openAIR
AFRICAN INNOVATION RESEARCH

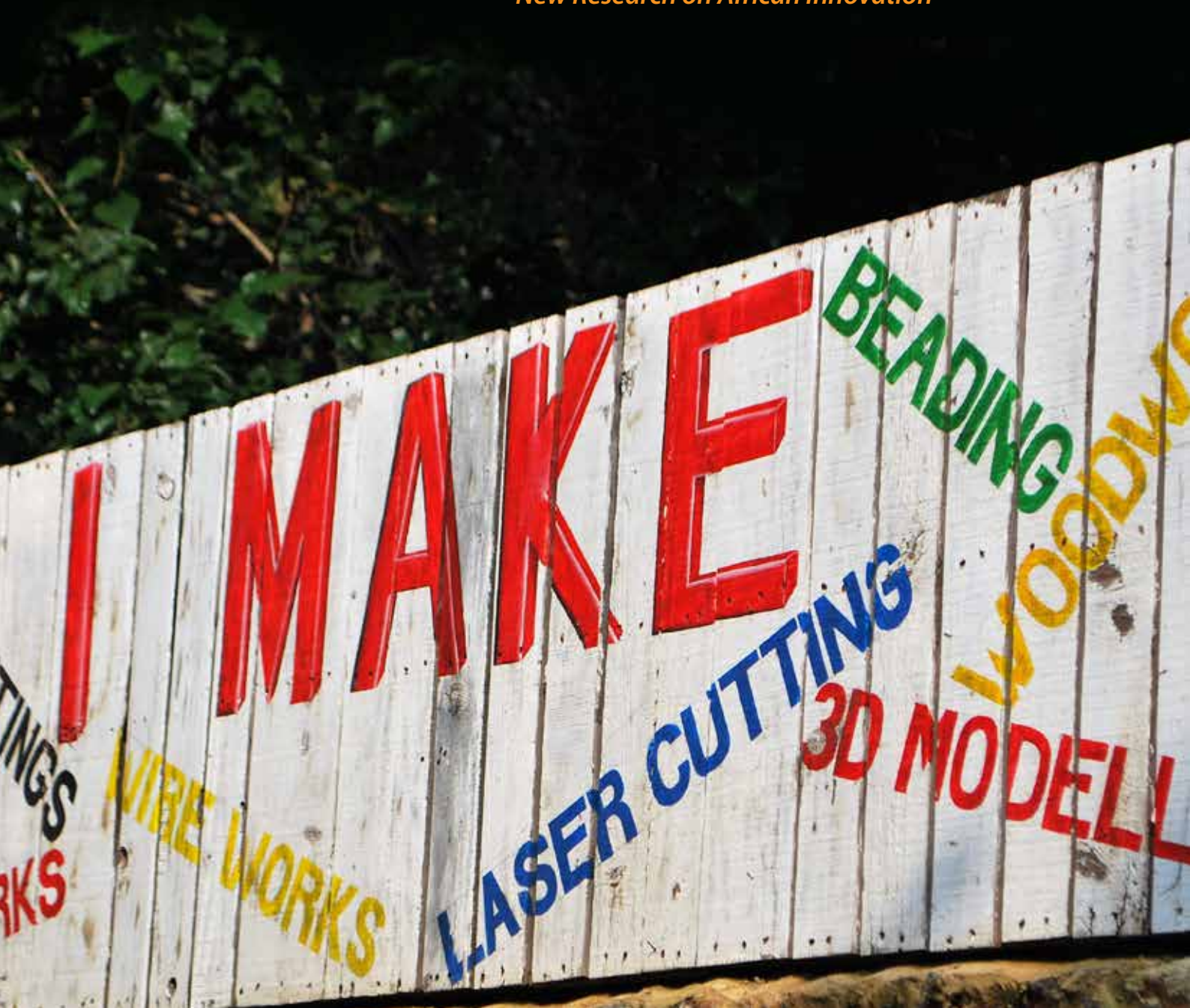
The Open African Innovation Research Partnership

Recognizing Africa's role in the global knowledge economy

Annual Report 2017

From Startup to Scaleup:

New Research on African Innovation



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Photographs in this report are supplied by Open AIR network members and affiliates. Images capture the diverse settings in which Open AIR research fieldwork and related activities have taken place during the past year.

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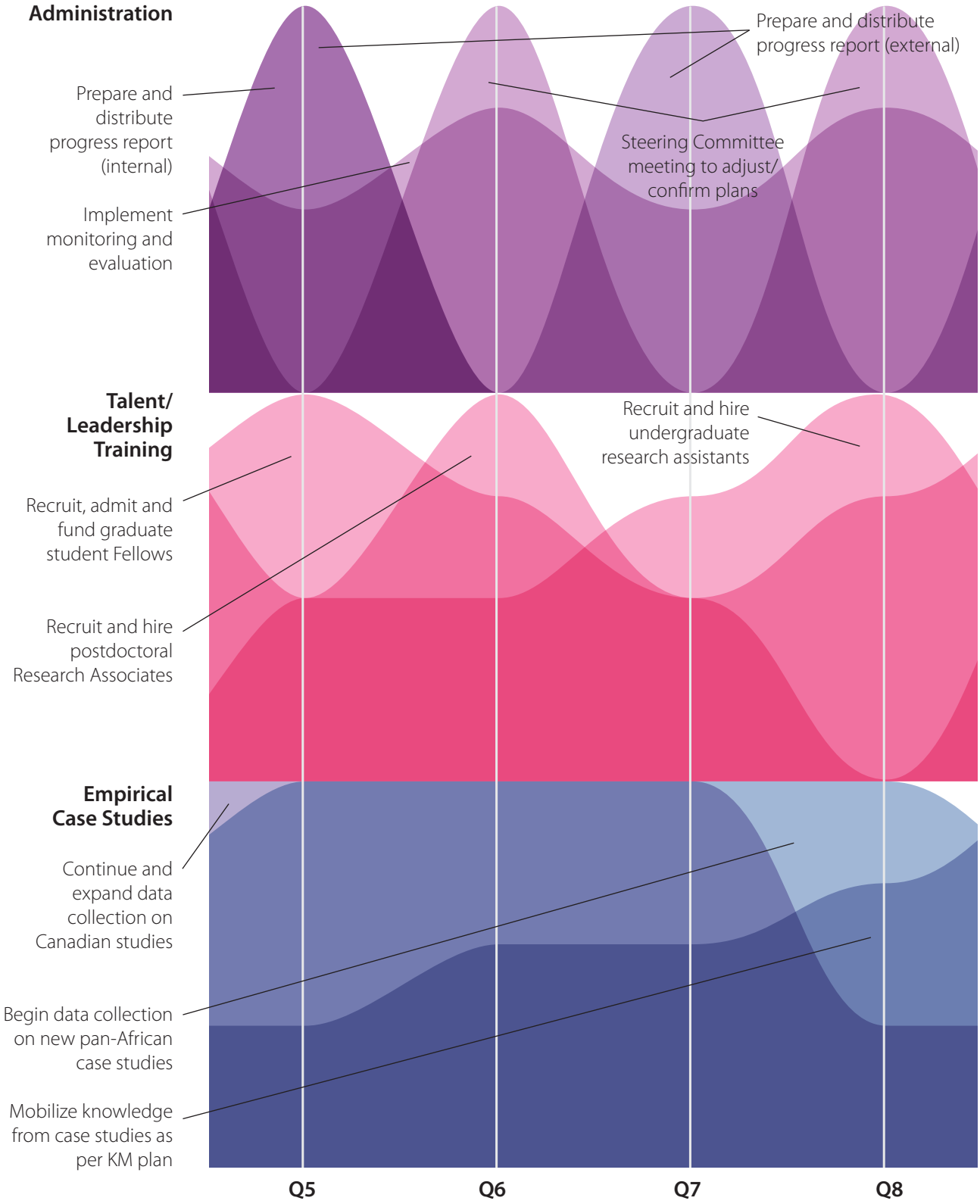
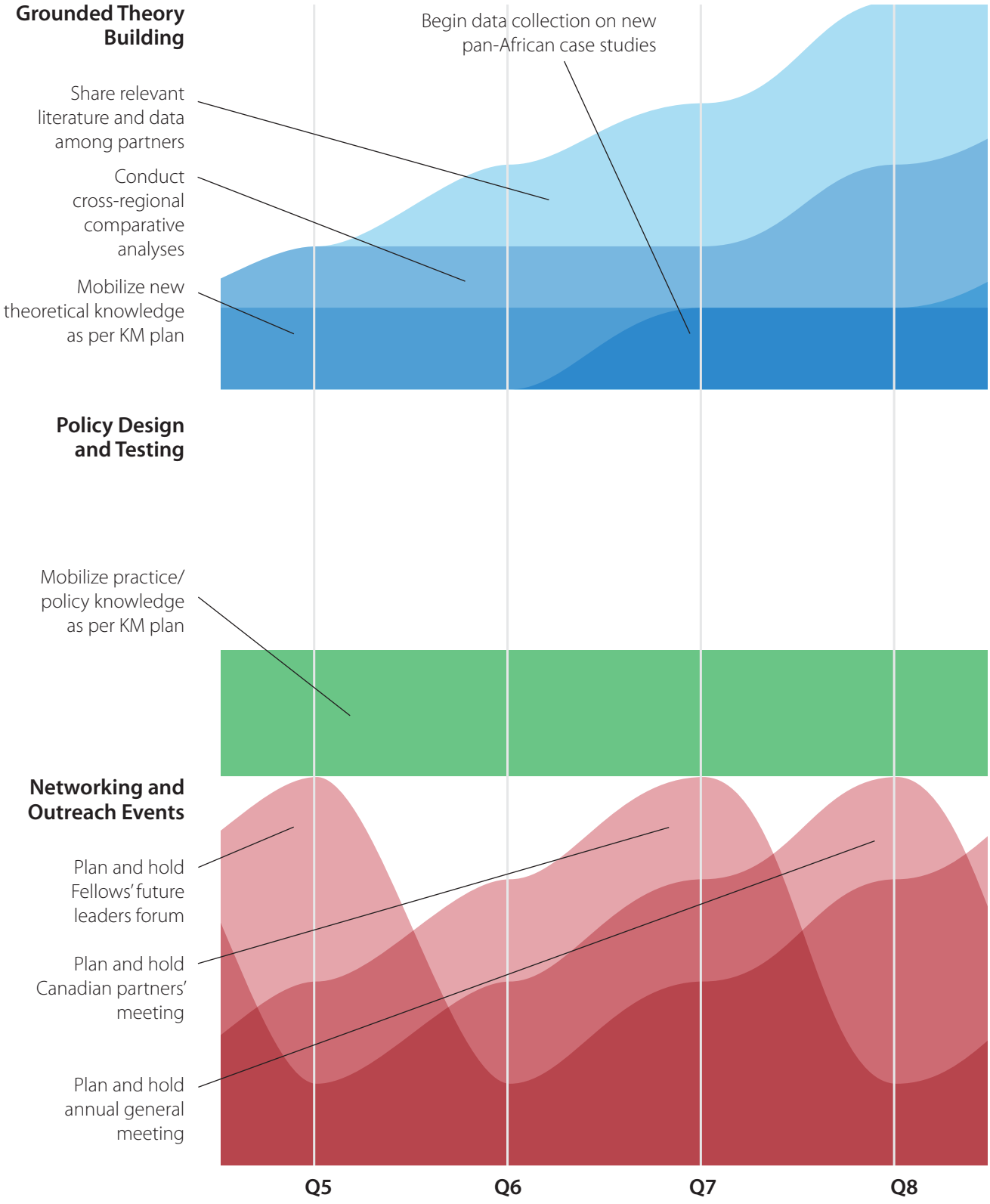
From Startup to Scaleup

Open AIR Activities: 2016–2017




Grounded Theory Building
Begin data collection on new pan-African case studies
Share relevant literature and data among partners
Conduct cross-regional comparative analyses
Mobilize new theoretical knowledge as per KM plan
Policy Design and Testing
Mobilize practice/ policy knowledge as per KM plan
Networking and Outreach Events
Plan and hold Fellows' future leaders forum
Plan and hold Canadian partners' meeting
Plan and hold annual general meeting
Q5
Q6
Q7
Q8

Synthesis

About us

Open AIR is a unique collaborative network of researchers spread across 15 African countries, Canada, and elsewhere in the world, answering two overarching questions:

- How can open collaborative innovation help businesses scale up and seize the new opportunities of a global knowledge economy?
- Which knowledge governance policies will best ensure that the social and economic benefits of innovation are shared inclusively?

Open AIR's primary goal is to uncover new insights about the balance between control over and access to knowledge. Specifically, we aim to solve a problem at the heart of intellectual property (IP) and innovation policy: **how to reconcile tensions between appropriation and access, excluding and sharing, and competing and collaborating**. In dealing with this problem, our research is showing how knowledge-based businesses can bypass outmoded, constrictive knowledge governance practices to capitalise on open collaborative innovation strategies.

Open AIR aims to improve our understanding of the ways in which knowledge-based businesses can scale up to take advantage of global opportunities, while simultaneously ensuring that the benefits of innovation are shared inclusively throughout society as a whole. Open AIR's African-centered research calls attention to the importance and sensitivity of context in the making of IP and knowledge governance policy for sustainable development. Through improved IP policies and practices, this research will lead to more innovation that benefits more people in both developing and developed countries.

In parallel, Open AIR is bringing insights and perspectives to the rest of the world, learning from what is happening and what works in Africa. There is significant debate in academia and among policy-makers as to whether IP policies in the developed world are helping or hindering innovation. The continent of Africa is widely acknowledged to be at the forefront of global economic growth and shifting geopolitical power structures. The world will be able to learn from African innovation that is happening often in the absence of strict IP enforcement in people's day-to-day lives.

To encourage such learning from Africa, Open AIR, in partnership with leading experts, institutions and funding organizations from Canada, is building sustainable, cross-regional relationships. To prepare for plausible futures in which knowledge-based innovation becomes increasingly prominent in Africa, Open AIR is connecting new and emerging researchers in African countries with their counterparts in places such as Canada so that Africans conducting groundbreaking research on their continent will play a more prominent role in global knowledge production. Through mutually beneficial research partnerships, Open AIR is recognizing Africa's role in the global knowledge economy.

Open AIR's African-centered research calls attention to the importance and sensitivity of context in the making of IP and knowledge governance policy for sustainable development

Theory of change

GOALS

The African continent is not fully integrated into the global knowledge economy.

The informal sector and traditional communities dominate employment and economic activity, but are ignored.

Old business models for scaling up may grow inequality, threaten traditional values, create vulnerabilities, and undermine resilience.

PROBLEMS

SOLUTIONS

Positioning Africa more centrally in globally networked context.

Fostering entrepreneurship and innovation across sectors of society, inclusive of marginalized groups.

Building collaborative business models and marketplace framework policies based on local realities, empirical evidence, and strategic foresight.

SOCIAL CAPITAL

48 interdiciplinary, networked researchers and real-world policy leaders.

15 African countries where we work

1 self-identifying "family" of credible experts in powerful positions throughout Africa and the world

BEFORE

AFTER

Evolve to include new people and ideas, and engage the private sector

Expand South-South and North-South linkages

Leverage our reputation for independent, objective, and practically useful research

EMPIRICAL RESEARCH

Case studies to show how open/ proprietary/blended strategies already impact knowledge-based businesses

"Backcasting" from Open AIR scenarios to ground new theories, anticipate challenges and plan responses

NOW

FUTURE

Collaborative solutions for scaling up knowledge-based businesses

- How do businesses collaborate to innovate and with whom?
- Are the benefits of open business opportunities shared accross society?
- What are the positive and negative effects of scaling open business?
- Who benefits from high technoligy innovation hubs, and how?
- What business and job opportunities does the informal sector support?
- How do local communities turn traditional knowledge into livelihoods?

"Collaborative innovation"

A grounded theory about the collaborative dynamics of openness accross firm boundries, consumer creativity, crowdsourcing, and peer production.

"Knowledge Governance"

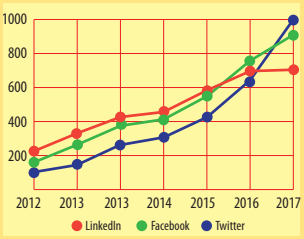
The formal or informal legal, economic, social, cultural, political, and technological structures that determine who can appropriate or access knowledge, and how.

RESEARCH INTO THE REAL WORLD

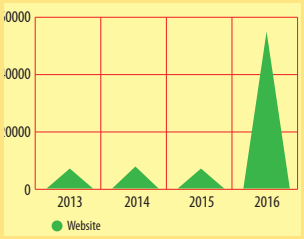
Influential, open access articles, books and briefs

Dialogue with decision-makers and power brokers

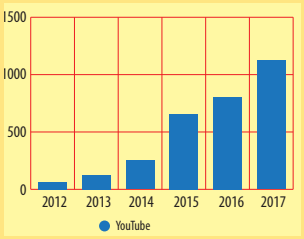
VIRTUAL ENGAGEMENT AND OUTREACH EVENTS



SOCIAL MEDIA



WEBSITE VISITORS



YOUTUBE VIEWS

DEVELOP-MENT OUTCOMES

THEORY

Better ideas

Clearer understanding of what "open" business is.

More consistent, meaningful use of key terms.

Working models of how openness or appropriation both helps and hinders business.

PRACTICE

Better lives

More opportunities for entrepreneurial innovators.

More stable employment prospects by scaling enterprises of various sizes.

More just distribution of economic and social benefits of innovation.

POLICY

Better tools

Model policy frameworks for local and national governments.

Best practices, licences, and guidelines for real-world businesses.

Positive proposals for new international agreements, policies, and metrics.

Scaling up our new research

Since its inception more than a decade ago, Open AIR has created capacity at four African hubs and evolved into one of Africa's most unique and credible voices on IP and innovation issues. Open AIR's evolution is a result of its studies across several economic sectors and areas of IP, which have continuously grown in breadth and depth. This, combined with ongoing training of network members, has resulted in significantly increased capacity among our researchers, including emerging African scholars who joined Open AIR as Research Fellows, as well as African policy and issue leaders, and African innovators, creators, and entrepreneurs.

Thanks to major funding raised from various sources in recent years, we have remodelled our "project" on African innovation into a multi-institutional network of dynamic partnerships. That required substantial efforts to redesign our governance structure, establish protocols for financial and administrative management, build internal and external communications infrastructure, develop and implement research ethics best-practices, and solicit and select a batch of new sub-projects to fund.

This year, we continued to strengthen the institutional infrastructure of the network, and began to scale up the research being done by our growing group of collaborators. We:

- Implemented 20 research case studies
- Produced eight new foundational framing papers
- Began translating research into other languages
- Mobilized knowledge into policy and practice
- Continued to grow our network and nurture the next generation of research leaders

Implemented 20 research case studies

- After releasing an open call for research proposals last year, selecting 20 case studies for funding, and holding a launch workshop in Nairobi during which we refined the studies, this year we focused on implementation. Fieldwork is underway around the continent, using qualitative and quantitative data with a mixture of empirical methods.
- Our research addresses topics such as the impact of 3D printing on social entrepreneurship; power relations in high tech hubs; teachers as entrepreneurs for STEM education; skills building in the informal sector; and mobile tech innovation in Nairobi. A complete list of all our studies, and details about them, is contained later in this report.
- Several studies are already complete. These include one on informal innovation in the Otigba computer market, Nigeria; another about the Maker Movement in Gauteng province, South Africa; and one looking at collaborative innovation to boost enterprise growth in Botswana. These have been released in the form of working papers on our website, or have been submitted as journal articles for publication. There are also several blog posts about these working papers and findings from these case studies on our website.
- Other studies are still underway, and benefiting from the support of the theme leaders guiding our research on high technology hubs, informal sector innovation, indigenous and local community entrepreneurship, and metrics, laws and policies. Final versions of all studies are anticipated by the end of 2017.
- Assistance with research ethics has been among the most important support we have provided our researchers. Many African institutions and organizations, especially NGOs, have benefited greatly from the multi-institutional review framework we have created between the University of Cape Town, American University in Cairo, and the University of Ottawa. Indeed, we have offered our experience to African universities, and other research networks struggling with the complexities of managing crucial ethical clearances across both academic disciplines and national borders.

Produced 8 new foundational framing papers

- A series of new working papers with literature reviews, analytical frameworks, and strategic directions underpin studies in each thematic area. These have been released during the first half of 2017, and offer:
  - A comprehensive analysis of methods and conclusions for "evidence-based IP policymaking", with specific implications and recommendations for Africa. The research was presented at influential events worldwide – for example, a major conference involving the OECD, WIPO, and other key organizations. The peer-reviewed Journal of World Intellectual Property has since published the paper as an open access article.
  - A conceptual and practical integration of "open development" and "open innovation" through the lenses of open science, open education, and open data. This research lays the groundwork for more cross-cutting insights amongst areas of "openness", and is planned for publication in an IDRC-sponsored book to be published soon by MIT Press.
  - A new research framework for assessing "technology hubs" in Africa, combining work on hubs as clusters, companies, and entire countries, using Kenya as an example. This collaborative work between teams at two Open AIR hubs (Nairobi and Ottawa) was published, open access, in a specialized journal of New York University, where our African research will be exposed to an influential audience of readers in America and elsewhere.
  - An open data collection and analysis of the international IP treaty landscape constraining 54 African countries, as it evolved from 1885 to 2015. This novel and important work was immediately featured in a widely read article published by *Intellectual Property Watch*, and received significant social media traction raising awareness of Open AIR's work. It is currently being prepared for journal submission.
  - A strategic framework for negotiating innovation and IP issues in Africa's Continental Free Trade Agreement. This research, commissioned by the United Nations Economic Council on Africa (UNECA) and the African Trade Policy Centre (ATPC), has the potential to significantly shape highly influential trade-related IP policies on the continent. Our insights and recommendations were presented at meetings in Addis Ababa early in 2017.
  - An in-depth analysis of the "Maker Movement" in Gauteng province, South Africa. Using data gathered from interviews with key contacts at makerspaces, hacker houses, and fab labs in and near Johannesburg, Open AIR researchers have advanced understanding of what makes this movement work,

and how it might be supported and scaled up.

- A proposal for a "data commons" to allow farmers to benefit from the datasets to which they contribute agricultural data. This licensing model would address both the crisis caused by a lack of data ownership rights for contributor farmers and the global challenge posed by food insecurity. Using the IAD framework we consider five case studies, exploring how John Deere, Plantwise, and Abalobi license data collection and how Creative Commons and the Open Data Commons license data distribution.
- A comprehensive scan of the entire maker scene throughout South Africa. This country-wide study expands Open AIR's pioneering study of makerspaces in one province to cover the whole country. It breaks new analytical ground by suggesting a series of variables that should be examined to map Maker Movements at the local, national, and global level. This work wraps up a successful workshop held in South Africa's capital city of Pretoria, and lays a foundation for internationally comparative research throughout the continent. A revised version has been invited for submission in a special issue of the *Journal of Peer Production*.

Translated our research into other languages

- Three French-language translations of key chapters of Open AIR's latest book, *Innovation and Intellectual Property: Collaborative Dynamics in Africa*, have been produced to take our Francophone Africa engagement to the next level.

> Nous sommes heureux d'avoir ce matériel disponible en français. Cela nous permettra d'atteindre de nouveaux publics et de trouver de nouveaux partenaires dans d'importants pays africains.

