



Assistive Technology, Accommodations and the Americans with Disabilities Act

What is Assistive Technology (AT?)

Employers make accommodations for all of their employees. A chair, desk, computer, lighting, and safety equipment could all be considered technology accommodations made for employees. Assistive technology is no different; it is simply any item that can assist an individual with a disability to succeed on the job. This brochure provides some definitions and a starting point for finding the right technology to meet the needs of your employees.

Assistive technology was first defined in the Technology-Related Assistance for Individuals with Disabilities Act of 1988 (P.L. 100-407) as “any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.” Examples of assistive technology devices include:

- hearing aids
- ramps that help people get in and around buildings more easily
- wheelchairs
- computer modifications to increase accessibility
- electronic devices that make communication possible
- equipment on the job that has been modified or customized
- remote control devices that turn appliances, computers, lights, radio, etc. on and off
- magnifier, talking books, closed circuit television, Braille note taking computer

Assistive technology services is defined as “any service that directly assists an individual with a disability in the selection, acquisition, or use of an AT device. An AT service can include: (1) evaluation of the AT needs; (2) purchasing, leasing, or acquiring the AT; (3) selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing AT devices; (4) coordination and use of therapies, interventions, or services with AT devices; (5) training or technical assistance for individuals with disabilities, professionals, employers, or other individuals providing services to individuals with disabilities.”

Examples of technology services include:

- getting help to know what devices are available
- getting help to know where to get services
- getting help to determine what devices are needed
- getting help to pay for devices
- getting devices repaired

Assistive technology includes devices and services that help people in their daily lives at home, work, school and the community.

How Can AT Assist in the Implementation of the ADA?

The Americans with Disabilities Act extends full civil rights and equal opportunities to people with disabilities in both the public and private sectors. Specifically, the law prohibits discrimination on the basis of a physical or mental disability in employment, public services, public accommodations, and telecommunications. Assistive technology can play a major role in helping to realize the goals of the ADA.

What are some benefits of AT as it relates to the ADA?

AT can play a critical role in complying with reasonable accommodations. The ADA requires employers to provide reasonable accommodations to qualified persons with disabilities that will enable them to perform the essential functions of jobs held or desired. Providing a reasonable accommodation to a job applicant or an employee with a disability can include the acquisition or modification of equipment or devices. Some AT accommodation examples are:

Sally, born with cerebral palsy, uses an augmentative and alternative communication (AAC) device to talk with her fellow employees and to present speeches at conferences.

Jason was injured in a fall and uses a wheelchair. He continues to work at his office using equipment that is set on lower worktables and has front controls.

Marion, who sustained a head injury from a car accident, uses an electronic notebook to help her complete her day-to-day job-related tasks.

Employers may choose not to hire a qualified individual with a disability because they have a limited understanding or misperception of how the individual can perform the essential functions of the job with the use of AT. In addition, new technologies are consistently being developed, many of which include designs to accommodate individuals with disabilities. Therefore, employers need to realize that, like all workplace technology that consistently gets upgraded and improved, so, too, does AT.

AT can play a vital role in ameliorating unnecessary risks to workers. Under the ADA, employers do not have to hire or employ a person with a disability who poses a direct

threat, i.e., “a significant risk to the health or safety of others that **cannot be eliminated by a reasonable accommodation.**” For example, a store clerk with poor upper body control might use a cart to move heavy supplies rather than carrying them across the store and risk dropping them on others. A craftsman with cerebral palsy might use a low-tech vice grip or clamp to secure and direct a variety of tools and equipment as a way of reducing the risk of injury to co-workers.

Furthermore, an employer does not have to provide an accommodation if it can demonstrate that it would impose an “undue hardship” on its business, that is, a significant difficulty or expense to the current circumstances of the employer’s business. To make this determination, one examines, among other things: the nature and net cost of the accommodation; the number of employees, type of operations and financial resources of the facility and the larger business entity of which it may be a part; and the impact of the accommodation on the operation of the facility. If making the accommodation would impose an undue burden, the employer may offer the person with the disability an opportunity to provide his or her own accommodation or may assist that person in finding resources to pay for the accommodation. If employers think of accommodations as “productivity enhancements” similar to others in the workplace, then they become a cost of doing business.

What Are Some Typical Accommodations Using AT?

A few examples of the types of AT devices and services that provide reasonable accommodations for various types of disabilities are provided below.

