

## **Human Factors (HF); Guidelines on the provision of ICT services to young children**

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## Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Human Factors (HF).

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## Introduction

Research has shown that children, including those aged 12 and under, have unprecedented levels of access to, and even ownership of, modern technologies. The EuroBarometer study in 2007 [i.1] found, for example, that 75 % of 9-10 year-olds have a mobile phone. This rises to 90 % for the 12s-14s, and both these groups are regularly accessing the Internet and using the full range of applications that the technology offers (e.g. instant chat applications). The present document forms part of a growing body of work that offers a strong empirical basis for the development of a more child centred set of principles and values that support the ICT industry in improving both services and safeguards for young children (under the age of 12). The obvious benefit to young child users of safeguards provided by service providers is helping to mitigate the potential risks facing young child users, potential risks that can take the form of content, contact or commercialism.

Children use ICT and the Internet in their everyday lives and in a variety of different contexts. Many children lead media saturated lives. There is a growing body of literature which examines current key debates on children, childhood and new media technologies. Our knowledge and understanding of this topic area is increasing and gathering greater attention as service and content providers develop new products, services and content in line with the growing use of ICT in the classroom and home as a tool for learning and day to day social activities. The European Information Society agenda and public policy developments to promote inclusivity in online access, coupled with the rapid diffusion and interoperability of technologies in children's everyday lives, have facilitated greater opportunities for children's online activities. More and more children are going online as accessibility increases and according to Eurobarometer Survey (May 2006) [i.1] a third of 6-7 year olds have used the Internet rising to 1 in 2 of 8-9 year olds and to more than 4 in 5 teenagers aged 12 onwards. Increasingly children have access to the Internet from their bedrooms and are increasingly likely to have not only fixed Internet access but mobile as well.

Many of the main debates, however, have a somewhat contradictory nature and it is important to consider these issues from a variety of perspectives and remember that this is a multi-faceted topic area. Many paradoxes exist ranging from the very positive and highly optimistic views, dominated by notions of the future, currently reflected in the many Governmental policies on ICT in children's education and the role ICT plays in empowering children especially those with disabilities towards greater participation across Europe, and, conversely, the negative, very pessimistic viewpoint often voiced in the public media that technology is putting children at risk and destroying childhood itself.

The age at which children are first using ICTs is falling and there is an increasing recognition that children have become consumers from a very early age (in terms of using as opposed to paying for the service). ICT plays a crucial role in many different areas of children's everyday lives including education and the growing demand for ICT services in schools, children's social and leisure activities and the recent transformations in children's healthcare [i.2] and social care for children with disabilities. With the increasing democratization of the family, children have a far greater influence over how significant sums of money from parents, carers and educators are spent on ICT products and services and children are now considered to be economically active.

Whilst the participation of children in the European information society is now well established, the providers of services that are used by children under 12 face specific, yet varied and changing challenges in meeting their needs and the rights and needs of children under 12 should, therefore, be given additional consideration, where relevant, by service and content providers including special consideration for children with disabilities. Much of the previous research in this area has focused on teenagers but, as already established [i.1], the age at which children are using ICTs is decreasing yet young children remain largely ignored in research. There has been little previous work in this area which gives consideration to children under the age of 12.

The present document looks at ICT services provision, from the viewpoint of promoting children's participation and simultaneously advancing the safeguarding of young children in a systematic and integrated manner. The recommendations are underpinned by the United Nations Convention of the Rights of the Child (UNCRC) [i.3] and by the high level principles gained from adopting an integrated approach to safeguarding children.

The guidelines have been created in the context of other excellent related industry-led initiatives. Quality in service delivery is a continuous process, and these guidelines propose principles to be considered by service and content providers wishing to create maintain and develop services which offer the best experience for children and their families.

Parts of the ICT industry have already made significant contributions to safeguarding children through self-regulation and developing new policies. For example, in 2007 the GSM Association created a European Framework for Safer Mobile Use by Younger Teenagers and Children [i.4] and in 2008 they launched a Mobile Alliance Against Child Sexual Abuse Content [i.6]. Also in 2008 internet service providers, mobile operators and social networking providers launched TeachToday [i.5] a European resource to support teachers to equip and empower young people to better understand ICT and use it responsibly. The present document acknowledges that priorities associated with aspects of safeguarding children are politically and socially constructed and culturally specific, the safeguarding of children using ICT products and services requires a holistic and integrated approach. The mounting legislation, guidance and regulatory frameworks in this area, as well as differing social and cultural contexts, have resulted in differing legal frameworks across Europe which require detailed understanding.

