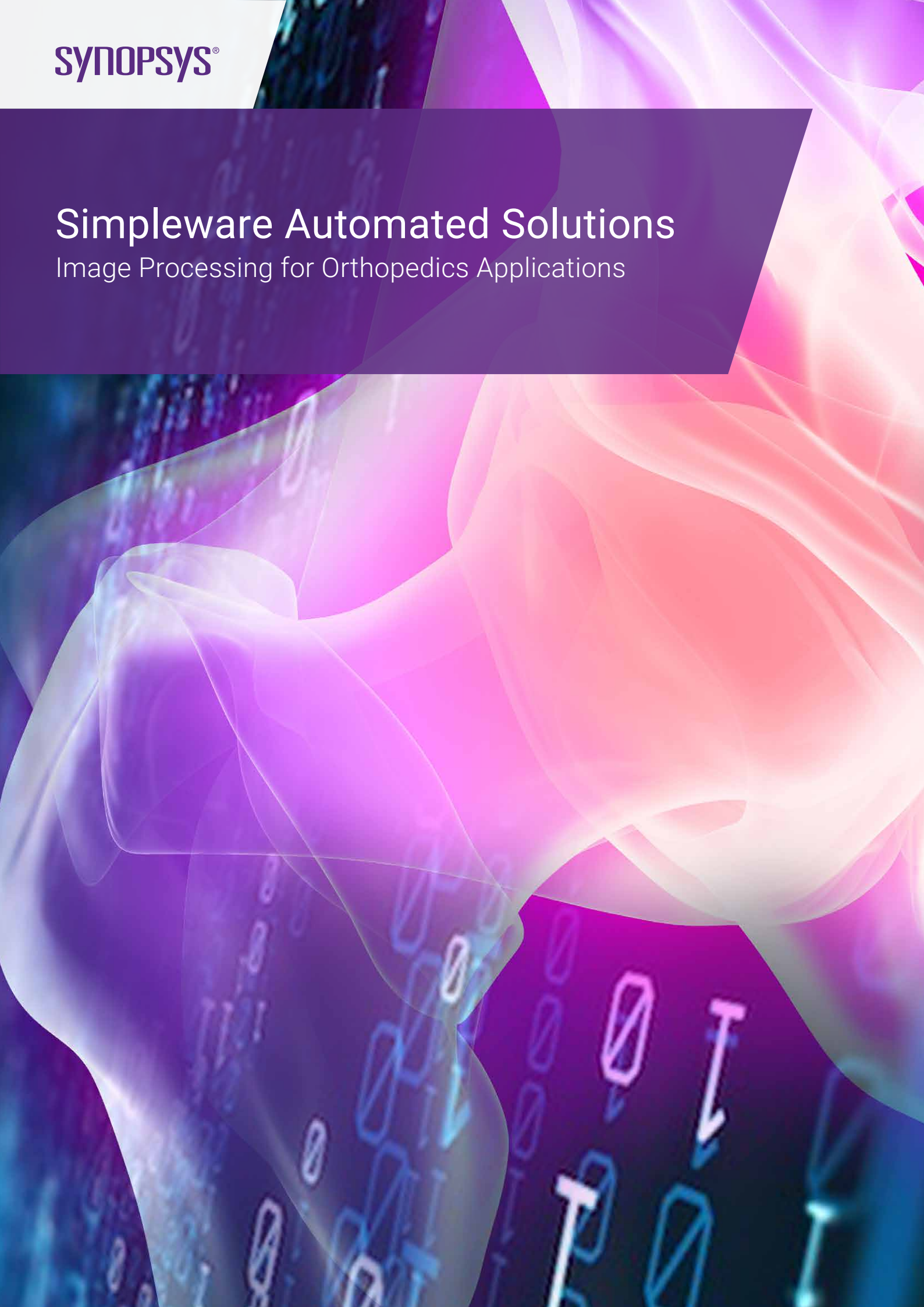


SYNOPSYS®

# Simpleware Automated Solutions

Image Processing for Orthopedics Applications



# Simpleware Automated Solutions

## Significantly Reduce Segmentation Time



### Less Segmentation... More Innovation

- Reduce time spent on tedious manual segmentation
- Free up engineering time for more complex and high-value tasks
- Use Simpleware automated solutions to accelerate your image to model workflow

