



Workplace Accommodations to Promote Community Integration and Participation

Workshop on Fostering Independence,
Participation and Healthy Aging Through
Technology

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Importance of Workplace Participation for Community Integration

- Support job functions

- Execution of work-related tasks
- Coordination of group/collaborative activities
- Transmission of office culture
- Team building

--- Kraut, Fish, Root, & Chalfonte, 1993; Whittaker, Frohlich & Daly-Jones, 1994

- Enhance work outcomes

- Higher individual and firm productivity
- Increased satisfaction with colleagues and their work
- Less turnover intention

--- Klein, & D'Aunno, 1986; Pearce, & Randel., 2004; Young, 1986; Whittaker, Guthrie, 2001

Accommodations 101:

WHY WORKPLACE ACCOMMODATIONS?



Mandated by ADA/ADAA

Environment	Regulated	Approach
Public Facilities	Mandated in Title III	Technical requirements
Workplace	Mandated in Title I	Reasonable accommodations
Housing	Not Mandated	Home modifications

Definition of Reasonable Accommodation

“Any change in the work environment or in the way things are customarily done that enables an individual with a disability to enjoy equal employment opportunities.” (Source: EEOC)

- changes to a job application process that enable a qualified applicant with a disability to be considered for the position;
- changes that enable an employee with a disability to enjoy equal benefits & privileges of employment as others;
- changes to the work environment or way in which work is customarily performed, that enable a qualified individual with a disability to perform the essential functions of that position.

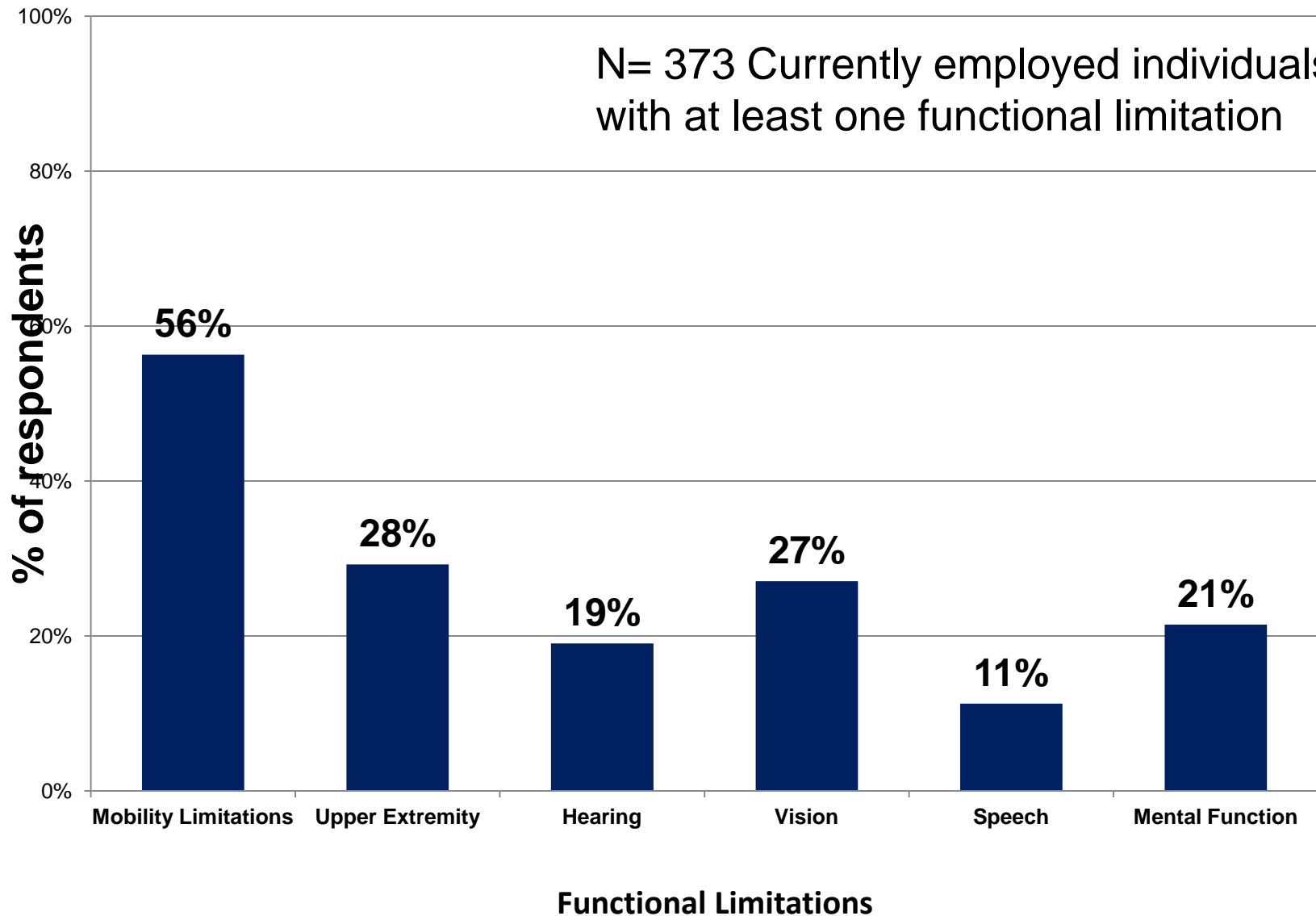
--- EEOC Enforcement Guidance on Reasonable Accommodation (ADA)