Mobilized knowledge into policy and practice

- While the format and accessibility of working papers help ensure our research has impact beyond the academic community, we have also continued to improve our strategies for mobilizing knowledge generated from our insights, with briefing notes, blog posts, videos, and more.
- We also published 33 blog posts in just the past year, bringing the total to 49. Topics range from the dynamics of informal sector innovation in various African countries, to indigenous and local community entrepreneurship, to the emergence of makerspaces and related technology hubs around the continent. Importantly, this has served as a platform where we can welcome new researchers into the network by authoring guest posts to introduce fresh perspectives into our work.
- We created and launched a series of 18 videos highlighting each of our themes and several of our case studies. These short videos are designed specifically for sharing and will help us to rapidly mobilize our results and generate uptake when studies are complete. They have also expanded our audience and helped to feature our researchers in their own words. We are in the process of producing even more videos, given the impact we have seen from translating our research into this more accessible format.
- Our website has been continuously tweaked to better promote our work including creating a space specifically for our case studies. It conveys key information in an easily readable format about our research and the excellent researchers we have conducting these studies. The Team page also provides a source of credible researchers on the important topic of innovation on the continent.
- Our social media clout continues to grow. This past year, the number of impressions generated on Twitter has increased from an average of 29,850 per month to 35,716 per month; our average of Facebook likes per month is 30% higher; our monthly YouTube views have increased by an average of 25%, and our average number of new subscribers per month has doubled. Most impressively – and most importantly – we have ten times as many visitors to our website as we did at this time last year, having increased from 1,134 in June 2016 to 11,407 in June 2017.
- Holding events has been an important part of our strategy to enrich research, ensure impact, and empower collaborators. In the past year, we held numerous events of various sizes and for various audiences, including the public talks, training sessions, workshops and conferences described below.
- This year, we held an extremely successful and valuable workshop on the topic of "makerspaces". We brought over 50 researchers – academics from across Africa, national and local government officials, and numerous makers and representatives of maker communities – together in South Africa for three days in March 2017. During the event, we shared our research findings with one another, and this workshop helped the movement to build a shared vision for themselves in South Africa. We also toured several makerspaces and participated in hands-on sessions with makers invited on site to work with us.
- The maker workshop built on a smaller event that Open AIR held in Ottawa in August 2016. The subsequent South African maker meeting was so successful, we hope to replicate it in North and East Africa in the future. Planning is already underway.
- Open AIR participated in a workshop on links between traditional knowledge, open collaboration and IP protection jointly with Access and Benefit Sharing Canada (ABS Canada). Three Open AIR network researchers were brought from East and Southern Africa to exchange knowledge and perspectives with Canadian Aboriginal representatives. Discussions revolved around ecology, technology, seed-sharing, ethics, and Aboriginal legal traditions.
- Our Distinguished Speaker series continued to attract attention. This past year events were held in Cairo, Nairobi, and Ottawa featuring Mr. Ibrahim Safadi, Dr. Anthony Kakooza, and Dr. Ikechi Mgbeoji. This has raised the profile of our research within our institutional hubs as well as the communities around us. We have also posted videos of key talks online, and promoted them via our communications channels.
- Our researchers have continued to speak at events around the world about Open AIR's research. These included ATRIP 2016, the Canadian Association of African Studies Conference, the Global Open Data for Agriculture and Nutrition (GODAN) Summit, the 2016 Egypt Entrepreneurship Summit, the Canadian Senate Standing Committee on Banking, Trade, and Commerce, the Seminar on Intellectual Property and Traditional Knowledge, the Open Access Symposium 2016, the South Africa Science Forum, the CopyrightX Summit 2017, the 2017 WIPO-NIPMO Workshop on National Intellectual Property Strategies and Innovation Policy in South Africa, and the Copyright User Rights and Access to Justice Symposium, to name a few.

Continued to grow our network and nurture the next generation of research leaders

- Open AIR recently elected its third NERG ombudsperson, Victor Nzomo, from Strathmore University. This position has now been held by a representative from three different hubs (Nagham El Houssamy, 2015-2016, AUC; and Meika Ellis, 2016-2017, uOttawa). With 27 active NERG members, the use of the NERG ombudsperson has helped strengthen the role the NERG plays in Open AIR's research, as well as enable NERG members to become more self-governing by creating opportunities for NERG members to connect, attend conferences, conduct joint research, and communicate more frequently.
- While Open AIR has always been conscious of and interested by how gender and IP interact, we are proud to announce that we were awarded one of the prestigious Queen Elizabeth Scholars – Advanced Scholars grants this year. Over the next four years, this funding will allow us to invest in the empowerment of researchers seeking to investigate the gendered aspects of innovation in Africa. We anticipate dedicating an increasing amount of time and resources into this area of research in the foreseeable future.
- Our Hubs continue to leverage subject-matter expertise and centrality in research networks to support complementary projects and spin-off activities. For example, the IP Unit at UCT is home to "African Scholars for Knowledge Justice" (ASK Justice), supported by the Open Society Foundations to contribute to positive policy change to increase access to medicine (A2M) and access to knowledge (A2K) in Africa. The A2K4D Centre at AUC is deeply involved in international networks around Open Data for Development (OD4D), the Access to Knowledge Global Academy (A2KGA), and more. CIPIT at Strathmore has recently obtained significant private sector support to start a makerspace on campus. Personnel at all of our African hubs are affiliates of the Copyright X course. Thus our network-of-networks is amplifying the impact of Open AIR's activities.

The research problem and solution

The Open AIR network's previous research showed that innovation is happening in Africa in ways that were previously overlooked. We are now investigating whether that innovation is scalable, and if so, how. We previously showed that the role of intellectual property is more nuanced than often portrayed. It can sometimes facilitate or frustrate innovation, or even both. Currently, we are expanding on that analysis by focusing on the scalability of open and collaborative business models, and their impacts on development.

Our previous activities also created a new and unique interdisciplinary community of established and emerging African researchers. Our joint activities significantly increased research quality and capacity, adding a credible, independent, and distinctly African voice to global knowledge policy debates. **We are now leveraging this social capital to further enhance policy and practical influence, and to position relevant African leaders more centrally in global networks via cross-regional partnerships with Canada as well as countries in the global South.**

Our previous research identified three thematic areas that are local priorities, especially for marginalised communities, and reflect plausible scenarios for the future of knowledge and innovation. **The research we are now conducting aims to dig more deeply into particular dimensions of these scenarios specifically regarding scalable open and collaborative business models**. In order to do this, we have highlighted these three research themes: high technology hubs; informal sector innovation; indigenous and local entrepreneurs; plus added a cross-cutting thematic focus on metrics, laws, and policies.

Based on many African nations' recent records of strong economic growth and shifting demographic trends, businesses on the continent are beginning

to emerge as important players in the global knowledge economy. Yet, if Africa's tremendous potential for global economic and trade opportunities is to be realised, many issues must be overcome. One of these issues – the focus of Open AIR's current research – is learning how to **scale up knowledge-based businesses without jeopardising sustainability or sacrificing core values**. Our hypothesis is that business models grounded in networked, open, and collaborative innovation can help make that happen. Parallel to empirical research in African countries, we conduct comparable research in the global North. Cross-regional comparative research will reveal commonalities and contrasts that can be used to improve governance of the global knowledge economy for the benefit of people living in developed and developing countries alike.

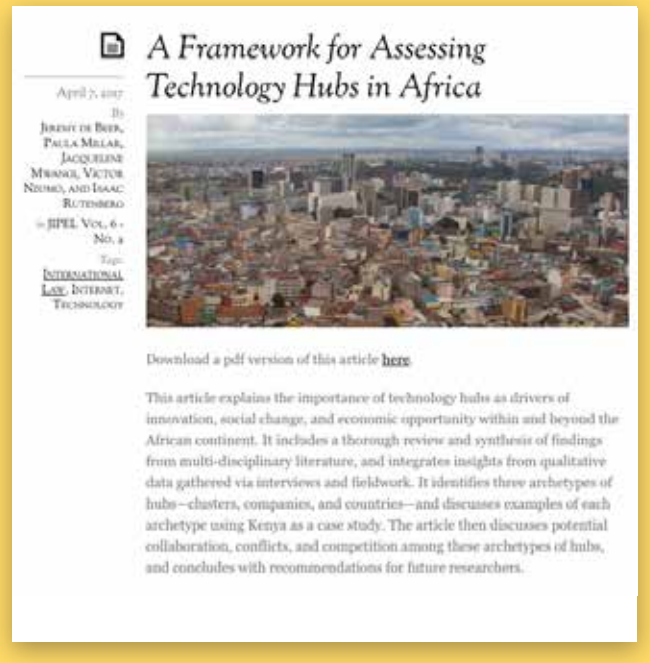
Moreover, Open AIR's research intersects with research on "open development" being carried out by other networks and projects, such as research on open data, open science, open education, and user rights. These intersections are intentional. Our research is distinct from, but complementary to, those other initiatives, because of our focus on collaborative, entrepreneurial business models – and the economic and social ramifications of such models – made possible by open knowledge governance systems. Our research can, therefore, help to highlight interconnections among the various conceptions of openness.

A core goal of the network's research is to help solve some of the scalability challenges facing knowledge-based businesses in Africa. Our open research is exploring how knowledge-based African enterprises based on open and collaborative innovation can scale up in a way that generates increased entrepreneurship, businesses and employment opportunities, and better livelihoods.

Twinned with this core goal is an effort to compare African research findings with findings and experiences elsewhere in the developing and developed world. This will ensure that the economic and social benefits of scaled-up knowledge-based businesses can be harnessed in a manner that makes communities and societies, across the world, more prosperous and equitable. Indeed, we strongly believe that the world can learn from Africa about how we can all encourage innovation.

Research clusters

Open AIR has four thematic clusters, based on our previous research on knowledge and innovation in Africa: **High Technology Hubs, Informal Sector Innovation, Indigenous and Local Entrepreneurship**, and **Metrics and Policies**.



A Framework for Assessing Technology Hubs in Africa

April 7, 2017

By Jeremy de Beer, Paula Millar, Jacqueline Musiige, Victor Nzomo, and Isaac Rutenberg

in IIPEL Vol. 6 - No. 2

Tags: International Law, Internet, Technology

Download a pdf version of this article here.

This article explains the importance of technology hubs as drivers of innovation, social change, and economic opportunity within and beyond the African continent. It includes a thorough review and synthesis of findings from multi-disciplinary literature, and integrates insights from qualitative data gathered via interviews and fieldwork. It identifies three archetypes of hubs—clusters, companies, and countries—and discusses examples of each archetype using Kenya as a case study. The article then discusses potential collaboration, conflicts, and competition among these archetypes of hubs, and concludes with recommendations for future researchers.

High technology hubs

Open AIR's past work developed a strong appreciation of the prevalence and importance of high tech hubs throughout the African continent. IP policies, which underpin developed countries' laws, function on the assumption that formal protections are necessary to encourage innovation. A rapid proliferation of IP rights, however, can result in thickets of vague and overlapping claims, which we see in places like the United States, causing serious questions regarding current IP laws and policies.

Stepping back from the developed world, in most of Africa there is an explosion of high tech innovation which is occurring in what is essentially an IP vacuum. Over the past five years, incubators, accelerators, makerspaces, and tech hubs have proliferated throughout Africa, in university, private venture, and government initiative settings. To ease the paradox between the openness that facilitates new ideas and the collaborations that characterise these tech hubs, with the pressure for proprietary protection of new ideas and knowledge, Open AIR is analysing the extent to which formal IP rights are important to the success or failure of Africa's burgeoning tech initiatives at and around high technology hubs.

For example, our recently published article, "A Framework for Assessing Technology Hubs in Africa", explains the importance of hubs as drivers of technological innovation, social change, and economic opportunity within and beyond the African continent.

Cross-cutting theme:

Informal sector innovation

The majority of businesses in Africa are informal and there is growing interest to understand the creative processes and innovations occurring in the informal sector. Africa's myriad informal micro-enterprises offer diverse and vibrant settings for analysing entrepreneurial development and innovation. These enterprises are often confronted with severe scarcity conditions, which drives them to improvise solutions to everyday challenges, sometimes resulting in innovations that better address local needs. Our research seeks to appreciate how the informal and formal sectors interact in different contexts, and how IP rights might allow for better policy frameworks to encourage economic growth.

A good example of such interactions between informal and formal innovation is happening in makerspaces, where communities are focused on problem-solving, sharing knowledge, and facilitating access to technologies through the democratisation of manufacturing tools. The Maker Movement espouses the do-it-yourself ethos and other values of Africa's informal sector innovators; both operating at a small scale but with great up-scaling potential.

Indigenous community entrepreneurs

Based on previous research by Open AIR, it is clear that traditional knowledge held by local communities is becoming a source of inspiration and innovation for many entrepreneurs and businesses in the informal economy, health care sector, fashion industry, agriculture, and more. Further, such knowledge is becoming the base resource in building niche businesses and creating economic opportunities. These innovations increasingly take into account modern technologies, especially information and communication technologies (ICTs). Such technologies are crucial in scaling up indigenous and local entrepreneurial activities and, consequently, the economic empowerment of stakeholders.

The relationship between traditional knowledge, IP, and innovation has been a focal point of Open AIR's research. Our previous studies highlighted the potential of knowledge management practices in formal economic settings. Open AIR's new research focuses on how knowledge is used in the economic interests of indigenous communities, and how such knowledge has been deployed outside these communities in connection with establishing entrepreneurial businesses. This cluster of case studies also provides further examples of how Canadians – both Aboriginal and non-Aboriginal – can benefit with lessons from, and not just for, African indigenous communities.

For one example, our case study on Nigeria's movie industry locates that industry as an aspect of local entrepreneurship that leverages on digital video technology and other aspects of information and communications technologies to innovate around cultural creativity and entertainment for the local and global audience.

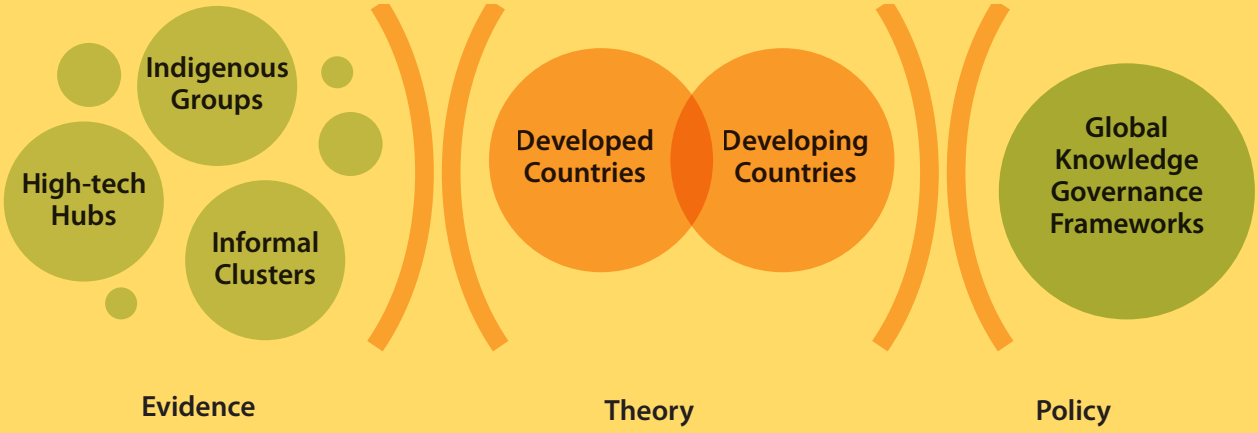
Metrics and policies

The metrics, laws, and policies theme underpins our other three themes. Open AIR's Theory of Change posits three kinds of outcomes flowing from this research: "better lives" (practice), "better ideas" (theory), and "better tools" (policy). Statistics purporting to measure innovation globally do not adequately capture the breadth of activity occurring on the African continent. Policymakers rely on these indicators to try to stimulate innovation, often resulting in the promotion of "Western innovation" measures that are used in these indices, for example, the acquisition of formal intellectual property rights (IPRs). We have shown that these indicators fall short of capturing the wealth of knowledge and innovation that is happening across Africa.

To fix this gap, the metrics component of Open AIR's research aims to reveal the unique socio-economic factors that characterize innovation on the continent and review mainstream indicators of measuring innovation, both on the macro and micro levels. The metrics theme aims to then take these findings a step further by developing alternative tools for measuring innovation, both quantitatively and qualitatively, ultimately creating an alternative index to measure innovation in Africa.

Questions and methods

Across these clusters we are investigating several sub-questions. Open AIR's response to the problems and questions described above is to **seek solutions based on robust, empirical, grounded research**. In pursuit of ensuring our research has an impact, the methods are split into three phases (1) empirical evidence, (2) grounded theory building, and (3) designing and promoting coherent global knowledge governance frameworks, and exerting policy and practical influence through scenario-driven strategies.



Interconnected, empirical case studies

To implement the first phase of our methodology, we adopted the method of "situational analysis" through 20 case studies. We are now beginning to address our research questions at the situational level, that is, where the units of analysis are neither micro nor macro, but are instead at the intersection of actors and forces that shape innovation situations. This approach also enables our researchers to engage with mixed methods, within the various sub-studies, e.g. literature reviews, internet-based data mining, social network analysis, key informant interviews, and surveys.

Grounded theory building

The method of grounded theory building has allowed us to begin research by gathering real-world empirical evidence before solidifying a theoretical framework. To complement the method, and ensure the largest impact, we combine grounded theory with "action research", thus ensuring Open AIR's research beneficiaries are directly involved in the research. Although we are adopting grounded theory in our methodology, we have realized that some preliminary theory-building is necessary in order for our case studies to be successful.

Policy design and testing

After the completion of our research, we will use our new empirical evidence and theoretical frameworks to inform the development and design of recommendations to different country policy-makers and influential stakeholders. In discussion with policy-makers, we will explore the nuances of our recommendations to the situation(s) on the ground. Where applicable, we will suggest policy changes to facilitate improved marketplace frameworks and new practical tools for businesses to successfully scale up their innovations as well as further stimulate innovation. Our communications plan will be of the greatest importance in this phase and will be based on best-practices from other academic-to-policy initiatives. Our communications will build upon the previous interactions we had with international organisations and influencers, helping to confirm our credibility and ensure our recommendations be given greater weight.

Evolution and updates of our research plans

More foundational work

We initially proposed to rely entirely on the method of grounded theory building, i.e. avoiding the temptation to draw on pre-existing theories, assumptions, and frameworks. Instead, we proposed to develop our own unique theories based solely on our new research. We have since adopted a more balanced approach.

The issue with relying too heavily on either preconceived theories or none at all is that understanding is often fragmented and inconsistent across disciplines. Differences in theories are seen throughout many of the disciplines Open AIR researchers work in, such as innovation studies and management science, economics and statistics, law, development studies, and more. For example, the different definitions greatly impact how "openness" is perceived, a key, overarching term in our research. Similarly, there is no consensus definition of what constitutes a technology "hub", standard definitions of "innovation" do not apply neatly in the informal sector, and there are ambiguities about the true nature of "traditional" knowledge. Similarly, initially we assumed that common understanding existed about the term "scaling-up", another term important for our outcomes. We have realised that, like "openness", understanding differs among different disciplines, regions, and researchers.

Hence, we have slightly modified our earlier plans to eschew any pre-established theoretical framework for our research, and instead adopted a hybrid approach where we are performing some basic scoping research (such as literature reviews and meta-analyses) at the same time as our case studies are commencing.

New themes emerging

Our research has always sought to address "inclusion", which meant conducting research with and for the benefit of society's most marginalized people. **Marginalization may stem from issues related to race, ethnicity, class, socioeconomic background, gender, geography, and more**. Almost always, we realize, marginalization arises from the intersection of several factors.

Despite our recognition of intersectionality, we have seized upon one particular factor to focus on: gender. Our emerging emphasis on gender is, most fundamentally, a matter of women's rights as human rights. This is also an economic imperative, however. Society cannot move forward without the human capital of half our population (i.e. women) invested into problem solving. We know that women are as innovative as men, but must overcome systemic barriers to the protection and adoption of women-led innovation. This is why "gender equality and empowerment of women and girls" is explicitly articulated among the Sustainable Development Goals, as SDG 5. It is also why the Government of Canada has adopted a "feminist development assistance" policy that closely mirrors what Open AIR is already doing.

Research has shown that IP and innovation frameworks not only ignore the disproportionate effects that IP has on women, but also project a male-dominated perspective on ownership and compensation. Dominant IP and innovation discourses are even less likely to consider the perspectives of intersectional marginalized groups, such as women in developing countries. Adding a gendered perspective will enrich our outcomes and findings, as well as contribute to the academic literature in this field. To do this, we will not only include gender in our current research but will also attract new scholars to engage with topics such as how feminist legal theory and open access approaches to innovation overlap in their tenants and how they can support one another. Scholars may also look at how knowledge is shared in gendered spheres and professions dominated by women, where IP laws have ignored such knowledge as peripheral. Our scholars will then recommend how Open AIR can further incorporate gendered perspectives into other aspects of our research.

While gender issues have always been relevant to our researchers, this year we received new funding that will be solely dedicated to addressing the gender-related dimensions of our research questions and themes over the next three years. We were awarded one of the prestigious "Queen Elizabeth Scholars – Advanced Scholars" grants. Over the next four years, this funding will allow us to invest in the empowerment of researchers seeking to investigate the gendered aspects of innovation in Africa. Funds will facilitate mobility for doctoral students, postdoctoral associates, and new scholars amongst our research hubs, where they will carry out short-term, high-impact projects. **This new work is just the beginning for Open AIR. We anticipate dedicating an increasing amount of time and resources into studying the gender-related aspects of innovation in the foreseeable future**.

Research achievements

New working papers

Over the past year, eight new working papers have been produced, all of which provide groundbreaking foundational research, creating a solid framework for the rest of Open AIR's research.

Evidence-based policy making

https://goo.gl/ZJxj3A

Our first working paper was *Evidence-based Intellectual Property Policymaking: An Integrated Review of Methods and Conclusions*. This was a comprehensive analysis of methods and conclusions for "evidence-based IP policymaking", with specific implications and recommendations for Africa. Governments have long been interested in making intellectual property (IP) policy based on sound evidence. There is a large body of literature addressing the economic impacts of IP, but little of it is accessible to policymakers. This paper aims to improve understanding of how IP contributes to the economic performance of a country's innovative sectors. The research was presented at influential events worldwide, for example a major conference involving the OECD, WIPO, and other key organizations. The peer-reviewed Journal of World Intellectual Property has since published the paper as an open access article. A condensed blog-version is also available on the Open AIR website.

Open innovation in science, education, and data

https://goo.gl/1tOsdw

This working paper is a conceptual and practical integration of "open development" and "open innovation" through the lenses of open science, open education, and open data. The study integrates the concepts of open innovation and open development. It extends the theory of open development beyond the field of information communications technology to address aspects of innovation systems more generally. It applies the concept of openness to innovation in practice across the domains of open science, open education, and open data. Creating a framework that is more integrated in theory and cross-cutting in practice creates new possibilities for interdisciplinary research and policy-relevant insights. This research lays the groundwork for more cross-cutting insights amongst areas of "openness", and is planned for publication in an IDRC-sponsored book to be published by MIT Press soon.

Technology hubs in Africa

https://goo.gl/vOfkEJ

This is a new research framework for assessing "technology hubs" in Africa. This combines research into these hubs as clusters, companies, and entire countries, using Kenya as an example. This article explains the importance of hubs as drivers of technological innovation, social change, and economic opportunity within and beyond the African continent. The article is the first to thoroughly review and synthesize findings from multi-disciplinary grey literature, and integrate insights from qualitative data gathered via interviews and fieldwork. It identifies three archetypes of hubs and discusses examples of each archetype. These archetypes are also fully explained in the Open AIR blog by Victor Nzomo, "A New Look at High Tech Hubs in the 'Digital Savannah'". The article discusses potential collaboration, conflicts, and competition among these hub archetypes, and concludes with recommendations for future research. This collaborative work between teams at two hubs (Nairobi and Ottawa) was published, open access, in a specialized journal of New York University.

Treaties' impact on African IP policy

https://goo.gl/VkwcF0

The working paper "The Intellectual Treaty Landscape in Africa, 1885 to 2015", is an open data collection and analysis of the international IP treaty landscape affecting 54 African countries, as it evolved from 1885 to 2015. This was based on the research conducted by our NERGs outlined in last year's annual report. This paper maps the 130-year history of the IP treaty landscape governing the protection of, and access to, knowledge in Africa. Our approach looks to the past and present in order to build a rich context for policymakers looking to the future. This approach offers a preliminary overview of the opportunities for IP policy innovation in each country, and the continent as a whole. It is a novel and important work and was immediately featured in a widely read article published by Intellectual Property Watch, and received significant social media traction, raising awareness of Open AIR's work. It is currently being prepared for journal submission.

