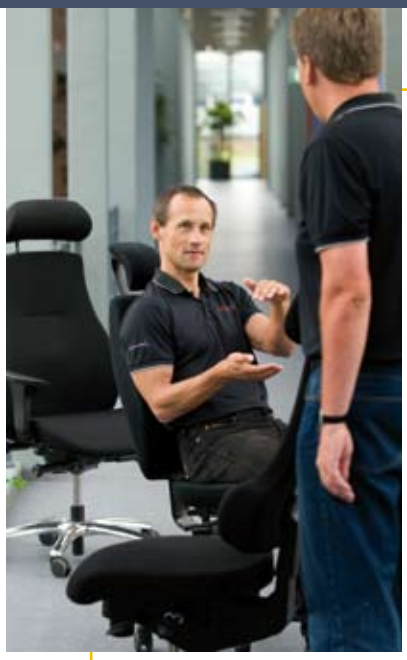
AnyBody™

POWERFUL BODY SIMULATIONS



Creating value with AnyBody

How do you predict the ergonomic quality of a given product design - the comfort of a car interior, an office chair, or a hip prosthesis? The answer comes with **AnyBody**.

AnyBody is enabling industrial R&D organizations to simulate the ergonomic qualities of products by using a detailed 3D computer model of the human body.

With the unique software program the AnyBody Modeling System™, investigations of the human body's interaction with its environment lead to genuine and valuable new insight on ergonomic design issues.

Using **AnyBody** provides an opportunity for the industrial R&D organization to differentiate the ergonomic quality of product designs, accelerate product development, and reduce related costs and time.

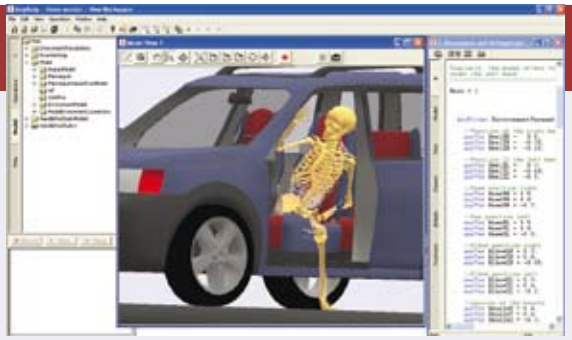
The AnyBody Modeling System™

The AnyBody Modeling System™ is a software solution for simulating the mechanics of the live human body working in concert with its environment.

The environment is defined in terms of external forces and boundary conditions, and the user may impose any kind of posture or motion for the human body - either from scratch or from a set recorded motion data. AnyBody then runs a simulation and calculates the mechanical properties for the body-environment system.

From AnyBody the user can obtain results on individual muscle forces, joint forces and moments, metabolism, elastic energy in tendons, antagonistic muscle actions and much more.

AnyBody can also scale the models to fit to any population from anthropometric data or to any individual. Or, you can parameterize your studies in AnyBody to match product design trade-offs, finding the optimum combination of parameters to fulfill a given purpose.



With the AnyBody Modeling System™ you can:

- Handle body models with unprecedented detail efficiently - 1000+ muscle elements
- Obtain unique knowledge on the kinetics inside the body for a given environment
- Customize your models in the open scripting language AnyScript™
- Solve product design issues by scaling and optimizing parametric models
- Import data from Motion Capture systems to drive AMS™ models
- Export AMS™ data as input to Finite Element models
- Run the software on an ordinary PC

Interfacing

Motion Capture
For processing motion capture data to run in AnyScript™, you can use a C3D-to-AnyScript converter, hereby creating the kinematical drivers to run your model.

Finite Element (FE) modeling
AnyBody provides complete and realistic boundary conditions for FE models acting on bone and implants, e.g. the muscle forces and joint reactions. AnyBody can input to all FE software packages.

PRODUCT FEATURES

Joints
Spherical
Revolute
Cylindrical
Prismatic
Universal
User defined

Muscles
Three element Hill model
Simpler models

Drivers
Interpolation
Polynomial
Fourier
Linear

Loads
Forces
- *Interpolation*
- *User defined*

Moments
- *Interpolation*
- *User defined*

Analysis type
Inverse dynamic simulation:
External load distributed between muscles

Kinematic analysis

Parameter studies

Optimization studies

Results
Muscle activations
Muscle forces
Joint reaction forces
Joint moments
User defined results

Geometry transfer
.STL CAD files as input for visualization

Data transfer
User defined input and output text files with data, e.g. C3D or BVH motion capture data reading.

