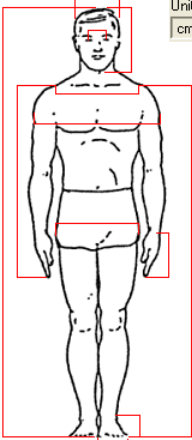
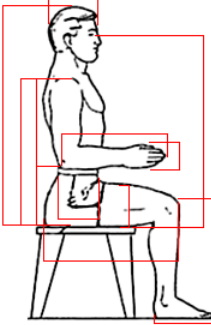
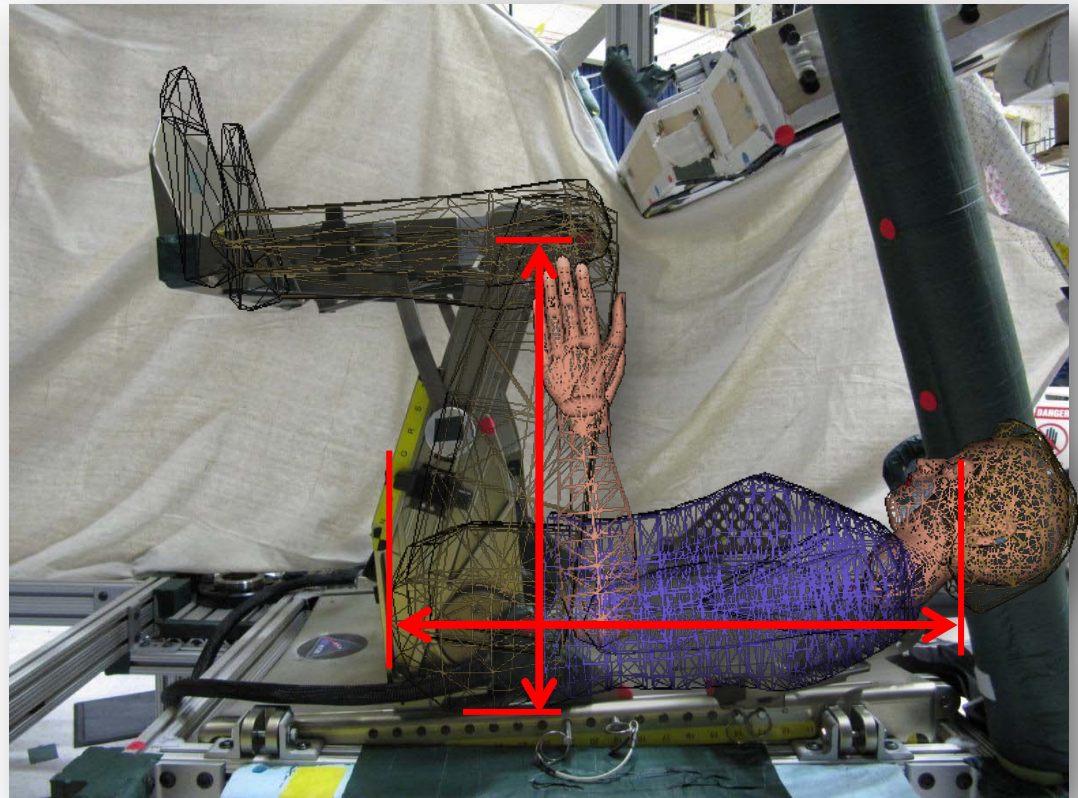


