

Due Diligence and Valuation Report

Arrowhead Code: 90-02-07
 Coverage initiated: 03 June 2016
 This document: 23 August 2018
 Fair share value bracket-DCF: € 1.27 and € 1.46
 Share price (23 August 18): € 0.57

Analysts

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Market Data

52-Week Range: € 0.54 - € 0.92ⁱ
 Average Daily Volume: 64,940ⁱⁱ
 Market Cap (23-August-18): € 16.8 MM

Financial Forecast (in €) (FY ending - Dec)

€	'18E	'19E	'20E	'21E	'22E	'23E
High NI '000	(622)	(31)	397	964	1,676	2,410
High EPS	(0.02)	(0.00)	0.01	0.03	0.06	0.08
Low NI '000	(664)	(183)	216	711	1,372	2,047
Low EPS	(0.02)	(0.01)	0.01	0.02	0.05	0.07

Company Overview: Drone Volt SA (herein referred to as "Drone Volt", "DRV" or "the Company") is a France-based company, which specializes in production, integration and sale of drones or UAV (Unmanned Aerial Vehicles) and software for professionals. The Company, established in 2011, is listed in AlterNext under the stock symbol "ALDRV." The Company provides customized drones and several related services (pilot training, regulatory certification, etc.), which enables it to provide turnkey solutions to its clients. Drone Volt presents itself as a one-stop shop offering complete solutions to its customers. Drone Volt is the market leader in the European broadcasting and service drone industry. It has expanded its presence globally and currently covers 13 major countries in Europe and North America. The Company clients list include government administrations & industrial groups such as the French army, the French Ministry of Defense, GDF Suez, Engie, Total, Bouygues ES, ADP, the Air Transport Gendarmerie (GTA) & international government agencies.

Drone Volt H1 2018 revenue was € 3,621k compared to € 3,930k in H1 2017, a 8% fall on YoY basis. The gross profit of the company has increased by 4% from € 926k in H1 2017 to € 964k in H1 2018. High value activities added contributed over € 1 million to the sales in H1 2018 compared to € 405k in H1 2017. High value-added Drone Volt drones and technologies represented 28% of H1 2018 sales compared to 10% of H1 2017.



Company: Drone Volt SA
 Ticker: EPA: ALDRV.PA, ISIN FR0013088606
 Headquarters: Villepinte, France
 Founder: Mr. Dimitri Batsis
 Chairman and CEO: Mr. Olivier Gualdoni
 VP Sales, U.S.: Mr. Daniel Roe
 Website: www.dronevolt.com

Arrowhead is updating coverage on Drone Volt SA with a fair value bracket of € 1.27 (Low-Bracket estimate) and € 1.46 (High-Bracket estimate).

Key Highlights: (1) FY 2017 turned out to be an exceptional year for Drone Volt wherein it achieved the followings: Two exclusive platforms, HERCULES and ALTURA ZENITH, and a smart camera (PENSAR), Two strategic acquisitions: DANDRONE and AERIALTRONICS, Two production sites, in France and the Netherlands, 11 trade shows around the world, mainly in the areas of security / defense and construction, 49 employees at the end of 2017 in Europe and in the USA; (2) For H1 2018, Drone Volt's revenue decreased by 8% to € 3,621k compared to € 3,930k of H1 2017; (3) In H1 2018 Drone Volt Factory produced, delivered and billed 26 HERCULES and ALTURA ZENITH dones and six PENSAR cameras (4) In July 2018, Drone Volt has signed an agreement with the government agency in the Netherlands for the supply of complete autonomous systems(5) Drone Volt and DIETSWELL have announced a cooperation project at the EUROSATORY international exhibition in Paris (6) The company demonstrated the successful shift underway from a role as distributor to the development, production, and sales of drones and associated services (7) The company has successfully raised € 2.15 MM through private placement in June 2018; (8) The company's HERCULES 10 SPRAY was awarded silver innovation award at the BATIMAT 2017 Innovation competition.; (9) The company recently acquired DANDRONE, thus reinforcing its position in Scandinavia.

Risks: The key risks for Drone Volt are evolving regulatory policies for the sector, supplier risk, emerging competition and cheap alternatives.

Valuation and Assumptions: On the basis of due diligence and valuation estimates, Arrowhead believes that Drone Volt's fair share value lies in the € 1.27 - € 1.46 bracket using a Discounted Cash Flow (DCF) model – our primary valuation methodology.ⁱⁱⁱ In addition, the target P/S multiple and our average revenue per share estimate in 2022 implies fair value of € 1.24 per share, which is approximately 118% above the current share price.

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1. Summary and Outlook

We update coverage on Drone Volt SA. The Company, headquartered in Villepinte, France, specializes in designing and marketing civil UAV's for professional purposes. It offers turnkey business solutions to its customers, which includes several related services and pilot training. The Company is a leader in audio visual drone solutions and also provides aerial photography to public administration and industry.

Key Highlights:

- (1)** The topline of the company declined by 8% from € 3,930k in H1 2017 to € 3,621k in H1 2018. High value-added activities generated over 1 million euros in sales in H1 2018 compared to € 405k in H1 2017. Sales in Distribution segment fell to € 2.6 million in H1 2018 in comparison to € 3.5 million in H1 2017. The gross margin of the company improved by 3 points from 23.6% in H1 2017 to 26.6% in H1 2018.
- (2)** In June 2018, Drone Volt has announced the successful completion of € 2.15 million capital increase. The company would be utilising the proceeds from this capital increase to reinforce its Balance Sheet and to fund continued investments in artificial investments and software R&D as well the group's new products. This capital increase was mainly in the form of private placement. The subscription price for the 3,587,927 new shares was set at € 0.60, corresponding to an 11.8% discount to the closing price on June 18, 2018 (€ 0.68).
- (3)** Drone Volt witnessed a 10% fall in the revenue in Q1 2018 compared to Q1 2017. The revenue fell from € 1,857k in Q1 2017 to € 1,670; however, the total billings in Q1 2018 was € 1,974k compared to € 1,857k, 6.3% up, YoY basis. Also, the billings for Drone Volt' products and services were € 491k in 2018 compared to € 130 K. Also, the company is pursuing the expansion of its expertise on international markets, with 41% of Q1 2018 revenue generated by the overseas subsidiaries relative to 39% in Q1 2017. Further, the company demonstrated the successful shift underway from a role as distributor to the development, production, and sales of drones and associated services.
- (4)** The company registered a growth of 14% in its revenue to €7,778k for period of FY 2017 in comparison to €6,820k of FY 2016 mainly coming from the professional segments. Further, the Company witnessed a hike of 30% Y-o-Y in gross profit; however, the operating profit of the company got impacted by development efforts. Drone Volt initiated important technological, industrial and the majority of which is recognized in the current operating expenses.
- (5)** FY 2017 turned out to be an exceptional year for Drone Volt wherein the achieved the followings:
 - Two exclusive platforms, HERCULES and ALTURA ZENITH, and a smart camera (PENSAR)
 - Two strategic acquisitions: DANDRONE and AERIALTRONICS
 - Two production sites, in France (Villepinte) and the Netherlands (Katwijk)
 - 11 trade shows around the world, mainly in the areas of security / defense and construction
 - 49 employees at the end of 2017 in Europe and in the USA
- (6)** The company has successfully raised € 7.8 MM of equity in 2017. Thus, at December 31, 2017, Drone Volt had 6.8 million euros in equity and a cash position of 2.9 million euros. Financial debts, mainly constituted medium-term commitments amounted to € 2.6 million.
- (7)** The Company has approximately 70-80% share in the French TV market, which uses drones for aerial shots, images, videos, which are otherwise either impossible to attain or costly using helicopters and cranes.
- (8)** Drone Volt has magnified its customer base by acquiring the assets of Aerialtronics which is a Netherlands based company which will help the company to enhance its customer offerings, mainly in the field of security. Drone Volt has presence in 13 major territories across Europe and North America. It has also hired experts from the drone industry as key executives to identify further growth prospects in these regions.
- (9)** In 2015, the Company raised € 1.8 MM through private placements. It also secured an additional funding of € 5 MM through the issue of bonds, which could be converted into shares with share subscription warrants. It allows a maximum drawdown of € 5 MM, divided into 20 tranches of €250,000 each. We believe that the well-funded balance sheet augurs well considering their rapid expansion plans.
- (10)** In June 2017, the company raised € 1.4 million, subscribed mainly by the SmallCaps fund of one of the four largest French collective management institutions. The issue price was fixed at € 0.86 for the new issue of 1,655,214 shares.
- (11)** The Company fully customizes the drone parts and applications as per its customers' requirements. This distinguishes Drone Volt from the competition as these features are incorporated to meet specific requirements. These value-added applications will allow the Company to generate higher margins and cash inflows going forward.

- (12) Company was awarded silver innovation award for its HERCULES 10 SPRAY in BATIMAT 2017. This drone is a professional device which was intended to be used in construction industry. This drone was manufactured in Drone Volt production factory and is available in three variants.
- (13) Another innovative product by the Company, Drone Spray was launched with the aim to prevent vector borne disease. The drone could be used to carry larviciding products in order to kill mosquitoes and their larvae in their breeding areas. The same operation, using helicopters, is costlier and causes pollution. If this drone is successful, it could lead to reduction in mosquito-borne diseases such as malaria, dengue fever, Japanese encephalitis, etc., in the long run.
- (14) The Company has developed several new drones, such as drone spray, drone paint, drone surveillance, for multiple uses across sectors. These drones could be used for treatment and cleaning of surface, inspection of work, paint, live surveillance, mapping, etc.
- (15) For its French customers, the Company provides turnkey solutions for immediate drone use, including arranging regulatory approval, registration and training programs for licenses. This leads to time and cost saving for the client.
- (16) The company's Janus 360° VR is the only drone dedicated to VR in movies and games. The drone was awarded first prize in Mediakwest awards in November 2016.
- (17) The company was one of the six startups selected by the organizers of Viva Technology 2016 to present its innovation to the President.

Key Risks: Key risks for Drone Volt are tougher regulations in the area of operation, supplier risk, along with emerging competition in the foreseeable future. In addition, cheaper alternatives of Drone Volt's products by small players could also impact the Company's growth.

