

20 | ANNUAL 18 | REPORT



Driving the digital transformation
for higher education and research



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STATEMENT of the Chair

As my three year term as the chair of SomaliREN's board ends, I am delighted to witness SomaliREN grow and mature into an operational NREN with a clear strategic direction and an effective operational execution. Our belief in the potential of our organization and the commitment of the member institutions to support and persevere throughout the existence of the organization has finally given the fruit of the hard work put into implementing the strategies and policies devised by the organization's leadership.

I recall the early days of SomaliREN when establishing connectivity was just a dream, and the member institutions focused on strengthening the institutional and human network –the platform that initially motivated the formation of the organization which aimed at facilitating collaboration among our universities and research institutions. Now that we have the technological capabilities to connect and be together while physically apart, it is time we built meaningful solutions for the issues facing our universities and our society.



As we move to the future and extend the services to all the member institutions, I urge all the stakeholders to continue doing their part and double their efforts.

On behalf of the board and the executive committee, I would like to commend the commitment and professional execution by the secretariat. The sense of ownership and feeling that they are working for a noble cause is an example to learn from and

follow. As a result of the efforts put in by the board and the secretariat, the membership of SomaliREN has grown, connectivity for the institutions in Zone M has been successfully rollout out, the organization's capabilities have matured, and most importantly an operational office has been re-established. Support and efforts from many stakeholders of SomaliREN have made all this possible. From the member institutions who have put their trust in the organization to the partner organizations and agencies that mobilized resources in fulfillment of our goals. The recent accomplishments, especially the connectivity rollout, was enabled by the ICT Sector Support project of the World Bank Group. We thank the project leadership and all the stakeholders that were instrumental in this initiative. I also like to take this opportunity to thank all the partners that supported SomaliREN in its early days, including the relevant line ministries, the Royal Institute of Technology (KTH), the Turkish Coordination and Cooperation Agency (TiKA), Al Azhar Skolan , the UbuntuNet Alliance and ASREN.

We recognize the capable leadership of the previous executive committee, the chair, and the ex-CEO of SomaliREN on whose work and efforts we built what we have accomplished today. On behalf of my colleagues in the executive committee, Dr. Abdirizak Dalmar, and Prof. Adan Sheikh Don, I thank all the members and partners for their support; and hope that our organization will continue to grow and flourish with their continued support.

To the development, success and sustainability of SomaliREN.

Dr. Saeed A. Hassan
Chair, SomaliREN Board



FOWARD by the CEO

SomaliREN achieved an important and historic milestone in 2018. It had reached a new level of maturity when it connected to the UbuntuNet Alliance regional network. Rolling out the first segment of the NREN's network infrastructure and securing operational sustainability was the primary target for the past year; this has been completed by the fourth quarter of the year. To be able to deliver on its mission, SomaliREN had to build on a robust organizational architecture, which has been achieved through continuous innovation and delivery in both our management and operational systems., and adapting the best practices in lean organizations. With a small team of five members, and three interns, SomaliREN has managed to build, operate and maintain a network infrastructure connecting ten institutions and over 30 sites; coordinate capacity development activities; conduct research on improving our service delivery; and at the same time innovate our services.



We sees connectivity as a means to enable the member institutions and their communities to collaborate and together come up with solutions that address our development challenges at the institutional and national levels.

The grand vision for SomaliREN considers connectivity as the most fundamental building block for its mission. SomaliREN has provided a platform for the member institutions, for example, to resolve challenges in the higher education sector such as the limited ICT capabilities, the prohibitively expensive connectivity and limited access to educational and research resources in

their respective institutions. The NREN is expected to empower our universities to deliver quality education and research that is up to par with that of their counterparts in the region and around the world.

In this regard, SomaliREN has engaged in research initiatives and studies focusing identifying the challenges and opportunities for development, developing sustainable solutions for the higher education sector, and empowering the universities to contribute to the economic and social development of our people. The Somali higher education and research institutions are the real change-makers in our society and have been part of the recovery of our communities in the last two decades.

A deep understanding of its responsibilities towards society has driven SomaliREN and its people. It has motivated our organization to continuously develop its capabilities in terms of skills and expertise which had to grow exponentially to meet the demand of its fast-paced growth. On behalf of SomaliREN and its member institutions, I take this opportunity to thank our partners and sponsors whose support and commitments made SomaliREN what it is today. The leadership of the Ministry of Post, Telecommunications and Technology, the ICT Sector Support project team and the World Bank Group have contributed both financial and moral support in operationalizing our NREN's network.

