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Messages
Inbox

Channels
General
Mentors
Pre-Seed
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Airship Drone Market Research

airship, wildfire, c5isr

Basil CTO 3d

Reading time: 18 min.

TL;DR

- 26,000 units - Aerial Firefighting & Disaster Relief
- 4,000 units - CBP, DEA, ATF, USCG, incl. Search Missions
- 5,000 units - Construction, Civil Logistics, Agriculture
- 100,000 units - Passenger Transportation (after 2035)
- 700 units - AEW&C USAF, Royal Air Forces (GB, Australia, Canada) and U.S. allies
- 9,000 units - U.S. Navy, Royal Navy (GB, Australia, Canada), NATO maritime forces (Germany, Netherlands, Sweden, Norway, France, Italy, Spain, Greece), Israel, Japan, South Korea

Overall, we estimate the market for the new class of unmanned drone airship class at 45,000-145,000+ units over a 10-20 year timeframe, $90-290B+.

If we say that the market potential is below $100B, we are deceiving because the total market is larger. Certainly, we don't plan to take this market entirely. But even 20% over 10-12 years (2029-2041), that's a decent target to get investors interested at this stage.

We see huge faith-based investments: Anduril, Palantir, Helsing, Quantum Systems. These are investments in new markets, not in replacing existing players. The world is constantly changing and those who invest in the future, not in the past, win.

> **Read how the new drones can help suppress wildfires here: furtherium.com/p2**

Aerial Firefighting

More than 120 contractors in the U.S. with aging fleets amid intense growth in the number, frequency and magnitude of wildfires. Our assessment of the need across all U.S. states:

- 59,908 - wildfires / year
- 164 - wildfires / daily ave.
- 283 - needs, divisions
- 11,886 - needs, units
- 23,772 - budget, $M (about $3.4B per year leasing, in comparison $4.2B CAL FIRE budget only vs about $420M CA needs in leasing)

State	Wildfires / year	Wildfires / daily ave.	Needs, divisions	Needs, units	Budget, $M
	59,908	164	283	11,886	23,772
Alabama	1,856	5	9	378	756
Alaska	746	2	4	168	336
Arizona	1,837	5	9	378	756
Arkanzas	147	0.4	1	42	84
California	7,364	20	35	1,470	2,940
Colorado	861	2	4	168	336
Connecticut	499	1	2	84	168
Delaware	12	0	0	0	0
Florida	2,730	7	13	546	1,092
Georgia	2,386	7	11	462	924
Hawaii	214	1	1	42	84
Idaho	892	2	4	168	336
Illinois	22	0	0	0	0
Indiana	147	0	1	42	84
Iowa	26	0	0	0	0
Kansas	249	1	1	42	84
Kentucky	409	1	2	84	168
Louisiana	1,467	4	7	294	588
Maine	493	1	2	84	168
Maryland	196	1	1	42	84
Massachusetts	1,079	3	5	210	420
Michigan	466	1	2	84	168
Minnesota	836	2	4	168	336
Missouri	637	2	3	126	252
Montana	1,662	5	8	336	672
Nebraska	569	2	3	126	252
Nevada	1,375	4	6	252	504
New Hemshire	52	0	0	0	0
New Jersey	1,194	3	6	252	504
New Mexico	1,019	3	5	210	420
New York	651	2	3	126	252
North Caroline	5,214	14	25	1,050	2,100
North Dakota	471	1	2	84	168
Ohio	883	2	4	168	336
Oklahoma	1,580	4	7	294	588
Oregon	1,979	5	9	378	756
Pennsylvania	1,910	5	9	378	756
Rhode Island	78	0	0	0	0
South Carolina	1,222	3	6	252	504
South Dakota	177	0	1	42	84
Tennessee	772	2	4	168	336
Texas	7,102	19	34	1,428	2,856
Utah	762	2	4	168	336
Vermont	67	0	0	0	0
Virginia	432	1	2	84	168
Washington	1,707	5	8	336	672

State	Wildfires / year	Wildfires / daily ave.	Needs, divisions	Needs, units	Budget, $M
West Virginia	1,124	3	5	210	420
Wisconsin	1,086	3	5	210	420
Wyoming	1,249	3	6	252	504

Second place - Canada, Australia, Greece, Spain. About $5.2B per year leasing.