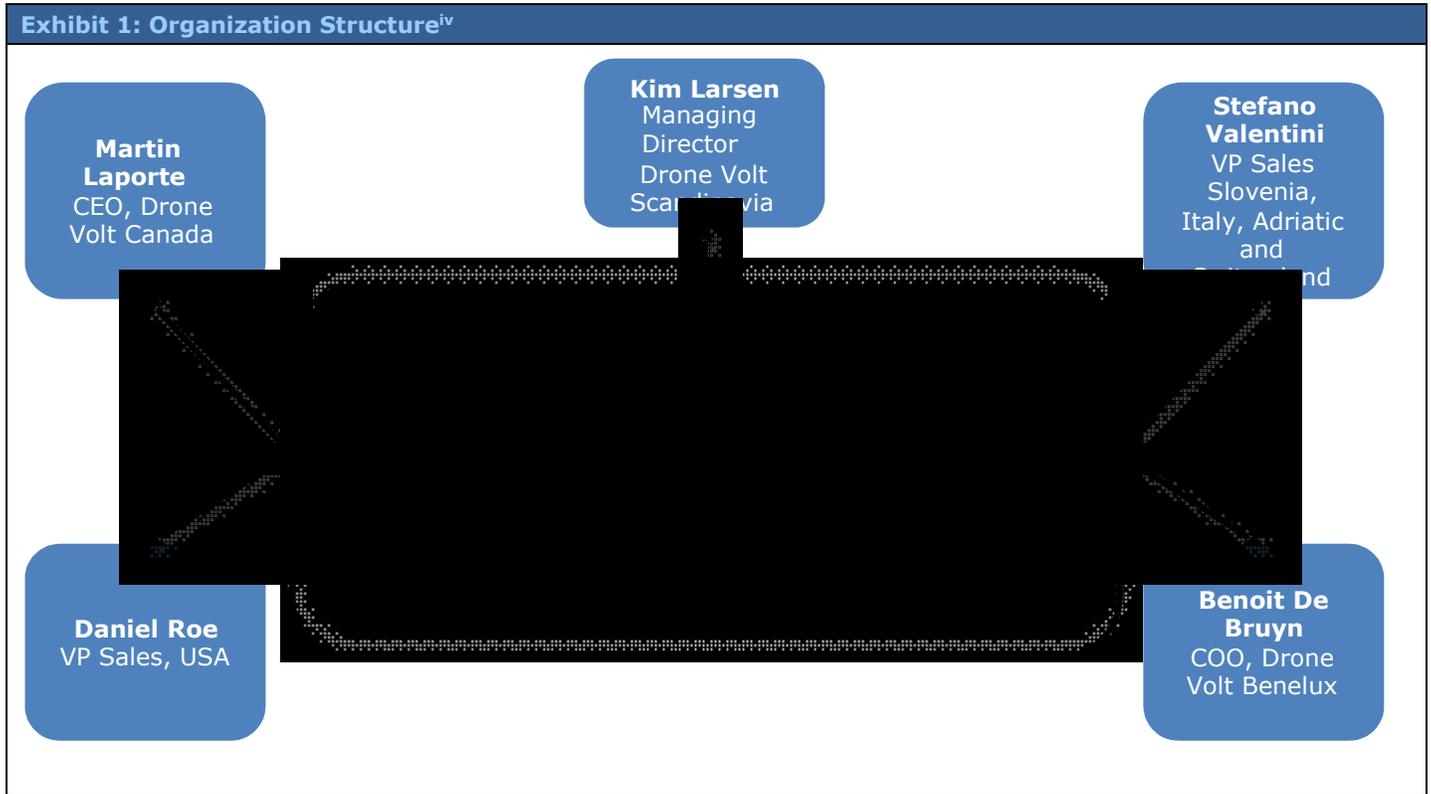
Industry Overview: The UAV or Drone industry has seen rapid growth over the last decade owing to technological advancements in this sector. New markets, such as civil and consumer drone segments, have emerged driven by new technologies and keenness regarding the various usage of drones across sectors. There have been varied forecasts by industry experts regarding the likely market growth. Teal Group, a U.S. aerospace consulting firm, estimates the commercial drone market is expected to increase to USD 3.92 BN in the next decade, constituting 28% of the total drone industry (USD 14 BN) in the same period. Another U.S. market & research consulting firm, Grand View Research estimates that the commercial drone industry will reach USD 2.07 BN by 2022, while other experts have different views on the same. However, all these estimates highlight the view that the commercial/civil drone industry is expected to witness significant growth over the next decade and will be a major contributor to the overall drone industry sales. In addition, use of commercial drones is likely to increase in areas such as agriculture, media, cinematography and photography, inspection and maintenance, surveillance, real estate, etc. It corroborates with our view that there is immense scope for Drone Volt to capture market share with its unique and customized products.

2. Business Overview:

Drone Volt is a leading French company in civilian drones, specializing in manufacturing, assembling and distribution of professional drones. It came into existence in 2011 as a private limited company, headquartered close to Paris CDG airport, France. It was listed on Euronext marché libre Paris in April 2015, before being transferred to AlterNext Paris in December 2015. The Company's shares are traded under the symbol "ALDRV". Drone Volt is self sufficient in developing new technologies based on Unmanned Aerial Vehicles (UAV) or Unmanned Ground Vehicles (UGV) used for civil applications since 2011. The company is present in France, Denmark, Belgium, Canada, Switzerland, Italy and the USA. The company designs and manufactures innovative commercial service drones which very useful for Agriculture, Audiovisual, Building and Civil Engineering Works and Security. The company offers complete solutions for the professional industries. It also provides services such as drone pilot training, repair and maintenance services, or undertaking administrative actions. Drone Volt's customers notably include government administrations & industrial groups such as the French army, the French Ministry of Defense, GDF Suez, Engie, Total, Bouygues ES, ADP, the Air Transport Gendarmerie (GTA) & international government agencies.

2.1 Ownership Structure

Drone Volt SA organizational chart is as follows:



Source: Company data as of June, 2017

2.2 Business Model

Drone Volt is involved in manufacturing and selling of drones to the individual and the professionals. Apart from this, the company offers various drone related services like pilot training, regulatory certification, engineering consulting etc., besides providing customized products, which allows it to offer its clients a turnkey product.

Drone Volt also provides services such as drone training, repair and maintenance services for drones. It even provides administrative assistance for registering operators with DGAC (French Regulator), obtaining flight authorizations, training pilots and providing them with requisite certification from DGAC. Resultantly, Drone Volt has become a one-stop shop that provides comprehensive solutions to its customers.

The Company follows a sales based model which provides DRV a competitive edge over its peers who follow a rental model, in terms of availability and customizations of drones. Their sales based model also lowers the risk of obsolescence as the Company is not required to store any inventory to rent out its products and can easily adapt to changing technology and market needs.

The company has shifted its focus from distribution segment to the segment which includes Drone Volt Factory, Services & Academy as the demand has also shifted from low value products to high value drones. The company generated € 1,007k from its high value-added activities from Drone Volt Factory, Drone Volt Services and Drone Volt Academy in H1 2018. Sales from these activities increased by 149% from H1 2017 to H1 2018. As per latest data, high value Drone Volt drones now represents 28% of sales in H1 2018 compared to 10% in H1 2017.

2.3 Products and Services Offered

The Company offers a plethora of products from the leading world manufacturers of drones like DJI. It also designs and manufactures its in-house products, particularly focusing on making customized products for sectors like agriculture, surveillance and security, construction, etc. Following are a few flagship products offered by Drone Volt:

Drone Janus VR

Exhibit 2: Product Image and its Specifications

 <p>A blue and black quadcopter drone with two camera heads mounted on top and bottom. The drone has four propellers and a central body with a blue stripe.</p>	<ul style="list-style-type: none"> • Drone Janus 360 is a professional drone for aerial photography, videography with a 12 4k camera recording at 30 fps. • It can be used in tourism, culture architecture, real estate, etc. • Janus 360 is equipped with two heads, each carrying five 4K GoPro cameras to cover all angles of a scene. • With flight times of 15 minutes, it can produce 360° video capturing 150 GB of images per flight. • The dimensions of the frame are 700x700x400mm, with propellers as long as 15.5 inches. • This drone’s total weight is 5.8kg (with parachute).
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Drone Hercules 5 UF

Exhibit 3: Product Image and its Specifications

 <p>A blue and black quadcopter drone with a camera mounted on the front. Next to it is a black carrying case with a handle and a power station connected to the drone by a yellow cable.</p>	<ul style="list-style-type: none"> • Unlimited flight time • Smart power station • Secured operations • x18 camera zoom • Night vision camera • The system enables unlimited access to a global aerial vision, in real time and in a secure manner 24 hours a day • Transfer your data by secured RTMPS server
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Drone Hercules 10 Spray

Exhibit 4: Product Image and its Specifications

 <p>A blue and black quadcopter drone with a large spray tank mounted on the bottom. The drone has four propellers and a central body with a blue stripe.</p>	<ul style="list-style-type: none"> • Tethered spraying • Designed for precise spraying of liquid products for surfaces, roofs and facades treatments, offering new treatment solutions aimed at a number of applications. • Foldable system • The customizable high pressure system is fully foldable and makes the HERCULES 10 ultra-compact to facilitate transport. • HERCULES 10 allows a quick and easy access to inaccessible and dangerous areas. It is operational in 10 minutes and reduces the hardware installation and human risk.
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Drone Hercules 20 Spray

Exhibit 5: Product Image



- The customizable crop spraying system length is up to 3 meters wide. The fully foldable system that makes the HERCULES 20 - SPRAYER DRONE ultra-compact, was designed to facilitate transport.
- The HERCULES 20 SPRAYER DRONE is designed for an accurate and constant spraying for various surface treatments: liquid pesticides, fertilizers, new treatment solutions for a wide range of applications. The flow is manually (with the RC) or automatically adjustable via the application / flight controller.
- The tank with integrated pump can load up to 12 litres for crop spraying. It is fully interchangeable and easy to remove thanks to the quick release system. The HERCULES 20 can take up to 20 kg payload.

DV WING

Exhibit 6: Product Image and its Specifications



- The DV WING can fly up to 85 minutes with wingspan less than 1 meter and total weight less than 1kg for more efficient operations.
- The DV WING is a fully autonomous fixed wing UAV. Ready to fly in 5 minutes. Easy Throw and Fly take off against the wind and Circle Down or Belly Landing. The DV WING will fly and get images on its own and safely. User friendly features with automatic missions.
- Aircraft body is made in a single injection of EPO material that's extremely reliable even with frequent use.
- **Camera:** 18.2MP high resolution camera with additional stabilization system, producing very high picture quality photos and videos. **Precision:** 1:500, 1:1000 and 1:2000 orthophotos with high accuracy.

Other drones that DRV offers include DJI Phantom 3 Professional, DJI Phantom 4, Drone Yuneec Q500 Typhoon, FreeFly Alta, FreeFly Movi M15, DV Wing etc. DRV also sells drone accessories of various manufacturers on its website.

2.4 Company Premiums^v

- 1. Focus on Professional segment:** The Company has shifted its focus to the professional segment from earlier consumer segment. DRV develops customized drones based on client request, which sets these apart from the basic models available in the market. Thus, the Company also commands a premium position over its peers. With civilian drones expected to see tremendous growth in the next decade, the Company has successfully positioned itself in the French drone market. Next, the Company is looking at the US as its next focus area for expansion. In the professional segment, the Company focuses on distinguishing its drones by developing customized parts and applications, which are easily adaptable to its drones. These features are available for specific activities and uses. These value added applications aid in generating higher margins and cash inflows.
- 2. Strong geographical presence and expertise:** The Company is present in 13 countries across Europe and North America: Belgium, Canada, Croatia, Denmark, Finland, France, Italy, Luxembourg, the Netherlands, Slovenia, Sweden, Switzerland and the United States. Its employee base includes several experts from the professional drone segment. For instance, in the US, the Company hired Daniel Roe as EVP, who was with Freefly systems as worldwide director of sales and an expert in the professional drone field. In North Europe, the Company hired Stefano Valentini, former CEO with Cybergun Italia Srl, to manage sales operation in Switzerland, Italy, Adriatic and Slovenia. Their expertise should help the Company grow at a rapid pace in these regions. Drone Volt is currently eyeing the US

market as its next big growth avenue. In March 2017, the company entered a distribution agreement with a Columbian company for its drones. This marks the entry of the company into Latin American drone market.