Trade, innovation, and IP strategy for Africa

https://goo.gl/XPuaXi

"Intellectual Property Rights and Innovation: Assessing Regional Integration in Africa (Aria VII)." This is a strategic framework for negotiating innovation and IP issues in Africa's Continental Free Trade Agreement. To assist trade policymakers in the development of a framework, this paper explores IP issues, perspectives, and priorities related to both the CFTA and PAIPO. It suggests that process and substance issues are each important to create fair and balanced IP systems on the continent that stimulate innovation, growth, and competition. To this end, the paper's suggested framework draws significantly on the Max Planck Principles for Intellectual Property Provisions in Bilateral and Regional Agreements, (the Principles for IP Provisions, or just Principles) adapted for a distinctly African context. This research, commissioned by the United Nations Economic Council on Africa (UNECA) and the African Trade Policy Centre (ATPC), has the potential to significantly shape highly influential trade-related IP policies on the continent. Our insights and recommendations were presented at meetings in Addis Ababa early in 2017.

A data commons for food security

https://goo.gl/YDRcwp

Our seventh working paper is titled "A Data Commons for Food Security", and it proposes a "data commons", formed through a licensing model that allows farmers to benefit from the datasets to which they contribute. Agricultural data is globally recognized for its importance in addressing food insecurity. This data is generated and used by a value chain of contributors, collectors, and consumers. Our licensing model addresses the crisis caused by a lack of data ownership rights for contributor farmers. Using the IAD framework we consider five case studies. These studies explore how John Deere, Plantwise, and Abalobi license data collection and how Creative Commons and the Open Data Commons license data distribution. As identified by Fischmann et al., (2014), this paper also embraces the analogy between the natural environment and the commons and uses this link as a lens to view the establishment of a data commons that seeks to address global challenges of food insecurity.

Insights into the "Maker Movement"

https://goo.gl/sz8Ov9

Our sixth working paper is an in-depth analysis of the "Maker Movement" in Gauteng province, South Africa, "The Maker Movement in Gauteng Province, South Africa". Using data gathered from interviews with key contacts at makerspaces, hacker houses, and fab labs in and near Johannesburg, Open AIR researchers have advanced our understanding of what makes this movement work, and how it might be supported and scaled up. This paper sets out findings from research into the dynamics of the emerging "maker" movement in South Africa's Gauteng Province. The authors position the Maker Movement as a potentially strong contributor to, and manifestation of, informal-sector innovation on the African continent. Drawing on data from interviews conducted with participants in eight maker collectives in Gauteng, the authors provide findings in relation to makers' approaches to outreach, skills development, networking, innovation and collaboration.

Open AIR as PPP

https://goo.gl/yH1d9b

Working paper eight, "A Cross-Regional Research Partnership for Sustainable Development: The Open African Innovation Research (Open AIR) Experience", positions and critiques the Open African Innovation Research (Open AIR) network as a unique cross-regional PPP research platform. It examines, on empirical and theoretical perspectives, the elements of the Open AIR project, including its core driving factors relevant to the development gap associated with IP and knowledge governance in Africa. The authors reflect on policy ramifications, practical lessons, and limitations of the cross-regional research partnership for not only advancing the sustainable development objective but also for expanding an understanding of PPPs in a context that is scarcely broached.

French language translations of Open AIR's research

This year, Open AIR also published three French-language translations of key chapters of Open AIR's latest book, *Innovation and Intellectual Property: Collaborative Dynamics in Africa*. These will allow us to take our Francophone Africa engagement to the next level.

Nous sommes heureux d'avoir ce matériel disponible en français. Cela nous permettra d'atteindre de nouveaux publics et de trouver de nouveaux partenaires dans d'importants pays africains.

L'entrepreneuriat, l'économie informelle et la propriété intellectuelle

Ce chapitre, « Cadres d'analyse de l'innovation africaine : l'entrepreneuriat, l'économie informelle et la propriété intellectuelle », passe en revue les cadres conceptuels pour la compréhension et l'évaluation de l'innovation pour ensuite exposer les liens entre l'innovation et les concepts d'entrepreneuriat, d'économie informelle et de propriété intellectuelle. Cette revue indique qu'il est maintenant temps pour les décideurs politiques africains de rechercher des approches plus globales de la facilitation de l'innovation et, par conséquent, de la promotion du développement socioéconomique dans les pays africaines.

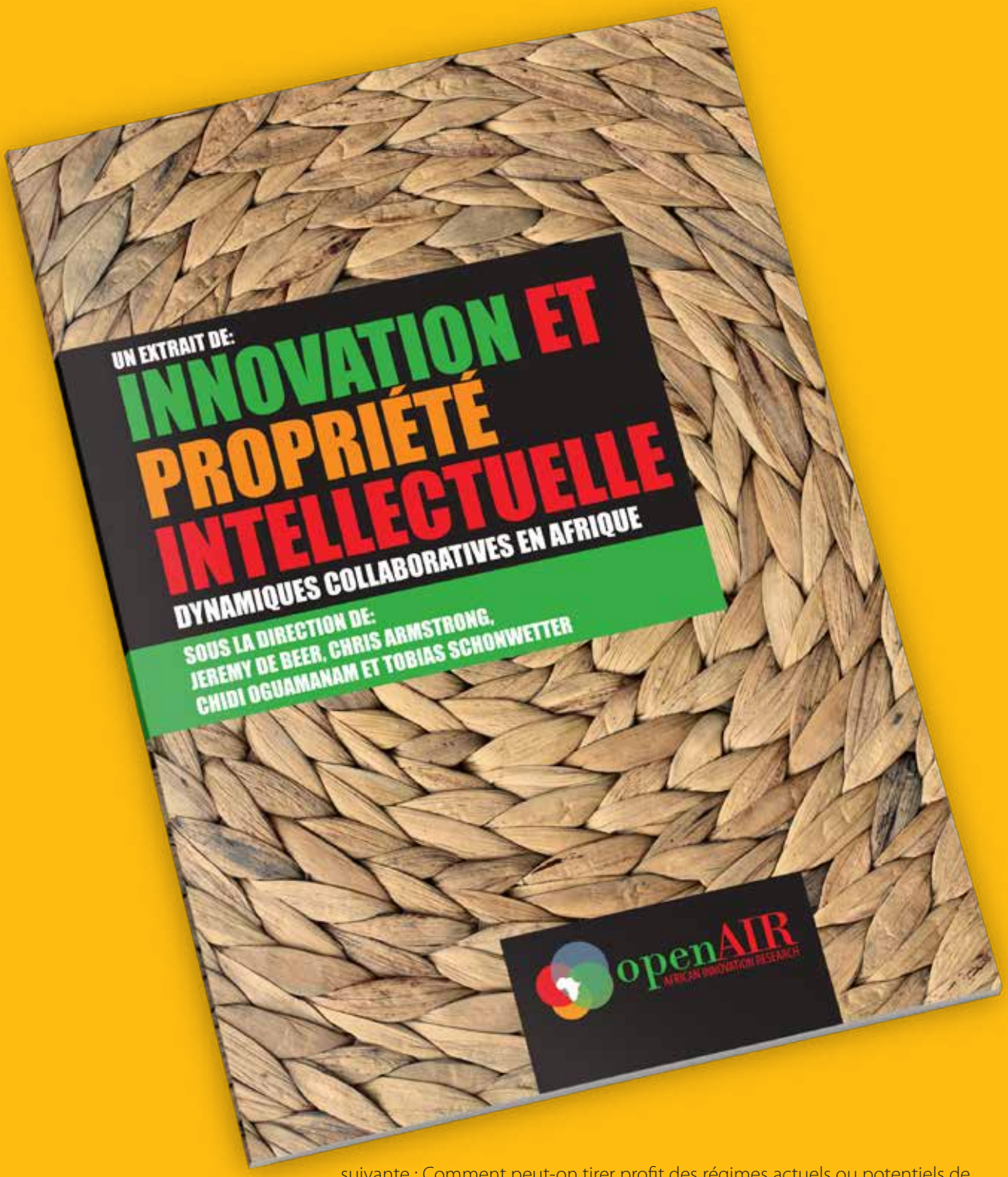
Pour éviter, ou à tout le moins atténuer, les répercussions inhérentes aux analyses multidisciplinaires de la propriété intellectuelle et de l'innovation, le présent chapitre commence se veut un début de base conceptuelle commune. Inévitablement, pour certains lecteurs, le chapitre sera trop simple ; pour d'autres, il peut être trop compliqué. Pour établir un équilibre, ce chapitre a comme objectifs modestes d'examiner les liens entre diverses lignes de pensée dans la documentation sur ces sujets et de relier ces lignes d'une façon interdisciplinaire, pertinente pour la situation émergente sur le continent africain.

Innovation, propriété intellectuelle et développement

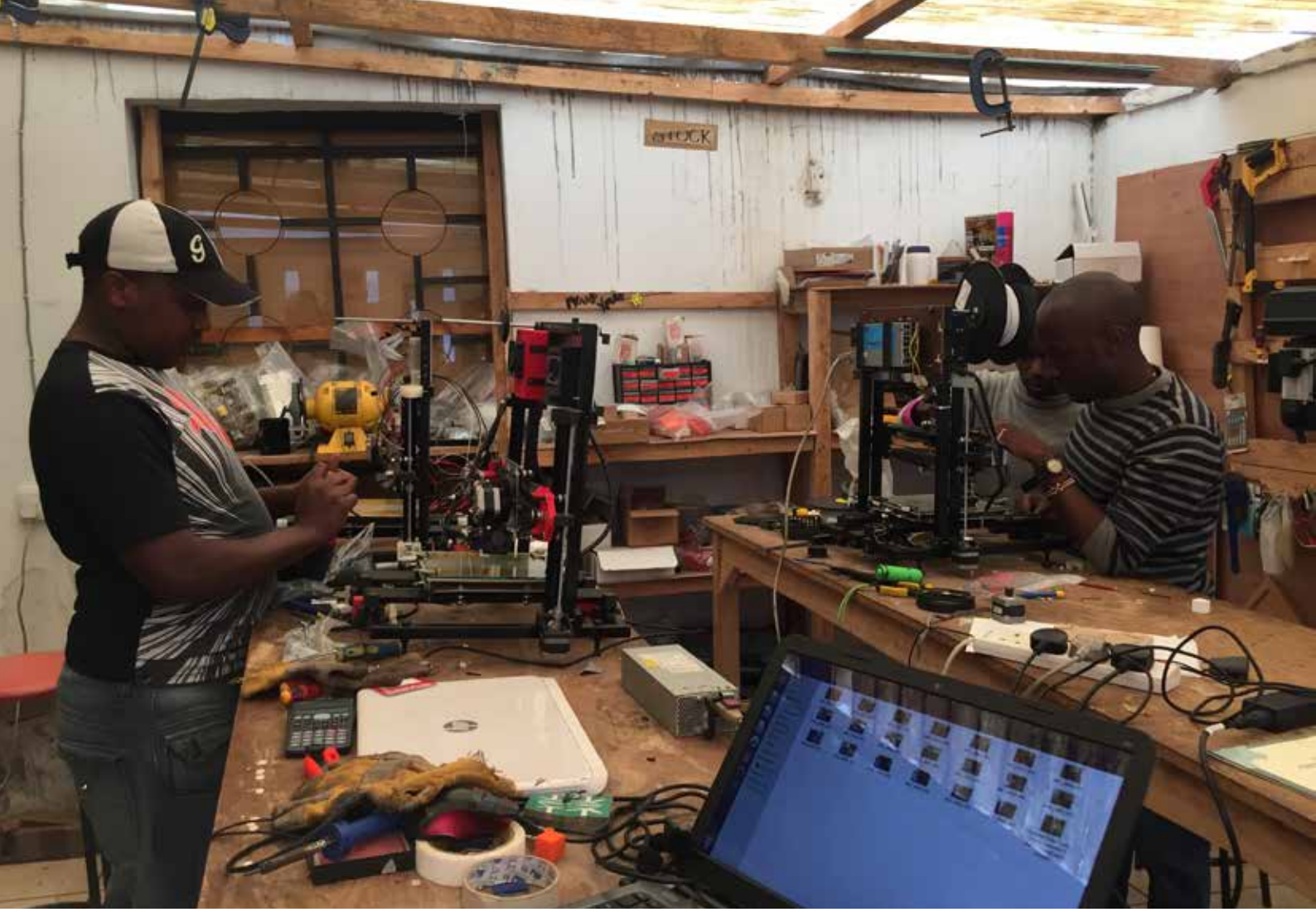
Ce chapitre, « Innovation, propriété intellectuelle et développement en Afrique », discutés les divers facteurs, notamment économiques, technologiques et sociaux, influencent l'activité innovatrice et créative, sont influencer les droits de propriété intellectuelle. Une meilleure compréhension des subtilités et de la dynamique de la PI est essentielle pour l'établissement de cadres de politiques et de pratiques de gestion qui pondèrent la protection de la PI et l'accès à la PI de manière à ce que les régions, les pays et les collectivités d'Afrique puissent utiliser la PI comme outil facilitant le réseautage concerté au sein des divers systèmes d'innovation et de créativité.

La propriété intellectuelle collaborative à l'heure actuelle en Afrique

Il est difficile de tirer des conclusions de nombreuses études comportant des données qualitatives et quantitatives tirées d'un éventail de contextes sur le continent africain. Il s'agit également d'une tâche qui doit être abordée avec prudence pour que l'on évite de tomber dans le piège de totaliser l'expérience « africaine ». Ce chapitre sont de conclusion a comme objet de cerner les résultats convaincants, les points communs et les points de divergence entre nos études pour en arriver à des conclusions et recommandations générales. Les chercheurs avaient été invités à répondre à la question



suivante : Comment peut-on tirer profit des régimes actuels ou potentiels de PI pour évaluer convenablement et faciliter l'innovation et la créativité pour le développement ouvert en Afrique? Il est ressorti plusieurs interprétations, souvent chevauchantes, de la question ainsi qu'une gamme de considérations pertinentes pour y répondre. Trois recommandations clés destinées aux décideurs politiques africains : éviter patiemment d'importer et d'enchâsser des approches étrangères de PI qui ne conviennent pas nécessairement aux conditions locales ; élargir les conceptions des droits pertinents de PI au-delà des simples mécanismes officiels afin de créer des systèmes collaboratifs de gestion des connaissances ; mettre l'accent sur l'avenir plutôt que sur le passé ou le présent lors de la mise en œuvre de politiques sur la PI.



Progress of our case study research

Open AIR's call for case studies was very successful, with case study proposals received both from researchers already known to the network and from new researchers and new countries (Ghana and Tanzania). In late 2015 these proposals were considered with respect to their overall quality, the quality of the applicant(s), relevance to Open AIR's research questions, geographical spread, and thematic spread. Successful applicants were informed in February 2016, with a total of twenty case study proposals being selected. The ratio of men to women for our case study research and in our new and emerging research group is 1:1.

Also in 2016, Open AIR invited the case study researchers to a three-day workshop hosted by our East African hub (CIPIT, Strathmore University, Nairobi, Kenya) to bring together all the successful case study researchers in order to review, brainstorm, and refine their upcoming research. The successful case studies all touch upon various aspects of our thematic research areas and take place across the continent.

Empirical research commenced in the second half of 2016, and has carried on during 2017. Final results from all studies are expected by the end of the calendar year. In the medium and longer term, we will use these case study findings to direct future research. All case studies are summarized in Table 1 below. Fuller case study reports to date are then included, grouped thematically.

Table 1: Summary of Open AIR's Case Studies

SHORT TITLE	RESEARCH TEAM	INSTITUTIONS	COUNTRIES	STATUS
Open Source Strategies at Nigeria's Software Hubs	Chuma-Okoro, Adewopo, Oriakpo, Etuk-Ekong, Ajetunmobi	Nigerian Institute of Advanced Legal Studies, Nigerian National Bureau of Statistics	Nigeria	Research phase in progress.
Power Relations in Egypt's High Tech Hubs	El Houssamy, Rizk, Weheba	American University of Cairo	Egypt	Writing phase in progress.
Collaborative Models to Scale Tech Startups in Ethiopia	Baraki, Muleta, Lemma	Justice and Legal System Research Institute	Ethiopia	Research phase in progress.
3D Printing: Enabler of Social Entrepreneurship in Africa?	Schonwetter, Van Wiele	University of Cape Town	South Africa, Kenya	Research and writing phase in progress.
Public-Private Partnerships for STEM Education in Tanzania	Laltaika, Malima, Elisha	Nelson Mandela African Institute of Science and Technology	Tanzania	Research phase in progress.
Entanglement as a Strategy to Scale Digital Tech Hubs	Abrahams, Kedama	University of the Witwatersrand	South Africa	Research phase complete.
Open Collaborative Models of Mobile Tech Innovation in Kenya	Rutenberg, Nzomo,Mwangi	Strathmore University	Kenya	Research phase complete.
Collaboration and Appropriation in Gauteng Makerspaces	Armstrong, Kraemer-Mbula, Tivana	Tshwane University of Technology, University of the Witwatersrand	South Africa	Research phase complete.
Determinants of Innovation in Ethiopian Micro and Small Enterprises	Belete	Society for Technology Studies	Ethiopia	Writing phase in progress.
Teachers as Entrepreneurs for STEM Innovation in Ghana	Adomdza, Waldman-Brown, Beem	Ashesi University	Ghana	Writing phase in progress.
Informal Sector Skills Training at Suame Magazine	Adu-Gyamfi, Adjei	Center for Social Innovations	Ghana	First draft completed.
Informal Innovation Via Maker Movements in North Africa	El Houssamy, Rizk, Weheba, Kamel, Hosny	American University of Cairo, University of London	Egypt	Research phase in progress.
Collaborative Innovation to Boost SSME Growth in Botswana	Ama, Okurut	University of Botswana	Botswana	First draft completed.
Scaling Up Micro-Enterprise at the Otigba Computer Village	Jegede, Oluwale, Ajao, Ogunjemilua	Obafemi Awolowo University	Nigeria	First draft completed.
Open Innovation for Indigenous Entrepreneurship in Arts & Crafts	Ouma, Moni	Strathmore University	Kenya	Writing phase in progress.
Indigenous Entrepreneurship Beyond Benefit-Sharing	Traynor, Rutert	Natural Justice	South Africa	First draft completed.
Flexible Intellectual Property for Agricultural Innovation in Kenya	Munyi	University of Nairobi	Kenya	Research phase in progress.
Gender Empowerment by the Maasai Women Development Organization	Laltaika, Millya, Robert	Nelson Mandela African Institute of Science and Technology	Tanzania	Research phase in progress.
Geographic Indicators of Specialized Agricultural Production in Uganda	Dagne, Oguamanam	Thompson Rivers University	Uganda	Research phase in progress.
Techno-collaboration by Nollywood Entrepreneurship	Oguamanam, Degendorfer, Jain	University of Ottawa	Nigeria	Writing phase in progress.

Research methods and analytical techniques

Open AIR researchers understand that the unique subject matter of individual case studies requires varying methodologies; we therefore make use of a wide range of methods to cater to each study. A few studies make use of qualitative research in which in-depth discussions with key informants are utilised to obtain appropriate data. Some take their interviews to the next step by using participatory action research, in which group meetings are held with the study's interviewees enabling participants to be a part of the discussion required in answering the study's research question(s). Other studies deploy surveys or questionnaires to specific agencies, institutions, or personnel in the relevant field of study. In tandem with each of these methods, many studies use general desktop research to create comprehensive literature reviews, or lay the groundwork, to find gaps in an area of study and see where/how the case study can address such gaps.

Many of our case studies effectively use multiple methods for optimal results and useful recommendations. For example, one case study, looking at the role of Private Public Partnership in enhancing provision of STEM education in Tanzania, ties three methodologies together. The study starts with desk research to analyse government and legislative documents. After understanding the situation in Tanzania, the researchers will interview key officials from several organisations. Finally, focus group discussions will be held with stakeholders with a direct interest in the results. Similarly, another study, looking at 3D printing as an enabler for social entrepreneurship in Africa, uses both desk research and Participatory Action Research to ensure the studies participants are fully engaged in the research and have a voice in the study's output.

Pioneering research ethics protocols

Multi-jurisdictional research is complex and not all jurisdictions have ethical approvals processes or Research Ethics Boards (REBs) for social sciences research involving human subjects. Nevertheless, it is very important to Open AIR that ethical approvals be obtained for all research involving human subjects. As such, various solutions have been found that are contextually relevant and respectful of the partnerships that we continue to build with our researchers and their institutions.

In this regard, overarching ethics approval has been obtained for Open AIR's research through UCT's Law Faculty Research Ethics Committee (REC). We are also proud to say that a reciprocal agreement among the University of Cape Town (UCT), the American University in Cairo (AUC), and the University of Ottawa (uOttawa) has been signed. This agreement ensures that ethical clearance in any one of these institutions will be recognized by the other two. This agreement not only applies to Open AIR researchers, but all other social science research projects at these institutions, further building sustainable institutional relationships between these institutions.

As such, for the case studies where research involving human subjects is being conducted, local boards and committees were engaged. In cases where no such institutional capacity existed, researchers applied to their nearest institution in the agreement (UCT, AUC, or uOttawa) for approval, with a copy being submitted to each of the other institutions. Notably, some of the institutions affiliated with our researchers have adopted our ethics templates for guideline documents as they develop their own procedures.

Except for the AUC-based research, all IDRC research funds are being distributed through UCT and contract templates were drawn up for individual and for institutional agreements. SSHRC funds are administered and disbursed through the network from the University of Ottawa. Once theme leader approval was obtained for the case study to begin, the contracts were signed, and ethics approval obtained. An initial payment of one-third of the award was made. After significant research progress was reported to the theme leader and approved, a second payment of the final two-thirds of the award is being made.

Policy and practical outcomes of our research

Last year we reported on new foundational research such as Erika Kraemer-Mbula's latest book on innovation in the informal sector, which included work from several Open AIR researchers. Since then, we have realized several important outcomes. We worked with the World Intellectual Property Organization (WIPO) to send copies of the book to all of our network's researchers working in that area. In addition, one researcher from the African Regional Intellectual Property Office (ARIPO) contributed to that book. This helped to open a conversation with the influential organization.

ARIPO Director General Fernando Dos Santos had conversations with Open AIR researchers at a major conference "Intellectual Property Statistics for Decision Makers" in Australia last year. Furthermore, Open AIR representatives met with ARIPO senior officials at ARIPO headquarters in Harare, Zimbabwe, in March 2017 to discuss Open AIR research results and explore modes of future

collaborations between the organization and Open AIR or some of its hubs, including the possibility of signing MOUs to consolidate and formalize our relations.

Open AIR's strategic foresight research also led directly to a collaboration with WIPO, UN Women, and UNESCO on future scenarios to accomplish SDG 5 by empowering women and girls in science, technology, and innovation. Open AIR research is now front and centre in the UN's work on this topic.

Open AIR's reputation also triggered our consultation with the UN Economic Commission on Africa and the African Trade Policy Centre. We were invited to author an influential paper establishing, for the first time, a pan-African strategy for IP, innovation, and trade. This work was presented in Addis Ababa as part of negotiation process toward a Continental Free Trade Agreement for Africa. This value of Open AIR's participation so early in this negotiation process, when there is a real chance to shape priorities and discourse, is hard to overstate.

Also, several outcomes have been achieved this past year which are continuations of our previous research. Our earlier case study research resulted in, among other things, two books (*Innovation & Intellectual Property, and Knowledge and Innovation in Africa*); several briefing notes; a number of feature videos; numerous interventions at stakeholder meetings, workshops, and conferences; a popular web and social media presence; and draft course curriculum. Our book, *Innovation & Intellectual Property*, received the following comment in one of numerous positive book reviews published recently: "*... sage and necessary advice for African policy-makers, IP focused policy-makers more generally as well as scholars and practitioners interested in the limits and possibilities of existing and possible IP and knowledge management regimes*."

We have designed and implemented an open access "IP and Innovation" curriculum for use by any university's Law Faculty, which is now taught annually at the University of Cape Town's law faculty. Open AIR findings have also been integrated into a masters-level course on IP, Innovation and Development that is also taught at UCT on an annual basis, making the course a unique offering that has been described in a University World News article as an important attempt to decolonize the country's (intellectual property) curricula.