The intention of the guide is to provide high level principles regarding some of the issues relating to safeguarding young children. Effective safeguarding of children in the ICT environment requires action by a wide range of stakeholders, including standards developers, manufacturers, designers, service and content providers, policy developers, national administrations, parents/carers, child protection NGOs, CEOP and educators and, indeed children themselves. Safeguarding is an ongoing process not a single event and all stakeholders have a role to play in the safeguarding of young children in the European Information society. The details of how these recommendations are implemented in practice are for industry to lead. The recommendations outline safeguarding actions which may be considered by industry on a voluntary basis, in accordance with its commercial needs. However, any safeguards provided by service providers will have the benefit of helping young children as they take their first or early steps online. This is all the more important in the context that many parents and carers, children's closest form of support, are challenged by new technology and are not sure of their ability to "parent" in this space. In order to build on the strengths of what has already been established and developed within industry as a whole, a coordinated approach needs to be adopted. This will provide better safeguards for young children and allow the industry and others to share best practice.

The present document examines how service and content providers may consider adopting a more child centred approach and puts forward a number of principles and values which may facilitate such enhancements. It stresses the significance of understanding and promoting the rights of the child and argues that putting children at the centre of things supports improved quality in service provision for them. Effective collaboration is essential in adopting a joined up approach to safeguarding children and promoting children's well-being, and in the context of rapid and sometimes unexpected developments in information technologies and their use, improvement should be continuous. Finally it is critical that parents and children become aware of the potential risks of using ICT services, but also the actions that have been taken by industry to address them. The present document provides advice on a cross-industry basis, covering fixed and mobile services, ISPs and on-line service and content providers. Of necessity this broad scope means that the recommendations take the form of high-level common themes which may be interpreted and adopted in different ways and applied and modified to fit different sectors and markets as appropriate. These generic high-level principles can be adapted by industry to their environments as a basis for specific developments.

The document takes as a starting point the UN charter on the rights of children and comprises of a range of proactive responses of industry to safeguarding children, including non-technical approaches to issues for adopting a more child centred approach in relation to ICT products and services. The documents acknowledges that the issues may be different depending upon whether services were designed with children in mind, or whether children are using services that were not originally intended for use by children and includes the issue of services being misused in a way that harms children, including misuse by children themselves.

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# 1 Scope

The present document provides guidelines for service and content providers who are deploying and provisioning ICT services that are being used, although not necessarily purchased, by young children less than 12 years of age.

ETSI Guides provide recommendations that may be adopted by industry stakeholders on a voluntary basis, in accordance with their commercial needs and these guidelines are without prejudice to existing EU legal and regulatory framework and do not advocate any changes to these frameworks.

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

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- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

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For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

Not applicable.

## 2.2 Informative references

The following referenced documents are not essential to the use of the ETSI deliverable but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

[i.1] Eurobarometer May (2006).

NOTE: Available at: [http://europa.eu.int/information\\_society/activities/sip/eurobarometer/index\\_en.htm](http://europa.eu.int/information_society/activities/sip/eurobarometer/index_en.htm)

[i.2] ICT for Health and i2010: "Transforming the European health care Landscape - Towards a strategy for ICT for Health", European Commission Information Society and Media.

NOTE: Available at: [http://www.ehealthurope.net/img/document\\_library0282/ICT\\_for\\_Health\\_i2010.pdf](http://www.ehealthurope.net/img/document_library0282/ICT_for_Health_i2010.pdf)

- [i.3] United Nations Convention on the Rights of the Child (UNCRC).  
NOTE: Available at: [http://www.unicef.org.uk/publications/pub\\_detail.asp?pub\\_id=133](http://www.unicef.org.uk/publications/pub_detail.asp?pub_id=133).
- [i.4] European Framework for Safer Mobile Use by Younger Teenagers and Children.  
NOTE: Available at: [www.gsmworld.com/gsm europe/documents/eur.pdf](http://www.gsmworld.com/gsm europe/documents/eur.pdf).
- [i.5] TeachToday: "making sense of technology".  
NOTE: Available at: [www.teachtoday.eu](http://www.teachtoday.eu).
- [i.6] Mobile Alliance Against Child Sexual Abuse Content.  
NOTE: Available at: [http://www.gsmworld.com/using/public\\_policy/mobile\\_alliance.shtml](http://www.gsmworld.com/using/public_policy/mobile_alliance.shtml).
- [i.7] Parton, N (2006) Safeguarding Childhood Basingstoke: Palgrave.
- [i.8] Utting, Sir William (1997) People, Like Us: The report of the review of safeguards for children living away from home HMSO: London.
- [i.9] S. Livingstone and M. Bober (2004): "UK Children Go Online Surveying the experiences of young people and their parents".  
NOTE: Available at: [http://www.lse.ac.uk/collections/children-go-online/UKCGO\\_Final\\_report.pdf](http://www.lse.ac.uk/collections/children-go-online/UKCGO_Final_report.pdf).
- [i.10] Prensky, M. (2001): "Digital Natives, Digital Immigrants Part 1" in On the Horizon Vol. 9 No. 5 pp. 1-6.
- [i.11] ETSI EG 202 116 V1.2.1 (2002-09): "Human Factors (HF); Guidelines for ICT products and services; "Design for All".
- [i.12] Good practice guidance for the providers of services of social networking and other user interactive services 2008: - The Home Office.  
NOTE: Available at: <http://police.homeoffice.gov.uk/publications/operational-policing/social-networking-guidance>.
- [i.13] Byron, T. (2008): "Safer Children in a Digital World The Report of the Byron Review".  
NOTE: Available at: <http://www.dfes.gov.uk/byronreview>.

