

JOUSTER

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As the US Military expands its presence world-wide, the need for more troops increases. Unfortunately, the risk of losing American lives also increases. In an effort to save lives, the military has put money and research into autonomous vehicles that can replace real people and potentially save lives. This money has produced a new wave of production of autonomous vehicles—but no way of standardizing the performance of all the robots. The research performed by JOUSTER is an effort to create standards for autonomous robots and to create an unprecedented database of information so that engineers can analyze and improve their machines.

The JOUSTER project was just started in July, 2004, but in under two months the project has already produced an infrastructure to collect data from autonomous vehicles at the new test site in Danville, Virginia. The experiments were run for the Joint Architecture for Unmanned Systems Operator Control Unit & Payloads Committee (JAUS OPC) to test interoperability between an Operator Control Unit (OCU), unmanned vehicle, and payload, each respectively built by a different company. Figure 1 shows the layout of how the three components are put together to test. Specifically, the OCU, AFRL, the robot, Gator 1, and the iRobot Cable Spooler successfully integrated together. This testing was called the A-B-C test. The experiment would see if Company A's OCU could control Company B's payload, which communicated through Company C's vehicle. The results are analyzed from the data collected from the data logger. In this particular case, the AFRL OCU, the Gator 1, and the iRobot cable spooler all successfully integrated together. Providing this kind of testing service in just two months time shows the potential for the research coming from JOUSTER. In a few short years, JOUSTER should be leading the way in standardizing autonomous vehicles.

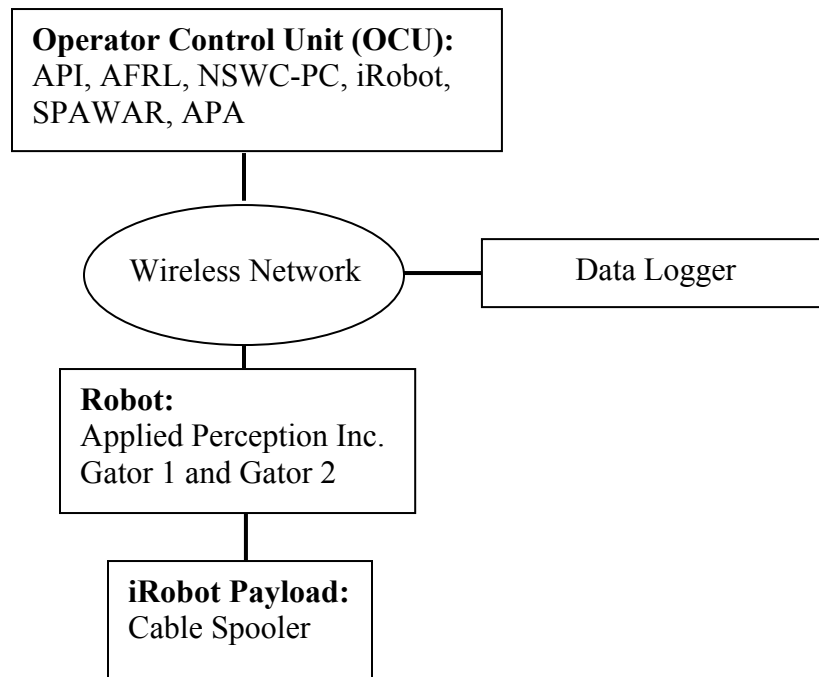


Figure 1. Possible layouts for the JAUS OPC infrastructure.