This report is the result of the efforts invested in the growth of SomaliREN by its member institutions, the board and the Secretariat. I hope it will sufficiently capture the year that passed, and present the roadmap for the future.

Abdullahi Bihi Hussein
Chief Executive Officer

2018 REPORT HIGHLIGHTS

Vision and Strategy

We collectively see a **“developed and prosperous Somali nation enabled by high quality globally connected education and research institutions.”**

The Network: By 2023, SomaliREN will connect over 40 institutions and deliver an aggregate minimum bandwidth capacity of 2 Gbps. The NREN will have a local network backbone with a capacity of 10G that will connect the 3 PoPs in Mogadishu, Hargeisa, and Garowe.

The Organization: SomaliREN will be a model organization for effective and transparent governance, efficient operations and home for an organizational culture that is conducive to innovation and development. SomaliREN will have designed and implemented a long-term sustainability strategy that will drive the organization into the next millennium.

The Membership: The NREN shall have over 40 member institutions comprising of universities, research centers and the research hospitals run by the universities.

The Impact: SomaliREN will positively affect the research capabilities of Somali universities and research institutions. By then, there will be a significant mass of qualified researchers and research centers with world-class capabilities that will have contributed to the development of our society.

ORGANIZATIONAL CAPABILITIES

SomaliREN has an operational office staffed by five full-time staff members and three interns. The Secretariat runs a lean organization that continues to grow based on the demand for filling specific technical roles.

Organizational policies and procedures: SomaliREN has developed human resources, financial management and connectivity services policies and procedures.

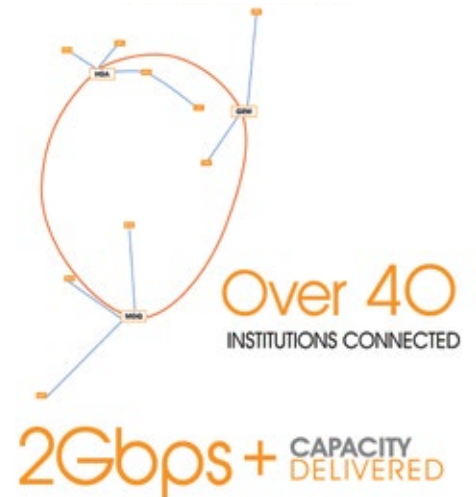
HR Capabilities: SomaliREN's secretariat includes the CEO, CTO and Administration, and Finance officer as the core management team, one network administrator, one system administrator and a team of three interns that support the engineering operations. A capacity development policy that requires each staff member to demonstrate professional growth by getting vendor certifications relevant to their respective job roles has been enforced. This policy has resulted in the overall organization's capabilities to grow at a rapid pace.

CONNECTIVITY INFRASTRUCTURE

SomaliREN completed the roll-out of Zone M (Mogadishu zone) connectivity in June 2018. The existing last-mile infrastructure is mostly comprised of wireless links and now connects ten institutions to our data center at Mogadishu University's Administration Campus. The total sites served are 30 which are operated mainly by the member institutions.

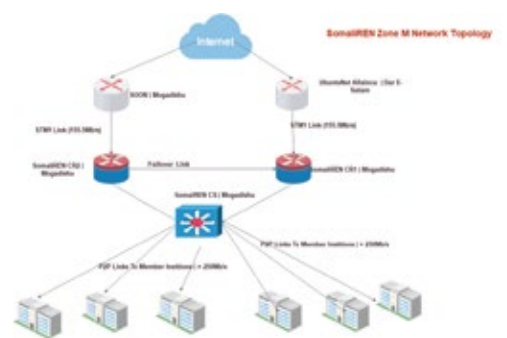
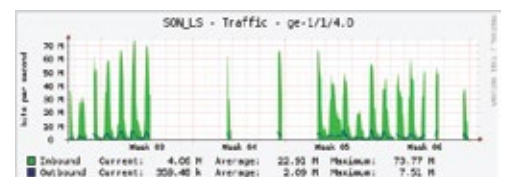
International and Regional Connectivity: SomaliREN received support from the AfricaConnect2 project and the World Bank for the procurement of 1 STM1 (155Mbps) capacity. Due to the rapid growth of the network and demand for bandwidth and because there was no clear upgrade path for the capacity procured by the UbuntuNet Alliance, a second STM1 has been negotiated with a local network operator. A tender sent out to 4 of the largest operators in Mogadishu, and the Somali Optical Networks won the bid. Now, SomaliREN's international and regional aggregate capacity is 310Mbps.

