







Paper for discussion by DPI

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1) CRPD and Technology

Technology is mentioned in various areas of the CRPD[1].

Preamble

"Universal design" means the design of products, environments, programms and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. "Universal design" shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.

Article 4

To undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost;

To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities;

Article 20

Facilitating access by persons with disabilities to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, including by making them available at affordable cost;

Providing training in mobility skills to persons with disabilities and to specialist staff working with persons with disabilities;

Encouraging entities that produce mobility aids, devices and assistive technologies to take into account all aspects of mobility for persons with disabilities.

Article 26 - Habilitation and rehabilitation

3. States Parties shall promote the availability, knowledge and use of assistive devices and technologies, designed for persons with disabilities, as they relate to habilitation and rehabilitation







Article 29

Protecting the right of persons with disabilities to vote by secret ballot in elections and public referendums without intimidation, and to stand for elections, to effectively hold office and perform all public functions at all levels of government, facilitating the use of assistive and new technologies where appropriate;

Article 32

Providing, as appropriate, technical and economic assistance, including by facilitating access to and sharing of accessible and assistive technologies, and through the transfer of technologies.

Reality:

A 2014 article by Gould^[2] "Convention on the rights of persons with disabilities, assistive technology and information and communication technology requirements: where do we stand on implementation?" presents 2013 data from a survey performed by G3ict and Disabled Peoples International (DPI) that included 84 local correspondents in 76 countries representing 70% of the world population. Gould et al reported low levels of CRPD ratifying countries implementing laws, policies or programs that promote awareness-raising and training programs about the CRPD and its AT and ICT technology requirements. Gould et al conclude that "CRPD ratifying countries need to promote disability-inclusive AT and ICT policies and programs identified as priority areas by key stakeholders" and "Government leaders and key policymakers need to address gaps in capacity building such as professional training of professionals in the areas of AT and ICT accessibility and programming through disability-inclusive development practices"^[2].

2) Science, Technology, Innovation and Transforming our world: the 2030 Agenda for Sustainable Development

Words starting with tech (e.g. technology, technologies) are mentioned 57 times; words starting with scien (e.g. scientific, science,) are mentioned 27 times and words starting with Inno (e.g. innovation, innovative) are mentioned n=22 times in *Transforming our world: the 2030 Agenda for Sustainable Development*^[3].

Reality

However none of these words were linked to disabled people.

3) Solution Summit

The solution summit "was a catalytic gathering that took place on Sunday, 27 September 2015 at UN Headquarters in New York to turn attention toward breakthrough solutions for achieving the new Sustainable Development Goals" "It marks the beginning of a longer-term grassroots







effort to lift-up exceptional innovators – technologists, engineers, scientists, who are developing solutions that address one or more of the 17 sustainable development goals"^[4]. 838 inspiring submissions were received from more than 100 countries: bit.ly/solutions-summit-responses^[5].

Words starting with disab were mentioned 121 times. However many of the submissions could be seen as having problematic aspects for disabled people.

4) Genetic modifications

Since March 2015 the issue of modifying the genetic material of humans is again discussed (last time was around 12 years ago). In both discussions do disabled people not play a role (only two pieces from a disability rights perspective^{[6][7]}. As the technology of modifying genetics of humans is ones working can be used for all kind of issues. The *Transforming our world: the 2030 Agenda for Sustainable Development* covers genetics and biodiversity and as such the discussion taking place in the moment around gene-editing should be of relevance to the implementation of the 2030 agenda. From a disability rights perspective one issue is that biodiversity should be discussed also in relation to humans.

5) Two Science, technology and innovation governance discourses

How to govern scientific and technological developments and how to regulate innovation processes and products has been discussed for some time. UNESCO a UN agency responsible for science and technology, culture and education has been involved in the ethics of S&T since the 1970's^[8]. The outcome document of the 2015 "*Third International Conference on Financing for Development: Addis Ababa Action Agenda*" announced the establishment of a technology facilitation mechanism to support the sustainable development goals which will be "based on a multi-stakeholder collaboration between Member States, civil society, the private sector, the scientific community, United Nations entities and other stakeholders"^[9].

Anticipatory governance (AG)^[10] and responsible innovation (RI)^{[11][12]} are two governance of S&T and innovation discourses that are increasingly visible since 2011 and 2010, respectively. AG envisions that the impact of emerging S&T development, beyond clinical concerns, should be identified and addressed at the conceptual and development stage with the active and meaningful involvement of the public^{[10][13][14]}. RI is seen as "*a transparent, interactive process by which societal actors and innovators become mutually responsive with regard to the (ethical) acceptability, sustainability and societal desirability of an innovation and its marketable products"^[15]. RI has eight dimensions: ^{[11][16]}*

1. Governance	2. Open access/open science
3. Public engagement	4. Ethics
5. Gender equality	6. Sustainability
7. Science education	8. Social justice/inclusion







Reality:

Disabled people are not part of these governance and other science, technology and innovation discourses yet and there are many barriers to such involvement and a lot of work has to be done on a system level by disability groups and other groups and actors involved in science, technology and innovation governance to ensure a sustainable and meaningful participation of disabled people in science, technology and innovation governance discourses.

6) Issues we face or which are emerging

Hierarchy of assistive devices

Exoskeletons are often marketed with a negative imagery of wheelchairs^{[17][18]}, see also^{[19][20]}. The same is true for bionic legs^[21].

High tech versus low tech

High tech versus low tech as evident with BCI and robots can cause problems in countries of the global south^[22] and in other countries.

Sales pitch of AT: Perception of disability

Assistive devices are often marketed with a negative/medical perception of disabled people ^{[23][26]}. The use of the medical view of disabled people is seen as one barrier of involving disabled people in policy discussions^[27] referencing ^[28].

Different needs for different disabled people

The autonomous car might be good for blind people^{[29][30]} but an autonomous taxi^[31] might be problematic for wheelchair users. The same dynamic is evident with many other scientific and technological developments and innovative products (see the discussion around curb cuts and the different impact of curb cuts on blind people and wheelchair users).

Different needs between so called abled bodied and disabled people

The technology platform Uber might revolutionize how many use Taxis but what about wheelchair users?^[32]

What is AT?

The CRPD does not define AT and as such the question arises what abilities should AT give to disabled people. Increasingly AT can give abilities to disabled people that are not part of the 'normal' ability repertoire of so called non-disabled people ^{[25][33][42]}.

As such the question is what are the boundaries for AT for disabled people and what AT's should the government pay for?

Conclusion

Given the above, DPI needs to be more involved in the governance of science, technology and innovation and DPI needs to put forward its ideas as to what certain terms mean such as Assistive technologies and how they should be promoted and prioritized.







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