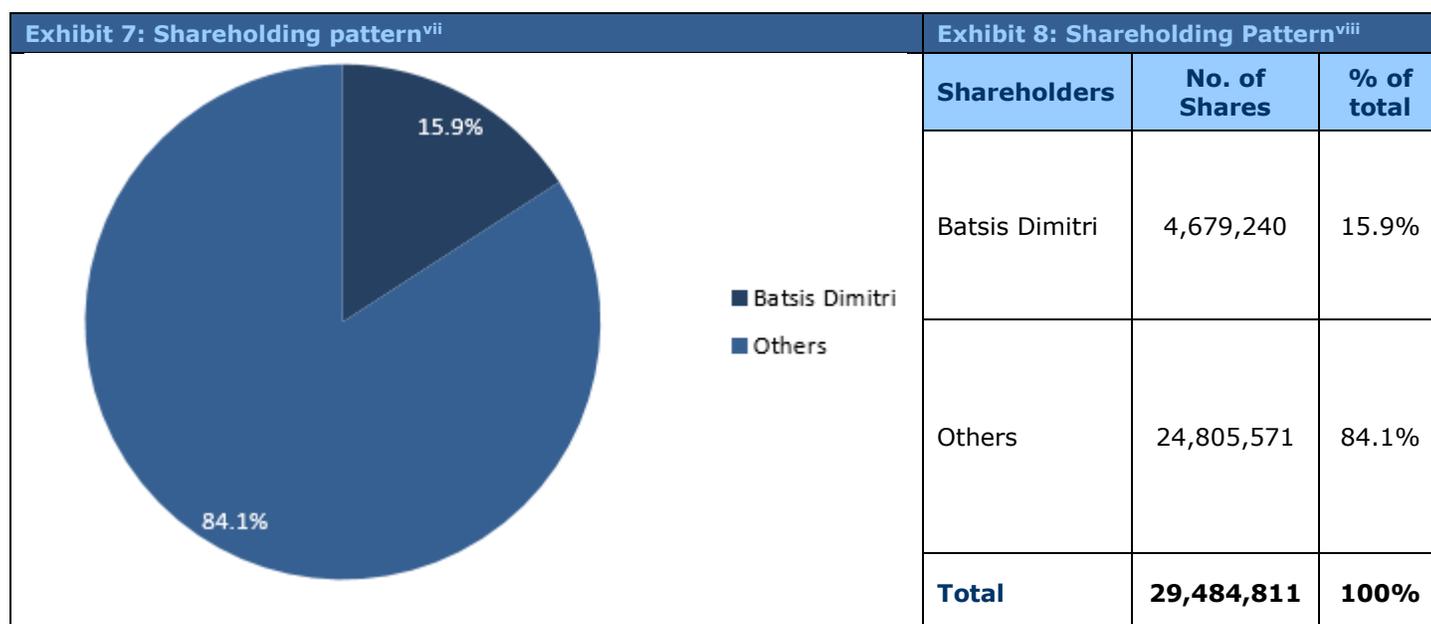
- 3. Customized products:** Drone Volt has launched several new products with multiple applications, like Drone Volt Janus 360, drone spray, drone paint and drone surveillance. These drones can be used for multiple purposes such as treatment and cleaning of surface, inspection of work, paint, live surveillance, etc. Drone Volt focuses on providing customized products to its clients. It is developing drones, which would carry extra payloads and would give it a competitive edge over its peers. It has also launched Drone Software Drone Volt Pilot, the application that offers an easy access to autopilot for DJI drones.
- 4. Increase in profitability going forward:** Looking at the expected growth in commercial drone market in the next decade, we estimate the Company's top line to reach € 35.02 MM (low bracket) and € 37.05 MM (high bracket) in 2022, a growth of 4.5x (low bracket) and 4.8x (high bracket) times from € 7.78 MM in 2017. We expect the Company's operating margin to improve going forward, ranging between 7.3%-8.0% in the same period. According to our estimates, the Company's net margin will be in the range of 4.5% – 5.1% by 2022.
- 5. Easy access to additional funding:** The company has successfully raised € 2.15 MM of equity in 2018 through private placement. These proceeds would be used for the reinforcement of Drone volt's balance sheet and funding of operations.
- 6. Turnkey product:** Drone Volt provides a range of services, including administrative support to comply with French regulations; training to operate the drone; and help to acquire license for flying the drone for operational purposes. The customers receive turnkey product for immediate use. This business model saves time and cost involved in getting proper training, acquiring license and dealing with regulations.
- 7. Partnership with leading suppliers:** Drone Volt has partnered with leading suppliers worldwide including DJI, Yuneec, Freefly and other major manufacturers. These ties up could benefit the Company over supplier's commercial policies.

2.5 Company Risks^{vi}

- 1. Regulations:** The varied regulations for use of drones in different countries is expected to pose the main challenge to Drone Volt's expansion plans. With the Company looking at expanding its presence worldwide, it needs to follow a different set of rules and regulations for each country. Also, the drones can be categorized differently in each, typically by weight, size, altitude, speed, etc. With many countries still in the process of legislating regulation into law, the expansion plans in some regions may be impacted.
- 2. Suppliers' risk:** Currently Drone Volt relies heavily on products sourced from Chinese maker, DJI. It faces the risk of dependency on the supplier's commercial policies as the Company's margins could plunge if the supplier increases the prices. The risk is partially mitigated by the fact that the Company has already tied up with several leading drone suppliers worldwide. Also, the Company is focusing on its R&D and expects to design and develop majority of the drone parts in-house going forward. This would help in abetting this potential threat from suppliers.
- 3. Competition:** While the commercial drone market is still nascent, it is rapidly evolving and the competition within the industry is expected to increase with many small and large players entering the market, eyeing the prospective growth opportunities. The industry may also witness price based competition, which will impact small players significantly in the market. Another challenge could be the launch of cheap alternative drones in the market, created using copied technology.
- 4. Innovation in technology:** The commercial drone industry is still in its early age and is expected to grow significantly over the next decade, driven by strong innovation in technology. In order to compete, players within the industry need to come out with new innovative products regularly, which would distinguish them from the others. The lack of innovation, leading to the obsolescence of its products, could hinder performance and in time even threaten the existence of the Company.
- 5. Legal Risks:** There are no legal risk associated with the Company, to the best of the author's knowledge.

2.6 Drone Volt’s Shareholding Pattern

As on 23 August 2018, the number of shares outstanding was 29,484,811.



2.7 Listing and Contact Details

The ordinary shares of Drone Volt are listed on AlterNext Paris (Ticker: ALDRV, Date of Listing – April 28, 2015) and warrant also listed as DRONE VOLT BS FR0012860542 (Ticker: DRVBS).

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3. Key Variable Analysis^{ix}

3.1 Variable 1 – Revenue from Consumer segment

The consumer segment has been the conventional segment for Drone Volt. This segment has traditionally seen lower growth. Under this segment, the Company purchases drones and its parts from the other manufacturers and then assembles and distributes, renting the final product through the Company’s website. The consumer segment has been historically contributing more than half of the Company’s total revenue. However, the Company has now shifted its focus on growth in the professional segment. Therefore, the consumer segment may witness lower growth and its contribution to the total revenue is expected to come down significantly going forward.

Following are our estimates for revenues from the consumer segment for the forecasted period under two scenarios - Low bracket and High bracket:

Exhibit 9: Consumer segment revenue										
In € 000	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Low Bracket	1,885	2,039	2,184	2,340	2,482	2,633	2,794	2,964	3,144	3,336
High Bracket	1,922	2,119	2,336	2,576	2,733	2,899	3,076	3,263	3,462	3,673

3.2 Variable 2 – Revenue from Professional segment

The professional segment generates higher margins for the Company as it focuses on providing customized products based on client requirements. Given that the Company is primarily focusing on growth in the professional segment going forward, we estimate the number of drones sold in professional segment to increase considerably and thereby, the contribution of professional revenue to Company’s total revenue to be between 88-90% by 2020.

Following is the estimated revenue from professional segment for the forecasted period under two scenarios - low bracket and high bracket:

Exhibit 10: Professional segment revenue										
In € 000	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Low Bracket	8,020	11,508	16,313	22,055	28,396	34,757	41,833	49,071	56,058	62,897
High Bracket	8,155	11,901	17,030	23,245	29,929	36,633	44,091	51,719	59,083	66,292

4. News^x

- **Done Volt signed a new contract with government agency in the Netherlands:** The company has signed a contract with the government agency in the Netherlands where it will be supplying complete autonomous systems with integrated ALTURA ZENITH drone and the PENSAR camera equipped with artificial intelligence.
- **Increase in contracts with government agencies:** From Q2 2018 onwards, the group has signed multiple contracts with the government agencies such as French army, government agency in southeast Asia and armed forces of a Scandinavian country.
- **Drone announced H1 2018 results:** Drone Volt's revenue declined by 8% in H1 2018 compared to H1 2017. The revenue fell from € 3,930k in H1 2017 to € 3,621k in H1 2018. The consolidated gross profit for the group increased by 4% from € 926k in H1 2017 to € 964k in H1 2018 which was directly associated with the increasing importance of high value-added activities. In the first half of 2018, there was a sharp increase in Drone Volt Factory deliveries as the company produced, delivered and billed 26 HERCULES and ALTURA ZENITH drone and six PENSAR cameras equipped with artificial intelligence compared to 12 of H1 2017.
- **Drone Volt successfully complete the capital increase of € 2.15 million through private placement:** On June 19, 2018, the company has announced that it has successfully completed the € 2.15 million capital increase. Drone Volt will be using these proceeds to reinforce its balance sheet and fund its investments in the artificial intelligence and software R&D as well as the group's new products.
- **Drone Volt announced its cooperation project with DIETSWELL at the EUROSATORY international exhibition in Paris:** Both the groups have decided to come together in order to offer personalized and innovative onshore and offshore UAV solutions to international groups in Oil & Gas and renewable energies industries.
- **Drone Volt presented new products at EUROSATORY:** The company presented the HERCULES 2, the HELIPANE, the new DV CONTROL, the PENSAR camera and the HERCULES 5 at EUROSATORY exhibition. It also presented the new version of the HERCULES 5, the HERCULES 10, the second version of the HERCULES 20 and the ALTURA ZENITH (ATX8 version).
- **Drone Volt secured € 8 million funding line:** Drone Volt announced that it has signed a financing contract with ATLAS SPECIAL OPPORTUNITIES in the form of convertible bonds with attached warrants for a maximum total of 8 million. As per the agreement, maximum of ten tranches of convertible bonds could be issued with warrants.
- **Drone Volt declared Q1 2018 results:** Drone Volt witnessed a 10% fall in the revenue in Q1 2018 compared to Q1 2017. The revenue fell from € 1,857k in Q1 2017 to € 1,670; however, the total billings in Q1 2018 was € 1,974 k compared to € 1,857 k, 6.3% up, YoY basis. Also, the billings for Drone Volt' products and services were € 491k in 2018 compared to € 130 K. Also, the company is pursuing the expansion of its expertise on international markets, with 41% of Q1 2018 revenue generated by the overseas subsidiaries relative to 39% in Q1 2017.
Further, the company demonstrated the successful shift underway from a role as distributor to the development, production, and sales of drones and associated services.
- **Drone Volt annouced FY 2017 results:** The company registered a growth of 14% in its revenue to €7,778 k for period of FY 2017 in comparison to €6,820 k of FY 2016 mainly coming from the professional segments. Further, the Company witnessed a hike of 30% Y-o-Y in gross profit; however, the operating profit of the company got impacted by development efforts. Drone Volt initiated important technological, industrial and the majority of which is recognized in the current operating expenses.
- **Drone Volt extended its business in Germany:** Drone Volt announced the extension of its commercial network in Germany through a partnership with Germandrones GmbH. Germandrones, a German leader in drone technology supported by a powerful safety specialist. In Germany, Germandrones has established itself as a specialist in professional drone technology, thanks to the development of a unique VTOL (vertical take-off drone) called Songbird.
- **Drone Volt released the new version of its intelligent camera AERIALTRONICS PENSAR:** In February 2018, Drone Volt officially launched the new version of its PENSAR camera-computer driven by artificial intelligence under the brand AERIALTRONICS. A true technological feat, PENSAR is one of the world's first platforms with dual spectrum digital vision that allows real-time analysis of images or data. Infinitely customizable, it can be mounted on professional drone, mobile robot or used as an independent camera.
- **Drone Volt successfully completed the capital increase wherein the company maintained the DPS at €3.67 million:** In November 2017, Drone Volt announced the complete success of its capital increase with shareholders' maintained preferential subscription right ("DPS"). This capital increase will provide the Company with additional resources to accelerate the improvement of its technology by investing in the expansion of its technical teams and their skills. Targeted acquisitions could also be conducted on an opportunistic basis.

