

ANYBODY AnyBody Exporter for SOLIDWORKS™

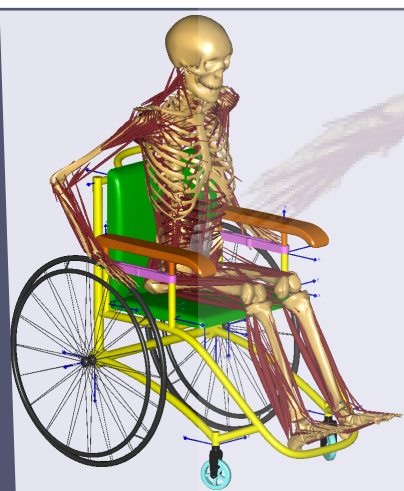
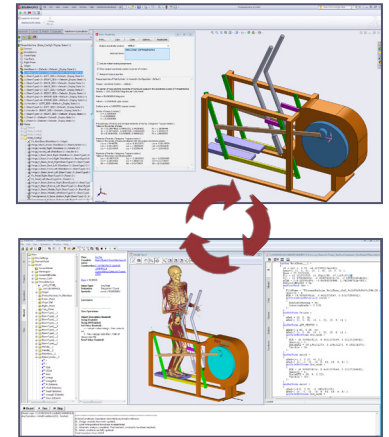
Products with man-machine interfaces such as prostheses, fitness machines, and exoskeletons require significant testing in physical labs to meet the high requirements for function, comfort, and safety. The AnyBody Modeling System enables users to shortcut this process by conducting virtual musculoskeletal modeling tests of designs. The effort needed for this analysis is greatly reduced with the integrated add-in to convert CAD models into AnyBody models.

TRANSFER SOLIDWORKS ASSEMBLIES TO ANYBODY™

AnyBody Exporter for SOLIDWORKS is an add-in for SOLIDWORKS. It translates SOLIDWORKS CAD models into corresponding AnyScript models, incl. mass properties, mate relationships, and color information of the different parts.

HUMAN CENTERED PRODUCT DESIGN

Small changes during the design process can be explored quickly and iteratively with respect to its affect on the musculoskeletal system. The AnyBody Modeling System™ provides detailed information on loading and activations of individual muscles, joint reaction forces throughout the entire body, or reactions on a man-machine interface level.



ADDING THE HUMAN TO THE MODEL

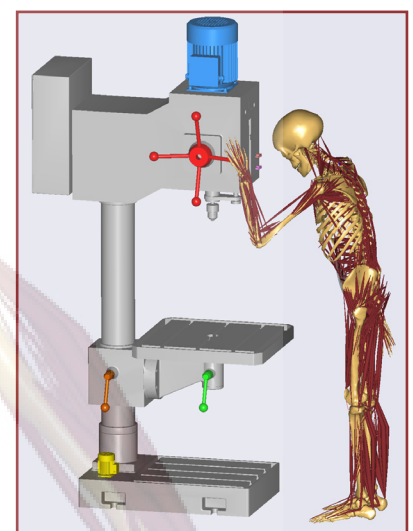
The kinematic connections (constraints) between the human AnyBody model and your assembly model are defined as follows:

1. Define points of contact on the device in SOLIDWORKS (as Reference Coordinate Systems)
2. Transfer your assembly to AnyBody
3. Define corresponding points of contact (as AnyRefNode objects) on the human segments, e.g. hand, foot, pelvis, and thorax

ADD-IN FEATURES

All information about an assembly is organized within the feature tree of SOLIDWORKS. The basic concept of AnyBody Exporter for SOLIDWORKS is to transfer the tree structure of an assembly directly. All information can then be found in the associated tree structure in AnyBody.