Similarly, Open AIR network members in Egypt, Nigeria and South Africa are now part of Harvard's global CopyrightX MOOC initiative, and they, too, have integrated findings from previous phases of Open AIR into their respective affiliate curricula.

In the case of policies, outcomes from our previous research have made an impact beyond the Open AIR network. Several Open AIR alumni were involved in helping influence the Pan-African Intellectual Property Organization (PAIPO) and the Open AIR network as a whole supported the development of IP institutes in

Kenya, CIPIT, and Nigeria, NIALS. Both institutions have significantly benefitted from the Open AIR connection: NIALS successfully ran a conference, an Open AIR Fellow currently works at NIALS and is doing her PhD via our UCT hub, and CIPIT has expanded its blog outreach and has been awarded as one of the top educational blogs in Kenya, as well has having a member doing his PhD via our UCT hub. Through Open AIR, UCT's IP Unit has also benefitted greatly, becoming an influential actor and trusted partner to various stakeholders in the various policy and law amendment debates concerning IP, both in South Africa itself and abroad.

The previous phases of Open AIR – supported by the IDRC and Germany's GIZ – provided much-needed and highly valued answers to the question of how African IP systems that govern knowledge can work better as tools for education, open innovation and collaborative creativity. In the process we created a vibrant, robust and unprecedented network of dozens of experts, mostly from Africa, across 15 African countries. As a result, our network members are now regularly consulted by key stakeholders, including their respective governments and/or domestic, regional and international organizations as experts in the field of law, especially IP. One case in point is the involvement of our South African-based network members in the ongoing copyright revision process in the country. The result is that our work has contributed to positive change in national law and policy in some of our study countries.

The breadth of the Open AIR network, and its activities, has enabled us to reach numerous public and private sector institutions and multipliers with increased awareness about the inter-relationship between IP environments and open innovation and development. We are able to raise awareness through our hubs in key institutions in four geographic regions of Africa. We have sent almost 1000 copies of our two books to key recipients in governments, Embassies and High Commissions, international organisations such as WIPO, universities, academics, journalists, and many others. These books are also available for free download on our new website. Further, we have produced feature videos and video trailers outlining the contents of the two books as well as interview segment videos about three of our previous briefing notes, all of which are available on our Afrinnovation YouTube channel and Vimeo.

Open AIR's action research with "makers" in South Africa

In March of this year, Open AIR implemented a workshop for action research in Pretoria, South Africa. This comprised three days of activities linked to South Africa's growing "maker" movement and invitees included Open AIR's case study researchers under the informal sector innovation theme as well as representatives from the South African government, and representatives of 11 South African makerspaces.

The global Maker Movement is comprised of largely informal, openness-oriented innovation by collectives, with interdisciplinary makers working together in "makerspaces". Sometimes referred to as an "open source hardware" movement, in developed countries making typically involves the collaborative use of digital 3D printers, Arduino circuits, laser cutters and milling machines to create innovative products.

Open AIR's research shows the maker culture becoming more visible in Africa and globally, closely associated with the rise of hackerspaces and Fab Labs, allowing like-minded individuals to share ideas, tools, and skill sets in pursuit of innovation, job creation, and the invention of inexpensive tools and technologies. Research projects that fall under this theme examine existing or potential links between Africa's informal sector and the global makers' movement. The two are significantly different in terms of actors involved and their educational and economic backgrounds, but nevertheless share important characteristics. For instance, both have a strong 'Do It Yourself' (DIY) ethos built on improvisation as a necessary condition for existence or survival.

Through site visits, a national workshop, and a hands-on "making" session, Open AIR researchers from Egypt, Nigeria, Ghana, Ethiopia, Kenya, South Africa and Canada gained a rounded understanding of the ethos, motivations and activities of South African makers. Also present at the workshop were representatives of the South African national Department of Science and Technology (DST), the Industrial Development Corporation (IDC), the SA Cities Network, and entrepreneurship support organisations The Hope Factory and Awethu. South African policymakers were thus given the opportunity to meet

BLOG POST / NEWS, EVENTS, INFORMAL ENTREPRENEURSHIP, WORKSHOPS

OPEN AIR HOSTS SOUTH AFRICAN MAKER MOVEMENT WORKSHOP

MARCH 2017 ADMIN

Enthusiasts and researchers gathered on Friday 3 March 2017 to discuss the growing African maker movement. The workshop was hosted at the Institute for Economic Research on Innovation (IERI) at the Tshwane University of Technology in Pretoria, South Africa, with support from Open AIR and the Wits University LINK Centre in Johannesburg.

International researchers tour local makerspaces

Open AIR's international delegation of researchers began our three days of activities with a day of site visits in and around Pretoria, visiting the University of Pretoria (UP) MakerSpace, The Innovation Hub, Geekculcha (at mLab Southern Africa), and the I Make project. Experiencing South Africa's maker scene first-hand sparked ideas for pan-African research and practice amongst our researchers.

On the second day, Open AIR convened a 55-person meeting – the South African Maker Movement Workshop – at the Tshwane University of Technology (TUT) Institute for Economic Research on Innovation (IERI) in downtown Pretoria. Coordinated by IERI and Johannesburg's Wits University LINK Centre, the workshop featured presentations and inputs by makers from Pretoria, Johannesburg, Vanderbijlpark, Durban and Cape Town. The makers outlined their collectives' approaches to sustainability, innovation, enterprise-scaling, outreach, and skills development.

The workshop also featured presentations by Open AIR researchers from Egypt, Kenya, Ghana, Nigeria, Ethiopia, South Africa, and Canada, all of whom are conducting research about the Maker Movement in their countries. The day concluded with breakaway sessions, facilitated by members of the South African Maker Collective, aimed at developing an action plan for the future of the South African Maker Movement at local, provincial, national and international levels.

Many maker collectives were present at the workshop, including:

- House4Hack
- UP MakerSpace
- Geekulcha
- I Make
- eKasi Lab Ga-Rankuwa in Pretoria North
- Digital Innovation Zone (DIZ) Maker Space
- BinarySpace
- The MakerSpace in Durban
- Maker Station
- KATO Technology
- UCT Maker Society

On the third day, Open AIR collaborated with the maker collective House4Hack, in an "Intro to Making" session facilitated by House4Hack members. With patient guidance from the House4Hack team, Open AIR participants had the opportunity to built Arduino-controlled, cricket-playing robots! This third day also featured two internal Open AIR activities: a research meeting and a Steering Committee meeting.

International innovation research network visits the Library MakerSpace

Access to Knowledge for Development (A2K4D) Faculty and Staff participate in "South African Maker Movement Workshop", which took place at IERI in Pretoria, South Africa from 3 March 2017.

SA Maker Movement Workshop, Pretoria

and hear from the majority of makerspaces all in one place at the same time. In addition, representatives of makerspaces had the opportunity to speak to Open AIR network members, South African government representatives, and each other. In fact, several makers stated that this gave them a chance to learn about other makerspaces they were not aware of and what sort of challenges and solutions they are all facing.

Thanks to this workshop, Open AIR's "action research" helped to broker relationships between the makerspaces in order to better coordinate themselves, work together more often, and better determine what policies would be helpful to them. Through this event, we have created a sub-network, and this has extended our research, our influence, and our Open AIR "family". Having such an organic and lasting impact from our research is a wonderful additional result of our research, and an immediate outcome of Open AIR's work.

The workshop also achieved significant traction online, and received significant positive feedback via email.

Email feedback

6 March 2017: From representative of the Innovation Hub, Pretoria:

"Thank you for sharing the database with all of us and thank you for inviting me to the workshop, it was such an eye opener and now I have an idea of other countries are doing in terms of the space that we work in. Keep on doing the great work and please keep us posted for future events as these are the type of events that we need to help us do a better job and to do justice to entrepreneurs that we are assisting. Really appreciate the efforts that you and the rest of your team are doing, keep on doing the great job."

6 March 2017: From representative of the Maker Station, Cape Town:

"Thank you again for organising this event and for inviting us, I think we all got a lot more out of it than we thought possible, not everyone what they expected ;) but it was really valuable, an[d] I think a milestone for the SA Maker Movement. Hope to see you soon at Maker Station."

Online engagement with our Maker Movement research: Twitter

https://twitter.com/hashtag/SAMakers (the #SAMakers hashtag was tweeted and retweeted 240 times in 2017)

Scaling up makerspace research internationally

Open AIR's research on the South African Maker Movement is simply the first part of our larger research agenda. A foundation for internationally comparative work was laid in August 2016, at a workshop about the Maker Movement held in Ottawa, Canada.

This exploratory workshop focused on comparisons between developing and **developed countries**. The purpose was to help:

- prompt discussion among the range of researchers within uOttawa regarding the university's role in the Maker Movement;
- inform and understand what kinds of research and work are being done, and are aimed to be achieved, locally, and elsewhere, related to the Maker Movement; and
- identify where collaborations can be fostered, and where people are open to such collaborations, at university, national, and international levels.

Our workshop concluded that there is potentially much that Canadian "makers", working in a predominantly formal economy, can learn from African makers, and vice versa, especially as the global Maker Movement evolves. In the year since, efforts have been escalated to establish a new inter-faculty initiative on "entrepreneurship, innovation, and appropriate technologies." Our idea has support at the highest institutional levels in Canada.

We are also working on comparisons across the **Global South**. Since our research commenced, our hub in Kenya has been involved in creating a makerspace at Strathmore University. And our researchers in Egypt are in the stages of planning to repeat our South African successes by holding a workshop there.

In terms of **pan-African** comparative research, we have more studies touching on aspects of makerspaces underway in South Africa, Kenya, Ethiopia, Egypt, Tunisia, Ghana, Nigeria, and elsewhere.

We are also beginning to explore research across the regions of **Africa and Latin America**. During a meeting of IDRC-funded researchers held in Zanzibar in late 2016, a collaboration was sparked between Open AIR and Brazilian researchers based in Rio de Janeiro. Over the ensuing months, discussions have taken place about a framework for comparison. Moreover, during a research visit to Buenos Aires in the context of research on "the sharing economy" by Jeremy de Beer in June 2017, the potential for significant collaboration with researchers in Argentina, Columbia, and elsewhere became apparent. During the upcoming year, Open AIR will work on these relationships, and hope to report by next year on successful outcomes.

BY CLINTON MATOS ON 1ST MARCH · EVENTS · MAKERS · NEWS

Open AIR, Wits and TUT are hosting a maker workshop this Friday

This Friday an important event is happening in the maker calendar.

The Open African Innovation Research (Open AIR) project, the Tshwane University of Technology (TUT), and the University of the Witwatersrand (Wits) will be hosting the South African Maker Movement Workshop.

Open AIR hosts South African Maker Movement Workshop

Enthusiasts and researchers gathered on Friday 3 March 2017 to discuss the growing African maker movement. The workshop was hosted at the Institute for Economic Research on Innovation (IERI) at the Tshwane University of Technology in Pretoria, South Africa, with support from Open AIR and the Wits University LINK Centre in Johannesburg.

The African maker movement is focused on largely informal, openness-oriented innovation by collectives of interdisciplinary makers working together in makerspaces. Sometimes referred to as an "open source hardware" movement, making typically involves the collaborative use of digital 3D printers, Arduino circuits, laser cutters and milling machines to create innovative products...[more]

INASSA
@INASSAprogram

Following

Amazing work being done by our partners, @Afrinnovation! // @IDRC_CRDI @DFID_Evidence

Open A.I.R. @Afrinnovation
Open AIR is featured in an article by the University of Pretoria about our visit to their Makerspace! buff.ly/2netaiU

RETWEETS 4 LIKES 3

Online engagement with our Maker Movement research: Facebook

Mia Van Zyl shared Open African Innovation Research - Open AIR's post.
March 9

A great big THANK YOU to IERI, OpenAIR* and all their partners for the epic South African Maker Movement workshop held last Friday. Specific thanks to Chris Armstrong and Erika Kraemer-Mbula and their teams for preparing such an engaging programme. It was a truly special platform to bring together brilliant research minds, makers and decision-makers from around South Africa and Africa.

*Institute for Economic Research on Innovation (IERI) in Pretoria, http://www.ieri.org.za.
Open African Innovation Research (Open AIR) project, www.openair.org.za

Open African Innovation Research - Open AIR
Published by Sarah Ann [?] · March 8

Here's our latest blog post about our South African Maker Movement workshop! Read it here: http://www.openair.org.za/open-air-hosts-south-african-mak.../

Open AIR hosts South African Maker Movement Workshop | Open AIR

Enthusiasts and researchers gathered on Friday, March 3, 2017 to discuss the growing African maker movement. The workshop was hosted at the

Access to Knowledge for Development Center - A2K4D
added 2 new photos.
March 2 ·

Some of the A2K4D team are in South Africa today, visiting #makerspaces

Follow live tweets from tomorrow SA Maker Movement Workshop through @A2K4D #SAmakers @Afrinnovation

We'll be posting from Facebook too, stay tuned!

Developing future leaders: a report from our NERGs

The New and Emerging Research Group (NERG) has worked throughout the last year to become more visible internally within the Open AIR network, and externally.

Internally, through the use of the tool, Slack, NERG members have been able to increase their virtual connection both in writing and virtual face-to-face meetings. Further, through assistance from the NERG ombudsperson and the Steering Committee, eight NERGs were able to participate in and attend the South African Maker Movement workshop Open AIR hosted in Pretoria; this is the largest number of international NERG members we have had meet face-to-face. To continue facilitating in-person meetings, NERG members and the NERG ombudsperson are working together to share information about relevant conferences.

Conferences are beneficial for NERG members to meet, but they have also been key for individual members to increase NERG visibility externally. NERG members have attended conferences in various capacities, networking with local, national, and international scholars, and have shared their experiences in a series of blog posts on the Open AIR website. In the past year, we have had several NERG members present their research at conferences or workshops such as:

- 6th Global Entrepreneurship Summit – Kenya, March 2015 (Nzomo, Strathmore)
- WIPO-WTO 13th Colloquium for Teachers of IP – Kenya, Jun 2016 (Nzomo, Strathmore)
- ASK Justice mid-project workshop – South Africa, July 2016 (Ncolosi, UCT)
- Institute of African Studies Undergrad Conference – Canada, Oct 2016

(Baarbe, Ellis, & Gaffen, uOttawa)
- South African Maker Movement Workshop – South Africa, Mar 2017 (El Houssamy, AUC & Ellis, uOttawa)
- Reconciling the Right to Learn with Copyright Protection in the Digital Age: Limitations of Contemporary Copyright Treaties, Conference – Canada, May 2017 (Ugwu, uOttawa)
- Congress of Social Sciences and Humanities – Canada, May 2017 (Hirko, uOttawa)

Over the past year, several NERG members have attended conferences either on behalf of, or alongside their supervising professors. A select few include:
- The GODAN Summit, Sept 2016 (Baarbe, uOttawa);
- International Open Data Conference, Oct 2016 (Baarbe, uOttawa);
- 13th WIPO-WTO Colloquium for Teachers of Intellectual Property, Jun 2016 (Nzomo, Strathmore);
- 2016 Egypt Entrepreneurship Summit, November 2016 (El Houssamy, AUC)
- WIPO workshop on "Supporting Small and Medium-Sized Enterprises Use the Intellectual Property System in Their Competitive Strategy", Feb 2017 (Hosny, AUC);
- The Patent Symposium at ISED in 2017 (Soliman, uOttawa);
- United Nations workshop on Gender, Mar 2017 (Gaffen, uOttawa)
- CopyrightX Summit 2017, May 2017 (El Houssamy, AUC)
- Saskatchewan Focus Group: Towards an Aboriginal-Sensitive Access and Benefit Sharing Policy, May 2017 (Degenderfor, uOttawa)

Working alongside professors and other scholars has not only given NERG members a chance to network and increase the visibility of their research in Open AIR, but has also fostered the development of professional skills. For example, attending and/or presenting at conferences, (co)writing papers, and performing participatory research has provided each NERG member the opportunity to develop public speaking skills, time management, teamwork,

"Being multi-disciplinary is one of the Open AIR network's most unique characteristics. Open AIR offers a niche cross-sectoral learning experience, whereby you are exposed to insights from world-renowned academics, emerging theories from superb economists, feedback from mentors, and most importantly become integrated into a strong network of young researchers eager and willing to learn from each other. This is the form of out of the box and rare learning that I have been exposed to for the past five years working within the Open AIR network."

Nagham El Houssamy, American University in Cairo , one of Open AIR's original NERG members and the first NERG ombud

cross-cultural skills, and more.

One of the core goals of the NERG is to increase cross-sector learning by having NERG members work alongside academics in multiple disciplines, non-profit organisations, inter-governmental institutions, and more. This goal is being achieved by providing young researchers the opportunity to work alongside established local researchers, as well as working internationally and engaging with peers and mentors throughout the network.

Through the use of the NERG ombudsperson, a key point of contact between NERG members and the Steering Committee members, the NERG presence has increased throughout the network. NERG members have become increasingly involved in research and are helping to find answers to Open AIR's core questions. NERG members have also become increasingly aware of each other, merging minor projects, sharing ideas, and connecting thoughts in similar areas of research. The role of the NERG ombudsperson has helped create cohesion throughout our hubs and amongst the 27 NERG members. The role of the NERG ombudsperson this past year was held by uOttawa NERG member, Meika Ellis, in Canada. She has since passed the role onto Strathmore NERG member, Victor Nzomo, in Kenya, for the next 12 months. Previously, the role was held by Nagham El Houssamy, in Egypt. This rotation between hubs has allowed the NERG to be truly representative of the network and not imply the priority of any one hub over another.

"My experience with Open AIR as a NERG member has been one of great testimonies of self-improvement, scholarly achievements and useful exposures. Being a NERG member has helped me to become more informed, deliberate and result oriented in choosing my research topics; more scientific in designing my research; more meticulous in writing; and more driven towards producing world class publications."

Helen Chuma-Okoro, University of Lagos

"As a young scholar, to me the most exciting part of the Open AIR network is its demonstrated commitment to the training and mentorship of up-and-coming researchers. Through Open AIR, I have presented research findings on three continents and I recently published my first article in a top US law journal co-authored with two Open AIR professors. In addition, I am registered to do my PhD studies at UCT supervised by Prof. Ncube and I will be visiting AUC to work with Prof. Rizk."

Victor Nzomo, Strathmore University

"As a student-at-law, my experience as a NERG has equipped me with the necessary skills and taught me to adapt to changing expectations. For example, the work I am involved in with Open AIR is often consumed by different audiences with various levels of contextual knowledge. To communicate effectively to everyone, we disseminate our research using many methods: presentation, blogs, infographics, papers, and more. Working with a team of talented and supportive researchers makes the dynamic work environment manageable and rewarding."

Alyssa Gaffen, University of Ottawa

"Working at the Open AIR UCT Hub has afforded me the opportunity to carry out challenging tasks, alongside people from all over the world. I have also been able to supplement my education by gaining exposure to a different side of IP, one that cannot easily be found in undergraduate law textbooks."

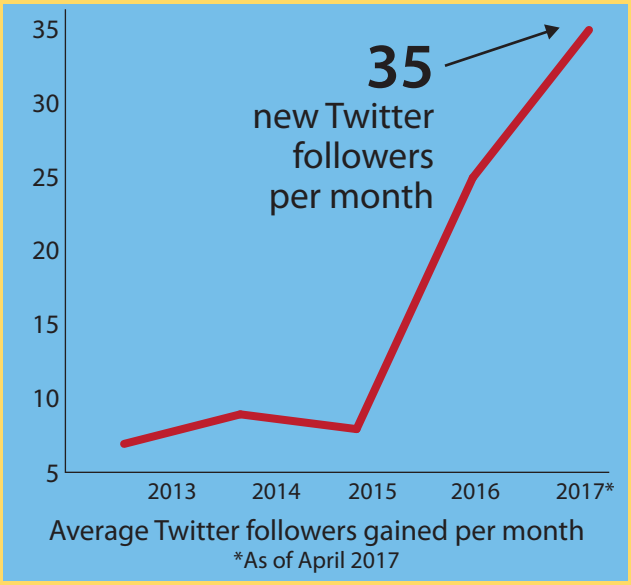
Mbulelo Ncolosi, University of Cape Town

Knowledge mobilisation for impact

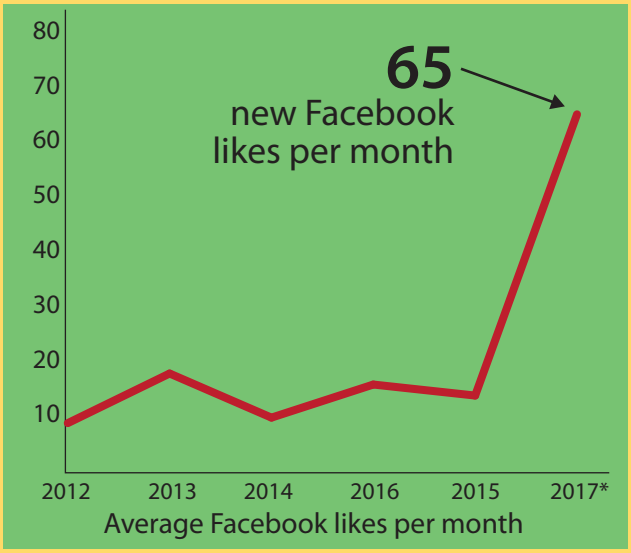
Our evolving communications strategy

A major objective for Open AIR is to raise awareness with influential stakeholders who can act as trusted knowledge disseminators within their varying networks of influence. We see this as the best way to ensure our findings are used in a concrete manner to influence policies and laws, policy makers, practices of grassroots stakeholders as well as future research. We are constantly improving the way we do this, and this year has been no exception.

A knowledge mobilisation plan has been designed, including significant research, discussions, and work having been done to ensure that our results will effect change. Open AIR has identified five parts to our strategy for mobilising research insights into practical outcomes: (A) leveraging our social capital and connections to target key decision makers; (B) engaging stakeholders early and often in the research process to ensure relevance; (C) publishing open access, bilingual scholarship and practical policy materials; (D) amplifying our influence through social media and mainstream press communications; and (E) empowering new scholars to understand and share insights in their future endeavours. By the end of 2017, now that we have a clearer vision of our research activities as implemented, we will have developed a publication plan for the entire project with the goal of maximising the dissemination and impact of our research activities.



Average Twitter followers gained per month
*As of April 2017



Average Facebook likes per month

Average unique website visitors per month
*As of June 2017

Engagement, outputs, and activities

In accordance with our knowledge mobilisation strategy, we have been proactively seeking institutions and projects with aims similar to ours and that may be able to provide future partnerships as well as act as conveyors of our findings. Much of Open AIR's strategy is to use our networks – as well as expand them – of influential organisations and persons to help us reframe the way IP and knowledge governance are looked at.

One way in which Open AIR is ensuring our research is known outside of our network is our active participation in conferences focused both on law and IP, as well as events focused on other African topics in order to help set the stage for our upcoming findings. We have also continued to expand our coordination and outreach with several NGOs, government officials in both Canada and several African countries, and other research institutions. This has

been achieved through our workshops as well as our distinguished speaker series events, conferences, advising, and several meetings. Through these relationships, we have become trusted as expert brokers of policy recommendations based not on rhetoric or special interests but on empirical research.

Open AIR representatives have also been active in Geneva, the epicenter of global IP, innovation, and development policymaking. Steering Committee member and theme leader Chidi Oguamanam has made several productive site visits to partners and collaborators there, and will spend an upcoming sabbatical in Nigeria continuing our national outreach efforts there. Oguamanam has also continued to worked closely with the "Africa Group," which is the most important group coordinating African diplomatic, trade and policy negotiations on the international stage. Open AIR's role here has already been highlighted in reports on IP-related developments globally.

Open AIR has also been able to build a relationship with UNECA's African Trade Policy Centre (ATPC) and the African Union (AU). Open AIR sent complimentary copies of our previous publications to a senior official at the ATPC, who was impressed with our work and met us later that year in Ottawa. As a result of this, Open AIR was invited to submit a paper on how IP could be best integrated into a forthcoming pan-African trade agreement. This has since been presented at the AU by Open AIR's Caroline Ncube. This is an exciting opportunity to have IP be a planned element of the trade negotiations well in advance, rather than an afterthought. The results of our research could thus be used as a basis for the pan-African trade agreement.

