

# ARUA-The Guild Clusters of Excellence: What Do We Want to Achieve?

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# Motivation

- ARUA would like to increase very significantly the amount of cutting edge research being done in the region
- This is closely associated with the scope of graduate work done at African universities, with or without partnership involving European universities
- Both European and African nations are very concerned about the cost of the brain drain associated with current efforts at research capacity-building
- They are also concerned about the limited innovation taking place in the region

# Motivation (2)

- The Guild and ARUA see Clusters of Excellence as an ideal solution that has the following characteristics
  - Creates opportunities for African universities and their researchers to gain coordinated access to the facilities and human resources of European universities;
  - Creates opportunities for European universities and their researchers to gain coordinated access to the facilities and human resources of African universities;
  - Resulting co-creation of new knowledge enhances the relevance of it for African development;
  - Takes away the incentive for the brain-drain

# Clusters of Excellence

- ARUA Vice Chancellors have agreed that
  - “Research clusters are interdisciplinary networks of researchers working to find solutions to key societal challenges. These challenges cut across the traditional disciplines of universities, which are generally associated with departments, institutes and centres. Increasingly, they are becoming transnational and deal with transnational challenges”

# Areas of Interest

- ARUA and The Guild have agreed to work towards the AU-EU selected priority areas of Public Health, Green Transition, Innovation and Technology and Capacities for Science
- Based on initial conversations between ARUA and The Guild Secretariats, and confirmed by the DVCs, we have zeroed in on thematic priorities from the following areas:
  - **Public Health**
    - Multi-Morbidity (Non-Communicable Diseases)
    - Anti-Microbial Resistance
    - Genomics
    - Infectious Diseases

# Areas of Interest (2)

- **Green Transition**
  - Climate Research
  - Biodiversity
  - Energy
  
- **Innovation and Technology**
  - Artificial Intelligence
  - Digital Technologies (including Quantum Technologies)
  - Food Security
  - Urbanisation, Smart and Inhabitable Cities

# Areas of Interest (3)

- **Capacities for Science**
  - Social Justice/Inequalities
  - Migration and Mobility
  - Water
  
- These have been added to since then

# AU-EU Context

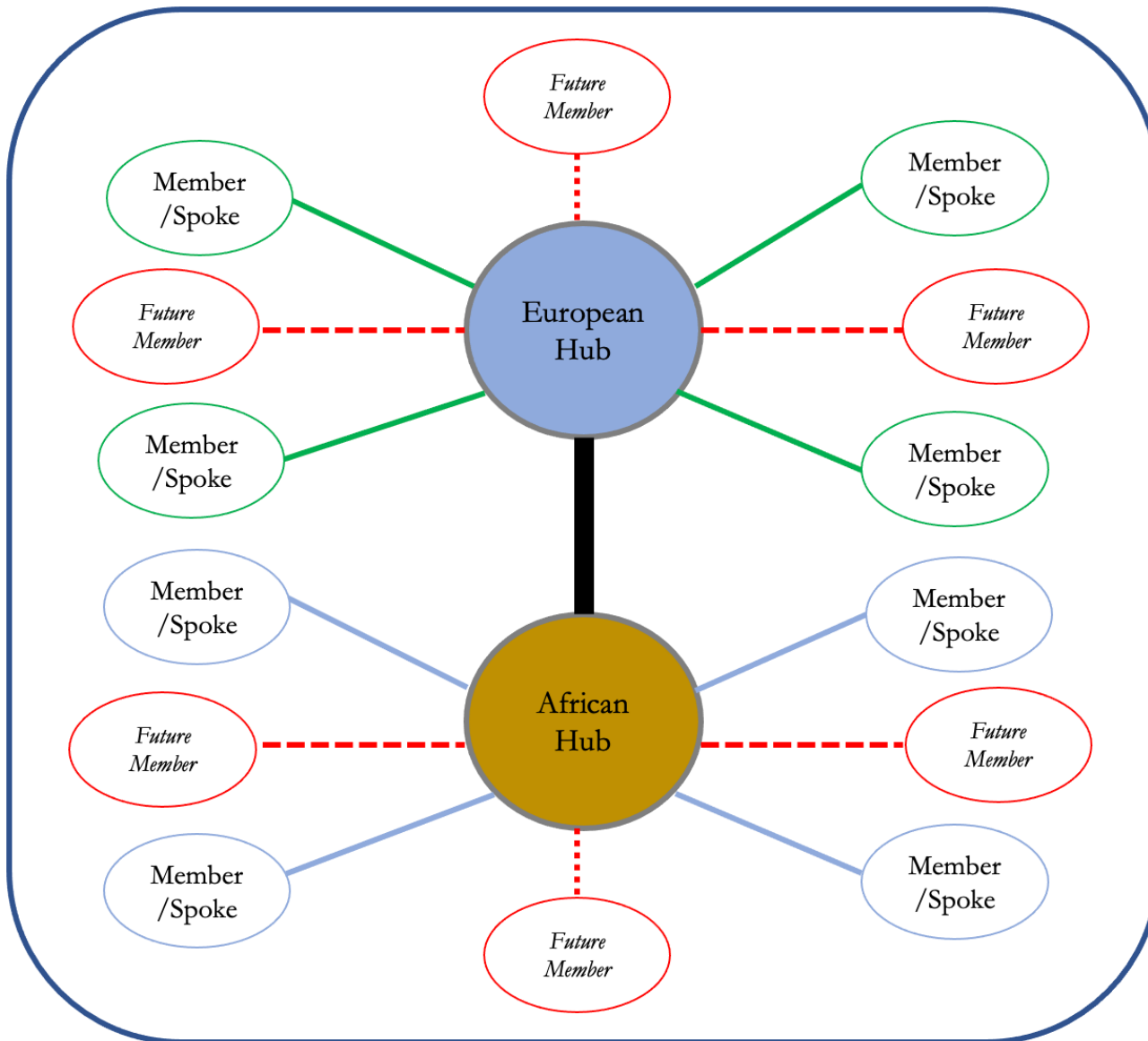
- It is important to note that the AU-EU Innovation Agenda envisages ambitions and outcomes under each heading for the short-, medium- and long terms.
- A few objectives may be highlighted:
  - A focus on innovation, and the creation of local innovation eco-systems in the priority areas, addressing local challenges and delivering local solutions.



