Call to Action: University Collaboration for Digital Inclusion

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Purpose

The Basic Internet Foundation was established by the University of Oslo and Kjeller Innovasjon to have a special purpose vehicle (SPV) focussing solely on Digital Inclusion. Given the historic event at Kjeller, where the Internet (Arpanet) reached Europe in June 1973, and the foundation of Opera Software in 1994, the focus on an inclusive Internet for everybody on this planet has taken a special meaning for the Foundation.

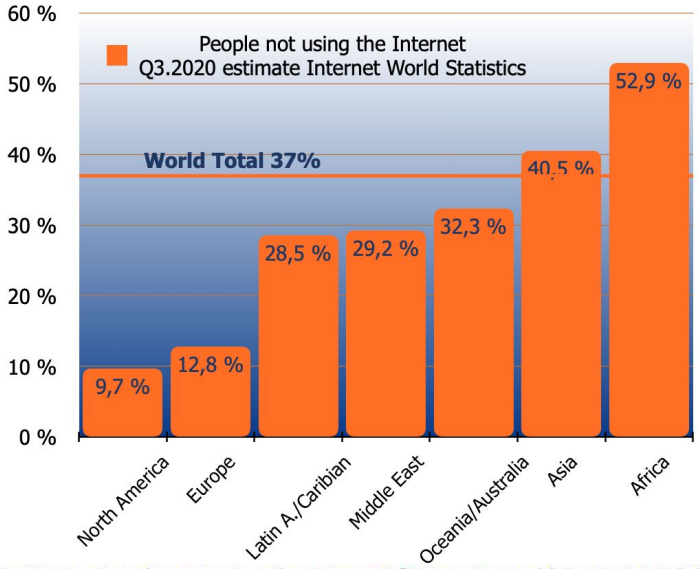

Figure 1 - People not using the Internet [Internet World Statistics Q3.2020]

Given the transition to a data-driven world, innovation is the key for value creation, decent work, and a sustainable future. As Joseph E. Stiglitz pointed out in The Price of Inequality[4], a divided society lacks innovations in reaching the market and, thus, hurts productivity and quantum impact on the economy.

Even in Europe roughly 10% of the population still does not use the Internet[5], causing the European Commission to establish an action plan for "connecting the unconnected"[6]. Globally, two thirds of the children in our world have no Internet access[7]. The situation is far more serious in Africa, where 52,9% of the population are not using the Internet (see figure 1). In Africa South-of-Sahara (SSA), connections to the mobile network are often the only way to achieve Internet access, which, unfortunately, is seen as an expensive access for the people in the bottom of the pyramid. With reported usage[8] of only 20-25% of all connections to the mobile network coming from 3G/4G phones, the digital gap is one of the major sources for inequality,

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[4] Joseph Stiglitz, The Price of Inequality: How Today's Divided Society Endangers Our Future, W.W. Norton & Company, 2012

[5] Internet Usage statistics, estimated Q3.2020 - https://internetworldstats.com/stats.htm (assessed 5Jan2021)

[6] Information exchange on Free Access to Information in Europe, https://its-wiki.no/wiki/BasicInternet:Free_Access_to_Information_in_Europe, 14Sep2020, (assessed 5Jan2021)

[7] Access of to Internet of children in school-age, The International Telecommunication Union (ITU) and UNICEF report, https://www.unicef.org/press-releases/two-thirds-worlds-school-age-children-have-no-internet-access-home-new-unicef-itu, 30 November 2020

[8] Rosalyn Mworia, Type of connections in the Mobile Network in Tanzania, May2020 (personal information)

and increasing as we transition to the next generation. Along with the digital gap in access, the second major hurdle is the digital literacy implementation. The lack of solutions such as local language digital interfaces, locally relevant content, digital literacy training, the use of icons and audio excludes a large fraction of illiterate people[9].

Furthermore, the COVID-19 pandemic has highlighted the need for digital inclusion and accelerated the digital uptake in an unprecedented way allowing people to carry on with their daily lives without having to travel. However, the digital divide, both in access and skills, has come to the attention of everyone, as those having broadband connectivity could follow remotely education, healthcare and work related activities, while those without digital connectivity were left behind. Already before the pandemics, girls, women, and vulnerable and marginalized groups were least likely to have access to technology. This dire disadvantage has exacerbated due to the lack of connectivity. As such, the digital divide has become even more alarming[10]. In March 2020, a report by the OECD found, "roughly 327 million fewer women than men have a smartphone and can access mobile internet. Women are on average 26 percent less likely than men to have a smartphone[11]. This gender divide, in South Asia and Africa stands at 70 percent and 34 percent, respectively." According to the United Nations, 1.7 billion women in low- and middle-income countries do not own a mobile phone.

