of the Commission Implementing Decision on the Annual Action Programme 2014 of the DCI Pan-African Programme

Action Document for "AfricaConnect II"

1. IDENTIFICATION

Title/Number	AfricaConnect2		
	Pan-African extension of the AfricaConnect project for the African Research and Education Networks		
	CRIS number: DCI/PANAF/037-526		
Total cost	Total estimated cost: EUR 26 600 000		
	Total amount of EUR 20 000 000 EU budget contribution		
	This action is co-financed in joint co-financing by:		
	- UbuntuNet Alliance: EUR 2 500 000		
	- DANTE: EUR 4 100 000		
Aid method / Management mode and type of financing	Project Approach Direct management – grants – direct award		
DAC-code	22040	Sector	Information and Communication Technologies (ICT)

2. RATIONALE AND CONTEXT

2.1. Summary of the action and its objectives

AfricaConnect2 builds on the work of the previous AfricaConnect[1] action, extending it to a pan-African scope. AfricaConnect follows the model used to connect the European research and education backbone network GEANT[2] to other regions of the world. The overall objective is the creation, development and use of a regional education and research communication network and high-capacity Internet connectivity with a gateway to global research collaboration, in view of having a more inclusive information society at African national and regional levels. The ultimate goal is to support the African continent to establish self-sustained national and regional continental research and education networks that contribute to Africa's development.

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[1] Supported by EDF in the frame of the intra-ACP programme, http://www.africaconnect.eu/.
[2] GÉANT is the high-bandwidth, academic Internet serving Europe's research and education community. www.geant.net/.

2.2. Context

AfricaConnect is a concrete success of the Joint Africa-EU Strategy, and its Partnership 8 on "Science, Information Society and Space". AfricaConnect was firmly inscribed in the framework of the Africa-EU Partnership as one of the 19 lighthouse projects identified by the EU and African Union (AU) to implement Partnership 8 and as an "early deliverable" in the 2008 EU-AU Commissions joint-statement on implementation of the AU-EU partnership. AfricaConnect is expected to finish its operations in mid-2015.

AfricaConnect2 will build on this success, aligning with the Declaration of the 4th EU-Africa Summit held in April 2014 that recognises the important and strategic role of the 'virtual' infrastructures enabled by the Information and Communication Technologies (ICT) (item 38). More concretely, AfricaConnect2 will implement one of the three activities foreseen in the ICT for Development Strategy "Connecting Africa" (activity (b) "the interconnection of Research and Education Networks through e-infrastructure") included in the Summit Roadmap in Priority area 4 (Sustainable and inclusive development and growth and continental integration).

The European Commission commissioned a feasibility study[3] to explore the feasibility of a possible extension of AfricaConnect to those Sub-Saharan African countries which are not yet connected to AfricaConnect, concentrating mainly on West and Central Africa. This study has also identified synergies of an extended AfricaConnect encompassing the whole Sub-Saharan region and North Africa.

The European Commission (Directorate-General for Development and Cooperation – EuropeAid (DEVCO)), with the support of the Directorate-General for Communications Networks, Content and Technology (DG CNECT),has successfully supported similar approaches in different parts of the world for the building up and consolidation of regional networks and connecting them to the European GEANT: the ALICE/RedClara network in Latin America, EUMEDCONNECT in the Southern Mediterranean countries, the TEIN and ORIENT projects in South & East Asia and Australia, CAREN in Central Asia, HP-SEE in the South Caucasus, and C@ribnet in the Caribbean. AfricaConnect is the most recent of these initiatives and has put Sub-Saharan Africa on the map of world connectivity for research and education.

2.2.1. Regional context

2.2.1.1. Economic and social situation and poverty analysis

Broadband connectivity has become a basic infrastructure in a modern society[4], just like roads, electricity or water. Access to broadband connectivity[5] is improving the lives of people around the world and in particular in developing regions, affecting directly the daily social and economic activities with applications such as e-health[6],

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[3] The feasibility study was launched by DEVCO and produced a Final Report that can be consulted as background for this Action Document.

