

PRIMOCO UAV



PRIMOCO UAV SE
Czech manufacturer of civilian unmanned aircraft

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Key Information

Presentation of the Issuer

- Primoco UAV SE manufactures **medium-sized, fully autonomous unmanned aerial vehicles (UAVs) and provides related air services.**
- The unmanned aircraft is **assembled from components developed and manufactured in-house by the Company** (engine, body, wings and other parts), with a flight duration of up to 10 hours at a speed of 100-150 km/h, a take-off weight of up to 150 kg and a payload of up to 50 kg.
- The Primoco UAV is the first unmanned medium-sized aircraft to be fully tested, certified and licensed to operate in civil airspace in the Czech Republic and the EU and is considered as **dual use** technology.
- The Company has so far produced **40 aircraft**, and has **its own research and development team, full manufacturing facilities and trained staff** capable of producing up to 50 UAVs per year without additional capital expenditure.
- Primoco aspires to become **a global player** in the fast growing **market for medium-sized civilian unmanned aircraft.**

Trading

- The primary markets targeted by Primoco UAV include **Russia, the Middle East, Africa, Asia and South America.**
- We offer our customers **clearly demonstrable economic benefits** when compared to the use of alternative solutions (e.g. helicopters).
- In December 2016, the Company signed its **first sales contract. In total it has signed contracts for 14 aircraft and it is working on contracts for 130 aircraft in 14 countries.** The price of a typical contract amounts to **EUR 1M and includes 2-3 UAVs.**
- Primoco UAV established a subsidiary in Russia in April 2017 and are planning to provide aerial services, especially in the energy sector.
- The company signed the first Drone-as-a-Service contract in Europe. Primoco UAV is authorized to provide aerial services.

Future

- In the medium term (2018 - 2023), the company plans to produce **up to 250 UAVs per year** in the Czech Republic for the world market, especially for the purposes of monitoring strategic infrastructure, border protection and other civilian missions.
- For the development of the Company and the implementation of the strategic plan, the company intends to increase its registered capital by 15% in an IPO to raise CZK 200 million.

About the Company

- The Company's activities include the development, production and sale of the civilian unmanned aircraft Primoco UAV, model One 100 and One 150.
- Since January 2016, the Issuer has been in full-scale production in Prague. The current production capacity of the Issuer is 50 UAVs per year.
- The Company has 15 employees, 10 contractual sales representatives and sales partners, and is expanding its sales and service representation.
- The Company set up a 100% Russian subsidiary (AO Primoco BPLA), which is ready to provide aerial services in the territory of the Russian Federation. Aircraft certification for flying in the airspace of the Russian Federation is currently under-way.
- The primary market for the Company is professional users. Typical customers are government agencies and large organizations.
- Primoco UAV is commercially focused on Russia, the Middle East, Africa, Asia and South America.
- Common tasks include infrastructure monitoring (for example oil pipelines, gas pipelines), border and coastal protection, fire monitoring and geodetic work.
- In December 2016, the Company signed the first purchase agreement. In total it has signed contracts for 14 aircraft and it is working on contracts for 130 aircraft in 14 countries. The price of a typical contract amounts to **EUR 1M and includes 2-3 UAVs**.
- The company signed the first Drone-as-a-Service contract in Europe. Primoco UAV is authorized to provide aerial services.
- In the past 12 months, 16,000 users from 155 countries visited the Company's web site and 28,000 YouTube videos about the Company were watched. The company was mentioned in more than 100 articles by the Czech media and in more than 50 articles abroad. Reuters and Associated Press issued video reports about Primoco UAV.
- Primoco UAV has been funded solely from shareholders' funds, without bank loans or other subsidies.
- The company is audited by Deloitte (2015-2016) and TPA (2017).

Management

- **Major shareholders**

- **Ladislav Semetkovský (50.41% share)**

- Chief Executive Officer and Founder

- In 1997, Ladislav established Media Online, the leading Internet portal for housing and construction in the Czech Republic and Slovakia. In 2007, he sold his company to the Finnish SanomaWSOY. Since 2007, he manages several media companies in the Russian Federation, including the travel portal RussianTraveller.ru, RussianRunner.ru and Stroitelstvo365.ru In addition, he provides EMEA clients with e-commerce solutions. In 2014, he started development of the unmanned aircraft Primoco UAV. In 2013 he wrote the book Business in Russia. He is an avid pilot of piston and turbine aircraft and collects 8-bit computers. He speaks Czech, Russian and English.

