STAR4D Painter Training

Building on Experience and Success

STAR4D (Spray Technique Analysis and Research for Defense)
- Recognized subject matter experts in painter training
- Provided outreach to 65 DoD operated facilities in 42 states
- Conduct extensive research and develop testing procedures to improve application efficiency and reduce associated costs to the DoD.
- Develop tools for enhancing painter skill.

Benefits of STAR4D Training
- Finish Quality Improvements
- Higher Transfer Efficiency
- Process Waste Reduced
DoD Facilities that STAR4D has Assisted
Simulation has been used for years as a training method for many industries

- Flight Simulation
- Combat Training
- Health Care (Surgeons)
- Industrial Trades
Targeting tool that attaches to any model spray gun

The LaserPaint projects two laser dots which converge at the correct gun-to-target distance
VirtualPaint Training System Provides a Better Option

- Developed by the IWRC using non-federal funds
- Uses state-of-the-art virtual reality technologies, precise software modeling and a fully instrumented spray gun to accurately replicate actual paint application.
Highly accurate representation of spray patterns / coating accumulation

Support for wide range of spray gun settings

- Coating flow rate
- Air pressure
- Fan pattern size
- Trigger pull
Realistic application technique simulation

- Stand-off distance
- Spray gun orientation
- Traversal speed
- Spray gun triggering
- Spray pass overlap

Visual and statistical feedback

- Overspray
- Mil build average
- Coating accumulation mode
- Transfer efficiency
- Paint consumption
- Elapsed time
Benefits of VirtualPaint

Instructor Use

Hands-on Classroom Instruction & Demonstration
- Demonstrate Proper Equipment Set-up
- Demonstrate Spray Technique
- Coating Mil Thickness
- Transfer Efficiency

Student Use

More Opportunity for hands-on practice
- Experiment
- No cost to making mistakes
- Easy fun learning environment

Cost
- No cost for coating
- No cost for practice parts

Time
- Zero Surface Prep.
- Zero Clean-up
- Zero Coating Preparation

Environmental & Safety Regulations
- PPE Not required
- No hazardous material usage
- No permit or material usage limitations
VirtualPaint vs. Traditional Painter Training

Few Organizations Offer Effective Hands-on Painter Training.

- Traditional drawbacks associated with Painter Training.
  * Cost  * Safety  * Labor  * Time  * Equipment

Paint Booth  Paint Filters  Spray Gun  Paint
Air Hose  Respirator  Paint Suit  Gloves
Parts to Paint  Backdrop Paper  Clean-up Solvent  Instructor Time
Preparation Time  Clean-up Time  Waste Disposal  Student Time
Future Developments

Abrasive Blasting Simulation

• Properly train abrasive blast technicians in the same manner as VirtualPaint
• Currently beta testing, public release within 3 months
Future Developments

Airless Spray

• Currently under development
• Integrating multiple coating viscosities and fluid tip choices
• Data collection is underway, beta testing to begin within the next 3 months
• Ability to instrument any airless spray gun
Thank You

Any Questions?

Please Call Joe Bolick or Jeremiah Treloar at 319/273-8905
Or email at mjbolick@uni.edu or treloar@uni.edu