



To Whom It May Concern,

This letter provides the sole source justification for purchasing the Trillion's ARAMIS 3D Digital Image Correlation (DIC) system. The system will be used to experimentally measure the strain and deformation of materials and structures undergoing mechanical and variable environmental conditions that are not achievable by other physical sensors.

While there are a number of different 3D DIC systems, Trillion's ARAMIS 3D DIC system provides many unique capabilities that are not offered by other 3D DIC systems. These features include importing native computer-aid-designed models with a customizable coordinate system. The computer-aid-designed format import can be a moving mesh, which also moves with the ARAMIS data, allowing the user to animate the strain and deformation of the moving parts (i.e., individual vertebra on spines, parts of moving machinery, etc.). The ARAMIS 3D DIC system also has a Python environment, which allows the user to record, edit and run Python scripts within the embedded Python environment, as well as automate actions, bundle functions, and interact with system files and external data. These capabilities are needed for our research.

The acquisition of the ARAMIS 3D system will enable a unique characterization capability at UNF to serve existing and future collaborative research needs across the disciplines, including Mechanical Engineering, Civil Engineering, Chemistry, Biology, and Physical Therapy. This will, in turn, play a vital role in the preparation of future collaborative proposals, and widen opportunities for the involved faculty to obtain external funding.

The acquisition of this ARAMIS 3D DIC system is supported by UNF Shared Scholarship, Research, and/or Creative Activities (RSCA) Instrumentation Grant. The funding obtained from this UNF RSCA Instrumentation Grant must be used to purchase the equipment (ARAMIS 3D DIC system) as indicated in the submitted proposal. After acquiring the system and completing the appropriate installation and on-site training by Trillion, I will create and manage a booking system to allow trained users to check the availability of equipment, reserve, and check out the instrument. The system will be securely kept in the Mechanical Engineering Research Laboratory (Building 4, Room 2218) when it is not being used.

If there are any further questions, please do not hesitate to contact me.

Sincerely,

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