[4] Final report of the **UN Broadband Commission for Digital Development** WG on Broadband and Science (Nov 2011), *www.broadbandcommission.org/Documents/working-groups/WG_Broadband_Science_Final_Report.pdf.*

[5] UN Broadband Commission "State of Broadband 2013" report *www.broadbandcommission.org/Documents/bb-annualreport2013.pdf.*

[6] "e-" indicate the use of electronic processes, computing and communications in a given application, e.g. e-health applications using internet and access to brain scans databases for remote diagnosis.

education and e-/m-learning[7], m-payments, training, innovation and the acquisition of new skills[8].

AfricaConnect2 addresses target 8f of Millennium Development (MDG) Goal 8: "Develop a Global Partnership for Development[9]" by reducing the digital divide which is hampering the development of education and research in Africa, and also contributing to other applications that address important challenges relevant to MDGs in areas such as e.g. health (e.g. HIV/AIDS) and environment.

2.2.1.2. Regional development policy

Science and education communities depend on "e-Infrastructures" that build on broadband connectivity to provide online services supporting these communities' work. Developing regions stand to benefit in particular because e-infrastructures reduce the barriers of distance and location. They prevent brain drain by providing better facilities and possibilities for scientists and professional experts to stay in their countries, allowing them to be linked over international access to worldwide valuable work and educational resources and databases.

However, universities and research centres being financed from public budgets often lack resources in developing countries for arranging sufficient internet connectivity and capacity. Research projects often require much higher capacity and quality of internet connection than is normally provided on commercial markets. Grouping together these institutions into National Research and Education Networks (NRENs) increases the negotiating power vis-à-vis the private internet providers, as well as the governmental ministries. This enables them to obtain the necessary resources and ensure connectivity at more advantageous terms, providing a real research and education e-infrastructure for their students and researchers in sufficient capacity and on affordable terms. NRENs can associate at regional/continental level to create critical mass and get better terms from connectivity providers.

AfricaConnect has made a fundamental difference in Sub-Saharan Africa (in particular South-East), where there was no regional research and education network connected to GEANT and embryonic NRENs worked with internet connectivity provided through very expensive satellite connections. The project has established the **UbuntuNet** network that is currently providing connectivity and procuring further communication links to connect most of the Ubuntunet Alliance[10] members (covering mainly South-East Sub-Saharan Africa plus Congo Democratic Republic), while supporting less developed NRENs in Central and West Africa (associated in WACREN[11]). Northern African countries in the Southern Mediterranean rim (associated in ASREN[12]) are currently connected to GEANT by the EUMEDCONNECT project (supported by ENPI South), although the political turmoil of the Arab spring discontinued most of the connections to the network. No extension of the EUMEDCONNECT support is currently foreseen beyond mid-2015.

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[7] "m-" indicate the use of mobile devices for the application, e.g. m-learning applications will use mobile phones and tablets to provide access to educational and learning content to the user.

[8] For example, Kenya is today a global model for innovative use of mobile banking technology.

[9] Target 8f : In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.

[10] http://www.ubuntunet.net/.

[11] http://www.wacren.net/.

[12] Arab States REN http://www.asrenorg.net/.

2.2.2. *Sector context: policies and challenges*

In Africa, broadband connectivity has progressed enormously as the capacity of Africa's fibre optic cable connections has expanded several hundredfold since 2009, thanks mainly to the massive deployment of submarine fibre cables along the East and West coast. However, broadband connectivity is still poor inside the continent. The internal regional backbone did not spread at the same rate, and regional fibre optics is largely unavailable in central Africa and the Sahel.

Despite a better access to connectivity, access to Internet connection is often limited, the connectivity prices are excessive and the available Internet capacity is insufficient as broadband network services are owned either by monopoly incumbents or a few dominant operators that set high prices. This is also partly a result of a regulatory failure, as the legal and regulatory provisions (in general and in particular for research and education networking) are not fully developed in Africa (for example legislative gaps or bottlenecks to allow cross-border connectivity of research and education networks).

Limitation to a proper connectivity is a critical handicap for education and research where the access to up-to-date information and networking (e.g. instantaneous sharing of knowledge, virtual collaborations within and between continents, and remote access to MOOCs[13], scientific resources and instruments), and involvement in education and research projects are an absolute must.