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**guidelines:** high level principles for recommendations to the ICT industry

**ICT industry:** industry that encompasses hardware and software developers, manufacturers, service and content providers and content producers

### 3.2 Abbreviations

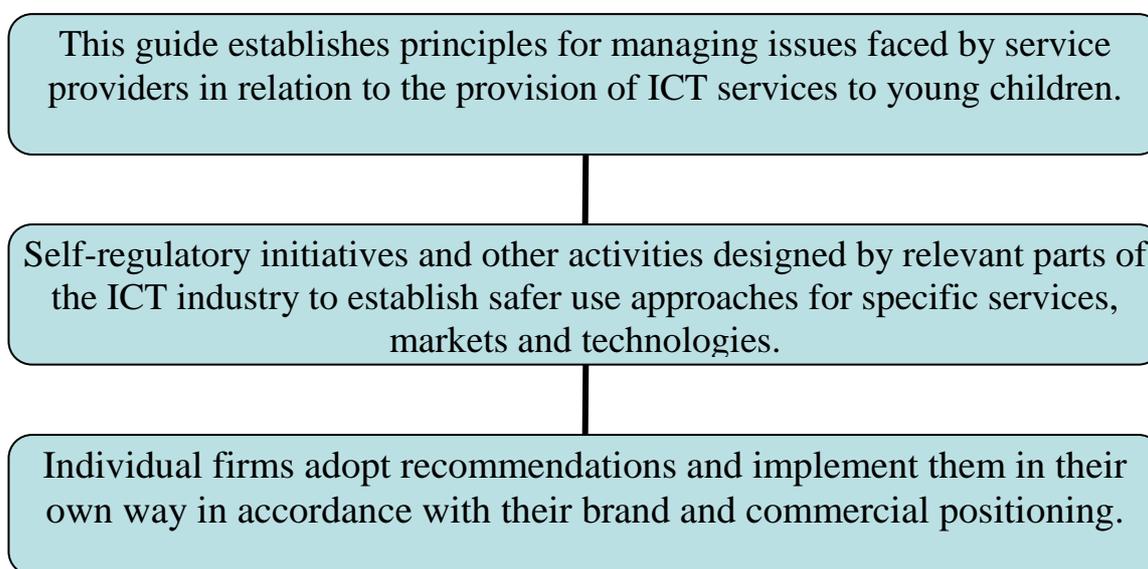
For the purposes of the present document, the following abbreviations apply:

CEOP	Child Exploitation and Online Protection (centre)
EU	European Union
GSM	Global System Mobile
GSMA	GSM Association (global trade association of mobile phone operators)
HF	Human Factors

## 4 The European Context

### 4.1 The Contextual framework

In order to meet the needs of children, families and stakeholders the guide takes account of the practical approaches of European markets and is part of a more comprehensive overall structure which guides aspects of service provision in more detail and to specific sectors of the industry which is characterized by convergence of platforms, services and markets, driven by rapid technological change. The ICT industry is not homogenous. It has a complex and constantly evolving value chain and its products, services and structures are always changing. These guidelines are intended to establish top-level principles about how ICT services can facilitate children's participation whilst simultaneously safeguarding their wellbeing. The guidelines are intended to complement and build upon existing self-regulatory and other actions to safeguard children in the European information society.



**Figure 1: The contextual framework of the guide**

### 4.2 United Nations Convention on the Rights of the Child

Because of the variation in the specific legal frameworks across European countries which may or may not be relevant to service and content providers, the document is underpinned by the principles set out in the UNCRC [i.3]. The first international instrument to incorporate the full range of human rights—civil, cultural, economic, political and social rights, the UNCRC [i.3] recognizes that children need a special additional care and protection that adults do not. It provides a common framework for legislation relating to children throughout Europe because in agreeing to undertake the obligations of the Convention (by ratifying or acceding to it), national governments have committed themselves to protecting and ensuring children's rights. The UNCRC, therefore, provides an ideal common framework of principles and values for the purposes of the present document. All the European countries have ratified the Convention and as such are obliged to develop and undertake actions and policies in the light of the best interests of the child.