- **Drone Volt and Group Marck signed an exclusive agreement in the security sector:** In November 2017, Drone Volt announced the signature of an exclusive mutual distribution agreement with Group Marck. Group Marck that designs and markets uniforms, equipment and services to administrations and companies in France and internationally. With 946 employees and 6 production sites in France, Group Marck generated € 110 million in revenue in 2016. The agreement is particularly centered around the HERCULES 5 UF drone developed by Drone Volt.
- **Drone Volt opened its first Drone Volt Academy on African soil:** In October 2017, Drone Volt inaugurated a first training course centers partnership on African territory, Drone Volt academy Ivory Coast in Abidjan.
- **Drone Volt announced the takeover of assets of Aerialtronics:** The company announced that it will acquire the major control of the main assets of Aerialtronics which is a Netherlands based company and has an expertise in designing and manufacturing professional drones.
- **Drone Volt awarded in BATIMAT 2017 Innovation Competition:** In September 2017, Drone Volt was awarded silver innovation award for its drone HERCULES 10 SPRAY. This drone was purposefully invented to be used in construction industry.
- **Drone Volt raises € 1.4 MM from institutional investors:** On June 07, 2017, Drone Volt announced that the company has raised € 1.4 MM through private placement of shares to institutional investors. A major portion of the issue was subscribed to by SmallCaps fund, one of the four largest French collective management institutions.
- **Drone Volt Academy opens Drone Training School in Reims:** On June 01, 2017, Drone Volt announced that it has deployed its drone training school under the license of DRONE VOLT ACADEMY in Reims.
- **Drone Volt acquires Denmark based DANDRONE:** On May 22, 2017, Drone Volt announced that the company has acquired Denmark based e-commerce website DANDRONE. DANDRONE has several prestigious clients including strategic security department. This acquisition reinforces Drone Volt's position as a formidable player in the Scandinavian region.
- **Drone Volt appoints Olivier Gualdoni as the Chairman and General Director:** On May 11, 2017, Drone Volt announced that Mr. Dimitri Batsis has resigned from his position as Chairman for the Board of Directors. Mr. Gualdoni took his place as the Chairman and General Director of Drone Volt.
- **Drone Volt appoints stampede as distribution partner for selling drones in North America:** On April 3, 2017, Drone Volt announced that it has partnered with Stampede, world leader in distribution, sales and marketing of drones, to sell its service drones to B2B segment and retailers in North America.
- **Drone Volt signs distribution agreement at the Exposecuridad:** On March 17, 2017, Drone Volt announced that it has signed a distribution agreement with a Columbian company at the Exposecuridad (Mexico) Trade fair. This marks the entry of the company into Latin American "surveillance and security" drone market.
- **Drone Volt presents its drones to the President:** On February 21, 2017, Drone Volt was invited to present its innovation to the President, Francois Hollande, and Secretary of State for the Digital Domain and Innovation, Axelle Lemaire, at the launch of the 2nd edition of Viva Technology. The company was a part of the delegation of six representative startups selected by the organizers of Viva Technology.
- **Drone Volt signs MoU with Axiscades for co-operation in drone field:** On February 15, 2017, Drone Volt announced signing of a MoU with Axiscades for drones in Indian Defence and Aerospace sector. Under the MoU, both the companies will evaluate opportunities to address aerial surveillance in the Indian Defence and Aerospace sector.
- **Drone Volt launches "DV Wing":** On November 28, 2016, Drone Volt launched "DV Wing", a light weight drone, targeting agriculture and mapping. The drone is fitted with an 18.2 MP camera and has an autonomous flight capacity of 85 minutes.
- **Drone Volt increases product offering:** On November 14, 2016, Drone Volt announced addition of new Hercules 5K and 10K drone models to its product line. The drone has the first modular rigid frame with a payload capacity of 5 to 10 kilos and resistance to withstand outlet pressure upto 80 bars.
- **Drone Volt awarded first prize in the Deloitte Technology Fast50:** On November 09, 2016, Drone Volt announced that the company was awarded first prize in the Deloitte Technology Fast50 in the Aerospace and Defence category on November 07, 2016.
- **DRV introduces surveillance drone:** On March 03, 2016, Drone Volt unveiled its professional drone, Z18 UF (Unlimited Flight), a technologically advanced product capable of providing continuous surveillance of areas and events, in situations where security is a priority. It is a wired drone capable of 24-hour stationary flight, with adjustable height of up to 40 meters. It offers multiple options for close range shooting at 360°, transmitted at

high-speed and in real time thanks to its own radio connection. It is equipped with a powerful 18x zoom camera and connected to the supply station ELISTAIR on the ground specifically designed for this drone. The Z18 UF can be used for inspection and surveillance of sites, civil defense operations, road safety, etc.

- **Drone Volt expands internationally:** On February 29, 2016, DRV announced opening of two trade offices, one in Switzerland and the other in United States. Daniel Roe and Stefano Valentini will head the US and Switzerland offices respectively. Daniel Roe was earlier worldwide Director of Sales at Freely Systems, a company specializing in camera stabilizers and drones for the world of cinema and broadcasting. Prior to Freely Systems, Dan worked as VP, Sales and Business Development for Music Group and as Sales VP for Strategic Accounts at Sony Electronics, Inc. Stefano worked for several years as an account executive for high net worth individuals at Merrill Lynch Monte Carlo. He later moved to Switzerland to continue work in the private banking sector. Stefano became CEO of Cybergun Italia Srl in 2010, and will now manage Drone Volt's sales efforts in Switzerland, Italy and the Adriatic region.
- **Drone Volt launches DRONE VOLT PILOT®:** On February 09, 2016, the Company announced the launch of its new and innovative drone piloting application, Drone Volt Pilot. This simple and intuitive application provides many new features for novice drone pilots that will enrich their user experience. One of the major benefits of Drone Volt Pilot is that it is able to automatically create and save flight plans. It makes automation easy and allows a large number of pilots, with all levels of expertise, to use it.
- **Strategic agreement with Squadrone System:** On February 04, 2016, Drone Volt announced the formation of a strategic alliance with Squadrone System, the creator of original Hexo+. Launched in 2015 and already acclaimed worldwide, Hexo + is the first autonomous drone "follower". With its 6 rotors and 4k camera, Hexo+ can follow and film the user from 100 meters, at speeds up to 70 km/h (44 mph) for more than 10 minutes. Extremely fast and adaptive to extreme weather conditions, Hexo+ withstands temperatures from -10°C to +50°C, and can be used at 4,800 meters with wind up to 40 km/h. Flight plans and other features can be set directly from the Hexo + application available on iOS and Android. This multi-year agreement gives Hexo+ product and its future development rights exclusively to DRV, which will provide the marketing and sales efforts in Europe through its subsidiary Drone Volt Scandinavia. Specifically, Drone Volt will use Hexo+ for the development of professional civilian applications, particularly in the field of strategic security (surveillance and law enforcement).
- **Drone Volt splits the shares:** In January 2016, the shareholders in the General Assembly approved the decision to convert each share into 10 shares. The decision was taken to increase the number of shares in circulation and reduce the face value of the shares to enhance liquidity. After the division, Drone Volt had 12,314,380 shares at a nominal value of € 0.03 each. The characteristics of the share subscription warrants (BSA in French) were adjusted automatically: 10 warrants for 10 new shares, exercise price at € 2.70 and minimum subscription of 1,000 shares.
- **Transfer to AlterNext Paris:** On December 31, 2015, Drone Volt, the French leader in civil UAVs, was transferred to AlterNext Paris' continuous listing by direct admission. This was done to enhance the Company's visibility and to allow new categories of investors to become shareholders. Atout Capital was appointed as the listing sponsor for the Company. Earlier, the Company was listed on Euronext Paris.
- **Innovative Drone Spray Health® by Drone Volt:** In December 2015, DRV launched a new and innovative product, Drone Spray Health, aimed at combating vector borne diseases. The drone can carry products with larvicide used to kill mosquitoes and their larvae at their breeding areas. The product comes as an alternative to helicopters, which are costly and cause pollution. This environment friendly solution can be used for fighting mosquito borne diseases, such as malaria, dengue fever, Japanese encephalitis, etc.

5. Management and Governance^{xi}

The Company has a team of experienced professionals, with expertise in the field of technology, operations, sales and marketing and finance. These highly qualified professionals have been with the firm for a long time, signifying the stability of the firm's management. The management's focus is on improving profitability and creating shareholder value.

Exhibit 11: Management Team		
Name	Designation	Background
Dimitri Batsis	Founder	<ul style="list-style-type: none"> Dimitri Batsis is the founder of Drone Volt. During 2008-2010, he worked with various companies in the internet domain. He founded ZENI Corporation, listed company in Paris and headed it as the President from 1987-2007. ZENI Corporation offered global solutions ranging from consulting in marketing and communication strategy to designing and achieving multi-channel interactive sites on all new media.
Olivier Gualdoni	Administrator	<ul style="list-style-type: none"> Olivier Gualdoni was appointed as the worldwide CEO of Drone Volt on December 21, 2015. On May 11, 2017, the board of directors elected Mr. Gualdoni as the Chairman and General Director He formerly served as Chief Executive Officer of Cybergun SA. He has earlier served as European Export Director of Cybergun SA. Oliver holds BA in Physical Sciences and Masters in Marketing.
Sylvain Navarro	Worldwide CFO	<ul style="list-style-type: none"> Sylvain Navarro was appointed as the worldwide CFO of Drone Volt in May 2018 He formerly served in companies such as Invest securities, as Head of Cash Equity and Equity Capital Market
Martin Laporte	CEO, Drone Volt, Canada	<ul style="list-style-type: none"> Martin Laporte has earlier served as General Manager of KoptR image.
Kim Larsen	Managing Director, Drone Volt Scandinavia	<ul style="list-style-type: none"> Kim Larsen is in charge of managing Drone Volt's Scandinavian operations.
Daniel Roe	VP Sales, U.S.	<ul style="list-style-type: none"> Daniel Roe was appointed as Executive Vice President of sales and marketing, U.S. on January 2016. He has earlier served as Director of global sales Freefly System.
Benoit De Bruyn	Managing Director, Drone Volt Belgium	<ul style="list-style-type: none"> Benoit De Bruyn is in charge of managing Drone Volt's Belgium branch. He has formerly served as senior manager in Delaware Consulting.