2.3.   Lessons learnt

Overall, the building and interconnection of NRENs in regional networks has proven an efficient model (both in developed and developing regions) to increase access to connectivity for education and research networks, while reducing the price and structuring transnational networks.

AfricaConnect has proven that this model also works for Sub-Saharan Africa, putting this region on the world connectivity map for research and education connected to the European GEANT Network. A similar approach can be applicable to the whole Africa, taking into account that the functioning, structure and sustainability vary from country to country.

The experience of AfricaConnect has been very positive so far. All preparatory work towards the implementation of the network has been carried out by the UbuntuNet Alliance and its member NRENs.

The charging model developed by UbuntuNet Alliance for network connectivity is a key element to ensure the long-term sustainability of the regional African REN. This model has been the basis of agreements covering the funds paid through the UbuntuNet Alliance by member NRENs towards the 20% contribution to AfricaConnect. The agreement has recently been integrated into a comprehensive service agreement that will govern all aspects of service provision to NRENs. The model is also the basis for ensuring that the Alliance has a balanced operating budget.

Delays in the connectivity tender in AfricaConnect were not entirely unexpected considering the limited development of the African communications market, the

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[13] MOOC: A massive open online course aimed at large-scale interactive participation and open access via the web.

limited development of most of the African NREN partners and the need to cover many basics before taking any decisions on precisely what needs to be procured. The derogations regarding rules of origin and the application of the negotiated procedure have been extremely useful to for example obtain much better connectivity conditions and prices in monopoly or quasi-monopoly environments – very frequent in Africa. This is another proof that the regional REN approach can foster innovation and competitiveness in the telecommunication market[14]. Considering the benefits drawn from derogations to the rules of origin and from the application of negotiated procedures negotiated procedures under AfricaConnect, further derogations will also be examined under AfricaConnect2.

It **will not be possible to extend the infrastructure serving all African countries at once**, and not at the same pace. Consequently, AfricaConnect2 will extend the scope of AfricaConnect to those African countries that are ready. For other countries that are not yet able to participate and/or will not be selected for this activity, specific support and training measures will be proposed. The results of the feasibility study for the extension will be instrumental in selecting the countries.

The lessons learnt from AfricaConnect show that it is important to build on the interests and consensus of the local partners. This has resulted in different management approaches adapted to the local contexts, and to the geographical, cultural and organisational peculiarities of African countries and their different stages of NREN development. This modular approach should ensure that problems/delays affecting a given NREN or region do not affect the functioning of the rest of the network – in organisational, technical or economic aspects.

A "clustered" approach is proposed to take into account the geographical, organisational and technical constraints and degree of maturity of the different African sub-regions. The local partner Ubuntunet Alliance has already reached the degree of maturity to handle administratively and technically the network in its geographical realm (see Objectives in section 3.1), and therefore it should be the main implementing partner of AfricaConnect2 for one of the connectivity clusters, following the same path as CLARA in Latin America and TEIN in Asia. This is an important factor towards the ownership by the African community of the action and the action´s subsequent organisational and financial sustainability

Regarding capacity building, and on top of the administrative and financial capability of the local partners (national and regional RENs), the action has already an impact in training engineers in advanced communications technologies that otherwise are not provided by most African universities. This is beneficial for both the public and the private sector. The technical collaboration has been extremely straightforward as the UbuntuNet Alliance has trained and made experienced engineers available to work on the action. These engineers have led the technical discussions in the African engineering community and have represented these to the European GEANT community. This is one of the areas in which the experience of Ubuntunet Alliance can be of great value for emerging NRENs in the whole Africa.

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[14] As demonstrated by RedCLARA in Latin America, and the first results of AfricaConnect, RENs allow initial investments for operators (mainly monopolies or operating in quasi-monopolist environments) to provide broadband connectivity at affordable prices.

2.4. Complementary actions

The AfricaConnect2 approach is part of the overall European Commission approach to facilitate the establishment of links between NRENs and Regional RENs globally and their connection to GEANT, complementing the European Commission support to other RRENs in Latin America, Southern Mediterranean, Central, South & East Asia and the South Caucasus, and the Caribbean. A close cooperation and synergy will be sought with other relevant pan African data provision initiatives, such as the ClimDev Programme in the climate and environment field.