# AU-EU Context (2)

- Capacities for Science is cross-cutting and relates to the other three areas and include
  - strengthening cooperation between African and European universities (short-run),
  - promoting joint Masters- and PhD Degrees (medium term), and
  - creating/strengthening (existing) Centres of Excellence, and
  - establishing advanced study institutes (in the long run).
- A commitment to the creation of inclusive and affordable access to world-class research and innovation infrastructures, i.e., the creation of research and innovation lighthouses.

# Initial Thoughts on Structure



# Actions Taken So far

## Cape Town

- Vice-Chancellors and Presidents were asked to
  - discuss which of these broad thematic areas were attractive, appropriate, and feasible from their perspective.
  - develop a shorter list of priority areas through which we would engage our academic communities.
- From the list of topics, we asked for an initial set of institutions willing to host virtual workshops for each of the specific thematic areas to be developed further.

# Actions so far (2)

## Dec 2022

- ARUA and The Guild DVCs/Vice Rectors met to reflect on the themes and attempt to streamline them
- They agreed to bring together the Academic Leads who will work on the programmes and proposals for the development of the Clusters of Excellence

# Next Steps

## January – April 2023

- Workshops take place to develop the societal and scientific challenges related to each of the headings identified.
- The aim of these workshops would be to:
  - Identify which challenges/questions are of mutual interest, with the view to establishing a brief academic vision document for each proposed Cluster.
  - Establish the number of institutions/academics interested in working on what has been agreed.
  - Identify colleagues and institutions willing to co-lead on the African and European side.
  - Channel information on available (and forthcoming) funding opportunities.

# Next Steps (2)

## May – June 2023

- VCs of ARUA and Presidents of The Guild agree on which Clusters of Excellence will be developed, based on what has been endorsed by their academic communities.
- They will decide on their mutual commitment for each cluster, though it is expected that commitments will include:
  - (1) Support from research support offices, (2) a search for an administrative and an academic lead, (3) Active engagement and support through the Institutional Leadership, and (4) a commitment towards an initial budget for the Clusters.

# Implementation: Short Term

## July 2023 – February 2024

- It is expected that all Clusters of Excellence work on a submission towards an Erasmus+ Capacity Building in Higher Education Grant in the first instance, in their thematic areas of specialisation.
- This would fund initial collaboration in the Cluster, including work to develop new research funding applications in the Africa Initiative of Horizon Europe, and other relevant research funding programmes.

# Implementation: Short Term (2)

## July 2023 – December 2027

- Where appropriate, Clusters will be encouraged and enabled to apply to funding calls under the Africa Initiative of Horizon Europe.
- While we can already prepare with some degree of certainty for the work programmes 2023 and 2024, the collaborative work undertaken in these years will also be important for the final work programme of Horizon Europe, 2025-27.



