

## SAS® Accessibility

In 1976, SAS started with a question - is there a better way to analyze data? Our founders answered that question, but didn't stop there. As a result, today SAS is the leader in analytics. Our mission is to make it easier for all people to use powerful analytics every day, to shorten the path from data to insight, and to inspire bold discoveries that drive progress. The outcome is analytics that breaks down barriers, fuels ambitions and gets results. We envision a world where everyone, and we do mean **everyone**, can make better decisions, because those decisions are grounded in trusted data.

### Our Challenge

We believe that disabilities are not a limitation of the individual. Rather, disabilities arise when people are confronted with barriers in their environment. We also believe that the arc of human progress improves as we remove those barriers, closing the gap between progress and equal access to technology.

Consider the environment of data and its inherent barriers. Data is primarily a construct of the human mind - it has no shape or form. In addition, there are vast amounts of data – more than we can easily comprehend. Because our brains have a limited ability to understand data, we created data visualization to give it a tangible shape and form. The result provides humans with the ability to comprehend relationships and discover insights that were not possible beforehand.

That means data visualization is an assistive technology. Why? Because it has greatly increased the accessibility of data. Just like the microscope and the telescope, data visualization is a tool that has increased our access to knowledge.

What's the problem? Data visualization is inherently visual. It is specifically designed for the visual mode of perception. As a result, approximately 285 million people with visual impairments or blindness have very limited access to data visualization and the knowledge it unleashes.

And so it goes, two steps forward and one step backwards. It is the inequity of progress.

### Our Commitment

Should we stop progress because it is inequitable? No. The market demands it. The market is composed of billions of individuals that comprise humanity. And humanity demands progress.

SAS is 100% committed to that progress. We create technology that makes it possible to fight disease, hunger, climate change, and other existential threats to humanity. We fight those threats with innovation.

We're committed to progress, but not progress at any cost. As we lean forward to create the technology of the future, we also reach out to help those who might be left behind. We do that by using the power of innovation to mitigate the inequity of progress.

What does that look like in practice?

Let's revisit the topic of data visualization. Data visualization is inherently visual. As a result, people with visual impairments or blindness have been left behind. But we believe it doesn't have to be that way.

In 2011, we began investing in the research and development of non-visual methods for data visualization. We explored the use of sound, touch, and haptics. We even considered how we might leverage the senses of taste and smell. Using our unique approach to innovation, we created technology that enables people with total blindness to perceive a variety of data visualizations in way that is roughly as effective and efficient as their fully sighted peers.

In 2016, we delivered that technology in a browser extension called SAS Graphics Accelerator. We made it available to the global blind community free-of-charge. We created documentation, samples, and training materials for educators in K12 and higher education. At the same time, we began enhancing SAS products to use the technology, in order to improve the accessibility of analytics at scale.

Today, students in K12 with visual impairments or blindness can create, explore, and share simple data visualizations using the free browser extension. As they transition to college, they can incorporate SAS OnDemand for Academics, which is also free, as they learn more complex methods of analysis. Finally, as they transition into a career, they can use enterprise-class SAS products to collaborate and contribute.

## Our Team

SAS is a slice of humanity. Almost every aspect of diversity is represented in our ranks. That includes race, religion, ethnicity, gender, sexual orientation, ability, and disability. Diversity is present throughout the organization and our employees with disabilities have risen to the challenge presented by the inequity of progress.

Our Director of Accessibility is blind. He started at SAS as an intern when he was in high school. That was 32 years ago. Today, his vision guides our investment in accessibility.

More than half of the members of our central accessibility team have a disability. Their combined lived experience ensures that we deliver software that goes beyond conformance - that it truly enables people with disabilities to make better decisions using data.

## Our Process

Accessibility is the shared responsibility of every employee at SAS, and almost every manager and individual contributor has a role to play. We've incorporated accessibility into our agile development process to ensure that it is not an afterthought.

For example, the agile process for a product might contain these steps:

1. Product managers include accessibility in product roadmaps and release plans, and project managers then translate release goals into agile stories.
2. User experience designers design the product features for those stories while keeping the needs of users with disabilities in mind.
3. Developers use accessibility APIs and best practices to implement features that are accessible.

4. Testers evaluate internal builds for accessibility and track accessibility defects in our defects tracking system for future remediation.

In addition to integrating accessibility into our agile process, our central accessibility team facilitates the process with quarterly accessibility training, weekly accessibility clinics, and daily engagement with product development teams.

## Our Standard

In June 2014, SAS adopted the Web Content Accessibility Guidelines (WCAG) version 2.0 level AA as our internal accessibility standard for all software, documentation, training and support materials. We are actively working to update our internal standard and processes to WCAG 2.1 AA.