State	Wildfires / year	Wildfires / daily ave.	Needs, divisions	Needs, units	Budget, $M
			434	18,228	36,456
Canada	11,433	31	54	2,268	4,536
Australia	72,139	198	341	14,322	28,644
Greece	1,438	4	7	294	588
Spain	6,824	19	32	1,344	2,688

NEMA Australia and the fire departments budget will not be able to afford the cost of about $4B per year. But if they pooled needs with the Australian Defence Force (and / or with civilian logistics), it would allow joint operation of airship drones. Such a possibility exists.

Third place - Italy, Turkey, France, Sweden and other EU countries. About $680M per year leasing.

State	Wildfires / year	Wildfires / daily ave.	Needs, divisions	Needs, units	Budget, $M
			57	2,394	4,788
Italy	2,314	6	11	462	924
Turkey	2,486	7	12	504	1,008
France	1,241	3	6	252	504
Germany	396	1	2	84	168
Great Britain	363	1	2	84	168
Austria	542	1	3	126	252
Poland	728	2	3	126	252
Sweden	2,134	6	10	420	840
Finland	906	2	4	168	336
Norway	616	2	3	126	252
Netherlands	147	0	1	42	84

Fourth place is all of South America, Southeast Asia, and other countries. About $5.9B per year leasing.

State	Wildfires / year	Wildfires / daily ave.	Needs, divisions	Needs, units	Budget, $M
			492	20,664	41,328
Mexico	7,299	20	34	1,428	2,856
Brazil	76,114	209	359	15,078	30,156
India	18,345	50	87	3,654	7,308
Japan	368	1	2	84	168
Colombia	1,642	4	8	336	672
South Korea	407	1	2	84	168

Brazil could well follow Australia’s example and pool the costs of emergency agencies with military and civilian logistics companies.

The need means the ability to maximize suppression of wildfires of any size, especially at the beginning of their growth. The budget shows the approximate amount of equipment on the balance sheet of aerial firefighting providers (currently it is higher). But the annual costs for providers are lower due to the extended period of lease purchase (7 or more years).

The ranking by place is conditional and is more about the speed of innovation adoption rather than ranking by amount. And the speed of innovation depends primarily on the frequency and magnitude of wildfires, as well as damage estimates (insurance payouts, increased insurance risks and fees, decreased availability of housing without insurance coverage, lawsuits against power companies, insurance payouts and increased health insurance fees, and increased budgets for state wildfire response agencies and flash flooding in the aftermath).

Therefore, we are considering the prospect of launching the 1st pilot factory with a capacity of 400 units per year in Germany. The 2nd factory - in the USA with a capacity 4 times larger. The 3rd factory in Australia and the 4th factory in Brazil.

It is necessary to evaluate these facts in the dynamics of the past 30 and future 30 years. Temperatures will continue to rise. The number of sharp and intense heat waves will increase along with an increase in intense rainfall and large atmospheric rivers. Biomass will increase intensively and then burn. And this will occur in hard to reach places. Over and over again.

Our dynamic efforts may enable us to achieve and retain a market share of 20-30%. But there will be others who will follow in our footsteps.

> **See also:**
>
> **Furtherium unveils world's first AI-powered unmanned firefighting airship drone**

Disaster Relief

The capabilities of FEMA and similar agencies in other countries, due to inadequate budgets and limited technological capabilities, do not match the magnitude of disasters: flash floods and mudflows, man-made disasters, earthquakes and volcanic eruptions, tsunamis, snowstorms and sudden cold snaps, freezing rain, tornadoes, typhoons, rockfalls, massive heat waves, and wildfires.