The two links are configured to provide a backup for each other.



310 Mbps

AGGRIGATE CAPACITY



SERVICES

As of 2018, SomaliREN has provided the following services to its member institutions:

Connectivity: A reliable and affordable Internet service has been provided to 9 universities with an average of 30Mbps per university (Min 15Mbps and Max. 50Mbps). The capacity delivered to the universities is monitored to ensure that it is dedicated (no oversubscription), stable and reliable. This capacity is also symmetric (with the designated bandwidth for upload and download being equal). This full duplex capacity gives the universities the opportunity to host their services and content.

Direct Engineering Assistance: SomaliREN helped its member universities to design and implement their campus networks. So far, our team has designed and helped build and deploy the campus networks for SIMAD University, Mogadishu University, Jamhuriya University for Science and Technology, Jazeera University and the Somalia National University.

Capacity Building: Network technicians and engineers at the member institutions have been trained to design, build, operate and maintain the campus networks. These capacity-building activities will continue to ensure that our member universities have stable campus networks. The training activities covered the following areas:

- Campus Network Design and Implementation
- Wireless Networking
- Systems Administration
- Digital Repository Administration (DSpace)

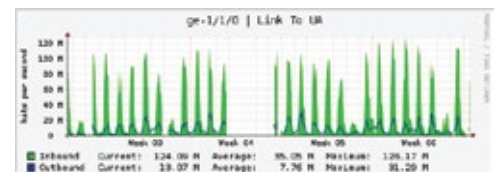
Monitoring and Network Management: SomaliREN has setup network monitoring and management systems that the members can access to make sure that we are meeting the contractually-obligated Service Level Agreements (SLAs). Now each of the connected institutions has access to our monitoring and management portal. Work is ongoing for the deployment of the same systems within their campuses.

Public IPv4 Address Blocks: To enable the member institutions to host their services and content locally, SomaliREN has allocated 30 public IP addresses (/27) to each of the member institutions. SomaliREN is capable of providing additional blocks for the members as needed free of charge with the condition that the institutions justify their request for this resource.

Research Repositories: In partnership with the UbuntuNet Alliance, SomaliREN has set up and hosted digital repositories for six member institutions. Work is in progress to enable our engineering team to take over the responsibility of setting up and managing the repositories for our universities. Instances of the same repositories will be hosted within our data center in 2019.

Virtual training labs: In an effort to develop the technical capacities of ICT staff at the member institutions, SomaliREN has a virtual training lab for network and systems design, building and operation skills development. The Virtual Lab is in pilot stage and is intended for production use in the upcoming capacity building workshops and courses. The Somali Network Operators' Group (SomNOG) plans to use the virtual lab in its annual workshop scheduled for October 2019.

The Virtual Lab will also be used by the Computing and Engineering faculties of the member universities interested in incorporating the lab and its resources to develop hands-on skills for better employability.



ORGANIZATIONAL SUSTAINABILITY

SomaliREN has over the years sustained on the contributions from the member institutions. Capacity building support for SomaliREN and the secretariat has given our operations a boost in 2017. Now that the network has become operational, SomaliREN will achieve its sustainability targets within 2020. Avenues for the sought sustainability include:

- Continued membership contributions
- Proceeds from the bandwidth subscription
- Proceeds from research collaboration and research grants
- Donor support (both in-kind as in the World Bank's funding for connectivity, and in the form of grants)



COMMUNITY AND MEMBERSHIP

SomaliREN membership base had grown from 14 member institutions in 2016 to 19 members in 2018. Applications have been received for three new member institutions. This growth has been the result of outreach efforts to the Somali universities and demystifying SomaliREN and its role.

As a critical pillar in the organization's mission, SomaliREN has formed communities of practice that have successfully convened, shared knowledge and collaborated.

Somali Network Operators Group (SomNOG): has convened its 3rd annual conference in October 2018 with community participation of over 200. SomaliREN has supported the event and contributed to the fundraising.

SomaliREN Researchers Community: has been dormant for over a year, but has recently planned a workshop on data analysis and visualization. This community needs to be enabled and supported to stand on its own, and establish the necessary structure for growth and collaboration.

