

Transfer of Technology Solutions to the Marketplace for Persons with Disabilities

**FLC Mid-Atlantic Regional Meeting
September 14-16, 2004**

Steve Bauer

Rehabilitation Engineering Research Centers

- Sponsor - Department of Education / NIDRR
- About 20 RERC
 - Aging, Hearing, Vision, Communication, Cognition, Prosthetics & Orthotics, Land Mine Survivors, Mobility...
 - Telerehabilitation, Telecommunications, Information Technology, Mobile Wireless Communication...
- National Centers
- 5 Year Funding Cycles
- About \$1 million per Year

RERC on Technology Transfer

- Objectives
 - Move new, useful, more effective products to market
 - Benefit people with disabilities and the elderly
 - Research and develop technology transfer methods
 - Provide technical assistance to all RERC
- 4 Research Projects
- 4 Development Projects

T2RERC Research Projects

- R1: Case Studies Project
 - Technology Transfer Best Practices Across RERC, SBIR, STTR, Federal Labs, Universities, T2RERC
 - ★ Seeking “Success Cases” from Federal Labs
 - Leave Card / Contact Joe Lane (joelane@buffalo.edu)
- R2: Public Policy Project
 - Impact of SBIR and STTR Programs, Universities, Federal Labs and T2RERC on A/T Products in the Market
 - ★ Fairly Large Scale SBIR Investment in A/T Industry
 - ★ SBIR Awards Provide Excellent Window on A/T Industry

T2RERC Research Projects

- R3: Market Research Project
 - Primary and Secondary Market Research; Disseminate to A/T Manufacturers; Evaluate Impact
 - Strategic Planning, Product Development, SBIR/STTR Grant Development, Product Marketing, Attracting Investor Capital, Reference... New/Improved A/T Products in Marketplace
- ★ Industry Profiles
 - Vision [[TOC](#)], Communication, Hearing, Mobility, Ed. Tech [?]
 - Free to Study Participants... For Sale Otherwise [\$50-\$100]
 - Leave Card / Contact Wendy Strobel (wstrobel@buffalo.edu)



T2RERC Development Projects

- D1: Supply Push
 - Locate and solicit promising technologies (Supply)
 - Patent Search [Ex. Wheelchair Braking System], Design Competitions [Ex. Bumpa Coloring Book], Universities [Ex. PDA Magnifier], Inventors [Ex. Expanded Keyboard] ...
 - Add Value, Identify and Overcome Barriers...
 - Transfer technology (Push)
 - Standard Licensing
 - ★ Market Cultivation [Ex. Accessible Bathroom Suite]
 - ★ E-Commerce [Ex. Dynamic Living]

T2RERC Development Projects

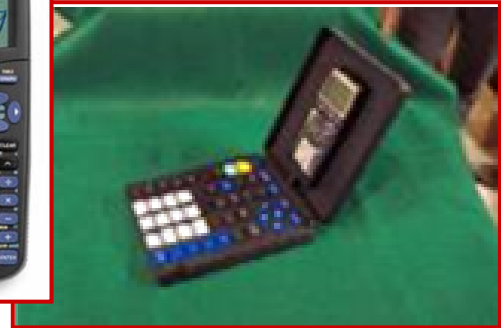
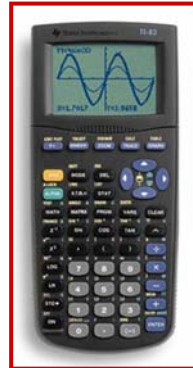
- D2: Demand Pull
 - Identify Critical Needs of Disability Market Segment (Demand)
 - ★ Primary [Interviews, Focus Groups, Stakeholders Forum] and Secondary Market Research [Industry Profiles]
 - (Pull) Locate and Solicit Technology Solutions (Pull)
 - Internet, Trade and Technical Publications
 - ★ Collaborative [University TTO, Federal Labs]
 - Add Value, Identify and Overcome Barriers
 - Transfer Technology
 - Licensing [Ex. PowerCheq™]
 - ★ Collaborative SBIR Development [Ex. Henter Math, Anthrotronix]

- ★ Proceedings for the Stakeholders Forum
 - Vision, Communication, Hearing, Mobility, Educ. Tech. [?]

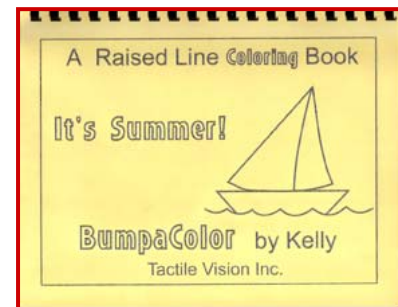


T2RERC Development Projects

- D3: Fortune 500 Project
 - ★ Work with Largest US Commercial Manufacturers
 - New Markets, Market Broadening, Market Retention...
 - ★ Add Value
 - Trans-generational (Universal) Design
 - Access to Elderly, People with Disabilities
 - Primary Market Research
 - ★ Manufacturer Develops Product
 - Work with (rather than compete with) manufacturer's design team
 - ★ Three New Projects Since Oct 2003 [Ex. Black & Decker Jar Opener]