Workplace Accommodations:

USE OF TECHNOLOGY

Online Survey

N= 373 Currently employed individuals
with at least one functional limitation



Accommodations: Vision Limitations

<i>Groups</i>	<i>Accessible Documents (OCR)</i>	<i>Reading Guides / Aids</i>	<i>Braille Display</i>	<i>None Provided</i>
18 - 54	10%	14%	7%	12%
55 - 64	7%	7%	4%	17%
65+	0%	0%	0%	50%

Typical Accommodations: Reading aids, electronic media, scanner, magnifier, enlarged print, Braille, CCTV, anti-glare devices, new display, more light, assistant provided, redesign job

Accommodations: Hearing Limitations

Groups	<i>Hearing Aids</i>	<i>Communicate via Written Information</i>	<i>Communicate with Devices</i>	<i>Sign Language</i>	<i>None Provided</i>
18 - 54	29%	17%	14%	12%	21%
55 - 64	39%	19%	15%	6%	12%
65+	39%	14%	14%	0%	17%

Typical Accommodations: hearing aid, written communication, communication device, sign language, ear protection, redesign job, provide assistant

Accommodations: Cognitive Limitations

<i>Groups</i>	<i>Checklists</i>	<i>Reminder Devices</i>	<i>Timers</i>	<i>None Provided</i>
18 - 54	25%	22%	7%	32%
55 - 64	26%	10%	10%	42%
65+	25%	12%	12%	50%

Typical Accommodations: checklists, reminder devices, timers, job coach, assistant provided, redesign job

Accommodations: Mobility Limitations

Groups	<i>Modify Workstation</i>	<i>Ergonomic Chairs</i>	<i>Steps or Lifts</i>	<i>None Provided</i>
18 - 54	24%	20%	13%	43%
55 - 64	25%	25%	5%	45%
65+	14%	29%	21%	36%



Accommodations: Dexterity Limitations

<i>Groups</i>	<i>Buddy System</i>	<i>Assistant</i>	<i>Equipment Modifications</i>	<i>Gripping Aids</i>	<i>Carts</i>
18 - 54	14%	12%	11%	11%	6%
55 - 64	21%	11%	5%	4%	14%
65+	7%	14%	7%	7%	21%

Typical Accommodations: equipment modifications, gripping aids, cart, custom devices, clamping devices, leverage aids, lifts, hoists, measuring tools, buddy system, assistant, job redesign

Impact of Modifications

Functional Limitation	Importance	Satisfaction
Mobility	2.1	1.7
Upper Extremity	2.3	1.9
Hearing	2.0	2.0
Visions	2.1	1.9
Speech	2.0	1.4
Mental Function	2.2	1.7

