	€ 111 750	€ 362 250	€ 852 000	€ 1 313 325
SIXT NETWORK SERVICES	€ 0	€ 360 000	€ 720 000	€ 2 160 000	€ 4 200 000
Total Revenu PRODUCTS	€ 350 000	€ 715 000	€ 2 340 000	€ 5 500 000	€ 8 330 500
Total Revenu SOFTWARE	€ 10 000	€ 30 000	€ 75 000	€ 180 000	€ 425 000
Calculation Operational - Maintenance	54	99	290	568	796
Total Revenu OPERATIONAL	€ 54 000	€ 111 750	€ 362 250	€ 852 000	€ 1 313 325
Total Revenu SIXT NETWORK SERVICES	€ 0	€ 360 000	€ 720 000	€ 2 160 000	€ 4 200 000
Subsidies	**€ 300 000**	**€ 300 000**	**€ 300 000**	**€ 250 000**	**€ 200 000**
O&O Research Funds	€ 300 000	€ 300 000	€ 300 000	€ 300 000	€ 300 000
Total Revenues	**€ 714 000**	**€ 1 516 750**	**€ 3 797 250**	**€ 8 942 000**	**€ 14 468 825**

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

FINANCIAL INFORMATION

P&L	2020	2021	2022	2023	2024	
Revenues	€ 714 000	€ 1 516 750	€ 3 797 250	€ 8 942 000	€ 14 468 825	
TYTHUS V3	€ 170 000	€ 340 000	€ 640 000	€ 900 000	€ 1 330 000	50%
YACOB V2.X	€ 120 000	€ 180 000	€ 300 000	€ 525 000	€ 710 500	50%
YACOB VX.Newest	€ 0	€ 0	€ 420 000	€ 1 210 000	€ 2 050 000	50%
YUSTUS 261	€ 60 000	€ 195 000	€ 385 000	€ 1 215 000	€ 1 575 000	50%
YUSTUS 262.Newest	€ 0	€ 0	€ 595 000	€ 1 650 000	€ 2 665 000	50%
YOSHUA (MDDC)	€ 10 000	€ 30 000	€ 75 000	€ 180 000	€ 425 000	25%
DM SERVICES	€ 54 000	€ 111 750	€ 362 250	€ 852 000	€ 1 313 325	25%
SIXT NETWORK SERVICES	€ 0	€ 360 000	€ 720 000	€ 2 160 000	€ 4 200 000	50%
Subsidies	€ 300 000	€ 300 000	€ 300 000	€ 250 000	€ 200 000	0%
Direct Costs	€ 191 000	€ 572 938	€ 1 639 313	€ 4 088 000	€ 6 699 831	
Gross Margin	€ 523 000	€ 943 813	€ 2 157 938	€ 4 854 000	€ 7 768 994	
Gross Margin %	73,2%	62,2%	56,8%	54,3%	53,7%	
Total Operating Expenses	€ 673 092	€ 1 207 976	€ 2 516 646	€ 3 760 560	€ 5 826 056	
Salary	€ 407 000	€ 626 790	€ 1 256 320	€ 2 009 760	€ 2 837 700	
Employee Related Expenses	€ 3 000	€ 8 500	€ 10 000	€ 12 500	€ 15 000	
Rent Offices & Factory	€ 46 800	€ 82 800	€ 102 000	€ 114 000	€ 126 000	
Marketing & Promotions	€ 142 800	€ 303 350	€ 759 450	€ 894 200	€ 1 446 883	
Utilities	€ 18 000	€ 42 000	€ 54 000	€ 78 000	€ 102 000	
Office Supplies	€ 3 000	€ 6 000	€ 9 000	€ 15 000	€ 18 000	
Insurance	€ 7 500	€ 25 000	€ 30 000	€ 45 000	€ 50 000	
Research & Development			*See fixed assets*			
Shared Services	€ 19 992	€ 48 536	€ 170 876	€ 447 100	€ 940 474	
Fees Consultants	€ 25 000	€ 65 000	€ 125 000	€ 145 000	€ 290 000	
Operating Income (EBITDA)	€ -150 092	€ -264 164	€ -358 709	€ 1 093 440	€ 1 942 938	
Interest Incurred	€ 21 000	€ 21 000	€ 21 000	€ 21 000	€ 21 000	
Depreciation and Amortization	€ 24 500	€ 89 500	€ 169 500	€ 264 500	€ 409 500	
Income Taxes	€ 0	€ -225 564	€ -212 302	€ 139 485	€ 328 109	
Total Expenses	€ 909 592	€ 1 665 850	€ 4 134 157	€ 8 273 545	€ 13 284 497	
Net Profit	€ -195 592	€ -149 100	€ -336 907	€ 668 455	€ 1 184 328	
Net Profit / Sales	-27,4%	-9,8%	-8,9%	7,5%	8,2%	