PowerCheq™
Battery String
Equalizer



RERC-FLC Collaboration

- T2RERC Demand Pull Project
 - FLC Representation: MA, NE, SE and FW Regions
 - Dissemination
 - NASA Technical Briefs (Ex. [August 2000](#))
 - FLC NEWSLink Articles (Ex. [March 2004](#))
 - Joint / Invited Presentations (many)
- Other RERC Projects
 - Tech Watch Project [RERC on Communication Enhancement]
- Internet
 - Assistive Technology Pages on National FLC website
 - Various Links Between RERC and FLC websites
- Conference Presentations
 - Dave Appler, Ed Linsenmeyer, Kevin Caves, Matt Bakke, Joe Lane...

Project Inception (10/98)

Industry Profile (1/99)

★ Stakeholders Forum (6/99)

Problem Statements (8/99)

★ Mailing to 350 Federal Labs (10/99)

Proceedings (11/99)

★ FLC NEWSLink and Website (12/99)

FLC Locator Service (12/99) ★

★ Flyers and Presentation at
FLC National Convention (5/00)

NASA Technical Briefs (7/00) ★

★ Power Designers Proposal Received (9/00)
[NASA Tech Brief: Readers Forum]

Commercialization Package (1/01)

Power Designers First Contact (3/01)

Power Designers Product Testing (6/01)

Amigo first PowerCheq™ order (10/01)

Amigo Scooter with PowerCheq™ (12/01)

Opportunity

- RERC on Technology Transfer as Partner
 - Market Needs
 - Technology Needs
 - Access to Manufacturer
 - A/T and Mainstream
 - Large, Small; High Tech, Low Tech
 - Assistive Technology Industry Association Member
 - Experienced Broker
- Significant Markets
 - Mobility, Hearing, Vision... Already Multi- \$Billion
 - ★ Elder...



Opportunity

- A National Study by Microsoft estimated the number of **Working Age Adults** with mild or severe impairments
 - Visual 27.4 M mild, 18.5 M severe
 - Dexterity 31.7 M mild, 12.0 M severe
 - Hearing 32.0 M mild, 4.3 M severe
 - Cognition 29.7 M mild, 3.8 M severe
 - Speech 4.3 M mild, 1.9 M severe
- People aging with and into disability;
- Number and severity of disabilities increases with age;
- Huge market potential for disability products;
- Huge market potential for trans-generational products;

“The Wide Range of Human Abilities”
<http://www.microsoft.com/enable/research/default.aspx>

Finally

- Good Will, Intermittent Effort, Commitment over Time
- Success to Date?
- Same Approaches Done Better
 - Demand Pull Project
- New Approaches
 - Qualified A/T Manufacturer, Specific Technology Needs, Seek Solution in Federal Labs
- Continue Dialog Beyond Yearly Meetings
 - Leave Card / Contact Steve Bauer (smbauer@buffalo.edu)

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- RERC on Technology Transfer
URL: <http://cosmos.buffalo.edu/t2rerc>
Phone: 716-829-3141

T2RERC Development Projects

- Transfers
 - Little Finger Keyboard, Expanded Keyboard, Wheelchair Braking System, Accessible Remote Control, Bumpa Coloring Book, Jar Opener, Toaster Oven, Battery String Equalizer, Point Smart Mouse Driver, Push-Pull Doorknob, PDA Line Reader, Accessible Bathroom Suite, Uplift Seating System...
- In the Pipe
 - Adaptive Motor for WC, Open Earmolds, Hydrogel Earmold Coating, Automated Video Captioning, Tactile Graphic Displays, Geared/Lever Drive WC, Pressure Relief Seating System, Advanced Seating, Illuminated Clothing, Performance Evaluation Software...



Manufacturer Network

- Anthrotronix
- Alimed
- Apple Computer
- Automated Sync Technologies
- Baker and Associates
- Black & Decker
- Datadesk
- Disney
- Dynamic Living
- Helixsphere
- Henter
- Infogrip
- Integra Dynamics
- ...
- Kodak
- Koester Performance Research
- Lasco
- Lucite International
- Maddak
- Microsoft
- SculpTek
- Sunrise Medical
- TavTek
- Texas Instruments
- Turning Point
- Uplift Technologies
- WaveCrest Labs
- White Rodgers
- ...



Demand Pull Technology Needs

- Mobility
 - Geared Hubs for MWC
 - Adaptive Motor for PWC
 - Battery Power Monitor
 - Power Management...
- Hearing
 - ALS for Small Group Communication
 - Binaural Hearing Aids
 - Earmold Hydrogel...
- Communication
 - Remote and Dual Displays
 - Multimodal Input Devices...
- Vision
 - Braille and Graphics Continuum
 - Hand-Held Camera with Optical Character Recognition and Voice
 - Route Planning and Navigation...



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