# Human Factors Engineering Capabilities

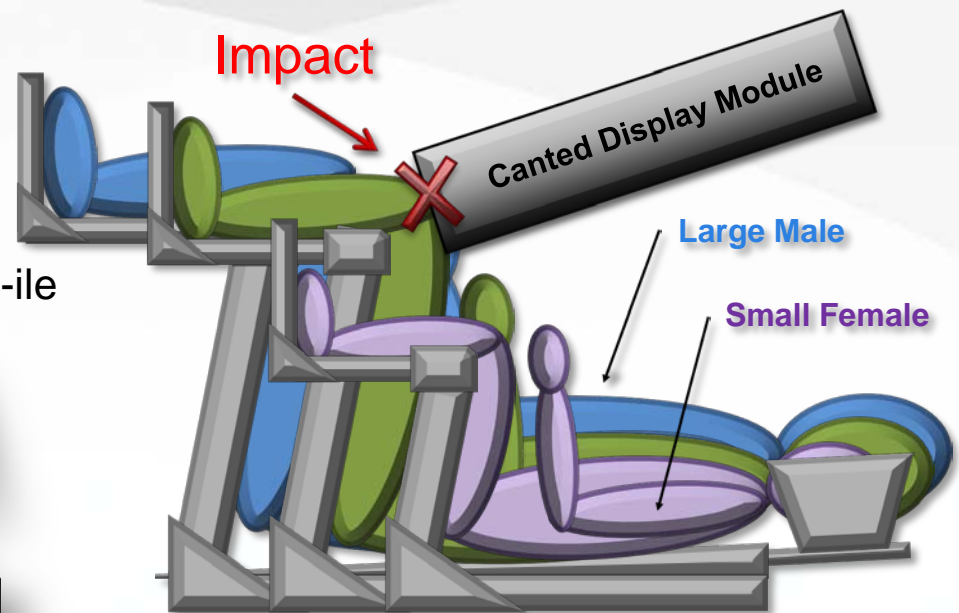
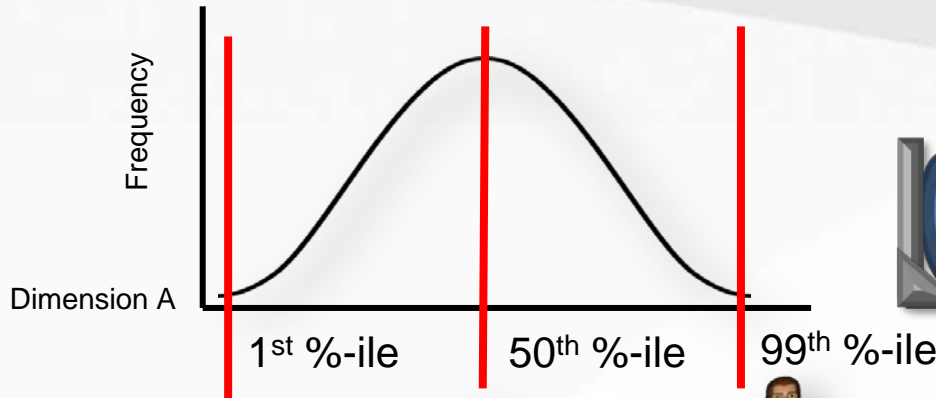
Considering The Human Dimension

**MEIT collects and uses anthropometric data to smartly design interfaces that ensure the human-machine interactions are optimized for functionality, safety, and comfort.**

<b>Stature:</b> <input type="checkbox"/> 152.8	Gender: <input checked="" type="radio"/> Female <input type="radio"/> Male		Units: cm <input type="button" value="v"/>
Abdominal Dep.: <input type="checkbox"/> 17.4			
Ankle Hgt: <input type="checkbox"/> 5.8			
Acromion Height: <input type="checkbox"/> 124.1			
Arm Length: <input type="checkbox"/> 67.7			
Biacromial Br.: <input type="checkbox"/> 34.2			
Bideltoid Br.: <input type="checkbox"/> 40.4			
Buttock-Knee: <input type="checkbox"/> 51.8			
Elbow Rest Hgt: <input type="checkbox"/> 20.7	Hip Breadth: <input type="checkbox"/> 31.3		
Elbow-Fingertip: <input type="checkbox"/> 40.7	Interpupil Dist: <input type="checkbox"/> 6.2		
Foot Breadth: <input type="checkbox"/> 8.6	Shoulder-Elbow: <input type="checkbox"/> 32.2		
Foot Length: <input type="checkbox"/> 22.6	Sitting Acromial: <input type="checkbox"/> 52.9		
Hand Breadth: <input type="checkbox"/> 6.9	Sitting Eye: <input type="checkbox"/> 70.4		
Hand Length: <input type="checkbox"/> 16.7	Sitting Hgt: <input type="checkbox"/> 81.6		
Head Breadth: <input type="checkbox"/> 14.4	Sit Knee Hgt: <input type="checkbox"/> 48.0		
Head Height: <input type="checkbox"/> 20.3	Thigh Clearance: <input type="checkbox"/> 16.7		
Head Length: <input type="checkbox"/> 18.4	Thumbtip Reach: <input type="checkbox"/> 73.4		

