

CARDIAC Questionnaire on research priorities

The questionnaire below is targeted towards all stakeholders involved in accessible and assistive ICT. The purpose is to help set the priorities of the research lines identified in the CARDIAC research agenda roadmap.

In accordance with the EC digital agenda methodology you are kindly asked to score each research action regarding Impact, Probability and Feasibility.

(see reference at <https://ec.europa.eu/digital-agenda/en/digital-futures-objectives-and-scope> and <https://ec.europa.eu/digital-agenda/en/futurium/futures>).

The idea behind the three strands of scoring is that a particular research action may be perceived to have a high impact and may also have a high probability of not taking place without public funding. This would doubly reinforce this particular action as a research priority. The third strand (feasibility) should give an idea of the amount of support needed (both in terms of time and funding) whilst giving an indication of how easily it may be implemented.

The scoring is as follows:

Impact, scoring 1-5. **1: low** impact; **5: high** impact

Probability, scoring 1-5. **1: low** probability of public funding being required (private funding likely) **5: high** probability of public funding being required (private funding unlikely)

Feasibility, scoring 1-5 **1: low** feasibility, longer time frame, technology not mature;
5: Highly feasible, readily implementable, technology mature.

The titles of the fourteen research lines are given in bold at the top of each coloured boxes, with a list of the Research Actions contained in each of the research lines given just below. In most cases the titles of the Research Actions are self-explanatory, in other cases more detailed clarifications can be found in the roadmap on the CARDIAC Website.

The easiest way to respond to this questionnaire would be to send an email to info@cardiac-eu.org just giving the three scores for the 14 Research Lines, for example:

1a) 3 b) 4 c) 5
2a) 2 b) 3 c) 2
3a) 5 b) 2 c) 2 etc.

Many thanks in advance for your responses!

General Information.

Type of stakeholder (more than one answer possible) from: user, user organisation, human factor specialist, researcher, mainstream ICT developer, Assistive ICT developer, SME, educational and training organisation, standardisation or regulatory body, government agency, service delivery actor/marketing, other (please specify)

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Name and affiliation (optional)

Research Line #1: Human factors studies

- RA 1.1: Basic research on Assistive Technology abandonment/adoption
- RA 1.2: Research on who could be excluded from using novel user interfaces
- RA 1.3: Implications for people with disabilities of the use of biometric systems for identification and security
- RA 1.4: Explore how users interact and cooperate with intelligent systems
- RA 1.5: Identify impact of cloud platforms
- RA 1.6: Implications of misuse of technology

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #2: Privacy, safety, trust

- RA 2.1: Research on the reliability of e-Inclusion services, including: (SD1#63) Ensure reliability, robustness and security of Assistive ICT.
- RA 2.2: Systems to enhance the safety and user trust and confidence of locally and remotely provided services

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #3: Holistic approach to HCI

RA 3.1: Promote methodologies that consider not only the interface as it appears but the entire interaction dialogue

RA 3.2: Promote methodologies to include the human diversity in user interface design

RA 3.3: Reduce the complexity of user interaction whilst retaining functionality

RA 3.4: Avoiding cognitive barriers in the design of Human Machine Interfaces, especially in multimodal interfaces

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #4: User modelling and adaptive user interfaces

RA 4.1: Methodologies to safely collect and manage the information about the user when using the ICT system

RA 4.2: Use of context awareness to adapt user interfaces

RA 4.3: Further static and adaptive user interaction profiles

RA 4.4: Use reasoning techniques for personalisation

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #5: Innovative user interfaces

RA 5.1: Innovative interaction devices for accessibility: Advanced Assistive technology

RA 5.2: Affective computing to assist accessibility interfaces and interactions

RA 5.3: Research on accessible human-robot and human-robot-environment relationships

RA 5.4: Novel human-machine interfaces for recreational activities

RA 5.5: Accessible telecommunications technologies for people with no or little speech

RA 5.6: Practical adaptive user interfaces

RA 5.7: Research on multi-modal interaction methods

RA 5.8: Means for customization of UI and open interfaces, including: Principles for adaptable end-user interfaces

RA 5.9: Enhance and universalize Web 2.0 accessibility

RA 5.10: Extension of Web accessibility knowledge to general HCI

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #6: Access to advanced ubiquitous computing environments

RA 6.1: Mobile technologies as access interfaces for public and private ubiquitous environments

RA 6.2: Inclusive user interaction in ambient intelligence environments

RA 6.3: Integration of web 2.0 with internet of things (IoT)

RA 6.4: Adaptable and affordable assistive technologies seamlessly integrating into intelligent environments

RA 6.5: Adaptation of the environment to the needs of several persons at the same time

RA 6.6: New materials, technologies and methods for seamless natural human environment interaction

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #7: Interoperability and standardisation

RA 7.1: Open standards for Accessible ICT systems based on sound scientific data including: Environments for interoperability testing

RA 7.2: Technical interfaces between mainstream ICT products and Assistive Technology products including: Open interfaces that allow ICT products and services to interact and promote interoperability of accessible products and services

RA 7.3: Interoperability of devices, networks and services to enhance accessibility to ubiquitous computing environments

RA 7.4: Standardized and harmonized remote HCIs

RA 7.5: Dynamic composition of complex interfaces (mash-up of services)

RA 7.6: Open APIS for the delivery of the interface to many more varied platforms

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #8: End-user participation and user needs analysis

RA 8.1: Analyse end-user needs and personal barriers with respect to ICT.