The main costs are incurred to search for people, remove debris, evacuate, manage the humanitarian crisis and sustain communities due to disruptions in road supply, electricity, drinking water.

The budgets of FEMA and similar agencies in other countries can afford to use drone airship providers for aerial firefighting for all of the above operations because of their versatility. And the speed of mobilization of response forces is many times faster than traditional contractors (always in the air principle), as well as many times higher performance, payload capacity and functionality at significantly lower operating costs.

Efforts to provide evacuation and search for people in the first minutes after natural disasters occur are a priority. However, humanity will be able to provide evacuation corridors for wildlife for the first time in history, the death toll from wildfires alone exceeds 100 million annually.

Our technology will, within existing budgets, significantly improve response and assistance. And it will increase the attractiveness of the technology for fleet expansion by aerial firefighting providers.

Border control, drug trafficking and rapid response with drones and robots

CBP, DEA, ATF agencies whose budgets allow for ordering over 2,000 units. USCG can afford no less. As well as other allied agencies. This will allow us to use not only the unique capabilities of the platform, but also the most advanced sensor

capabilities to more effectively counter drug cartels, criminal groups, to reduce the deaths of thousands of people.

What we know in 2025 is that the number of synthetic drugs that kill is getting larger. Drug manufacturers are no longer heavily reliant on natural raw materials, and lab capacity is increasing. The U.S. leads the list of drug deaths by a wide margin (21.28 per 100,000 population). Canada (8.7), Australia (6.56), Estonia (5.73), Arab Emirates (4.99), Finland (4.52), Norway (4.45), UK (4.16) vs. Afghanistan (1.36), China (1.34), Venezuela (0.81), Somalia (0.62), Japan (0.33), South Korea (0.20).

This means only one thing: high-income countries are an attractive market for drug cartels, which deliver their deadly cargo on an industrial scale through border tunnels, airborne and underwater drones, where it is difficult to detect. Only a small portion of the drugs are transported through border crossings and cargo terminals, where they are more easily detected by sensors and service dogs.

Thus, the ability to fully monitor air and sea space, including underwater drones, the surface of land and inland waterways, including the detection of underground tunnels, would interrupt supply lines and significantly reduce the flow of drugs and other illegal items. But existing mobile patrols and ambushes are no longer effective.

The only way forward is drone supremacy over drones. The airship drone airship, which is a docking station for launching, landing and charging fast, rigid-wing drones, provides a constant presence along borders over land and sea. This will allow agencies to rationalize their efforts to intercept detected suspicious objects and increase their effectiveness.

In professional parlance, it would ensure dominance over the border. Right now, it doesn't. And it's cheaper than building a wall.

Search missions

Search missions are not often successful and often drag on for days, with the chances of finding survivors dropping after the first 24 hours.

Nationally, estimates range from 50,000 to 75,000 search and rescue missions per year for missing persons searches in U.S. forests and mountains. On the scale of the countries listed under aerial firefighting, the number of such search missions is probably above 1 million per year. This figure impressed us. It is not much talked about or written about. But the problem is huge.

The cost of large-area search missions in hard-to-reach places is always high. But with airships drones, which are used primarily as a delivery and charging platform for dozens of rigid-wing drones and hundreds of inexpensive rotor-type drones, all electrically powered, search missions become at least 1,000 times more efficient and don't require volunteers (who are also at risk).

Hundreds of sensitive sensors with tens of thousands of probing signals and large field of view receivers (EO/IR, high power SAR/InSAR/GPR radars, RDF for weak radio signals and acoustic microphone arrays with high sensitivity), AI/ML to analyze a large data stream of signals and signatures in real time that exceeds human capabilities, non-stop for hours and days able to find people on the surface and underground and traces of their presence.

well as farm and domestic animals, are trapped and can be detected by forest and park rangers, farmers and volunteers before they die a painful death. As sensor coverage and patrols increase many times over, these detections will become much more frequent. Animals trapped in dried mud, soil failures, in water and in tree branches during flash floods, entangled in nets and debris on the coast, babies without parents. It is important to emphasize that this will not require additional costs, but will be a consequence of the development of continuous monitoring technologies.