University Collaboration for Digital Inclusion

Universities worldwide have addressed the Sustainable Development Goals (SDGs) as leading principles for their research and operation. Through the Basic Internet Foundation, we invite for a coordinated action towards digital inclusion, with academia building trusted and peer-reviewed information and knowledge as a catalyst for the SDGs. Building critical mass through coordinated action will accelerate the efforts of the companies and the governments to realize the vision of SDGs.

Demanding affordable Internet access is not only part of the Sustainable Development Goals (SDGs), it was further stressed by the international organisations like the ITU, UNICEF, United Nations[12], Governments[13], the Internet Society, NGOs and local communities. With relevant information that is suitably organized and useful in daily lives, users will be motivated to access the Internet and become part of the global digital eco-systems.

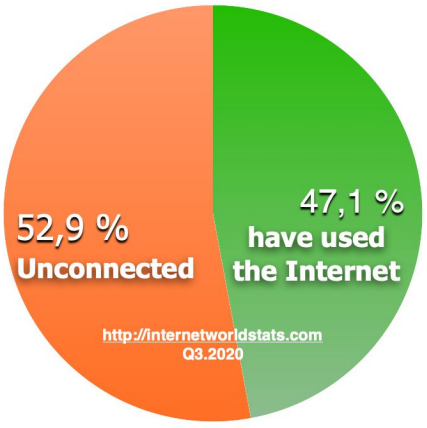

Figure 2 - Internet Users, statistics for Africa

Purely market-oriented traditional approaches for digital inclusion have failed, and it is time to be innovative in developing novel solutions and (business) models. SDG target 9.C, reflecting the goal of "Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020", sees a reality of more

[9] Radovanović, D., Holst, C., Belur, S., Srivastava, R., Houngbonon, G., Le Quentrec, E., Miliza, J., Winkler, A., & Noll, J. (2020). Digital Literacy Key Performance Indicators for Sustainable Development. *Social Inclusion, 8*(2), 151-167. http://dx.doi.org/10.17645/si.v8i2.2587

[10] https://www.devex.com/news/opinion-we-cannot-allow-covid-19-to-reinforce-the-digital-gender-divide-97118

[11] https://insight.wfp.org/coronavirus-pandemic-is-exposing-the-gender-digital-divide-6c9e1fef8ece - Gender devide addressed by the World Food Programme

[12] The United Nations' High-level Panel on Digital Cooperation listed in their final report the recommendation 1A as follows: "We recommend that by 2030, every adult should have affordable access to digital networks, as well as digitally-enabled financial and health services, as a means to make a substantial contribution to achieving the SDGs…". See https://digitalcooperation.org

[13] The Government of Norway has pointed out access, skills, regulations and inclusion as the four drivers for Norwegian Development Policy. Source: "Digital Transformation and Development Policy", Norwegian Government, Message to the Parliament, Meld. St. 11 (2019-2020), Apr2020, https://www.regjeringen.no/no/dokumenter/meldst11_summary/id2699502/?ch=1

than 50% of people in Africa not being connected to the Internet (see Figure 2). In this context, the Government of Norway has pointed out *(i)* access, *(ii)* skills, *(iii)* regulations and *(iv)* inclusion as the four drivers for Norwegian Development Policy[13].

Members from 6 Universities/University colleges in Norway (Kristiania, NTNU, OsloMet, UiA, UiO, USN) joined in an expert group and launched the white paper "Policies and Solutions for Implementing Digital Inclusion on a Global Scale"[14]. The white paper addresses free access to information and a National Knowledge Portal[15] as one of the drivers for digital inclusion. We endeavour to include universities worldwide who share the same vision as described the white paper, and wish to transform the world with digital equality and reach for everyone. Not only does this mission present cost and business challenges, but also significant research challenges worthy of advanced research.

The Basic Internet Foundation, being the SPV for digital inclusion, has addressed the challenges through research projects, scientific reports and white papers, international reports participation, aspects for the "connecting the unconnected (CTU)". Establishing Information Spots ("InfoSpots") in rural areas in Tanzania as the means for providing free access to information on health is a success story. Studies on health knowledge uptake through digital information as part of the DigI project[16] showed an increase by 60% (from 15% to 75%) for Cysticercosis, and a knowledge level of 91% and 94% for Tuberculosis and HIV/Aids[17].