The planned community of practice formations include:

- University Librarians and Knowledge Management Professionals
- Public Health
- Computing
- Environmental Sciences

Potential partners and supporting organizations have been engaged for these communities, and they are expected to become active within 2019.

RESEARCH

SomaliREN has continued to develop the capacities of the researchers and the universities in 2018.

- A study to assess the state of research in the Somali higher education institutions has been commissioned
- Partnerships with organizations that will support SomaliREN in its efforts to build the research capabilities of our researchers have been formed. One of these partnerships resulted in the organization of a workshop in Hargeisa by the Carpentries – volunteer-driven organization that does capacity building in data analysis and data science.
- Repositories for 5 of our member institutions have been built. This aspect of our work is set to become a sustainable operation within 2019.

COLLABORATIVE INITIATIVES AND PROJECTS

SomaliREN is working in exciting and innovative projects and initiatives based on the feedback and ideas contributed by the board and the community. These include the following:

REConnexion (Research and Education Connection): This was an initiative whose time has come. SomaliREN has been testing several video conferencing solutions that are critical for this project. The goal of the project is to connect qualified professors, research supervisors and other professionals with our member institutions to deliver lectures and knowledge over the network infrastructure we have already established. Pilot tests are set to begin within the second quarter of 2019.

As part of laying the groundwork for this initiative, SomaliREN has engaged with partner NRENs in the region to collaborate on this project.

EduSpot: SomaliREN is working on a project to roll-out educational hotspots in Mogadishu to utilize the unused capacity available to provide access to the students and researchers at their homes. EduSpot is a concept project that entails establishing the hotspots, deploying identity providers at the member institutions and also federating the identity providers at SomaliREN. We see the last component of the project as a precursor to joining EduRoam.

SomaliREN Consultation Meetings: SomaliREN has convened monthly consultation meetings for the members in Zone M. This was an initiative proposed and initially hosted by Mogadishu University and has served as an effective platform to share ideas for collaboration and address matters and issues of common interest. So far, the following universities hosted the previous lunch meetings: Mogadishu University, Benadir University, SIMAD University, and Jamhuriya University.

PARTNERSHIPS AND ENGAGEMENTS

SomaliREN sought to strengthen its relations and partnerships with its stakeholders:

- Collaboration and partnership with the Ministry of Post, Telecommunications and Technology: SomaliREN has collaborated with the ministry to relaunch its National Telecommunications Institute. SomaliREN was also a party to the Somali Internet Exchange Point and plans to connect to SolXP soon.
- SomaliREN strengthened its partnership and collaboration with the Ministry of Education and had briefed the ministry on the work of SomaliREN.
- The SomaliREN staff has contributed to UbuntuNet Connect 2018, the annual flagship community event organized by the UbuntuNet Alliance. Our NREN contributed a presentation on Building the Next Massive African Research Repository and sent five presidents of our member institutions to the Vice Chancellors ICT Forum.
- SomaliREN also maintains its membership with the Arab States Research and Education Network (ASREN) and has attended several of the monthly online meetings.

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MEMBER INSTITUTION



EduSpot





WHO WE ARE

SomaliREN is a non-profit, non-governmental membership-based organization founded and owned by its member institutions. As a national research and education network (NREN), it is mandated to build and deploy e-infrastructures for research and education and is registered as such with the relevant agencies and bodies.

SomaliREN builds, operates and maintains e-infrastructures and deploys services that address the needs of the Somali higher education and research institutions; supports the formation of communities of practice, and promotes and builds research capabilities at the member institutions. The NREN is a fast-growing, lean organization that is driven by innovation and continuous service improvements.

SomaliREN is a member of UbuntuNet Alliance, the regional Research and Education Network for eastern and southern Africa, as well as the Arab States Research and Education Network (ASREN). The work of SomaliREN aims to enhance the quality of research and education in Somali higher education institutions. Its three dimensions inform the mission of the NREN: Connectivity, Community and Content. These three areas define the essence of what SomaliREN hopes to accomplish. We provide affordable, high-speed connectivity for the research and education communities at our member institutions to empower them to access and publish research and educational content and other value-added services.



Connectivity

- ❑ Facilitating the interconnection of member universities by building out the REN's network infrastructure.
- ❑ Strengthening campus network infrastructures through the promotion of relevant best practices and provision of technical assistance.
- ❑ Developing the technical capacities of the universities' ICT staff to ensure a smooth operation of not only the campus network but the whole NREN network operations.
- ❑ Developing and commissioning communications and collaboration services on the network infrastructure.



