# IT Procurement Toolkit

IT systems should be chosen and designed with accessibility in mind. The choice of technologies, and in many cases their design and functionality, is determined by the procurement process.
During this process you have an opportunity to define accessibility criteria for the procurement; assess potential suppliers and solutions to see that they meet those criteria; oversee the successful implementation of the accessibility features and build the skills you and your team will require to manage the accessibility of the resulting systems and user interfaces during their lifetime of use.

## How to use the Toolkit

* If you are new to accessibility you may wish to read the [Principles of Accessible Procurement](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/) and the [Introduction to Accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/introduction-to-accessibility/)
* Follow the stages of procurement
	1. [Writing an RTF](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/)
	2. [Assessing Candidates and Tenders](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/)
	3. [Development and Implementation](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/)
	4. [Evaluating Deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/4-evaluating-deliverables/)
	5. [Maintaining Accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/5-maintaining-accessibility/)
* Refer to the accessibility targets for specific technologies
	+ [General Guidance](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/general-guidance/)
	+ [Web Technologies](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/)
	+ [Public Access Terminals](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/public-access-terminals/)
	+ [Application Software](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/application-software/)
	+ [Telecoms](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/telecoms/)
	+ [Smart Cards](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/smart-cards/)
* Refer to the supporting information as needed
	+ [Principles of Accessible Procurement](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/)
	+ [Skills needed by Procurers](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/)
	+ [Writing an Accessibility Policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/writing-an-accessibility-policy/)
	+ [Frequently Asked Questions](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/)
	+ [Legislation and Public Policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/legislation-and-public-policy/)

## Who is it for

This guidance is primarily designed for Irish public service bodies. However it may be of use to anyone who wishes to buy accessible hardware of software. It is based on good procurement practice but refer to the Etenders website for [guidelines on national and EU public procurement](http://www.etenders.gov.ie/guides/guides_list.Aspx?type=2).

# Stages of Procurement

## Contents

* [1. Writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/1-writing-an-rft.html)
* [2. Assessing Tenders](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/2-assessing-candidates-and-tenders.html)
* [3. Development and implementation](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/3-development-and-implementation.html)
* [4. Evaluating deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/4-Evaluating-deliverables/4-Evaluating-deliverables.html)
* [5. Maintaining accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/5-Maintaining-accessibility/)

### 1. Writing an RFT

## Contents

* [Tenderer selection criteria](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#selectioncriteria)
* [General accessibility targets](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#gen_access_targets)
* [Accessibility targets for specific technologies](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#specifictargets)
* [Development process](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#developmentprocess)
* [Quality assurance](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#qualityassurance)
* [Training](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#training)
* [Evaluating of deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/4-evaluating-deliverables/)
* [Accessibility policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/1-Writing-an-RFT/#accessibilitypolicy)

This section provides samples of text describing accessibility requirements that you can cut and paste into an RFT (request for tenders), pre-qualification questionnaire or descriptive document (in the case of a competitive dialogue procedure). The RFT may also be referred to as the 'tender document'. Private sector operators may refer to it as a 'request for proposals (RFP)', 'request for quotations (RFQ)' or 'invitation to tender (ITT)'. You can either put them into a separate “accessibility” section of the RFT or add them into existing sections on functionality, evaluation, etc. The wording given here may need to be modified slightly to fit your exact requirements, but the substantial content should be suitable for most procurements.

For more information, see [general guidance](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/general-guidance/) on specifying accessibility requirements.

### **Tenderer Selection Criteria**

If you are specifying selection criteria for assessing the suitability of tenderers or candidates, you can introduce a requirement for accessibility expertise under the standards for technical and/or professional ability. One way of doing this might be to include the following text in the RFT or pre-qualification questionnaire.

### Universal Design Experience

Tenderers should demonstrate relevant experience of applying universal design principles and providing solutions that are accessible to the widest user audience, including older users and users with disabilities.

If you ask tenderers to provide examples of previous work, make sure to ask for examples of accessible previous work.

### **General Accessibility Targets**

Accessibility should be made an explicit factor in the award criteria. It is good to start by describing the general accessibility targets that the procured item should meet. The following text is suitable.

#### **Accessibility Targets**

The <procured item> should be accessible to all potential users, including older people and people with disabilities. As far as possible, it should:

* Be technically accessible, in that it is possible for all
users to access all information and functionality;
* Be equally usable, in that it is not prohibitively difficult
or time consuming for users with disabilities to carry out normal
tasks;
* Be capable of being adapted or configured by individual users
to meet their specific needs and preferences;
* Be capable of interfacing with appropriate, widely available
assistive technologies employed by users.

To help tenderers understand the basic requirements, information about accessibility principles and guidelines should be made available to them. You can do this by including a reference to the [Irish National IT Accessibility Guidelines](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/).

### **Accessibility Targets for Specific Technologies**

After stating the general accessibility targets, you will need to state specific targets relating to the technologies to be procured. For appropriate sample text, choose one of the following technology types:

* [Websites](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/)
* [Public accesss terminal](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Public-access-terminals/)
* [Application software](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Application-software/)
* [Telecoms](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Telecoms/)
* [Smart cards](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Smart-Cards/)

### **Development Process**

If you are procuring an item such as a website that will have to be designed and developed, i.e. One that is not an off-the-shelf product, it is essential that the supplier follows an appropriate development process. This process should be based on [universal design](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Principles-of-accessible-procurement/#design4all)principles. The following text is suitable for describing the type of development process that suppliers should adopt.

### **Development Process**

Design and implementation should be carried out in accordance with an inclusive, user-centred process, based on universal design principles. Tenders should outline the main features of this process, such as:

* How user requirements including the specific needs of people with disabilities will be gathered and used;
* How user needs will be identified and taken into account; and
* Methods of consultation with users, including people with
disabilities or their representatives.

### **Quality Assurance**

The quality assurance that suppliers carry out as part of their development process should also cover accessibility. The following text is suitable for describing an appropriate approach to including accessibility in quality assurance.

#### **Quality Assurance**

Prior to delivery the <procured item> should be tested or otherwise evaluated for usability and accessibility as part of the quality assurance process. Tenders should outline the main evaluation methods to be used, such as:

* Accessibility audit carried out by an accessibility expert.
please state the credentials of the expert who will carry out the
Audit; and
* User testing by representative users, including users with
disabilities. please describe the test environment, procedures and user group
characteristics.

Tenderers may employ either or both of the above methodologies or propose their own set of methodologies.

If you feel you know enough about accessibility and accessibility evaluation, you might consider specifying particular test methods to be used, profiles of end-users to be included in the test panel and a required format for a test results deliverable. However, you should be careful not to constrain suppliers unnecessarily. In particular, you should avoid stating requirements for the use of specific analysis or testing tools (for example, see [a note about Bobby](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/#bobby)).

### **Training**

If you are procuring an information system such as a database or website, the content will change over time. As new content is added and existing content modified, it will have to remain accessible. This may require staff training in producing accessible content. Training may also be required to upskill technical staff with responsibility for administering the new system.

The following text is suitable for describing training requirements that will enable you to maintain the accessibility of the procured item and any information content.

#### **Training**

The successful tenderer will be required to provide any training necessary to enable <your organisation> staff to maintain the accessibility of the product and its information content. If any such training is necessary, tenders should include proposals and plans for this training.

### **Evaluation of Deliverables**

The deliverables you receive as a result of the procurement will need to be evaluated against the accessibility requirements stated in the RFT. You may feel you have enough expertise within your team to carry out a thorough evaluation yourself. However, if you do not have sufficient expertise, you may decide to bring in third-party evaluators to carry out accessibility auditing and testing. If this is likely to be the case, you should mention it in the RFT. See [evaluating deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/4-evaluating-deliverables/) for more on this.

The following text is suitable for alerting suppliers that you will be carrying out third-party evaluation.

#### **Evaluation of Deliverables**

The delivered <item> will be evaluated for accessibility by an independent third-party prior to sign-off. The evaluation will take into account all the accessibility requirements specified in this RFT. It will be arranged and funded by <the organisation>.

### **Accessibility Policy**

If you have a written It accessibility policy, you should consider including it with the contract notice or documents.

**2.** Assessing Candidates and Tenders

## Contents

* [Selecting a candidate or tenderer](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/#selectingacandidate)
* [Weighting for accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/#weightingforaccessibility)
* [Judging the proposed process](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/#judgingtheproposedprocess)

Accessibility should be given close consideration in the candidate selection and tender assessment. This will involve judging the accessibility credentials of candidates or tenderers, giving a weighting to accessibility within the tender award criteria and assessing the proposed work plans and functional specifications.

You will need to consider carefully whether you have [sufficient knowledge and skills](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Skills-needed-by-procurers/Skills-needed-by-procurers.Html)within your procurement team to properly assess these aspects. If not, you should consider bringing in assistance in the form of external it accessibility consultants.

### **Selecting a Candidate or Tenderer**

In your RFT, pre-qualification questionnaire or descriptive document, you may have asked candidates or tenderers to provide evidence of their skills and capacity that can be used to judge their suitability during a selection process. This should include descriptions of previous work in universal design (see [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/)). It is best to assess examples of work that demonstrate compliance with the specific guidelines you have referenced in your RFT. However, since there is a lack of agreed, objective, accessibility quality marks, you may in practice have to rely on the following assessment methods, all of which may require input from independent accessibility experts:

* Expert assessment of suppliers’ claims about
compliance;
* Accessibility auditing of existing products; and
* User testing of existing products.