#### Example dataset: good quality MRI scan of a knee

Novice user:	3 hours
Intermediate skill user:	1.5 hours
Expert user:	40 minutes
Simpleware AS Ortho:	2 minutes (or faster)

## Consistency is Key



### Achieve Consistent and Reliable Results

- Simpleware automated solutions are powered by AI technology using Machine Learning (ML) algorithms
- Simpleware ML algorithms are trained by experts in 3D image segmentation for hundreds of hours
- Segmented anatomies and landmarks are meticulously reviewed, ensuring precise and reliable results
- Eliminate inconsistencies between different users and datasets, reducing the need for multiple reviews
- Shorten the learning curve for new technicians and engineers

## Boost Your Throughput

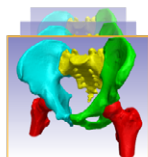


### Efficiently Process Large Numbers of Datasets

- Simpleware automated solutions allow you to scale up quickly and easily
- Process large batches of data 20-50 times faster, whilst achieving highly consistent results
- Reducing time on manual segmentation frees up engineering time for more complex tasks



Simpleware  
Automated Solutions



Quality  
Assurance



Automated Analysis  
& Reporting



Optimized  
Product Design

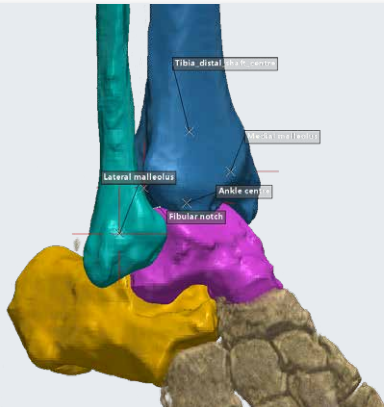


More Time  
for Innovation

# Anatomy-Specific Automated Segmentation

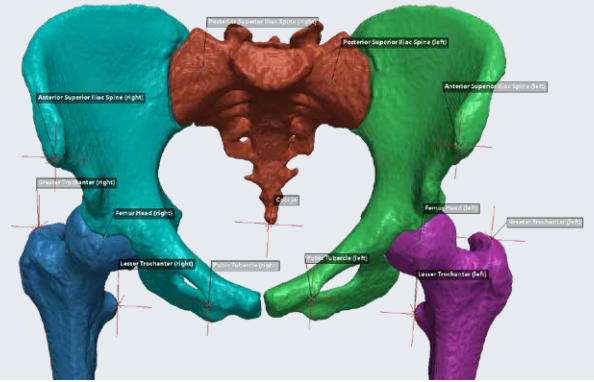
## Simpleware AS Ortho (Auto Segmenter for Orthopedics)

Simpleware AS Ortho provides patient-specific automated segmentation tools for Ankles, Hips, Knees, and Shoulders. It segments the chosen bones and/or cartilage as well as identifying common landmarks in 1-3 minutes using a standard engineering laptop.



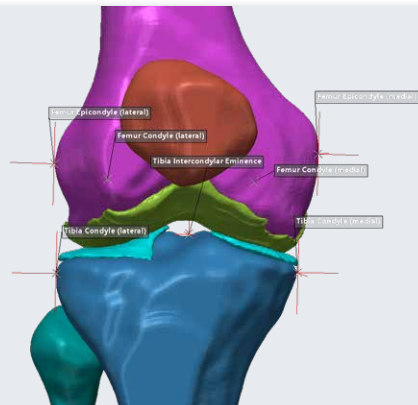
### Ankle CT

- Suitable for use on CT scans
- Parts segmented: Talus, Calcaneus, Tibia, Fibula
- Landmarks placed on: Ankle Center, Fibular Notch, Lateral and Medial Malleolus