3-point Likert scale; max=3

Summary of Use of Technology

- Accommodations are important, even if individuals are not as satisfied with them
- Technology often varies by age
 - Older adults less likely to get big ticket items such as modified workstations and accessible transportation (except hearing aids)
 - Receiving no accommodations consistently increases with age (except accommodations for hearing loss)

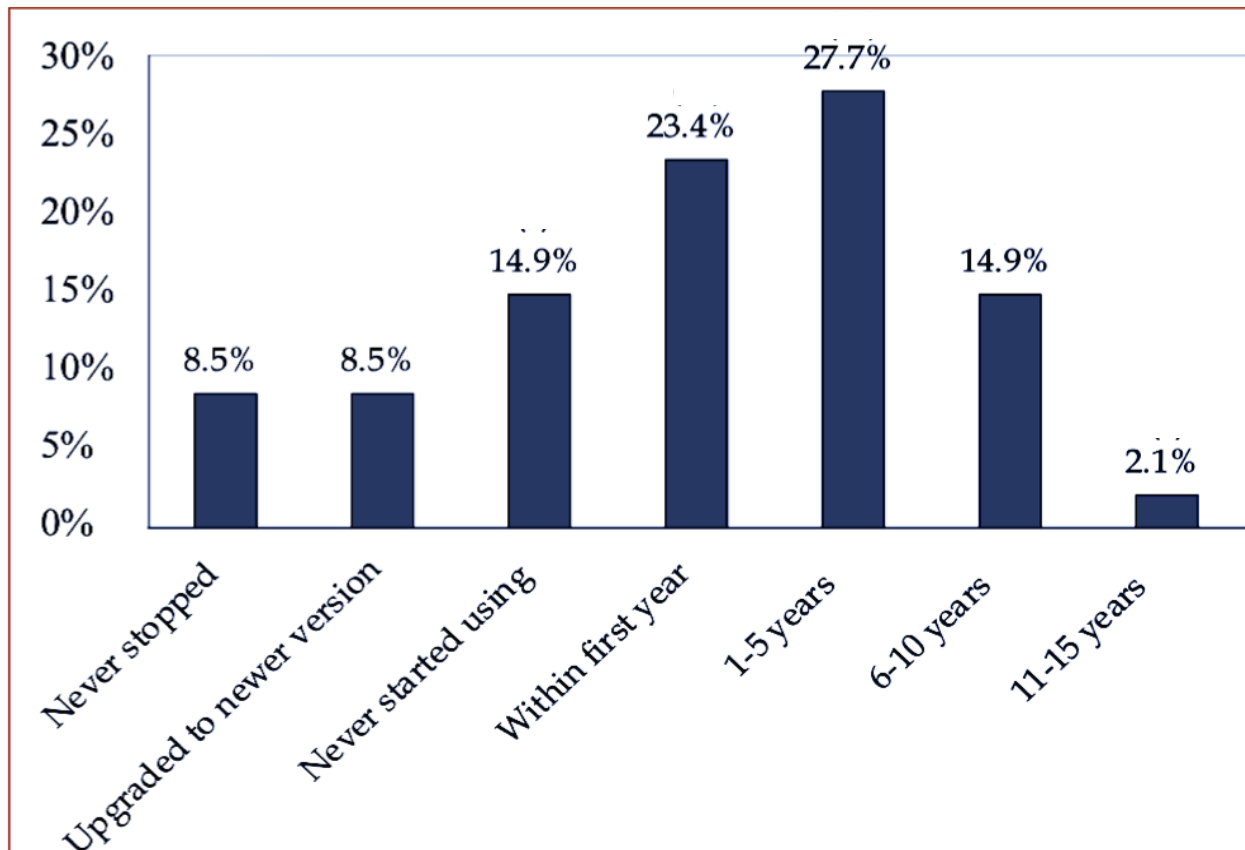
Trouble in Paradise:

ABANDONMENT OF TECHNOLOGY

Reasons for Abandonment

- 1/3 left job and left accommodations behind because they couldn't take them (and they were probably useless to other employees)
- 1/3 outdated technology

Abandonment/Longevity of Use



- 38% never used or discontinued use within 1 yr
- 66% discontinued use within 5 yrs

Telephone Survey with 54 GA VR Clients

Trouble in Paradigms:

**BARRIERS TO INTEGRATION AND
PARTICIPATION**

Barriers to Participation

- Obvious Barriers to Obtaining Technology
 - Attitudes
 - Awareness
 - Accessibility
 - Availability
 - Acceptance
 - Affordability
- Hidden Barriers to Obtaining all the Right Technology
 - Activity
 - Accessibility
 - ADA

Workplace Activity vs. Participation

Activity

Participation

Operational Definition

- Execution of individual tasks

- A shared experience that creates a sense of belonging

Accommodations:

- Engaging in job tasks by oneself or with others

- Engaging in interactions and work experiences

Examples

- Screen readers, assistive listening system, access to one's workstation



- Access to others' workstations and informal conversations, meetings and social events



Measure of success

- Independence, quality, efficiency, productivity

- Sense of belonging & inclusion, recognition

Stuck in an ADA Paradigm

ADA



Accommodations for
work tasks



Activity Performance



Participation



20th Century paradigm: Inclusion
(participation) follows function

ICF



Accommodations for
work tasks



Activity Performance

Accommodations for
inclusive interactions



Participation



21st Century paradigm: Activity and participation are linked, but
Independent and equally important outcomes

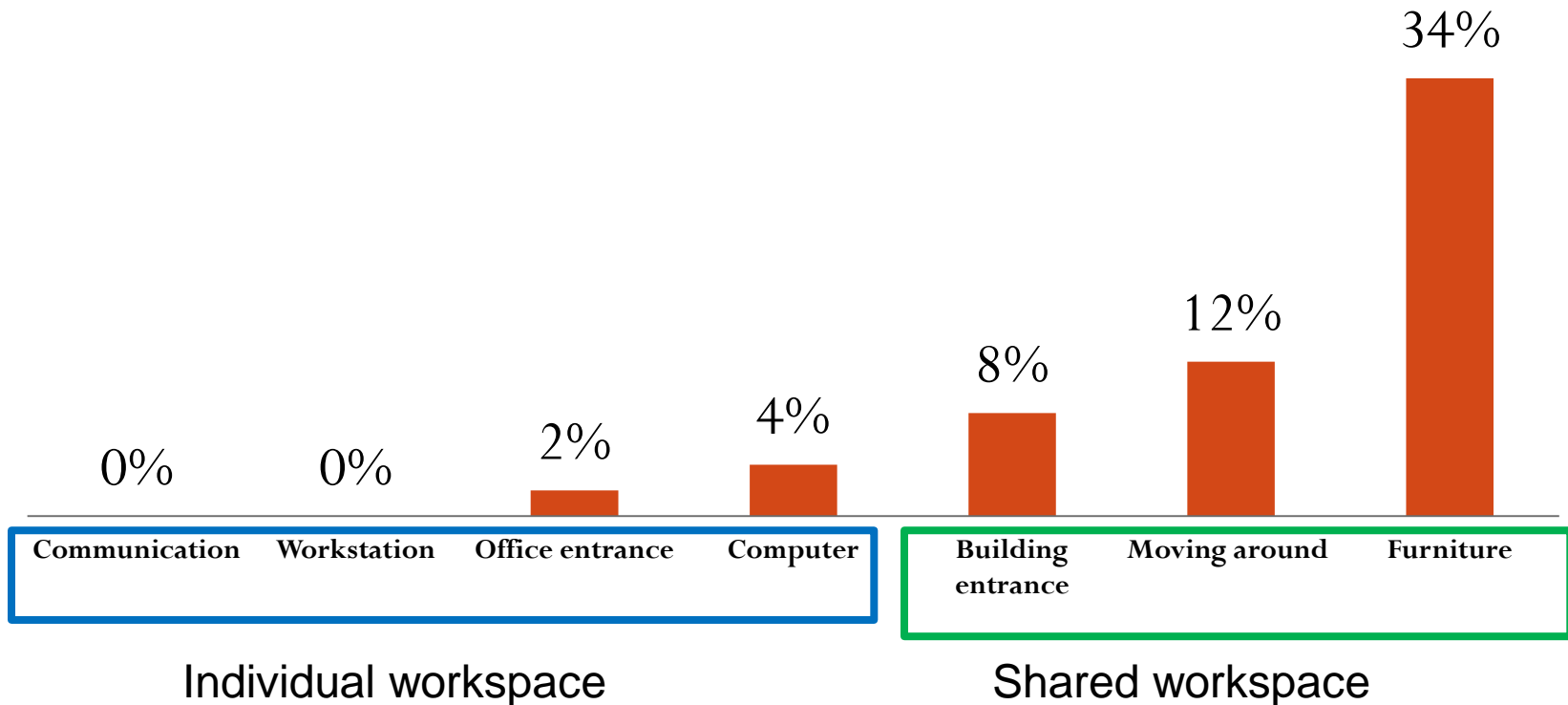
Comparison of Met/Unmet Accommodation Needs

