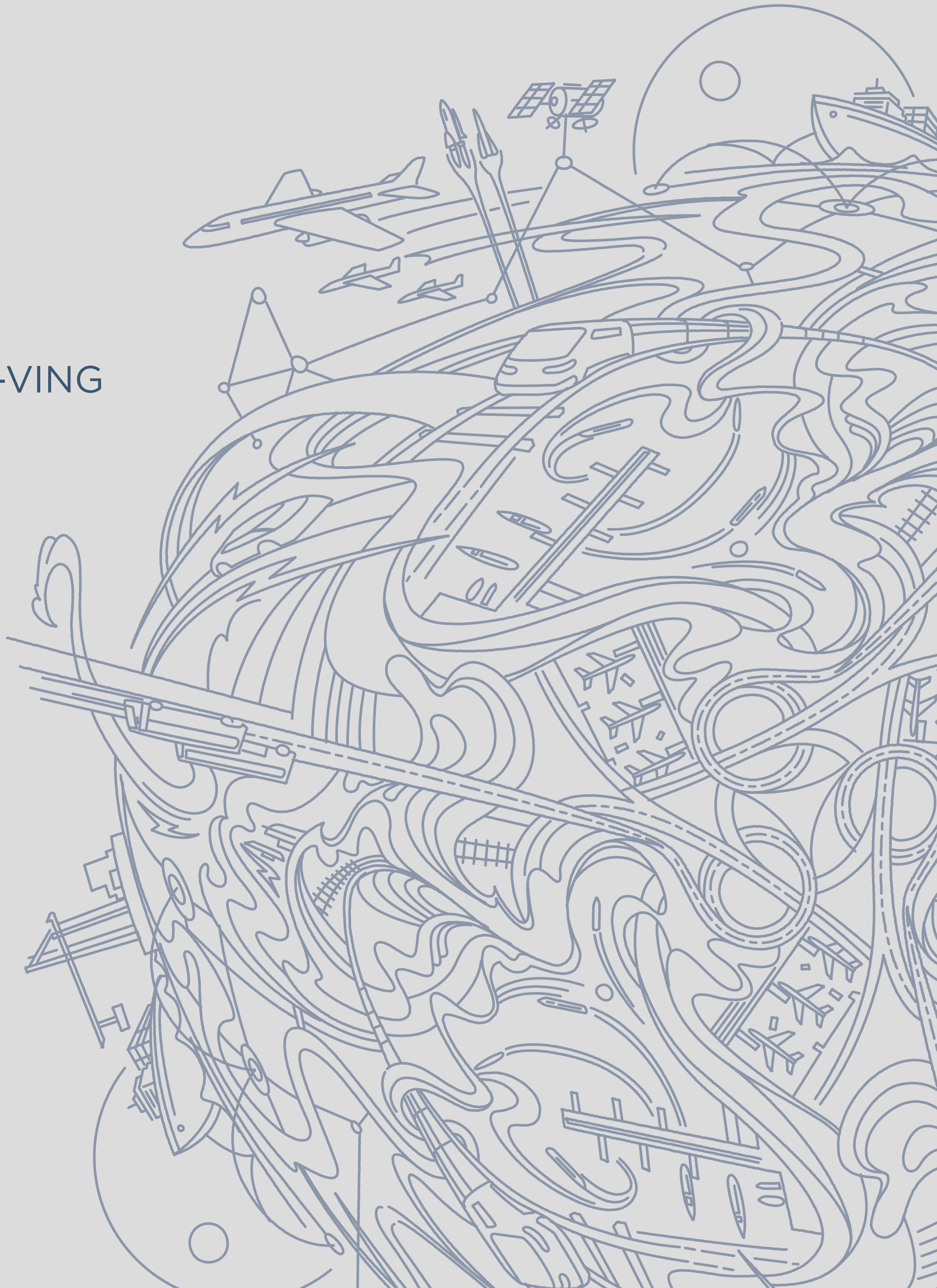
TRANDS IN TRANSPORT

Transport is EVTOL-VING



ADDLESHAW GODDARD

THE ONLY WAY IS UP FOR EVTOLS

With the push for electric vehicles well underway, it seems the next big development expected this decade is for car manufacturers to increase focus on vertical take-off and landing aircraft (VTOLs).

