

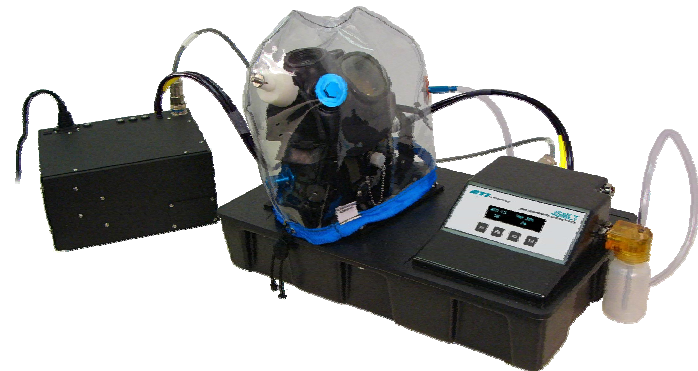


The Joint Service Mask Leakage Tester: Helping to Ensure Protective Mask Readiness

Jeremy Scott

Program Manager - JSMLT

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JSMLT – The Basics

- **A portable tool to aid the warfighter to determine leakage and fit of protective masks**
 - Used to maintain masks in a high state of readiness
 - Reinforces a unit's PMCS program
- **Concept of Operations**
 - Garrison and deployed operations
 - Peacetime, wartime, military operations other than war, garrison training and field exercises
 - Shore and afloat forces
 - Supports NBC capabilities in low, medium and high threat areas





JSMLT – Capabilities





JSMLT – Capabilities



Quantitative Facefit Test



JSMLT – Capabilities

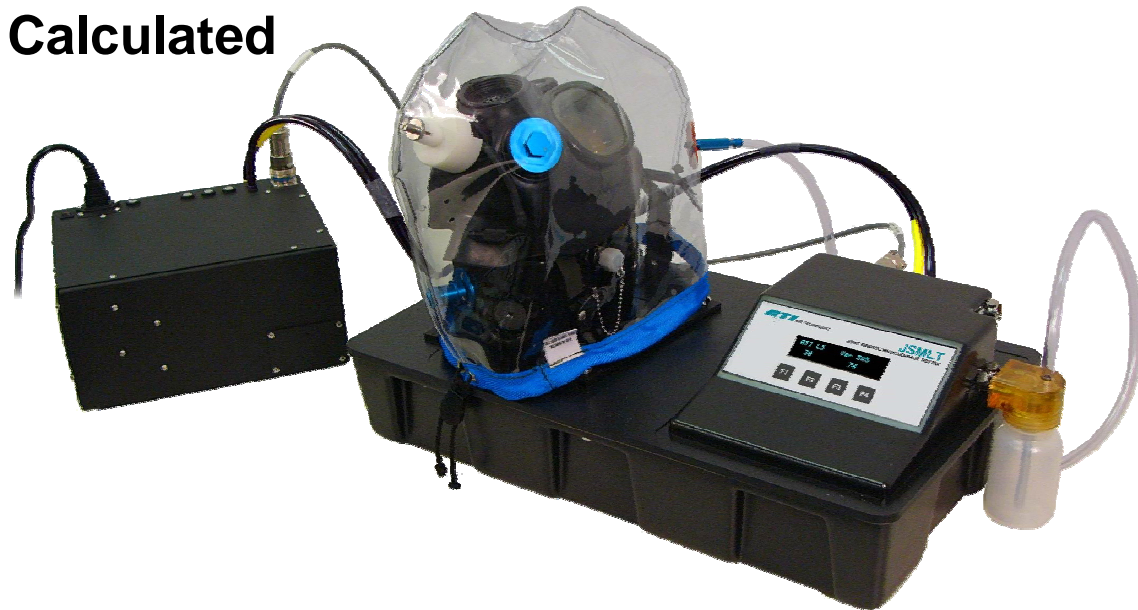
- **Fielded Systems Will Provide Testing Capability For:**
 - M40A1 Masks
 - M42A2 Masks
 - M45 Masks
 - MCU-2A/P Masks
 - Joint Service General Purpose Mask (JSGPM)
 - Joint Service Aviator Mask (JSAM)
 - Many other protective masks