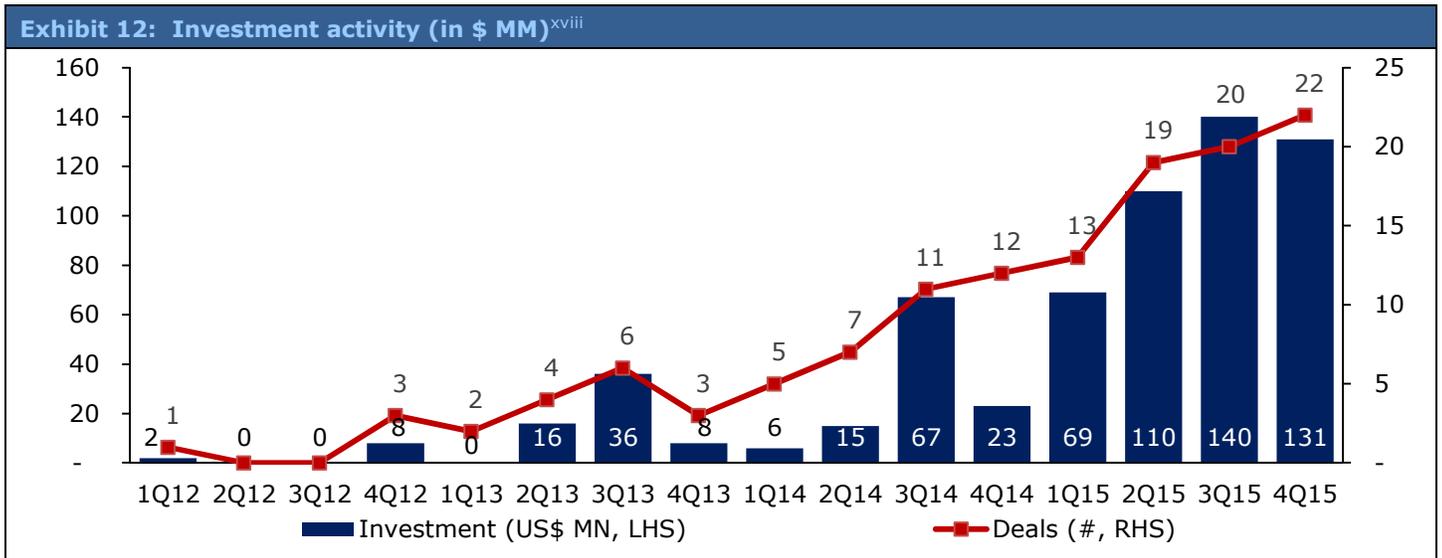
6. Industry Characteristics

6.1 Industry Overview^{xii}

UAVs, popularly known as ‘Drones’, are unmanned aircrafts or a ‘flying robot’. The UAVs evolved during World War I when these were used for military operations. These have improved significantly over time, with use of advanced technology such as miniaturization. The UAV market has grown rapidly in the last decade and has created a lot of eagerness in various parties and companies engaged in UAV technology development. Currently, the UAV market is driven by new technologies such as next generation unmanned combat systems, and the development of new markets like civil and consumer drones. The Teal Group expects the UAV industry to triple in size over the next decade, owing to innovations in unmanned combat aerial vehicle programs and strong commercial and consumer spending. The Teal Group estimates global UAV production to increase to USD 14 BN per annum, from USD 4 BN per annum currently, totaling USD 93 BN in the next ten years.^{xiii} The group expects the UAV sector could emerge as one of the fastest growing sectors globally. As per the study, military, consumer and civil segments account for 72%, 23% and 5% market respectively.^{xiv} Going forward, it predicts the commercial and civil drone market will grow at a CGAR of 19% over the next 5 years.

Grand View Research, a U.S. market & research consulting firm, expects the commercial drone market to reach USD 2.07 BN by 2022, with agriculture and law enforcement segments driving the growth.^{xv} A U.S. based technology market intelligence company, ABI Research, has projected the small unmanned aerial vehicle market segment will reach USD 8.4 BN by 2018. The report also predicts the commercial UAV sector will reach USD 5.1 BN, growing at CAGR of 51% from 2014-2019. The commercial segment is expected to grow 5x times compared to the growth of hobbyist UAV market and 2.3x times than the military UAV market.^{xvi}

UAV start-up companies have been able to attract venture capitalist for fund raising and have raised USD 450 MM in 2015, registering a growth of 300% compared to 2014. The funding was through 74 deals representing growth of 111% compared to 2014, which should further drive innovation in the industry.^{xvii}



6.2 Future Outlook

The commercial UAV industry has immense growth potential. However, it is difficult to make a proper market size estimate considering the potential uses of drones across sectors, such as agriculture, construction, surveillance, aerial photography, media and entertainment, etc. We have compiled market forecasts from different sources. Although the market size estimates vary significantly, all are positive about the industry and expect exponential growth.

Exhibit 13: Outlook on the Commercial UAV industry size

Sources	Market Size	Estimated Period	Published
Teal Group	USD 3.92 BN ^{xxix}	2025	August 2015
Grand View Research	USD 2.07 BN ^{xx}	2022	August 2015
ABI Research	USD 5.1 BN ^{xxi}	2019	January 2015
Lux Research	USD 1.7 BN ^{xxii}	2025	October 2014
MarketsandMarkets	USD 1.9 BN ^{xxiii}	2020	September 2014
RnRMarketResearch.com	USD 1.27 BN ^{xxiv}	2020	June 2015

Note: We have clubbed 23% and 5% market for consumer and civil reported by Teal Group for the projection.

6.3 UAV Components

Unmanned Aircraft Systems (UAS) can range from small drones that fly on a single charge for 10 minutes and cost under USD 200 to commercial-level aircrafts that can fly much longer and cost as much as USD 10,000 or more.^{xxv} Military grade UAVs can cost several million dollars. Some drones are operated by controllers, while others can be operated by operator's smartphone or tablet. A drone's basic elements are frame, propellers, small motor and battery, electronic sensors, global positioning system (GPS) and a camera.

Presently, there are several types of UAVs, depending on the project it's used for, ranging from toy UAV, almost ready to fly (ARF) UAV to ready to fly (RTF) UAVs. The essential kit for UAV includes RC transmitter, multi rotor frame, motors/speed controllers, flight controller and battery charger. Apart from these, optional accessories, such as battery alarm, flight controller add-ons, camera gimbal, telemetry and wireless video, could be added in the drone as per the purpose of the project.

Multi-Rotor Frame – The frame is the basic requirement of the UAV. The configuration depends on the purpose it is to be used for and the loads to be carried. The most popular designs are quadcopter (4 motors), hexacopter (6 motors) and Octacopter (8 motors).

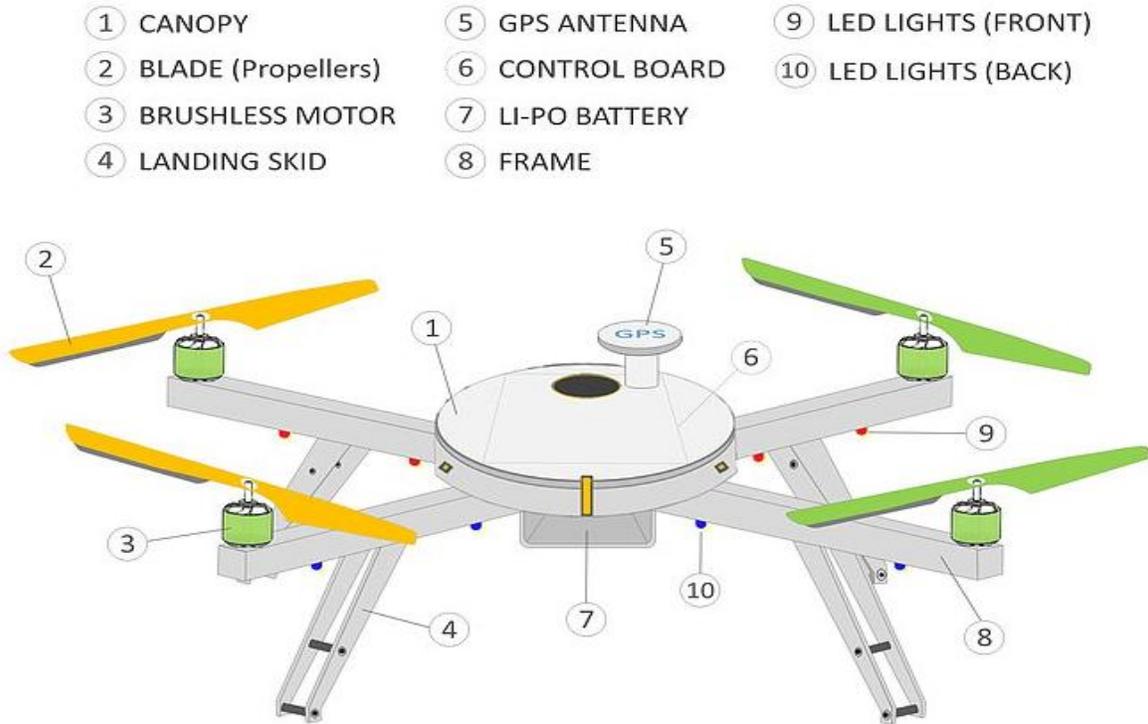
Motors/Speed Controllers and Propellers – The motor is an essential requirement as it impacts the flight time and how much load a drone can carry. It also provides the lift for the UAV. A motor ideally should have less weight with high efficiency. A propeller is an airfoil and consists 2-3 number of blades; it provides the thrust to the drone and acts as rotating wings creating a lift force.

Flight Controller – It acts as the brain of the UAV, connecting all the pieces together. It is used to stabilize the multi-rotor and synchronize it. The more advanced flight controllers can take off, fly and land the UAV autonomously with a preprogrammed waypoint.

Battery and Charger – Battery provides the power to the UAV to fly, and would control both motor and flight controller. It is also the heaviest item on a UAV. While choosing the ideal battery, the capacity and voltage factor needs to be taken in to account. The Lithium polymer battery is the most ideal and most used battery as this has high power to weight ratio and is readily available.

RC Transmitter – It is possible to fly and control the UAV autonomously without a transmitter, but it is a good idea to have manual backup for the drone in case something goes wrong. Hand-held transmitter is adequate for most cases.

Exhibit 14: Basic Components of a UAV



6.4 Pricing^{xxvi}

Depending on the requirement, the costs of drones can vary considerably. The drones can be divided into different classes depending on the level of expertise and range it can fly.

Exhibit 15: Basic Components of a UAV

Segment	Entry Level users	Professional users	Commercial users
Specifications	Kit with drone, four rotors, batteries, charger, GPS and spare propellers	Kit with drone, four rotors, batteries, charger, GPS, spare propellers, advanced cameras and separate controller	Kit with drone, six rotors, larger propeller blades, batteries, charger, GPS, advanced cameras and separate controller
Duration of flight	10 minutes	25 minutes	1 hour
Range	150-200 feet	Half a mile	> a mile
Controll	Smartphone or tablet	Smartphone or tablet	Smartphone or tablet
Cost	USD 500	USD 750-2,000	USD 10,000

6.5 History

Early History - The concept of UAVs is old. In August 1849, Austria used unmanned balloons loaded with explosives to attack Venice.

World Wars - Going back to World War 1 (WWI), necessity, the 'mother of invention' led to use of flying bombs with the development of first unmanned aircraft. The U.S. army and navy both used aerial torpedoes and flying bombs in WWI but faced difficulties in launching and recovering its UAVs. During World War II (WWII), drones were used as gunnery practice targets by the U.S. forces and for aerial attack missions. Meanwhile, Germany produced its own drones, which used jet propulsion built aircrafts.

1950s - A U.S. company, Northrop, developed 'Falconer' and 'Shelduck' UAVs for battlefield reconnaissance. It had an auto pilot system with radio-control backup and video cameras; it also carried flares for night reconnaissance. These were built in great numbers and were used by several military forces internationally. In 1950s, UAVs were also used as decoys and were released to confuse the radar system of the enemies.

1960s - This era saw the faster and longer range aircraft, 'Ryan Firebee', being developed to air bomb targets. UAVs were developed to fly at high altitudes controlled by radio lines and to fly at lower altitudes controlled by stand-off manned aircraft. These drones carried cameras for reconnaissance over enemy targets.

1970s - During the Vietnam War, drones were used extensively by the U.S. The drones were used as 'Lightning Bug.' It was used for intelligence gathering and for taking images from low and high altitudes. These drones were modified with bigger engines during the Vietnam War and these could carry heavier payloads. In the 1970s, Israel modified the drones it purchased from the U.S. and developed the first UAV with real time surveillance. It used these in its war against Syria as reconnaissance drones, electronic jammers and as decoys; and had minimal losses.

