2020 Electric Aircraft Symposium presented by CAFE Foundation and VFS
July 28-30, 2020 | Virtual

(all times EDT or UTC-4)	***Day 1 - Tuesday - July 28***	***Day 2 - Wednesday - July 29***	***Day 3 - Thursday - July 30***
(1100 - 1110)	***Welcome and Introductions*** *Yolanka Wulff, CAFE Foundation*	***Welcome and Introductions*** *Yolanka Wulff, CAFE Foundation*	***Welcome and Introductions*** *Yolanka Wulff, CAFE Foundation*
(1110 - 1205)	***Industry Overview***	***Regional Markets - Scandinavia & Cascadia***	***Electric Motors***
	The electric-powered aircraft industry continues to evolve with new vertical flight (eVTOL) and conventional aircraft (eCTOL) in development. New investors and development partners have also appeared, including major automobile manufacturers and the United States Air Force through its Agility Prime initiative.	A number of factors are accelerating the electrification of aviation in Scandinavia and the US Pacific Northwest and British Columbia. For example, the governments of Norway, Sweden and Finland have set targets for the introduction of electric-aircraft for commuter and pilot training flights. And environmentally minded communities in Cascadia (Oregon, Washington and British Columbia) many be among the first to introduce electric seaplane service and eVTOL aircraft on short haul overwater routes.	Electric motor technology is undergoing a revolution to support a wide range of electric vehicles. The motors requirements for eCTOL and eVTOL aircraft are significantly different from electric cars and other ground vehicles. Electric motor and eVTOL aircraft developers will discuss the motor technology and performance.
	The Electric VTOL Revolution *Mike Hirschberg, Vertical Flight Society*	*Moderated by: Charles Alcock, Aviation Int'l News*	*Moderated by: Luigi Ricci-Moretti, Piasecki*
	Developing of e-Aircraft in Europe - from first EASA certification over SC-VTOL and eCommuters *Willi Tacke, Flying Pages*	Integrating the Triple Bottom Line (Environmental, Economic & Social) Aspects of Electric Aviation to the Cascadia Region *JR Hammond, Canadian Air Mobility*	MagniX Overview *Luciano Serra, MagniX*
	The Winning Ground? An Update of the Electric Aviation Development in East Asia *Xin Gou, Flying Pages*	Scandinavia's Potential as a Green Aviation Zone and Forerunner for Electric Flight *Fred Kampfe, Swedish Aviation Industry Group*	Electrical Power and Propulsion for Aviation *Olaf Otto, Rolls-Royce*
	Evolving into the Electric Era of Aviation *Greg Bowles, Joby Aviation*	Why the Scandinavian Market is Perfect for Electric Aviation *Eric Lithun, elFly*	All-Electric Aviation - the way to greener flying is paved *Martin Dvorsky, MGM Compro*
(1205 - 1300)	***Commuter/Regional Air Service***	***Propulsion Systems – Hybrid Electric Propulsion Systems***	***Energy Sources - Hydrogen***
	The lower energy and maintenance costs of electric-powered aircraft make them well suited for inter-city Commuter/Regional Air Services. This includes new inter-city services and the revitalization short haul routes abandoned because of rising operating costs. Depending on the stage length and available infrastructure, the routes can be served by high speed eVTOL aircraft (with wings), new clean sheet eSTOL and eCTOL designs and older aircraft retrofitted with battery-electric and hybrid-electric propulsion systems by way of an STC.	Hybrid electric propulsion systems take many forms and a variety of system architectures are being now applied to electric aviation. The landscape includes piston-electric, diesel-electric and turbo-electric powertrains installed in various configurations in retrofitted and new optimized aircraft designs. Hybrid-electric systems leverage the high energy density of liquid fuel and don't require electric infrastructure during the start-up phase.	Hydrogen fuel cell technology provides an alternate way to generate the electrons required to power electric aircraft. Recent advances in fuel cell technology have been embraced by new eCTOL and eVTOL aircraft developers.