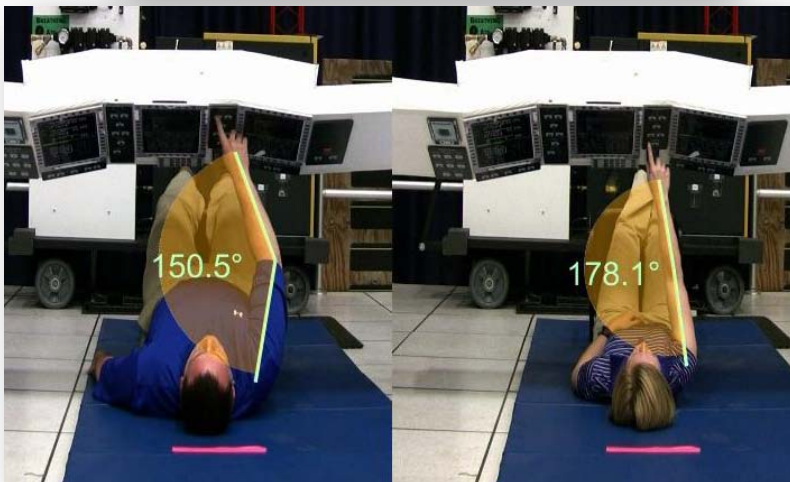
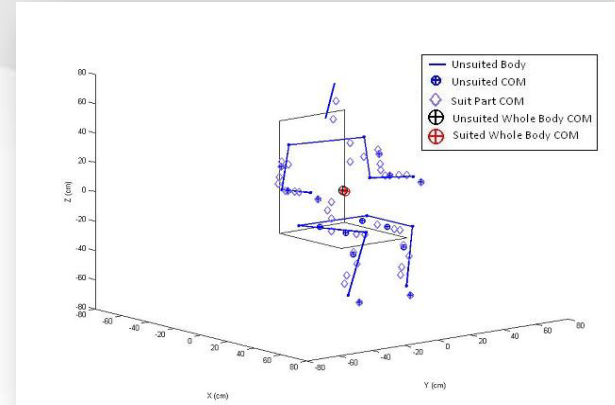


**MEIT uses a variety of anthropometric databases to insure the correct user population is accommodated and that worst cases are identified for a comprehensive design verification process.**



**Traditional 1<sup>st</sup> to 99<sup>th</sup> Population Extremes analysis is not sufficient for design verification**

**MEIT uses a variety of mathematical and modeling techniques to analyze the impacts of equipment, posture, and population variation on design parameters.**