Examples of application

Aerospace
- Cockpit ergonomics
- High gravity conditions
- Safety assessment
- Emergency task analysis

Aeronautics
- Microgravity counter measures
- Exercise and equipment design

Automotive
- Ingress/egress
- Ergononomic package design
- Cornering/steering

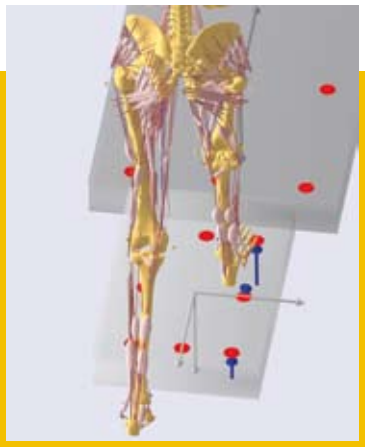
Orthopaedics
- Trauma implants
- Fixation devices
- Prosthetics

Clinical
- Gait analysis
- Surgical planning procedure
- Wheelchair design

Defense
- Endurance optimization
- Equipment ergonomics
- Vehicle ergonomics

Sports equipment and performance
- Sports bats and clubs
- Racing and mountain bikes
- Racing cars and motorbikes
- Exercise design
- Motion analysis

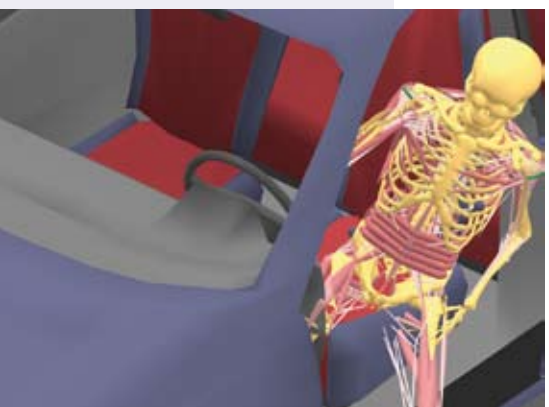
Workplace ergonomics
- Office furniture design
- Assembly line research
- Heavy machinery operating

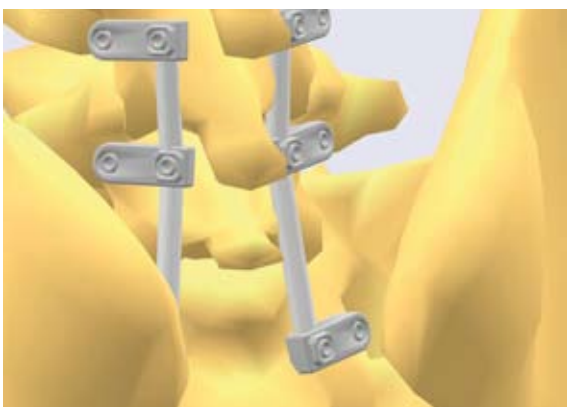


Technical features

AnyBody handles very detailed models on ordinary computers. It is entirely feasible to analyse a model with several hundreds of muscles on an ordinary PC. Models are developed in the body modeling language AnyScript™.

AnyBody uses optimization to solve the muscle recruitment problem by an inverse dynamics principle. Many forward dynamics problems can also be treated.
AnyBody handles both static and dynamic models. **AnyBody** models are fully three-dimensional. **AnyBody** runs on the MS Windows platform.



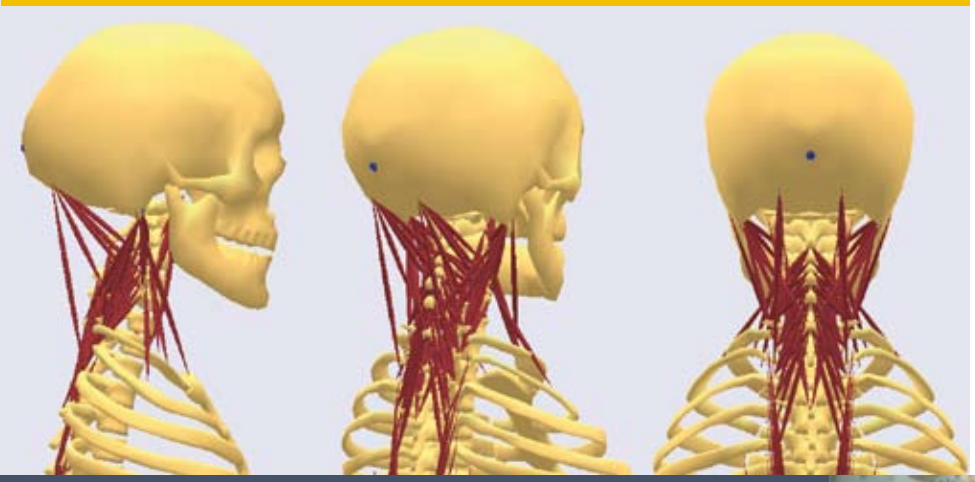


AnyBody Modeling System™ Licenses

The AnyBody Modeling System™ software is licensed to its users. Licenses are perpetual and come with 1 year of Software Maintenance included in the license fee.

Software Maintenance grants users access to updates and version upgrades of the AnyBody Modeling System™. Subscriptions are on an annual basis, or for longer periods of time.

Licenses are available with a discount for academic purposes.