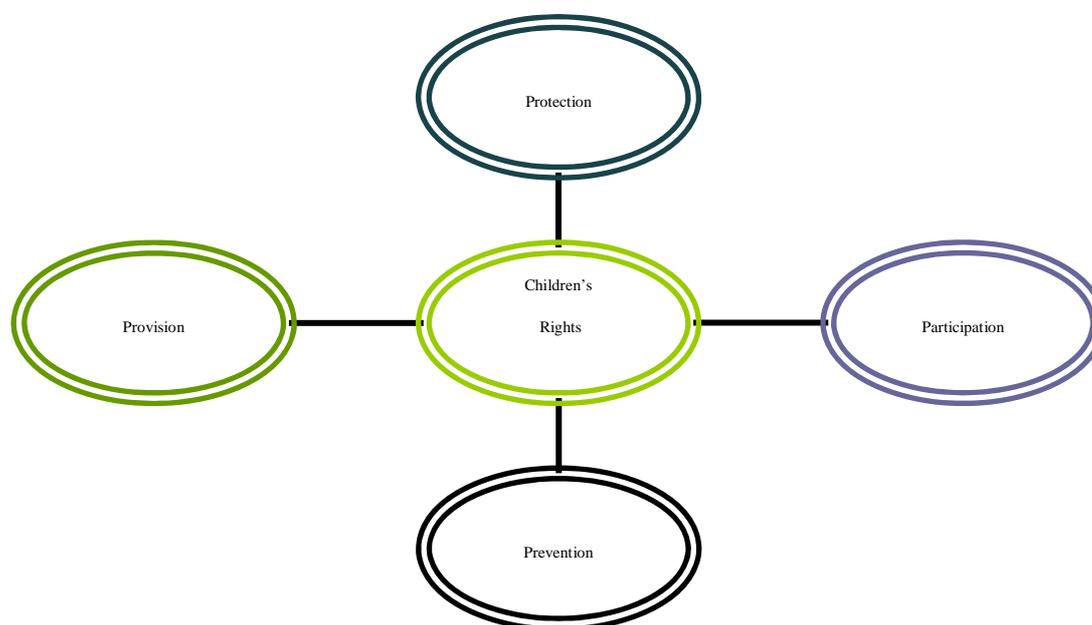
The four core principles of the Convention are:

- non-discrimination;
- devotion to the best interests of the child;
- the right to life, survival and development; and
- respect for the views of the child.

Whilst the participation of children in the European information society is now well established, the providers of services that are used by children under 12 face specific yet varied and changing challenges in meeting their needs and the rights and needs of children under 12 should, therefore, be given additional consideration, where relevant, by service and content providers. Much of the previous research in this area has focused on teenagers but, as already established [i.1], the age at which children are using ICTs is decreasing yet this remains largely ignored in research. However, the globalization of children's rights as enshrined in the UNCRC and changes within the new social studies of childhood paradigm viewing children as "experts in their own lives", has had an impact on all aspects of children's lives, from their relationship with their parents to their participation in school and other social institutions. This conceptual shift emphasizes children's position as "social actors", as creative and inventive users of the world around them, and encourages empirical explorations of children's competency and agency in a range of diverse settings.

The increasingly recognized influence of children's rights, as enshrined in the UNCRC [i.3], is reflected in both European and national policies and legal frameworks.

In particular any service provided for children should be based on the principle of protecting the rights and the best interests of the child. How rights are understood will have an impact on how they are supported and a useful conceptual framework based on provision, prevention, protection and participation is provided.



**Figure 2: Children's rights regarding ICT services**

- Provision - children have rights to access appropriate services yet glaring inequalities remain based on traditional divisions along the lines of gender; social class; socio-economic background; disability and geographic location. Consideration by service and content providers of how to ameliorate digital divides and further promote inclusion in the future will be fundamental to achieving provision for children, including children with disabilities, of access to appropriate services and it may be that new services which take account of promoting inclusion could provide a key to achieving this.
- Prevention - children have the right to the prevention of harm. This can be achieved both through technologies that can reduce risk and comprehensive educational strategies. Children need to be empowered to manage risk and awareness needs to be raised about the best strategies for preventing harm and promoting children's well-being. Children also need to be able to seek help and report issues in ways that are appropriate for them.
- Participation - children have a right to be consulted in all matters that affect them (UNCRC article 12). Children are becoming a large part of the European market for ICT products and services and their views and experiences need to be understood and taken seriously by product developers and service and content providers. In order to foster children's positive participation, the acceptable basis of their participation should be made clear and accessible to children.

- Protection - children have the right to be protected from harm. The risks which children face through their everyday use are wide ranging and service and content providers should be concerned to develop an accurate understanding of the risks that children may face and consider strategies and policies on how best to safeguard children.

NOTE: Whilst the categories of provision and prevention above are relatively clear, protection and participation rights can be less straightforward. Protectionist approaches view children as needing adult protection and help whereas participatory approaches view children as requiring empowering to make decisions on their own behalf and a sensible balance of promoting participation whilst simultaneously protecting children in on-line environments needs to be achieved.