Blindness or Low Vision

- Optical character recognition system (also known as a scanner with speech output)
- Text-based web browser with screen reading software or Braille output
- Accessible company websites
- Large-print materials
- Audiotapes
- Qualified reader
- Braille
- Computer with voice output
- Electronic note taker
- Screen magnification product
- CCTV (Closed Circuit Television system)
- Optical magnifier
- Large-print label
- Raised lettering on room labels

Hearing Loss or Deafness

- Certified sign language interpreter
- TTY (Teletype telephone)
- Visual or tactile pagers for communication, instructions, and as an alerting system
- Telephones with amplification devices and visual and auditory alerting systems
- Fire alarms with visual and auditory alerting systems
- Assistive listening devices (e.g., FM, infrared, loop systems, and/or closed-captioning decoders)
- Captioned video training materials
- Real-time captioning for conferences and audio streaming of web teleconferences

Mobility Impairments

(*Multiple Sclerosis [MS], Paraplegia, Quadriplegia, Post polio, Carpal Tunnel Syndrome, Repetitive Stress Injuries, etc.*)

- Trackball for easier mouse manipulation
- Touch screens
- Ergonomic keyboard
- Adjustable keyboard tray
- Portable cart
- Writing and grip aids
- Page turners and book holders
- Stand/lean stools
- Adjustable height desks and work tables
- Speech amplification systems

Cognitive and Developmental Disabilities

(*Mental retardation, autism, cerebral palsy, neurological conditions, etc.*)

- iPhone
- iPad
- Telephone auto-dialer
- Larger buttons on equipment
- Memory aids (electronic notebook, pop-up timer on computer)
- Communication device
- Voice output with optical character recognition to read documents or use a reading pen

Learning Disabilities or Attention Deficit Disorders

- iPad
- Reading template
- Automatic line guide
- Tape recorder
- Computer with voice output
- Floor fan or nature tape played on a stereo for white noise
- Colored labeling

Psychiatric Disabilities

- Room partitions or enclosed office space to reduce noise and distractions
- Video or audio conferencing meetings

Myths About AT

There are many myths surrounding AT devices and services for individuals with disabilities. These misconceptions may impact attitudes and become invisible barriers to an individual's independence and productivity. Common misconceptions are:

An AT device is a luxury. For someone with a disability who relies on AT to perform a critical function or achieve a desired goal in life, AT is very much a necessity. A computer is a necessary piece of equipment for anyone doing data entry even though it could be done with a pencil and paper. Just because a device makes a task easier or more convenient to do, does not make it a luxury.

"For most people technology makes things easier. For people with disabilities, however, technology makes things possible. In some cases, especially in the workplace, technology becomes the great equalizer and provides the person with a disability a level playing field on which to compete."
(A quote from Mary Pat Radabaugh, a former employee with the IBM Disability Support Center).

AT is expensive and complicated. The majority of AT solutions are simple, inexpensive low-tech devices such as a hands-free telephone, magnifiers, or wood blocks to raise a desk or workstation, which can be found at the local hardware or office supply store. It may also be as simple as rearranging a workspace.

According to the Job Accommodation Network (JAN), more than half of all accommodations cost nothing to make, while the rest

typically cost only \$600.¹ Most accommodations would therefore not likely impose an “undue burden” on any employer’s business. With respect to AT, the cost can be shared by the employer, the individual, or third-party payers, such as the employer-supported health insurance for the employee, workers’ compensation, the state’s department of rehabilitation services (also known as vocational rehabilitation), philanthropic organizations, and AT loan programs. In addition, tax credits and tax deductions may also be available for providing reasonable accommodations (See the Resources section at the end of this publication).

The professional often knows best. Users of AT often have the experience and knowledge that will lead to the best solutions for their individual needs. It is important for consumers and professionals to work together to find the appropriate AT solution.

Steps to Take to Ensure Effective Use of AT Accommodations

To ensure that the appropriate reasonable accommodation will be provided, the following steps should be followed:

Form a partnership between the employer (or service provider) and the individual with a disability.

Focus on ability, not the disability. Focus on what the individual can do. Ask, never assume.

Individualize solutions. Every individual’s needs are unique; therefore, the solutions must be individualized accordingly.

1. Job Accommodation Network, Workplace Accommodations: Low Cost, High Impact (Updated 9/1/09), available at <http://askjan.org>.

Keep it simple. Simplicity minimizes cost, ease of repair, and disruption to the workplace.

