Open Science in the South 2022

Theme 2 - Management, sharing and dissemination mechanisms: practices, benefits, obstacles

HPC Infrastructure and Services for African Open Science Communities

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HPC initiatives in West and Central Africa

Coming soon
2nd High-Performance Computing Workshop on Advanced HPC, 21th Nov-02th Dec, 2022, CApIC-ACE, Ota, Ogun State, Nigeria
The WACREN network connects and interconnects national research and education networks (NRENs) in West and Central Africa.

Co-funded by European Union (EU) through the AfricaConnect 2 and AfricaConnect 3 projects

WACREN has connected three countries to high-speed technology, making it the best means for students to access resources, send and receive data and collaborate for knowledge discovery in those countries.

The WACREN Network and the interconnected NRENs as of July 2021
DSTN – As part of the ACE Partner project

1. Des réseaux scientifiques d’excellence au service des grands enjeux du développement

2. Une offre d’enseignement supérieur mutualisée et adaptée aux besoins de l’expertise locale

3. Une communauté de connaissance en lien avec le secteur socio-économique

and how to achieve them:

- Identification of key scientific priorities within the thematic networks and development of an inter-CEA scientific programme
- Setting up a shared training programme and disseminating it via free and innovative tools
- Sharing of inter-CEA good practices: international accreditation, response to competitive calls
- Establishment of a programme for generating own resources to ensure the networks’ sustainability
DSTN – Our vision

How can research, innovation, entrepreneurship and the technology and knowledge transfer, through partnership, respond to the major challenges of sustainable development in Africa?
Bringing together ACEs working in digital science and technology help to address some of the challenges posed by the digital transformation of science, the economy and society as a whole.

The network aims to provide and co-finance mobility grants, scientific events and expertise in these scientific priority areas with the following four impact objectives:

**Strengthening research capacities and research collaboration** between ACEs and with international research institutions, through thematic workshops and schools, joint research teams, scientific mobility, and PhD co-supervision.

**Strengthening higher education training capacities** through joint training programs, exchange of teachers, students and internships.

**Strengthening innovation capacities and ties with the non-academic sector** through the involvement of relevant socio-economic actors in training and research activities.

**Ensuring the network’s sustainability** through application for competitive funding and private funding.
DSTN - Our members


**ACE SMIA**: Mathematical Sciences, Computer Science and Applications - University of Abomey Calavi, Benin https://ceasma-benin.org/

**ACE ENSEA**: Statistique et Economie quantitative - ENSEA, Côte d’Ivoire https://ensea.ed.ci/

**ACE OAK-Park**: OAU ICT-Driven Knowledge Park - Obafemi Awolowo University (OAU), Nigeria http://www.ace.edu.ng/ace/channels/oak_park/

**ACE CApIC**: Applied Informatics and Communication - Covenant University, Nigeria https://ace.covenantuniversity.edu.ng/

DSTN – Our expertise for the society - Digit4Society

6 research and training centers

- Data collection (IoT, Drones, surveys, polling, etc.)
- Data Integration / Interoperability
- Modeling, Data Science and Decision Support
- High-Performance Computing
- Cybersecurity

in 4 West African countries:
- Nigeria, Senegal, Ivory Coast, Benin

Digital Science for Sustainable Development

- e-Health
- e-Agriculture
- Digital Mining
- e-Education
- Smart City
- Digital Water
DSTN – Core activities

**Research-Team**

Promote collaboration between ACEs

**Thematic workshops**

Identify strengths and weakness of the partners on each topic

Promote networking and collaboration to apply to the call for Research-Team

**Trainings**

Strengthen education, research and innovation capacities

**Contributions**

Knowledge production and vulgarisation
Towards a sustainable collaborative regional network on high performance computing (HPC)

Resource sharing mindset and following open science principles
Kickoff

Regional Workshop on High Performance Computing

Federated HPC Infrastructure Services for African Open Science Communities

April 27th, 2022 Immeuble IVOTEL, Abidjan, Ivory Coast
Stakeholders

- Regional organizations
- Universities
- African Centers of Excellence (ACE)
- Private sector
- International partners
Were present
Sessions dedicated to feedback, advocacy & networking

- Feedback on HPC initiatives within the DSTN ACE members
- Keynote and Invited speakers
- Showcase of applications on HPC
- Panel on HPCs as a building block for Open Science Infrastructures
- Brainstorming on a collaborative HPC network building
Actions expected to support this initiative

- Co-organization of training and scientific events
- Sharing of human resources, equipment and digital courses on HPC
- Setting up and conducting joint research projects
The key chapters of the roadmap

- Governance and Regulations
- Infrastructure, Connectivity and Energy (e.g. HPC, NREN, RREN, TELCO)
- Data and algorithm repositories (e.g. educational resources, models)
- Capacity building (System admins, Engineers, Researchers)
- Applications / End usage (e.g. Health, Agriculture, Education, Space)
- Sustainability and Business Plan
Levels to be considered

- Governance and Regulations
- Applications / End usage (Health, Agriculture, Education, Space, Mining, etc.)
- Human Resources (System admins, Engineers, Researchers)
- Data (Open data, Educational resources, etc.)
- Infrastructure (HPC, NREN, RREN, etc.)
What next?

- Elaborate strategies for building a sustainable collaborative regional network on HPC
- Set up a roadmap guiding the actions for achieving the goals for such a network
- Engage the commitment of the stakeholders (academia, Industry, International partners)
- Need assessment
- Survey for identifying existing HPC
MERCI THANKS

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