Dronematrix P&L

Legend: Revenues, Total Expenses, Net Profit, Net Profit / Sales

UNMANNED AERIAL SOLUTIONS

FINANCIAL INFORMATION

SUMMARY - Headcount

Headcount	2019	2020	2021	2022	2023
	1	1,02	1,04	1,06	1,08
Management	**3**	**3**	**6**	**6**	**6**
CEO	0	0	1	1	1
COO	1	1	1	1	1
CTO	1	1	1	1	1
CSO	0,5	0	1	1	1
CFO	0	0	1	1	1
Assistant	0,5	1	1	1	1
Sales & Biz-Dev	**0**	**2**	**4**	**5**	**8**
Biz Dev Mgr EU	0	1	2	3	4
Biz Dev Mgr ME	0	1	1	1	2
Biz Dev Mgr ASIA	0	0	1	1	2
Tech.Experts + R&D	**4**	**6**	**10**	**22**	**32**
Tech Expert 1	1	1	1	1	1
Tech Expert	1	1	1	1	1
Tech Expert	1	1	1	1	1
Build expert	1	1	3	5	6
Support Engineer	0	1	2	8	9
Sr Project Engineer	0	0	1	2	4
Jr Project Engineer	0	1	1	4	10
Total FTE	**7**	**11**	**20**	**33**	**46**

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

THE FUNDING

FINANCIAL INJECTION TO ENHANCE GROWTH

- Taken into account our current financial plan, we foresee the need of a capital increase of:
  - Now – 2023 = 1.107.658 €
  - 2023 – 2024 = 1.293.915 €

- DroneMatrix has not received any funding

- DroneMatrix plans to obtain the capital increase Q1 2021 which will result a non-dilutive shareholder situation. This capital increase can come from public and or private institutions.

	Working Capital		2020	2021	2022	2023	2024
+	Inventory		31 833	95 490	273 219	681 333	1 116 639
+	Trade receivables		51 041	150 010	431 168	1 071 616	1 759 170
+	Other operating assets						
+	Deferred ch. and accrued inc.						0
Assets to finance			**82 874**	**245 500**	**704 387**	**1 752 950**	**2 875 809**
-	Trade payables		73 412	184 212	470 078	950 351	1 581 894
-	Prepayments		0	0	0	0	0
-	Tax and social liabilities						
-	Other operating liabilities		0	0	0	0	0
-	Accruals ch. and deferred inc.		0	0	0	0	0
Operating financing			**73 412**	**184 212**	**470 078**	**950 351**	**1 581 894**
Working Capital Requirements		**0**	**9 462**	**61 288**	**234 309**	**802 599**	**1 293 915**

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS

PROTECTION OF IP

INTELLECTUAL PROPERTY FEEDS INNOVATION

DroneMatrix has obtained the IP from the **3D Safeguard** project through an agreement between the participating parties.

The same is true for the IP in the **Mirador project**: "This R&D project builds a drone-based surveillance solution enabling new security service offerings for large industrial sites: onboard sensor and camera data is used for autonomous flights and surveillance actions, while secure communication allows confirming security hazards remotely."

CONCLUSION

DroneMatrix wants to grow internationally with the manufacturing and sales of the YACOB drone and docking station system. **We are targeting a market share of 50%**. To achieve this in a **sustainable** manner, we want to keep evolving our 6th NeTWorK and become the **reference platform** for the integration of drone hardware and services in many industries and ultimately in everyday life.

A drone at everyone's fingertips!

We want to join Industrya to find the necessary means to grow and grow fast. To keep an edge over the US and China based initiatives that might emerge, we need to be able to **gain a head start** and develop our technology, **making it harder for them to catch up** (which they could potentially do, given enough capital). Rather than allowing this to happen, **we want to grow to discourage them to be a competitor** and encourage them to join the 6Th NeTWorK!

DRONEMATRIX
UNMANNED AERIAL SOLUTIONS