2.5. Donor coordination

Coordination at regional level with major donors (e.g. World Bank) should ensure that ICT programmes supported at national level take also into consideration the need for the development of NRENs in a country.

Further identification of donors can be done thanks to the work of the iMENTORS[15] project (supported by DG CNECT). This project is building a virtual one-stop-shop data warehouse to retrieve up-to-date information on all e-infrastructure development projects of the past 5 years in Sub-Saharan Africa.

3. DETAILED DESCRIPTION

3.1. Objectives

The **overall objective** is to contribute to the reduction of poverty and the digital divide by harnessing the potential of information and communication technologies for sustainable development in Africa.

The **project purpose** is to facilitate the creation, development and use of regional education and research communication networks and high-capacity Internet connectivity with a gateway to global research collaboration, in view of having a more inclusive information society at African national and continental levels. The ultimate goal is to support the African region to establish self-sustained national and regional research and education networks that contribute to Africa's development.

The extension of the coverage of AfricaConnect requires a modular approach adapted to the geographical, cultural and organisational of African countries and their different stages of NREN development and their sources of funding and long term prospects. The following three components or "clusters" were identified:

- o **Cluster 1:** the current AfricaConnect countries in operation plus the newly ready countries in Eastern and Southern Africa. These are organised under the Ubuntunet Alliance
- o **Cluster 2:** newly ready countries organised under WACREN (West and Central Africa)
- o **Cluster 3:** North African countries associated in ASREN

3.2. Expected results and main activities

The following components have been identified to address the project overall and specific objectives:

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[15] http://imentors.eu/.

Component 1: Implementation of Cluster 1 of AfricaConnect2

Result 1 – Consolidation and improvement of the UbuntuNet network (resulting from the AfricaConnect), including the inclusion of new e-infrastructure services and the extension to the newly ready countries in Cluster 1, handled directly by the Ubuntunet Alliance

Result 2 – Increased intra-regional and international communication and collaboration between research centres and universities, including the increased use of online applications for research cooperation

Result 3 – Full responsibility of African actors in the African continental research and education network (through Ubuntunet Alliance) and overall improved institutional capacity of African NRENs and self-sustainability

Main Activities

(result 1) Connectivity: critical connectivity developments for resilience in the UbuntuNet network core connecting the NRENs, implementation of Eduroam along with the Authentication and Authorisation Infrastructure and training. This includes design of the most cost-effective technical solution for the network; procurement of the network from telecom providers; network management to provide stable services; deployment of new e-infrastructure services; developing and running training and capacity building activities for the creation and consolidation of the NRENs, including operational skills and expertise through training of local staff for the operation of the network.

(results 2 and 3): Promotion of the use of existing and planned networks for non-commercial e-applications, and in particular promotion of the use of the network to the end-users (students, researchers, doctors); increasing political dialogue to raise the political and financial support to the connectivity issues; development and provision of ICT applications for the use of the research and education community. Full handover of the administrative, financial and operational activities from DANTE to Ubuntunet Alliance, consolidating the first fully African-operated regional research and education network. Awareness raising and promoting the project to potential users, projects, funding organisations and national governments.

Component 2: Implementation of Clusters 2 and 3 of AfricaConnect2

Result 1 - Improved intra-regional and international connectivity for the research and education community with a selected number of countries in Clusters 2 and 3 (depending on readiness) through their connection to the UbuntuNet network and GEANT.

Result 2 – Increased intra-regional and international communication and collaboration between research centres and universities, including the increased use of online applications for research cooperation

Result 3 – Increasing responsibility of African actors in the African regional research and education network and overall improved institutional capacity of African NRENs and self-sustainability

Main Activities

(result 1) Connectivity: linking the NRENs through one or several regional backbones and training. This includes design of the most cost-effective technical solution for the network; procurement of the network from telecom providers;

network management to provide stable services; deployment of new e-infrastructure services; developing and running training and capacity building activities for the creation and consolidation of the NRENs, including operational skills and expertise through training of local staff for the operation of the network. (Support to Cluster 3 is foreseen only after the support in EUMEDCONNECT finishes (expected end of 2015)).