All of these may be done either in-house or by independent accessibility experts, depending on whether you possess the skills within your organisation. An independent accessibility expert may also be used to assist with [evaluating the deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/4-evaluating-deliverables/4-evaluating-deliverables.Html) later on in the development process.

### **Weighting for Accessibility**

Accessibility requirements should have been stated in the RFT as an explicit part of the award criteria. If you are evaluating tenders on the basis of the most economically advantageous tender (meat), the recommended best practice is to score each tender against a matrix of weighted criteria. There are a number of ways to include accessibility requirements in the matrix:

* Group all the accessibility requirements together within a separate 'accessibility' criterion;
* Include them as part of a more general 'usability' or 'ease of use' criterion; and
* Spread them across criteria such as 'quality and technical merit' or 'expertise and skills of assigned personnel'.

If accessibility is made a separate criterion, care should be taken not to double count some aspects of it. For example, staff accessibility expertise should not be counted under 'accessibility' and again under 'expertise and skills of assigned personnel'.

### **Judging the Proposed Process**

If the contract involves designing a new system with new user interfaces, the development and implementation process should be inclusive and user-centred, according to [universal design](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Principles-of-accessible-procurement/#design4all) principles. In the RFT, you should have asked tenderers to outline the main features of the process they intend to follow, including:

* How user requirements will be gathered and used;
* How the specific needs of people with disabilities will be
identified and taken into account; and
* Methods of consultation with users, including people with
disabilities or their representatives.

Sample text for requesting this information is included in the [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/) section.

**3**. Development and Implementation

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* [Your input into design and evaluation](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/#your-input)
* [Gathering information about users](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/#gathering-information)
* [User testing](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/#user-testing)
* [Anticipating changes](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/3-development-and-implementation/#anticipating-changes)

For bespoke software, hardware or other IT systems that are designed or configured to suit the purchaser's needs, the procurement will involve a significant development and implementation phase. The award of the contract will have been made on the basis of a [tender assessment process](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/2-Assessing-Candidates-and-Tenders/) that should have included accessibility as a key consideration. The chosen supplier should therefore undertake the development and implementation phase with a clear understanding of the accessibility requirements and the appropriate user-centred inclusive development process. For guidance on a suitable process, read the [principles of accessible procurement](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/principles-of-accessible-procurement.Html) or the [general accessibility process](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/) described in the NDA IT Accessibility Guidelines.

You will have your own procedures for monitoring and assisting with the development and implementation. Whatever these are, you should make sure that accessibility issues are covered. For example, accessibility should be an age NDA item in any regular meetings you have with the supplier.

### **Your input into design and evaluation**

#### **Gathering information about users**

If the contract involves designing a new system with new user interfaces, it will be important to follow a user-centred design and development process. This will require you to participate by providing information about the users. You may need to identify key stakeholders for the supplier to consult with during the development process. The developers will need to know such things as:

* Who will be using the new system?
* In what circumstances?
* What tasks will they be trying to perform?
* Which are the most frequent or critical tasks?

You will be using the system to provide a service to your staff or customers and are best placed to provide this type of information. This is one of the most important roles you will play in the development and implementation of the service.
Unforeseen or unmet user requirements are one of the major causes of failure for large ITprojects. Accessibility requirements are an important part of user requirements so you should stress these. For example, if any of the following or similar statements are true for you, you should make sure to point them out to the supplier:

* Many of the users will be older people;
* Many of the users will have low levels of literacy in English;
* The system is intended to be used by all members of the
public;
* Many of the users are likely to access this service via a
dial-up connection;
* Many of the users will not be familiar or comfortable
with this type of technology.

The supplier may employ various techniques to capture and define user requirements. These may include, for example, focus groups and design personas. In a focus group, a number of representative users are invited to engage in a mediated discussion about their needs and the merits of various proposed solutions. If this technique is going to be used, you should ensure that the group includes members with access issues, such as older people or people with disabilities. Design personas are fictitious archetypal users who are given names, descriptions and personalities. They are often used to help designers focus on the users as real people rather than on abstract system functionality. If personas are being used, you should try to ensure that these include impairments that are likely to be found among your user population.

Read [about a general consultation process](https://universaldesign.ie/technology-ict/universal-design-for-ict/web-accessibility-auditing/Types-of-accessibility-audit/#consultation)

### **User Testing**

User testing is an area where you can have a big input by providing representative users to test prototypes and delivered systems. At its simplest, user testing may consist of informal arrangements where a few individuals agree to come in on an ad-hoc basis whenever needed to “try out the new developments”. This, whilst not necessarily ‘scientific’, can provide very useful insight for a minimal outlay. Alternatively, user tests can be run in a more formal way, where a carefully chosen group of representative users who have not yet seen the system are asked to run through a prepared set of tasks in a more ‘laboratory style’ setting. This may be appropriate for evaluating the final delivery against the accessibility requirements set out in the RFT (see [Evaluating Deliverables](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Stages-of-Procurement/4-Evaluating-deliverables/) for more on this).

Formal user testing is a skilled job that should usually be left to the supplier or to a specialist user testing consultancy. The less formal method may be something you can do yourself. In any case, it may be very useful for you to build relationships with a few individuals with disabilities who can come in at various stages during the development and implementation process. This will give your development team a chance to meet with real users with disabilities. The insights they may gain from this can be invaluable.

Read [more about involving users](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Skills-needed-by-procurers/#EndUserInvolvement).

### **Anticipating Changes**

Changes in systems and working practices can have significant consequences for accessibility. For example, individual adaptations and assistive technologies that enable staff to work within the current system may no longer work when the system is changed or the technology upgraded. This will have to be anticipated and planned for. Particular attention should be paid to situations where off-the-shelf products or systems need to be altered, tailored or upgraded to meet a specific business requirement. Existing accessibility features and technical compatibilities may be compromised by these changes.

**4**. Evaluating deliverables

The contract documents should have clearly stated the accessibility targets to be achieved (see [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/)). But how do you know if what you have received from the supplier actually meets these targets? accessibility evaluation and testing of the deliverables is essential.

Evaluations should preferably be carried out by independent evaluators. It is very difficult to objectively evaluate a product that you have been involved in creating or otherwise have a vested interest in. If an independent accessibility expert was used to assist with the[selection of the candidate or tenderer](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/) they could now be used to assist with the evlauation of the deliverables.

You will need to factor in the time required to evaluate the delivered product and the time required for the supplier to take remedial action to fix any problems that are identified by the evaluation. The supplier may have engaged as accessibility expert during the development process. If the supplier carries out accessibility auditing and user testing as part of its quality control procedures, the product or service should have a high level of accessibility on delivery. The independent auditing or testing should then reveal fewer and less serious problems, which will reduce the time and effort required for remedial work.

## Scope of the evaluation

The evaluation should cover not only the technical accessibility of the product or service against the applicable standard or guidelines, but its usability for people with disabilities. This will enable you to assess important practical issues such as efficiency of use with assistive technologies and identify any aspects of the system that cause confusion and frustration for the user.

The evaluation of the deliverables will be the final arbiter in deciding whether the accessibility requirements have been met. It should be done rigorously and may go well beyond the supplier’s internal quality assurance process.

## Evaluation methods

There are two basic accessibility evaluation methods – expert auditing and user testing. The guidance on [web accessibility auditing](https://universaldesign.ie/technology-ict/universal-design-for-ict/web-accessibility-auditing/) contains a range of information on both these methods. These describe an appropriate process for carrying out an accessibility audit of a website. A similar process can be employed for other technologies. Read more about [user testing.](https://universaldesign.ie/Technology-ICT/Universal-Design-for-ICT/User-Testing/)

Two things to note about auditing and user testing:

* For auditing, you cannot rely on automated accessibility
checking tools. human accessibility experts are needed;
* Formal [user testing](https://universaldesign.ie/Technology-ICT/Universal-Design-for-ICT/User-Testing/) is a highly skilled activity that involves careful preparation and management if it is to produce results that are reliable and useful.

**5.** Maintaining accessibility

Having requested and received an accessible solution, you will then need to keep it accessible. There are many things that may change over time, including:

* The needs of the organisation and end users;
* The age, abilities and other characteristics of users and
operators;
* Technological developments, initiating hardware and software
changes; and
* The evolution of standards.

It is important to consider accessibility within the whole lifecycle of the product or service, rather than just the buying phase.

Accessibility issues should be included in regular reviews to ensure that the system continues to meet the accessibility policy. All additions and changes should be reviewed for accessibility.

## Training, mentoring and support contracts

You may consider including maintenance and support for content management as part of the contract. This may involve the development of content production methods, style guides, staff training, etc.

If suppliers are asked to provide training and support, this will have to fit in with your training policy and budgeting cycles. You should consider carefully what kind of training would be best for your staff.

* Classroom-based training often fits more easily into corporate training and continuous professional development policies. this type of training may be a good approach for general accessibility awareness raising for a range of staff including staff iinvolved in producing content for a website.
* More in-depth training specific to a person’s task may be required for some personnel.
* For ongoing development, a mentoring or technical support approach may work best. this can be organised as a consultancy contract to supply a certain amount of assistance over a period of time on an as-needed basis for example, a half day here and a half day there to discuss “issues that have arisen since we last met” or a fast-response help-desk service. you may need to consider how this can be arranged within your annual budgeting.