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## 5 The Guidelines

### 5.1 Proactively safeguard children

Safeguarding is about putting in place measures to protect children. Parton (2006: 03) says that "Safeguarding" is a pro-active approach, rather than simply protecting children from abuse and the term reflects the shift over the last decade of the 1990's from "the protection of children from abuse to "to safeguard and promote the welfare of children from abuse" [i.7]. Emphasized by Sir William Utting's Safeguarding Review (Utting, 1997: 15) - "Safeguard" and "promote" are equal partners in an overall concept of welfare, are an indispensable component to the child's security and form the basis for ensuring physical and emotional health, good education and sound social development [i.8].

There is a need to understand the different contexts of children's everyday lives. Parents are often more concerned with the perceived dangers and associated risk in the real world and are, therefore, more vigilant in safeguarding children in physical space, especially public space. This is largely due to an increased awareness of the risks reported widely by the media and a focus of public discourse and political debate. However, parents are less aware of the dangers and risks that children may be vulnerable to on-line. Parents lack accurate knowledge of the risks [i.9] and, indeed of children's use of ICTs generally. The digital natives and digital immigrants analogy [i.10] remains a useful concept to understanding the potential and fundamental differences in understanding technologies in children's everyday lives. Parents often do not use ICTs in the same way as children - they may have little understanding of what children are actually doing online [i.9] and be unaware of the risks that children actually face. Unwanted solicitations increasingly come from online "acquaintances" not "strangers" and recently there has been an unprecedented growth of images of pornography available online. According to Livingstone and Bober [i.9] 57 % of UK children who took part in the research and use the Internet on a weekly basis had come into contact with pornography 31 % had seen violent, offensive or gruesome material online. Furthermore, children may find themselves faced with inappropriate material online, for example, racist or material relating to self harm, and other offensive content and to being bullied online.

Service and content providers should recognize that their products and services could be used to the detriment of the well-being of others, identify and develop approaches to address this. These might include moderation of content, steps to facilitate reporting of abuse, actions based on such reporting and the provision of information and advice to customers. It is essential that users, particularly children and young people, of social networking and user interactive services are able to report to law enforcement agencies in a way that is user friendly and with minimum delay. It is important that issues relating to trust in ICT services, such as reliability, security, privacy and integrity be given due consideration in relation to safeguarding children, for example, how to how to effectively manage sensitive or personal information or data in relation to children.

## 5.2 Adopt a child centred approach

A child centred approach involves proactively developing safer, child-friendly ICT products and services through policy and practice. This may include designing safety in to products from the start - a principle of "safer by design" - in order to achieve a better outcome for young child users. ICT plays an increasingly crucial role in the lives of disabled children and children with both chronic and acute illnesses, for example using communication and/or telecare services. This should include inclusive design and Design for All approaches [i.11]. Consideration needs to be given to such children and service provision should endeavour to be flexible and adaptable in order to meet the very diverse needs of children with varying circumstances and capabilities. The degree of inclusion of disabled customers, including children, in ICT service use has progressively increased over time. This increase has occurred as new services (notably SMS, e-mail, and communication through the internet) have become widespread. In developing services, providers should be aware of different disabled customer segments and their distinct needs [i.11]. Examples may include children who are:

- profoundly deaf or with partial hearing;
- blind or partially sighted; or who have
- impaired motor function which affects their ability to use mainstream ICT services.