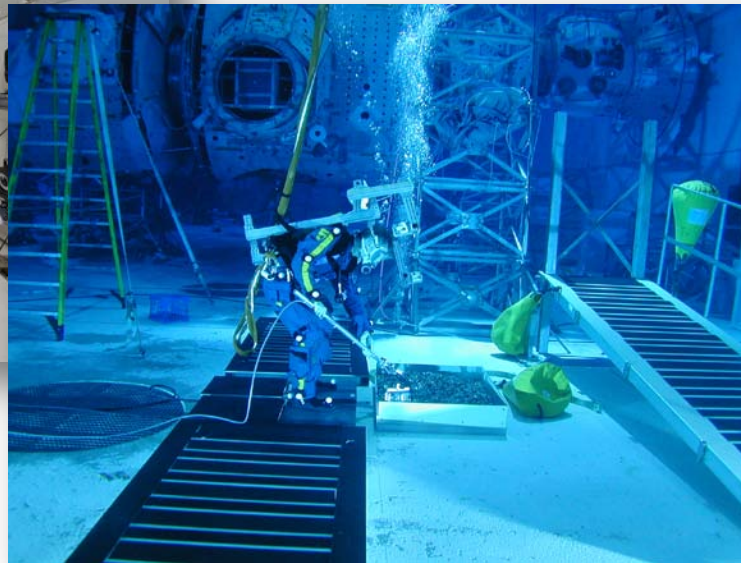


**MEIT provides 3D biomechanical assessment of human performance in nominal and extreme environments over a wide range of dynamic tasks and human-machine interactions.**

## Reduced Gravity Aircraft



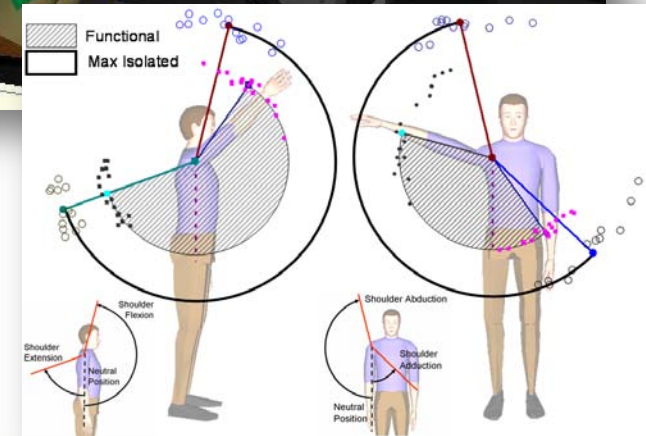
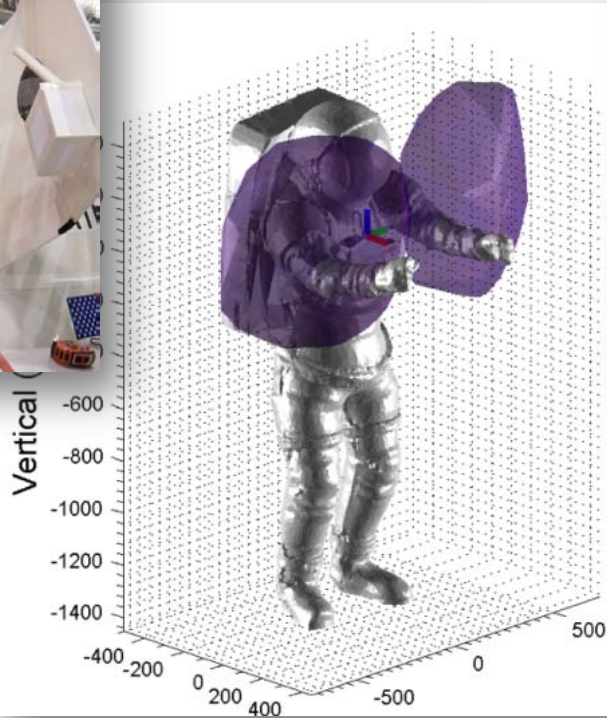
## Underwater



