

ESTCP PROJECT OF THE YEAR

ROBOTIC LASER COATING REMOVAL SYSTEM

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Aircraft paints are routinely removed to check for underlying corrosion on the surface of metal structures, and the aircraft is then subsequently repainted. Stripping and repainting operations at military rework facilities result in significant emissions of volatile organic compounds (VOC), organic and inorganic hazardous air pollutants, and hazardous waste.

Mr. Timothy Hoehman and his team from the Oklahoma City Air Logistics Center (OC-ALC), Headquarters Air Force Material Command (HQ AFMC), the Air Force Research Laboratory (AFRL), Tinker Air Force Base, and Concurrent Technologies Corporation demonstrated and validated the Robotic Laser Coating Removal System (RLCRS) as an alternative technology to the current chemical and mechanical methods that are used to remove coatings from large off-equipment aircraft components. The RLCRS uses an integrated, advanced laser coating removal unit with a remote-controlled contour-following and particle capture system. This ESTCP project demonstrated the ability of RLCRS to meet the requirements for coatings removal in a production environment as well as the pollution reduction that can be achieved across DoD.

This robotic system has the potential to reduce the environmental burden associated with coatings removal operations while reducing the labor and chemical costs and positively impacting the production schedule. Implementation of the RLCRS will also provide the maintenance facility with the flexibility to remove coatings from components of various sizes and geometries using a single system. Cost savings from Air Force-wide implementation of RLCRS are estimated at \$67 million. OC-ALC is currently moving forward with obtaining approvals to use the system on production KC-135 parts.

For more specific information about this project, stop by Poster #105.