We don't know how to estimate it in terms of budget, but we know how to build it and we are sure that with the same costs as now, the efficiency will increase at least 1000 times. This means that the chance of finding people and animals alive will increase dramatically.

Construction and logistics

Without going into detail because it's hard to count the market, we'll share ideas for use in the construction field.

Construction of residential buildings

With our experience in design and construction and our research into promising technologies, we believe that the future lies in prefabricated buildings. That is, when houses are manufactured in factory conditions, using robots, with high quality and productivity, with the condition that they can be installed on site within one day. Such houses are already fully ready to live in. But there is a problem.

The whole house cannot be transported over roads and under bridges because of its weight and dimensions. At best, such houses are made of modules for large-scale assembly. But then the architectural solutions suffer. Not many people like such buildings. But if it were possible to transport the whole houses by air...

This will now be possible. (Read the technical features to be sure)

Construction of roads and bridges

Many engineers in the field of civil engineering construction have proven the superiority of using composite materials for prefabricated solutions for road and bridge construction based on prefabricated modules. If it is possible to transport them by air, the problem of fast and inexpensive road and bridge construction does not exist.

Such roads are safer for high-speed traffic, less vulnerable during heavy rains and floods, and have a built-in de-icing function. The high speed of construction allows for faster development of new residential community projects and keeps the problem of housing affordability under control.

Moreover, these modules already contain elements for drainage water diversion, underground power lines, have a vibration-damping structure, are weather-resistant in summer and winter, do not require expensive preparatory works (sand and gravel base is less) and do not require repairs every few years.

Industrial construction

If you are an entrepreneur, you understand why the construction of new industrial facilities is expensive. There is a lack of land plots in areas with engineering preparation (roads, electricity, water supply and wastewater disposal). Gradually, many people come to the conclusion that it is necessary to build industrial facilities with the idea of scaling up. But in many cases this is impossible.

Some understand that the future of manufacturing lies in maximum automation and robotization. Investing in 24/7 process lines with no human error and non-human productivity pays off faster than with mass human labor. It doesn't create jobs. But it does ensure quality and cost, and allows us to compete with goods from Southeast Asia. It is not the cost of raw materials that distinguishes these goods, but the cost of labor and other overheads, including amortization of capital construction projects.

Engineering preparation is no longer as important as it used to be. Renewable energy sources, recycled water, wireless communications, fast-erecting buildings and structures made of prefabricated large modules, fast-erecting roads and bridges.

Remoteness is not a problem either, as long as minimal human labor is used in production. Unmanned freight transport is just around the corner.

The whole question is how to provide logistics for heavy and oversized loads in construction, high-rise assembly and large-unit assembly. Now it is possible, see below.

Heavy and bulky cargo logistics

Airships drones with high payload capacity are capable of transporting elements with large mass and dimensions by air to the construction site of new industrial facilities. Such as propellers of wind turbines, modules of buildings and structures. And not only to transport, but also to act as a sky crane for their installation or repair.

Agriculture

Let us immediately stipulate that it is not economically feasible to solve irrigation problems with the help of this technology. For the treatment of fields from the air against pests, yes. In principle, many aerial firefighting providers live this way, using Air Tractor aircraft.

The difference is that the cost of treating fields and the capacity of this type of aerial aircraft is significantly different from existing aircraft technology. Unmanned technology, which does not consume energy to maintain altitude and has higher productivity, has superiority over single-engine aircraft.