(results 2 and 3): Promotion of the use of existing and planned networks for non-commercial e-applications, and in particular promotion of the use of the network to the end-users (students, researchers, doctors); increasing political dialogue to raise the political and financial support to the connectivity issues; development and provision of ICT applications for the use of the research and education community. Progressive transfer of know-how of the administrative, financial and operational activities from DANTE to WACREN and ASREN, in view of future full hand-over. Awareness raising and promoting the project to potential users, projects, funding organisations and national governments.

3.3. Risks and assumptions

Some of the African countries that are potential candidates to participate in AfricaConnect2 project are amongst the poorest countries in the world. Funding of the NRENs in Africa appears to track the economic development of their respective countries. In many cases, NREN funding is extremely low. However, AfricaConnect has worked far more smoothly and is better supported by the local beneficiaries than any of the other similar actions in other world regions. The previous existence of a solid and functioning membership organisation prior to the action such as UbuntuNet Alliance has proved to be very beneficial and has allowed the UbuntuNet Alliance to be the negotiator towards the African NRENs. WACREN and ASREN are expected to play this role for extending the action to a pan-African coverage.

The political dialogue should promote the support of government ministries to NRENs. The involvement of national governments will be a crucial factor for the success of the projects. The high-level support from the AU has already been voiced, notably with the official identification of this project as an early deliverable of the EU-AU Strategy, as mentioned above, but this has not always crystallised in concrete or active support to the project.

Further analysis on risks and mitigation strategies to be included in the implementation of the project are available as part of the feasibility study.

3.4. Cross-cutting issues

With regard to gender equality AfricaConnect will promote equal and open access for both genders to the network. The AfricaConnect network will have positive environmental and climate change effects by for example:

- Supporting the network needs of user applications in the environmental and climate change areas to tackle key priorities for the beneficiary countries, e.g. climate adaptation and mitigation, resilience, disaster early-warning systems, disaster handling and recovery etc.

- The creation and consolidation at continental level of solid and functioning membership NREN organisations contributing to good governance in Africa.

- Reducing the need for certain professionals to travel to meet or cooperate – for example by making available video-conferencing facilities.

3.5. Stakeholders

The final beneficiaries would be the citizens of African countries that would benefit from the access to the new information technologies including the rural areas. This would include improved education and research possibilities, and the emerging use of information technologies in other sectors e.g. e-health in medicine.

The main beneficiary of this project is the research and education community in African countries. This community includes universities, research institutes, academic institutions with their students and professional staff, but also can encompass public libraries, lower education institutions etc.

The main stakeholders in the project are National Research and Education Networks (NRENs) which are organisations associating institutions from the research and education sector (universities, academic institutions, research centres) to commonly ensure digital connection for their students and researchers in sufficient capacity and on affordable terms. NRENs are usually public bodies or independent organisations financed by universities or government contributions. Representing the research and education communities they are usually established and financed by responsible Ministry, or possibly Academy of Science. For this reason the involvement of African governments in the implementation of the project will be crucial for the successful implementation as well as for future sustainability.

In addition, the NRENs in developing countries can also provide capacity for many other services of public good. For example, in healthcare the level of medical services is strongly influenced by and the access of doctors and nurses to new healing methods and results of latest medical and pharmaceutical research.

The different NRENs will contribute to the total costs for the activities. Their contribution will vary from 40% for potential candidates in North Africa coming from EUMEDCONNECT and 30% for several NRENs already fully operational since the previous AfricaConnect project to 20% for the newcomers NRENs. The list of NRENs and their respective contributions will be defined in the first phase of the project.

The African countries that will benefit from the connectivity activities will be determined in agreement with the implementing partners on the basis of their technical and legal preparedness.

The implementing partners will be UbuntuNet Alliance and DANTE. UbuntuNet Alliance will be responsible (administrative and financial responsibility and technical operations) for Cluster 1, with support where appropriate from DANTE. DANTE will be responsible for the administrative, financial and operational aspects of Clusters 2 and 3. DANTE and the UbuntuNet Alliance will collaborate closely to ensure coherence of the implementation and correct administration of the project. DANTE and the UbuntuNet Alliance will also collaborate closely on connectivity and equipment procurement processes with a view to exploiting synergies.