- **Gabriel Fülöpp (49.59% stake)**

- Member of the Supervisory Board and Founder

- Gabriel co-founded Ark Communication (later Ark Thompson) and BigBoard in the Czech Republic, Slovakia, Ukraine, Belarus and the Russian Federation in 1991 - 1995. From 2006 to 2012, he was CEO at BigBoard Russia, which was later bought by the French company JCDecaux. In 2014, he and Ladislav invested in the development of Primoco UAV. He speaks Czech, Slovak, Russian, Hungarian, German and English.

- **Management**

- **Ondřej Potužák**

- Sales Manager

- **Miroslav Mišík**

- Chief Financial Officer

- **Radek Suk**

- Designer and Chief Pilot

- **Josef Šťastný**

- Production Manager

The Primoco UAV

- The Primoco UAV is a mid-sized unmanned aircraft designed to satisfy the most demanding customers who use it for civilian and military purposes. Its construction complies with the requirements of civil aviation, it uses cutting-edge composite materials, state-of-the-art electronics and advanced data processing. All of this ensures that the Company delivers a world-class product at an outstanding price.
- The maximum take-off weight is 150 kg which, combined with 10 hours duration, up to 1,500 km range and a cruising speed of 150 km/h allows the aircraft, unlike electric drones, to offer unrivalled performance while keeping operating costs low. The aircraft itself can be remotely controlled at any stage of the flight, as well as being capable of fully automatic take-off and landing. Control is provided by a sophisticated electronics package.
- What makes the Primoco UAV unmanned aircraft unique is its ability to provide a "tailor-made" solution according to the specific needs and uses of the customer.

	One 100	One 150
Wing span		4.85 m
Length		3.65 m
Height		1.25 m
Maximum takeoff weight	100 kg	150 kg
Utility load	1-20 kg	1-50 kg
Maximum distance from base	200 km	200 km
Maximum range	1,500 km	1,500 km
Cruising speed	100 to 150 km/h	100 to 200 km/h
Maximum Flight duration	10 hours	8 hours
Maximum altitude	2,000 meters	5,000 meters
Take-off and landing distance	300 meters	
Navigation system	GPS / Glonass / Galileo / Beidou	
Air Traffic Control	Transponder S-Mode	
Communication	Radio Datalink 900 MHz / 5 - 6 GHz or Inmarsat satellite communications	
Equipment	EO/IR camera, LIDAR, Multispectral, Hyperspectral camera, specialist systems according to customer's needs	
Transportation	Container 250 x 120 x 100 cm	

Primoco Engine 500

- Primoco UAV has developed its own internal combustion engine, the Primoco Engine 500.
- It is an air-cooled four-cylinder, two-stroke, 500 cc, 50 HP (37 kW) with a total weight of 26 kg, including an electric starter and a 24V/1400W generator.
- The engine is designed for the Primoco UAV model One 150 and is available for sale and installation into other aircraft.
- Worldwide, only 8 engines with a power output of between 40 - 60 HP are available and comparable with the Primoco Engine 500.

Flight Operation System

- Primoco UAV has developed its own software to control the production, operation and maintenance of unmanned aircraft.
- It is a complex information system that deals in one application with (a) a list of customers and specific business cases, (b) inventory of aircraft parts and their serial numbers, (c) records of manufactured aircraft, (d) production control, (e) material and component procurement planning, (f) logbook logistics, (g) aircraft maintenance planning, (h) ordering spare parts for customers, (i) customer information centre, (j) reporting.

Civil Applications

PRECISION AGRICULTURE

Primoco UAV gives you access to precision agriculture. Real time provision of data and images about the health of your crops means you can predict crop yields and respond to pest threats. Up to date information means that application of pesticides will be more precise, economical and less environmentally damaging.

POWER LINE CORRIDOR MAPPING

Regular 3D scanning of power line corridors is crucial for planning and management. Primoco UAV has the endurance to deliver outstanding results using 3D scanners LIDAR.

MAPPING

Primoco UAV gives you the capability to undertake remote mapping tasks using a 3D laser scanner. Solving topographic tasks such as remote and complex terrain or groups of buildings can be quickly and safely accomplished.

CIVIL ENGINEERING

Efficient preliminary topographic inputs are a core part of planning for road and rail corridors. By using the flexibility of the Primoco UAV, areas can be easily re-scanned as frequently as needed without the requirements and approvals needed for on-the-ground logistics.