# Accessibility Targets

## Contents

* [General guidance](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/general-guidance/)
* [Web technologies](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/)
* [Public access terminals](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Public-access-terminals/)
* [Application software](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Application-software/)
* [Telecoms](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Telecoms/)
* [Smart Cards](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Smart-Cards/)

# General guidance

## Contents

* [Use accessibility standards and guidelines](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#use-accessibility-standards)
* [Specify a process, but not too rigidly](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#specify-a-process)
* [Target specific users when necessary](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#target-specific-users)
* [Take a wide view](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#take-a-wide-view)
* [Consider maintenance and training](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#consider-maintenance)
* [New content](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#new-content)
* [Look for evidence of real understanding or commitment to accessibility by the suppliers](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#look-for-evidence)
* [Issues with subcontracting for larger projects](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#issues-with-subcontracting)
* [Make documentation accessible](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/General-guidance/#make-documentation)

### **Use accessibility standards and guidelines**

You will need to state the accessibility requirements as precisely as possible. Where possible, the requirements should reference appropriate accessibility standards or guidelines that suppliers can be instructed to adhere to. The toolkit provides sample texts describing the appropriate guidelines for different technology types.

Standards and guidelines are not always clear cut, however. They are often open to interpretation, sometimes inconsistent or incomplete and adherence may not even be fully achievable in certain situations. It may prove difficult to say categorically whether or not a product meets a standard. In some cases, there may simply be no products available that fully meet the appropriate standard. You should therefore try to adhere to the spirit of standards and guidelines. Follow them and measure against them where possible, but be prepared to use your judgement and do the best you can in your situation.

### **Specify a process, but not too rigidly**

For bespoke software, hardware or other IT systems that are designed or configured to suit the purchaser's needs, it is not enough just to refer to functional or technical standards or guidelines. You should also request that an appropriate inclusive process be followed for the design and implementation. This may involve activities such as consultation with end users with disabilities, accessibility auditing and user testing.

You can either prescribe a specific process to be followed or ask suppliers to describe how their development process will ensure accessibility (or, in the case of off-the-shelf products, *did* ensure accessibility). If a competitive process is being used to assess suppliers, you should make sure all bidders cover accessibility in their presentations.

The best approach may be to suggest the required elements of a process but without being too rigid about it. If you are too rigid, you may constrain suppliers to taking an approach that would not work well for them or which they would have reasonable arguments against. For example, suppose you were to say that you want the supplied product to be evaluated by a user test with at least 12 users. A supplier with a lot of relevant experience might have good reason to suggest that a better approach for them would be to adopt an iterative process, involving a number of tests at intervals with fewer users in each. This would be a modification of your suggested process that you should consider. Remember that with design and development there are usually many possible routes to the same destination. The best route is often the one that fits best with the supplier’s unique expertise and experience.

Read more about a suitable [user centred design and implementation process](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/)

### **Target specific users when necessary**

As a general rule, Universal Design means considering all users equally, not designing for specific disabilities or specific assistive technologies. However, in some cases, where the target user group is restricted, it may be possible to specify a restricted set of accessibility requirements for example, where a product is being purchased for specific staff members to use and will not likely be used by others. In this case, the contract might specify those individuals’ abilities, the assistive devices that the application should be compatible with or features that need to be customisable. This approach will restrict the flexibility of the solution but may well reduce the cost of procurement.

### **Take a wide view**

You should try to consider where accessibility issues arise in a wider sense, so that you don’t restrict what can be achieved or expect too much. Problems can arise if the parts of a service that make a difference from an accessibility point of view are out of scope of the procurement. For example, suppose a procurement is for the design of an accessible website to work with an existing content management system (CMS). There may be a fundamental problem in the CMS that prevents accessible content being produced. If so, no matter how good the website design is, the resulting website will not be accessible because the content produced by the CMS is not accessible.

A large system will consist of many parts, including database, back-end processing software, communications infrastructure and multiple hardware and software front ends for end users, administrators and content authors. Accessibility issues can arise in all these components. The system will require adherence to standards for multiple technologies, such as database content, Java I/O classes, HTML, terminal hardware, printed outputs, etc. If accessibility is overlooked in any single component, issues may permeate through the rest of the system.

Problems can also arise if the real accessibility requirements span several cost centres, such as consultancy, development and training, but the procurement only encompasses one of these.

### **Consider maintenance and training**

It may not be sufficient to simply procure a solution that meets the accessibility standards on delivery. Content may change, technologies may change and users’ needs may change, so you will also need to consider how you are going to maintain the accessibility level that has been achieved.

This may mean a regular inspection and maintenance contract and/or staff training. Training may also be required for technical staff involved in the maintenance of the resource, content providers and helpdesk personnel. Consider adding training and monitoring to the requirements.

### **New content**

Content is an area where training and maintenance is particularly important and you will need to consider how the content production process will work with the procured solution.

Information systems, such as most websites, essentially deliver information ‘content’ to users. Not only does the delivery system have to be accessible (the hardware and software ‘user interface’), but the content also has to be accessible. This is often overlooked and content is written in a way that users cannot read or understand. Typical problems are jargon, lack of structural markup and missing or inadequate text alternatives. Sectors such as government often have their own ‘language’ that is familiar to people who work in that environment but may be impenetrable to outsiders. If content is written using insider jargon and phraseology, then the information it contains may be completely inaccessible to many users. Users of assistive technologies rely on correct structural markup of content (headings, subheadings, lists, etc.) to enable them to efficiently scan and navigate through large amounts of information. Blind users rely on alternative text descriptions being added to images that they cannot see.

The problem of content being inaccessible often lies in the content production process. Content is constantly being added, modified or replaced. Modern technologies make it easy for anyone within an organisation to produce content that can be added directly into the information system without the intervention of a trained production team. For example, web content is often written using desktop office software, such as Microsoft Word, and uploaded directly to the website using a content management system. If the content author does not have a good understanding of accessibility, problems may arise, such as images missing alternative text or having poor alternatives and missing or incorrect structural markup. There is a clear need for content authors to be trained in accessibility or at least placed under the editorial control of someone who is trained in accessibility.

### **Look for evidence of real understanding or commitment to accessibility by the suppliers**

Although some suppliers have accessibility expertise, many do not, particularly in areas of technology where accessibility has not generally been considered. You cannot assume understanding or commitment to accessibility on the part of suppliers. The RFT should highlight the importance of accessibility and spell out the reasons for it as well as stating the precise requirements.

### **Issues with subcontracting for larger projects**

Larger projects may involve more than one solutions provider. If some of these are subcontracted by one of the main contractors, then that subcontractor may have to deal to some extent with the specification and assessment of accessibility.

### **Make documentation accessible**

The RFT, all contract documents and application forms should be accessible. This means using standard non-proprietary formats such as HTML, plain text and rich text (RTF), in place of or in addition to inaccessible formats such as PDF and Excel. Online forms should be in accessible HTML. Alternative formats, such as Braille, large print and audio can be made available on request, although accessible electronic documents ought to be sufficient.

# Web technologies

## Contents

* [Which targets should you prescribe?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/#which-targets)
* [Web Content Accessibility Guidelines (WCAG)](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/#wcag)
	+ [Suggested text for an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/#suggested-text)
	+ [About WCAG 2.0](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/#about-wcag)
	+ [A brief note about "Bobby"](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/#a-brief-note-about-bobby)
* [Authoring Tool Accessibility Guidelines (ATAG)](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/#authoring-tool)
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	+ [About ATAG 1.0](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/#about-atag)
	+ [A note on using ATAG as a specification criterion in a tendering process](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/web-technologies/#a-note-on-using-atag)

This page describes the appropriate accessibility targets for websites, web applications and Content Management Systems (CMS), and gives sample text that you can cut and paste into an RFT. This text is designed to be used in conjunction with the sample texts describing general accessibility targets, an appropriate development process, how tenders will be evaluated, etc. These sample texts are given on the [Writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/1-writing-an-rft.Html) page.

This covers all information and services delivered via the World Wide Web or using HTML, including websites and online applications. For an introduction to the accessibility issues that arise with websites and online applications, read About Web Accessibility in the NDA IT accessibility guidelines.

### **Which targets should you prescribe?**

**All** Web design and content should meet the Web Content Accessibility Guidelines (WCAG).

**If** the procurement includes a Content Management System (CMS) of other tools for adding and modifying the design of content, then those tools should meet the Authoring Tool Accessibility Guidelines (ATAG).

### **Web Content Accessibility Guidelines (WCAG)**

This is the international standard for website design and content.WCAG is often referred to as the “WAI guidelines” because it is the most prominent of the three sets of guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C). It is the only standard that is referred to within Irish Government policy (see [Legislation and Public Policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/legislation-and-public-policy/) for more details).WCAG 2.0 is the current version of these guidelines - all earlier versions are deprecated.WCAG 2.0 should be used to specify accessibility requirements in all procurement projects. The NDA Web Guidelines are identical to the now deprecated WCAG 1.0 but are presented in a format that is easier to read and understand.They are mentioned here for reference purposes only.

### **Suggested text for an RFT**

#### **Accessibility targets**

The website pages and page templates should be designed to meet all Web Content Accessibility Guidelines 2.0, W3C World Wide Web Consortium Recommendation 11 December 2008, Level A & Level AA Success Criteria. ([http://www.w3.Org/TR/2008/REC-WCAG20-20081211/](http://www.w3.org/TR/2008/REC-WCAG20-20081211/)). Where a supplier considers any Success Criterion to be inappropriate or unachievable for some component of the content or templates, this must be stated explicitly in the tender, together with an explanatory rationale.

Prior to tendering, suppliers should be satisfied that they can meet these guidelines. Prior to project completion suppliers will be required to provide an accurate [Conformance Claim withWCAG 2.0](http://www.w3.org/TR/WCAG20/#conformance-claims).