Unmet needs in the individual workspace = **3/50** employees w/ disabilities

Unmet needs in the shared workspace = **25/50** employees w/ disabilities

Significant differences between individual and shared workspaces

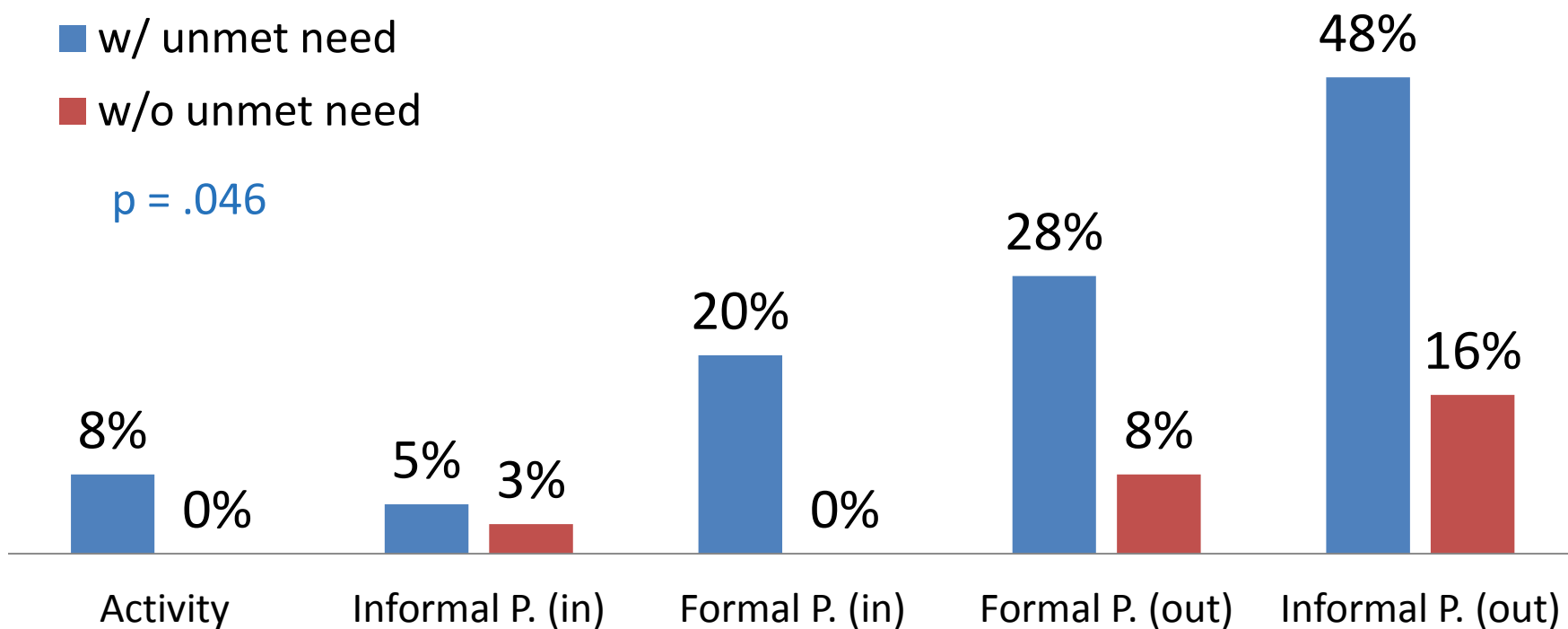
(**p=.000**)