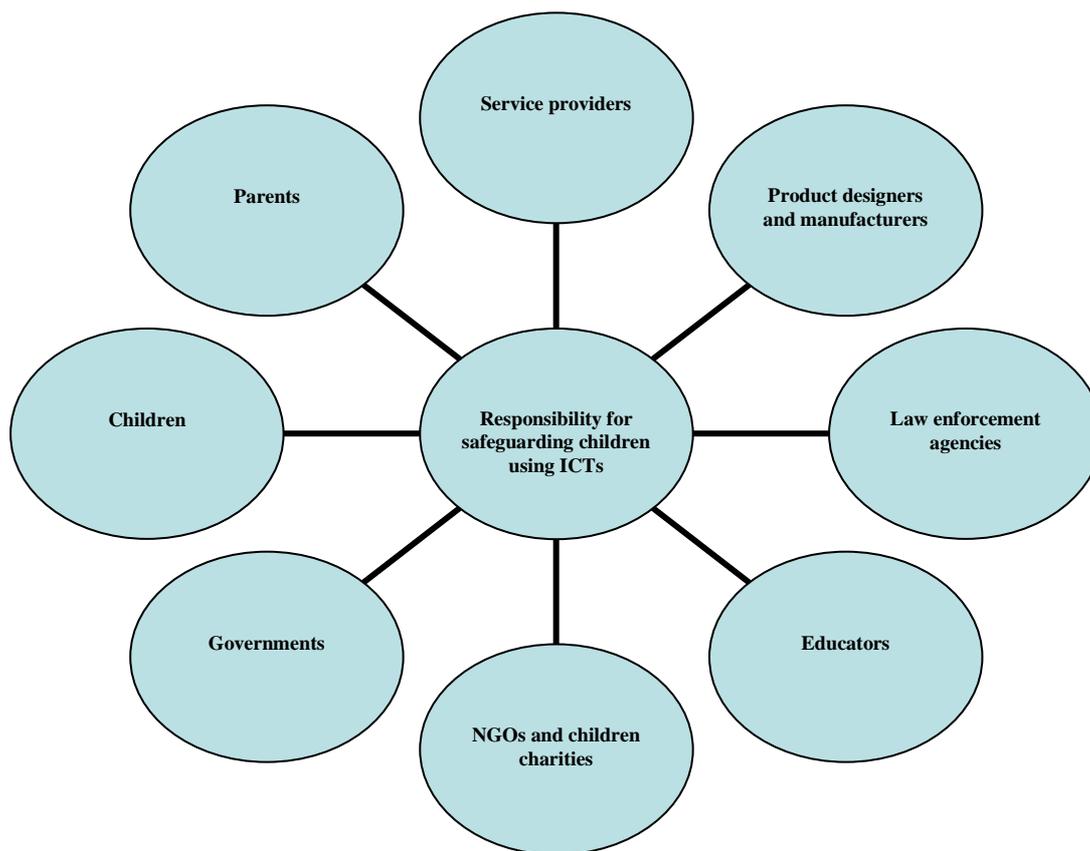
Service and content providers should consider the ages of child users in the development of services and, whilst effective practice varies across the age range, types of service and provision, core elements are constant. High quality provision should also apply to young children. Such developments towards a more child centred approach should be linked to quality improvement measures to further benefit the service and content provider and ensure that their efforts are recognized and acknowledged.

Service and content providers should consider whether customers are likely to include members of potentially vulnerable groups - even though they may not be target customers. Where customers include potentially vulnerable groups such as children under 12, processes should address their specific needs. Staff should be provided with appropriate information, high quality training on effective practice and encouraged to follow such guidance and information. Addressing the needs of customers under 12 is a complex issue overall and service and content providers should reflect on the level of participation of children in their services and what this implies for safer use.

## 5.3 Engage widely with stakeholders

The Byron review [i.13] commissioned by the UK government and published in March 2008 states [pg. 13]: *"Everyone has role to play in empowering children to stay safe while they enjoy these new technologies, just as it is everyone's' responsibility to keep children safe in the non-digital world. This new culture of responsibility spans parents, children and young people supported by Government, industry and the public and third sector"*. There is a need for an integrated approach, involving all stakeholders, in order to ensure the maximum effectiveness of safeguard provisioning for young children.

In order to embrace this new culture of responsibility an integrated multi-stakeholder approach needs to be adopted and ICT product and service and content providers should consider how they can best cooperate with other parts of the industry as well as with Governments, NGOs, and their customers, including families and children on actions to safeguard children's wellbeing. By encouraging integrated working and developing effective networks, knowledge from a range of backgrounds can be brought together. By promoting information sharing, a respectful climate of understanding of the various roles and responsibilities can be more positively fostered.



**Figure 3: Stakeholders in children using ICT**

In order to develop effective collaboration there is a need to identify where improvements can be made and how to take the next steps in adopting a more child-centred approach. Communicating clearly the success of existing partnerships and integrated working - including partnerships with parents, children, educators, etc. is essential to build on the good practice and achievements to date. This includes providing guidance to and appraisal of staff and ensuring that perspectives on inclusion are in training programmes. Good evaluation policies are essential, as is strong management and leadership to make sustainable progress in developing a more child centred approach within any service or organization.

In the context of the increasing convergence of technologies new services should be designed to comply with and support relevant existing self-regulatory frameworks such as the European Framework for Safer Mobile Use by Younger Teenagers and Children [i.4], the Mobile Alliance Against Child Sexual Abuse Content [i.6] and the Good practice guidance for the providers of social networking and other user interactive services 2008 [i.12].

## 5.4 Work in partnership with children and families

Working together in adopting a joined up approach in service provision to young children also involves consulting with children and families as a part of multi-agency/sector working and developing effective partnerships. ICT product and service and content providers should consider how best to develop such effective collaboration to drive better understanding of current capabilities and the possibilities for both addressing the risks to children and fostering better participation.

Working in partnership with children and families should be based on the following principles:

- Treating children and their families with dignity and respect.
- Ensure that children and families understand that the child's safety and welfare is a priority to the service and content provider.
- Minimize the risk of infringement of privacy consistent with protecting the child.