## Ground-Based

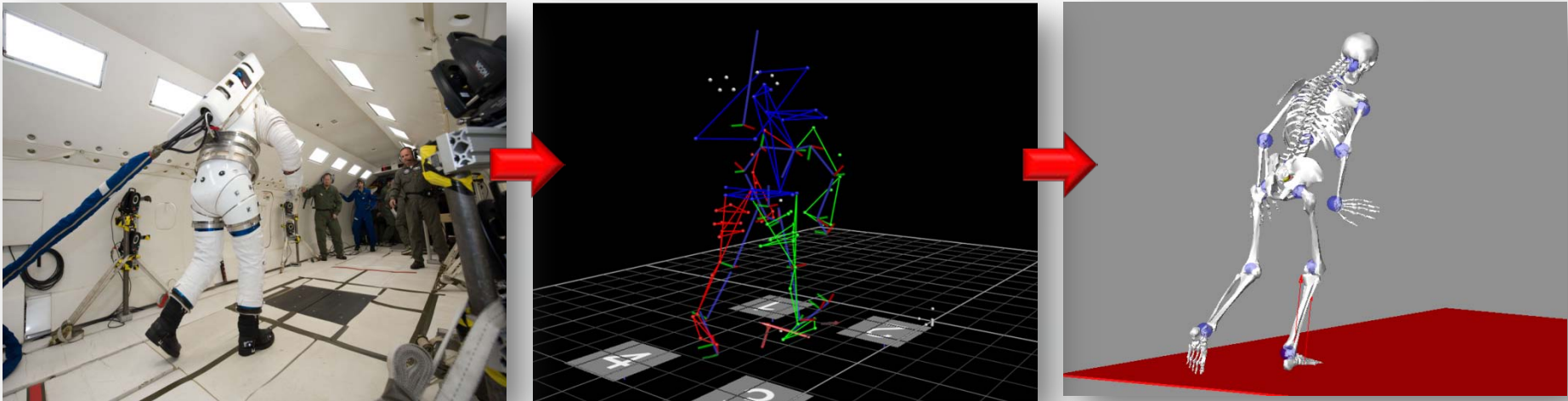


**MEIT uses 3D biomechanical human performance data to assess human mobility requirements, work envelopes, and reach zones.**



## Mobility data combined with human modeling software provide analyses of high-risk operations involving:

- *Heavy lifting*
- *Awkward postures*
- *Repetitive motions*
- *Difficult reach positions*
- *Process flow operations*
- *Human-Hardware interactions*



Human model results can be used to compare gait, kinematic, kinetic, and metabolic data and draw conclusions related to task performance.

**MEIT performs ergonomic analyses of product designs to refine tasks from the earliest stages of the engineering process. MEIT tests designs for a wide variety of human factors including:**

- ***Injury risk***
- ***Timing & efficiency***
- ***User comfort***
- ***Reach***
- ***Field of View***
- ***Cognitive and physical workload***