Be holistic. Look at the whole picture when considering an accommodation so that you consider the environment, personal, and social ramifications of the proposed accommodation as well as the functional aspects.

Assistive Technology Hierarchy

The following steps can serve as a guide to providing AT accommodations. The steps range from the simplest intervention to the most complex intervention:

- Use no technology - Find an alternative way to do the task. Modify or adapt the task when possible (restructure tasks, activities, and the environment to compensate for functional limitations, including architectural modifications, attendant care arrangements, etc.).
- Use commercially available devices, equipment, or aids.
- Use commonly available devices and equipment in creative ways, such as using a wireless doorbell indoors to signal.
- Modify existing commercial devices, equipment, and aids using easily obtainable materials such as Velcro or duct tape.
- Design and fabricate custom devices, equipment, and aids.

Resources

Where to Find Appropriate AT Services and Devices

Assistive Technology Act Projects
The U.S. Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR) funds 56 AT projects, one in every state and territory, to improve the access to and funding for AT devices and services for individuals with disabilities of all ages.

Information and referral to all the AT Act Projects is available from:

RESNA Catalyst Project
703.524.6686 (V), 703.524.6639 (TTY)
<http://resnaprojects.org/scripts/contacts.pl>

ABLEDATA
8630 Fenton Street, Suite 930
Silver Spring, MD 20910
800.227.0216
Email: abledata@macrointernational.com
<http://www.abledata.com/>

ADA Technical Assistance Centers
800.949.4232 (V/TTY)
<http://www.adata.org/>

National Public Website on Assistive Technology
404.894.9320 (V/TTY)
<http://www.assistivetech.net/>

Job Accommodation Network (JAN)
800.526.7234 (V), 877.781.9403 (TTY)
<http://askjan.org/>

Equal Employment Opportunity Commission
131 M Street, NE, Washington, DC 20507
800.669.4000 (V), 800.669.6820 (TTY)
<http://www.eeoc.gov/>

Department of Justice
202.514.2000 (V)
<http://www.ada.gov/>

Tax Credits and Tax Deductions for Workplace Accommodations

Disabled Access Tax Credit

This tax credit is available to an eligible small business in the amount of 50 percent of eligible expenditures that exceed \$250 but do not exceed \$10,250 for a taxable year.

Architectural Barrier Removal Tax Deduction
Businesses may deduct up to \$15,000 of the costs incurred each year to remove physical, structural, or transportation barriers in the workplace.

Department of Justice
"The Americans with Disabilities Act and Tax Incentives Packet"
800.514.0301 (V), 800.514.0383 (TTY)
<http://www.usdoj.gov/crt/ada/taxpack.htm>

Internal Revenue Service (IRS)
IRS Publications 535 and 334 for further information on tax incentives, or Form 8826 to claim a tax credit.
800.829.3676 (V), 800.829.4059 (TTY)
<http://www.irs.gov/businesses/small/article/0,,id=185704,00.html>

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The U.S. Equal Employment Opportunity Commission has reviewed it for accuracy. However, opinions about the Americans with Disabilities Act (ADA) expressed in this material are those of the author, and do not necessarily reflect the viewpoint of the Commission or the publisher. EEOC interpretations of the ADA are reflected in its ADA regulations (29 CFR Part 1630), Technical Assistance Manual for Title I of the Act, and Enforcement Guidance.

Cornell University is authorized by NIDRR to provide information, materials, and technical assistance to individuals and entities that are covered by the Americans with Disabilities Act (ADA). You should be aware that NIDRR is not responsible for enforcement of the ADA. The information, materials, and/or technical assistance are intended solely as informal guidance, and are neither a determination of your legal rights or responsibilities under the Act, nor binding on any agency with enforcement responsibility under the ADA.

The Equal Employment Opportunity Commission has issued enforcement guidance which provides additional clarification of various elements of the Title I provisions under the ADA. Copies of the guidance documents are available for viewing and downloading from the EEOC web site at:
<http://www.eeoc.gov>

About this Brochure

This brochure is one of a series on human resources practices and workplace accommodations for persons with disabilities edited by Susanne M. Bruyère, Ph.D., CRC, Director, Employment and Disability Institute, Cornell University ILR School.

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The full text of this brochure, and others in this series, can be found at www.hrtips.org.

More information on accessibility and accommodation is available from the ADA National Network at 800.949.4232 (voice/TTY), www.adata.org.

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