1980s - In 1982, Lebanon War, Israel used its self-made UAVs for images and radar decoying to neutralize Syria's air defense. By late 1980s, Israel tested a variety of drones on Lebanon. With rapid advancement in technology, Israel not only outpaced U.S. in the development of drones, by producing a number of surveillance drones in 1980s, it also sold them to the U.S.

1990s - U.S. marine, army and navy units, along with coalition forces, used 'the Pioneer' UAV substantially for imagery support during its operations against Iraq. The UAVs were used for bombing target enemy areas. Post bombing raids, it was used to inspect the target area and transmit live coverage of the damage.

2000s - In early 2000, after 9/11, U.S. military used drones for attacks in Afghanistan, Pakistan, Yemen and Somalia. It was also used for the operation to hunt Osama Bin Laden. In 2006, America used drones within the U.S. civilian airspace for search and rescue operations following Hurricane Katrina.

2010s - In 2013, Israel used drones in Gaza during its military operations. In 2013, Amazon, the largest online retailer, announced it is developing drone technology for delivery services.

6.6 Industry Segments

Military Drone Market

Its utility in armed conflicts led to the invention of unmanned aerial vehicles during World War I and World War II. Drones are normally used in circumstances where it's considered too risky for manned flights to be performed. Drones can provide real time imagery, intelligence and surveillance information by scanning an area and transmitting the information back to the commanders, in order to destroy the enemy. Military drones are generally used for air strikes and surveillance on enemy targets. As per the Teal Group's projection, worldwide spending on UAVs is expected to triple over the next decade to USD 93 BN. Out of which, the military segment is expected to contribute 72% of total UAV market spending at USD 67 BN over the next decade, while research spending on military UAV is likely to add another USD 30 BN.^{xxvii} The Teal Group's projections also indicate that the U.S. will account for 64% of the total military worldwide research spending on UAVs. Therefore, the U.S. will be the biggest UAV market over the next decade.^{xxviii}

IHS Jane's Intelligence, a specialist in defense publications, reported that global defense and security market for UAVs is expected to grow at 5.5% per annum from the current level of USD 6.4 BN and increase to USD 10 BN by 2024.^{xxix} According to the report, Israel was the biggest exporter of UAVs last year, but the U.S. is expected to overtake its position in coming years.

Commercial/ Civil Drone Market

As per Teal Group's market estimates, consumer and civil drone markets will constitute 23% and 5% of the drone industry (estimated total market is USD 93 BN) over the next decade.^{xxx} The civil UAV market is expected to register the highest growth in the industry, with the opening of worldwide airspace market due to a low base effect. The commercial drones carrying payloads like cameras, sensor, packages, etc., can cater to a versatile market within commercial segments. With the cost of drone technology coming down in recent years, the commercial drone's growth is expected to accelerate in areas such as agriculture, media, cinematography and photography, inspection and maintenance, surveillance, real estate, etc.

As per Grand View Research, the commercial UAV market size is estimated to be USD 2.07 BN by 2022.^{xxxi} Tractica, a market intelligence firm, estimates worldwide shipments of commercial drones to reach 2.7 MM units by 2025 from 80,000 units in 2015. Also, annual revenue from commercial drone hardware is estimated to reach around USD 4 BN from the current level of USD 283 MM during the same period, whereas, annual revenue from commercial drone enabled-services would generate USD 8.7 BN compared to USD 170 MM currently.^{xxxi} The commercial drone sector will be driven by aerial imaging and data analysis applications. Film, media, agriculture and oil & gas will drive the growth in adoption of commercial drones. Whereas, filming and entertainment, mapping, aerial assessment, disaster relief and prospecting will lead to the strong growth in drone enabled service market.

There is immense scope going forward. The usage of drones is still in early or mid-stages in many sectors and could play a critical role in reviving the growth in various sectors because of its cost effectiveness and ability to perform tasks, which would have been impossible earlier. The table below shows 22 sectors expected to benefit from the use of drone technology; most are in either early or middle stages of adoption and usage growth, and just a handful of sectors have seen the benefits of higher levels of usage of drone technology over a long time. The agriculture sector is expected to account for approximately 80% of commercial drone usage. By using high resolution imaging and aerial mapping, identification of crop conditions, checking for diseases, spraying pesticides and fertilizers, prevention of any disease outburst is possible at a much lower cost.

Commercial drones are also increasingly used for ensuring public safety. For example, drones with high definition and infrared cameras can assist police and fire departments in intelligence gathering, rescue missions, road patrolling, aerial surveillance, etc.

Exhibit 16: Development Stage of Commercial drones used in different sectors^{xxxiii}

	Early Stage	Middle Stage	Late Stage
Application			
Aerial photography			L
Border patrol			L
Construction and real estate images and monitoring		M	
Emergency management		M	
Infrastructure monitoring		M	
Mail and small package delivery	E		
Filmmaking and other media uses		M	
Oil and gas exploration		M	
Precision agriculture			L
Public safety			L
Weather forecasting and meteorological research		M	
Wildlife and environmental monitoring		M	
Technology			
Advanced manufacturing techniques		M	
Batteries and other power	E		
Communication systems			L
Detect, sense, avoid capabilities		M	
GPS			L
Lightweight structures		M	
Microprocessors			L
Motors			L
Engines		M	
Sensors			L

6.7 Uses of drones across sectors

1. Agriculture

Agriculture is poised to benefit significantly from the use of drone applications. Monitoring fields from the sky would drive the new farming revolution. The U.S. based Association for Unmanned Vehicle Systems International predicts that agricultural uses will eventually account for 80% of the commercial market for drones. With the help of drones, it is possible to capture images of fields at a much cheaper cost compared to when using helicopters or satellite imagery. Drone technology with cameras could enable farmers to monitor their crops, check for diseases or spray pesticides and fertilizers and prevent any disease outburst.

It is difficult for the farmers to collect data of farmland spread across large areas. With the help of drones, valuable information can be collected with high accuracy in a short span of time, which in turn can be used to avoid damage caused by various means.

Drones can provide infrared pictures, which help farmers identify exact locations of weed emergence or insect infestations, and enable them to quickly focus on the targeted areas. Drones have potential applications in precision agriculture, which involves the use of detailed data on soils, crops, nutrients, pests, moisture, and yield to increase farm productivity.

2. Real Estate

Aerial videography and photography are the new perquisite provided by high-end real estate marketers. Drones effortlessly cover areas, which would be difficult to access otherwise and provide perfect images and videos. For real estate clients, it could provide a virtual tour with interactive and realistic presentations. UAVs can be used as maintenance tools to inspect large commercial places such as malls, undeveloped lands and office parks. It can also be useful for inspecting places after incidences of storm or vandalism.

3. Media and Entertainment

The use of UAVs in Media sector has grown substantially and it is said that 'the age of drone journalism' has started. Drones are used by the Media industry in numbers. It has become a significant instrument for news gathering by leading media players. News agencies can use drones for capturing images and videos of events from different height and angles. Drones can act as a powerful tool in the hands of journalists with proper training, who know the capabilities of the vehicle. Due to their small size, flexibility and ability to perform in the harshest weather, they can be used to take aerial surveys of places and events such as volcanos, demonstrations or warzones, which were not possible to get up close to by manned aircrafts before. Also, as they do not require the direct presence of reporters, news stories which were earlier missed due to risk of personal injuries to reporters on the ground, can now be covered.

Also, using drones is changing the way films are made as these are better than traditional methods for capturing perfect aerial shots. These are also cheaper, safer and faster solutions. As drone costs a fraction of helicopter or crane shoots, it opens new avenues for filmmakers looking to capture aerial shots that were impossible in the past. Drones will continue to change the way movies are filmed. Its use in the film industry will increase with continual improvement in the quality of drones and decrease in the cost of drones.

4. Surveillance

The trend of using UAVs for commercial aerial surveillance is rapidly increasing, with the development of automated and low cost drones and technology for object detection. Drones with high definition and infrared cameras can access areas, providing a firsthand look of areas not accessible otherwise, due to the advantage of its small size. Drones are used for gathering intelligence against enemy targets by government agencies and competitors in business. Drones can help in search and rescue missions, scientific research, wildfire mapping, road patrols, anti-piracy and aerial surveillance of large areas at a low cost. However, the widespread use of drones for domestic surveillance raises serious privacy concerns. These present a threat to privacy as drones are capable of monitoring personal conversations, peering into many places.

Beside the mentioned sectors, drones can also be used for a wide range of activities, including archaeological survey, firefighting, healthcare (including medical supplies/delivery), delivery in commercial use, wildlife conservation, monitoring marine life, etc.

6.8 UAV Market in France

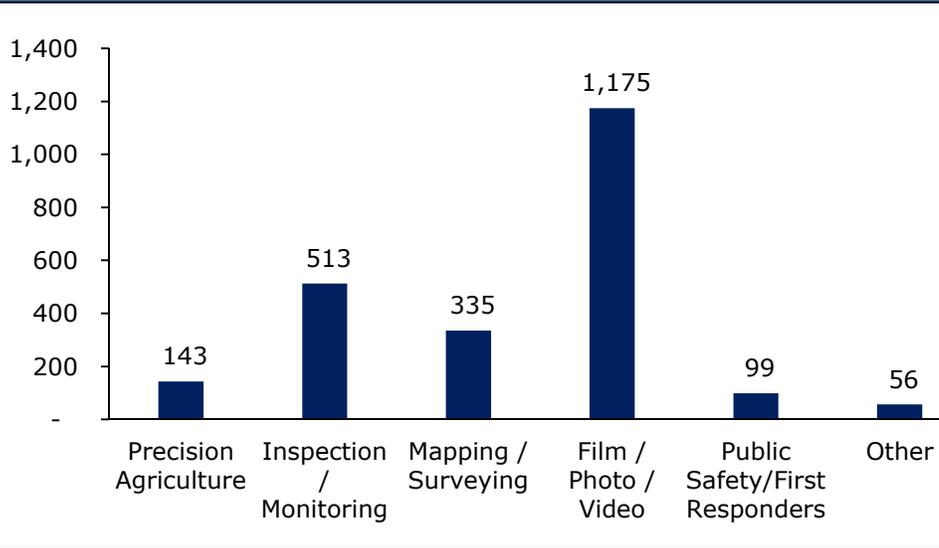
Globally, France has been the pioneer in the commercial drone market. It was one of the first countries to regulate the use of commercial drones. In 2012, the Ministry of Transport's Civil Aviation Authority, Directorate General for Civil Aviation (DGAC) made law relating to design and use of drones in French airspace. Also the manner in which drones can be used depends on their types and design. However, the legislation does not apply to military or state-operated drones. France has registered 1,250 commercial drone operators as of January 2015.^{xxxiv}

The global UAV industry is forecasted to reach USD 93 BN over the next decade, with consumer and civil drone markets to contribute 23% and 5% share respectively. Teal Group expects that French companies are well positioned to benefit from this growth. France has established drone regulations. Operators must pass a theory exam and show an aptitude for flying a drone. For flying drones beyond the line of sight a pilot license is needed for the operators, which requires 20hours of drone training and 100 hours of flying experience.

6.9 UAV Market in the U.S.

In the U.S., drones were primarily used in war zones to deliver weapons and for U.S. military reconnaissance. But, now some new technologies and pending federal regulations are enabling the manufacture and use of UAVs for domestic commercial purposes, giving rise to a growing commercial UAV industry. The commercial drone market in the U.S. is still less advanced due to the Federal Aviation Administration (FAA) regulations, which has closed American airspace for UAV trial flights. The FAA, in May 2014, has granted exemption permitting specific use of commercial drones for agriculture, real estate, film and broadcasting, oil and gas and construction activities. The Teal Group's study revealed that 64% of worldwide military spending on drone technology (Research Development Test and Evaluation) over the next decade is expected to be contributed by the United States, and 38% of military procurement spending.^{xxxv}

Exhibit 17: FAA Exemptions Operation / Mission^{xxxvi}



There is significant investment potential in this sector in the U.S. According to the study conducted by the Federal Aviation Administration (AUVSI), by 2025 about 100,000 jobs could be created in the American economy by the use of drones and would generate about USD 80 BN between 2015 and 2025.