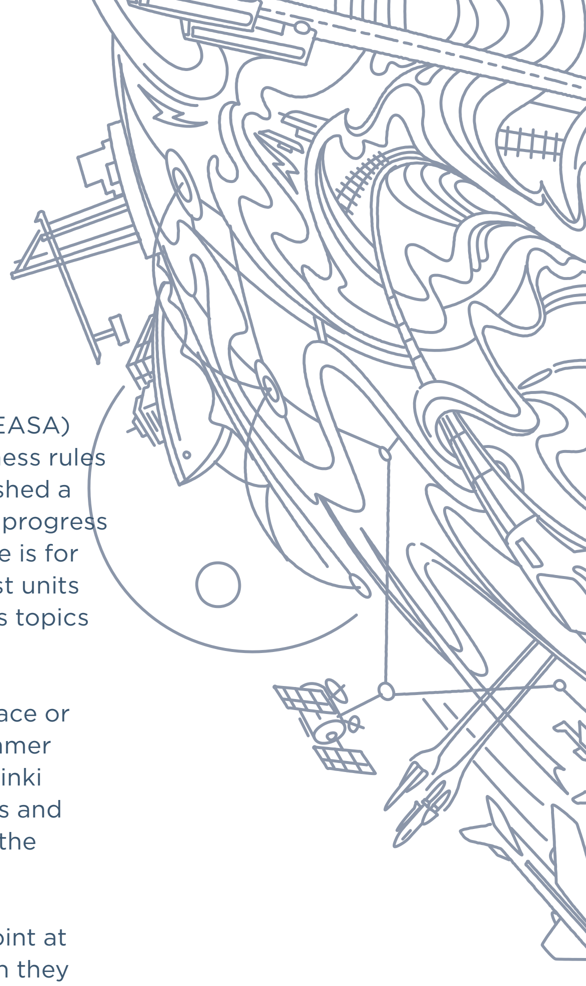
VTOLs are aircraft which can take off, hover, and land vertically. They are advantageous in their design as they can take off and land from (in principle) anywhere, which could allow travel unconstrained by airport infrastructure. Traditional VTOLs have been around for some time – helicopters being the best known example. However, in light of moving towards ecologically responsible and sustainable travel, helicopters are simply too noisy and expensive for mass-scale use, not to mention their propensity to emit more pollutants than any typical car. Electric power provides a feasible, non-polluting alternative for the light aircraft sector, which is where electric VTOL's (eVTOL's) come in.

It has been estimated that by 2050, two thirds of the world's population will be living in cities, and the number of miles travelled per person is steadily growing. A Porsche study completed in 2018 found that urban air transportation could increase significantly starting around 2025 - whilst this may seem to be only around the corner, traditional car manufacturers are jumping at the opportunity to establish themselves as eVTOL manufacturers, and entering into alliances with aircraft builders.

Porsche is currently working with Boeing to create a premium offering to the eVTOL market, which is estimated by Hyundai Motor Group to be worth $1.5 trillion within the next 20 years. Meanwhile, Aston Martin is collaborating with Cranfield University and Rolls-Royce on its luxury eVTOL, the 'Volante Vision Concept', which envisages an autonomous hybrid-electric vehicle, for inter-city air travel.

Uber's "Elevate" paper published in 2016 presents an optimistic vision of its approach to "On-Demand Urban Air Transportation", and they have invested in eVTOL taxi services in cities such as Dallas, Los Angeles and Melbourne from 2023. Daimler's flying taxi company 'Volocopter' is planning to commence operations in Dubai and Singapore in the next few years, rolling out to up to 100 cities over the next 10 to 15 years. With its "green" credentials, the eVTOL market could well 'take off' in a big way.

Illustration: Helping agreements take flight by Nic Mac



Legislators appear to be keeping up with these technological advancements, and the European Authority for Aviation Safety (EASA) has already issued a set of technical specifications and airworthiness rules to establish minimum safety standards. In May 2020, EASA published a proposed means of compliance for eVTOLs to reflect the current progress being made by developers in the field. The scope for the guidance is for “person-carrying small VTOL aircraft with three or more lift/thrust units used to generate powered lift and control”, and addresses various topics including crash safety, and capability after bird impact.

Going forwards, the obvious challenge will be how eVTOLs interface or interfere with existing users of the skies (birds aside…). In the summer of 2019, Volocopter demonstrated the safe use of eVTOLs at Helsinki International Airport, supporting the case that commercial airlines and eVTOLs can coexist in the same operating space – a far cry from the disruption caused by drones at Gatwick at the end of 2018!

Of course the adoption rate of VTOLs will depend on the price point at which they enter the market. If they are the cost of a Lear jet, then they are unlikely to be a viable alternative to surface transport. If, however, these could be introduced at the cost of a premium vehicle, then this could be the start of an innovative mode of transport.

CONTACTS

PAUL HIRST
Partner
+44 (0) 113 209 2466
+44 (0) 7595 777 949
paul.hirst
@addleshawgoddard.com

WILLIAM SMITH
Managing Associate
+44 (0) 20 7160 3055
+44 (0) 7595 085736
william.smith
@addleshawgoddard.com

PROBLEMS. POSSIBILITIES.
COMPLEXITY. CLARITY.
OBSTACLES. OPPORTUNITIES.
THE DIFFERENCE IS IMAGINATION.
THE DIFFERENCE IS AG.

addleshawgoddard.com

13038