- A SOLIDWORKS assembly is converted to an AnyFolder object
- A SOLIDWORKS part is converted to an AnySeg object
- A SOLIDWORKS mate is converted to a combination of several constraints in AnyBody. Mechanical mates are converted to AnyBody Joints



SELECTED APPLICATIONS

- | | |
|-------------------|--|
| Prostheses: | Optimize design to improve patients' comfort and efficiency |
| Fitness machines: | Develop sports equipment for optimal workout of specific muscles |
| Exoskeletons: | Design patient-specific active orthoses |
| Work Ergonomics: | Analyze environments for optimal handling and reduction in accidents |

UNIVERSITIES AND RESEARCH INSTITUTES USING ANYBODY

Asia-Pacific:

- Auckland University of Technology, New Zealand
- Beijing Institute of Technology, China
- Kagoshima University, Japan
- Kansai University, Japan
- Kaohsiung Medical University, Taiwan
- Monash University, Malaysia
- National Rehabilitation Center Korea, South Korea
- National Yang Ming University, Taiwan
- Queensland University of Technology, Australia
- Seoul National University, South Korea
- Shanghai Rehabilitation Research Center, China
- Shanghai University of Sport, China
- Shiga University of Medical Sciences, Japan
- Thammasat University, Thailand

North and South America:

- Clemson University, United States
- Colorado School of Mines, United States
- Laval University, Canada
- Mississippi State University, United States
- North Carolina A&T State University
- San Jose State University, United States
- State University of New York at Buffalo, United States
- Texas Woman's University, United States
- Universidad Andres Bello, Chile
- University of Memphis, United States
- University of Montreal, Canada
- University of Ottawa, Canada

- University of Sao Paulo, Brazil
- University of Waterloo, Canada
- Virginia Polytechnic Institute and State University, United States

Europe:

- ETH Zurich, Switzerland
- Fundació CTM Centre Tecnològic, Spain
- Glasgow Caledonian University, United Kingdom
- Hannover Medical School, Germany
- Mid Sweden University, Sweden
- National Technical University of Athens, Greece
- Northumbria University, United Kingdom
- Oxford University, United Kingdom
- Polytechnic University Bucharest, Romania
- Poznan University of Technology, Poland
- Ruhr University Bochum, Germany
- Russian State University of Physical Education, Russia
- Technikum Wien, Austria
- TU Darmstadt, Germany
- University Lyon 1, France
- University of Aveiro, Portugal
- University of Bern, Switzerland
- University of Hull, United Kingdom
- University of Kassel, Germany
- University of Ljubljana, Slovenia
- University of Luxembourg, Luxembourg
- University of Navarra, Spain
- University of Twente, The Netherlands

...and many more across the world

PUBLICATION LIST

View the comprehensive list of AnyBody publications here: <http://www.anybodytech.com/publications.html>

THE ANYBODY RESEARCH GROUP AT AALBORG UNIVERSITY

AnyBody originated from researchers at Aalborg University, whose biomechanics group is alive and thriving.

"My group participates in numerous international research projects on development and application of biomechanical models. Our working philosophy is to seek the combination of my group's knowledge about biomechanical modeling in general with domain expertise about particular application fields from other groups. This combination of skills very often allows progress much beyond what we could achieve on our own. We are always happy to initiate new collaborations with other groups and individual scientists."

Prof. John Rasmussen, PhD, The AnyBody Research Group, Aalborg University



Prof. John Rasmussen

INTERFACES

The AnyBody Modeling System includes interfaces to leading FE tools, MoCap systems, Matlab, Python and other software packages.

SOFTWARE AND HARDWARE REQUIREMENTS

The AnyBody Modeling System runs on Windows PC computers with Windows Vista, Windows 7, Windows 8.1 or Windows 10 operating systems. All solvers, compilers, algorithms, and models are available in AnyBody. No third-party products are necessary. Hardware with at least 4 GB RAM, a modern 2 GHz or faster 64 bit processor, and a graphics adapter with 128 MB or more dedicated memory with OpenGL 3.0 support is recommended for typical work.