Applied Anthropometry and 3D Human Modelling

Instituto de Biomecanica (IBV) is a non-profit Research Organisation that studies the interaction of the human body with products and environments. Our research activity is gathered into four research groups: Anthropometry, Human Kinematics, Human-Product Interfaces and Health Promotion.

IBV offers the following specialized services in **Anthropometry**:

Ergonomics and Anthropometrics Consultancy Services

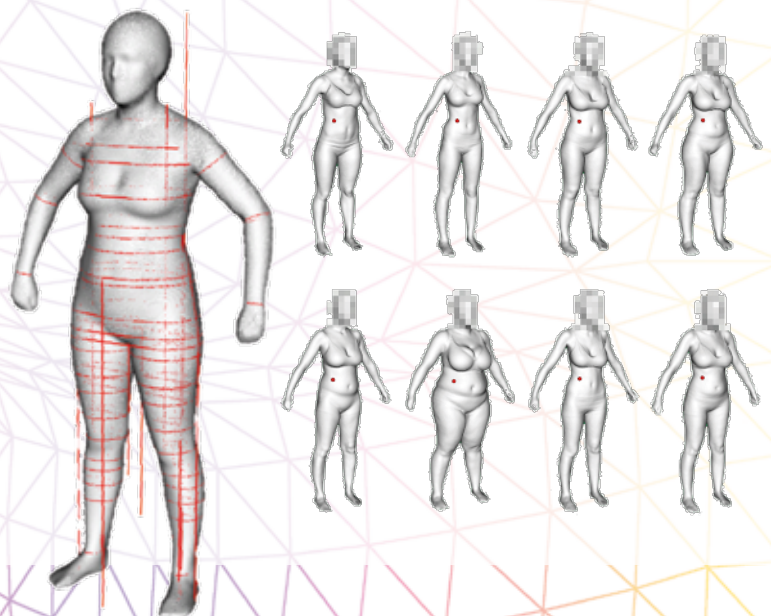For companies from sectors such as automotive, clothing, footwear, furniture, or sports:

- Generation of human body anthropometrical databases (whole body, head, foot, hands, etc.)
- Statistical analysis of body measures and shapes for different population groups
- Consultancy on product design and optimization of sizing systems
- Support in the development of customized products

Advanced 3D body shape analysis tools

Technology transfer and partnership for the development and application of innovative 3D body shape analysis tools:

- Harmonisation of 3D body raw data
- Accurated and automated creation of homologous avatars and statistics avatars
- 3D avatar generation from body measures
- Digital measuring tape
- Skeleton Rigging and Kinematics
- Sizing recommendation systems

Smartphone 3D scanning technologies

Cutting-edge technology for easy and quick body scanning with a smartphone to support innovative business models based on user anthropometry.

Mathematical body models developed from extensive databases allow the accurate 3D reconstruction of whole human body and body parts.
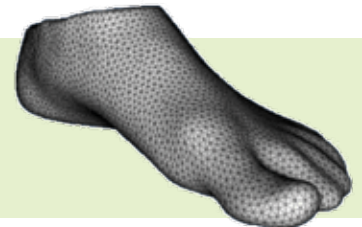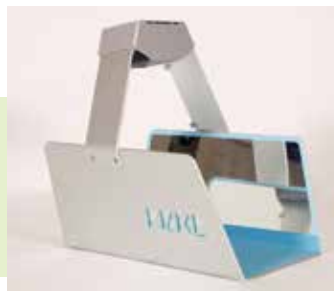
- **3D foot scanning app**: a smart mobile application to capture the 3D shape of the foot with only three pictures.

- **3D whole body scanning app**: mobile application for capturing the body shape with two pictures.

- **Low cost in-shop scanner**: based on the same technology, it captures the foot in 3D, achieving an excellent user experience at the retail.

Solutions for high resolution 3D anthropometry capture

Customized solutions for companies based on high resolution 3D scanners for different applications:

- **3D face scanning**: based on passive stereo scanning, acquires the 3D geometry of the face with high accuracy including the texture.

- **Shapescan 100/IBV**: a laser scanner that provides an accurate 3D measure of the foot plant to design insoles.