4. IMPLEMENTATION ISSUES

4.1. Financing agreement

In order to implement this action, it is not foreseen to conclude a financing agreement with the partner country, referred to in Article 184 (2) (b) of Regulation (EU, Euratom) No 966/2012.

4.2. Indicative operational implementation period

The indicative operational implementation period of this action, during which the activities described in sections 3.2. and 4.3. will be carried out, is 54 months from the adoption of this Action Document, subject to modifications to be agreed by the responsible authorising officer in the relevant agreements. The relevant Committee shall be informed of the extension of the operational implementation period within one month of that extension being granted.

4.3. Implementation components and modules

4.3.1. *Component 1: Implementation of Cluster 1 of AfricaConnect2*

Grant: direct award (direct management)

(a) *Objectives of the grant, fields of intervention, priorities of the year and expected results*

The objective of this grant is the creation, development and use of regional education and research communication networks and high-capacity Internet connectivity with a gateway to global research collaboration for Cluster 1 (see section 3.1), in view of having a more inclusive information society at African national and regional levels. The ultimate goal is to consolidate the first fully African-operated regional research and education network, supporting the African region to establish self-sustained national and continental research and education networks that contribute to Africa's development as detailed in sections 3.1 and 3.2.

Cluster 1 covers the current AfricaConnect countries in operation plus the newly ready countries in Eastern and Southern Africa (organised under the Ubuntunet Alliance). Actions include the following:

- Specification of the network topology, connectivity, equipment and operational support for Cluster 1 regional infrastructure and its interconnection to GÉANT, procuring the necessary infrastructure and support services and establishing the associated commercial and service level agreements with service providers and equipment suppliers

- Managing the testing, delivery and operations of the network, provision of services (including technical support), implementation of new e-infrastructure services as required, and the development and provision of ICT applications for the use of the research and education community

- Developing and running training and capacity building activities for the creation and consolidation of the NRENs, including managerial, technical and operational skills and expertise

- Awareness raising and promoting the project to potential users, projects, funding organisations and national governments, including increasing political dialogue to raise the political and financial support to the connectivity issues

(b) *Justification of a direct grant*

Under the responsibility of the authorising officer by delegation, the grant may be awarded without a call for proposals to Ubuntunet Alliance.

UbuntuNet Alliance is a regional association of National Research and Education Networks (NRENs) in Africa. The UbuntuNet Alliance has acquired the necessary expertise in technical and operational management to take over the procurement and network engineering support from DANTE in its geographical area of competence (Cluster 1).The Ubuntunet Alliance is fully incorporated as a non-profit association in Amsterdam, The Netherlands. The UbuntuNet Alliance is now also registered as a non-profit Trust (by intent and law) in Malawi, its headquarters. The ownership, rights, obligations, and assets of UbuntuNet Alliance as registered in Amsterdam are vested in this Trust. The Trust will also seek to have local registration in other African countries as and when operational considerations require so.

Under the responsibility of the authorising officer by delegation, the recourse to an award of a grant without a call for proposals is justified because Ubuntunet Alliance is the only local actor to perform this task in the area of research and education networking. Ubuntunet Alliance has taken over from DANTE the know-how and capacity to develop research and education networks. No other private or public body has such capacity (except for DANTE, which has succeeded in handing over its know-how to this local actor).

This grant therefore fulfils the conditions set in article 190(c) (body with a de facto monopoly) and 190(f) (actions with specific characteristics that require a particular type of body on account of its technical competence, its high degree of specialisation or its administrative power) of the Rules of application of the Financial Regulation for direct award.

(c) *Eligibility conditions*

N/A

(d) *Essential selection and award criteria*

The essential selection criteria are financial and operational capacity of the applicant.

The essential award criteria are relevance of the proposed action to the objectives of the call; design, effectiveness, feasibility, sustainability and cost-effectiveness of the action.

(e) *Maximum rate of co-financing*

The maximum possible rate of co-financing for this grant is 80%.