This allows including the use of less harmful chemicals and organic fertilizers in liquid form (more organic food in the stores). This allows the fields to be treated more often because it will become cheaper. It will probably even save crops if pest numbers suddenly spike. Perhaps in rare cases, to save the crop in the event of a sudden drought, it will allow emergency irrigation of the crop during a particularly dangerous period, at night, in the form of a fine spray that only the topsoil and the plant shoots themselves will have time to absorb.

We are not experts in agriculture, but we are confident that there is a lot of potential for this technology in this area.

Short-haul and medium-haul passenger transportation

This is the most distant prospect of using the technology, but it is very interesting and the most ambitious. This could become a big trend in short and medium-distance passenger transportation at speeds up to 100 mph.

This mode of transportation will always be slower than planes and helicopters, but faster than cars and most trains. It will be safer, cheaper and more comfortable than all of these modes of transportation. It will be even more accessible with the development of a network of docking stations.

Air transportation has occupied people’s minds for hundreds of years, because there are no roads, no traffic jams, no drunk or asleep drivers, where safety is monitored by a computer (there is not even any need for AI). But so far personal air transportation is only available to very rich people. So yes, transportation of small groups of people with flexible routes (something between Uber, charter, and regular lines) without traffic jams along more direct air trajectories with stops according to a flexible schedule in a mobile app.

Standard towers (similar to steel transmission line poles) with elevators, fire stairs, automatic passenger screening for safety protocols are used for mooring, which can be installed within populated areas and in tourist areas. Docking stations for mooring airship drones operate unmanned.

However, the FAA’s Air Traffic Organization (ATO) handles over 45,000 flights daily in the U.S., with up to 5,400+ aircraft in the air simultaneously. Including the markets of other countries, the number of drone blimps modified to carry passengers could exceed 100,000.

Of particular interest are hilly, mountainous, and sparsely populated areas where road construction has low profitability. Also, where roads do not have long straight sections due to the difficult terrain.

Without going into details, we would like to add. Safety is always the first priority.

GEOINT, SIGINT and AEW&C

GEOINT is intelligence about the human activity on Earth derived from the exploitation and analysis of imagery, signals, or signatures with geospatial

information. It includes, but is not limited to, data ranging from the ultraviolet through the microwave portions of the electromagnetic spectrum.

The key conditions for Geospatial Intelligence are:

- field of view
- constancy and history of observations
- probing frequency
- possibilities of simultaneous probing and imaging by different methods
- image resolution
- imaging angle (inclination)
- time of day and cloud density

Satellites in high geosynchronous orbit have better field of view, constancy and observation history, but at the same time insufficient image resolution and radio signal power, as well as imaging angle, weather and illumination dependence. Good for general awareness but not for detailed real-time observation.

Satellites can change their inclination to the plane of the Earth's equator, describing a figure of eight, an ellipse or moving along a line segment in both directions. This allows changing the angle of observation, but not on demand, but according to the satellite's motion schedule. Lack of flexibility is the main disadvantage.

Satellites in low-Earth orbit (LEO, 300-2,000 km, orbital period about 88 minutes, where most communication and observation satellites and the ISS are located) and medium-Earth orbit (MEO, 2,000-35,786 km, orbital period about 12 hours, where GNSS satellites are located) move on a schedule, so networks ("constellations") of many satellites are used. The satellites can change inclination for long-term observation, i.e. they have more, but still insufficient flexibility. They also have insufficient power and resolution. Not well-suited for detailed real-time observation.

Stratospheric balloons and gliders (like the U-2) are still used at altitudes above 70,000 feet. They have limited use and it was previously assumed that they were invulnerable to being hit by air defense forces. But they aren't. Aerostats are not controllable, carry small payloads, and gliders are quite expensive technology and are used in a limited way at the discretion of the Intelligence Community.