6.10 Regulatory Framework

Despite the significant interest in drones expressed by various sectors, the UAV industry faces major obstacles, which could cut short this sector’s growth story. Regulatory policies, safety and privacy concerns, and public awareness regarding drones are key concerns. Currently, there is no uniform global approach to the legal use of drones by either

hobbyists or businesses. Many countries differentiate drones by weight category, wherein drones weighing more than 55 pounds are considered in a heavier category. Drones weighing less than 4.4 pounds are dealt with differently than the heavier ones as these have lower safety risks. There are other risks related to regulations like sharing of frequencies and radio link; quality of drones (especially the heavier drones); and safety from mid-air collision.

1. Regulations in the U.S.

The U.S. has clearly lagged in creating a framework to support the UAV industry and therefore, U.S. drone companies are at a serious disadvantage as they are unable to test commercial drone applications in the U.S. The FAA has set its regulations for use of drones and prohibits their usage for commercial purposes with some exemptions for some specific activities, such as for companies conducting agriculture, real estate, film and construction activities. AUVSI has estimated that each year of delay in regulatory constraints has a USD 10 BN economic impact for the U.S.^{xxxvii}

Under the FAA regulation, drones weighing less than 55 pounds are allowed to fly for commercial operations during day time within limited locations, and within the line of sight of the operator. The final set of rules is still being worked on and is likely not to be issued until late 2016-17.^{xxxix}

Exhibit 18: Types of UAVs in Commercial Operation^{xxxviii}

UAV Platforms Approved Through FAA Exemptions		
Industry	Average Weight (in pounds)	Average Endurance (in minutes)
Agriculture	9.14	37.59
Real estate	5.37	23.10
Film and TV	12.39	19.05
Oil and gas	9.83	97.40
Construction	7.22	26.85

FAA has been moving in the right direction. Since May 2014, it has permitted a range of commercial enterprises to use drones. The FAA granted 500 exemptions in its first year in over 20 different industries.^{xi} As of September 2015, FAA had issued 1407 exemptions to U.S. companies under Section 333 to operate drones for commercial purposes.^{xii}

2. Regulations in Europe

The European Aviation Safety Agency (EASA) has been assigned by the European Commission to set up a common regulation for drones across Europe. The set of standards should cover security, safety, privacy, data protection, insurance and liability. Europe aims to become a global leader in emerging drone technology industry, with the right set of regulations to safeguard the countries’ interest. Currently, within the European Union, different states have regulated, or are planning to regulate, different characteristics of civil drones less than 150 kg in weight.

The EASA has recently released a roadmap for UAV airspace integration to operate and fly in the EU, specifying three categories based on operational parameters:

Open Category: Under this category, it’s not necessary to require permission, approvals or a license from the Aviation Authority for drones weighing 25 kg or less. However, UAVs need to meet the defined limitations, such as flying within the line of sight of the operator and within a defined altitude and distance; flying over a crowd is also not permitted.

Specific Category: This category covers characteristics that have not been covered under ‘open’ category. Under this category, the drone operator has to undergo a safety risk assessment and identify a mitigation structure that needs to be reviewed and approved by National Aviation Authority.

Certified Category: This category includes large unmanned aircraft and their operations. These would be treated as manned aircrafts in terms of rules. The operators engaged in this category would require licenses.

3. Regulations in France

France was one of the first countries to implement legislation on civil drones. The Directorate General of Civil Aviation (DGCA) has classified UAVs under seven categories segmented by weight, the model design and the accessories that these must contain. Along with this, DGCA has identified four scenarios in which UAVs can be used.

Exhibit 19: Possible Scenarios for using UAVs in France ^{xliii}				
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Line of Sight	In Direct View	Beyond the remote pilot’s sight	In Direct View	Beyond the remote pilot’s sight
Area	Clear of populated area	Clear of populated area	Within populated area or close to a gathering of persons/animals	Clear of populated area
Distance (Horizontal)	100m	1Km	100m	Specific activities and flight that do not meet scenario S2 criteria
Height	150m	50m	150m	150m

6.11 Major Drone Manufacturers

Dajiang Innovation Technology (DJI) – DJI, a Chinese company headquartered in Shenzhen, Guangdong, manufactures commercial UAV for aerial photography and videography. The company has been quite aggressive in bringing out new technology in recent years and has emerged as world’s most popular consumer drone maker. DJI reported revenue of around USD 500 MM in 2014, nearly four times its 2013 number, and targets to achieve USD 1 BN in 2015 to become the first billion-dollar commercial drone company. The company brought small yet powerful drones in the market with its popular Phantom line products, which are easy to fly and can shoot high definition footage. Accel Partners, the venture capital firm, invested USD 75 MM in DJI in May 2015 as it believes DJI would be a leader in this category. The investment has boosted DJI value at roughly USD 8BN.

Parrot – It is the second largest consumer drone company by revenue, after China’s DJI. Parrot specializes in technologies involving voice recognition and signal processing for embedded products and drone manufacturing. It has been developing a range of commercial drones since 2012. It has also tried to differentiate itself by offering cheaper toy-like drones at half the price of its competitors. The revenues from drones constituted almost 74% of the company’s total revenue in 4Q2015, and reflected a 121% growth in drone business compared to the previous year.

3D Robotics – 3D Robotics, an American company founded in 2009, manufactures consumer drones and offers a range of drones for everyday exploration and business applications. Its popular drone ‘Solo’ released in May 2015 is argued to be the smartest drone ever. It captures breath-taking aerial imagery and data analysis, enabling mapping, surveying, 3D modelling and more. The company has raised USD 50 MM in its latest round of capital infusion (led by Qualcomm) to support product development.

Competition in UAV industry

Exhibit 20: Peer Comparison		
	Country	Segments
DJI	China	Consumer drone maker; the leader in this category; makes drones for hobbyists and professionals; 'Phantom' series is said to be the most popular drone worldwide; widely used by videographers globally
Parrot	France	Second largest civil & consumer drone manufacturing company
3D Robotics	U.S.	Consumer drone manufacturer; offers drones for exploration and business applications
Dassault Aviation	France	Designs, manufactures and sells combat aircrafts for the military sector; also sells products ranging from business jets to military drones
Delta Drone	France	Designs and manufactures civilian and commercial drones and provides range of payloads. It also offers consulting, technical assistance and maintenance services
Fly-n-sense	France	Designs and sells end-to-end commercial UAVs for security, agriculture, environment and industrial activities
RedBird	France	The company analyzes and processes the data acquired by drones and offers data processing solutions to optimize resources, improve performance and secure operations with drone based information
Surveycopter	France	Designs and manufactures remote controlled drones and robots; considered to be a pioneer in mini UAVs; offers products for civilian and military uses
AeroVironment, Inc.	U.S.	The company makes small UAVs for the U.S. army for real time reconnaissance, intelligence gathering and surveillance

7. Valuation

The Fair Market Value of all the Company shares stand between € 37.48 MM and € 42.97 MM as of August 23, 2018. The Fair Market Value for the company publicly traded share stands between € 1.27 and € 1.46 as of August 23, 2018. The valuation approach followed is the Discounted Cash Flow method.

7.1 Discounted Cash Flow Method

Valuation	
WACC	
Risk-free rate	2.00% ^{xliii}
Beta	1.15 ^{xliv}
Market Return	7.30% ^{xlv}
Additional Premium	0.00%
Cost of Equity	8.04%
Cost of Debt	2.33%
Terminal Growth Rate	2.00%
WACC (Discount Rate)	6.90%

Figures are '000 €, unless indicated otherwise

KEY VARIABLES

No. of drones sold	Average Selling price per drone
Refer to <i>Key Variables Analysis</i> section	

Year Ending- Dec	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
FCFF (High)										
Net cash from operating activities	(155)	(305)	854	1,014	2,458	2,458	4,910	4,986	7,612	7,690
Capital Expenditure	(757)	(1,062)	(1,472)	(1,966)	(2,490)	(3,017)	(3,602)	(4,201)	(4,098)	(4,585)
Free Cash Flow to Firm	(912)	(1,368)	(618)	(952)	(33)	(559)	1,308	785	3,514	3,105
Discount factor	0.98	0.91	0.85	0.80	0.75	0.70	0.65	0.61	0.57	0.54
Present Value of FCF	(891)	(1,249)	(528)	(761)	(24)	(391)	856	480	2,013	1,663
FCFF (Low)										
Net cash from operating activities	(138)	(392)	763	813	2,136	2,119	4,400	4,456	6,901	6,959
Capital Expenditure	(795)	(1,091)	(1,394)	(1,842)	(2,335)	(2,830)	(3,380)	(3,942)	(3,846)	(4,303)
Free Cash Flow to Firm	(933)	(1,483)	(632)	(1,029)	(199)	(711)	1,020	513	3,055	2,655
Discount factor	0.98	0.91	0.85	0.80	0.75	0.70	0.65	0.61	0.57	0.54
Present Value of FCF	(911)	(1,355)	(540)	(823)	(149)	(497)	668	314	1,749	1,422

Arrowhead Fair Value Bracket	High	Low
Terminal Value (TV)	77,124	69,742
Present Value of TV	31,641	28,612
Present Value of FCF	11,330	8,865
Present Value of TV+FCF	42,971	37,478
Equity Value Bracket		
Shares O/s (000's)	29,484	29,484
Fair Share Value Bracket (€)	1.46	1.27
Current Market Price (€)	0.57	0.57
Upside/(Downside)	156%	123%
Current Market Cap. (€ '000)	16,806	16,806
Target Market Cap. Bracket (€ '000)	42,911	37,478

Sensitivity Analysis

Sensitivity Table- High		WACC (%)				
		5%	6%	7%	8%	9%
Growth Rate (%)	1.5%	3.25	2.02	1.35	0.95	0.70
	1.8%	3.47	2.12	1.40	0.98	0.71
	2.0%	3.74	2.24	1.46	1.01	0.73
	2.3%	4.05	2.36	1.52	1.04	0.75
	2.5%	4.43	2.51	1.59	1.07	0.76

Sensitivity Table- Low		WACC (%)				
		5%	6%	7%	8%	9%
Growth Rate (%)	1.5%	2.88	1.78	1.18	0.82	0.59
	1.8%	3.09	1.87	1.22	0.84	0.60
	2.0%	3.33	1.97	1.27	0.87	0.62
	2.3%	3.61	2.09	1.33	0.89	0.63
	2.5%	3.95	2.22	1.39	0.93	0.65

Peer comparison on valuation multiples

Using an industry average P/S for 2018 of 1.36x, our 2022 average estimate of revenue implies fair value of € 1.52 in 2022. Discounting the 2022 fair value to 2017 using WACC, we arrive at fair value of € 1.24, which is c. 118% higher than the current share price of € 0.57.

Exhibit 21: Valuation Multiples^{xlvi}

	Market Cap (USD MM)	EV/EBITDA		Price to Book Value		Price to Sales	
		2018	2019	2018	2019	2018	2019
Nordex SE	964	7.8	5.4	0.9	0.9	0.3	0.3
Ingenico	4,878	10.7	9.2	2.1	1.9	1.6	1.4
Schindler Holdings	24,440	15.2	13.6	6.4	5.6	2.2	2.1
Workhorse Group Inc	63	NM	NM	NM	NM	2.4	0.3
Kuka AG	4,193	11.8	NM	3.6	3.1	1.0	0.9
Total/ Average	34,539	11.4	9.4	3.3	2.9	1.5	1.0

Note: Peer group comprises of companies related in new technologies.