PIPELINE MONITORING & ENVIRONMENTAL

Primoco UAV is the first choice for regular pipeline monitoring missions given its extended range and cost effectiveness. Ground or sea pipeline systems can be monitored at regular intervals to ensure the safety of the system and the environment. Optical and infra-red cameras can be used, as well as various multispectral and hyperspectral sensors.

COASTAL SURVEILLANCE

The exceptional endurance of Primoco UAV means that you can monitor coastal waters reliably, efficiently identifying boats and tracking unknown vessels. The UAV's 200 km range and outstanding in-flight endurance give you the capability for a permanent remote presence. Its unobtrusive size and profile allow deployment across sensitive areas.

SEARCH AND RESCUE

The thermal sensor package on-board the Primoco UAV is an effective tool for any SAR mission on land or sea, providing another set of eyes for supporting rescue operations in forests and remote areas. Primoco UAV gives you a rapid response capability at an effective cost.

BORDER PROTECTION

Primoco UAV is a key part of any border protection and surveillance system. It can provide real-time intelligence on border areas. Using the integrated sensor package provides video and thermal data to support immediate response by ground based teams.

Market and Competition

- In the medium-sized civilian unmanned aircraft segment, there is only very limited competition for the Company. On one hand, it is due to the relatively complex demands of development, production and certification and on the other hand it is due to the fact that the market for medium-sized civilian unmanned aircraft is still emerging.
- The Company focuses on some of the most advanced commercial applications in the UAV area: border and coastal control, infrastructure monitoring, and geodetic services.
- For medium-sized UAVs, such as those produced by the Company, the largest volume use is expected to be in public security and border control (total addressable market is estimated at \$55 billion, PwC) and infrastructure tracking (a total addressable market of \$45 billion, PwC).
- Projection of the size of the commercial market is based on a change of paradigm in the aviation industry. Industry experts estimate that the global UAV market currently has a value of \$8 billion (most in North America, followed by Europe) and commercial UAV only represents about 15 percent (\$1.2 billion). It is the commercial sector where the greatest future growth is expected.
- The global market is expected to grow to more than \$11.5 billion over the next ten years, corresponding to a 6% annual growth rate (CAGR). From this overall increase, it is assumed that the commercial and civil UAV market will grow by 20% (CAGR) between 2017 and 2020 compared to 5% in the military market.

- **Main Competitors:**

<u>Name of the aircraft</u>	<u>MTOW</u>	<u>Producer</u>
SKELTDAR V-200	230 kg	UMS Skeldar, Switzerland
AEROSTAR	210 kg	Aeronautics, Israel
SHADOW V2	210 kg	Textron Systems, USA
CAMCOPTER S-100	200 kg	Schiebel, Austria
ZALA 421-20	200 kg	Zala Aero, Russia
AR5	150 kg	Tekever, Portugal
AV 1 ALBATROSS	125 kg	DroneTech, USA
HERMES 90	115 kg	Elbit Systems, Israel
THEIA	100 kg	Threod Systems, Estonia
RQ 21	61 kg	Boeing, USA

Economic Comparison

The Primoco UAV solution makes economic sense. Compared to the smallest Robinson R22 helicopter, a Primoco UAV is 55% more efficient.

R22 Solution:

- 3 light Robinson R22 helicopters
- 3 camera systems
- Lifetime: 8 years for R22, 4 years for camera systems
- Operation: 250 flight hours / R22 / year, total 750 flight hours / year



Direct costs: 341 € / hour
Total cost: 502 € / hour
Investment: € 891,000

Primoco UAV solution:

- 3 fully equipped Primoco UAVs, 1 ground station, staff training
- UAV Lifetime: 2,000 flight hours
- Operation: 250 flight hours / UAV / year, total 750 flight hours / year



Direct costs: 186 € / hour (-55%)
Total cost: 286 € / hour (-57%)
Investment: € 600,000

SWOT Analysis

STRENGTHS

- Development, production and sales at Primoco UAV SE
- Fully-completed and certified unmanned aircraft
- Wide scope of use of the unmanned aircraft Primoco UAV
- Excellent technical parameters - large range, endurance, payload