### **AboutWCAG 2.0**

TheWCAG 2.0 defines how to make Web content more accessible to people with disabilities. It is designed to apply broadly to different Web technologies now and in the future, and to be testable with a combination of automated testing and human evaluation. WCAG 2.0 is comprised of four layers of documentation:

* [**Principles**](http://www.w3.org/TR/UNDERSTANDING-WCAG20/intro.html#introduction-fourprincs-head) - At the top are four principles that provide the foundation for Web accessibility: perceivable, operable, understandable, and robust.
* **Guidelines** - Under the principles are guidelines. The 12 guidelines provide the basic goals that authors should work toward in order to make content more accessible to users with different disabilities.
	+ 1 Perceivable
		- 1.1 Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.
		- 1.2 Provide alternatives for time-based media.
		- 1.3 [Create content that can be presented in different ways (for example simpler layout) without losing information or structure.](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/#content-structure-separation)
		- 1.4 Make it easier for users to see and hear content including separating foreground from background.
	+ 2 Operable

		- 2.1 Make all functionality available from a keyboard.
		- 2.2 Provide users enough time to read and use content
		- 2.3 Do not design content in a way that is known to cause seizures.
		- 2.4 Provide ways to help users navigate, find content, and determine where they are.
	+ 3 Understandable
		- 3.1 Make text content readable and understandable.
		- 3.2 Make Web pages appear and operate in predictable ways.
		- 3.3 Help users avoid and correct mistakes.
	+ 4 Robust
		- 4.1 Maximize compatibility with current and future user agents, including assistive technologies.
* [**Success Criteria**](http://www.w3.org/WAI/WCAG20/quickref/) - For each guideline, testable success criteria are provided to allow WCAG 2.0 to be used where requirements and conformance testing are necessary such as in design specification, purchasing, regulation, and contractual agreements. In order to meet the needs of different groups and different situations, three levels of conformance are defined: A (lowest), AA, and AAA (highest).

Additional information on WCAG levels can be found in [Understanding Levels of Conformance](http://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.Html#uc-levels-head).

The [Code of Practice on Accessibility of Public Services and Information Provided by Public Bodies](http://www.nda.ie/cntmgmtnew.Nsf/0/3DB134DF72E1846A8025710F0040BF3D?OpenDocument) cites Level AA with the WCAG as the conformance rating which Irish public sector bodies should achieve.

* **Sufficient and Advisory Techniques** - Each of the guidelines and success criteria in the WCAG 2.0 contain a wide variety of techniques. The techniques fall into two categories: those that are sufficient for meeting the success criteria and those that are advisory. The advisory techniques go beyond what is required by the individual success criteria

### **A brief note about “Bobby”**

The “Bobby test” or “Bobby approved” should no longer be referred to in RFTs or contract documents.

There has always been a lot of misunderstanding around the nature of “Bobby”, which is often referred to, incorrectly, as a Web accessibility standard. Bobby no longer exists, but when it did it was an accessibility testing tool, not a standard. It was designed to help an accessibility expert assess a website against guidelines such as the Web Content Accessibility Guidelines (WCAG) and others. It is only one of a large number of such tools and different developers may prefer different ones.

Web content requirements should therefore always refer to WCAG, not to Bobby.

### **Authoring Tool Accessibility Guidelines (ATAG)**

This standard covers software tools used to produce websites and Web content. These include website design software (e.g. Dreamweaver), content creation software (e.g. Adobe Acrobat Suite) and Content Management Systems (CMSs). ATAG describes the requirements that these tools should meet in order to enable, encourage, and assist authors in producing accessible websites.

### **Suggested text for an RFT**

#### **Accessibility targets**

<the authoring tools> should, as far as possible, meet all appropriate and achievable checkpoints from all priority levels (1, 2 and 3) of the Authoring Tool Accessibility Guidelines (ATAG) 1.0 from the Web Accessibility Initiative (WAI). It is essential that <the tools> fulfil at least the following criteria:

* Be capable of producing valid HTML and CSS code;
* For all images, oblige authors to either include a text
alternative or indicate that the image has no information content and add alt
attributes accordingly;
* Enable authors to identify heading levels and lists and apply
markup accordingly;
* Enable author to identify the semantic structure of data
tables and apply markup accordingly.

### **About ATAG 1.0**

There are 2 aspects to ATAG. First, requirements for ensuring that the web code and content produced using the tool will be accessible. Second, requirements for ensuring that the authoring tool itself will be accessible.

If you are procuring a website, you will not end up with a static resource that never changes. Over time, new content will be continually added and modified. You may also need to make fundamental changes to the structure and navigation from time to time. All these changes will involve producing new code and content, using various authoring tools. For example, a webmaster might use a tool such as Dreamweaver to modify the code. A press office may use a word processor such as Microsoft Word to write new content. This may then be converted to HTML or PDF using other tools and added to the website using theCMS. All of these are classed as authoring tools and they must enable, encourage, and assist your staff to produce accessible code and content. If they do not, then the website and its content will become inaccessible over time.

ATAG is divided into 7 guidelines:

1. Support accessible authoring practices.
2. Generate standard markup.
3. Support the creation of accessible content.
4. Provide ways of checking and correcting inaccessible
content.
5. Integrate accessibility solutions into the overall
"look and feel".
6. Promote accessibility in help and documentation.
7. Ensure that the authoring tool is accessible to authors with
disabilities.

Like WCAG, each guideline contains a number of checkpoints and each checkpoint is assigned one of 3 priority levels, with priority 1 being the most important. These relate to the 3 compliance levels: A, AA and AAA. Satisfying all the priority 1 checkpoints for a tool means the tool achieves level A compliance. Satisfying all the priority 2 checkpoints in addition to the priority 1 checkpoints means AA compliance. Satisfying the checkpoints of all 3 priorities means AAA compliance. In brief:

Priority 1 = A (termed “essential”)

Priority 1 & 2 = AA (termed “important”)

Priority 1, 2 & 3 = AAA (termed “beneficial”)

### **A note on using ATAG as a specification criterion in a tendering process**

To a certain extent, ATAG 1.0 is based on WCAG 1.0 (Web Content Accessibility Guidelines), so in some areas it is out of date with current web technologies and practices on accessibility. There are almost no currently available Web authoring tools or CMSs that meet even conformance rating level A with ATAG. It is advisable not to set a sepcific requirement level of “AA” or “AAA” with ATAG for authoring software without first reviewing the content of these guidelines. Review the needs of your users and the nature of your website's functionality and content. Include functional requirements that are specific to these needs during your tendering process: do not state any mandatory requirements other than the four essential criteria listed in the suggested text.

For more information, go to the [Authoring Tool Accessibility Guidelines (ATAG) website](http://www.w3.org/TR/ATAG10/).

# Public access terminals

## Contents

* [Which targets should you prescribe?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Public-access-terminals/#which-targets)
* [NDA it accessibility guidelines for public access terminals](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Public-access-terminals/#accessibility-guidelines)
* [User agent accessibility guidelines (uaag)](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Public-access-terminals/#uuag)

This page describes the relevant accessibility standards for public access terminals (pats) and gives sample text that you can cut and paste into an RFT. This text is designed to be used in conjunction with the sample texts describing general accessibility targets, an appropriate development process, how tenders will be evaluated, etc. These sample texts are given on the [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/) page.

Public access terminals include (but are not limited to):

* Atms (automated teller machines);
* Information kiosks;
* Ticket vending machines;
* Information displays (e.g. flight information);
* Point-of-sale customer card payment systems; and
* Card door entry systems.

For an introduction to the accessibility issues that arise with public access terminals, read the section about [public access terminals accessibility](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/public-access-terminals/) in the NDA IT Accessibility Guidelines.

**Which targets should you prescribe?**

**All** public access terminals should meet the NDA it accessibility guidelines for public access terminals.

**If** the terminal is going to access a website, web application or set of HTML pages, it should also meet the user agent accessibility guidelines.

**If** the procurement also covers the content of that website, web application or set of HTML pages, the content should meet the targets specified in the [websites and web applications](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Accessibility-Targets/Web-technologies/) section.

### **NDA IT accessibility guidelines for public access terminals**

The NDA guidelines for public access terminals (pats) cover both the hardware and the software user interface. All pats should conform to these guidelines.

#### **Suggested text for an RFT**

##### **Accessibility targets**

<the terminal> hardware and software should be designed and installed in accordance with the nda it accessibility guidelines for public access terminals. It should meet at least all the priority 1 guidelines and all appropriate and achievable priority 2 guidelines. Where a supplier considers any guidelines to be inappropriate or unachievable for some component of the hardware or software, this must be stated explicitly in the tender, together with an explanatory rationale.

Prior to tendering, suppliers should be satisfied that they can meet these guidelines, which are listed and clearly explained on the ndait accessibility guidelines website ([http://accessit.nda.Ie/it-accessibility-guidelines/public-access-terminals/guidelines](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/public-access-terminals/guidelines-for-public-access-terminals-accessibility/guidelines-for-public-access-terminals-accessibility.html)). The deliverables will be assessed against the checklist at[http://accessit.nda.Ie/it-accessibility-guidelines/public-access-terminals/checklist-public-access-terminals-accessibility](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Public-Access-Terminals/Public-access-terminals-checklist-/).

