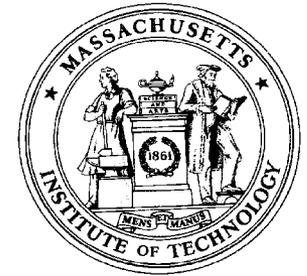


Platform Technology in Prosthetics



18 November 2003

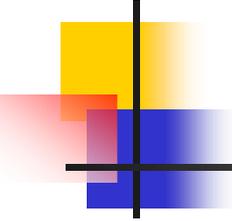
Hermano Igo Krebs, chair

Steven Gard,

Matt McCambridge,

Hugh Herr,

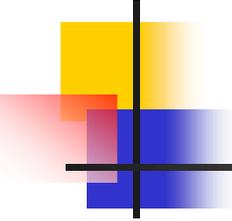
Jackie Schmit



Platform Technology in Prosthetics

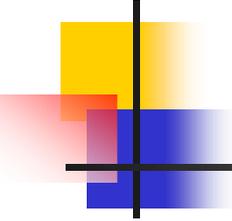
- Aug 2003 – RFP to install two RE Technology Centers
 - Only two applications
 - One off the mark.
 - No comments on the quality of the other proposal.

- QUESTION: WHY?



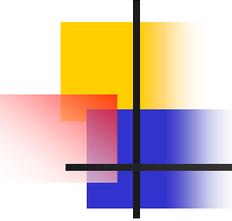
Answer

- There is no adequate expertise within the VA system to support two state-of-the-art Research Engineering Centers in prosthetics.
- The VA is not an “engineering powerhouse.”



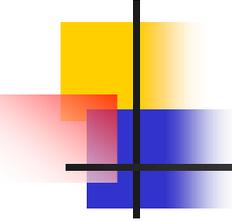
Solution

- To complement VA set of skills – partner with strong engineering credentials.
 - Engineering schools
 - Companies



Implementation Problem

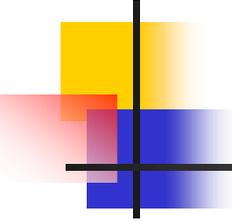
- Intramural funding scheme prevents the VA from supporting a non-VA partner in an “open-ended collaboration” like an Engineering Research Center.
- VA R&D does not support graduate students.



Implementation Solution 1

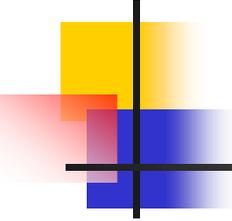
- Pinpoint a project with specific duration and goals and enroll the non-VA as a subcontract.

- Con:
 - it will not develop state-of-the-art Rehabilitation Engineering Centers.
 - Won't develop critical mass