WEAKNESSES

- Not certified in the Russian Federation
- Dual use product, UAV export license

OPPORTUNITIES

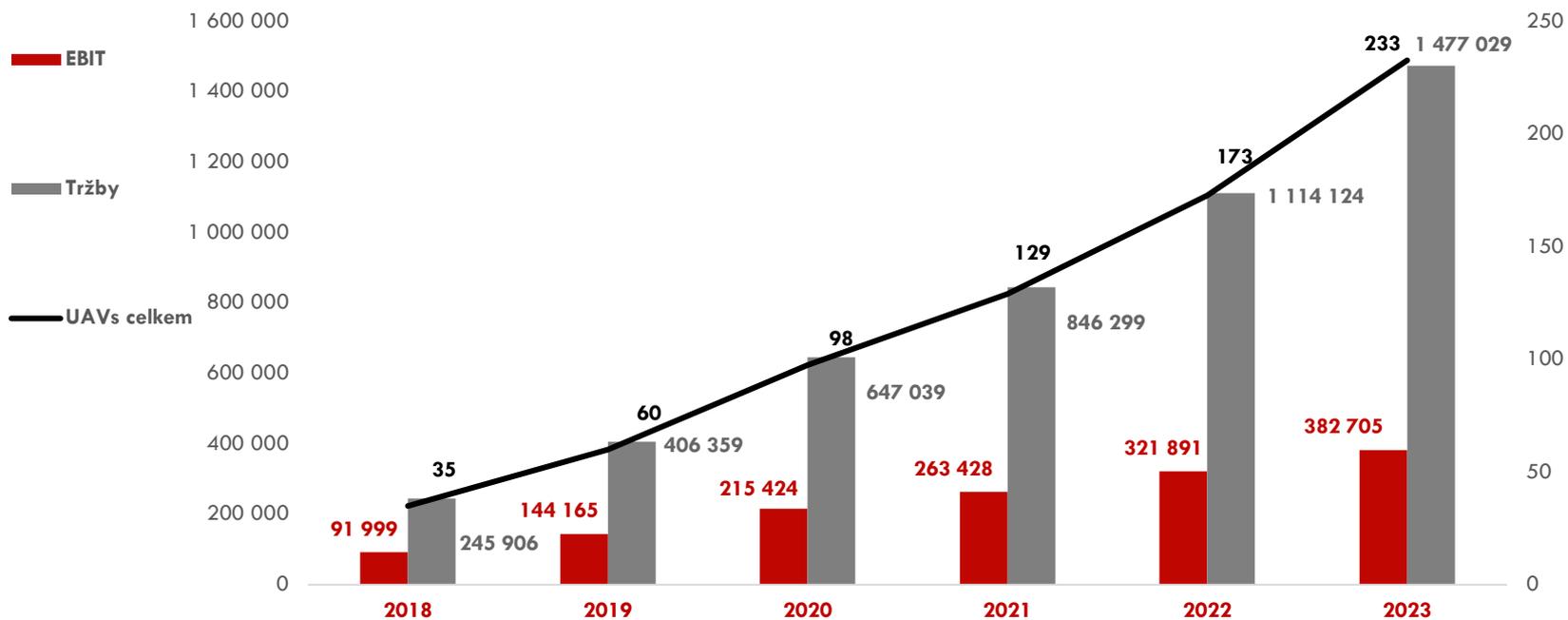
- New strategic partnerships across the globe - business, service, training
- Provision of aerial services, especially in the field of pipeline/gas-line monitoring and geographic applications
- Become a global player in the rapidly growing market for medium-sized civilian unmanned aircraft

THREATS

- Legislation restricting the operation of unmanned civilian aircraft
- Transfer of military unmanned aircraft to the civilian segment and the creation of competition
- Limited experience by customers of using unmanned aircraft

Financial Plan 2018 - 2023

Numbers (pcs)	Plan					
	2018	2019	2020	2021	2022	2023
Aircraft (UAVs)	30	45	68	84	105	132
Control Station (GCS)	10	15	23	28	35	44
Engine	10	15	23	28	35	44
Aerial services	5	15	30	45	68	101



IPO

- Primoco UAV SE is considering listing on the Start Capital market, which has been created by the Prague Stock Exchange for Small and Medium-sized Enterprises.
- For the development of the Company and the implementation of the strategic plan, the company intends to increase its registered capital by 15% in an IPO to raise CZK 200 million.
- The funds obtained will be used to build new production areas, a UAV 'airport' and to invest in further production equipment. They will also be used to repay CZK 27 million of shareholder loans.
- Existing production facilities are sufficient to produce up to 100 aircraft per year.
- Beyond normal lockups, the current Shareholders, Ladislav Semetkovský and Gabriel Fülöpp, will retain a minimum 75% shareholding for at least 5 years after the Issue.
- The Company expects to define a dividend policy, dependent on growth plans.