Aircraft and drones at 20,000-40,000 feet (6,000-12,000 m, sometimes up to 15,000 m) are better suited for more detailed surveillance, have higher resolution and sensing power, but still depend on sensor capabilities for different weather conditions and time of day. They can stay in the quadrant of interest for long periods of time, but their endurance is limited to 6-12 hours in the air. More often than not, signal strength results in insufficient resolution (mainly large objects, buildings and structures, cruise and ballistic missile launches, but not people, drones and robots, artillery munitions and mines).

Helicopters and rotor drones typically have a static ceiling by hovering 10,000 feet (up to 25,000 feet dynamic ceiling), but even lower endurance for up to 3-4 hours. The lower altitude allows for much higher resolution with a smaller field of view.

For each sensor class, the factors of primary importance are:

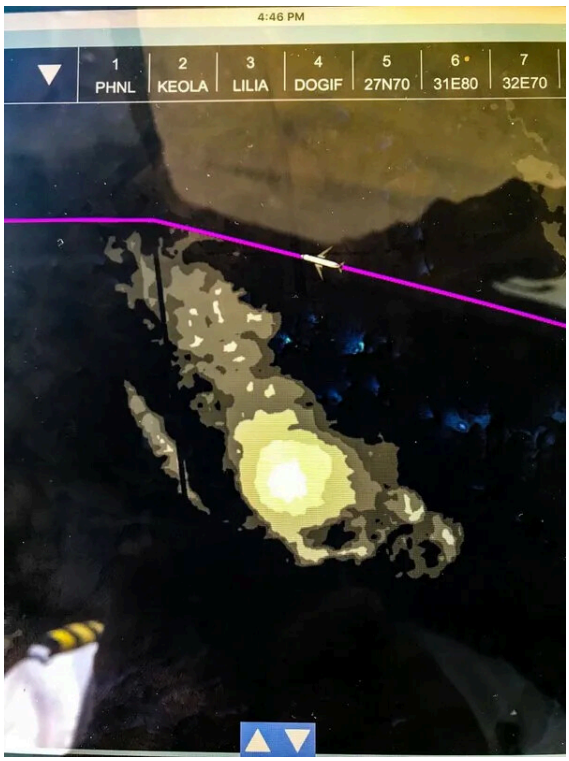
- EO/IR: lens optical power and sensitivity of the sensor array, illumination and cloud density, illumination power for the shortwave IR spectrum, temperature contrast for the long IR spectrum
- Radar: range of radio wavelengths (frequencies), transmitter power and receiver sensitivity, aperture and beam width, antenna array design to allow simultaneous probing in different bands

Airship drone fills surveillance gaps at altitudes of 3,000-25,000 feet in all weather conditions (including tropical storm and Category 1 hurricane), day and night, in a hovering mode or smooth motion without vibration (important for sensitive sensors). It is distinguished by 5 major advantages:

- 5-15 times more endurance
- more than 10 times more probing power
- greater carrying capacity to accommodate dozens of rigid-wing and rotor-type surveillance drones

- incomparably better kinetic threat capabilities than helicopters, airplanes and drones
- significantly lower cost and operating expenses

Modern aircraft are equipped with weather radars that allow pilots to see thunderstorm clouds at long range and avoid them. Hurricane clouds can rise 50,000-80,000 feet (15-20 km) above ground level, which means severe turbulence, but there is no major threat above 23,000 feet (7 km). Pilots and dispatchers carefully monitor the hurricane's path and use this information to choose a safe flight path. Aircraft usually fly around the hurricane in an arc, avoiding its center and most dangerous areas.



Many countries have developed their own AEW&C systems, although the Boeing E-3 Sentry (1977–1992, USAF operates 32 units, AN/APY-2 radar), E-7A (since 2012, 2 units, Multi-role Electronically Scanned Array (MESA) radar), Northrop Grumman E-2 Hawkeye (1960–present, USN operates 78 units, AN/APY-9 radar) and Gulfstream/IAI EL/W-2085 (Active Electronically Scanned Array (AESA) Conformal Array radar, Israel / Italy / Singapore) are the most common systems worldwide.