Approach for DCF Valuation

Time Horizon: The Arrowhead fair valuation for Drone Volt is based on a DCF method. The time period chosen for the valuation is 212 months (2018E-2035E).

Terminal Value: Terminal value is estimated using a terminal growth rate of 2.0%.

Prudential Nature of Valuation: It should be noted that this Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it discounts the eventuality of any new products being launched in the market or any significant change in the strategy.

Key Variables: The upper and lower bounds in the estimation correspond to the extreme positions taken by the following key variables:

Variable 1 – Number of Drones

Exhibit 22: Number of drones at the end of year											
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Low estimate	Consumer	544	565	582	600	618	636	655	675	695	716
	Professional	1,114	1,560	2,106	2,738	3,423	4,107	4,846	5,573	6,242	6,866
High estimate	Consumer	549	576	605	635	655	674	694	715	737	759
	Professional	1,122	1,582	2,136	2,777	3,471	4,166	4,916	5,653	6,331	6,964

Variable 2 – Average Selling price (ASP) per Drone

Exhibit 23: Average selling price per drone											
In €		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Low estimate	Consumer	3,468	3,607	3,751	3,901	4,018	4,138	4,263	4,390	4,522	4,658
	Professional	7,197	7,377	7,745	8,055	8,297	8,463	8,632	8,805	8,981	9,160
High estimate	Consumer	3,502	3,677	3,861	4,054	4,175	4,301	4,430	4,562	4,699	4,840
	Professional	7,266	7,521	7,972	8,370	8,621	8,794	8,970	9,149	9,332	9,519

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent depending on the subsectors in which the research is conducted, but all Arrowhead valuation research possesses an underlying set of common principles and a generally common quantitative process.

With Arrowhead Commercial and Technical Due Diligence, Arrowhead extensively researches the fundamentals, assets and liabilities of a Company, and builds solid estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance, such as price/earnings ratios, indicated as applicable, are present mainly for reference purposes. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

Elements of comparison, such as multiple analyses may be to some limited extent integrated in the valuation on a project-by-project or asset-by-asset basis. In the case of this Drone Volt report, there are no multiple analyses integrated in the valuation.

Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analysis, such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to those projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a tool for valuation. The high-bracket DCF valuation is derived from the high-bracket key variables, while the low-bracket DCF valuation is based on the low-bracket key variables.

In principle, an investor who is comfortable with the high-brackets of our key variable analysis will align with the high-bracket in the Arrowhead Fair Value Bracket, and likewise in terms of low estimates. The investor will also take into account the Company intangibles – as presented in the first few pages of this document in the analysis on strengths and weaknesses and other essential Company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in the investor's own analysis.

The bracket should be understood as a tool provided by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that on one hand, global capital markets contain inefficiencies, especially in terms of information, and that on the other hand, corporations and their commercial and technical positions evolve rapidly: this present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months). The reader should refer to important disclosures on page 31 of this report.

8. Appendix

8.1 Drone Volt's Financial Summary

Exhibit 24: Financial Summary		<i>Low Bracket Estimates</i>								
<i>Year Ending Dec</i>	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Revenue (€ '000)	10,605	14,552	19,921	26,320	33,357	40,425	48,279	56,318	64,097	71,724
Operating Profit (€ '000)	(630)	(97)	455	1,217	2,227	3,257	4,496	5,810	7,105	8,416
Net Income (€ '000)	(664)	(183)	216	711	1,372	2,047	2,859	3,739	4,605	5,504
EPS	(0.02)	(0.01)	0.01	0.02	0.05	0.07	0.10	0.13	0.16	0.19
Growth rates (%)										
Revenue	36.3%	37.2%	36.9%	32.1%	26.7%	21.2%	19.4%	16.7%	13.8%	11.9%
Operating Profit	NM	NM	NM	NM	83.0%	46.2%	38.0%	29.2%	22.3%	18.5%
Net Income	NM	NM	NM	NM	93.0%	49.2%	39.7%	30.8%	23.2%	19.5%
EPS	NM	NM	NM	NM	93.0%	49.2%	39.7%	30.8%	23.2%	19.5%
Margins (%)										
EBITDA Margins	(3.4%)	1.8%	4.7%	7.0%	9.1%	10.6%	12.0%	13.1%	14.0%	14.8%
Operating Profit Margin	(5.9%)	(0.7%)	2.3%	4.6%	6.7%	8.1%	9.3%	10.3%	11.1%	11.7%
Net Profit Margin	(6.3%)	(1.3%)	1.1%	2.7%	4.1%	5.1%	5.9%	6.6%	7.2%	7.7%
Ratios										
Price / Earning ratio	NM	NM	78.0x	23.6x	12.3x	8.2x	5.9x	4.5x	3.6x	3.1x
EV/Revenue	1.2x	0.9x	0.6x	0.5x	0.4x	0.3x	0.3x	0.2x	0.2x	0.2x
EV/EBITDA	NM	49.5x	13.7x	7.0x	4.2x	3.0x	2.2x	1.7x	1.4x	1.2x
EV/EBIT	NM	(132.1x)	28.1x	10.5x	5.7x	3.9x	2.8x	2.2x	1.8x	1.5x

Exhibit 25: Financial Summary		<i>High Bracket Estimates</i>								
<i>Year Ending Dec</i>	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Revenue (€ '000)	10,813	15,178	21,023	28,083	35,573	43,096	51,457	60,014	68,294	76,414
Operating Profit (€ '000)	(588)	54	726	1,595	2,681	3,797	5,140	6,565	7,972	9,397
Net Income (€ '000)	(622)	(31)	397	964	1,676	2,410	3,292	4,248	5,191	6,169
EPS	(0.02)	(0.00)	0.01	0.03	0.06	0.08	0.11	0.14	0.18	0.21
Growth rates (%)										
Revenue	39.0%	40.4%	38.5%	33.6%	26.7%	21.1%	19.4%	16.6%	13.8%	11.9%
Operating Profit	NM	NM	NM	NM	68.1%	41.6%	35.4%	27.7%	21.4%	17.9%
Net Income	NM	NM	NM	NM	73.9%	43.8%	36.6%	29.0%	22.2%	18.8%
EPS	NM	NM	NM	NM	73.9%	43.8%	36.6%	29.0%	22.2%	18.8%
Margins (%)										
EBITDA Margins	(3.0%)	2.6%	5.6%	7.9%	9.9%	11.3%	12.6%	13.7%	14.6%	15.3%
Operating Profit Margin	(5.4%)	0.4%	3.5%	5.7%	7.5%	8.8%	10.0%	10.9%	11.7%	12.3%
Net Profit Margin	(5.7%)	(0.2%)	1.9%	3.4%	4.7%	5.6%	6.4%	7.1%	7.6%	8.1%
Ratios										
Price / Earning ratio	NM	NM	42.3x	17.4x	10.0x	7.0x	5.1x	4.0x	3.2x	2.7x
EV/Revenue	1.2x	0.8x	0.6x	0.5x	0.4x	0.3x	0.2x	0.2x	0.2x	0.2x
EV/EBITDA	NM	32.8x	10.9x	5.8x	3.6x	2.6x	2.0x	1.6x	1.3x	1.1x
EV/EBIT	NM	235.3x	17.6x	8.0x	4.8x	3.4x	2.5x	1.9x	1.6x	1.4x

8.2 Drone Volt's Balance Sheet Forecast

Exhibit 26: Consolidated Balance Sheet		All figures in € '000, unless stated differently						<i>Low Bracket estimates</i>			
<i>Year Ending-Dec</i>	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	
Total current assets	8,773	9,360	9,348	9,600	9,818	10,839	12,117	13,653	16,344	19,456	
Total non-current assets	5,977	6,713	7,628	8,858	10,389	12,183	14,273	16,646	18,624	20,756	
TOTAL ASSETS	14,750	16,074	16,976	18,458	20,207	23,022	26,390	30,299	34,968	40,212	
Total current liabilities	3,094	3,400	3,587	4,158	4,335	4,503	4,912	4,982	5,245	5,186	
Total non-current liabilities	3,271	4,471	4,971	5,171	5,371	5,971	6,071	6,171	5,971	5,771	
TOTAL LIABILITIES	6,365	7,871	8,558	9,329	9,706	10,474	10,983	11,153	11,216	10,957	
Total shareholder's equity	8,386	8,203	8,419	9,129	10,501	12,548	15,407	19,146	23,751	29,255	
TOTAL LIABILITIES & EQUITY	14,751	16,074	16,977	18,458	20,207	23,022	26,390	30,299	34,968	40,212	

Exhibit 27: Consolidated Balance Sheet		All figures in € '000, unless stated differently						<i>High Bracket estimates</i>			
<i>Year Ending-Dec</i>	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	
Total current assets	8,894	9,668	9,760	10,196	10,590	11,871	13,446	15,354	18,499	22,150	
Total non-current assets	5,939	6,666	7,690	9,042	10,696	12,620	14,854	17,386	19,496	21,768	
TOTAL ASSETS	14,833	16,334	17,450	19,238	21,285	24,491	28,301	32,740	37,995	43,918	
Total current liabilities	3,134	3,467	3,685	4,309	4,480	4,676	5,094	5,186	5,449	5,403	
Total non-current liabilities	3,271	4,471	4,971	5,171	5,371	5,971	6,071	6,171	5,971	5,771	
TOTAL LIABILITIES	6,405	7,938	8,656	9,480	9,851	10,647	11,165	11,357	11,420	11,174	
Total shareholder's equity	8,428	8,397	8,794	9,758	11,434	13,844	17,136	21,384	26,575	32,744	
TOTAL LIABILITIES & EQUITY	14,833	16,334	17,450	19,238	21,286	24,491	28,301	32,741	37,995	43,918	

9. Analyst Certifications

I, Parvati Rai, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

I, Sumit Wadhwa, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2017 and will receive fees in 2018 from Drone Volt for researching and drafting this report and for a series of other services to Drone Volt, including distribution of this report and investor relations services. Neither Arrowhead BID nor any of its principals or employees owns any long or short positions in Drone Volt. Arrowhead BID's principals intend to seek a mandate for investment banking services from Drone Volt and expect to receive compensation for investment banking activities for Drone Volt in 2018.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of Arrowhead BID's judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other money-management instruments linked to the Company and Company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment objectives and financial situation utilizing their own financial advisors as they deem necessary.

Investors are advised to gather and consult multiple sources of information while preparing their investment decisions. Recipients of this report are strongly advised to read the Information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision making process.

Past performance of securities described directly or indirectly in this report should not be taken as an indication or guarantee of future results. The price, value of, and income from any of the financial securities described in this report may rise as well as fall and may be affected by simple and complex changes in economic, financial and political factors.

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10. Notes and References

- i 52 weeks to August 23, 2018. Source: Bloomberg, August 23, 2018
- ii 3 months to August 23, 2018. Source: Bloomberg, August 23, 2018
- iii Arrowhead Business and Investment Decisions Fair Value Bracket – AFVBTM. See information on valuation on pages 25-27 of this report and important disclosures on page 31 of this report.
- iv Source: Company data
- v Source: Arrowhead BID analysis
- vi Source: Arrowhead BID analysis
- vii Source: Company filings
- viii Source: Company filings
- ix Source: Arrowhead BID estimate
- x Source: Company Website
- xi Source: Company Reports, LinkedIn
- xii Source: Europe Consumer Centre (ECC)
- xiii Source: <http://www.tealgroup.com/index.php/teal-group-news-media/item/press-release-uav-production-will-total-93-billion>
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- xxix Source: IHS Jane’s Intelligence report
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