Open AIR has continued our strong practice of publishing a wealth of interdisciplinary and legal scholarship. Our network members have not only published a number of working papers, but also articles in peer-reviewed journals, chapters in academic books, blog posts and other grey literature, as well as videos. Please see Table 3 for a complete list.

Our new website is becoming an increasingly key vehicle for disseminating Open AIR research results and our expanded social media presence is helping create interest around our work. Last year, Open AIR was focused on setting the groundwork for communicating the results of our research. As research results have been coming out, we have noticed significant social media and website activity related to these findings and publications. Our working papers receive an average of 467 visitors each within the first month of being published.

The social media platforms we use include Twitter, Facebook, and LinkedIn (both our discussion group and a company page), where we have increasing impact and have been publishing more and more original content as

our research progresses. Open AIR has been continually tracking its reach on social media. Our numbers show a great increase in terms of visibility and impact, with a 35% increase in Twitter impressions, a 40% increase in new Twitter followers per month, and a 100% increase in website visitors over the last year. This growth not only meets, but exceeds, our targets, which are 30%, 20%, and 50% respectively.

Last year, Open AIR designed new knowledge mobilisation tools including pamphlets, posters, bookmarks, and letterheads, designed to be used in various fora to better inform people of our activities. The new format for our working paper series was finalized this past year and is working well. We are also proud to say that this year we were able to translate our pamphlet into French, so as to better expand our network into Francophone countries. In addition, we are currently having new business cards, letterhead, powerpoint presentations, and briefing note templates designed.

This past year, Open AIR also produced 18 videos about our research. These included not only general videos about Open AIR and our research topics, but also highlighted our researchers as well. In the majority of the videos, Open AIR researchers spoke about their research in their own words. This helps to show not only that the majority of our researchers are African, but that there are African researchers of a global calibre who have significant knowledge in their fields of expertise. By showcasing our African researchers, we are helping to bring voices from Africa to a global audience, something which has been noted to be lacking in much of the academic discussions surrounding Africa. These videos are all freely available on YouTube and Vimeo and have helped to broaden our research and discussions about IP in Africa to an even wider audience. During the the month we launched these videos, compared to the same dates in 2016, our Twitter impressions grew from 8,900 to 33,300 (a 274% increase), our links were clicked 163 times (a 579% increase), and our tweets were retweeted 208 times (a 732% increase). Our Facebook posts also grew our reach, reaching an average of 303 people, a 121% increase. Videos were made purposefully short so as to ensure that people watched them and to facilitate the sharing of them on social media.

Over the course of the grant, one of our objectives is to incorporate our insights into a Massive Open Online Course (MOOC), which two of our Institutional Hub Leaders, Rizk and Schönwetter, are already pioneering in Egypt and South Africa. Several of our researchers are highly influential teachers and have been asked on numerous occasions by WIPO to assist in the development of IP course and program curricula, which we plan to continue.

As part of our ongoing monitoring and evaluation strategy, described later in this report, Open AIR has also used creative new online tools to develop a database of our network members' participation in meetings, publications, and other outputs. This has been a significant challenge for Open AIR over the past year: ensuring that everyone knows what everyone else is doing and has published. Details regarding some of Open AIR's outputs over the past year are described in Tables 2-4, overleaf.

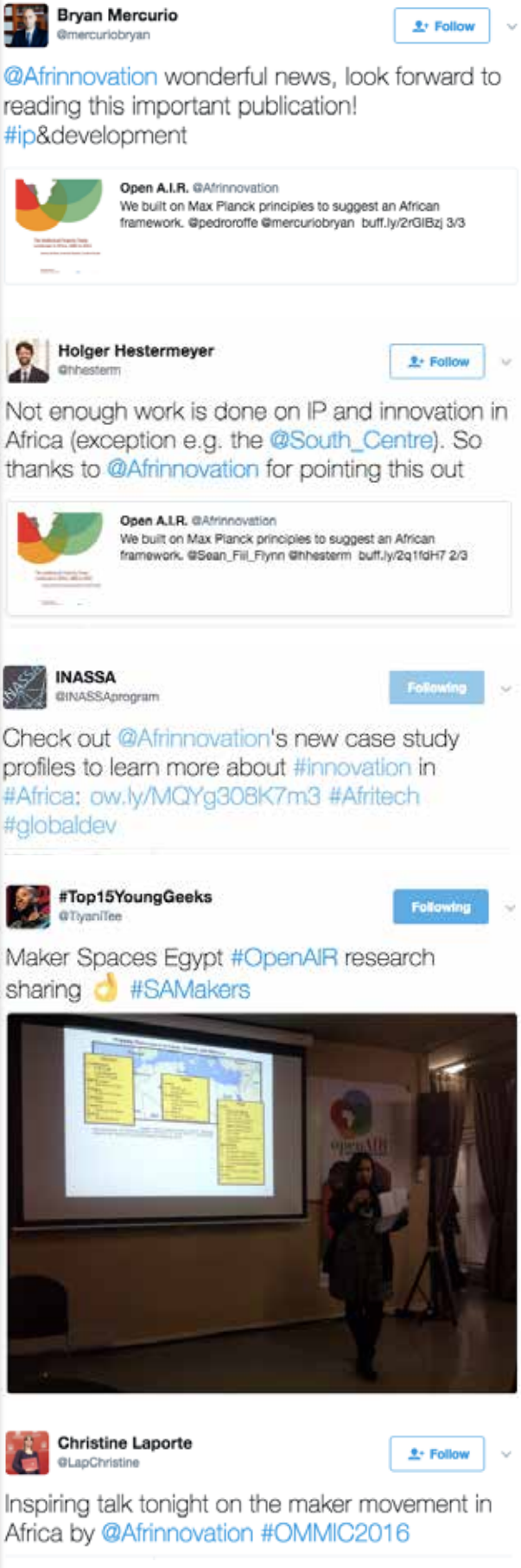


Table 2: Presentations and events (conference presentations, speaking events, interviews)

TITLE	DATES	TYPE	LOCATION	EVENT	PRESENTER(S)
Factors in Africa's Transition to Knowledge-Based Economies	June 2016	Presentation	Calgary, Canada	Canadian Association of African Studies	de Beer, Oguamanam, Schorr
Assessing the Impacts of Intellectual Property: An Interdisciplinary Literature Review and Analytical Framework	June 2016	Presentation	Krakow, Poland	ATRIP 2016	de Beer
Practical Commercial Aspects of IP	June 2016	Presentation	Nairobi, Kenya	Intellectual Property Seminar, Strathmore University	Rutenberg
Intellectual Property Law and Governance Perspectives from Kenya	June 2016	Presentation	Nairobi, Kenya	WIPO-WTO 13th Colloquium for Teachers of Intellectual Property	Nzomo
The Open African Innovation Partnership: A New Approach to Canada-Africa Relations for the 21st Century	June 2016	Presentation	Calgary, Canada	Canadian Association of African Studies Conference	de Beer
Public-Private Partnerships, Global Intellectual Property Governance and Sustainable Development	July 2016	Interview	Switzerland	ICTSD	Oguamanam
Dealing with Trans-Border Quasi-Intellectual Property	July 2016	Distinguished Speaker Series	Nairobi, Kenya	Centre for Intellectual Property and Information Technology Law (CIPIT) and Strathmore University Law School.	Speaker: Dr. Anthony Kakooza, Dean of the Faculty of Law at Uganda Christian University
Addressing Legal Issues When Crowdsourcing Solutions	August 2016	Presentation	Cambridge, USA	14th Open and User Innovation Conference, Harvard Business School	de Beer
Copyright and Memes	August 2016	Presentation	Cape Town, South Africa	Creative Commons & Meme Presentation	Schonwetter
Developing a MOOC	August 2016	Presentation	Durbanville, South Africa	Regional Teaching and Learning Conference	Schonwetter
Copyright in the Digital World – the Impact for the Book Industry	August 2016	Presentation	Cape Town, South Africa	South African Booksellers Association Annual Conference	Schonwetter
The Skill Set of the IP Practitioner of the Future – Where Will IP be in 20 Years	September 2016	Presentation	Quebec City, Canada	IP Institute of Canada: 90th Annual Meeting	de Beer
Overview of the Open AIR Project	September 2016	Presentation	Zanzibar, Tanzania	IDRC Partners Meeting	Schonwetter
Lessons from Africa for the World's ICT Policymakers	September 2016	Presentation	Zanzibar, Tanzania	Communication Policy Research South 2016	de Beer
Open Data Ownership and Governance	September 2016	Presentation	New York, USA	Global Open Data for Agriculture and Nutrition (GODAN) Summit	de Beer
Effective Open Data: User-centered, Joined-Up and Interoperable	September 2016	Presentation	New York, USA	Global Open Data for Agriculture and Nutrition (GODAN) Summit 2016 GODAN Summit	de Beer
The Future of IP: Lessons for the Practitioner	September 2016	Presentation	Québec City, Canada	Intellectual Property Institute of Canada (IPIC) Annual Conference 2016	de Beer

TITLE	DATES	TYPE	LOCATION	EVENT	PRESENTER(S)
Inclusive Innovation: Understanding African Innovation	September 2016	Presentation	Zanzibar, Tanzania	Communications Policy Research South	de Beer
IDRC Networked Economies Meeting	September 2016	Presentation	Cairo, Egypt	International Development Research Centre	Rizk
Intellectual Property Rights and Public-Sponsored Internships in Private Spaces: Lessons from the E4E (Education for Employment) Program in Nigeria	September 2016	Distinguished Speaker Series	Ottawa, Canada	Open AIR and the University of Ottawa Centre for Law, Technology and Society	Prof. Ikechi Mgbeoji, Professor at Osgoode Hall Law School and Abia State Commissioner for Education in Nigeria
Intellectual Property as a Research Topic	September 2016	Presentation	Cape Town, South Africa	NIALS Research Workshop	Schonwetter
Collaboration & Co-Authoring / Open Access / Impact Factor / Funding	September 2016	Presentation	Cape Town, South Africa	NIALS Research Workshop	Schonwetter
Online Research Tools	September 2016	Presentation	Cape Town, South Africa	NIALS Research Workshop	Schonwetter
Makerspace Archetypes in South Africa	October 2016	Presentation	Ottawa, Canada	IAS Undergrad Conference	Ellis
Measuring Innovation for Contextually Appropriate STI Policy	October 2016	Presentation	Ottawa, Canada	IAS Undergrad Conference	Gaffen
The Intellectual Property Treaty Landscape in Africa, 1885 to 2015	October 2016	Presentation	Ottawa, Canada	IAS Undergrad Conference	Baarbé
What Knowledge Commons for Developing Countries	October 2016	Presentation	Paris, France	3rd IASC Conference on Knowledge Commons	de Beer
How the #makermovement Scaled up Globally	October 2016	Presentation	Ottawa, Canada	Ontario Makers and Mentors Innovation Conference	de Beer
Reconciling Traditions: A Legal Workshop on Access and Benefit Sharing, Indigenous Traditional Knowledge, and Biodiversity	October 2016	Presentation	Ottawa, Canada	ABS Canada: uOttawa	Oguamanam
Counting the Knowledge Commons	October 2016	Presentation	Paris, France	3rd International Association for the Study of the Commons Conference on the Knowledge Commons	de Beer
Insights from the African Scholars for Knowledge Justice (ASK Justice) Project	October 2016	Presentation	Hermannskraal, South Africa	UNISA Research Colloquium	Schonwetter
Reviewing and Reforming the IP System	November 2016	Presentation	Sydney, Australia	Intellectual Property Statistics for Decision Makers Conference	de Beer
The Future of Intellectual Property	November 2016	Presentation	Sydney, Australia	IP Society of Australia & New Zealand: NSW Twilight Series	de Beer
Digital Entrepreneurship and Data Driven Innovation	November 2016	Presentation	El Gouna-Hurghada, Egypt	2016 Egypt Entrepreneurship Summit	El Houssamy
Copyright Tariff-Setting Procedures	November 2016	Presentation	Ottawa, Canada	Senate Standing Committee on Banking, Trade, and Commerce	de Beer

TITLE	DATES	TYPE	LOCATION	EVENT	PRESENTER(S)
The Future of Law and Innovation in the Procession	November 2016	Presentation	Sydney, Australia	Law Society of New South Wales	de Beer
Evidence-based IP Policymaking for IP Decision Makers	November 2016	Presentation	Sydney, Australia	Intellectual Property for Decision Makers 2016 Conference	de Beer
Foresight into the Future of an IP Practice	November 2016	Invited Lecture	Sydney, Australia	Intellectual Property Society of Australia and New Zealand	de Beer
Traditional Knowledge & the Public Domain	November 2016	Presentation	Cleveland, Ohio	Who Owns Tradition? Reconceptualising the Protection of Indigenous and Traditional Knowledge	Oguamanam
Research Excellence in Africa	November 2016	Presentation	Maputo, Mozambique	Science Granting Councils Initiative Annual Forum,	Kraemer-Mbula
Tiered or Differentiated Approach to Traditional Knowledge: Insights for Understanding Potential Operations of the Concept and Evidentiary Thresholds	November 2016	Presentation	Geneva, Switzerland	The Seminar on Intellectual Property and Traditional Knowledge	Oguamanam
Introduction into Creative Commons	December 2016	Presentation	Cape Town, South Africa	Open Access Symposium 2016	Schonwetter
Copyright Infringement	December 2016	Presentation	Cape Town, South Africa	Open Access Symposium 2016	Schonwetter
Complying with the NRF's OA Statement	December 2016	Presentation	Cape Town, South Africa	Open Access Symposium 2016	Schonwetter
OA Publishing, Institutional IP Policies, and Protection of Data	December 2016	Presentation	Cape Town, South Africa	Open Access Symposium 2016	Schonwetter
CC Licensing	December 2016	Presentation	Cape Town, South Africa	Open Access Symposium 2016	Schonwetter
Framing the Discussions around Copyright Reform and the Public Interest	December 2016	Presentation	Cape Town, South Africa	Copyright Law Revisions Workshop	Schonwetter
Copyright Licensing	December 2016	Presentation	Cape Town, South Africa	WIPO Summer School	Schonwetter
The Informal Economy in Developing Nations: Hidden Engine of Innovation?	December 2016	Presentation	Pretoria, South Africa	South Africa Science Forum	Kraemer-Mbula
Maker Spaces: Science & Technology Innovation Track Rise-Up Summit 2016	December 2016	Distinguished Speaker Series	Cairo, Egypt	Open AIR, A2K4D, and the American University of Cairo	Speaker: Mr. Ibrahim Ishaq Al-Safadi, CEO, Luminus Group
Crowdsourcing	January 2017	Presentation	Waikoloa, USA	50th Annual Hawaii International Conference on System Science	de Beer
Futures from the Outside	January 2017	Invited Lecture	Manoa, USA	Hawaii Center for Futures Studies, Department of Political Science	de Beer
Women in Technology	March 2017	Presentation	Cairo, Egypt	Women in Technology Event – Celebrating Women's International Day 2017	Rizk
The CopyrightX Community: Strengthening the Network	March 2017	Presentation	Cambridge, USA	CopyrightX Summit 2017, Harvard Law School	Rizk
South African Maker Movement Workshop	March 2017	Presentation	Pretoria, South Africa	Open AIR	de Beer, Armstrong, Kraemer-Mbula

TITLE	DATES	TYPE	LOCATION	EVENT	PRESENTER(S)
In the Shadow of Stockholm '67: TK in the Global IP Space	March 2017	Presentation	Texas, USA	Intellectual Property and Global Development: 50 years after Stockholm Symposium	Oguamanam
IP Frameworks for Indigenous Knowledge	March 2017	Presentation	Cape Town, South Africa	OCSDNet Workshop – Climate Change Project	Schonwetter
Strategy Discussion & Workshop	March 2017	Presentation	Harare, Zimbabwe	ARIPO	Schonwetter, Ncube
IP & Innovation	March 2017	Presentation	Johannesburg, South Africa	ALA IP Workshop	Schonwetter
The Nollywood Phenomenon: Open Innovation & Entrepreneurship	April 2017	Presentation	Ottawa, Canada	Presentation for the African Study Group	Oguamanam
Open, Flexible and General Copyright User Rights in South Africa	April 2017	Presentation	Toronto, Canada	CC Summit	Schonwetter
Dangers of Suspect Orthodoxy and Knowledge Marginalization	May 2017	Presentation	Chicago, USA	Buffet Institute of Global Medical Studies Symposium on Medical Traditions, Law, and Culture	Oguamanam
Intellectual Property Rights and Innovation: Assessing Regional Integration in Africa	May 2017	Presentation	Addis Ababa, Ethiopia	UNECA Experts Group Meeting	Ncube
Western Pop Music Sampling Arabic Melodies: The Case of Jay Z's "Big Pimpin"	May 2017	Presentation	Cambridge, USA	CopyrightX Summit 2017	El Houssamy
A Coordinated Approach Towards Supporting Domestic Copyright Reform Processes	May 2017	Presentation	Cambridge, USA,	CopyrightX Summit 2017	Schonwetter
Open AIR, Education, and Informal Entrepreneurship for Development	May 2017	Invited Lecture	Ottawa, Canada	University of Ottawa	Schorr, Hirko
Brief Introduction to IP Law in South Africa	May 2017	Presentation	Cape Town, South Africa	IES	Schonwetter
Interaction between Innovation and IP	May 2017	Presentation	Stellenbosch, South Africa	WIPO/NIPMO on National IP & Innovation Policies	Schonwetter
Integrating IP into National Innovation Policies	May 2017	Presentation	Stellenbosch, South Africa	WIPO/NIPMO on National IP & Innovation Policies	Schonwetter
Reconciling the Right to Learn with Copyright Protection in the Digital Age: Limitations of Contemporary Copyright Treaties	May 2017	Presentation	Windsor, Ontario	Copyright User Rights and Access to Justice Symposium	Ugwu
Intellectual Property Rights and Innovation: Assessing Regional Integration in Africa (ARIA VIII)	May 2017	Presentation	Addis Ababa, Ethiopia	UNECA Experts Group Meeting	Ncube
Index Methodology Review	June 2017	Presentation	Cairo, Egypt	A2K4D Seminar	Hassouna
Nigeria Movie Industry: Technology, Innovation and Entrepreneurship – Toward a New Intellectual Property Pathway	June 2017	Presentation	Geneva, Switzerland	Global Debate on Intellectual Property, Trade and Development: Past and Future	Oguamanam
Index Methodology Review	June 2017	Presentation	Cairo, Egypt	A2K4D Seminar	Hassouna

Table 3: Publications (books, articles, chapters, edited journal issues,working papers, reports, briefings, conference papers, etc.)

TITLE	DATE	TYPE	LOCATION	PUBLISHER/JOURNAL	AUTHOR(S)
Entrepreneurship and Innovation in Egypt	June 2016	Book	Egypt	AUC Press	Rizk
Implementing the International Treaty on Plant Genetic Resources for Food and Agriculture – A Regulatory and Intellectual Property Outlook	June 2016	Book Chapter	Canada	Innovation in Agricultural Genomics: Overcoming Complexities in the Intellectual Property Regulatory Complex	Oguamanam
Ownership of Open Data: Governance Options for Agriculture and Nutrition	September 2016	Working Paper	Canada	GODAN: GLobal Open Data for Agriculture and Nutrition	de Beer
Dealing with Digital Property in Civil Litigation	September 2016	Book Chapter	Canada	Annual Review of Civil Litigation 2016	de Beer
Intellectual Property Rights in Traditional Knowledge: Enabler of Sustainable Development	September 2016	Journal Article	Canada	Utrecht Journal of International and European Law	Kai-Phillips
Appropriation and Intellectual Property in the Informal Economy	October 2016	Book Chapter	Canada	The Informal Economy in Developing Nations: Hidden Engine of Innovation? New Economic Insights and Policies	de Beer
Innovation and the Informal Economy	October 2016	Book Chapter	Canada	The Informal Economy in Developing Nations: Hidden Engine of Innovation? New Economic Insights and Policies	de Beer
The Informal Economy in Developing Nations: Hidden Engine of Innovation?	October 2016	Book	South Africa	Cambridge University Press	Kraemer-Mbula
Innovation Policy and the Informal Economy: Toward a New Policy Framework	October 2016	Book Chapter	South Africa	The Informal Economy in Developing Nations: Hidden Engine of Innovation? New Economic Insights and Policies	Kraemer-Mbula
Informal Manufacturing of Home and Personal Care Products in South Africa	October 2016	Book Chapter	South Africa	The Informal Economy in Developing Nations: Hidden Engine of Innovation? New Economic Insights and Policies	Kraemer-Mbula
Indigenous Knowledge & Intellectual Property	October 2016	Book	South Africa	JUTA: Contemporary Studies in Law and Applied Research Series	Ncube
Sui Generis Legislation for the Protection of Traditional Knowledge in South Africa: An Opportunity Lost	October 2016	Book Chapter	South Africa	Indigenous Knowledge & Intellectual Property	Ncube
Innovation in the Informal Economy	October 2016	Book Chapter	Canada	The Informal Economy in Developing Nations: Hidden Engine of Innovation?	de Beer
Evidence-based Intellectual Property Policymaking: An Integrated Review of Methods and Conclusions	November 2016	Journal Article	Canada	Journal of World Intellectual Property	de Beer
Measuring the South African National System of Innovation	November 2016	Book Chapter	South Africa	The Emergence of Systems of Innovation in South(ern) Africa: Long Histories and Current Debates.	Kraemer-Mbula

TITLE	DATE	TYPE	LOCATION	PUBLISHER/JOURNAL	AUTHOR(S)
Informal Innovations and the South African Innovation System	November 2016	Book Chapter	South Africa	The Emergence of Systems of Innovation in South(ern) Africa: Long Histories and Current Debates.	Kraemer-Mbula
Utility Model Protection in Kenya: A Case for Substantive Examination	December 2016	Journal Article	Kenya	The African Journal of Information and Communication	Rutenberg
Decolonising Intellectual Property Law in Pursuit of Africa's Development	December 2016	Journal Article	South Africa	WIPO Journal	Ncube
Data Protection in Zimbabwe	December 2016	Book Chapter	South Africa	African Data Privacy Laws	Ncube
Copyright, and Photographs or Videos of Public Art, in South Africa: An Imperfect Picture	December 2016	Journal Article	South Africa	African Journal of Information and Communication	Van Wiele
ICT strategy development: from design to implementation – case of Egypt	December 2016	Book Chapter	Egypt	Strategic Information Systems and Technologies in Modern Organizations	Rizk
Technology Transfer for Climate Change Mitigation: A Perspective from Kenya	December 2016	Journal Article	Kenya	The African Journal of Information and Communication	Mwaura
Conceptualising Knowledge Governance for Development	December 2016	Journal Article	France & South Africa	The African Journal of Information and Communication	Armstrong & Schonwetter
Policy Modalities for Support of Ethiopia's Creative Industries	December 2016	Journal Article	Ethiopia	The African Journal of Information and Communication	Belete
Geographical Indications as Tools for Agricultural Knowledge Governance in Selected East and Southern African Countries	December 2016	Journal Article	Canada	The African Journal of Information and Communication	Dagne
Innovation hubs in Southern Africa	2016	Book Chapter	South Africa	Innovation Africa: emerging hubs of entrepreneurship	Comins, Kraemer-Mbula
Work Organisation, Forms of Employee Learning and National Systems of Education and Training	2016	Book Chapter	South Africa	European Journal of Education	Lorenz, Lundvall, Kraemer-Mbula, Rasmussen
Evidence-based Intellectual Property Policymaking	January 2017	Working Paper	Canada	Open AIR Working Paper Series	de Beer
The Paradoxes of Democracy and the Rule of Law	January 2017	Report Chapter	South Africa	"Rethinking Society for the 21st Century" (International Panel of Social Progress report)	Kraemer-Mbula
Calibrating Copyright for Creators and Consumers: Promoting Distributive Justice and Ubuntu	January 2017	Book Chapter	South Africa	What if We Could Reimagine Copyright?	Ncube
Making Copyright Markets Work for Creators, Consumers and the Public Interest	January 2017	Book Chapter	Canada	What If We Could Reimagine Copyright?	de Beer
A Framework for Assessing Technology Hubs in Africa	January 2017	Working Paper	Canada	Open AIR Working Paper Series	Rutenberg, Nzomo, Mwangi, Millar, de Beer
Open Innovation in Development: Integrating Theory and Practice Across Open Science, Open Education, and Open Data	January 2017	Working Paper	Canada	Open AIR Working Paper Series	de Beer

TITLE	DATE	TYPE	LOCATION	PUBLISHER/JOURNAL	AUTHOR(S)
Do Patents and Utility Models Encourage Innovation in Kenya?	January 2017	Journal Article	Kenya	Journal of Intellectual Property Law & Practice	Mwangi, Rutenberg
Patenting the Un-patentable: Lessons for African Patent Systems from a Review of Patent Subject Matter Exclusions in Kenya	February 2017	Journal Article	Kenya	Submitted to the African Journal of Intellectual Property	Rutenberg, Nzomo
A Glimpse into the Sharing Economy: An Analysis of Uber Driver-Partners in Egypt	February 2017	Report	Egypt	Social Science Research Network	Rizk
A Framework for Assessing Technology Hubs in Africa	March 2017	Journal Article	United States	New York University (NYU) Journal of Intellectual Property	Mwangi, Nzomo, Millar, Rutenberg, de Beer
Institutionalizing Open Data in Government	March 2017	Report	South Africa	Social Science Research Network	Schonwetter
Legal and Institutional Considerations for Plant Variety Protection and Food Security in African Development Agendas: What solutions from WIPO?	March 2017	Journal Article	South Africa	Journal of Intellectual Property Law & Practice	Isiko Štrba
Intellectual Property Rights and Innovation: Assessing Regional Integration In Africa (ARIA VIII)	May 2017	Working Paper	South Africa	Open AIR Working Paper Series	Ncube, Schonwetter, de Beer, Oguamanam
The Intellectual Property Treaty Landscape in Africa, 1885 to 2015	May 2017	Working Paper	Canada	Open AIR Working Paper Series	Ncube, de Beer, Baarbé
The Suitability of International Intellectual Property Laws for Protecting Traditional Knowledge and Indigenous Innovations in Africa	June 2017	Journal Article	Canada	African Journal of Intellectual Property	Ugwu
The Maker Movement in Gauteng Province, South Africa	June 2017	Working Paper	South Africa	Open AIR Working Paper Series	Armstrong, Kraemer-Mbula
A Data Commons for Food Security	June 2017	Working Paper	Canada	Open AIR Working Paper Series	Baarbé, Blom, de Beer

Table 4: Media articles (newspaper articles, op-eds, blog posts, etc.)