AnyBody Models

AnyBody enables the user to build his own models. But, the user can also draw upon existing model resources from a model repository.

In order to secure that AnyBody users always have the most reliable models to work with, models are shared in an online model library. This allows for continuingly scientific scrutiny and improvement of AnyBody models. Of course, this also provides a great resource for AnyBody model builders.

For companies working with highly classified product development, users may still draw on existing public model resources without having to publish their own model work.

Consulting

AnyBody Technology offers our customers world-class consulting services. These services range from guidance on the formulation of problems, to partially or completely undertaking the modeling, and if desired supplying insights on the problem by analyzing modeling outcomes.

Benefits from our consulting services:

AnyBody Consulting helps you address problems and bring you closer to your objective. We have delivered solutions on specialized human body models and model analysis for major companies in a broad range of industries.

AnyBody Consulting can be a cost-effective alternative to investing in the entire technology set-up yourself. In this case, our consultants will model and analyze according to your specific needs, rendering you able to focus on what you do best.

AnyBody Consulting hooks you up on the latest research on biomechanics and inspires you on development opportunities for your specific business/research area. For challenging problem-solving, our consulting is offered at senior level, at which each consultant holds a Ph.D. degree in biomechanical engineering.

Support

At AnyBody Technology our customers experience the best return on investment when supported directly by our consulting team. Consequently, we offer a Personal Hotline Support that serves you timely and highly qualified support on arising questions and challenges.

Your benefits from our support…

- Our support works as after-sales assistance by e-mail or phone correspondence.
- Our support service is timely, confidential, and we assign the right person for the job, securing the proper competence match.
- Our support fee is conveniently pre-paid in terms of hourly clips, which saves you time in critical situations.

Technical support is available on the Internet from the AnyScript Community. Here you can engage in discussions and benefit from the knowledge and experience of other users of the AnyBody Modeling System™.

Sales and distribution

Contact us directly by phone or email, or go to our website to fill in a Sales Inquiry. (See contact information on the back)

Global distribution

Please go to our website and see who is representing AnyBody in your country.

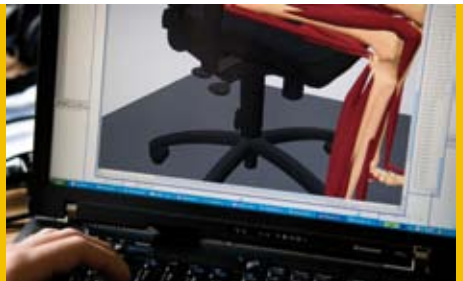
Webcasts

You can tune in on our public webcasts by signing up on our website. Public webcasts are presentations on **AnyBody** related topics followed by Q&A sessions, broadcasted via the web to interested users. Public webcasts are scheduled regularly about 10 times per year, is of 1 hour duration, and participation is free-of-charge. All you need is a PC with a compatible Internet browser.

We are also pleased to offer you a 1-on-1 webcast for a private assessment of how **AnyBody** will be able to add value to your company's R&D. Please inquire for more details.

Demo download

Want to try the AnyBody Modeling System™? Download a fully functional 30 day evaluation version of the software from our website **www.anybodytech.com**.
Hint: Try out the set of tutorials to get a good start!

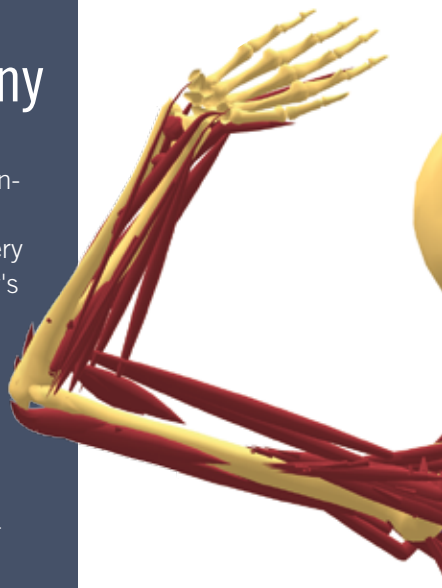


About the company

AnyBody Technology is a true born-global company bringing unique software and competencies to every corner of the world. The company's offices can be found in the city of Aalborg in Denmark.
The company spun off the AnyBody Research Project from the Faculty of Mechanical Engineering at Aalborg University, and today the company still maintains close collaboration with the university.

The AnyBody organization is founded on a corporate culture in which experience, strong individual skills, personal initiative and a deeply rooted sense of responsibility is driving the success of the company. The people behind the company are in friendly terms often referred to as the AnyBuddies.

AnyBuddies in the picture.
Facing camera (right to left):
Arne Kiis (Sales Manager), John Rasmussen (CTO), Casper Gerner Mikkelsen (Business Manager), Per Sondrup (CEO).
With back to camera:
AnyBody Support Team.



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TechNetAlliance

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Learn more from www.technet-alliance.com