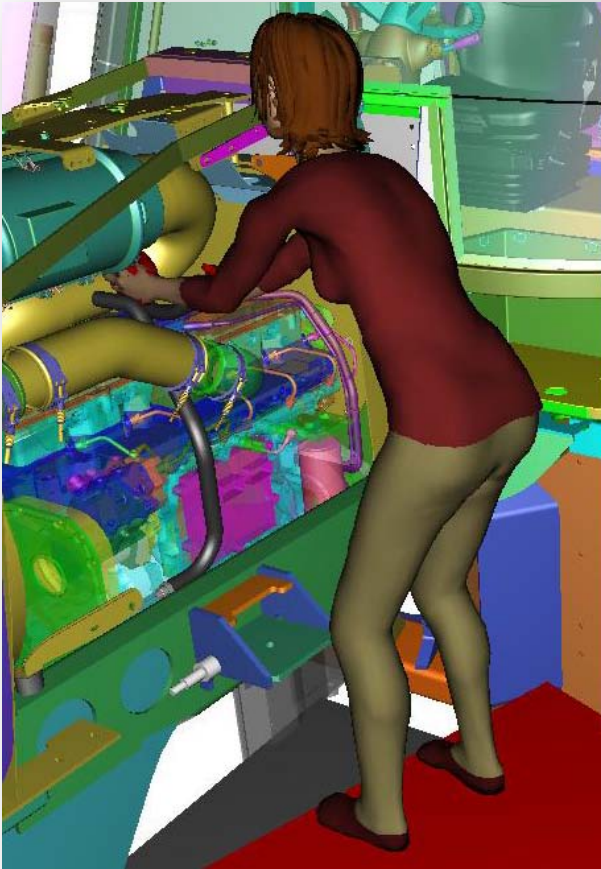


Modeling of Industrial Tasks

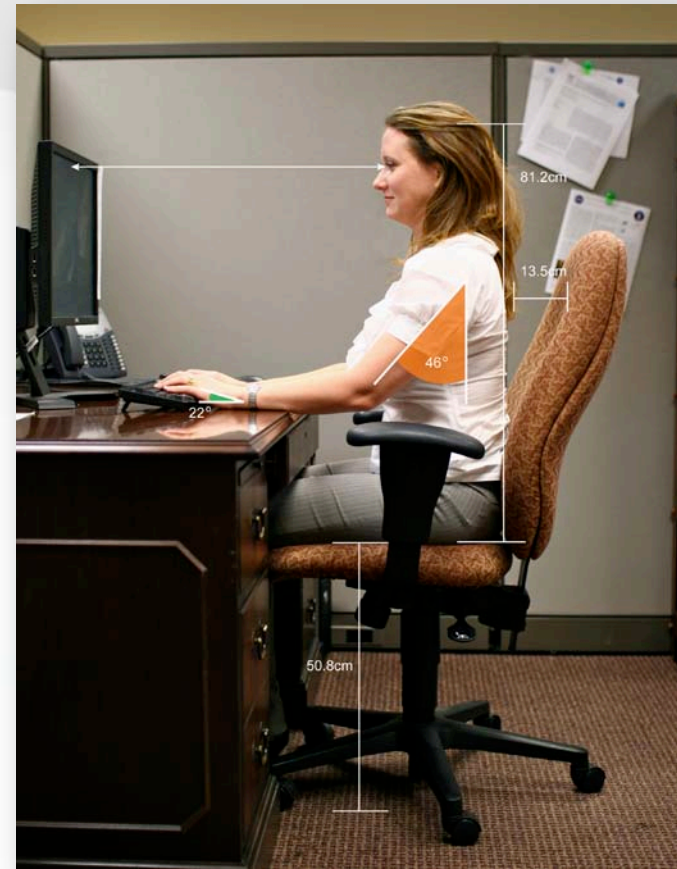


Manual Material Handling

**MEIT human factors provide system wide solutions by integrating ergonomics, anthropometry, and usability to ensure proper design on the front end of the program.**



Maintenance Usability

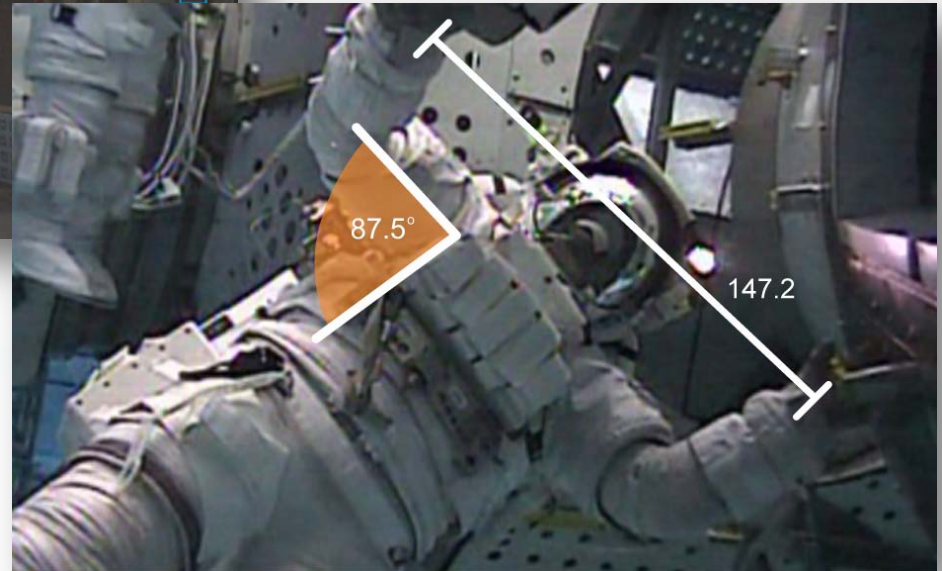


Workstation Analysis

**MEIT captures and analyzes technical human performance data to assess the efficacy of human interface design and task process.**



Warfighter Display



Vehicle Ergonomic Assessment



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