	Moderated by: Yolanka Wulff, CAFÉ	*Moderated by:Graham Warwick, Aviation Week*	*Moderated by:Anubhav Datta, Univ. of Maryland*
	Regional Opportunities for Electric Aircraft *Ken Swartz, Aeromedia Communications*	The Role of Hybrids in Electrifying Flight *Eric Bartsch, VerdeGo*	Fuel Cell Electric Aeronautical Powertrains – The "Killer" App for Hydrogen? *Bruce Holmes, Skai*
	Advancement & Integration of Regional Transformative Aerial Mobility *Seren Weber, University of Hawaii*	Finding Value with Hybrid Regional Aircraft *Pete Savagian, Ampaire*	The Hydrogen Revolution: From UAV to UAM *Alex Ivanenko, Hypoint*
	Opportunities for Fixed Wing Electric Commuter Aircraft *Brian German, Georgia Tech.*	Enabling Propulsion for eVTOL and Beyond *Michael Winter, Pratt & Whitney*	How We Will Make Aviation Sustainable *Val Miftakhov, ZeroAvia*
(1300 - 1330)	*Break*	*Break*	*Break*
(1330 - 1425)	**Urban Air Mobility (UAM)**	***Testing and Certification***	***Market Dynamics***
	Urban Air Mobility uses three-dimensional transportation to better serve the needs of our communities. UAM or Advanced Air Mobility encompasses intracity passenger, cargo and emergency services operated by electric-powered piloted, remotely piloted or autonomous eVTOL aircraft. The idea of providing urban air service is not new but electric propulsion makes air connectivity more economical and environmentally sustainable.	The certification of electric aircraft powered by battery-electric, hybrid-electric and hydrogen fuel cells presents new challenges as new consensus-based certification standards are adapted. Four leading manufacturers currently flying eVTOL and eCTOL aircraft will share their insights regarding testing and certification.	Electric aviation provides an opportunity to completely new aviation markets and revolutionize the markets that exist. One of the promising markets for eVTOL aircraft is high density urban areas where surface transportation modes are increasing inefficient. How do you determine which urban markets are the most promising from a customer and investment perspective? And what are the market opportunities in regions with poor transportation connectivity?
	Moderated by: Ken Goodrich, NASA	*Moderated by: Christine DeJong*	*Moderated by: Dana Jensen, Gemini Industries*
	VTOL Aircraft History and Design *Todd Hodges, NASA (ret)*	Certification of Electric Aircraft vs. What is Really Needed *Tine Tomazic, Pipistrel*	Urban Air Mobility, the Four Supply Chains, and the Business Case for City-by-City Investment *Michael Dyment, NEXA Advisors*
	Advanced Air Mobility (AAM) for Public Services - Opportunities and Challenges *Johnny Doo, International Vehicle Research*	eFlyer Certification Program Progress *George Bye, Bye Aerospace*	Addressing Factors to Get to Higher Density Advanced Aerial Mobility *Peter Shannon, Radius Capital*
	Honeywell UAS/UAM Technologies *Hector Garcia, Honeywell UAM*	Flight Testing the eCaravan: The World's Largest All-Electric Commercial Aircraft *Lee Human, AeroTEC*	Sabrewing's Rhaegal eVTOL Cargo UAV - More Than Just A Cargo Airplane *Ed De Reyes, Sabrewing*
(1425 - 1520	***UAM Community Integration***	***eSTOL Tech and Infrastructure***	***Propulsion Systems - Electric***
	Many stakeholders need to be engaged to achieve the responsible integration of UAM into communities to meet our daily transportation needs and serve the public good. Historically, city planners have not had to consider the needs of the aviation community outside of airports, but UAM changes everything.	Distributed Electric Propulsion (DEP) allows aircraft designers to more easily place engines where they can provide the greatest aerodynamic benefit. This includes a new class of electric-powered short takeoff and landing (eSTOL) aircraft that can operate from extremely short runways at very low operating costs. eSTOL aircraft developers will discuss the market opportunities, eSTOL technology and aircraft infrastructure requirements.	Electric aircraft are complex systems that can include electric motors, batteries, hybrid generators, energy management systems, cooling systems and lots of wire. What are the system integration challenges and what's required to achieve aviation level redundancy and safety?
	Moderated by: Brian Garrett-Glaser, Avionics International	*Moderated by: Ken Swartz, Aeromedia Comm.*	*Moderated by: Michael Friend, Friend.aero*
	EVTOL Challenges: Local Considerations and Public Acceptance *Anna Dietrich, CAMI*	Sustainable Mid-Mile Logistics with Metro Hop All-Electric Aircraft *Bruno Mombrinie, Metro Hop*	ESAero and X-57 Integration and Process to Support Standards, Qualification and Certification *Trevor Foster, ES Aero*
	Considerations for UAM Community Integration: Opportunities and Challenges *Adam Cohen, UC Berkeley*	Making the Case for eSTOL Aircraft *Marc Ausman, Airflow.aero*	X-57 Project Update: Design Considerations for All-electric Propulsion *Sean Clarke, NASA*
	How Electric Aviation Infrastructure has to Integrate with Transportation *Darrell Swanson, Swanson Aviation Consultancy*	Regional Mobility using Hybrid-electric Propulsion *John Langford, Electra.aero*	Focused on the Future of Aviation *Yesh Premkumar, BAE Systems*
(1520 - 1530)	***Closing Remarks*** *Yolanka Wulff, CAFE Foundation*	***Closing Remarks*** *Yolanka Wulff, CAFE Foundation*	***Closing Remarks*** *Yolanka Wulff, CAFE Foundation*