##### **About the NDA guidelines for public access terminals**

The NDA pats guidelines are presented as a number of high level user-oriented functional goals, not as precise technical specifications. The main guidelines are as follows:

* Ensure that all operable parts are reachable by people of all
heights and people sitting in a wheelchair or buggy;
* Ensure that displays are within sight of people of all heights
and people sitting in a wheelchair or buggy;
* Ensure that controls are adequately sized and sufficiently
spaced to be operated by people with limited dexterity;
* Ensure that operation requires minimal strength, grip and
wrist twisting;
* Ensure that the terminal can be operated using only one
hand;
* If using a touchscreen or contact-sensitive controls, do not
require that it is touched by a body part;
* Ensure that users with restricted or no vision can use all
functions of the terminal;
* Ensure that all outputs can be perceived by users with
restricted or no vision;
* Ensure that all outputs can be perceived by users with
restricted or no hearing;
* Use the simplest language possible for instructions, prompts
and outputs and, where possible, supplement it with pictorial information or
spoken language;
* If using cards, ensure that the card can be inserted into the
card reader in its correct orientation without requiring vision;
* If using biometric identification, provide an alternative
access security mechanism for users who do not possess the required biological
characteristic;
* Do not cause the screen to flash at a frequency above
2hz;
* When installing the terminal, ensure that users can get to it
along an unobstructed path and operate it from a stable position;
* Ensure that an equivalent service is available through an
accessible channel for users who cannot use the terminal.

For each of these guidelines, more specific design guidance is provided, such as “clearly define the edges of buttons and keys using a ridged border which is darker or lighter than the control itself”. However, this is intended as guidance, not mandatory properties that must be adhered to. The NDA resource also gives the rationale and suggested testing methods for each guideline.

The [NDA pats guidelines](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Public-Access-Terminals/Guidelines-for-Public-Access-Terminals-Accessibility/) are divided into 2 priority levels. Priority 1 covers the basic requirements to allow people to reach and operate controls and to perceive outputs. Meeting all the priority 1 guidelines will ensure that the terminal can be used by most people with impaired mobility, vision, hearing, cognition and language understanding. Priority 2 introduces guidelines concerning understandability and allowing users to remain in control. Meeting all the priority 2 guidelines in addition to priority 1 will make it easier to use and will include more people with cognitive impairments or multiple disabilities. However, security and cost issues are more likely to impact on the feasibility of meeting priority 2 although, in many cases, clever flexible designs will be able to get around these issues.

If you are procuring a pat, you should specify the NDA pats guidelines as a reference and expect that at least all the priority 1 guidelines should be met and preferably priority 2 as well.

For more information, see the [NDA it accessibility guidelines for public access terminals](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/accessibility-targets/public-access-terminals/).

### **User Agent Accessibility Guidelines (UAAG)**

This standard covers web browsers, such as Internet Explorer or Firefox, and other types of software that retrieve and render web content. If the software user interface of the pat includes an embedded web browser or similar, this should be designed in accordance with UAAG.

#### **Suggested text for an RFT**

##### **Accessibility targets**

Where <the terminal> presents information and interaction in the form of web pages, the software user interface should meet all appropriate and achievable checkpoints from all priority levels (1, 2 and 3) of the User Agent Accessibility Guidelines (UAAG) 1.0 from the Web Accessibility Initiative (WAI).

Prior to tendering, suppliers should be satisfied that they can meet these guidelines. A checklist is available from[http://www.w3.Org/tr/uaag10/uaag10-chklist.Html](http://www.w3.org/tr/uaag10/uaag10-chklist.Html). The deliverables will be assessed against this checklist.

##### **About UAAG 1.0**

UAAG 1.0 covers web browsers, such as Internet Explorer or Firefox, and other types of software that retrieve and render web content. It describes the requirements that these ‘user agents’ should meet in order to enable users to access web content and display it in a way that meets their needs.

UAAG is divided into 12 guidelines:

* 1. Support input and output device-independence;
* 2. Ensure user access to all content;
* 3. Allow configuration not to render some content that may reduce accessibility;
* 4. Ensure user control of rendering;
* 5. Ensure user control of user interface behavior;
* 6. Implement interoperable application programming interfaces;
* 7. Observe operating environment conventions;
* 8. Implement specifications that benefit accessibility;
* 9. Provide navigation mechanisms;
* 10. Orient the user;
* 11. Allow configuration and customisation;
* 12. Provide accessible user agent documentation and help.

Each guideline contains a number of checkpoints and each checkpoint is assigned one of 3 priority levels, with priority 1 being the most important. These relate to the 3 compliance levels: a, aa and aaa. Satisfying all the priority 1 checkpoints for a user agent means the agent achieves level a compliance. Satisfying all the priority 2 checkpoints in addition to the priority 1 checkpoints means aa compliance. Satisfying the checkpoints of all 3 priorities means aaa compliance. In a nutshell:

Priority 1 = a (termed “basic requirements”);

Priority 1 & 2 = aa (removing “significant barriers”);

Priority 1, 2 & 3 = aaa (making it “easier to access the web”).

User agents' compliance with uaag is often quite poor. Also, atag 1.0 was written with pc-based user agents in mind and it may be difficult and, in some cases, inappropriate to provide the same functionality in a pat that someone would expect in a pc application. For example, browsers such as Internet Explorer or Firefox provide users with a degree of control over browser settings, such as being able to change the text size and switch off support for javascript or css. When a browser is embedded in a pat, there is usually no access to these functions. The user cannot access the browser menus and the toolbars are removed. Pats are usually designed to be very simple devices that do a restricted job securely. They allow access to a restricted type of information. They have to be simple enough for users with little pc experience to understand and robust enough that individual users cannot change the settings in a way that causes problems for other users. However most of the uaag checkpoints are still valid in some way, since some users may still need a way to configure text colours (checkpoint 4.3) or slow down animations and multimedia (checkpoint 4.4).

Consider the needs of your users and the nature of the technology platform to be used and be prepared to be flexible with the requirements of uaag 1.0.

For more information, go to the [user agent accessibility guidelines (uaag) website](http://www.w3.org/tr/uaag10/).

# Application software

This section describes the relevant accessibility standards for application software and gives sample text that you can cut and paste into an RFT. This text is designed to be used in conjunction with the sample texts describing general accessibility targets, an appropriate development process, how tenders will be evaluated, etc. These sample texts are given on the [Writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/) page.

This covers application software running under any operating system or runtime environment. For an introduction to the accessibility issues that arise with application software, read the section [About Application Software Accessibility](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Application-software/About-Application-Software-Accessibility/) in the NDA IT accessibility guidelines.

## Which targets should you prescribe?

Application software should meet the [NDA IT Accessibility Guidelines for Application Software](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Application-software/Guidelines-for-Application-Software-Accessibility/).

### **Suggested text for an RFT**

#### **Accessibility targets**

<the software> should be designed in accordance with the NDA IT Accessibility Guidelines for Application Software. It should meet at least all the priority 1 guidelines and all appropriate and achievable priority 2 guidelines. Where a supplier considers any guidelines to be inappropriate or unachievable for some component of the software, this must be stated explicitly in the tender, together with an explanatory rationale.

Prior to tendering, suppliers should be satisfied that they can meet these guidelines, which are listed and clearly explained on the NDA IT Accessibility Guidelines website ([http://www.Accessit.nda.Ie/it-accessibility-guidelines/application-software](http://www.accessit.nda.ie/it-accessibility-guidelines/application-software)). The deliverables will be assessed against the checklist at [http://www.Accessit.nda.Ie/it-accessibility-guidelines/application-software/checklist-application-software-accessibility](http://www.accessit.nda.ie/it-accessibility-guidelines/application-software/checklist-application-software-accessibility).

### **About the NDA guidelines for Application Software**

The NDA application software guidelines are presented as a number of high-level, user-oriented functional goals, not as precise technical specifications. The main guidelines are as follows:

* Ensure that users have access to the operating system
accessibility tools, without affecting application functionality;
* Ensure compatibility with assistive technologies
* Adhere to all user-selected system settings for input and
output;
* Adhere to the standard keyboard access methods;
* Do not require use of a pointing device;
* Ensure that all information can be perceived by users with
restricted or no vision;
* Ensure that all information can be perceived by users with
restricted or no hearing;
* Do not cause the screen to flash at a frequency of above 2
Hertz;
* Use the simplest language possible for instructions, prompts
and outputs and, where possible, supplement it with pictorial information or
spoken language;
* Ensure a logical tab order for controls, input fields and
other objects;
* Provide descriptions and instructions for all accessibility
features;
* Provide accessible documentation, training and support
materials.

For each of these guidelines, more specific design guidance is provided, such as “Use system calls to determine required display characteristics for non-standard elements”. However, this is intended as guidance, not mandatory properties which must be adhered to. The NDA resource also gives the rationale and suggested testing methods for each guideline.

The NDA application software guidelines are divided into 2 priority levels. Priority 1 covers the basic requirements to allow people to operate the software. Meeting all the priority 1 guidelines will ensure that the software can be used by most people with impaired mobility, vision, hearing, cognition and language understanding and will interface to standard assistive technologies, such as keyboard emulators and screen magnification software. Priority 2 introduces guidelines concerning understandability and allowing users to install and set up the software. Meeting all the priority 2 guidelines in addition to priority 1 will make it easier to use and will include more people with cognitive impairments or multiple disabilities.

If procuring application software you should specify the NDA application software guidelines as a reference and expect that at least all the priority 1 guidelines should be met and preferably priority 2 as well.

For more information, see the [NDA IT Accessibility Guidelines for Application Software](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Application-software/).

# Telecoms

This section describes the relevant accessibility standards for telecommunications systems and devices and gives sample text that you can cut and paste into an RFT. This text is designed to be used in conjunction with the sample texts describing general accessibility targets, an appropriate development process, how tenders will be evaluated, etc. These sample texts are given on the [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/) page.

This covers fixed or mobile telecommunications devices and services delivered via interactive voice response (ivr) systems. This includes the hardware and software aspects of public or private telephones and videophones and menu-based services such as voicemail. For an introduction to the accessibility issues that arise with telecommunications systems and devices, read the section [about telecoms accessibility](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Telecoms/About-Telecoms-Accessibility/) in the nda it accessibility guidelines.

