

# Future of vtol and av technologies



**ASSIGN  
BUSTER**

## The Future of VTOL and AV Technologies

### Introduction:

The multi-billion dollar industry of VTOL and AV technology use increasing at a rapid pace and the world, more specifically the major business hub cities in the U. S., China and Canada, are preparing for their introduction in coming years (Boyle, 2018). While these technologies sound appealing from a consumer standpoint, they financially are appealing to the companies who are competing in the race to get these nebulous technologies into practice, introducing them as functioning products into society.

### Major Issues Discussed:

As the development of the autonomous vehicle (AV) and vertical take-off and landing (VTOL) vehicle industry furthers, more and more issues surface—some anticipated, others not. The industry's ambitious front-runners, such as Uber, Aurora Flight Sciences, Pipistrel, etc. have taken great strides to develop the newest technologies that would allow short-medium distance travel by air network (Wilson, 2019). While a being a combination of the next step and a pragmatical approach to the issue of congestion arising in high-population density cities, such as Dallas or Los Angeles, air transport models are preparing to be introduced in 2020 for tests with hopeful launch dates in 2023 (Wilson, 2019). Despite these projected launch dates, as has been seen with functioning drones, the regulatory and certification organizations have made it difficult to maintain projected dates with the safety of potential users in mind (Wolf, 2019). Moreover than the regulatory bodies' lengthy approval process, there is still not sufficient technology for these technologies

without-fault, as can also be seen in the drones which did not work 100% of the time (Wolf, 2019). The big names of the industry are going to be less shaken by the capital fronting required to compete in this industry, but an issue that will face smaller companies is their financial inability to make and test, something that will quickly kill these companies (Wolf, 2019).

#### Opportunities:

The projections of what could be accomplished by autonomous vehicles and VTOL are extensive, something motivating the key industry players to develop and innovate new ways to use technology to their advantage. The close projections of early 2020's are putting a timer on the debut of new products— something that companies like Uber Elevate have gotten ahead of in their 2018 aerial mobility view and electric full scale model shown at a Las Vegas show (Wilson, 2019) (Wolf, 2019). Other companies, such as Boeing and Pipistrel are not far behind in their technological advances towards these technologies (Wilson, 2019). The opportunities that AV and VTOL technologies present give companies much incentive for speedily generating the technology to put these concepts into action, as there are nearly 50 countries around the world that are looking to currently implement said technologies for their environmental friendliness (Avary, 2019).

Whichever company first introduces their product as functional and ready-to-use will have a tremendous advantage and be a historical and environmental achievement. For reasons alike, big vehicle producing names like General Motors and Honda are collaborating to produce AVs and partnerships are anticipated to grow with other key players like Volkswagen and Ford planning partnerships with experience in the electric vehicle industry (Avary,

2019). Since the environmental impact of congested cities is becoming more clear, the electric capacities of these technologies are of paramount importance, something that Uber is well aware of (Wilson, 2019) (Wolf, 2019). If the regulatory hurdles can be overcome, the electric technologies supporting AV and VTOL would be a tremendous selling point, making the costs— to consumers— more justifiable.

#### Recommendations:

Recommendations for expectations and those geared towards AV and VTOL producing companies. Partnerships to produce AV technologies are flourishing when compared to singular companies' launched products because of the importance of the joint capital that can be fronted by the companies to be put towards the development of new technologies and the mitigated risk that the costly industry is notorious for (Avary, 2019). While the technology development is rapidly increasing, the relationships made and maintained are important to the actual implementation of the technologies once they reach the point of completion. Uber has made initiatives to form relations with property developers and governments, which will allow them the means to implement the technologies when it comes time (Wilson, 2019). This gives Uber a stark advantage on their competitors because these relations are of the utmost importance when it comes time to debut these products, which is something that is recommended to all the key industry players looking to roll out these products and technologies in the foreseeable future.

## Conclusion:

This highly competitive, lucrative and costly industry is characterized by the big industry names who are looking to branch out into the VTOL and AV technologies. The issues of the industry are clear with regulatory hurdles everywhere, but this could change the transportation entirely if they can be surpassed. Through partnerships with other key players in the industry and relationships with governmental agencies, this is something that can be debuted as functional technological and environmental advances that would change the way international cities view transportation.

## References

- Avary, M. (2019, January 23). 3 autonomous vehicle trends to follow in 2019. Retrieved from <https://www.weforum.org/agenda/2019/01/3-autonomous-vehicle-trends-to-follow-in-2019/>
- Boyle, A. (2018, December 7). Morgan Stanley says market for self-flying cars could rise to \$1.5 trillion by 2040. Retrieved from <https://www.geekwire.com/2018/morgan-stanley-report-says-market-self-flying-cars-hit-1-5-trillion-2040/>
- Wilson, A. (2019, January 11). Flying taxis: Uber partner reveals design. Retrieved from <https://www.theguardian.com/travel/2019/jan/11/uber-partner-bell-reveals-design-for-flying-taxi-nexus-ces-vegas>
- Wolf, H. (2019, January 23). When will flying cars finally take off? Retrieved from <https://www.weforum.org/agenda/2019/01/when-will-flying-cars-take-off-and-become-reality/>