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NASA selects University of California, San Diego team along with M4 Engineering Inc. to participate in NASA's University Leadership Initiative (ULI)

M4 to facilitate universities in advanced aeronautical research for NASA

Long Beach, CA, 1/27/2021– M4 Engineering Inc., a leading Aerospace Engineering firm in the field of conceptual aircraft design, analysis and development partnered with University of California, San Diego-led team to propose to assist NASA with aeronautical research through NASA's University Leadership Initiative. The team was selected in January 2021 as one of the five teams that will participate in the fourth round of this program. The University Leadership Initiative gives the academic community an opportunity to support NASA's aeronautical research goals and provides students with valuable experience solving real-world technical challenges. The team's proposal selected for award was titled, "Rapid Development of Urban Air Mobility (UAM) Vehicle Concepts through Full-Configuration Multidisciplinary Design, Analysis, and Optimization." The team will be focusing largely on research to improve the safety, noise reduction, and affordability of vertical lift air vehicles.

Urban Air Mobility (UAM) envisions a safe and efficient aviation transportation system that will use highly automated aircraft that will operate and transport passengers or cargo at lower altitudes within urban and suburban areas. UAM will be composed of an ecosystem that considers the evolution and safety of the aircraft, the framework for operation, access to airspace, infrastructure development, and community engagement.

M4 Engineering will assist the team in creating computational tools that will enable U.S. industry to rapidly develop electric vertical takeoff and landing (eVTOL) vehicles that would fly as part of an Advanced Air Mobility environment. A large portion of M4's involvement includes leveraging M4 Structures Studio™, a CCRPP-funded software providing rapid concept evaluation and structural optimization of aircraft, in various ways to support the universities in their research.

Advanced Air Mobility (AAM) builds upon the UAM concept by incorporating use cases not specific to operations in urban environments, such as:

- Commercial Inter-city (Longer Range/Thin Haul)
- Cargo Delivery
- Public Services
- Private / Recreational Vehicles

Tyler Winter, Manager of Research and Development at M4 and Co-Investigator for the team, expressed enthusiasm towards this award: "This is an exciting opportunity for M4 to be part of a tremendous team and have a positive impact on the development of future electric vertical takeoff and landing vehicles (eVTOLs) and the broader Advanced Air Mobility community!"

Through this three-year initiative, the participating universities will be provided the opportunity to exercise technical and organizational leadership in:

- 1) Proposing unique technical challenges
- 2) Defining interdisciplinary solutions
- 3) Establishing peer review mechanisms
- 4) Applying innovative teaming strategies to strengthen the research impact

“With their fresh perspectives and inventive creativity, we’re looking forward to seeing how these teams can contribute to the future of 21st century aviation,” said Koushik Datta, ULI project manager.

This award not only provides opportunities for student participation from the selected universities, but also will enable M4 Engineering to create new internship positions to further aid the team.

To learn more about NASA’s University Leadership Initiative, click [here](#).

To see how M4 Structures Studio™ can facilitate aircraft design, analysis, and optimization, click [here](#).

About M4 Engineering, Inc.: M4 Engineering focuses on solving the multitude of challenges that arise in the development of new types of manned and unmanned space and flight vehicles. M4 Engineering based in Long Beach, CA was founded in 2001 by Dr. Myles L. Baker to help commercial companies and government agencies predict and optimize vehicle performance, with emphasis on providing Multidisciplinary Design Analysis and Optimization (MDAO) software and services.

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