## Which targets should you prescribe?

Telecommunications systems and devices should meet the [NDA it accessibility guidelines for telecoms](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Telecoms/).

### **Suggested text for an RFT**

#### **Accessibility targets**

<the system or device> should be designed in accordance with thenda it accessibility guidelines for telecoms. It should meet at least all the priority 1 guidelines and all appropriate and achievable priority 2 guidelines. Where a supplier considers any guidelines to be inappropriate or unachievable for some component of <the system or device>, this must be stated explicitly in the tender, together with an explanatory rationale.

Prior to tendering, suppliers should be satisfied that they can meet these guidelines, which are listed and clearly explained on the ndait accessibility guidelines website ([http://accessit.nda.Ie/it-accessibility-guidelines/telecoms/guidelines](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Telecoms/)). The deliverables will be assessed against the checklist at [http://accessit.nda.Ie/it-accessibility-guidelines/telecoms/checklist](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/telecoms/checklist-for-telecoms-accessibility/checklist-for-telecoms-accessibility.html).

### **About the nda guidelines for telecoms**

They nda telecoms guidelines are presented as a number of high level user-oriented functional goals, not as precise technical specifications. The main guidelines are as follows:

* Ensure that all operable parts are reachable by people of all
heights and people sitting in a wheelchair or buggy;
* Ensure that displays are within sight of people of all heights
and people sitting in a wheelchair or buggy;
* Ensure that controls are adequately sized and sufficiently
spaced to be operated by people with limited dexterity;
* Ensure that operation requires minimal strength, grip and
wrist twisting;
* Ensure that the device can be operated using only one
hand;
* Ensure that users with restricted or no vision can use all
functions of the device;
* Ensure that all outputs under the control of the device can be
perceived by users with restricted or no vision;
* Ensure that videophones provide accurate reproduction of text
and sign language;
* Ensure that all outputs under the control of the device can be
perceived by users with restricted or no hearing;
* Ensure compatibility with assistive technologies;
* If using telephone cards, ensure that the card can be inserted
Into the card reader in its correct orientation without requiring
vision;
* Use the simplest language possible for instructions and
outputs and, in visual displays, supplement it with pictorial information or
spoken language;
* Do not cause the display to flash at a frequency of above
2hz;
* Ensure that users can get to the device along an unobstructed
path and operate it from a stable position;
* For interactive voice response (ivr) systems, provide an
equivalent service through an accessible channel for users who still cannot use
the system.

For each of these guidelines, more specific design guidance is provided, such as “distinguish phone cards with tactile markings”. A rationale and suggested testing method is provided for each guideline.

The nda application software guidelines are divided into two priority levels. Priority 1 covers the basic requirements to allow people to operate the device or service. Meeting all the priority 1 guidelines will ensure that the device or service can be reached and used by most people with impaired mobility, vision, hearing, cognition and language understanding and will interface to standard assistive technologies, such as hearing aids. Priority 2 includes guidelines dealing with understandabing device outputs and user control over of device. Meeting all the priority 2 guidelines in addition to priority 1 will help ensure the applications software is easier to use and will facilitate a greater range of people with cognitive impairments or multiple disabilities.

If procuring telecommunications systems and devices you should specify the NDA telecoms guidelines as a reference and expect that at least all the priority 1 guidelines should be met and preferably priority 2 as well.

For more information, see the [NDA it accessibility guidelines for telecoms](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Telecoms/).

# Smart Cards

This section describes the relevant accessibility standards for smart card technologies and gives sample text that you can cut and paste into an RFT. This text is designed to be used in conjunction with the sample texts describing general accessibility targets, an appropriate development process, how tenders will be evaluated, etc. These sample texts are given on the [writing an RFT](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/) page.

For an introduction to the accessibility issues that arise with telecommunications systems and devices, read the section about [smart card accessibility](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/smart-cards/guidelines-for-smart-card-accessibility/) in the NDA IT Accessibility Guidelines.

## Which targets should you prescribe?

Smart card systems should meet the [NDA IT Accessibility Guidelines for smart card technologies](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/smart-cards/guidelines-for-smart-card-accessibility/). The nda smart card guidelines cover a wide range of issues to do with the accessibility of all elements of a system that incorporates smart cards. These range from accessibiltiy issues to do with [literature and application forms](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Smart-Cards/), to the [cards](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Smart-Cards/) themselves to the [physical user interface](https://universaldesign.ie/technology-ict/archive-irish-national-it-accessibility-guidelines/Smart-Cards/) of the terminal the cards interface with. It will be necessary to familiarise yourself with the guidelines before choosing the subset for the RFT.

### **Suggested text for an RFT**

#### **Accessibility targets**

<the system or device> should be designed in accordance with all specified nda it accessibility guidelines for smart cards. Where a supplier considers any of the specified guidelines to be inappropriate or unachievable for some component of <the system or device>, this must be stated explicitly in the tender, together with an explanatory rationale.

Prior to tendering, suppliers should be satisfied that they can meet these guidelines, which are listed and clearly explained in the nda it accessibility guidelines for smart cards[http://accessit.nda.Ie/it-accessibility-guidelines/smart-cards/guidelines](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/smart-cards/guidelines-for-smart-card-accessibility/guidelines-for-smart-card-accessibility.html). The deliverables will be assessed against the checklist at [http://accessit.nda.Ie/it-accessibility-guidelines/smart-cards/guidelines/checklist](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/smart-cards/benefits-for-users/benefits-for-users.html).

### **About the nda guidelines for smartcard technologies**

They nda smart card guidelines are presented as a mix of high-level, user-oriented functional goals as well as precise technical specifications. The main guideline areas are as follows:

* Literature and application forms
* Training in use of the system
* Terminal environment
* Physical user interface
* Labels and onstructions
* Cards
* Authentication
* Displays
* Operation
* Keypads
* Touchscreens
* Retrieving output
* Lost and stolen cards
* Alternative service

For more information, go to the [NDA it accessibility guidelines for smartcard technologies](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/smart-cards/guidelines-for-smart-card-accessibility/guidelines-for-smart-card-accessibility.html).

# Supporting Information

## Contents

* [Principles of accessible procurement](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/principles-of-accessible-procurement.html)
* [Skills needed by procurers](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/skills-needed-by-procurers.html)
* [Writing an accessibility policy](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/writing-an-accessibility-policy/writing-an-accessibility-policy.html)
* [Frequently asked questions](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/frequently-asked-questions/frequently-asked-questions.html)

# Principles of accessible procurement

## Contents

* [Diversity is normal](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#diversity)
* [Universal design is the best approach to accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#design-for-all)
* [IT is ideally suited to universal design](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#it-is-ideally-suited)
* [Accessibility is predominantly a service quality issue](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#service-issue)
* [Accessibility is about "user friendliness" and "ease of use"](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#user-friendliness)
* [Accessibility should be included from the start](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#from-the-start)
* [Involve people with disabilities](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#disabilities)
* [Full accessibility in one step may not be possible](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#in-one-step)
* [Procurers and suppliers need a good understanding of accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/#good-understanding)

Before you embark on a procurement, it is a good idea to be aware of some of the basic principles underlying accessibility and how best to achieve it. If you are new to accessibility, you might start by reading the [introduction to accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/introduction-to-accessibility/) understanding and taking on board the following ideas will get you are a long way toward successfully procuring an accessible solution.

### **Diversity is normal**

In order to meet the access needs of the wider population, including people with disabilities, it is important not to take too narrow a view of 'disabilities' or 'access impairments'. Everyone is impaired in some ways at some times. Even people who have no permanent physical disability may be operating with a temporary injury such as rsi (repetitive strain injury), an environmental constraint such as poor lighting or an operational burden such as driving a car. any of these things can make it more difficult to see, hear, understand or interact with information and communication technologies (It). In addition, some level of permanent perceptual or functional impairment can be expected to emerge naturally during almost everyone’s life. This variation in abilities across time and situation means that, for most products and services, the needs and abilities of its users are extremely diverse. This is normal, so accessibility is an essential consideration.

you can read more about the barriers faced by people with disabilities using it in the the [introduction to accessibility](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/introduction-to-accessibility/) section of the nda it accessibility guidelines as well as under the individual technology sections of those guidelines.

### **Universal design is the best approach to accessibility**

The most effective and cost effective way to deliver a service is usually to do it in a single way that caters flexibly for everyone’s needs. Individual adaptations tend to be costly. For example, the easiest way to ensure that all customers can get in the door of a shop is to make a single entrance that is tall, wide, level (or ramped) and opens automatically. An alternative approach would be to install one “standard” door for “standard” people, then to provide a separate tall door for tall people, a wide door for wide people or parents with buggies, a ramped entrance for people in wheelchairs and an automatically opening door for people who are infirm or carrying awkward loads. However, these individual adaptations would require extra design, construction, maintenance and staff attention. This would be very costly. They might also discriminate against some customers, because at least one of the doors would probably have to be in an unfavourable location, from where it would take longer to reach the products on the shelves.

Individual adaptations may sometimes be necessary, but the aim should be to reduce the need for them as far as possible. It is particularly suited to designing single channels that cater flexibly for the needs of a wide variety of service users and do not require individual adaptations.

### **IT is ideally suited to universal design**

It is relatively easy to provide accessible services through It compared with traditional channels. Take a business card for example. Business cards are a standard size and usually the writing on them is very small, too small for many people to read. A solution might be to make the text bigger and add braille. But this could result in a cluttered design that suits few people. An alternative solution might be to print three different versions – standard, large print and braille. This would be better but more expensive and some people might still not have their needs met.

