

tts performance suite

# White paper



tts performance suite  
Fully Accessible Content

## Fully Accessible Content



The guidelines relating to web accessibility include a broad spectrum of recommendations involving the production of web content and were compiled with the aim of making digital content, such as e-learning, accessible to people with limitations and disabilities. tts performance suite supports the compilation and publishing of accessible content.

## What does accessible content actually mean?

Digital content is not as easily accessible to some groups of people as to others. Blind and partially-sighted people, deaf and hard-of-hearing people, as well as individuals with learning difficulties, restricted mobility or speech impairments are often unable to avail of digital content. Which is why there are guidelines regarding the creation of such content.

People with limitations and disabilities require access to digital content

The following standards exist:

1) As part of the Web Accessibility Initiative, the W3C (World Wide Web Consortium) presented a recommendation regarding accessibility guidelines (Web Content Accessibility Guidelines - WCAG 2.0).

### Standards

- > Web Content Accessibility Guidelines - WCAG 2.0
- > ISO Standards
- > Equal Opportunities for People with Disabilities Act §11, Barrier-Free Information Technology

2) The International Organization for Standardization (ISO) defines a range of standards, e.g. ISO 9241: Ergonomics of human-system interaction or ISO 14915: Software ergonomics for multimedia user interfaces

3) German legislation is outlined in §11 'Barrier-Free Information Technology' of the Equal Opportunities for People with Disabilities Act.

In its second version of the Web Content Accessibility Guidelines, the W3C specified generally accepted guidelines. The rest of this document will make frequent reference to these 4 accessibility principles. They are:

### WCAG 2.0

- > Perceivable
- > Operable
- > Understandable
- > Robust

### Perceivable

The entire content must be presentable to all users in ways that they can perceive.

### Operable

All interaction elements must be operable by all users.  
Understandable

### Understandable

Content and control elements should be designed in as simple a manner as possible.

### Robust

Content has to be sufficiently robust to ensure that it can be reliably interpreted by a variety of user agents (e.g. web browsers) and assistive technology.

## Accessibility of publication formats

Establishing unlimited accessibility constitutes a large challenge for the knowledge transfer industry. Content is published and made available to end-users in a range of media and formats. tts performance suite differentiates between interactive e-learning and documentation. Documentation appears in a static format – such as Word, PDF or RTF – or as a static HTML page. Interactive e-learning tutorials run via a web browser.

Full accessibility is always achieved via the interplay between the featured content and the display program. The documentation produced by tts performance suite can be opened using a range of programs and made accessible via the magnifier, Screen Reader and other assistive technology. Alternative text can be added to the images and graphics in documentation in order to make them accessible to people with a visual impairment. The documentation therefore complies with the robust principle of accessibility.

On the other hand, making interactive e-learning fully accessible is a more complex challenge. Information is communicated via text and images. The information flow is structured and sequenced with the help of animations and interactions. Sound and video add an extra dimension to the content being communicated. Unlimited accessibility for e-learning therefore means that not only does the tutorial control have to be made accessible to people who are unable to use a mouse, but that the content also has to be structured in a way that makes it fully usable by people with limitations and disabilities.

The standard tts performance suite tutorial control system can also be fully operated via the keyboard. Not only are all functions accessible via a mouse click, but they can also be selected via the keyboard once the AltGr key has been pressed.



Tutorial navigation that does not exclude people with various disabilities

This solution was carefully chosen in order to ensure that tutorial control does not interfere with program-specific commands in an IT tutorial, where users also have to be able to access the functions of the simulated software via the keyboard. This is why tutorial control is not activated via the typical shortcuts, which are reserved for the actual IT simulation. The user can activate the tutorial control by pressing the AltGr key. The keys that have been assigned navigation functions are then displayed, e.g. the

### Publication formats in tts performance suite

- > Interactive e-learning
- > Static-documentation

### Documentation

Accessible via the magnifier, Screen Reader and other assistive technology

### E-learning

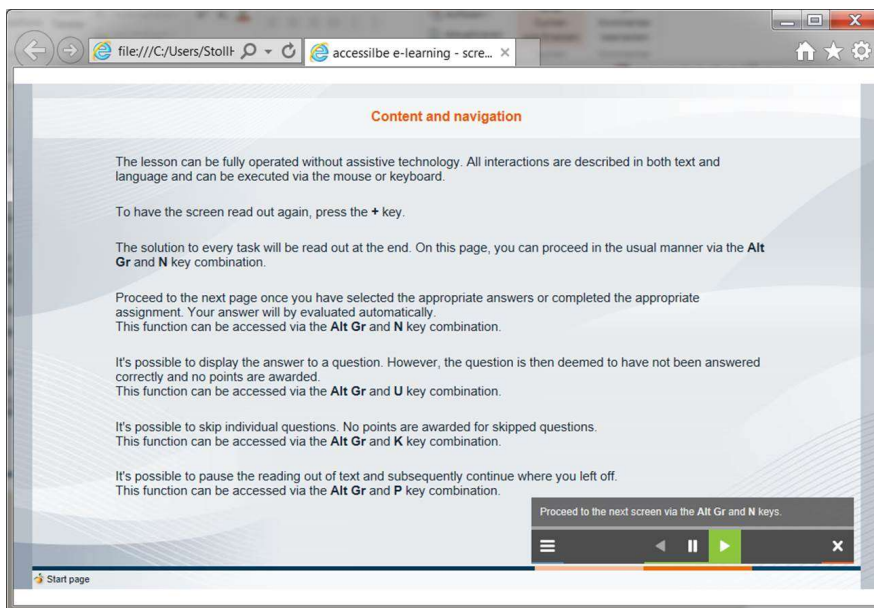
The challenges are higher here

- > Fully accessible tutorial control
- > Fully accessible content

### Accessible tutorial control via the keyboard

'n' key to display the next step. This procedure is widely used and is also supported by the Office products (accessible in Microsoft Office via the Alt key).