TITLE	DATES	TYPE	LOCATION	PUBLISHER	AUTHOR(S)
Innovation, Makerspaces and the Future: A Lesson from the University of Pretoria	June 2016	Media/blog	South Africa	Open AIR Blog	Ellis
Trade Mark Squatting, Blackmail and Prior Use Defence: High Court Ruling in Clips Kenya v Brands Imports Africa	June 2016	Media/blog	Kenya	IP Kenya	Nzomo
Evidence-Based Intellectual Property Policymaking	June 2016	Media/blog	Canada	Open AIR Blog	de Beer
Incidental Use and Copyright Exhaustion: High Court Ruling in Nairobi Map Service v Celtel Kenya (Zain Kenya)	June 2016	Media/blog	Kenya	IP Kenya	Nzomo
Outdoor Advertising Dispute in City Clock v Country Clock Trade Mark and Industrial Design Case	June 2016	Media/blog	Kenya	IP Kenya	Nzomo
Copyright Dispute over Safaricom's "BLAZE" Campaign: Transcend Media Granted Anton Pillers Against Saracen Media	June 2016	Media/blog	Kenya	IP Kenya	Nzomo
Beyond the Poster Boy of the Maker Movement	June 2016	Media/blog	South Africa	Open AIR Blog	Ellis
Book Review: Intellectual Property Law in East Africa by Prof. Bakibinga and Dr. Kakungulu	June 2016	Media/blog	Kenya	IP Kenya	Nzomo
Proposed Draft National Music Bill: More Licenses, More Confusion and Yet Another Fund	July 2016	Media/blog	Kenya	IP Kenya	Nzomo
ARIPO Copyright Office Publishes Survey Findings on Status of African Collective Management Organizations	July 2016	Media/blog	Kenya	IP Kenya	Nzomo
Court Upholds Anti-Counterfeit Agency Raid and Seizure: Shikanisha Shoes Collection v Attorney General	July 2016	Media/blog	Kenya	IP Kenya	Nzomo
Goodwill as Constitutionally Protected Property: High Court Case of Bia Tosha Distributors v Kenya Breweries, EABL, Diageo	July 2016	Media/blog	Kenya	IP Kenya	Nzomo
Final text of Copyright Amendment Bill to be put before parliament this month	July 2016	Media/blog	South Africa	UCT IP Unit	Charlie Fripp
An Elsevier African Megajournal Proposal Re-colonising the university in Africa?	July 2016	Media/blog	South Africa	UCT IP Unit	Eve Gray
Private Prosecutor Can Appear as Witness in Same Criminal Copyright Suit: Case of Albert Gacheru Kiarie and Wamaitu Productions	July 2016	Media/blog	Kenya	IP Kenya	Nzomo
The "Sharing Economy" in Perspective	July 2016	Media/blog	Kenya	CIPIT Law Blog	Rutenberg
Court of Appeal Settles 20 Year Copyright Dispute: Case of Mount Kenya Sundries v Macmillan Publishers	August 2016	Media/blog	Kenya	IP Kenya	Nzomo
Makerspaces Critical for Advancing Hardware Innovation, Learning	August 2016	Coverage/ Dommentary/ Review	Canada	Epoch Times	Ellis, Armstrong, Rahul Vaidyanath
Algeria and Nigeria to Host World Intellectual Property Organization External Offices in Africa	August 2016	Media/blog	Kenya	IP Kenya	Nzomo
Customs Officers Cannot Enforce Intellectual Property Rights: Court of Appeal Judgment in Kenya Revenue Authority v Doshi Iron Mongers	August 2016	Media/blog	Kenya	IP Kenya	Nzomo
Power of Trade Marks Registrar to Permit Further Evidence Under Rule 52: Case of Strategic Industries v Rebecca Fashion (Kenya) Ltd	August 2016	Media/blog	Kenya	IP Kenya	Nzomo

TITLE	DATES	TYPE	LOCATION	PUBLISHER	AUTHOR(S)
A New Look At Intellectual Property And Innovation In Africa	August 2016	Coverage/ Commentary/ Review	Canada	les Nouvelles – Journal of the Licensing Executives Society	Patrick Terroir
Upcoming Research into Informal Entrepreneurs	September 2016	Media/blog	Canada	Open AIR Blog	Schorr
Les Defis D'etendre Open AIR Dans des Pays Africains Francophones	September 2016	Media/blog	Canada	Open AIR Blog	Cumbaa
How Designing Crops for Global Food Security and Open AIR are Working Together	September 2016	Media/blog	Canada	Open AIR Blog	Blom
Report of the United Nation's High-Level Panel on Access to Medicines	September 2016	Media/blog	South Africa	UCT IP Unit	UCT Ip Unit
High Court Acquits Staff, Former CEO and Wife of Stealing from Copyright Society	September 2016	Media/blog	Kenya	IP Kenya	Nzomo
Ownership of Open Data (GODAN Summit 2016)	September 2016	Media/blog	New York	Open AIR Blog	Blom, de Beer
Kenya's Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016 Comes into Force	September 2016	Media/blog	Kenya	IP Kenya	Nzomo
Inclusive Innovation: Lessons from Africa for the World's ICT Policy Makers	September 2016	Media/blog	Tanzania	Open AIR Blog	de Beer
Open Data and Ownership at the Global Open Data for Agriculture and Nutrition (GODAN) Summit	October 2016	Media/blog	New York	Open AIR Blog	Baarbé
"Making" Innovation Happen: Open AIR Hosts A Successful Workshop on the Maker Movement at uOttawa	October 2016	Media/blog	Canada	Open AIR Blog	Ellis
"Books for the blind" treaty enters into force	October 2016	Media/blog	South Africa	UCT IP Unit	UCT IP Unit
UCT IP Unit involved in submission concerning the dti's IP Consultative Framework	October 2016	Media/blog	South Africa	UCT IP Unit	UCT IP Unit
ASK Justice Fellowship Program Kicks Off at UCT IP Unit	October 2016	Media/blog	South Africa	UCT IP Unit	UCT IP Unit
Dr. Kakooza "Dealing with Trans-Border Quasi-Intellectual Property"	October 2016	Media/blog	Kenya	Open AIR Blog	Nzomo
As the Curtain Draws on TK: WIPO-IGC Session 31 Kicks the Can Further Down the Road	October 2016	Media/blog	Canada	ABS Canada	Oguamanam
High Court Declares Appointment of Anti-Counterfeit Agency Inspectors Unconstitutional	October 2016	Media/blog	Kenya	IP Kenya	Nzomo
High Court Strikes Down Appointment of Anti-Counterfeit Agency Board Chairman Twice in a Row	October 2016	Media/blog	Kenya	IP Kenya	Nzomo
Wikipedia Primary School project workshop	November 2016	Media/blog	South Africa	UCT IP Unit	UCT IP Unit
Evergreening in South Africa – the debate goes on	November 2016	Media/blog	South Africa	UCT IP Unit	UCT IP Unit
Meet Open AIR's New and Emerging Researchers Group (NERG): First Stop, the AUC	November 2016	Media/blog	Egypt	Open AIR Blog	Ellis
Understanding the Dynamics of Knowledge Transfer in Nigeria's Otigba Hardware Cluster	November 2016	Media/blog	Nigeria	Open AIR Blog	Jegede

TITLE	DATES	TYPE	LOCATION	PUBLISHER	AUTHOR(S)
It's About to Get Easier for African Innovators to Protect their Inventions	November 2016	Coverage/ Commentary/ Review	African continent	Quartz Africa	Oguamanam
High Court Declares Section 30A of the Copyright Act Unconstitutional and CMO License Agreement Unlawful	November 2016	Media/blog	Kenya	IP Kenya	Nzomo
Professor Carys Craig Infuses the Open Access Movement with Feminism at the University of Ottawa	November 2016	Media/blog	Canada	Open AIR Blog	Soliman, de Beer, Ellis, Gaffen
Trade Mark vs Company Name Registration: Innscor Int. Battles Rwandan Companies, Pizza Inn Ltd and Chicken Inn Ltd	November 2016	Media/blog	Kenya	IP Kenya	Nzomo
El Houssamy Presents at Egypt Entrepreneurship Summit	December 2016	Media/blog	Egypt	Open AIR Blog	El Houssamy
Recognizing Informal Sector Innovation: Implications for Traditional Knowledge Development in Africa	December 2016	Media/blog	Canada	Open AIR Blog	Ugwu
Gender, IP, and Innovation: Open AIR's Future Research	December 2016	Media/blog	Canada	Open AIR Blog	de Beer, Gaffen, Ellis
A2K4D x RiseUP: How a college dropout reinvented how we approach education in the Middle East	December 2016	Media/blog	Egypt	A2K4D Tumblr Page	El Houssamy
Book Review: Intellectual Property and Innovation Law in Kenya and Africa by Prof. Ben Sihanya	December 2016	Media/blog	Kenya	IP Kenya	Nzomo
Review: On intellectual property cooperation and the public interest in Africa	December 2016	Coverage/ Commentary/ Review	South Africa	AJIC	Isiko Štrba
Research excellence – Beyond the buzzword	January 2017	Media article	South Africa	University World News, 13, Issue No:442	Tijssen, Kraemer-Mbula
Open AIR Students Present at Carleton's Institute of African Studies	January 2017	Media/blog	Canada	Open AIR Blog	Ellis, Gaffen, Baarbé
Open AIR North Africa Distinguished Speaker Series: Ibrahim Al-Safadi on Makerspaces and Employment Opportunities	January 2017	Media/blog	Egypt	Open AIR Blog	El Houssamy, Hosny
Panels Present Importance Of Fair Use In South Africa's Draft Copyright Amendment	January 2017	Coverage/ Commentary/ Review	International	IP Watch	Linda Daniels
Panels Present Importance Of Fair Use In South Africa's Draft Copyright Amendment	January 2017	Media/blog	South Africa	UCT IP Unit	Linda Daniels
Urgent need to decolonise intellectual property curricula	January 2017	Coverage/ Commentary/ Review	African continent	University World News	Munyaradzi Makoni
Proposed Amendments to Intellectual Property Laws in Kenya	January 2017	Media/blog	Kenya	IP Kenya	Nzomo
Book Review: The Informal Economy in Developing Nations – Hidden Edge of Innovation?	February 2017	Coverage/ Commentary/ Review	United Kingdom	IPKat	Nicola Searle
A New Look at High Tech Hubs in the "Digital Savannah": Part 1	February 2017	Media/blog	Kenya	Open AIR Blog	Nzomo
Skills Development and Innovation at Suame Magazine, Ghana	February 2017	Media/blog	Ghana	Open AIR Blog	Adu-Gyamfi

TITLE	DATES	TYPE	LOCATION	PUBLISHER	AUTHOR(S)
Understanding Knowledge Dynamics and Scaling-Up in Micro Enterprises in Otigba Market Cluster	February 2017	Media/blog	Nigeria	Open AIR Blog	Jegede
A2K4D Faculty and Research Staff representation in South African Maker Movement Workshop	March 2017	Media/blog	Egypt	AUC School of Business Website	El Houssamy
WIPO 33rd IGC Session Puts Traditional Cultural Expressions (TCES) on the Spotlight	March 2017	Media/blog	Canada	Open AIR Blog	Oguamanam
Contracting Justice Workshop: Exploring socially just research processes	March 2017	Media/blog	South Africa	UCT IP Unit	Cath Traynor
Open AIR East Africa Distinguished Speaker Series: Dr. Henry Mutai on Intellectual Property, Trade and Regional Integration in Africa	March 2017	Media/blog	Kenya	Open AIR Blog	Nzomo
Common Misconceptions of Patents in Egypt	April 2017	Media/blog	Egypt	Open AIR Blog	Hosny
Mobile Innovation as the Cornerstone of Socio-Economic Development in Kenya	May 2017	Media/blog	Kenya	Open AIR Blog	Mwangi
Challenging the Meaning of Innovation: Lessons from Refugee-Founded Organizations in Kampala	May 2017	Media/blog	Canada	Open AIR Blog	Tumaine
International IP Treaties Bring Tension in Africa's Homegrown Knowledge Governance	May 2017	Coverage/ Commentary/ Review	International	IP Watch	Munyaradzi Makoni
Innovation by "Makers" in South Africa's Gauteng Province	June 2017	Media/blog	South Africa	Open AIR Blog	Armstrong, Kraemer-Mbula
Open Data's Effect on Food Security	June 2017	Media/blog	Canada	Open AIR Blog	Baarbé, Thuswaldner
"Making" Knowledge for Innovation and Development: Researching Kenyan Makerspaces	June 2017	Media/blog	Kenya	Open AIR Blog	Baarbé, Nzomo
WIPO Special Committee on Genetic Resources, Traditional Knowledge, and Traditional Cultural Expression Shies Away from Consolidating its Mandate but Agrees on Lack of Indigenous Participation	June 2017	Media/blog	Canada	Open AIR Blog	Oguamanam
Exploring Crowd-Based Capitalism in Africa's Sharing Economy	June 2017	Media/blog	Kenya	Open AIR Blog	Groux, de Beer
Rethinking copyright for Indigenous creative works	June 2017	Media/blog	Canada	Policy Options	Oguamanam
Nigeria Faces New Security Threat Fueled by Climate Change and Ethnicity	June 2017	Op-Ed	Canada	theconversation.com	Oguamanam
The informal economy in developing nations: a hidden engine of growth	June 2017	Media article	South Africa	WIPO Magazine	Kraemer-Mbula, Wunsch-Vincent

In 2017, Canada's Minister of Justice, The Honourable Jody Wilson-Raybould, and Canada's High Commissioner in South Africa, the Honourable Sandra McCardell, visited the University of Cape Town and discussed research partnerships including Open AIR with faculty and student members of our network.

In March 2017, Open AIR network members Prof. Ncube and Dr. Schonwetter met ARIPO DG Fernando dos Santos and members of his senior leadership team at ARIPO's headquarters in Harare, Zimbabwe, to brief them on Open AIR's progress, and to discuss opportunities for future research collaborations and joint capacity building activities.

Management, administration, and financing

Evolution of Open AIR

Since its inception, Open AIR has evolved from a development-oriented project to a multi- institutional network of dynamic partnerships. We have created capacity at four African hubs and evolved into one of Africa's most unique and credible voices on IP and innovation issues. Open AIR's evolution is a result of its studies across several economic sectors and areas of IP. Open AIR has continuously grown in breadth and depth. This combined with continuous training of network members has resulted in significantly increased capacity among researchers, including emerging African scholars who joined Open AIR as Research Fellows, as well as African policy and issue leaders, and African innovators, creators and entrepreneurs.

In July 2015, when Open AIR's 2015 SSHRC Partnership Grant application was successful, the award of CAD $2.5 million over seven years from SSHRC, combined with almost CAD $1.5 million over three years from IDRC, has allowed us to shift from a project to a network – allowing for increased sustainability. Since then, we created a decentralised structure to allocate increased responsibility to our hubs, resulting in their capacity development. Partners have a shared understanding and commitment to the project, its objectives, and its deliverables, as well as an understanding of how their membership in the network can enhance the work, goals, and sustainability of their respective institutions.

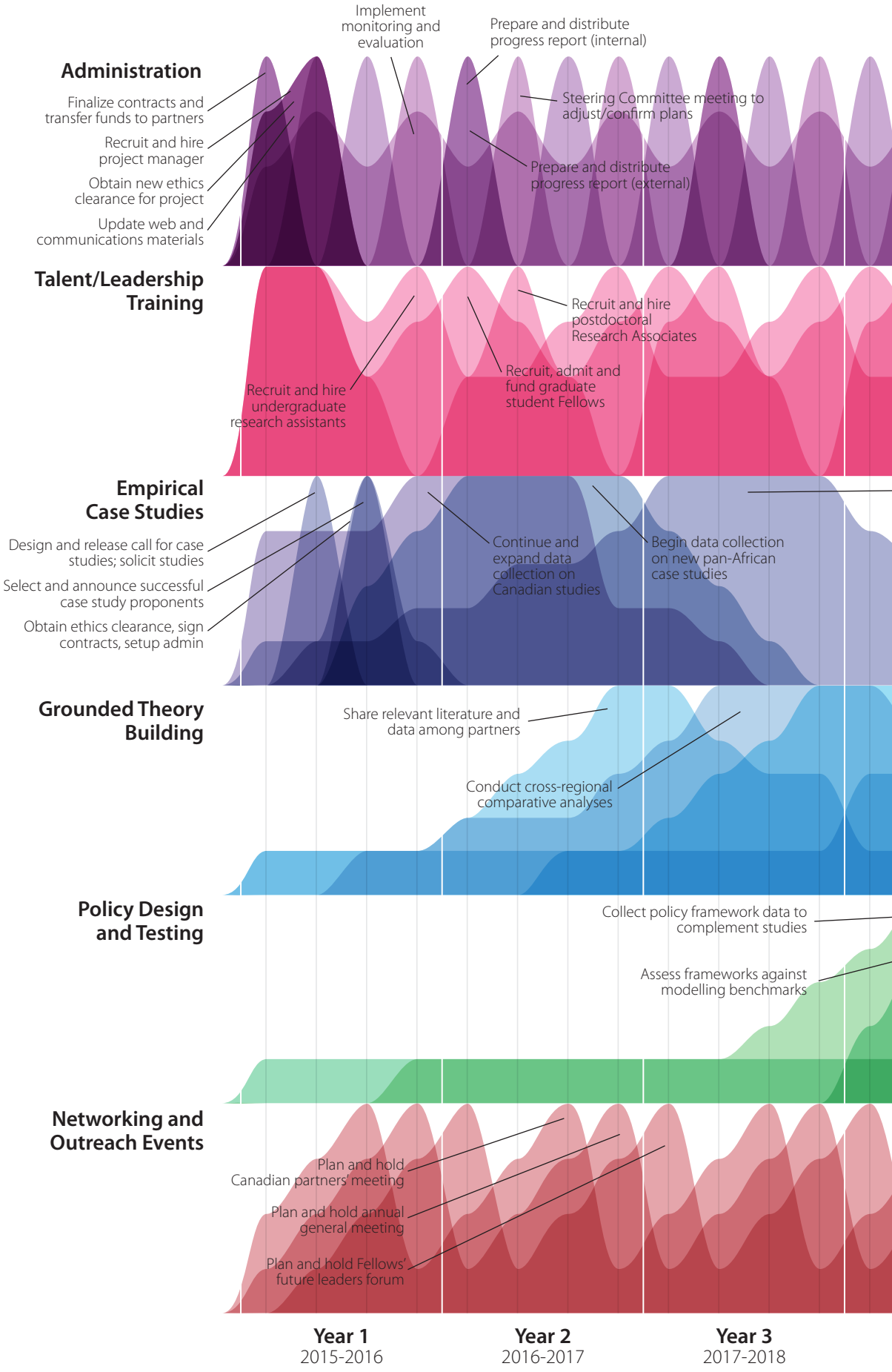
We also created a new integrated timeline, taking into account the three-year period of Open AIR's IDRC grant and the seven-year period of the SSHRC Partnership Grant.

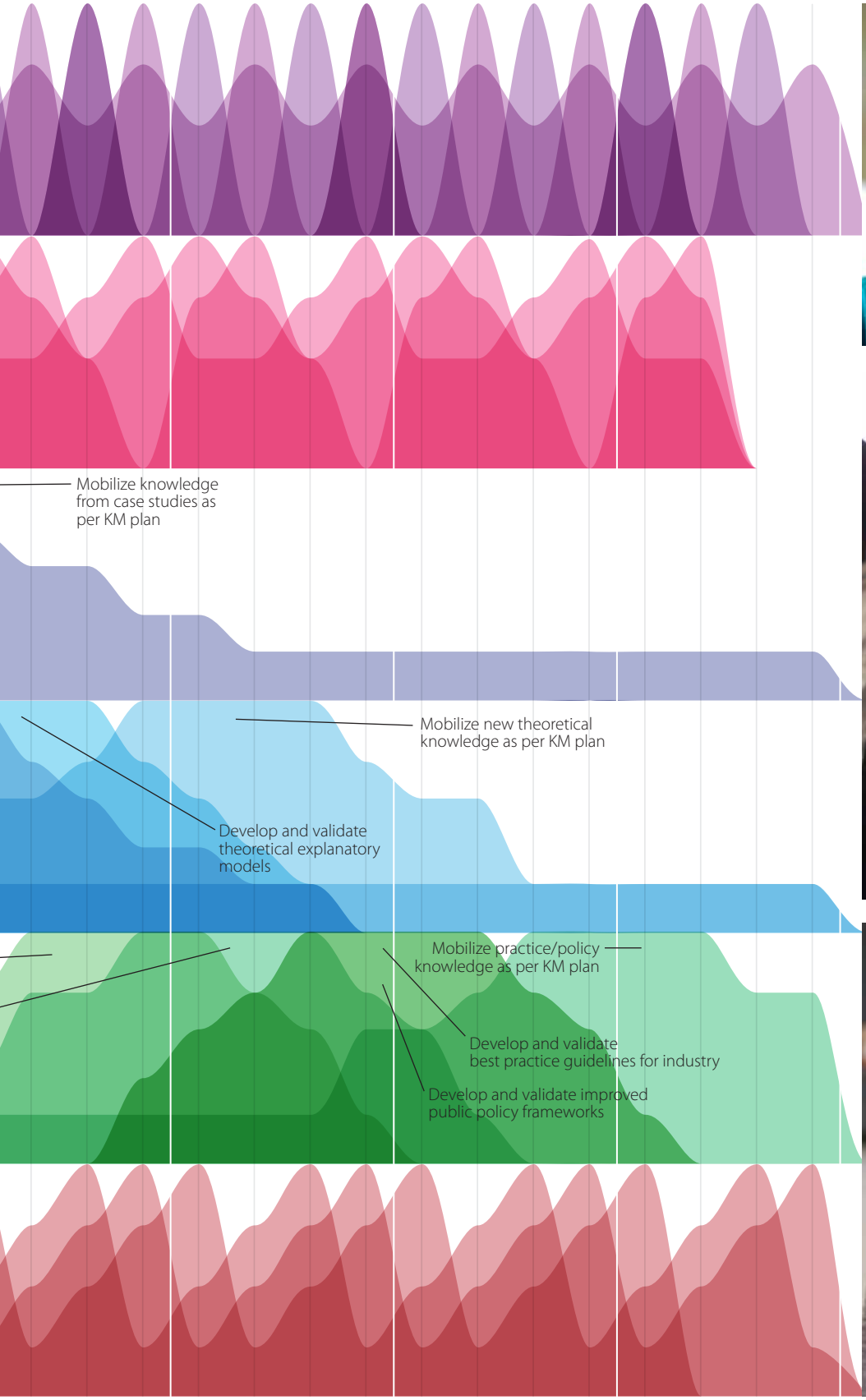
As part of our partnership's evolution, Open AIR was also able to bring three more world-class African-based researchers onto our Steering Committee: Prof. Caroline Ncube, Dr. Isaac Rutenberg, and Dr. Erika Kraemer-Mbula. In addition, last year we were able to bring in 48 case-study researchers, several of whom were entirely new to the network. These researchers have proved to be excellent additions to the network and keen to be even more active as our research progresses. These new researchers have already produced blog posts as well as reports on their research, many of which will be turned into working papers this upcoming year. These researchers were also some of those highlighted in our videos, and have been participants at both of our Open AIR workshops in Kenya and South Africa.