With it, a better solution comes a lot easier. A business card presented on a display screen can be zoomed to whatever size the viewer requires. The colours can be changed to suit different preferences and the content can be read aloud by text-to-speech software for blind people, people who cannot easily read english language or people who are driving their car at the time. It is much more flexible because the viewer has far more control over the presentation of the information.

### **Accessibility is predominantly a service quality issue**

Accessibility is not merely a compliance issue. It is not just about conforming with technical guidelines or legal requirements. By focusing on accessibility an organisation can achieve a universally consistent quality of service for its customers. This service equality should be the driving principle and motivation, not compliance.

### **Accessibility is about “user friendliness” and “ease of use”**

Accessibility is not just about whether a person can or cannot perceive and physically operate an it device. It is also about whether they can do so effectively and efficiently to enable them to carry out their tasks without undue difficulty. It is therefore a person-centred issue, not a technology-centred one. This means that success should ultimately be measured by looking at the experiences of the people using the product or service. Can they carry out their tasks? can they do it quickly and easily? is the experience “user friendly” for all users? one of the best ways to find out is to carry out [user testing](https://universaldesign.ie/Technology-ICT/Universal-Design-for-ICT/User-Testing/) with people with a variety of abilities.

### **Accessibility should be included from the start**

The time to start considering accessibility is before any design has been done. When accessibility is considered too late in the design lifecycle, it is often not possible or too costly to address fundamental barriers. This can result in excluding some people and the need to provide the service through expensive alternative channels. The sensible approach is to plan for accessibility from the start. Don’t try to complete a design and then retrofit accessibility into it.

### **Involve people with disabilities**

Universal design means inclusive design and user-centred design. The people who are to use a product or service must be involved in the design process from the beginning to the end. Their input is necessary and indispensable. In terms of procurement, this means that people with disabilities should be involved throughout the contract management lifecycle – during specification, supplier selection, design and implementation. The toolkit gives guidance on how to do this in the [end-user involvement](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Skills-needed-by-procurers/#end-user-involvement) section.

### **Full accessibility in one step may not be possible**

If the decision has to be made that a product or service cannot be made accessible, or if there is going to be a time lag before accessibility can be achieved, there should be a plan for how to provide an alternative means of accessing the service so that disabled users are not disadvantaged. In the meantime, be prepared to do things in small achievable steps towards the final goal of full accessibility. Every step will bring benefits to both the customers and the service provider.

### **Procurers and suppliers need a good understanding of accessibility**

It is easy to ask for an accessible solution, but how do you know if you have received one? in many cases, suppliers can be trusted to deliver on their promises. however, accessibility is often not a core competence for a lot of It suppliers and they may not know as much about it as they think they do. Not only does the supplier need to develop a good understanding of accessibility in order to do the work, but the procurer must also develop a good understanding of accessibility requirements and the appropriate processes in case the supplier is lacking. For more about this, read the [skills needed by procurers](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/) section.

# kills needed by procurers

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* [Why do you need skills?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#why-do-you-need)
	+ [Suppliers may lack competence](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#suppliers-may-lack)
	+ [Accessibility conformance ratings](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#accessibility-conformance)
	+ [You will need to work with the supplier to resolve certain issues](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#work-with-the-supplier)
* [What skills do you need?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#what-skills)
	+ [Basic awareness for all](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#basic-awareness)
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* [How do you build skills?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#how-do-you)
* [End-user involvement](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#end-user-involvement)
	+ [Gathering information about users](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#gathering-information)
	+ [Testing](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/#testing)

It is not only the suppliers of It solutions that need to know about accessibility. As a procurer, you also need enough knowledge of accessibility to know what is possible, what requirements you should ask for and whether the delivered solutions meet the stated requirements. You also need to hold an informed dialogue with suppliers in cases where the best approach is unclear or where accessibility requirements clash with other considerations.

### **Why do you need skills?**

#### **Suppliers may lack competence**

Unfortunately, accessibility is often not a core competence for a lot of it suppliers. If it is left entirely up to them to specify, interpret, implement and measure against the accessibility requirements, the results may not meet your customers’ or employees’ needs. Inaccurate claims of it accessibility are not unusual. This is not necessarily a question of procurers being knowingly undersold. It is just that often neither the supplier nor the procurer have sufficient expertise to realise that they have not achieved the level of accessibility intended.

#### **Accessibility conformance ratings**

[Conformance logos from the Web Accessibility Initiative (WAI)](http://www.w3.org/wai/wcag1-conformance) are commonly used on websites that are designed to be accessible. However these conformance rating claims are made voluntarily and are not checked by the WAI. The 2005 [socitm better connected survey](http://212.49.202.247/socitm/news/press%2Breleases/20060301.Htm) by the [royal national institute of the blind](http://www.rnib.co.uk/) found that nearly one if four of the subset of 468 UK council websites that display a WAI logo did not reach that level of accessibility. It is important therefore to ensure that any conformance claims being made by a supplier for an it product or service are confirmed by an accessibility expert.

#### **You will need to work with the supplier to resolve certain issues**

Since you have direct responsibility for meeting your customers’ and employees’ access needs, you should be prepared and able to drive the accessibility work. During the course of the work, decisions often have to be made on pragmatic issues where strICT compliance with the accessibility guidelines may not seem possible, so you will need to decide which way to go. For example, the design may have to balance accessibility and guidelines compliance against security considerations, such as access control and timeouts. This is not a decision the supplier should be making and, although they will be able to make recommendations, you will need to understand the implications of the trade-off enough to make the decision.

### **What skills do you need?**

#### **Basic awareness for all**

Universal design primarily comes from a mindset. It requires an understanding of what it is like for people with diverse abilities and limitations to use it products and services. Because the issues are essentially person-centred rather than technology-centred, it is important to be able to see things from the perspective of users with disabilities and become aware of how access barriers arise and what the human consequences are.

This goes for everyone involved. It is important that accessibility is embraced and understood by all those who are in any way involved in the procurement and operation of the product or service including:

* Senior level management;
* Project managers;
* Designers and developers;
* System administrators;
* Content creators (e.g. for websites and intranets); and
* Help desk operatives.

#### **Technical expertise**

Fulfilling accessibility requirements often involves confronting technical issues. If your project manager does not have sufficient technical expertise, he or she may need the support of someone who does, such as the it manager.

If the necessary expertise does not exist within your procurement team and cannot easily be generated, it may be necessary to engage the help of an independent accessibility expert to provide assistance with the [assessing of candidates and tenders](https://universaldesign.ie/technology-ict/it-procurement-toolkit/stages-of-procurement/2-assessing-candidates-and-tenders/2-assessing-candidates-and-tenders.html) and the[evaluation of deliverables](https://universaldesign.ie/technology-ict/it-procurement-toolkit/stages-of-procurement/4-evaluating-deliverables/4-evaluating-deliverables.html). This process is similar to that commonly employed in the procuring of building works where clients frequently employ outside experts in the form of an architect, engineer, quantity surveyor, etc. To validate what is delivered. Good suppliers will often welcome the idea of a third-party expert auditor evaluating and providing constructive feedback on the accessibility of their work.

#### **Decision making**

An effective procurement team should have the capacity and authority to finalise all the procurement decisions within the team. Having to seek approval from outside of the team may delay the procurement and development process. If decisions need to be changed later because of this, costs increase and the design may ultimately suffer.

It is important that the supplier is able to work with people within your organisation who have the ability and authority to carry out quality assurance and make changes. A typical problem that can occur is that certain aspects of the design, such as colour schemes, have been predefined by the marketing department and the project manager does not have the authority to change it when it is found to cause readability problems. Other issues can occur during operation if, for example, the project manager does not have sufficient authority to ensure that inaccessible content (for example, inaccessible pdfs produced by the press office) are published to the site. An [accessibility policy](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/writing-an-accessibility-policy/writing-an-accessibility-policy.html) will help ensure that these issues can be dealt with effectively and with a minimum of disruption.

### **How do you build skills?**

Reading the [principles of accessible procurement](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/principles-of-accessible-procurement.html) will help you some way towards developing the right basic awareness. Talking to accessibility experts can also help you raise your level of knowledge considerably. However, to build an in-depth understanding of accessibility. It is essential also to interact with real users.

It is likely that most of the people in your procurement and development team have never actually met users with disabilities. although many of them will have met people with disabilities in other walks of life, they may not have any knowledge of them as It users. experience shows that when service providers or It developers meet, talk to and observe users with disabilities, they gain a far better understanding of what accessibility really means. Designing and implementing appropriate solutions then becomes far easier, more natural and intuitive. Bringing in users for consultation groups or user tests is one of the best things you can do to generate interest, acceptance and understanding amongst your team.

### **End-user involvement**

End users with disabilities should always be represented, preferably by direct involvement but at least by your access officer. The access officer should be included in decisions at all stages of the procurement, from requirements specification, to tender assessment, through design and implementation. Involving users with disabilities will not only help you ensure that your it solution is accessible in practice but will also generate goodwill and a feeling of inclusion amongst people with disabilities and their representatives.

#### **Gathering information about users**

If the contract involves designing a new system with new user interfaces, it will be important to follow a user-centred design and development process. The first stage of this is gathering information about the users. This may be done by the supplier as part of their own requirements gathering work. It will also be very useful for you to talk to people with disabilities to get a sense of their needs and preferences. One effective way to do this is to convene a consultation group. If you are unsure how to proceed, a good first step is to ask people with disabilities how they feel they should be included and consulted. The nda has published the ["ask me" guidelines on how to consult with people with disabilities](https://universaldesign.ie/cntmgmtnew.Nsf/0/af4db8120103088d80256c830060fb2f?opendocument). If you are a local authority, you will have a community forum that should include people with disabilities. this might be a good consultation group for It procurements. Advocacy groups or organisations representing people with disabilities can also be consulted.