Level of Dissatisfaction with Activity and Participation Outcomes

■ w/ unmet need
■ w/o unmet need

p = .046



Impact of Met Accommodation Needs on Work Outcomes

	<u>w/ met</u> vs. <u>w/o</u> met needs
Activity Performance Outcomes	
Performance & efficiency	N.S.
Workplace Participation Outcomes	
Formal (e.g. meetings, conferences)	.014
Informal (e.g. chatting, social events)	.016
Overall opportunity	.005

	<u>w/ unmet needs</u> vs. w/o disabilities	<u>w/ met needs</u> vs. w/o disabilities
Activity Performance Outcomes		
Performance & efficiency	N.S.	N.S.
Workplace Participation Outcomes		
Formal (e.g. meetings, conferences)	.003	N.S.
Informal (e.g. chatting, social events)	.004	N.S.

Policy Implications

- Evidence suggests that ADA assumptions about activity leading to participation have not be supported.
- As suggested by the ICF, activity and participation are independent constructs and that each requires different types of technologies for accommodation.
- Requires a paradigm shift from providing technologies to accommodate activity to technologies that will facilitate both activity and participation.

Promoting Participation:

**EMERGING COMMUNICATION
TECHNOLOGIES**

State of the Science Conference

Theme: The potential of emerging technologies to increase the participation of employees with disabilities in the workplace

Technology Areas:

- Robotics
- Social Media/Collaborative Tools
- Gaming / Virtual Worlds
- Augmented Reality
- Universal Design



Robotics

- Telepresence Robots
 - Brings remote workers in collaborative teams together
 - Remote job coaching and training – monitor; provide verbal/video cues
 - Monitor multiple people in multiple locations



Collaborative Software/Social Media

- Collaboration software is invaluable to teams distributed across geographies and work groups/divisions
- Social media / web-based communities (e.g., Facebook, Twitter) can enhance work-related social interaction, social inclusion and networking, especially for teleworkers
- Does not recognize disability
- Examples: Lotus Connections, an accessible platform with online communities, blogs, wikis, file-sharing, etc.
 - All employees use these tools -- may not realize that more coworkers have a disability



Gaming Platforms / Virtual Worlds

- Gaming platforms used for training
 - Engaging way to practice repetitive exercises or skills
 - Effective for training larger groups of individuals
- Virtual worlds:
 - online simulated environment, in which users can interact, and use and create objects (e.g., Second Life)
 - Already offer education, commerce, social engagement
- Offer collaborative spaces / virtual meetings for telework
 - Users decide how to represent themselves



Augmented Reality

- Involves superimposing content onto a scene that is either in physical space or in a computer-generated (geo-referenced) image
- Use as a navigation tool
- Provide coaching for specific tasks
- Job training – move from virtual reality training, through augmented reality, and onto actual work tasks



Universal Design: Putting technology into the Workplace

- ICF-compatible approach that incorporates AT thinking into **everyday design of products and spaces** to support both activity and participation
- Benefits multiple workers w/ and w/o disabilities across an employees work life and across individuals
 - Reduces amount of time to start or return to work because it would already be in the workplace
 - Reduces need/\$ for individualized technology
 - Reduces abandonment and obsolescence
 - Facilitates group work & promote social inclusion



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Thank you