The evolution of Open AIR from a development project to a multi-institutional network of dynamic partnerships was reflected in the change of titles of our Project Managers to Program Managers. One of these Program Managers, Nan Warner, had already been with Open AIR for more than five years. The consistency of her presence helps to ensure the corporate memory of the network in addition to her proven capacity to manage a multitude of projects in an efficient, effective, and excellent manner. Thanks to SSHRC's co-funding, Open AIR was able to bring Victoria Schorr, our Ottawa Program Manager, on board. Ms. Schorr is a specialist in African political economy and had previously been working with the Canadian federal government, notably Global Affairs Canada. Her contribution to Open AIR has been significant and her already-established contacts with different networks of people has increased Open AIR's capacity to mobilise our knowledge in new areas and with a broader network. With one Program Manager in Cape Town and one in Ottawa, Open AIR has been better able to manage its increasingly complex network and broaden Open AIR's capacity as well as impact.

Partnership Timeline

2015–2021




Mobilize knowledge from case studies as per KM plan
Mobilize new theoretical knowledge as per KM plan
Develop and validate theoretical explanatory models
Mobilize practice/policy knowledge as per KM plan
Develop and validate best practice guidelines for industry
Develop and validate improved public policy frameworks
Year 4
2018-2019
Year 5
2019-2020
Year 6
2020-2021
Year 7
2021-2022

Online Networking

As our network is multi-jurisdictional, Open AIR has also tested and evaluated various online tools, systems, and protocols. After trying several and analysing many others, Open AIR is now actively using DropBox, Wunderlist, Airtable, Slack and Google Photos in order to better collaborate. Similarly, we have shifted from using Skype as our primary means of conducting meetings to more often using Google Hangouts. Our knowledge of online tools has evolved significantly and we are now better able to coordinate between all our various researchers using these tools. As the project progresses and technology changes, we plan to keep updating our knowledge and tools appropriately. Indeed, we consider this shift to more practical, low-cost or free online tools to be one of our major achievements over the past year.

Reports from our institutional partners

The Open AIR Network consists of several institutional hubs: the University of Ottawa, the American University of Cairo (AUC), Strathmore University, the University of Cape Town (UCT), and the Nigerian Institute of Advanced Legal Studies (NIALS), and, informally, the Institute for Economic Research on Innovation (IERI). This collection of educational institutions provides our organisation with a physical presence and, thus, an intimate connection with, and access to, local communities in North Africa, Southern Africa, East Africa, West Africa, and Canada.

In all of our hubs, Open AIR is one of the flagship projects and one of the largest projects in which the hub leaders are involved. This involvement correlates extremely well with the missions of all the departments in which the project is located. These investments in organisations/institutions is crucial to the sustainability of the network, because the institutions will remain even when individuals may leave.

American University in Cairo

Over the past year, Access to Knowledge for Development (A2K4D) has been heavily involved in solidifying their case study and metrics research. Equally as important, A2K4D has been involved in various knowledge dissemination activities. These include giving presentations, participating in workshops, writing blog posts, and producing publications. Most notably, in December 2017, A2K4D partnered with RiseUp to host an Open AIR Distinguished Speaker event. A2K4D invited Ibrahim Al-Safadi, CEO of Luminous Education, to speak about "makerspaces" in the region. RiseUp Summit is a three-day entrepreneurship marathon, which took place in early December 2016 and included workshops, talks, panel discussions, startup stations, pitch competitions, and networking platforms with industry experts.

More than 4,000 people attended RiseUp 2016, expanding and diversifying Open AIR's audience from the region. A2K4D team members continued to visit other hubs and engage in workshops and events, including at the South African Maker Movement workshop. In an effort to expand Open AIR within North Africa, A2K4D will be hosting a researcher from the University of Hassan II in June 2017 and are looking forward to developing this relationship in the coming years.

In addition to their involvement in Open AIR, A2K4D is also a member of several other research networks, exploring developmental topics in the Middle East and North Africa (MENA) region. Since 2015, A2K4D has been the lead institute in a research project titled "Harnessing the Economic Power of Data in the MENA Region" (Data Revolution), acting as a nucleus for a Middle East and North Africa network on Data for Development with the following partners: Center for Continuing Education, Birzeit University (BZU), Palestine and ICT4D Laboratory, Al Akhawayn University in Ifrane (AUI), Morocco. Youth unemployment is posed as a top priority for the MENA region's development, yet the region also produces an impressive amount of data, which could be the answer to many of its challenges. More relevant and higher-quality data could become an invaluable resource to businesses in promoting entrepreneurship and creating more employment opportunities for the MENA youth. The Data Revolution project aims to examine the potential of new and innovative ways to collect, manage, and use data, particularly how this data then can be used to tackle growing development challenges in the region.

As well, earlier this year, A2K4D was selected to be the Open Data for Development (OD4D) node for the MENA

region. The OD4D program is a global network that looks to scale innovation, strengthen initiatives and facilitate coordination between different actors and projects working in open data. The OD4D network was created in partnership between Global Affairs Canada, The World Bank, UKAid and the International Development Research Centre (IDRC), supporting several nodes around the world. The creation of a MENA node is essential to build a strategic and comprehensive open data network in the region. The node aims to create an umbrella effect: streamlining different activities, coordinating the various different actors, bringing focus to goals, and aligning efforts to common challenges. The node aims to both consolidate and accelerate context-specific and local open data work happening in the region, as well as build stronger connections with international open data initiatives and partners. The project partners include: Hiber for Training and Technology in Jordan, Innova Tunisia, Visualizing Impact in Canada, Knowledge to Policy Center at the American University in Beirut, and SETS North Africa in Egypt.

A2K4D Director, Nagla Rizk, conducted a study on the impact of Uber on the Egyptian Economy. The paper offers a glimpse into the driver side of the ride-sharing model in Egypt, provided through the eyes of the driver-partners themselves. Based on a field survey of a sample of Uber driver-partners in Cairo, the study looks at this new form of work against the backdrop of expanding unemployment of the youth and the educated, and continuing employment in the informal sector in Egypt. The study pays particular attention to the relevance of context, demographics, and urban and economic challenges facing Egypt after the uprising of 2011.

Together with Internet Masr and the local chapter of the Internet Corporation for Assigned Names and Numbers (ICANN), A2K4D is starting an initiative around the topic of Internet Governance: Egypt Dialogue on Internet Governance (EG-DIG). The objective of this initiative is to contribute to the development of the Internet ecosystem in Egypt by creating a national platform for open and inclusive dialogue on Internet Governance issues to encourage collaboration and exchange of knowledge across all relevant stakeholders. In the long run, the partners hope to establish a national Internet Governance Forum and the planned activities of this initiative are supposed to lay the groundwork to achieve this goal. EG-DIG's activities can take different forms such as workshops, roundtables, discussion sessions, and lightning talks, among others. Each year four different events will take place. Each of the events will be documented and the discussions will be published online in order to take the discussions to an even larger audience.

ip unit
UNIVERSITY OF CAPE TOWN
INTELLECTUAL PROPERTY UNIT

University of Cape Town • iYunivesithi yaseKapa • Universiteit van Kaapstad

The University of Cape Town

This past year, the Intellectual Property Unit at the University Cape Town (UCT) continued to be an administrative center for Open AIR. Under the leadership of Program Manager Nan Warner, significant time and resources were spent on managing and growing the network, organising numerous Open AIR network-wide events – such as the makerspace workshop in Pretoria, and supporting all Open AIR network members in their work as outlined in this report. This includes the time-consuming but important task of ensuring that ethical clearance is obtained for all our case studies that involve human subjects.

The two UCT academic staff members working on Open AIR, Prof. Caroline Ncube and Dr. Tobias Schonwetter, serve on Open AIR's Steering Committee, lead one of its case studies entitled "3D Printing: Enabler of Social Entrepreneurship", and play a key role in mentoring Open AIR's NERGs – some of which were based at the IP Unit. Both Prof. Ncube and Dr. Schonwetter have co-authored some of

the working papers distributed by the network, and they have published numerous articles and book chapters on issues directly or indirectly linked to Open AIR's work; such as Prof Ncube's book "Indigenous Knowledge & Intellectual Property" and Dr. Schonwetter's 2016 journal article "Conceptualising Knowledge Governance for Development". Both have also been invited to speak at numerous conferences and workshops in the last 12 months.

Linked to and supporting their involvement in Open AIR is Prof. Ncube's and Dr. Schonwetter's participation in numerous other networks and research projects. For instance, Dr. Schonwetter is involved in the Creative Commons, CopyrightX, and the Open and Collaborative Science for Development (OCSD) networks. He also served, in 2016, as guest editor for the African Journal of Information and Communication – "Thematic Issue: Knowledge Governance for Development", and he co-leads the African Scholars for Knowledge Justice (ASK Justice) project, which seeks to contribute to positive policy change to increase access to medicines and access to knowledge in Southern and East Africa through strengthening the interface between IP and human rights. Both Dr. Schonwetter and Prof. Ncube carry out research under this project.

Open AIR's project management team and academic faculty at UCT are supported by a growing number of PhD, masters and bachelor students. We are particularly pleased to report that during the reporting period, two members of our Open AIR hub in East Africa at Strathmore University in Nairobi, Kenya, Douglas Gichuki and Victor Nzomo, have commenced PhD studies at UCT under the supervision Prof Ncube and Dr. Schonwetter. At the time of writing this report, the IP Unit employs two PhD students, one Masters student and two LLB students. In addition, the IP Unit continues to provide one PhD student based at NIALS, Helen Chuma-Okoro, with a stipend, and at any given time they involve a handful of volunteers and IP Unit visitors in their work. All of their students have started working on activities related to Open AIR but are, with the exception of PhD student Bram van Wiele, still relatively new to Open AIR. With more experience, they are expected to become even more involved in the future, especially in terms of using Open AIR's various social media tools.

Through its work in the field, and especially as a result of its involvement in Open AIR, the IP Unit is now seen as a credible source for research-based evidence when it comes to law and policymaking in the area of intellectual property and innovation policy. During the reporting period they commented, among other things, on South Africa's IP Consultative Framework document, met with ARIPO officials to discuss the conclusion of an MOU between ARIPO and the IP Unit, led a team of domestic and international copyright experts to formulate a

response to a new Copyright Bill, and were asked to organise a workshop for parliamentarians to prepare them for the upcoming round of public hearings on the same subject.

In June 2017, the IP Unit conducted a two day strategy workshop with the aim of revisiting its vision, mission, and strategic goals in an attempt to better align its activities with UCT's new strategy and to respond to at least some of the challenges that tertiary education in South Africa currently faces.

The University of Ottawa

The University of Ottawa (uOttawa) hub has continued to be an administrative center for Open AIR outside of Africa, with their Program Manager Victoria Schorr spending significant time and resources to achieve the broader objectives of the network. Prof. de Beer and Prof. Oguamanam have been able to focus intensively on the research topics of Open AIR this past year, as well as being active within Canadian IP law.

The uOttawa hub was also the driving force behind Open AIR's new funding and research into gender. Over the past year, the uOttawa hub has been increasingly looking at gender and IP, especially thanks to a talk on campus by Prof. Carys Craig, Associate Professor at Osgoode Hall Law School. This talk inspired several uOttawa NERGs to delve into research on IP, gender, and innovation. From this research, uOttawa has been able to publish two Open AIR blog posts on the topic and a briefing note. The year, uOttawa hub leader, Prof. de Beer, was even invited to a panel on women and innovation hosted by UN-Women, WIPO, and UNESCO at the UN headquarters in New York. Presently, a literature review is underway and, as mentioned in the case study section, several of Open AIR's case studies will look at gender, allowing for further grounded insights on the topic. In addition, thanks to a grant that is available to Canadian universities, the Queen Elizabeth Scholars – Advanced Scholars Grant (QES-AS), Open AIR was able to attract significant support for African and Canadian researchers to specifically look at gender. The emphasis of the QES-AS funding will be for our African scholars and to attract new and promising NERGs to Open AIR, helping to ensure the sustainability and expansion of the network. While gender has always been of interest to the entire Open AIR network, this new funding will allow us to intensively focus on the topic across the network.

Over the past twelve months, the uOttawa hub has continued to attract top tier students to be part of the NERG. Over the summer, the uOttawa hub had 11 students (eight Juris Doctors, one Masters, and two PhDs) full time as well as a visiting postdoctoral scholar, Chris Armstrong. During the school year, the uOttawa hub also had 11 students (nine JD and two PhDs) but on a part-time basis in order to not disrupt their studies. This summer, the uOttawa hub has been hosting six full-time students and one part-time (one undergraduate, three Juris Doctors, and two PhDs), conducting research on topics ranging from innovation among refugees, to Nollywood, to gender and IP. All students have been active members of the NERG and Meika Ellis, herself from the uOttawa hub, was the NERG Ombudsperson for this year. As mentioned above, Ms. Ellis helped to further solidify the network of NERGs in addition to conducting her own groundbreaking research into the Maker Movement.

Further, uOttawa students had the opportunity to travel and attend events around the world, both to help them learn more about the network as well as to increase their own professional networks and CVs. Such trips included Meika Ellis conducting research in South Africa at the UCT hub; Sileshi Hirko and Katie Degendorfer attending the Open AIR workshop in Nairobi; Adam Soliman traveling to Boston to attend the Harvard OUI Conference; Nicole Tumaine

conducting research in Uganda; Alyssa Gaffen traveling to New York to participate in the aforementioned joint UN-Women, WIPO, UNESCO discussion on gender and innovation; and Jeremy Baarbé who has been building partnerships with leading open data organizations such as the Global Open Data for Agriculture and Nutrition initiative (GODAN) and currently conducting research in Nairobi with our East Africa hub. Students at the uOttawa hub also spoke at a number of conferences (see Table 2), wrote blogs for the Open AIR website (see Table 4), and were co-authors on a number of publications, both on Open AIR-related topics and others. The uOttawa hub will continue to support such initiatives, opportunities, and progress over the next five years for their students and others in the Open AIR network.

In addition, this past year, our uOttawa hub was involved in several workshops. The first was uOttawa hosting a workshop on the Maker Movement with post-doctoral fellow Chris Armstrong visiting from South Africa. The second was a joint workshop with Access and Benefit Sharing Canada (ABS Canada) in Saskatoon, Canada. This event involved numerous Canadian indigenous representatives meeting for three days to discuss ecology, technology, seed-sharing, ethics, and Aboriginal legal traditions. Open AIR contributed by sending three representatives from Africa to be involved in the workshop and share their experiences on the issue of traditional knowledge as well as learn from Canadian indigenous persons. All three African participants commented that the discussions were fascinating and that they found the workshop extremely useful.

Finally, the uOttawa hub has continued to have an annual Distinguished Speaker event and has been active both in Ottawa and around the world. The full list of events that their researchers, both students and otherwise, have spoken at and participated in can be viewed in the earlier tables. A unique goal of the uOttawa hub, however, is their focus on bringing lessons about innovation from Africa to Canada. As findings from Open AIR's African-based research are beginning to come out, the uOttawa hub will begin to be more active in policy discussions, showing African examples that Canada can learn from and, by extension, the rest of the "developed" world. The uOttawa hub is already making connections with policymakers in Canada, leading academics, and various NGOs and individuals to set the groundwork for our findings. For example, the uOttawa hub has been actively engaging Global Affairs Canada both at headquarters and abroad as well as several NGOs, think tanks, and associations such as the Canadian International Council (CIC), Centre for International Governance Innovation (CIGI), Digital Opportunity Trust (DOT), Care Canada, and CUSO. The uOttawa hub is also in close communication with local African High Commissions and Embassies, several of which have been eager to help Open AIR expand into their countries.

From these outreach activities, the uOttawa hub has found that many are already eager to learn the results of Open AIR's research. In the coming years, the uOttawa hub will be a catalyst for discussions within developed countries about innovation and IP theory, using African countries as examples. uOttawa will also continue to ensure that Open AIR's findings spread outside of academe and are used in actual policy discussions. uOttawa researchers, as well as those in the Open AIR network more broadly, have already begun to challenge the standard theories of innovation and IP, providing much needed evidence for a fuller understanding of human behaviour and innovation.

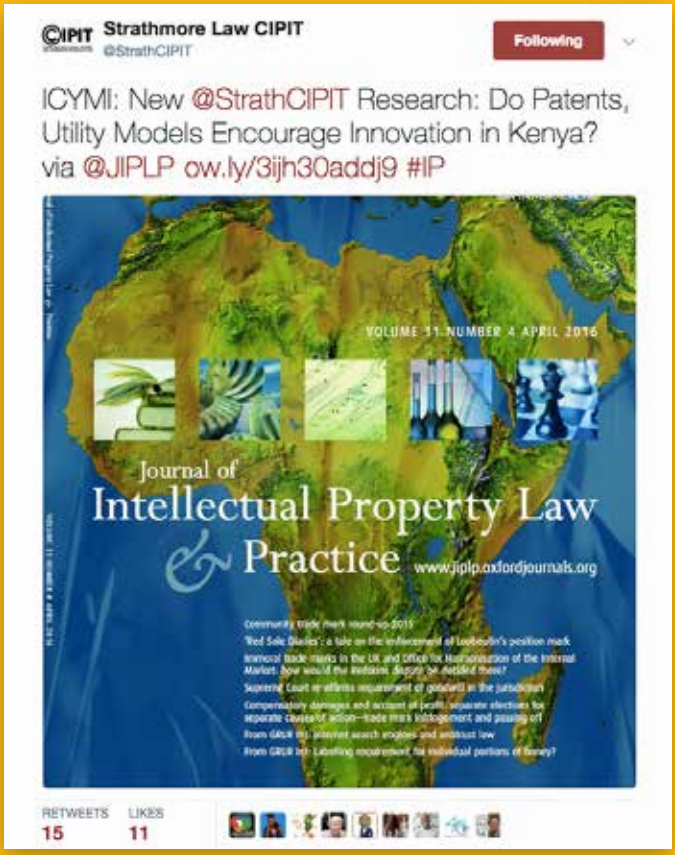
CIPIT
CENTRE FOR INTELLECTUAL PROPERTY AND INFORMATION TECHNOLOGY LAW

Strathmore University
Law School

Strathmore University

In the 2016-2017 period, the Centre for Intellectual Property and Information Technology Law (CIPIT) continued to conduct research primarily under the High Technology Hubs theme including the case study on open collaborative models of mobile tech innovation in Kenya. This work is ongoing from the previous year and involves a study of start-ups in the mobile tech ecosystem connected to high tech hubs. During the year, CIPIT conducted extensive research on the tech hubs scene which culminated in a comprehensive paper that lays out a framework for assessing tech hubs in Africa. This paper has since been published as an Open AIR working paper as well as in the NYU Journal of Intellectual Property and Entertainment Law. In the paper, based on their characteristics, development and factors for success, the hubs were categorized under three archetypes: company hubs, cluster hubs, and country hubs.

"Open Collaborative Models of Mobile Tech Innovation in Kenya" seeks to understand the thriving mobile innovation sector, particularly what makes mobile innovation so attractive to developers in Kenya; whether openness or appropriation of knowledge through IPRs and other forms of protection is necessary to promote innovation and sustainability of mobile tech startups; and what innovation models would best serve this sector to ensure that startups are able to scale. CIPIT conducted extensive research on all existing information on the subject of mobile innovation in Kenya and has since produced a draft report. The draft briefly introduces Kenya's thriving mobile tech space, describing it as one focused on low/ appropriate technology, which is relevant to the Kenyan population. It also examines the factors that led to the growth of mobile innovation in Kenya some of which include the influence of MPESA and the mobile market; the rise in number of open spaces and tech hubs where entrepreneurs can access funding and mentorship opportunities; improved internet infrastructure brought about by the laying of undersea fiber optic cables by the government; the rise in number of internet subscriptions and mobile phone usage among the Kenyan population; sociological factors such as the low number of Kenyans with bank accounts or credit cards, which together provided a fresh breeding ground for mobile money transfer; and the deregulation of the telecommunication industry in 1999. The draft also evaluates literature on the relevance of intellectual property (IP) in mobile innovation in Kenya where we have noted a consensus among the authors that Kenyan IP laws do not favor strong protection



of software, where mobile applications fall. In regard to the relevance or irrelevance of IP to developers, there are divergent views from authors who find that developers are completely unaware and therefore disregard IP, and others who find that developers are keen to protect their innovations so as to forestall "copycats" and unfair competition.

Specific research and analysis of company hubs shall continue with the aim of mapping the hub environment in Kenya, enhancing our understanding of how such hubs govern the dissemination of knowledge and the hubs' contribution to the sustainability and scalability of start-up businesses. The research team has identified and will continue to identify key persons in the technology scene with whom they will conduct in-depth semi structured interviews with the aim of understanding the effectiveness of high technology hubs and the start-ups that emerge from them.

The Open AIR Hub at Strathmore has launched the Strathmore Makerspace, and has interacted with several types of makerspaces, most notably the University of Pretoria (UP) Library Makerspace in South Africa and Gearbox in Nairobi. The Strathmore Open AIR hub is collaborating with the tech hubs and research centres at Strathmore University to get the new makerspace running.

CIPIT has also produced a number of blog posts, both on Open AIR and through a PhD student's page, Victor Nzomo. On his personal blog, IP Kenya, Nzomo has written 22 articles in the last year, each containing thoughtful and nuanced insights into Kenya's IP policy and legal developments. He has also written two blog posts for Open AIR's blog, discussing high-tech hubs and Dr. Henry Mutai's speech, which was part of our Distinguished Speaker Series.

In addition, CIPIT hosted the case study workshop this past year. As mentioned earlier, this workshop allowed our case study researchers to meet each other, learn about the Open AIR network and what benefits are available as part of the network, as well as know what is required of them in their research. Perhaps most importantly, however, the workshop allowed participants to bounce ideas off of one another, improving their research plans greatly. Participants said this was an exceptionally useful exercise and it helped them to also see how their research fits into the big picture of what Open AIR is researching and what we want our research to achieve. Finally, CIPIT hosted two Open AIR Distinguished Speaker Series featuring Dr. Anthony Kakooza in

July 2016 and Dr. Henry Mutai in October 2016. The video from one of these talks is viewable on Open AIR's YouTube Channel as well as Vimeo.

