Building a Safe & Sustainable Drone Ecosystem

AIRMAP

Robert CHICOURRAT
Sales Africa
01 NOV 2018
Global drone installed base* is projected to reach over 45 million units by 2022. Consumers will account for majority of volume & businesses for the majority of value-add services revenue.

Source: Strategy Analytics, 2018, BI Intelligence, FAA, AirMap analysis

(*) Only accounts for drones > 250g
Global economic value of drone-powered businesses is estimated to $127.3 billion dollars.

### Predicted Value of Drones by Industry in 2021
(Value of business services and labor in billions)

- Infrastructure: $45.2 billion
- Agriculture: $32.4 billion
- Transport: $13.0 billion
- Security: $10.0 billion
- Media & Entertainment: $8.8 billion
- Insurance: $6.8 billion
- Telecom: $6.3 billion
- Mining: $4.4 billion

Source: PwC

### Estimated European Commercial Drone Market

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>by 2022</td>
<td>$1.2 Billion</td>
</tr>
<tr>
<td>by 2025</td>
<td>$3 Billion</td>
</tr>
</tbody>
</table>

$84 Billion est. Global net social benefit by 2025
Drone use cases are evolving rapidly to serve people in their everyday lives. Their implementation will need smarter airspace management, regulation, and civic engagement.

- **Recreational Drones**: Early adoption of remote helicopters and quadcopters for hobby use, including photography.
- **Package Delivery**: Semi-autonomous, BVLOS fleets for standardized drone delivery from logistics centers to your front door.
- **Enterprise Drones**: Individual & fleet deployment across agriculture, inspection, construction, mining, public safety, and more.
- **eVTOLs**: Fully autonomous VTOL* aircraft equipped to take 1 or more passengers (or freight) to and from their destinations.
- **Drones as a Service**: Connecting the general public to end services offered by fully autonomous, BVLOS drones. Tap to request a roof inspection, no pilot required.

*2018 projections by Uber for a Vertical TakeOff and Landing demo in 2020, with first commercial operation projected for 2023.
AirMap Mission

AirMap opens the airspace for drones by building the leading global UTM platform to support a secure and sustainable drone ecosystem.
About AirMap
The leading global airspace management platform for drones

2015 Year Founded 70+ Staff Worldwide 3 Offices in L.A., Zurich & Singapore

$61M Raised in Venture Capital and Strategic Investment
AirMap leads the industry in global market experience with UTM and U-space deployments on 4 continents.

**USA**
AirMap is the leading provider of UTM services in the U.S. DoT’s program to advance drone integration for enterprise use cases.

**Czech Republic**
ANSCR selects AirMap at UTM provider for awareness and authorization capabilities to Czech drone operators.

**Switzerland**
AirMap is the UTM technology provider for Skyguide’s Swiss U-space system for nationwide drone integration.

**Japan**
Rakuten & AirMap form joint venture to advance package delivery in Japan, beginning in Chiba City.

**New Zealand**
Airways deploys AirMap airspace authorization capability for drone pilots to request flight approval from ATC and civic authorities.
The AirMap API Ecosystem

FAA U.S. DRONE UNIT ESTIMATES - July 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Low</th>
<th>Base</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
</tr>
<tr>
<td>2018</td>
<td>1.50</td>
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<td>1.70</td>
</tr>
<tr>
<td>2019</td>
<td>1.70</td>
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<tr>
<td>2020</td>
<td>1.87</td>
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<tr>
<td>2021</td>
<td>1.92</td>
<td>2.30</td>
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<tr>
<td>2022</td>
<td>1.99</td>
<td>2.40</td>
<td>3.17</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Low</th>
<th>Base</th>
<th>High</th>
</tr>
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<tbody>
<tr>
<td>2017</td>
<td>110,604</td>
<td>110,904</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>158,900</td>
<td>168,339</td>
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<tr>
<td>2019</td>
<td>229,400</td>
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<td>2021</td>
<td>400,400</td>
<td>604,350</td>
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<tr>
<td>2022</td>
<td>453,800</td>
<td>717,895</td>
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</tr>
</tbody>
</table>

Number of C-UAS products: 235
Number of manufacturers: 155
Systems capable of detection only: 88
Systems capable of interdiction only: 80
Of both detection and interdiction: 67
AirMap is an open technology platform connecting the drone ecosystem to unlock value for pilots, businesses, authorities, and communities.

**Rules & Safety Standards**
AirMap integrates with ATM systems to give airspace authorities a complete view of all air traffic, with authorization, monitoring, and deconfliction.

**Global Situational Awareness**
AirMap informs drone operators of where, when and how to fly safely and responsibly, anywhere in the world.

**Robust Enterprise Services**
AirMap helps businesses to leverage commercial drone applications with digital services ensuring efficiency, performance, and compliance.

**Transparency & Accountability**
AirMap help authorities keep communities aware and informed of nearby drone operations with public-facing cloud-based dashboards.
Airmap enables the provision of high-value digital airspace services to UAS controllers, drone operators, and enterprises.
AirMap UTM Core Services

**Registry Engine**
Authentication and verification of pilots and aircraft on AirMap’s registry database or any third party registry solution.

**Flight Engine**
Communicate with drone operators with notification and digital authorization capabilities (LAANC) for managed airspaces.

**Geo Engine**
Publish airspace rules and advisories directly to drone operators on the industry-leading airspace intelligence database.

**Traffic Engine**
Coordinate real-time air traffic deconfliction with live drone telemetry and real-time traffic alerts for drone operators.
Awareness

AirMap solution offer

Description
Ability to Fly
Flight Situational Awareness
Flight Restrictions

Product
Mobile App
Registration
Web Portal

Capabilities
Provide drone operators with Situational Awareness on a voluntary basis
Authorization
AirMap solution offer

STEP 0: Geo-awareness
STEP 1: Plan a Flight
STEP 2: Get Authorization
STEP 3: Take Off
Visualization
AirMap solution offer

Description
Ability to see cumulative flight plans and manage airspace.

Product
AirMap UTM Dashboard

Capabilities
Dynamic Flight Restrictions
Flight tracking via App, SDK, ADS-B, FLARM, 2/3G or LTE
AirMap Airspace Manager Dashboard – AirMap web dashboard allows authority users to define airspace restrictions, approve/reject flights, and monitor flights in real-time.
AirMap’s ADS-B at LVC – Visualisation, tracking and deconfliction.
Thank you!