Community

- ❑ Promoting the formation and development of communities of practice.
- ❑ Provision of platforms to facilitate collaboration and communication for the communities of practice.
- ❑ Developing and promoting use cases for the NREN's capabilities through effective engagements with the end-user communities.



Content

- ❑ Facilitating the interconnection of member universities by building out the REN's network infrastructure.
- ❑ Strengthening campus network infrastructures through the promotion of relevant best practices and provision of technical assistance
- ❑ Developing the technical capacities of the universities' ICT staff to ensure a smooth operation of not only the campus network but the whole NREN network operations.
- ❑ Developing and commissioning communications and collaboration services on the network infrastructure.

VISION

We collectively see a **“developed and prosperous society enabled by high quality globally connected education and research institutions.”**



MISSION

We exist **“to provide affordable and accessible connectivity and innovative services to build a collaborative education and research community.”**

CORE VALUE

Our Core Values define the way we deal with any situation through thought, word, and deed. They represent the persona of SomaliREN:



- 1. Inclusivity:** we are committed to open and equal membership for all the Somali higher education and research institutions across the country
- 2. Good governance (Transparency; Equity; Accountability; Ethics):** we uphold the highest standards and principles of good governance to improve accountability and effective service delivery.
- 3. Innovativeness:** we continuously enhance the quality and variety of services that we provide to our members

R & E COMMUNITY NEEDS

R&E Services



CONNECTIVITY



COMMUNITY



CONTENT

EFFECTIVE GOVERNANCE

GOVERNANCE

SomaliREN is governed by its constitution and its board charter which define the following organs:

1. Council of Members: is the highest-level organ comprised of representatives from the member institutions. The Council of Members convene annually for the Annual General Meeting and related activities and are mandated to select the board of trustees and hold them accountable.

2. Board of Trustees: is an elected body of nine members and the CEO, as an ex-officio member, are entrusted with charting the strategic direction of SomaliREN. The chairperson of SomaliREN heads the board.

3. Executive Committee: is a standing sub-committee charged to make strategic decisions as needed on behalf of the board. This committee is made up of the chairperson, the two deputy chairs and the CEO.

4. Secretariat: is the operational organ of SomaliREN, and is responsible for the day to day activities of the organization, and for implementing the strategies and policies set by the board.

SomaliREN Council of Members include the heads and representatives of the member institutions. The following leaders in the higher education and research sector served as the Council of Members as well as the interim board:

Dr. Saeed A. Hassan

President, Gollis University
Chairperson, SomaliREN

Dr. Abdirizak A. Dalmar

Ex-President, Benadir University
Deputy Chair, SomaliREN

Prof. Adam Sh Don

President, East Africa University
Deputy Chair, SomaliREN

Prof. Suleiman A. Guled

President, Amoud University

Eng. Abdikarim H. Jama

Vice President and Provost,
City University of Mogadishu

Dr. Mohamed Ahmed Jimale

Vice Chancellor,
Somalia National University

Mr. Dahir Hassan Abdi

Rector, SIMAD University

Dr. Ibrahim Mohamed Mursal

President, Mogadishu University

Mr. Abdirahman Moallim

Co-founder and Board Member,
University of Somalia

Prof. Salad Fidow

President, Jazeera University

Dr. Mohamud Yussuf Muse

Vice Chancellor, University of Hargeisa

Mr. Mohamud Hamid Mohammed

Vice Chancellor, Puntland State University

Eng. Ahmed Khaire Gutale

Co-founder and board member,
Galkayo University

Mr. Mohamed Bile

President, Kismayo University

Dr. Suleiman Abdi Dirir

Vice-Chancellor, University of Burao
University of Somalia

Eng. Mohamed Ahmed Mohamud

Ex-President, Jamhuriya University of Science
and Technology Jazeera University

Prof. Abdirizak M. Adam

President, Nugaal University

Mr. Mursal Saney

Deputy Director,
The Heritage Institute for Policy Studies

SomaliREN considers a transparent and robust governance system is the critical foundation for its success. The board size was 14 members, and there was no difference between the council of members and the board until recently when it was agreed that the governance model should be improved to keep in line and adapt to the growing membership base. Since 2016 February, the executive committee has acted on behalf of the board, and included the following:

Dr. Saeed A. Hassan
Chairman



Dr. Abdirizak A. Dalmar
Deputy Chair



Prof. Adam Sh. Don
Deputy Chair



Abdullahi Bihi Hussein
Chief Executive Officer



MEMBERSHIP UPDATES

The Secretariat with members of the executive committee and board have engaged the higher education institutions in Somaliland and Puntland to introduce them to the mission of the NREN. Membership applications from only 3 out of the entire ten engaged universities have been received and verified. A verification team comprising of ranking officials from the member institutions conducted a verification exercise, which indicated that the following universities had completed the requirements for SomaliREN membership:

1. Beder International University, Hargeisa
2. Garowe Teacher Education College, Garowe
3. Red Sea University, Bosaso

As of the time of this report, the following institutions are members of SomaliREN:

1. Amoud University, Borame
2. Benadir University, Mogadishu
3. City University, Mogadishu
4. East Africa University, Bosaso
5. Gollis University, Hargeisa
6. Galkayo University, Galkayo
7. Heritage Institute, Mogadishu
8. Jamhuriya University of Science and Tech, Mogadishu
9. Jazeera University, Mogadishu
10. Kismayo University, Kismayo
11. Mogadishu University, Mogadishu
12. Nugaal University, Las Anod
13. Puntland State University, Garowe
14. SIMAD University, Mogadishu
15. University of Burao, Burao
16. University of Hargeisa, Hargeisa
17. University of Somalia, Somalia
18. Somalia National University



SomaliREN IMPACT 2018

SomaliREN hit a critical milestone in 2018. In this year, we began to realize an essential element of our vision as an NREN – operationalizing a network infrastructure to connect our member institutions. Although this might be the most significant achievement of the year, SomaliREN has introduced new initiatives that build on top of this connectivity. Here are the highlights of the impact of our work on our institutions, stakeholders and the society in general:

Bandwidth consumption increased by 40% after realizing a 52% saving on connectivity expenditure.

Increased bandwidth consumption by the universities

Since the commissioning of SomaliREN's network and connectivity services, member institutions have doubled their bandwidth consumption due to the subsidized connectivity costs. A survey conducted by SomaliREN on the state of connectivity in the member institutions indicated that the average price of bandwidth was US\$250 per Mbps per month, and now universities are paying an average of US\$104 (min. US\$92 and max. \$115) depending on the order quantity. A majority of the member universities has since then increased their bandwidth consumption and extended the access to the students and faculty members. As a result, some of the universities have almost doubled their bandwidth consumption. For example, SIMAD University increased its bandwidth consumption from 29 Mbps to 50 Mbps. Bandwidth prices are expected to drop as new fiber-optic submarine cables arrive in Mogadishu, Bosaso, and Berbera. The dwindling prices will, in turn, drive the bandwidth consumption at our member institutions.

A move towards digital transformation

Member universities have realized the importance of digital transformation, and have embarked on initiatives to transform their institutions into ICT-enabled organizations. Some of the member universities have invested in data centers and infrastructure to interconnect their campuses, others have established dedicated ICT departments to drive the digital transformation, and some of them have incorporated the digital transformation agenda in their strategic plans.

This shift to a digital, smart institution is expected to improve the quality of not only research and education in the institutions but also the administration and overall sustainability of the universities.

Improved access to educational and research resources at the campus

As part of the digital transformation of the universities and the move to empower the campuses with ICT capabilities, the universities have started to deploy wireless hotspots in their campuses to allow students and faculty to access educational and research materials. This impact will have more significance once SomaliREN's data center starts hosting open access educational and research content. Four of the ten connected institutions have enabled open access wireless hotspots for student and faculty use.

More resilient campus networks

The engineering workshops organized by SomaliREN in the last three years aimed at enabling the campus network engineers to operate a resilient campus network. The ICT directors of the member institutions reported in the last feedback survey that their campus networks have become more stable, with fewer outages and enhanced ability to address network and connectivity issues as they arise in a timely fashion.

Enhanced awareness of research as a core function of the universities

The member institutions are now more focused on research capabilities development, and an increased awareness of the role of research output in the credibility of the higher education institutions has materialized.

Stronger community collaboration

The community formation and collaboration efforts of the members of SomaliREN have created stronger community collaborations. Universities in Mogadishu zone, for example, have organized monthly consultation meetings to discuss matters of common interest. This has inspired collaboration and cooperation among the members in areas ranging from research collaboration to curriculum harmonization.