- Listen to and try to understand any concerns of the child and family.
- Consider the strengths, potential and limitations of the service.
- Provide information to the child and their family about their rights and responsibilities with respect to the service.
- Use clear jargon free language as appropriate.
- Acknowledge errors or limitations of service.
- Children should be consulted and kept informed about the service provided.
- Children's welfare needs to be safeguarded by prompt, positive and proactive attention from service and content providers including the removal of offending content within reasonable timescales.
- Information provided should be clear and accessible.

## 5.5 Promote responsible use

Within collaborative frameworks clear, appropriate guidance and information (reflecting both age and language of target countries of service) needs to be delivered to children, families and educators regarding responsible behaviour on-line, the risks that children may face, and advice for children and parents on how to manage these risks. Awareness programmes should be developed for both adults and children and direct information sharing between service and content providers, parents and children should be encouraged.

Education and awareness information should be made available by service and content providers which is understandable and accessible (reflecting the languages spoken in the target countries of the service) and education and awareness raising should include the participation and provision of information for educators, policy makers and child protection NGOs, and media representatives. Where information is addressed to children it should use appropriate language and communications techniques.

Service and content providers should inform customers on the nature of their services. Where customers include children under 12, despite the fact that they may not be target customers, service and content providers should also aim to inform parents about the nature of their services their children under 12 are using, the risks involved for their children and how parents can best manage these risks.

## 5.6 Clearly explain service conditions

Service and content providers should provide children and families with appropriate information relating to service use. Key service conditions should be understandable and accessible to everyone within the service and content provider's target customer groups including, where relevant, children.

Among other aspects service conditions should include information on:

- the price of the service;
- how to use the service;
- how to get help with the service;
- the responsible use policy which relates to the use of the service, and the consequences of breaching this;
- how to report a breach of responsible use terms on the part of another service user; and
- how to cancel the service;
- how to report abuse directly to law enforcement.

Any service specific safeguarding information should also be included for young child users. It is important to direct users to sources of expert help and advice, both on and offline, by providing links to relevant organizations, such as child welfare charities and confidential help-lines or support services. This would be particularly helpful in cases when victims of abuse or those with concerns may be reluctant to identify themselves or report directly to the service provider or law enforcement.

## 5.7 Understand how children use ICT services

Monitoring the field for new developments, new projects and new evidence of effective practice is an important part of the process of continuous improvement. It is well known that children's capabilities vary considerably and there is tremendous diversity in children's experiences and glaring inequalities remain in children's ICT use. More needs to be known about children's everyday experiences with ICTs and online environments both fixed and mobile. Socially isolated children, for example, are more vulnerable and risks require understanding. Service and content providers, in conjunction with other stakeholders, should actively support independent research into the risks faced by children including the risks associated with ICT products and services. Research should also aim to evaluate the true range and scale of the issues facing children and young people in order to ensure that self-regulatory frameworks, strategies and procedures are proportionate and focussed. The results of this research effort should be disseminated widely and knowledge shared amongst service and content providers when in children's best interests in promoting best practice.

As part of the design of future customer service and customer relationship management capabilities, service and content providers could explore through market or other research which age groups, within the child segment, are users of their services and what parts of their services the children use. Service and content providers could also explore which are the most important children's problems with service use and at which ages these problems occur. This knowledge would enable the design and development of customer service solutions that meet the needs of all customers, including children.

The issue of customer service support for young child users of ICT is a complex task. Customer service for children below 12 years is an unexplored area and we know little about which requirements children have or how children use customer services today. There is a pressing demand for more knowledge on this topic.

## 5.8 Exploit technology innovation

ICT services and content are constantly growing in their capability. New technology is constantly bringing innovation into the products and services that it is possible for creative industries to offer into the European market place. This change and innovation offers opportunity to introduce child friendly features into the new technologies as they are being deployed or legacy systems upgraded.

Through working with the stakeholders in the value chain that brings new ICT and content into the marketplace, the providers of products and services have an opportunity to exploit this high rate of change to drive down cost and increase the capability of their offerings to safeguard users under 12 years of age.

Stakeholders need to work with technology providers and their supporting research and development community both industrial and academic to develop and bring to market innovative features to support the safe and child friendly delivery of ICT in to the European information society.

