



SoldierSim™

PRODUCT SPECIFICATIONS

DESIGN BETTER ARMOR. PROTECT SOLDIERS. ENHANCE PERFORMANCE.



1 PRODUCT OVERVIEW

- Product Name
- Version
- Description
- Intended Users
- Typical Applications
- Technology Foundation



2 SYSTEM ARCHITECTURE



3 MAJOR SOFTWARE MODULES



WARRIOR CONFIGURATION

- Select from 16 anthropometries. Each of these avatars will have the following characteristics:
 - Male/Female
 - Height
 - Weight
 - Strength percentile



EQUIPMENT LIBRARY (ABOUT 130 MODELS)

The models are in the following categories: Armor, armor attachments, backpacks, backpack attachments, helmets, helmet attachments, mortar, special attachments, weapons, weapon attachments, clothing, packed items, armor plates.



EQUIPMENT IMPORTER AND EDITOR

- Import CAD
- Weight
- Center of Gravity
- Moments of Inertia
- Attachment locations
- Collision envelope



SIMULATION BUILDER

Built-in tasks including

- Walk
- Stair Ascend
- Steep Stair Ascend
- Ladder Climb
- Ladder Descent
- Go Prone
- Get Up
- Jump from Platform
- Vertical Jump

4 ENGINEERING ANALYSIS



BIOMECHANICS

- Joint Torques
- Center of Mass
- Support Region
- Ground Reaction Forces
- Spine Shear
- Spine Compression



EQUIPMENT

- Eye Relief
- Visibility
- Bounding Box
- Cocoon Envelope (Occupant Packaging)
- Load Distribution



HUMAN PERFORMANCE

- Energy Expenditure
- VO₂
- Metabolic Rate
- Heart Rate
- Hydration
- Fatigue
- Thermal Assessment

5 OUTPUTS

AUTOMATIC REPORTS INCLUDING

- Engineering Summary
- Human Performance
- Equipment Analysis
- Charts
- Tables
- Recommendations



GRAPHICAL OUTPUTS

- Heat Maps
- Joint Torque Maps
- Ground Reaction Forces
- Center of Mass
- Support Region
- Time Histories



6 SUPPORTED EQUIPMENT TYPES



MILITARY

- Helmets
- Weapons
- Packs
- Body Armor
- Radios
- Sensors



INDUSTRIAL

- Harnesses
- Wearables
- PPE



COMMERCIAL

- Hiking Backpacks
- Outdoor Equipment
- Sporting Equipment

7 HARDWARE & SOFTWARE REQUIREMENTS

HARDWARE REQUIREMENTS

MINIMUM

- Intel Core i7
- 16 GB RAM
- NVIDIA RTX-class GPU
- Windows 10/11
- SSD



RECOMMENDED

- Intel Core i9 / AMD Ryzen 9
- 32-64 GB RAM
- NVIDIA RTX 4070 or better
- NVMe SSD



SOFTWARE REQUIREMENTS

- Windows 10/11
- OpenGL / DirectX compatible
- No cloud connection
- Standalone desktop license



8 IMPORT FORMATS

Again, these need confirmation.

Possible categories

EQUIPMENT

- OBJ

SCENARIOS

- SoldierSim native

REPORTS

- PDF
- CSV
- Excel



9 SCIENTIFIC FOUNDATION

- Physics-based Predictive Dynamics
- Optimization
- Human Strength Models
- Balance
- Anthropometry
- Environmental Models
- Human Physiology



10 VALIDATION

- 23 years of development
- Motion Capture
- Laboratory Testing
- Hundreds of Soldiers and Marines
- 180+ peer-reviewed publications
- Used by the US Military, Singapore Military, and UK military



11 APPLICATIONS

GOVERNMENT

- Procurement
- Acquisition
- Human Systems Integration
- Research



INDUSTRY

- Equipment Design
- Wearables
- Outdoor Products
- Sports Equipment

ACADEMIA

- Research
- Education



12 COMPANY



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BETTER ENGINEERING.
STRONGER SOLDIERS.



USED BY THE
US MILITARY



USED BY THE
SINGAPORE MILITARY



USED BY THE
UK MILITARY