The maximum possible rate of co-financing may be up to 100% in accordance with Article 192 of Regulation (EU, Euratom) No 966/2012 if full funding is essential for the action to be carried out. The essentiality of full funding will be justified by the

responsible authorising officer in the award decision, in respect of the principles of equal treatment and sound financial management.

(f) *Indicative trimester to contact the potential direct grant beneficiary*

4th quarter of 2014.

(g) *Exception to the non-retroactivity of costs*

N/A

4.3.2. *Component 2: Implementation of Clusters 2 and 3 of AfricaConnect2*

Grant: direct award (direct management)

(a) *Objectives of the grant, fields of intervention, priorities of the year and expected results*

The objective of this grant is the creation, development and use of regional education and research communication networks and high-capacity Internet connectivity with a gateway to global research collaboration for Clusters 2 and 3 (see section 3.1), in view of having a more inclusive information society at African national and regional levels. The ultimate goal is to consolidate the first fully African-operated regional research and education network, supporting the African region to establish self-sustained national and regional research and education networks that contribute to regional development as detailed in sections 3.1 and 3.2.

Clusters 2 and 3 cover the newly ready countries organised under WACREN, and North African countries associated in ASREN. A summarised set of activities (see section 3.2) are the following:

- Specification of the network topology, connectivity, equipment and operational support for Clusters 2 and 3 regional infrastructure and its interconnection to GÉANT, procuring the necessary infrastructure and support services and establishing the associated commercial and service level agreements with service providers and equipment suppliers

- Managing the testing, delivery and operations of the network, provision of services (including technical support), implementation of new e-infrastructure services as required, and the development and provision of ICT applications for the use of the research and education community

- Developing and running training and capacity building activities for the creation and consolidation of the NRENs and the regional RENs, including managerial, technical and operational skills and expertise

- Awareness raising and promoting the project to potential users, projects, funding organisations and national governments, including increasing political dialogue to raise the political and financial support to the connectivity issues

(b) *Justification of a direct grant*

Under the responsibility of the authorising officer by delegation, the grant may be awarded without a call for proposals to the non-profit organisation DANTE.

DANTE is a limited liability company founded and owned by the national research and education networks (NRENs) of European countries. DANTE is implementing the pan-European research and education network GEANT as well as helping to establish similar networks around the world over the past years – current AfricaConnect in South-East Africa, TEIN in Asia, EUMEDCONNECT in the Mediterranean region and ALICE in South America.

Under the responsibility of the authorising officer by delegation, the recourse to an award of a grant without a call for proposals is justified because of DANTE being the only actor to perform this task in the area of research and education networking in the African sub-regions corresponding to Clusters 2 and 3. DANTE has a unique know-how and capacity to develop research and education networks, and one of its mission is to hand-over the full responsibility (administrative, financial and technical aspects) as soon as the local actors are ready such as in the case for Ubuntunet Alliance in the Cluster 1 area.

No other private or public body has such capacity, as the European NRENs delegated all tasks related to international connectivity to DANTE, no other regional network other than GEANT implemented by DANTE exists in Europe, and the regional networks around the world are not sufficiently developed yet to take on such task.

This grant therefore fulfils the conditions set in article 190(c) (body with a de facto monopoly) and 190(f) (actions with specific characteristics that require a particular type of body on account of its technical competence, its high degree of specialisation or its administrative power) of the Rules of application of the Financial Regulation[16] for direct award.

(c) *Eligibility conditions*

N/A

(d) *Essential selection and award criteria*

The essential selection criteria are financial and operational capacity of the applicant.

The essential award criteria are relevance of the proposed action to the objectives of the call; design, effectiveness, feasibility, sustainability and cost-effectiveness of the action.

(e) *Maximum rate of co-financing*

The maximum possible rate of co-financing for this grant is 80%.

The maximum possible rate of co-financing may be up to 100% in accordance with Article 192 of Regulation (EU, Euratom) No 966/2012 if full funding is essential for the action to be carried out. The essentiality of full funding will be justified by the responsible authorising officer in the award decision, in respect of the principles of equal treatment and sound financial management.