JSMLT – Mask Leakage Testing

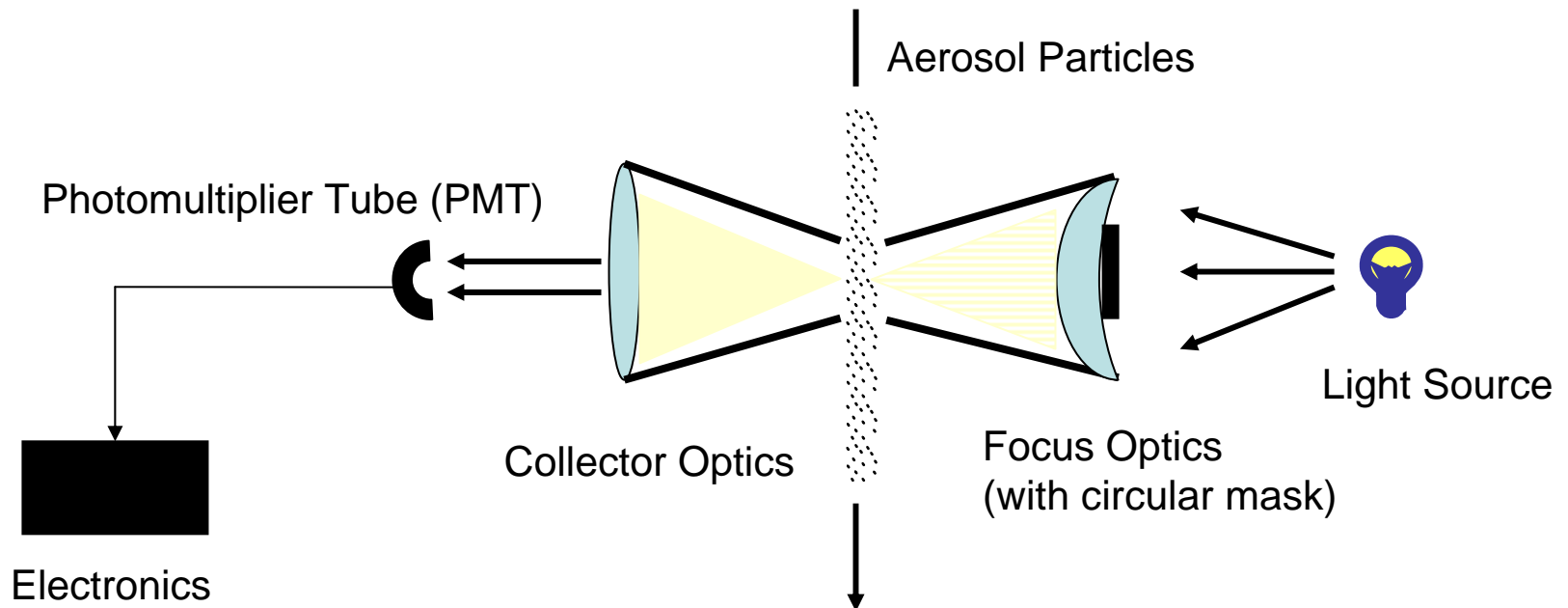
- Mask placed on the headform
- Aerosol released under shroud over the protective mask
 - Poly-Dispersed (0.2 - 0.5 μ)
- Aerosol penetrates any existing leaks due to negative pressure applied under the mask
- Penetrating Aerosol Particles are Detected by Light Scattering Photometry
- Percent Penetration Is Calculated





JSMLT – Light Scattering Photometry

- The aerosol particles that have penetrated the mask pass into the light scattering chamber
- The particles scatter the light that passes through the intersection of the cones
- The PMT converts the scattered light into an electrical signal





JSMLT vs. Current Capabilities

- Five devices currently required to determine function and fit
 - M14 Mask Leakage Tester
 - M4A1 Outlet Valve Leakage Tester
 - Q179 Drink Tube Air Flow Resistance Tester
 - Q204 Drink Tube Assembly Leakage Tester
 - M41 Protection Assessment Test System
 - Only deployable system on list
 - Cannot identify defective or unserviceable components

(Trailer or fixed site)



From this.....



to this.





JSMLT vs. Current Capabilities

- **Current Mask Testing Efforts**

- **Mask Serviceability**

- Visual Inspection
- Qualitative, Low accuracy, Low precision

- **Fit Testing**

- **Qualitative Methods**

- Negative Pressure Check

- **Quantitative Method**

- M41 PATS (Not widely used by USAF and USMC)

- **Current surveillance efforts**

- Continue to identify a large percentage of critical defects
- Cannot conduct 100% inspections

- **Bottom Line: JSMLT significantly improves ability to detect and repair critical leaks in protective masks**

- >50% not identified through visual inspection
- 4.5% not identified in JSMLT operational testing