The aging AEW&C / AWACS fleet will require significant renewal, radar modernization and increased numbers in service over the next 10 years. Growing number of threats, low endurance based on airplanes (6-12 hours) and helicopters (3-4 hours), limited capabilities (low resolution) of satellite systems are the main problems to have "eyes and ears" in all points of the world: shipping lanes, coastlines in the area of armed conflicts, national borders, areas of accumulation of armed forces of other countries.

Seven airship drones at 22,000-26,000 feet provide coverage of all of Western and Central Europe. About 34 airship drones need to be kept in the air to cover the entire United States, including Alaska and Hawaii. About 120 more to cover the far reaches of surveillance. They do not require replacement for several months, except for air refueling 1-2 times a week.

AESA radars operate on a pseudorandom set of frequencies and also have very short scanning rates, which makes them difficult to detect and jam. Up to 1000 targets can be tracked simultaneously, while at the same time, multitudes of air-to-air interceptions or air-to-surface (including maritime) attacks can be guided simultaneously. The phased array allows aircraft positions on operator screens to be updated every 0.3–0.6 seconds rather than every 10 seconds, as is the case on the rotodome AWACS.

> **See also:**

> ## Synthetic Aperture Radar (SAR) based on airship drone platform

Here is a case study. In the past, AEW&C were primarily used to detect, confirm and correct targets for airstrikes or missile strikes (more often as part of a carrier strike group). Now and in the future many times cheaper drones will be guided by IR laser target designation or highly directional RF beam from a drone with AEW&C function. Thus any mobile target on the surface or in the air will be illuminated for attack drones. While this was previously used to destroy large targets with expensive weapons, it will now be possible for small and mobile targets with swarms of inexpensive drones, for which they don't even need their own AI to make decisions. They will operate on target designations from 200-250 nautical miles away in all weather day and night.

The difference is that IR laser target designation cannot be jammed by electronic warfare. And a highly directional RF beam at hopping frequencies is invisible even with detectors. No need for fiber optics (for short-range drone strikes). An airship drone will have sufficient protection and besides, it will not act alone, its signals can duplicate other drones in real time.

We believe that talk of a "gold dome" over the U.S. ($175B budget) or similar projects in the EU and UK will crash on budget and be delayed. But that doesn't mean the need is absent. It is our belief that the missing component of a "gold dome" in the form of a permanently deployed AEW&C could cost in the range of $200-300M. The rest is the connectivity of digital networks, existing missile and air defense systems. Platforms for this are ready to be offered by NGA (Maven), U.S. Army (Convergence), U.S. Navy (Overmatch), Palantir, Anduril and Helsing.

All-weather, 24/7 continuous surveillance and fire correction systems (72-180 hours endurance, plus aerial refueling) at 22,000-26,000 feet (7-8 km) with a range of 200-250 nautical miles (230-290 miles, 370-460 km), with antenna power up to 2 MW_e and resolution quality unattainable by satellites. Here's what we mean. Unmanned aerial platforms with a completely different budget than what is known now.

Aerial Carrier Strike Groups (A-CSG)

This market does not yet exist, although there were attempts to create it in the 20s and 30s of the 20th century. Although no one would dare to deny today that future wars will depend significantly on the role of drones and robots on the battlefield.

Here, we would like to describe our vision for the concept of enhancing the U.S. Navy's warfighting capabilities. Each carrier strike group (CSG) will have up to 20-30 airborne carrier strike groups (A-CSGs). Each A-CSG will perform the following functions:

- operational logistics support to ships within the CSG (coast-to-deck, deck-to-deck, deck-to-air deck)
- AEW&C tasks in numbered fleet areas
- C-UAS and anti-aircraft (AAW) tasks for group and allied defense
- ARW (anti-missile defense) tasks for group and allied defense
- C-UMS and anti-submarine defense (ASW) tasks for group and allied defense
- fire support (strike UAS, UMS) and amphibious assault support missions
- SOF tasks, including deployment and evacuation of teams with transportation
- CASEVAC and MEDEVAC tasks
- BLOS communications connectivity and beacon navigation tasks
- tasks of firefighting on the group's ships
- tasks of patrolling shipping areas and combating piracy without diverting CSG forces