Reference Materials



Czech Republic



Finland



Russia



Malaysia



Iraq

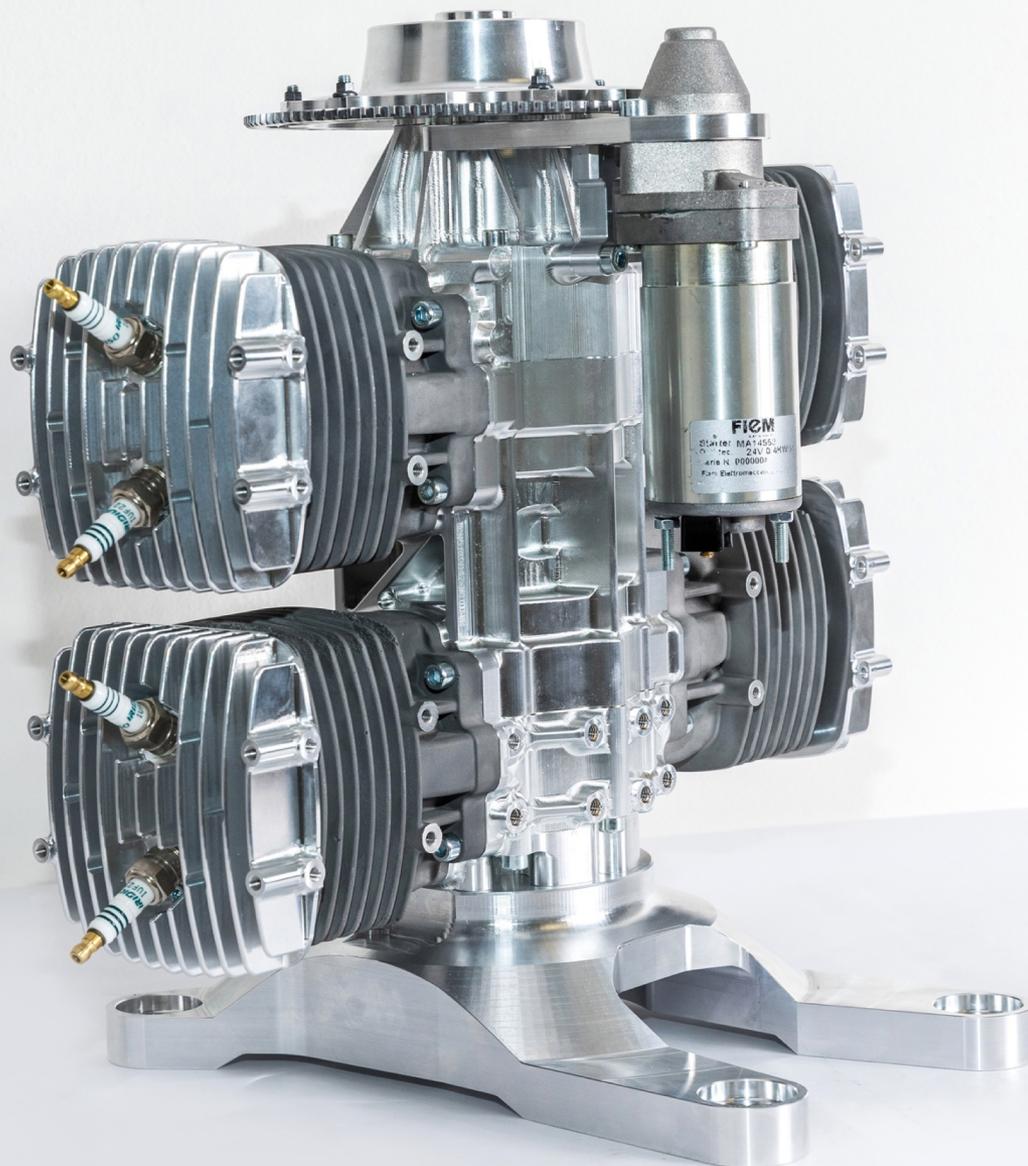






PRIMSCO UAV

PRIMOSO ENGINE 500



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