

ASX Announcement | 28 June 2021

NASA Awards Sedimentation and River Hydraulics Model Project to Freelancer.com

Freelancer.com has secured a NASA contract to improve the Speed of the US Bureau of Reclamation's Sedimentation and River Hydraulics Model.

Sydney, Australia, 28 June 2021 - [Freelancer Limited](#) (ASX: FLN), the world's largest freelancing and crowdsourcing marketplace, has secured a US\$510,000 task order for the US Bureau of Reclamation ("Reclamation") project looking to optimize and speed up the sparse matrix linear equations solver for computational fluid dynamics (CFD) models.



The Sedimentation and River Hydraulics Challenge seeks a stable, fast, and parallelizable sparse matrix linear equation solver (numerical algorithm implemented in a subroutine) for typical CFD models. The solver should run on current multi-core personal computers (PCs) with scalable speedup.

"To date, NASA has sourced over 13,000 product designs from more than 6,000 product designers. We're excited to help Reclamation and NASA improve the speed of Sedimentation and River Hydraulics Model using the world's largest online talent in what will be the new largest challenge yet by an order of magnitude", said Freelancer Chief Executive, Matt Barrie.

Typically, to solve this problem, a large-scale linear equation from CFD models is used; this model is based on the finite-volume discretization of the Navier-Stokes equation. Because the mesh is unstructured with an arbitrary number of neighboring cells, the resultant matrix is sparse with a non-equal number of elements for each row. Only the preconditioned conjugate gradient (CG) or algebraic multigrid (AMG) solvers have the potential for solution



stability and efficiency. However, parallelization of these solvers can be challenging. Reclamation is seeking novel, scalable parallelization of these or other innovative solvers.

Of the total amount awarded, US\$300,000 will be prize money paid to freelancers. This prize challenge is envisioned to be in two stages of \$150,000 each. The Challenge participants will have 29 weeks for Stage 1 and 34.5 weeks for Stage 2 to complete their submissions.

In Stage 1, the project consists in the development and demonstration of a new linear equation sparse matrix solver (LESMS), which is parallelizable and scalable, yet still stable and efficient, while Stage 2 includes Parallelization of an existing Reclamation hydraulic-hydrologic model (SRH-2D) using the new LESMS.

The Sedimentation and River Hydraulics Challenge will be launched via a Freelancer microsite at a date to be announced. See <https://www.freelancer.com/nasa/open> for more details.

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Forward-looking statements

This document contains certain "forward-looking statements". The words "anticipate", "believe", "expect", "project", "forecast", "estimate", "outlook", "upside", "likely", "intend", "should", "could", "may", "target", "plan" and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance on, future earnings and financial position and performance, including Freelancer's FY20 outlook, are also forward-looking statements, as are statements regarding Freelancer's plans and strategies and the development of the market. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Freelancer, which may cause actual results to differ materially from those expressed or implied in such statements. Freelancer cannot give any assurance or guarantee that the assumptions upon which management based its forward-looking statements will prove to be correct or exhaustive beyond the date of its making, or that Freelancer's business and operations will not be affected by other factors not currently foreseeable by management or beyond its control. Such forward-looking statements only speak as at the date of this announcement and Freelancer assumes no obligation to update such information. The release, publication or distribution of this document in jurisdictions outside Australia may be restricted by law. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.



About Freelancer

Twelve-time Webby award-winning Freelancer.com is the world's largest freelancing and crowdsourcing marketplace by total number of users and jobs posted. More than 53 million registered users have posted over 20 million jobs and contests to date in over 1,800 areas as diverse as website development, logo design, astrophysics, aerospace and engineering. Freelancer Limited is listed on the Australian Securities Exchange under the ticker ASX: Freelancer and on the OTCQX under ticker OTCQX: FLNCF.

Freelancer owns StartCon, Australia's largest startup and growth conference, WarriorForum.com, the world's largest Internet marketing community & marketplace, Escrow.com, the world's largest provider of secure online escrow and online transaction management for consumers and businesses on the Internet, and Freightlancer.com, a global marketplace for freight, shipping and transportation.

About The US Bureau of Reclamation

The United States Bureau of Reclamation (USBR), is a federal agency under the U.S. Department of the Interior, which oversees water resource management, specifically as it applies to the oversight and operation of the diversion, delivery, and storage projects that it has built throughout the western United States for irrigation, water supply, and attendant hydroelectric power generation. The USBR is the largest wholesaler of water in the country, bringing water to more than 31 million people, and providing one in five Western farmers with irrigation water for 10 million acres of farmland, which produce 60% of the nation's vegetables and 25% of its fruits and nuts. The USBR is also the second largest producer of hydroelectric power in the western United States.