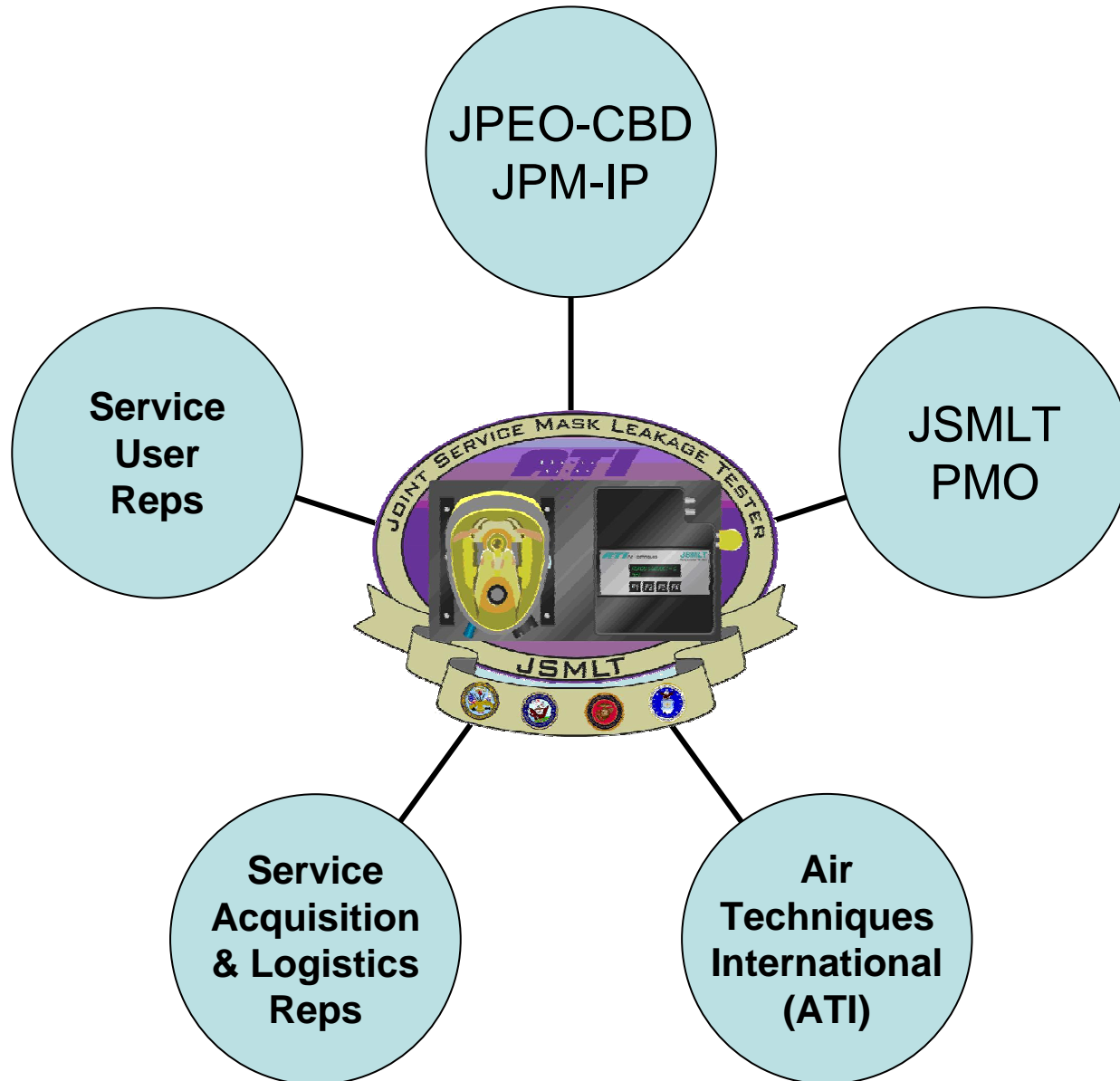


JSMLT – Benefit to the Warfighter

- **Issues with Mask Readiness Have Persisted**
 - Leaking Facepieces
 - Torn/Dirty Outlet Valve Disks
 - Incorrectly Installed/Damaged Voicemitters
 - Damaged Drink Systems
- **Preventative Maintenance, Checks, and Services (PMCS) Alone Are Insufficient**
- **JSMLT Will Provide the Warfighter with a Means of Verifying PMCS Has Been Performed Correctly**
- **Services that Will Use the JSMLT:**
 - U.S. Marine Corps
 - U.S. Navy
 - U.S. Air Force
 - U.S. Coast Guard (DHS)



JSMLT - Partnering with Industry and the Joint Services





JSMLT – ATI Background

- **Based in Owings Mills, Maryland**
- **Started in 1961 to produce the M14 Gas Mask Leakage Tester**
- **Provided test equipment for the M17, M40 Series, and MCU-2A/P Protective Masks**
- **Provider of Support to the Joint Equipment Assessment Program (JEAP)**
- **An organization committed to quality through ISO 9001 and a Configuration Management program designed for JSMLT**





JSMLT – Recent and Upcoming Program Achievements

- **Milestone C/FRP Decision – May 05**
- **FRP Contract Awarded - 7 Sep 05**
 - JSMLT Production Has Commenced
- **First Unit Equipped – 3QFY06**



QUESTIONS???

Jeremy Scott

PM JSMLT

Comm: 410-436-5664

DSN: 584-5664

Jeremy.jon.scott@us.army.mil