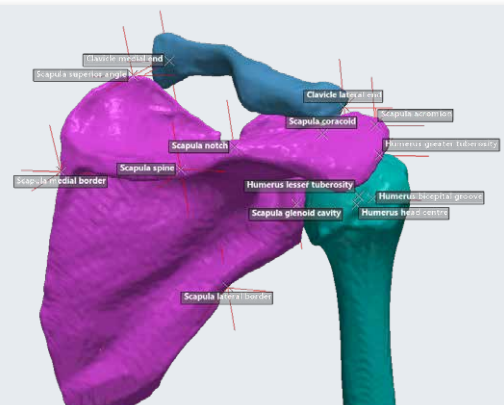
### Hip CT

- Suitable for use on CT scans
- Parts segmented: Promixal Femurs, Pelvis, Sacrum
- Landmarks placed on: Pelvis, Coccyx, and Femurs



### Knee CT & MRI

- Suitable for CT scans (Knee CT) and PD weighted, T1 Coronal and T2 Sagittal MRI scans (Knee MRI)
- Parts segmented: Femur, Tibia, Fibula, Patella, Fabella (only CT), and associated cartilage (only MRI)
- Landmarks placed on Femur, Tibia (both), Patella, and Fibula (only CT)



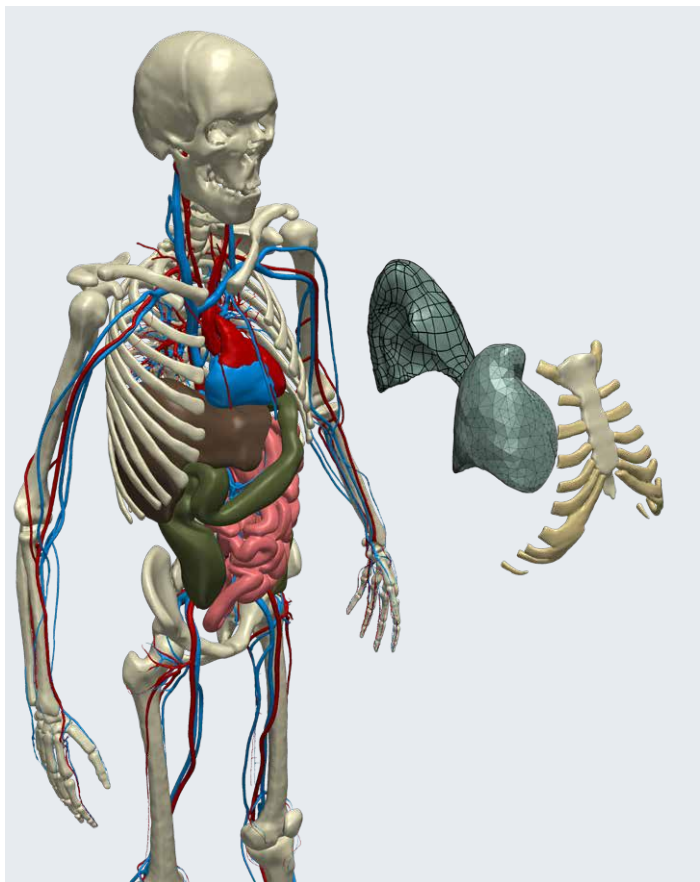
### Shoulder CT

- Suitable for use on CT scans
- Parts segmented: Humerus, Scapula and Clavicle
- Landmarks placed on: Humerus, Scapula and Clavicle



# Working with Different Anatomies?

## Customized AI/ML Solutions with Simpleware Custom Modeler



Simpleware Custom Modeler is an automated solution purpose-built for your needs using problem-specific data and techniques. Harness the power of Simpleware software and our expert engineering knowledge by working with our team to create a tailored solution for your current processes.

**In addition to automated segmentation, your custom solution can include fully automated:**

- Image processing (such as noise reduction, smoothing, or artefact reduction)
- Landmarking
- Measurements and statistics
- Report generation
- Models meshed and ready for 3D printing, CAD or simulation
- And much more...

### **Want to know more?**

Show us your current process and work with our engineers to fulfill your requirements and create a perfect solution.

The software modules in this brochure are intended for non-clinical research use only, and have not been cleared for use as a medical device in accordance with U.S. Food & Drug Administration (FDA) 510(k) or European Union CE marking standards.

For more information, go to [www.synopsys.com/simpleware](http://www.synopsys.com/simpleware)

Email: [simpleware@synopsys.com](mailto:simpleware@synopsys.com)

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Silicon to Software

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