Innovation within the organization

The work of SomaliREN and the connectivity has also improved our innovation capabilities. The secretariat is working on deploying IPv6 alongside the IPv4 connectivity to set an example for the local telecom operators in this regard.

The connectivity has enabled our team to collaborate with the engineering teams of the Research and Education Network for Uganda (RENU) as well as the UbuntuNet Alliance's engineering team on improving the connectivity and services for our members.

THE TEAM

SomaliREN's secretariat is a lean organization staffed by a team of qualified professionals. The team is responsible for not only running the day-to-day operations of the NREN but also continuously learning and innovating. This has driven the organization to embark on a continuous professional development as part of the organization's HR policy.

The team supports a wide-range of activities defined within the mission scope of SomaliREN, including the network operations, innovation for higher education and research, formation and backstopping of communities of practice, and convening consultation meetings of the member higher education and research institutions.

In addition to this agile team, SomaliREN's secretariat benefits from the collaboration and support of the ICT directors and researchers at its member institutions.



OPPORTUNITIES AND CHALLENGES

To continue its rapid growth, SomaliREN has focused on strengthening its organizational capabilities with an eye on the changes in the relevant areas and sectors our work involves. Keeping track of the challenges and opportunities in the industry will give us the chance to proactively engage the issues and devise strategies to either minimize the negative impact of these issues on our efforts to achieve our strategic goals or design and implement strategies that take advantage of the emerging opportunities. The following sections present some of these challenges and opportunities, which have been identified after a quick environmental scan:

Opportunities

- Anticipated telecommunications sector growth, especially in the Internet and connectivity services:
 - At least two fiber optical submarine cables are expected to land in Mogadishu, Bosaso, and Berbera by 2020. Work on two is in progress
 - Local operators in some parts of the country are rolling out inter-city fiber-optic backbones
 - Operators have already deployed optical communication rings in three of the main cities
- The passing and enforcement of the telecommunications act by the ministries will help regulate the market, which is expected to contribute to lower bandwidth costs in the future. This is supposed to eliminate monopolies while creating a level playing field if enforced with a policy that is conducive to the sector development
- The Higher education sector will be regulated soon as the Commission for Higher Education is being established. This regulation will drive demand for quality improvements of which ICTs and connectivity are an essential element
- The 3rd phase of the ICT Sector Support project funded by the World Bank is an opportunity for SomaliREN and the higher education institutions to converge the network infrastructure and build innovative solutions
- AfricaConnect3 project implemented by the UbuntuNet Alliance planned initiation date is set to late 2019. It is an opportunity for SomaliREN to leverage this opportunity and might be expected to contribute 20% of the allocated funds for the project.

Challenges

- SomaliREN is an organization operating with limited resources. The lack of funding sources for capital expenditures that are readily-available limits the fast-paced growth of the organization
- While connectivity and the Internet service industry is growing, bandwidth prices are not only high relative to the costs in the region, but also not consistent. Bandwidth prices in some zones are double the price of that in some other parts. This puts SomaliREN in a complicated position as it is required that as a community a uniform price should be adopted.
- Predatory pricing and aggressive competition with SomaliREN by the local operators is a threat to the sustainability of the organization and the network. There is a misconception around the role of SomaliREN and its mission.

SomaliREN in Numbers

Connectivity



9

Members connected
(8 Universities and 1
research institution)

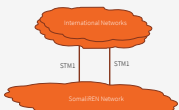


35

Campuses Connected

300 Mbps

Aggregate Upstream traffic
from two providers. 1xSTM1
connection with UA and another
with SON.



2

Upstream providers with
full BGP sessions.

Communities

18

Member Institutions by
late 2018. 17 universities &
1 research institution.

2



Communities of practice
hosted and supported.

3



Communities of practice
and under development.



18,000+

students and faculty
population served.

4



Universities benefitted
from the direct engineering
assistance programme.
Free network and systems
redesign and implementation
projects completed.

Impact



50%

Subsidized connectivity
cost per Mbps. Now the
universities are paying 50%
of the current market price
per Mbps



80%

Bandwidth consumption growth
by the member universities.



6

Innovative
projects under
development.

