Available Hardware:

For medical monitoring

- Portable Patient Monitor
  (http://www.usa.philips.com/healthcare/product/HC865040/intellivue-mp2-wearable-patient-monitor)
  Type: Philips® IntelliVue MP2 with
  - IEC Standard 5-lead ECG
  - Blood pressure (arm cuff)
  - SpO2 (fingertip)

For scientific purposes

- Continuous non-invasive beat-to-beat blood pressure measurement
  Type: Finapres Medical Systems® Finometer MIDI
  (http://www.finapres.com/Products/Finometer-MIDI)

- Multi-purpose data acquisition system
  Type: BIOPAC® MP150 (http://www.biopac.com/data-acquisition-analysis-system-mp150-system-windows)
  with AcqKnowledge Acquisition & Analysis Software (ver4.3). Sample rate for ECG, NIBP and ICG is 2000Hz
  - BIOPAC1
    16 analog and 16 digital channels
    - Wireless ECG-Module
      - ECG
    - Wireless NICO-Module
      - Z0th; dZth
    - NIBP
    - Accelerometer
      - gX, gY, gZ
    - Sled pos.
    - 8 spare channels
  - BIOPAC2
    16 analog and 16 digital channels
    - Vibration plate: FRQ
    - Ergometer
      - PWR; RPM
    - Forceplate left
      - (Mx, My, Mz); (Fx, Fy, Fz)
    - Forceplate right
      - (Mx, My, Mz); (Fx, Fy, Fz)
    - 1 spare channel
- **Motion Capturing System**
  - 0.3 Megapixels Resolution
  - 240 fps at full resolution
  - Near-infrared

- **Bicycle Ergometer**
    - Minimum load: 7 Watt
    - Maximum load: 1000 Watt
    - Minimum load increment: 1 Watt
    - Local control from nacelle
    - Remote control from experiment operator's console
    - Option: pedal forces, heartrate controlled load

- **Force Plate**
  Two Types of Force plates are available
  1. Type AMTI® BP200400 (400 mm x 200 mm)
     - Triaxial (forces and movements along X, Y and Z axes)
     - Fx, Fy, Fz hysteresis: ± 0.2% Full Scale Output
     - Fx, Fy, Fz non-linearity: ± 0.2% Full Scale Output
  2. Type AMTI® BP400600 (600 mm x 400 mm)
     - Triaxial (forces and movements along X, Y and Z axes)
     - Fx, Fy, Fz hysteresis: ± 0.2% Full Scale Output
     - Fx, Fy, Fz non-linearity: ± 0.2% Full Scale Output

- **Vibration platform**
  - Dimension footplate: 710 mm x 502 mm
  - Side-alternating from 0.5 Hz to 30 Hz (0.5 Hz Steps)
  - Amplitude up to ± 5.8 mm
  - Maximum subject weight (@ 1g): 200 kg
  - Raiser Module for Fore-foot training
  - Remote control from experiment operator's console

- **Ultrasound system**
  - Vascular Module including
    - Quality intima media thickness (RFQIMT)
    - Quality Arterial Stiffness (RFQAS)
- Cardio Module
- B-, CF-, MF- and PW Mode
- Probes: ESATOÉ® SL 3323 Linear Array and SP 3630 Cardio Probe

- Robotic arm
  Type: Custom made from Ferrobotics® with Schunk® Powerball
  - 6 degrees of freedom (x,y,z,α,β,γ)
  - Motion speed x,y-axis: 1 to 10 mm/sec
  - Motion speed α,β,γ-axis: 0.1°/sec to 2°/sec
  - Maximum contact pressure to skin (z-axis): 100 N
  - Maximum weight of tool for tool center point: 5000 g

- Jumping sledges
  Two devices are available

1. Jumping plate (custom made by AMST®)
   - Light-weight construction <12 kg
   - Movements in Gz direction with an amplitude of 900 mm
   - Measurement of lateral forces

2. Jumping plate (custom made by AMST®)
   - Light-weight construction <5 kg
   - Movements in Gz direction with an amplitude of 600 mm
   - Rotation around the lateral axis for better ergonomic movement (e.g. squats)
   - Visual guidance system