With regard to a fully accessible tutorial, it is a good idea to explain the control features so that all user groups are familiar with all the ways of accessing the tutorial control functions. The screenshot below shows an example of a Start page in a fully accessible tutorial where all information is not only displayed as text but is also spoken simultaneously.



Start page in a fully accessible tutorial: content and navigation

Tutorial navigation in tts performance suite therefore complies with both the Operable and Understandable criteria. This method of accessing the navigation functions is also available in cases where tutorial control has been customized to match a customer's corporate design.

tts performance suite is both *Operable* and *Understandable*

Individual learning objects are usually grouped together into courses and WBTs. Users can branch to the appropriate learning object via the course dispatcher. The course dispatcher complies with the Robust criterion and can be read via Screen Reader.

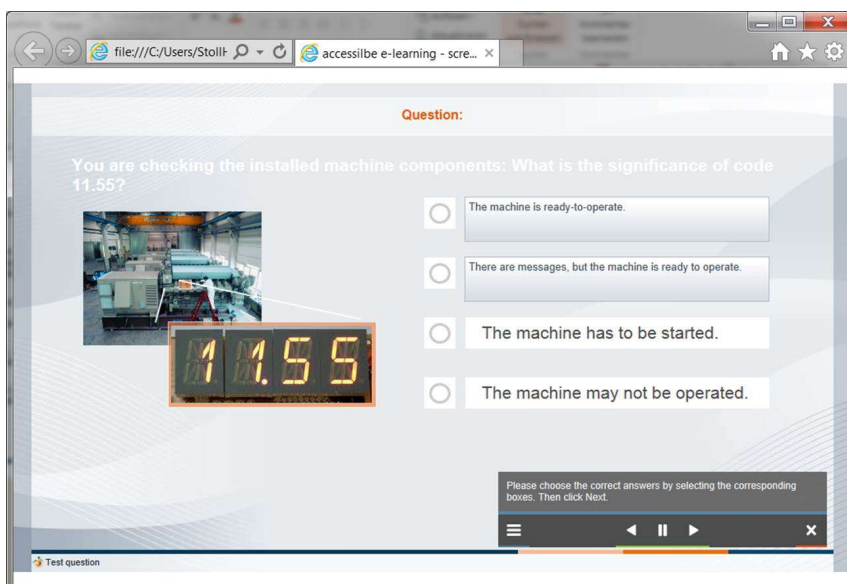
## Producing accessible content

Quite apart from tutorial control, the content of an e-learning also has to be accessible to people with various disabilities. Due to the complex interplay between text, images, animations, interactions, sound and video, the decision on how to best present the content in a fully accessible manner has to be made on a case-by-case basis. Here are some examples:

The complexity of interactive training material containing text, images, animations, interactions, sound and video

- > When a page opens, the page title and all text will be read out automatically.
- > A page's text will be read out when it is touched by the mouse.
- > Descriptive text will be faded in and read out when an image is touched with the mouse.
- > A description of an animation will be read out at the same time as the animation occurs.
- > IT simulations can be fully recorded via the keyboard.
- > Instructions and Feedbacks can be spoken and repeated.
- > Spoken Feedback will be provided when an answer is selected during a test question.

Issues such as the ones referred to here have to be considered during the conceptual design stage when creating learning objects, and subsequently implemented by the authors. This can be best illustrated using an example of a test question:



Test question in a fully accessible tutorial

Both the question and all potential answers are read out. The speaker describes the design of the test question and points out the Evaluate function. Feedback is given when an answer is selected.

In the case of all the examples listed above, tts performance suite provides functions for implementing unlimited accessibility when designing content. This leads to the creation of a stand-alone, fully accessible e-learning that complies with the Perceivable, Operable and Understandable criteria. There is no need for the simultaneous use of Screen Reader. The Windows magnifier can be used to take a closer look at parts of the e-learning.

Stand-alone, fully  
accessible e-learning

To assist the creation of fully accessible content, tts also offers the following services:

- > Off-site: Tutorial production by tts
- > On-site: Coaching author teams on the production of fully accessible content

## In a nutshell

Fully accessible e-learning tutorials can be created with tts performance suite .

The WBT course dispatcher – via which individual learning objects can be accessed – is compatible with Screen Reader.

Fully accessible documentation can be automatically generated from the single-source format of Producer documents. It is possible to maintain alternative text for graphics and screenshots.

The program supports the creation of fully accessible e-learning tutorials on topics unrelated to IT – as well as the production of simulations and assessments – for blind or partially-sighted people. All text can be dubbed and therefore read out. Similarly, an audio description can be added to all images, graphics and screens. WBTs can be fully controlled via the keyboard.

### **Imprint**

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