SomaliREN should focus on pursuing its strategic objectives outlined in its latest strategic plan. The strategic goals and the activities that will lead to their achievement are presented below:

- a Strengthen SomaliREN by increasing the membership base and value to members**
 - i. Review the membership structure to create new classes of membership (to accommodate a broader and more diverse range of institutions associated with research and education)
 - ii. Map potential members and implement an engagement strategy to attract 40% of the potential members
 - iii. Support members in developing the technical capacities to roll out internal networks and services
 - iv. Establish a nation-wide REN data network
 - v. Develop and implement a portfolio of diverse and innovative services

- b Review the governance and operational structures and processes to ensure ethical and effective leadership, as well as the requisite range of functional competencies to deliver the strategic plan**
 - i. Develop and implement a Board Charter that entrenches good governance
 - ii. Develop and implement organizational policies, procedures, rules, and regulations
 - iii. Carry out a corporate systems analysis as a basis for the development and staffing of a new organogram as well as full computerization
 - iv. Develop and implement a system of continuing training needs analysis and capacity building for both the Board and staff

- c Build/Enhance Stakeholder Relationships**
 - i. Develop, populate, and annually review a stakeholder map
 - ii. Develop the organizational key messages and continually evaluate to maintain relevance
 - iii. Develop and roll out a communication and engagement strategy that supports the achievement of organizational objectives
 - iv. Develop and implement a plan for continuing review of the effectiveness of the communication strategy

- d Create diversified sources of funding, revenue and investments to guarantee the long-term sustainability of the organization**
 - i. Develop a Business Plan and review on an annual basis
 - ii. Develop and implement a cost and pricing model that ensures full coverage of recurrent administration and operational costs
 - iii. Implement initiatives and activities that support related government development efforts to justify continuing government funding
 - iv. Identify and establish long-term relationships with bilateral and multilateral funding agencies
 - v. Establish an endowment fund for SomaliREN focusing on Somalis in the Diaspora
 - vi. Acquire land and set up an owned and self-sustaining base of operations for SomaliREN

- e Build communities of practice and facilitate efficient collaboration through continuous capacity development and content hosting**
 - i. Identify existing national and international communities of practice within the country
 - ii. Carry out a needs assessment to guide the implementation of initiatives that will support their activities
 - iii. Stimulate the growth of communities of practice by creating linkages to external groups focusing on specific areas of learning and research

- f Develop and implement a monitoring and evaluation strategy**
 - i. Develop a Theory of Change along with the log-frame to guide monitoring and evaluation
 - ii. Develop and implement a monitoring and evaluation plan to guide operational and policy level oversight and adaptive change

UP COMING EVENTS



<p>Annual technical capacity building program will consist of two concurrent workshops on Internet and network technologies. The hands-on workshops are intended to upskill the working professionals and graduates in ICT, Telecommunications, and related disciplines.</p>	<p>19th – 22nd October</p>
<p>Technical sessions and tutorials: 6 concurrently-organized tutorial sessions will be held to impart skills and know how on</p>	<p>23rd October</p>

Conference Theme

Digital Somalia: Laying the Foundations for the Next Economy

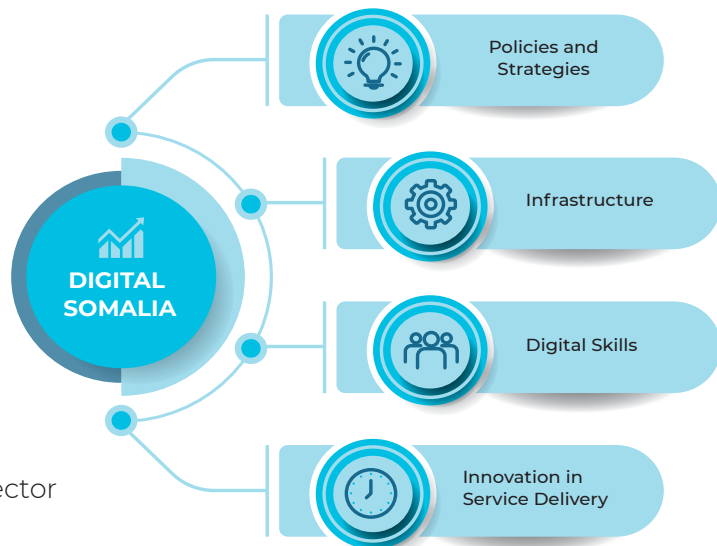
This year's event will comprise of four segments in which the following sub-themes will be examined.

Sub-theme 1: Critical infrastructure for a digitally-transformed society

Sub-theme 2: Skills and human capital as the foundations for a digital economy.

Sub-theme 3: Effective policy-making and the role of partnerships in building our digital economy.

Sub-theme 4: Innovation and new service delivery models in the public and private sector



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