Given the success of the DigI project, the government of Tanzania and the mobile operators Vodacom, Tigo and TTCL are supporting a feasibility study of connecting schools in rural Tanzania, focussing on a low OPEX of less than 20 USD/month per school. By connecting schools we will create the instantiation of the four drivers "access, skills, regulations and inclusion", contribute directly to SDG target 4.1 on the percentage of schools connected to the Internet, and create the international showcase for School connectivity in rural areas. As such, the results of the pilot are both an input for the national strategy by UCSAF and the Ministry of Education (MoE), a contribution to GIGA[18], the partnership on school connectivity launched by ITU and UNICEF, as well as the mobile operator alliance GSMA[19]. The recent COVID-19 pandemic has put an urgency on access to Internet and information by as many people as possible, and is well recognized by everyone.

Topics of the University Collaboration

Managing trusted information and free access to this information are the core components of the University collaboration for digital inclusion. We believe that the following topics are central to the empowerment of societies, and consequently build the basis for further research:

1. Create a meaningful value for every single human being through the Internet
2. Contribute to digital inclusion, digital literacy and key performance indicators (KPIs) as drivers for resilient communities, decent work, and local/national goals aligned with the SDGs

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[14] Josef Noll, Tale Skjølsvik, Hilde Opoku, Frank Reichert, Jörn Klein, Arne H. Krumsvik, "Policies and Solutions for Implementing Digital Inclusion on a Global Scale", White paper, May2020, https://its-wiki.no/images/b/b1/Policies_Solution_DigitalInclusion.pdf

[15] National Knowledge Portal, http://NationalKnowledgePortal.net

[16] The DigI project (2017-2020) focussed on Digital Health provision through information spots in Tanzania, see: http://DigI.BasicInternet.no

[17] Christine Holst, "Free access to digital health information-preliminary result", Breakfast meeting on free access to digital public goods, Oslo, 25Oct2019, https://its-wiki.no/images/2/21/C.Holst_DigI_study%2C_presented_by_C.Chaffey.pdf

[18] GIGA is a unique partnership launched by ITU, the UN specialized agency for information and communication technology and UNICEF - https://news.itu.int/mapping-schools-worldwide-to-bring-internet-connectivity-the-giga-initiative-gets-going/

[19] GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators - https://www.gsma.com/aboutus/

3. Create trustable knowledge on education, health, governmental information, financial inclusion as well as digital public goods that target the SDGs
4. Inclusive access, allowing everyone to get free access to trustable knowledge. As an example, an InfoSpot in a village may hold courses to acquire digital skills, and handle certificates for the educational sector. As an example, building low-cost backhaul solutions, innovative distributed network architectures, knowledge portals at the edge of the network, and simplified user authentication and security solutions
5. Capacity building in education and research for digital empowerment as the main objective and for every single human being to use the Internet in daily lives
6. Data governance and innovation on data is the core for value creation within the society and the country. By combining the innovations from the private sector, and the governmental data, one can create the innovation ecosystem for the Private-Public-Partnership (PPP).
7. Regulatory issues and business models as the drivers for industrial take-up

The representatives from the participating Universities commit to

(i) address digital inclusion as part of their academic work,

(ii) have their research focus on contributions to the SDGs

(iii) contribute with trusted and peer-reviewed information on e.g. education, health, agriculture, financial inclusion,

(iv) establish workshops and conferences on digital inclusion and become thought leaders,

(v) contribute with knowledge and information to the public decision making, and

(vi) form a global alliance on digital inclusion,

(vii) contribute to developing global standards to meet the SDG goals.

The Basic Internet Foundation is ready to be the glue across all the universities to foster the expertise and the partnership amongst academia, governments, NGOs and companies. What is expected from the involved academic partners is *(i)* the commitment for providing their expertise on the identified topics, *(ii)* a quarterly information session, *(iii)* contributions to proposals and projects, and *(iv)* the preparation and contribution with their topics to at least one webinar/conference a year.

First Outcome

The first outcome is a table of contributors with the areas of interest. See the example of such a web site below

If you are interested, please send your interest to partner@basicInternet.no mentioning name, home page, affiliation, photo, and topics of interest.

Follow-up outcomes will detail the topics of interest through white papers, as well as other topics addressed by the members.

Next Steps and Deadlines

Expression of interest: 28 February 2021

MoU: 31 March 2021

Collaboration Launch: 5 April 2021