Implementation Solution 2

- VA creates an Extramural Scheme
- Increase competition



Alternative

Consortium Rehabilitation Robotics

MIT – Engineering

Burke Rehabilitation Hospital – Clinical Skills

MIT & Burke – Science

MIT-MANUS: First of Its Kind



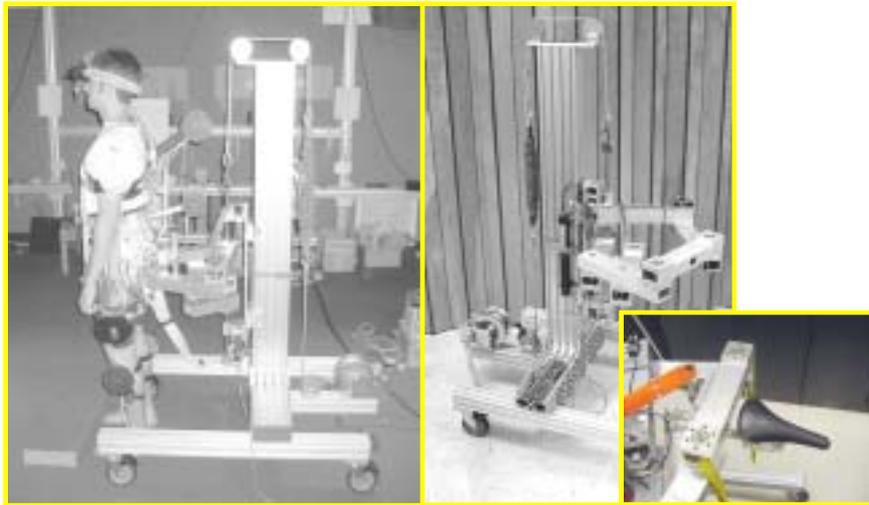
HIK/
Hogan

MIT- Rehab Gym of Future Suite of Upper Extremity Robots

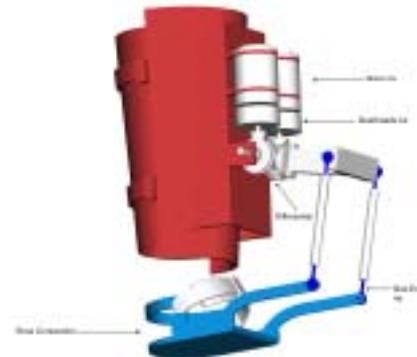


Burke/
Volpe

MIT- Rehab Gym of Future Suite of Lower Extremity Robots



VA Funds/
Baltimore VAMC
Macko & Bever



Tele-rehabilitation



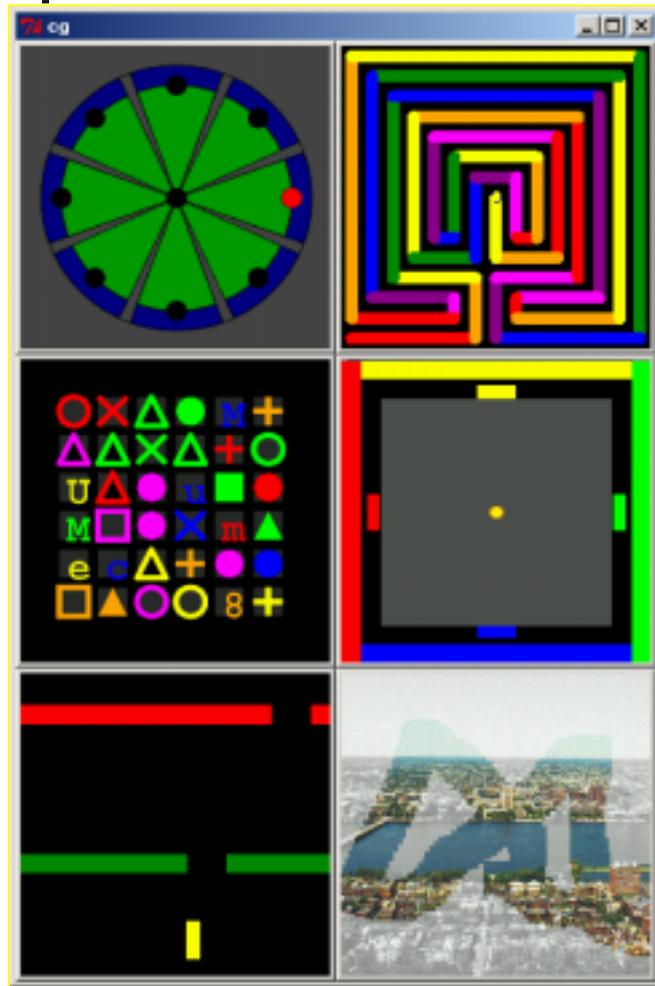
Georgetown/ Craig Carignan

Functional Imaging



MGH/
Rauch

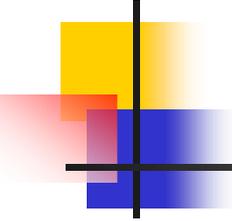
Training is FUN



Rehabilitation Robotics Fast Growth

Overview for upper and lower extremity:
VA - Journal Rehabil Res Dev, 37:6, 2000





Implementation Solution 3

- Take the best of each organization
- Monies: VA + NIH or Army or DARPA
- VA funds clinical work and science
- NIH funds non-VA partner

Competitive grants