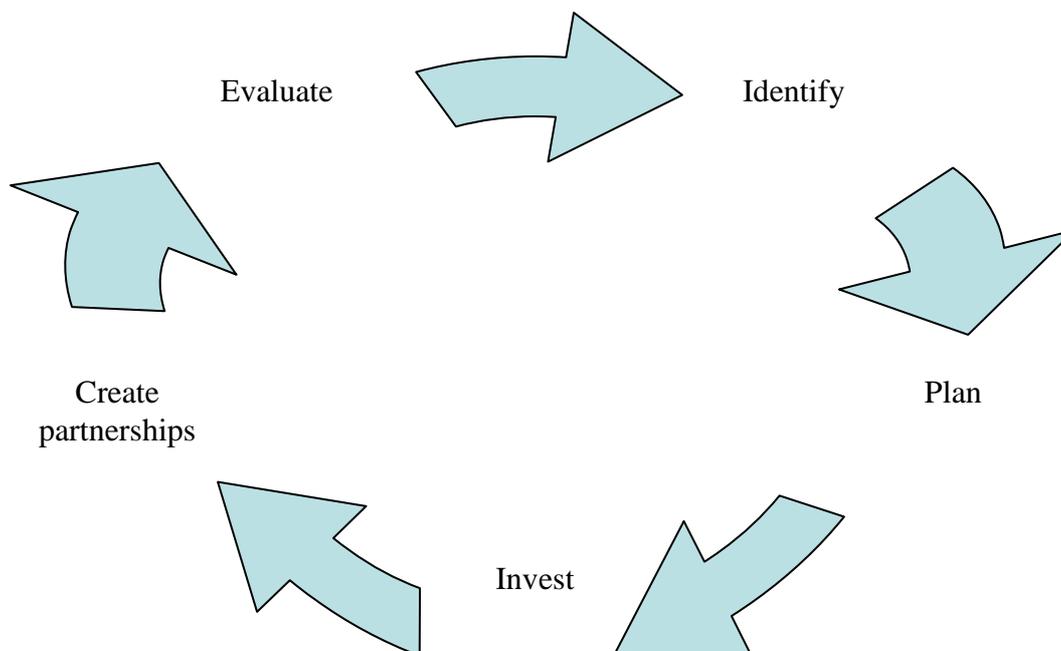
## 5.9 Embrace professional development

In developing a more child centred approach service and content providers may consider customers who are children in any customer focussed business transformation, and in the design of learning and development programmes. Specific training is especially important for staff who may have contact with young children, and for staff involved in business decisions likely to impact young child users. This should go beyond a child protection/safety officer to include product developers, product managers and senior managers as well as practitioners.

Service and content providers should ensure that the principles of inclusion are integral to aspects of quality. Promoting positive expectations of children is an important aspect of developing a more child centred service.

## 5.10 Seek Continuous improvement

The rapid developments in the ICT market have led to a dynamic and diverse environment which is constantly changing. Service and content providers need to conceptualize the development of child-centred approaches as a continuous process rather than a single event or process. Self-evaluation processes can identify barriers to participation and enable further consideration of what contributes to high quality provision and should embrace an agile development process and consider how to bring about new policies and guidelines with the advents of new technologies and services. It is important that schemes are not overly burdensome on resources and processes developed should reflect type and nature of service provided and the capacity of the service and content provider.



**Figure 4: Cycle of continuous improvement**

Governments, NGOs and service and content providers, working in a coordinated and integrated way, should evaluate the effectiveness of ICT safety education programmes and messages that are delivered to children within online services, educational settings and other means. Such evaluation would help to identify good practices, revisions that should be made to existing educational materials, suggest new directions in education practice and significantly, bring children's voices to bear in the design and delivery of these programmes and messages. Information sharing research and effective evaluation of effective practice and success and communicating results to public and other stakeholders.

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## 6 Conclusion

The present document provides guidelines for service and content providers on the provision of ICT services to young children. The guidelines are based on the UNCRC and offers recommendations on a cross-industry basis in the form of high level recommendations as a contribution to the growing body of existing information, advice and self-regulatory frameworks concerned with safeguarding children's welfare. The principles set out in these guidelines will be useful in identifying issues and contributing to understanding of service provision to and for children of 12 and under, including children with disabilities.

Industry stakeholders should consider developing a more child centred approach to service provision. In order to achieve this and promote inclusivity in ICT service provision it is recommended that service and content providers adopt a more child centred approach to service provision and consider how to safeguard young children using their services. Adopting a multi-stakeholder approach and working in partnership with children and families will be key to achieving this goal. The ICT industry needs to consider how to promote responsibility in service provision through fostering collaborative frameworks, clearly explained service conditions and endeavouring to understand how children actually use ICT services. Further child centred research is required in this area in order to fully exploit technology innovations and to support safe and child friendly delivery of ICT in to the European information society. Staff development strategies need to be employed as part of a cycle of continuous improvement to provide high quality provision to all users, including children and their families. Achievements, research findings and developments in adopting a more child centred approach to provisioning ICT services to children need to be shared and communicated to interested parties including children and families.

Individual service and content providers should consider the development of corporate strategies to facilitate a more child centred approach. Addressing the rights and needs of young child users is a complex issue. Children, under 12 years of age, are increasingly participating in the information society. The educational and social development benefits to young children of this are well known.

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## Annex A: Bibliography

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## History

<b>Document history</b>		
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