One A-CSG can include 6 to 30 airship drones of various modifications, including the deployment of other types of drones (24 rigid wing drones with a range of 80-120 nautical miles, up to 300 rotor-type drones with a range of 8-12 nautical miles) aboard each aircraft-carrying airship. The A-CSG may also include refueling drones (also used for firefighting), IRS drones (AEW&C, SIGINT, COMMS, NAV), logistics drones, air mobility (personnel, USMS squads, SOCOM teams, CASEVAC, MEDEVAC).

The reinforced rigid airship drone hull design is ideal for accommodating armed drones with rigid wings. The pneumatic launch catapults are located at a downward slope radially on the upper deck of the airship drone at the edges. Special retention orienting dynamic tether systems allow rigid wing drones to be landed accurately and safely, mounted on the catapult carriage and connected to the charger. The takeoff and landing trajectories of the drones do not overlap. Installing ammunition on impact drones is done by robots and humans remotely controlled by robotic arms (this is easier than a robotic surgeon).

> **See also:**
>
> ## Airship Drone Active and Passive Security

This is the ability to deliver, launch, automatically maintain and receive up to several dozen medium strike drones and up to several hundred rotor drones - all with low-noise electric jet and propeller propulsion systems. This is a multiple increase in firepower and deployment speed over the current 11 carrier-based CSGs available today at an incomparably lower cost.

A rough estimate is 3,500-4,500 units as part of the U.S. Navy.

Market assessment

- 26,000 units - Aerial Firefighting & Disaster Relief
- 4,000 units - CBP, DEA, ATF, USCG, incl. Search Missions
- 5,000 units - Construction, Civil Logistics, Agriculture
- 100,000 units - Passenger Transportation (after 2035)
- 700 units - AEW&C USAF, Royal Air Forces (GB, Australia, Canada) and U.S. allies
- 9,000 units - U.S. Navy, Royal Navy (GB, Australia, Canada), NATO maritime forces (Germany, Netherlands, Sweden, Norway, France, Italy, Spain, Greece), Israel, Japan, South Korea

Overall, we estimate the market for the new class of unmanned drone airship class at 45,000-145,000+ units over a 10-20 year timeframe, $90-290B+.

I can assume that the number of this class of aircraft in the USAF, USA, US Navy, USMC, USCG, CBP, given the low costs of acquisition and ownership, will exceed 10,000 (here you need to compare with the number of helicopters and transport aircraft). And considering allies, it will exceed 25,000 units. The answer to this question is obvious. If the budget allows to multiply force presence in high-risk areas (and there are more and more of them, it's a trend), it will be done with drones, not manned aviation and fleet.

We are only at the beginning of this journey of drone technology adoption. 30 years ago, the Internet was taking timid steps and few had a vision of how it would change human behavior. But now the speed of innovation has increased. The war in Ukraine has rewritten many rules and ideas about tactical operations in 3 years.

If we say that the market potential is below $100B, we are deceiving because the total market is larger. Certainly, we don't plan to take this market entirely. But even 20% over 10-12 years (2029-2041), that's a decent target to get investors interested at this stage.

We see huge faith-based investments: Anduril, Palantir, Helsing, Quantum Systems. These are investments in new markets, not in replacing existing players. The world is constantly changing and those who invest in the future, not in the past, win.

As is often the case, the military are the pioneers of such innovations; they are not willing to wait for others to get ahead of them to see how "it works for them" first. Civilian applications are usually several times the scale of military use, but often due to conservative attitudes, the rate of innovation is slower. However, the areas of use for fighting wildfires and natural disasters are not waiting either. Humanity is already late.