## Our Products

We offer more than 200 products that are used by more than 83,000 organizations to solve mission-critical business problems. Many of those products were created before operating systems and third-party libraries began supporting accessibility. We will not remediate mature products that are no longer under active development.

Our investment in accessibility is forward-looking. We have high expectations for the current and next generation of SAS products. For the most part, these products use HTML5 or other modern user interface technologies that support accessibility APIs and integration with assistive technologies. Some of the accessibility features that might be included in the current generation of SAS products are:

- Support for users with limited vision, which might include a high contrast theme, support for native browser zoom, and the ability to configure the thickness and color of the focus indicator.
- Support for users without vision, which might include compatibility with screen readers, markup that enables users to perceive relationships such as the column headings within tables, and the ability to interactively explore data visualizations using non-visual methods.
- Support for users with mobility impairments, which might include the ability to operate the application exclusively using a keyboard, landmarks that enables users to quickly jump to specific areas of the application, and compatibility with Dragon NaturallySpeaking.

## Our Documentation

Our documentation reflects our commitment to accessible analytics. Documentation that is released in the [SAS Help Center](#) enables the best user experience because it is delivered using HTML5. However, users can choose to access documentation via alternative formats such as EPUB or tagged PDF. In addition, our documentation includes information about the accessibility features of our products.

Note that most of the documentation delivered prior to SAS 9.4 uses older web technologies. We have no plans to remediate documentation for these older versions of our products.

## Our Training

We offer training in three formats: classroom training, live web training, and e-learning. Students must request accommodations in advance. Given sufficient advanced notice, we will pay for accommodations up to the cost of the course for that student.

For classroom training, we can provide accommodations such as increased display and font size, a larger monitor for in-class presentations, and sign language interpreters.

For live web training, we use Zoom, which has excellent support for accessibility. With advance notice, we can work with students to enable either live transcription of the instructor via PowerPoint for Microsoft 365 or a relay captioning service to capture the audio portion of the class. Additionally, Zoom transcribes class recordings and these recordings and transcriptions are available to students for a period of time after class. Upon request, we can extend the access time to these resources.

Course notes are provided for all classroom and live web students. The course notes are tagged PDF documents created from the Microsoft PowerPoint files that instructors use in class. With advance notice, we can work to create accessible versions of these documents that include alternative text for slide and image content. Some technical content is highly visual in nature and might be difficult or impossible to fully replicate in text.

For eLearning, we use a custom HTML5 interface that is fully accessible using a keyboard. Videos are closed captioned and a text transcript is also available. Our most popular e-learning courses include transcripts that have been enhanced for students with visual impairments or blindness. The enhanced transcripts include equations that are written in MathML, formatted SAS code, and SAS output in HTML5 format which can be read using a screen reader. Some content is inherently visual and as such is very difficult or impossible to replicate in text. Our long-term goal is to provide enhanced transcripts for all e-learning courses. We plan to achieve that goal over time. However, we encourage students to request enhanced transcripts for specific courses and we will do our best to provide them.

## Our Support

We created the [SAS Disability Support Center](#) to help users with disabilities learn how to use the accessibility features of SAS products. The information on that site was created by SAS employees with disabilities for SAS users with disabilities. If users cannot find the answers that they need on the SAS Disability Support Center, we encourage them to send questions to [accessibility@sas.com](mailto:accessibility@sas.com).

When users with disabilities have questions about the general features and functions of SAS products, we direct them to SAS Technical Support.

SAS Technical Support provides support for the general features and functions of SAS products. They have the following tools to better assist customers with disabilities:

- Access to a specialized phone system to communicate with users with hearing impairments.
- Screen sharing and screen-control technology to assist users with visual impairments or blindness.

- A tracking system that serves as a database of customer encounters so that Technical Support specialists can reference previous customizations and code strategies for all customers, including those with disabilities.
- Awareness of product-specific accessibility features in our products.

Our world-class SAS Technical Support specialists are passionate about ensuring that all SAS users are successful when using SAS products. They are well-informed and detail-oriented, and are born collaborators that are equipped to contact others in the company if they need to engage additional resources for any customer.

### Our Ask

It takes a village to implement accessible analytics at scale. Every organization in the ecosystem has a role to play – from customers, to suppliers, partners, developers and managers, assistive technology vendors, and standards organizations. We must work together to remove barriers to data. The inequity of progress ensures there will be much work to do. However, SAS is up to the challenge. We would like to work with you. Please contact us at [accessibility@sas.com](mailto:accessibility@sas.com).