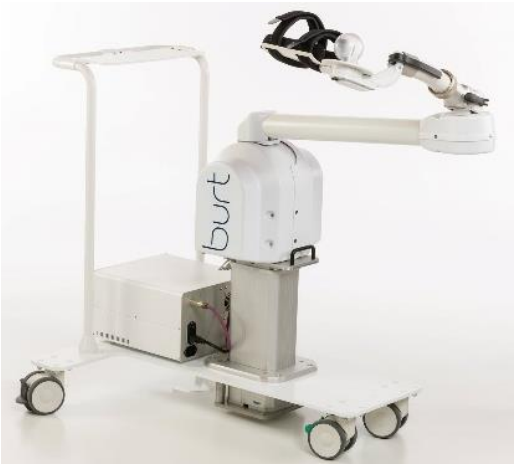
burt RESEARCH

Barrett Upper-extremity Robotic Trainer
FORMALLY KNOWN AS "PROFICIO"

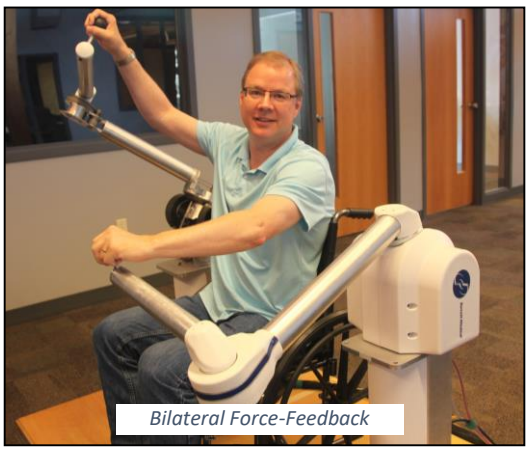
Robot-Assisted Rehabilitation Training & Research
Simulated Virtual and Haptic Environments
Human-Robot Interaction Research

Barrett Technology, LLC >> *73 Chapel Street, Newton, MA 02458 USA* **>> TEL +1 617 252-9000 >> robot@barrett.com**

BURT is the world's first advanced and affordable end-effector robotic manipulator for upper-extremity rehabilitation training and robotics research, which is based on the proven WAM technology developed by Barrett Technology. With transparent dynamics, low inertia and mass, BURT is designed to be the haptic device of choice for those who desire high-fidelity force feedback throughout a human-sized work volume. BURT offers researchers with new hardware and software modalities necessary for robotics research.



SPECIFICATIONS		
Power Requirements	Single-phase 110/220V 50-60Hz	
Reach	1.05 m	
Workspace	0.96 m^3	
Dynamic mass	9.5 kg	
Total mass	80 kg	
Max force	45 N	(Safety-limited)
Max velocity	1.5 m/s	(Safety-limited)
Ambient operating temperature	15-35 C	


Bilateral Force-Feedback

Applications

- Neurorehabilition research
- Sensorimotor training
- Vocational therapy
- Haptically-enabled control
- Human-machine interaction
- Workspace/Force scaling
- Master-Slave and Teleoperation
- Virtual Reality and exergaming

Hardware features

- 3-DOF robotic manipulator
- Backdrivable gearless transmissions
- Forearm cuff end-effector supports the human arm
- Easy handedness switching & subject setup
- Adjustable lifting-column height
- Lockable caster wheels
- Bilateral (2-systems) capable
- Custom endpoints *(contact support)*

Software Tools

- Medical software and engaging exergames
- *MonoDevelop and Unity* Integrated development environments
- *Open source libraries:*
  - ***BurtSharp (C#) control library*** for development of custom BURT applications
  - ***BurtSharp-Unity extension library*** for development of virtual and haptic simulations
  - Well-documented ***examples*** offer easy-to-learn ***control*** and ***haptic*** *functionalities*
- Safety System regulates force, torque, and velocity outputs for safe use
- Software and Firmware updates over the internet

Workspace: Front, Side, and Top View.
Dark area: Human reach, Light area: Robot reach

**** The BURT Research system is for research use only. This system is not a medical device ****

Research: http://www.barrett.com/
http://support.barrett.com/wiki/Therapy
Medical: https://www.burttherapy.com/

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