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[16] Regulation (EC, Euratom) No 2342/2002 laying down detailed rules for the implementation of Council Regulation (EC, Euratom) No 1605/2002 on the Financial Regulation applicable to the general budget of the European Communities.

(f) *Indicative trimester to contact the potential direct grant beneficiary*

4th quarter of 2014

(g) *Exception to the non-retroactivity of costs*

N/A

4.4.   Scope of geographical eligibility for procurement and grants

Subject to the following, the geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act shall apply.

The responsible authorising officer may extend the geographical eligibility in accordance with Article 9(3) of Regulation (EU) No 236/2014 on the basis of urgency or of unavailability of products and services in the markets of the countries concerned, or other duly substantiated cases where the eligibility rules would make the realisation of this action impossible or exceedingly difficult.

4.5.   Indicative budget

The total project cost is estimated at EUR 26 600 000, of which EUR 20 000 000 shall be financed from EU budget. For Component 1, the contribution from beneficiary countries, through the UbuntuNet Alliance, is expected to be EUR 2 500 000. For Component 2, the contribution from beneficiary countries, through DANTE, is expected to be EUR 4 100 000.

AfricaConnect2 Module	Amount in EUR	Third party contribution (see above)
Component 1 – Implementation of Cluster 1 of AfricaConnect2		
4.3.1. – Direct grant (direct management) to Ubuntunet Alliance	7 500 000	2 500 000
Component 2 – Implementation of Clusters 2 and 3 of AfricaConnect2		
4.3.2. – Direct grant (direct management) to DANTE	12 500 000	4 100 000
Totals	20 000 000	6 600 000

4.6.   Performance monitoring

The following indicators have been identified as part of the Multi-Annual Indicative Programme of the Pan-African Programme:

2.1 Number of new African NREN globally and specifically for Northern, Southern, Eastern, Western and Central Africa that are connected to GÉANT at the end of "Africa Connect II"

2.2 Number of new e-infrastructure services operational and volume of intra-regional and international communication traffic between NREN

2.3 Number of local staff trained for the operation of the networks and services

Performance will be monitored by DEVCO, in close collaboration with DG CNECT, on the basis of reports. DANTE and Ubuntunet Alliance will develop their own monitoring mechanism to ensure smooth implementation and, if necessary, corrective measures.

A steering committee shall be set up by DANTE and Ubuntunet Alliance to oversee the overall direction and policy of the whole project encompassing the two components above. The steering committee will follow-up the progress of works according to the plan, the operation of the network and services provided, and will ensure that the needs of the education and research community are reflected in the project. The steering committee shall be composed of representatives from the European Commission, the African Union Commission, DANTE, Ubuntunet Alliance, WACREN, ASREN, the Association of the African Universities (AAU) and the project partners (NRENs) when necessary.

4.7.   Evaluation and audit

Evaluations (mid-term, final) and audit arrangements are integral part of the contractual arrangements with the selected grantee. External evaluations and audits might be also carried out by independent consultants recruited by the European Commission under other sources of funding.

A mid-term evaluation may be carried out after the procurement of the networks reviewing the tendering procedure and the successful completion of the first phases. An end-of-project evaluation will be carried out to review the overall achievements of the action.

4.8.   Communication and visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU.

This action shall contain communication and visibility measures which shall be based on a specific Communication and Visibility Plan of the Action, to be elaborated before the start of implementation and funded under other sources of funding.

The measures shall be implemented by grant beneficiaries. Appropriate contractual obligations shall be included in grant contracts.

As an indication, the measures will be carried out from the second quarter of 2015.

The Communication and Visibility Manual for European Union External Action shall be used to establish the Communication and Visibility Plan of the Action and the appropriate contractual obligations.

Acronyms

ASREN	Arab States Research and Education Network
CAREN	Central Asia Research and Education Network
CLARA	Latin American Cooperation of Advanced Networks
DANTE	Delivery of Advanced Networking Through Europe
ENPI	European Neighbourhood and Partnership Instrument
EUMEDCONNECT	South Mediterranean rim regional Research and Education Network
GÉANT	European Research and Education Network
NREN	National Research and Education Network
TEIN	South-East Asia-Pacific regional Research and Education Network
WACREN	West and Central Africa Research and Education Network