RA 8.2: Involvement of end users throughout the design and development process.

RA 8.3: Make the world accessible yourself

RA 8.4: User testing in real or realistic environments

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #9: Advanced design and development methodologies and tools

- RA 9.1:** Methodologies and tools for the development of accessible and assistive ICT including:
- Standardized technical solutions or modules for accessibility development in specific domains
 - Specific and clear accessibility guidelines for application developers
 - Methodologies and tools for the development of assistive ICT

RA 9.2: Tools to facilitate the creation of digital accessible materials to non-accessibility experts

RA 9.3: Design and authoring tools supporting and automating e-inclusion

RA 9.4: Tools for decision making in the user-centred design process including: translate user needs into product design

RA 9.5: Development of training modules about needs of people with disabilities for developers

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #10: Test methodologies and tools

RA 10.1: Methods, tools, and environments for testing ICT accessibility, including monitoring and benchmarking including: methods, tools, and environments for testing accessibility of ICT

RA 10.2: Research on formal methods to validate e-Inclusion services including: define criteria for success and failure of e-Inclusion

RA 10.3: Procedures, tools and environments for usability evaluation of Assistive ICT

RA 10.4: Research on automatic evaluation of end-users needs and preferences while interacting with ICT

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #11: Collaborative research and knowledge development

- RA 11.1:** Methodologies for collaborative research in the field of Assistive ICT and Accessible ICT including:
- Methodologies to analyse collaborative accessibility and undertake collaborative user- and usage-centred design
 - Provide incentives to bring academia, industry and end-users together
 - Instigate a mechanism to support the transfer of technology from other areas of research
 - Improve the level of technological research in inclusion
 - New mechanisms for international collaborations

RA 11.2: Process involving research, development and technology transfer in Assistive ICT and Accessible ICT

RA 11.3: Infrastructure for shared knowledge in the field of Assistive ICT and Accessible ICT including:

- Clearing house for inclusive HCI
- Broker agencies that support the technology transfer of Accessible and Assistive ICT
- Research on sharing accessibility knowledge in the field of Assistive ICT and Accessible ICT

RA 11.4: Research on how to structure in an appropriate way all information for e-Inclusion available on the network

RA 11.5: Research on accessible knowledge infrastructure that includes scientific knowledge

RA 11.6: Research on reasons why knowledge / standards on accessibility are not known or applied

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #12: Social networking and applications

- RA 12.1:** Research on the use of social media to reduce isolation
- RA 12.2:** Disaster Risk Reduction: participation of persons with disabilities
- RA 12.3:** Research on social cooperation models to support people inclusion
- RA 12.4:** Research on how people can understand and use the full potential of Aml.

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #13: Social context and impact

RA 13.1: Knowledge of the potential and the social effects of ICT to support an inclusive life including:

- Research on social impact of e-Inclusion
- Build a global public inclusive infrastructure

RA 13.2: Research on the ethical and legal requirements and consequences

RA 13.3: Research on changing attitudes of different stakeholders towards eInclusion.

RA 13.4: Research on how to integrate social objectives in ICT

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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Research Line #14: The market, service delivery and public procurement

RA 14.1: Analysis of market potential of accessible ICT including: make it more general rather than specific accessible and assistive

RA 14.2: Analysis of market potential of assistive ICT

RA 14.3: Business benefits and business models for eInclusion including: new funding mechanism to assist in exploitation - commercial introduction phase

RA 14.4: Research on the marketing and branding for facilitating the use of eInclusion.

RA 14.5: Analyse supply chain and usage of existing Assistive and Accessible ICT inclusive failures from the users' point of view including: explore ways of effective quality assurance in service delivery of assistive ICT

RA 14.6: Analysis of models and processes of Service Delivery and procurement including:

- Analysis of procurement methods of assistive ICT in the member states.
- Accessibility criteria in public procurement policy
- Alternative ways of financing service delivery of assistive ICT

RA 14.7: How to support and train people with disabilities to effectively demand, customize and use accessible & assistive ICT products and services.

	1	2	3	4	5
a) Impact score					
b) Probability score					
c) Feasibility score					

Any additional remarks:

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