



# Metrica, Inc.



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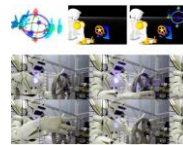
### Certifications:

Metrica is a Minority Business Enterprise (MBE) certified by the National Minority Supplier Development Council (NMSDC).

Metrica's approach to quality control earned it an **ISO 9001:2015** Quality Management System certification in June 2020.

Established in 1984, **Metrica** is a U.S. Small Business Administration-certified Women-Owned Small Business (**WOSB**) dedicated to providing a range of professional services to Government and corporate clients in the areas of Information Technology, Professional Consulting, and International Logistics. Metrica has a Top-Secret facility clearance.

 **TRAC Labs** was established in 1997 as a division of Metrica, Inc. and has been a Metrica affiliate since 2007. TRAC Labs' 25 years of experience includes world-class robotics, automation, and artificial intelligence research for NASA, the DoD, and the commercial sector. The pioneering work of its strong, diverse team of engineers and scientists serves many industries and is currently in use from the deepest oceans to the International Space Station. Team members have earned international recognition for their research. TRAC Labs' Software Development Center is located in Webster, Texas, near Houston's Johnson Space Center. TRAC Labs' breakthrough technologies and services include:



CRAFTSMAN is a ROS-based tool suite for creating task-based robot control interfaces for manipulation and navigation. It uses a powerful technique for encoding task definitions called Affordance Templates. The development of CRAFTSMAN has been supported by over a dozen small-business grants from NASA and the DoD. CRAFTSMAN has also been installed in automotive manufacturing facilities. It allows non-robotics experts to design and use cutting-edge user interfaces and control software for robotics systems, and it seamlessly supports a variety of supervisory modes, from full teleoperation to full automation.



The PRIDE Software Suite consists of four modules for electronic procedure authoring, execution, monitoring, and analysis. Initially developed for NASA, it is currently used by NASA for ground operations on the VIPER project. PRIDE has been commercialized as a spin-off product and is currently used by several firms in the energy sector, covering thousands of installed instances of the software.

*Please see the next page for more examples.*

ASTRO services are organized into 10 functional pools, with the appropriate pool selected at the task order level based on the solicitation requirements. Metrica, Inc. is an ASTRO Prime Contractor in the **Research Pool (NAICS code 541715)**, Contract # 47QFCA22D0376. TRAC Labs, Inc. is Metrica's affiliate and its teammate on this contract.



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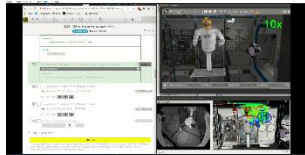


Examples of TRACLabs' breakthrough technologies, continued from first page:



## DRC

Team TRACLabs developed control software and human-robot interfaces for the Boston Dynamics ATLAS humanoid robot as part of the DARPA Robotics Challenge (DRC), finishing 4<sup>th</sup> in the 2013 Virtual Robotics Challenge, 6<sup>th</sup> in the 2013 DRC Trials, and 9<sup>th</sup> out of 23 international teams in the DRC Finals in 2015. Team TRACLabs was the only small-business-led team to advance to the Finals and was described by *WIRED* magazine as “Scrappy Underdogs” for competing well with teams from MIT, JPL, CMU, Korea Advanced Institute of Science and Technology (KAIST), and IHMC, among others.



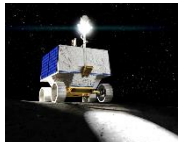
## PHARAOH

The PHARAOH project integrated the PRIDE electronic procedure software with CRAFTSMAN's robot control capabilities to help guide an operator through a complex procedure involving robotic assets. It also demonstrated how to use the automation capabilities of both packages.



## VALOR

VALOR is exploring virtual and augmentation reality environments for first responder training and operations. This multi-year collaboration between TRACLabs, NIST, and the Houston Fire Department incorporates immersive simulations with real-world objects and advanced user interface displays.



## VIPER

The VIPER mission, currently scheduled to land on the moon in late 2023, will search for water ice near the lunar south pole. TRACLabs personnel are involved in the on-board and ground-based rover software, the ground data systems, and the operator interface.