#### **Testing**

One of the best ways to find out whether an it product or service is accessible is to run a user test. User tests are realistic tests in which real users attempt to carry out real tasks. Observing the users and talking to them about their experiences reveals a lot about the practical barriers that arise when people try to use the product or service for its intended purpose. In particular, user testing will reveal issues where the it may be technically accessible but the design makes it so confusing or time consuming for disabled people that it is in practice unusable. If the user testing reveals that all is well, you will have the confidence of having seen it for yourself.

User testing is not just something that is done at the end of the design, when you have a finished product. One of the principles of accessibility is that it should be considered from the start since it is often costly to modify a design that is found to have fundamental accessibility flaws. Users with disabilities can be involved in testing evolving ideas and prototypes throughout the design, development and implementation process. A good way to do this is to build a relationship with a few individual users who can become part of the team, testing things informally “on the fly” as and when needed. This can save a lot of effort and cost by catching issues before they are developed into solutions that do not work.

User testing is complementary to expert accessibility auditing. The technical scope of a user test is nowhere near that of an audit. A lot of technical problems won’t arise in a user test unless you employ hundreds of users, which would be prohibitively costly. But even a small user test can reveal a lot of important usability issues that real users will face but which even expert auditors may not have predicted.

Read more about[user testing](https://universaldesign.ie/Technology-ICT/Universal-Design-for-ICT/User-Testing/)

# Writing an accessibility policy

Because of its importance, accessibility should be explicitly identified as a core feature of your organisation’s it strategy and should be expressed in the appropriate policy documents.

## Accessibility policy document

Your accessibility policy should cover the following topics:

* Accessibility targets for different types of it;
* The use of an inclusive, user-centred design
processes;
* Methods to be used to consult and involve people with
disabilities;
* Policy on maintaining accessibility;
* Awareness raising and skills building amongst
staff; and
* Policy on dealing with suggestions, comments or complaints
regarding the accessibility of your it-based products and services.

The guidance provided in this toolkit will help you draft appropriate policies. In particular, you might refer to the following sections:

* [Writing an RTF (refers to
accessibility guidelines for different technologies)](https://universaldesign.ie/technology-ict/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/1-writing-an-rft.html)
* [Skills needed by
procurers](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/skills-needed-by-procurers/skills-needed-by-procurers.html)
* [Involving end
users with disabilities](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/Supporting-Information/Skills-needed-by-procurers/#end-user-involvement)
* [Maintaining
accessibility](https://universaldesign.ie/technology-ict/it-procurement-toolkit/stages-of-procurement/5-maintaining-accessibility/5-maintaining-accessibility1.html)
* [Principles of accessible
procurement](https://universaldesign.ie/technology-ict/it-procurement-toolkit/supporting-information/principles-of-accessible-procurement/principles-of-accessible-procurement.html)

To foster a culture of inclusion, all staff should be made aware of the accessibility policy.

## Corporate procurement plan

Your accessibility policy should also inform your procurement plans. Under the [national public procurement policy framework](http://www.etenders.gov.ie/guides/guides_show.Aspx?id=1103), all public bodies are expected to develop a corporate procurement plan as well as individual plans for significant purchases. The plans should address the policy and practical approach to be adopted and examine the systems, procedures and staff capabilities that support procurement.

# Frequently asked questions

## Contents

* [Where can i find more information about accessibility?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_where_can_i)
* [What is the law on it accessibility?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_what_is_the)
* [What is government policy on it accessibility?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_what_is_government)
* [Will accessibility cost a lot?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_will_accessibility_cost)
* [Are accessibility guidelines vague and difficult to work with?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_are_accessibility_requirements)
* [Will it restrict the kind of technology we can use?](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/it-procurement-toolkit/supporting-information/frequently-asked-questions/#_will_it_restrict)

### **Where can i find more information about accessibility?**

Read the [introduction to accessibility.](https://universaldesign.ie/technology-ict/universal-design-for-ict/introduction-to-accessibility/introduction-to-accessibility.html) for information on specific technologies, also read:

* [About public access terminals accessibility](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/public-access-terminals/about-public-access-terminals-accessibility/about-public-access-terminals-accessibility.html)
* [About telecoms accessibility](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/telecoms/about-telecoms-accessibility/about-telecoms-accessibility.html)
* [About application software accessibility](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/application-software/about-application-software-accessibility/about-application-software-accessibility.html)
* [About smart card accessibility](https://universaldesign.ie/technology-ict/irish-national-it-accessibility-guidelines/smart-cards/about-smart-card-accessibility/about-smart-card-accessibility.html)

### **What is the law on it accessibility?**

Legislation relevant to the procurement and provision of accessible it is described on the [Legislation and public policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/legislation-and-public-policy/) page.

### **What is government policy on it accessibility?**

Central and local government policy relevant to the procurement and provision of accessible it is described on the [legislation and public policy](https://universaldesign.ie/technology-ict/web-and-mobile-app-accessibility/legislation-and-public-policy/) page.

### **Will accessibility cost a lot?**

For procurers, the cost of accessibility depends on what is being purchased and how it is developed. For an 'off-the-shelf' product, such as a photocopier or a piece of shrink-wrapped software, it may be possible to choose at the purchasing stage between alternative products with different levels of accessibility. If an accessible product is available that fulfills all other requirements without costing more than the inaccessible product, then the purchaser can simply choose that one and the cost of accessibility will be nil. Significant extra costs may occur where off-the-shelf products are not accessible and there are no accessible alternatives available. This may be unavoidable.

Bespoke software, hardware or other it systems that are designed or configured to suit the purchaser's needs can often be designed from the outset to be accessible at little or no extra cost. If accessibility is considered from the start and an inclusive, user-centred design process is followed, the increased cost of creating a universally accessible solution may be very little. A good example of this is a website. It is not usually difficult to design a website in a way that it is fully functional, aesthetic and accessible. An accessible design process may, however, include extra steps, such as third-party auditing or user testing by people with disabilities. This will add some cost, but the significance of this added cost should be judged within the overall cost of development. For medium to large purchases, the addition of third party auditing and user testing should not appreciably increase the budget. Even for small purchases of €10,000 or less, some user involvement and accessibility expertise should be affordable. The large number of people who will benefit from increased accessibility may make the cost/benefit ratio very low. The reduced need for alternative service provision means that, in many cases, implementing an accessible solution will actually save money in the long term.

Significant extra costs may occur where a bespoke system was not designed to be accessible from the start and accessibility can only be achieved by a major redesign or retrofitting alternative functionalities. As far as possible, it is up to the procurer to ensure that this scenario does not occur by clearly stating the requirement for accessibility and an inclusive design process in the request for tenders (see [writing an rtf](https://universaldesign.ie/technology-ict/it-procurement-toolkit/stages-of-procurement/1-writing-an-rft/1-writing-an-rft.html)).

Workplace adaptations for members of staff with disabilities may not be prohibitively expensive. The [Workplace equipment/adaptation grant](http://www.fas.ie/en/allowances%2Band%2Bgrants/workplace%2Bequipment%2Badaptation%2Bgrant%2B%28weag%29.htm) scheme is run by [fás](http://www.fas.ie/) for a "disabled person, who has been offered employment or are in employment, and require a more accessible workplace or adapted equipment to do your job".

### **Are accessibility guidelines vague and difficult to work with?**

Accessibility guidelines are generally clear enough to use as a basis for design and it is not necessarily difficult to assess the accessibility of a design.

Accessibility guidelines are stated as either functional requirements or technical requirements. The former usually state what the piece of software or hardware must be able to do; the latter usually include measurable criteria by which the requirement can be tested. It can be more difficult to judge if a functional requirement has been met. These are often not precise and objectively measurable and may vary considerably across populations, circumstances and time. However, because all accessibility requirements and guidelines are based on human experiences, they are quite easy for humans to contemplate and reason about.

For example, a typical requirement is that there should be a sufficient contrast between text and background to ensure readability. The exact contrast required may be difficult to state in precise terms and difficult to measure (although for some technologies exact specifications are may available). The "best" contrast may depend on the ambient lighting conditions, the size and shape of the text, who is reading it and other things. Some simple user trials can quickly provide information on the effectiveness of the chosen contrast.[user testing](https://universaldesign.ie/Technology-ICT/Universal-Design-for-ICT/User-Testing/) can be a valuable assessment tool for an it product or service and can be carried out in a range of informal or formal ways.

### **Will it restrict the kind of technology we can use?**

Accessibility does not, in general, restrict the functionality of it systems if it is considered from the early stages of the design. Where particular output or interaction methods are inaccessible to some users, the solution is almost always to supplement these with other accessible methods, not to replace them. For example, whilst information on a visual display screen cannot be seen by blind users, the solution is not to throw away the screen, which would make it inaccessible to deaf users and reduce usability for most others, but to add speech output as an alternative. The correct approach to catering for the diversity of users’ needs is to provide multiple and flexible interaction methods and mechanisms, rather than attempting to create a 'one-size-fits-all' device.

There will, however, be problems with using certain off-the-shelf products if their design and construction makes them difficult to enhance or modify. The vendors of such products may need to work with assistive technology providers in order to modify the inner workings of their products so that they are compatible. But vendors may welcome this opportunity to enhance their products if they can see that it helps them secure contracts, gives them an extra selling point and broadens their market.