# Implementation: Short Term (2)

## July 2023 – December 2027

- Each Cluster of Excellence to make an application to the MSCA doctoral training schemes.
  - These are bottom-up schemes and respond well to the bottom-up ideas of our excellent researchers.
- We would expect that within 3 years of operation, each Cluster of Excellence will be distinguished by at least
  - One (if not more) Horizon Europe grants
  - One MSCA doctoral fellowship scheme.

# Implementation: Short Term (3)

## July 2023 onwards

- A commitment towards obtaining third-party funding through the EU would be flanked by initiatives to obtain complementary national funding.
- This will enable UK and Swiss universities to play a full part in the Clusters of Excellence, but it will also secure crucial complementary funding to add to the momentum of our Clusters of Excellence.

# Implementation: Medium Term

## Joint Doctoral Academies (from 2025 onwards)

- The growth of excellent doctoral programmes that produce world-class graduates seeking to find scientific solutions to Africa's development challenges will be one of the major manifestations of success for the Clusters of Excellence from an African point of view.
- A Doctoral Academy could be established around the main theme/s of a Cluster of Excellence.
- Each Doctoral Academy is expected to produce 50-100 PhDs annually through 7-8 universities.

# Implementation: Medium Term (2)

## Joint Doctoral Academies (from 2025 onwards)

- The Cluster could develop a PhD programme jointly, i.e., with significant inputs from members of the Cluster and a commitment to contribute to its running and a recognition of the degree awarded.
- Based on recommendations from a recent review of selected ARUA PhD programmes, it is proposed that a Doctoral Academy could develop a 4-year PhD programme which has elements of coursework, extensive research apprenticeship and an independent thesis.

# Implementation: Medium Term (2)

## Joint Doctoral Academies (from 2025 onwards)

- A major obstacle to the growth of good doctoral programmes at African universities is the limited supervisory capacity at many universities.
  - By augmenting the available capacity with assistance from The Guild, this problem can be dealt with.
- Another problem is the absence of a large enough pool of capable graduates interested in a research career.
  - By opening the doors to students from other African countries, and with financial support, the demand-side problem is addressed.

# Implementation: Medium Term (3)

## Clusters of Excellence Pilots (2025 onwards)

- The EU envisages goals that are similar to our timelines (e.g., the creation of doctoral training networks in the medium term), but it has not yet identified new funding streams to enable the implementation of these goals.
- This is because the financial framework for the EU is set on a seven-year period through the Multiannual Financial Framework (currently 2021-27), which makes it very difficult for the EU to make new funding commitments during this period.

# Implementation: Medium Term (4)

## Clusters of Excellence Pilots (2025 onwards)

- However, there is a mid-point (2025), when new pilots can be developed with a few of testing these before the next Multiannual Financial Framework sets in.
- We would endeavour to influence the EU and the AU to support one or more Clusters of Excellence through pilot programmes, focusing in particular on joint research projects, enhancing postdoctoral career opportunities and the creation of structured PhD academies.

# Implementation: Long Term

- With our Clusters of Excellence established by 2023, we would acquire rich experience in implementing the AU and the EU's vision of enhancing African long-term research capacities.
- This puts us in an excellent position to articulate how the key long-term ambitions of the draft AU-EU Innovation Agenda can be implemented, including:
  - The scaling up of collaboration at the research Masters' level
  - The long-term funding of African-European doctoral academies
  - The support for early-career researchers, e.g., through the further development and implementation of the ARISE programme
  - The creation of long-term infrastructure that ensures African facilities are as attractive to researchers from Africa, Europe and beyond as European facilities currently are.



# Implementation: Long Term (2)

- By 2030, we expect all aspects of the AU-EU Innovation Agenda to be implemented, including through our Clusters of Excellence.
- But they will all be distinguished by:
  - Competitive third-party funding success through national and supranational research funds (e.g., Horizon Europe, ARISE, Erasmus+, national Research Councils).
  - Demonstrable success at innovation, and the fostering of local innovation ecosystems in the areas of specialization for each cluster.
  - A thriving doctoral academy, with in-built mobility and joint training components.

# Implementation: Long Term (3)

- Significant contributions to career opportunities for early-career researchers.
- Outstanding research infrastructure and professional research support facilities.
- Joint teaching programmes among some or all partners in different fields, inspired by the challenges addressed by the research focus of the Clusters.