Tshwane University of Technology / University of Johannesburg

The 2016-2017 fiscal year was a period of active research and growth in terms of the Institute for Economic Research on Innovation (IERI) within the Open AIR network. Erika Kraemer-Mbula, one of Open AIR's co-investigators and leaders of our work at IERI, joined the University of Johannesburg this year. She will maintain close ties with Tshwane University of Technology, especially in the supervision of her graduate students and the work of IERI.

Our pioneering work on the Maker Movement has been based at IERI, and has resulted in several projects on the ground. IERI led this process in South Africa through collaboration between Erika Kraemer-Mbula and Chris Armstrong, visiting lecturer at Wits' LINK Centre. This line of work has resulted in several working papers and an international workshop hosted by IERI in Pretoria on 3 March 2017.

Under the broader theme "Informal Sector Innovation", seven projects are underway across Africa, and researchers have made substantial progress – through projects in Ghana, Ethiopia, Botswana, Nigeria, Egypt and South Africa. All these researchers have conducted first-hand data collection and will complete the projects during the first semester of the 2017-2018 fiscal year.

Our hub also involved three NERGs in the OpenAIR network, working in topics directly related to the thematic areas of the network. One of the students, Outlwile Maselwanyane, has focused his research on the Maker Movement in Gauteng. NERGs contribute to OpenAIR as research assistants as well as preparing and running events, such as the international Maker Movement workshop.

NERGS also benefit from the activities taking place at IERI. Erika Kraemer-Mbula organised and coordinated the 11th International PhD Academy in June 2016, bringing together leading development scholars, frontier researchers in innovation studies, and international PhD students. The Academy took place at IERI's premises on TUT Metro-Skinner Campus (Pretoria CBD). Globelics had successfully hosted 10 Doctoral Academies since 2004 in Lisbon (Portugal) and Tampere (Finland). The 2016 edition was the first international Globelics PhD Academy hosted in Africa.

Erika Kraemer-Mbula was awarded the prestigious Rockefeller Bellagio Fellowship. Under this fellowship she spent four weeks in mid-2016 at the Rockefeller Residence in Bellagio, Italy, where she worked on a project related to innovation in the informal economy in Africa.

An important output was the publication of the book: "The Informal Economy in Developing Nations: Hidden Engine of Innovation?" (Cambridge University Press, Cambridge). It provides ground-breaking insights on innovation in the informal economy and is being currently used by Open AIR researchers to advance their work in measurement and data collection in this thematic area. The book contains contributions from 22 experts, including Open AIR researcher Jeremy de Beer, and was launched at The Science Forum South Africa in 2016. A second launch took place at the Science Policy Research Unit (SPRU) University of Sussex, in January 2017.

Nigerian Institute of Advanced Legal Studies

Nigerian Institute for Advanced Legal Studies

The Nigerian Institute of Advanced Legal Studies (NIALS) is Open AIR's only hub that is not a university. Nevertheless, it is one of the top research institutions in Nigeria, with a mandate that exactly aligns with Open AIR. Further, NIALS is seen as a neutral and powerful influencer in Nigeria, thereby allowing Open AIR to have maximum reach within Nigeria and regionally. Over the past year, the relationship with NIALS has been steadily progressing and Open AIR has been partnering with their researchers on various levels.

Last year, several representatives of NIALS attended the workshop in Nairobi, contributing significantly to the discussions. Several of the representatives were NERGs, allowing for growth among their students and for further linkages with Open AIR's other NERGs. NIALS has been able to attract dynamic research fellows, directly supporting two graduate students, one PhD, and one research assistant. Most especially, Helen Chuma-Okoro has been completing her PhD at Open AIR's South African hub at UCT, traveling between Cape Town and Lagos several times to conduct research. Ms. Chuma-Okoro was also supposed to come to Canada this year, but was unfortunately unable to do so because of the difficulties in obtaining a visa. Nevertheless, she is applying again for a visa to come to Canada and Open AIR is trying to make sure her application is as strong as possible. We are hopeful that she will be able to conduct the Canadian portion of her studies this year.

Over the past year, NIALS has been conducting research under the theme of Traditional Knowledge and Indigenous Entrepreneurship. This work is ongoing from the previous year, and involves a study of the economic viability and entrepreneurial potential of traditional knowledge with special focus on traditional medicine. Of particular interest is how traditional medicinal knowledge serves as the basis for entrepreneurial endeavors and how this can encourage economic development through scaling-up under an effective knowledge management system. In addition, NIALS is leading the Open AIR case study entitled, "Open versus Proprietary Models: A study on the use of Software by Software Developers in Local Software Hubs in Nigeria". This study falls under the High Tech Hubs theme and looks at the growing class of tech savvy entrepreneurs operating in and contributing to the growth of the informal economy through their innovations. By its nature, software remains

the key component of operationalising activities in the area of technological innovation. This study is looking at how entrepreneurs are pursuing their goals and objectives with or without licensing and how the current intellectual property system in Nigeria has affected or influenced the activities of the hubs in terms of innovation, scalability, and the building of entrepreneurship. This study is now at the data analysis phase, with results to come out next year.

As mentioned in last year's report, we had a major difficulty with the transferring of funds to Nigeria, due to Nigerian budgetary legislation in Nigeria. The Treasury's financial policy of the Nigerian government implements a centralized accounting system for all Federal government parastatals, with the federal government monitoring such finances. In line with the policy, all such institutions are mandated to open an account with the Central Bank of Nigeria for all external funding they receive. As a result of the delay, Open AIR researchers in NIALS had to seek alternative funding to be able to proceed with their research, pending the processes of creating an account and assurance that funding will not be diverted. After discussions with NIALS, SSHRC, IDRC, and Canadian diplomatic officials to determine the best way to facilitate the transferring of funds we have found workable solutions. As mentioned, the case study research has been underway this past year, thanks to IDRC funding. Similarly, Open AIR was forced to change the status of NIALS on uOttawa's SSHRC grant in order to enable payments made to the researchers rather than to the government. NIALS' status as a parastatal – though not responsible to the government in any way – has made the situation difficult, but over the past year solutions have been found.

Finally, uOttawa's Prof. Chidi Oguamanam will be spending the next year on sabbatical in Nigeria. This will enable him to conduct further research in Nigeria and to push Open AIR's collaborations forward. This past year, Prof. Oguamanam traveled to Nigeria multiple times in order to conduct his case study research into Nollywood and we are looking forward to further collaborations this year.

Sustainability of our network

We believe that sustainability comes through the partnerships that we are pioneering, both with our hubs and our researchers outside of hubs. This network ensures not only our sustainability but also that our findings will have greater impact. The establishment of these relationships reflects Open AIR's success in building a continent-wide epistemic IP community. Moreover, this effort at relationship building relates to a key part of Open AIR's previous activities: to build capacity in our researchers. Such activities have already begun and our hubs are helping to develop research and academic capacity in Africa; linkages to other African experts and researchers; publication and promotion of important research insights via a variety of platforms; and outreach and training of key public and private partners.

As well, in order to maximise the impact of our activities and ensure sustainability of our network we are leveraging (or plan to leverage) the following:

- **Case Study Contracts**: We are making an effort to sign contracts with institutions rather than individuals, in order to promote institutional identification and buy-in;
- **NERGs (New Emerging Researchers Group)**: Nurturing and investing in the next generation of experts, mainly from Africa, who will continue with this work even if Open AIR comes to an end; attracting and retaining proactive and effective alumni;
- **Multi-project/umbrella project approach**: We are exploring the possibility of several related projects carried out by each hub under the umbrella of Open AIR;
- **Parallel co-funding**: Open AIR continues to explore co-funding from other funders and timely conceptualisation of our next phase;
- **Network membership**: We recognise the benefits in increasing our network membership in terms of accessing resources, outreach, leveraging credibility (see Table 5 below);
- **Greater visibility**: By expanding our impact and network to include other researchers not formally part of Open AIR, NGOs, think tanks, and other institutions.

Finally, we have learned from IDRC's experience with capacity building for research and research organisations. This highlights a number of issues

of sustainability specific to networks: for example, networks have several dimensions of sustainability which include time (varying life spans), financial (some networks do not have to be financially self-sustaining while others generate revenue through research commercialisation), processes and structural dimensions (flexibility in adapting to external and internal change), and relational dimensions (social arrangements that are generally not static). We will continue to address these issues as we develop a broader network and analyse more results from our research.

Financial management

Open AIR is funded by IDRC and SSHRC, managing what is effectively three grants and working in roughly a dozen currencies. Our IDRC funding is administered from the University of Cape Town, and the American University in Cairo (both institutions received a grant from the IDRC). Our SSHRC Partnership Grant is administered by the University of Ottawa and in partnership with our hubs. SSHRC funding began in April 2015, with IDRC funding beginning July 2015.

Over the past two years, Open AIR's financial management and reporting protocols have been agreed and a Project F&A Manager, Theresa Hume, was hired part-time. Financial plans, statements, reports, and requests have been unified into an easily managed format, with enough flexibility to allow each hub to report in the manner prefered. This has allowed us to comply with the overlapping and differing criteria of IDRC, SSHRC, and the home institutions.

Contracts have been finalised for all key people and the sub-granting process to all case study researchers, including contracts, have been issued or are in the process of being issued, based on ethical clearances. Currency fluctuations and exchange rate changes have made the managing of our funds more difficult but all efforts are made to make ensure that losses are minimal.

Open AIR's SSHRC co-funding is helping raise our profile in the business and political communities in Canada, enabling us to efficiently add new comparative insights to the IDRC-funded empirical research, integrate Canadian connections into our active and growing network, and develop the talent of over 100 new Canadian scholars over the seven years of the SSHRC grant. A significant portion of this co-funding has been used by the hubs to recruit and support numerous undergraduate as well as postgraduate (LLM and PhD) students, all of whom are helping to conduct groundbreaking research and gain additional research experience as well as other practical skills.

Monitoring and evaluation

Over the years, our network has used a variety of M&E models. In our early work, we used outcome mapping, followed by a hybrid system that catered to our two funders' preferences, IDRC and GIZ. This hybrid system used a logframe approach, which GIZ preferred, and an outcome mapping approach, preferred by IDRC. In this phase of the project, working closely with a new consultant, Marianne Brittijn, we have developed an approach whereby a theory of change schematic locates the project in the bigger picture, and then further develops a section of the schematic into a LogFrame which captures the outputs (and some outcomes).

One of the challenges has been identifying the tools with which we can actively monitor and evaluate our own outcomes. As mentioned earlier, we have experimented with a variety of online platforms and tools, having now settled on Airtable to monitor our case studies, researchers, outputs, and potential partners.

As shown in our Theory of Change (see page 8), Open AIR plans to use our social capital, empirical research, and collaborative solutions to develop "Better Ideas", "Better Tools", and lead to "Better Lives". Our research into what is happening in the real world will help us to illustrate collaborative solutions to scaling-up knowledge-based businesses, not just in Africa but also with lessons globally. As a part of our mission, we plan to engage in dialogue with decision-makers, power brokers and grassroots stakeholders to ensure that our findings are of practical use and truly lead to better ideas, tools and lives.

Open AIR 3: Monitoring and Evaluation Infographic (see overleaf)

PROJECT DESCRIPTION

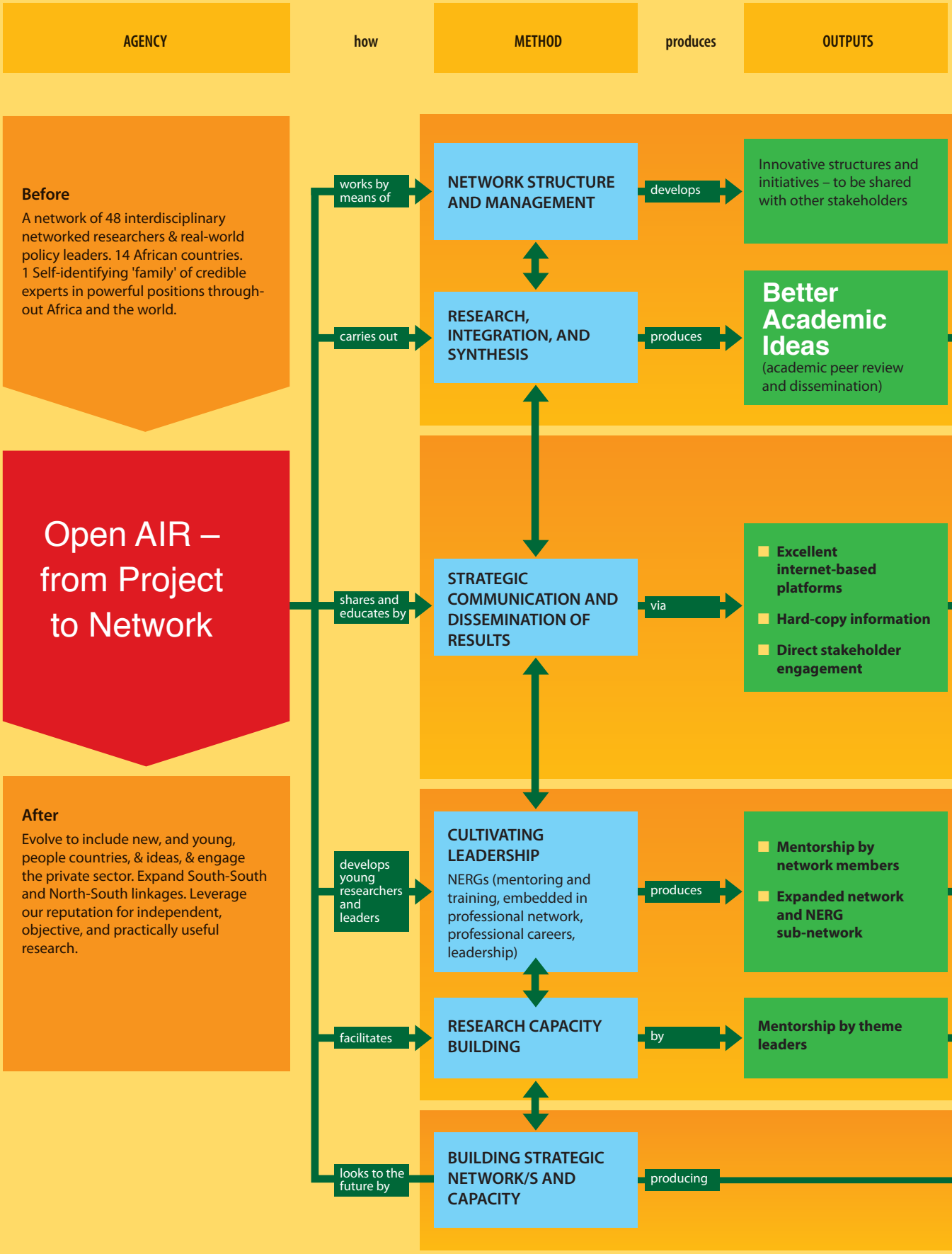
Goal
To take three different African environments and interrogate which knowledge governance policies and management practices could facilitate growth in each, possibly by means of open and collaborative business models.

Context
The African continent is not fully integrated into the global knowledge economy.
The informal sector and traditional communities dominate employment and economic activity, but are ignored.

Assumption
Old business models for scaling up may grow inequality, threaten traditional values, create vulnerabilities and undermine resilience.

Questions
How do businesses collaborate to innovate, and with whom?
Are the benefits of open business opportunities shared across society?
What are the positive and negative effects of scaling open business?
Who benefits from high technology innovation hubs, and how?
What business and job opportunities does the informal sector support?
How do local communities turn traditional knowledge into livelihoods?

Solutions
(1) Building collaborative business models and marketplace framework policies based on local realities, empirical evidence, and strategic foresight.
(2) Fostering entrepreneurship and innovation across sectors of society, inclusive of marginalized groups.
(3) Positioning Africa more centrally in globally networked contest.


AGENCY
how
METHOD
produces
OUTPUTS
Before
A network of 48 interdisciplinary networked researchers & real-world policy leaders. 14 African countries. 1 Self-identifying 'family' of credible experts in powerful positions through-out Africa and the world.
Open AIR – from Project to Network
After
Evolve to include new, and young, people countries, & ideas, & engage the private sector. Expand South-South and North-South linkages. Leverage our reputation for independent, objective, and practically useful research.
works by means of
NETWORK STRUCTURE AND MANAGEMENT
develops
Innovative structures and initiatives – to be shared with other stakeholders
carries out
RESEARCH, INTEGRATION, AND SYNTHESIS
produces
Better Academic Ideas
(academic peer review and dissemination)
shares and educates by
STRATEGIC COMMUNICATION AND DISSEMINATION OF RESULTS
via
Excellent internet-based platforms
Hard-copy information
Direct stakeholder engagement
develops young researchers and leaders
CULTIVATING LEADERSHIP
NERGs (mentoring and training, embedded in professional network, professional careers, leadership)
produces
Mentorship by network members
Expanded network and NERG sub-network
facilitates
RESEARCH CAPACITY BUILDING
by
Mentorship by theme leaders
looks to the future by
BUILDING STRATEGIC NETWORK/S AND CAPACITY
producing

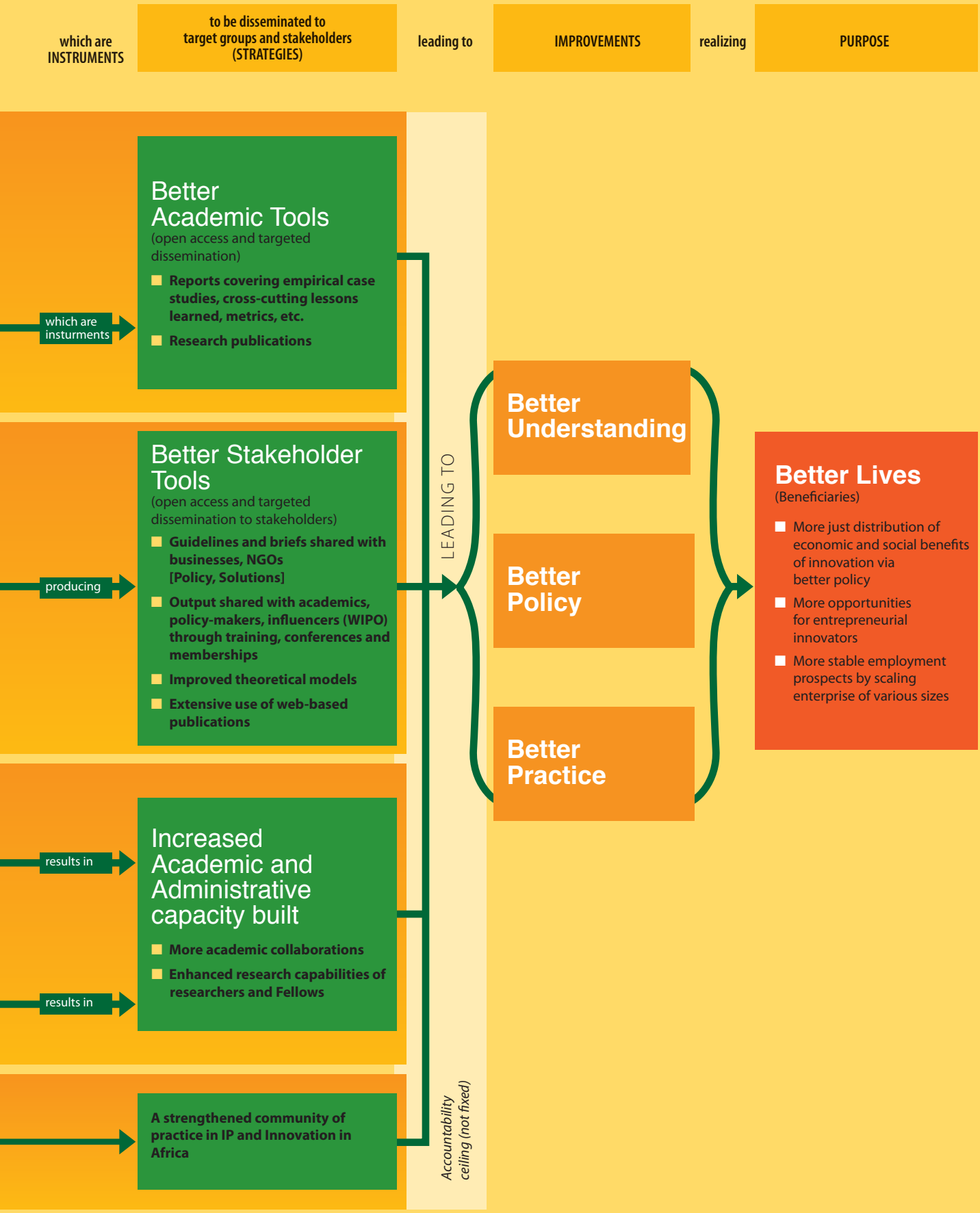

which are INSTRUMENTS
to be disseminated to target groups and stakeholders (STRATEGIES)
leading to
IMPROVEMENTS
realizing
PURPOSE
Better Academic Tools
(open access and targeted dissemination)
Reports covering empirical case studies, cross-cutting lessons learned, metrics, etc.
Research publications
which are insturments
Better Stakeholder Tools
(open access and targeted dissemination to stakeholders)
Guidelines and briefs shared with businesses, NGOs [Policy, Solutions]
Output shared with academics, policy-makers, influencers (WIPO) through training, conferences and memberships
Improved theoretical models
Extensive use of web-based publications
producing
Increased Academic and Administrative capacity built
More academic collaborations
Enhanced research capabilities of researchers and Fellows
results in
results in
A strengthened community of practice in IP and Innovation in Africa
LEADING TO
Accountability ceiling (not fixed)
Better Understanding
Better Policy
Better Practice
Better Lives
(Beneficiaries)
More just distribution of economic and social benefits of innovation via better policy
More opportunities for entrepreneurial innovators
More stable employment prospects by scaling enterprise of various sizes

Table 5: Open AIR network members

SURNAME	FIRST NAME	PARTNERSHIP ROLES	DISCIPLINE/ EXPERTISE	ORGANIZATION	COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP	RESEARCH COUNTRIES
Abdel Latif	Ahmed	Collaborator	Law, Political Science	International Renewable Energy Agency (IRENA)	Switzerland	Switzerland, Egypt	
Abrahams	Luci	Collaborator, Case Study Researcher	ICT, Innovation	University of the Witwatersrand	South Africa	South Africa	South Africa
Adewopo	Adebambo	Collaborator, Case Study Researcher	Law	Nigerian Institute of Advanced Legal Studies	Nigeria	Nigeria	Nigeria
Adjei	Benson	Collaborator	Business	Centre For Social Innovations	Ghana	Ghana	Ghana
Adomdza	Gordon	Collaborator, Case Study Researcher	Economics, Technology Mangement	Practical Education Network (PEN)	Ghana	Ghana	Ghana
Adu-Gyamfi	Yaw	NERG, Collaborator, Case Study Researcher	Governance and Sustainable Development	Centre For Social Innovations	Ghana	Ghana	Ghana
Adusei	Poku	Collaborator	Law	University of Ghana	Ghana	Ghana	
Ajao	Blessing	Collaborator, Case Study Researcher	Science Policy and Innovation	African Institute for Science Policy and Innovation	Nigeria	Nigeria	Nigeria
Ajetunmobi	Lanre	Case Study Researcher	Law	Nigerian Institute of Advanced Legal Studies	Nigeria	Nigeria	Nigeria
Ama	Njoku Ola	Collaborator, Case Study Researcher	Statistics	University of Botswana	Botswana	Botswana	Botswana
Armstrong	Chris	Collaborator, Case Study Researcher	Communications	University of the Witwatersrand	South Africa	Canada	South Africa
Awad	Bassem	Collaborator	Law	Centre for International Governance Innovation	Canada	Canada	
Baarbe	Jeremy	NERG	Law	University of Ottawa	Canada	Canada	
Banda	Chikosa	Collaborator	Law	University of Malawi	Malawi	Malawi	
Baraki	Seble	Collaborator, Case Study Researcher	Law	Aman Assefa and Associates	Ethiopia	Ethiopia	Ethiopia
Barnat	Imen Ben Ali	Collaborator	Communications	El Amouri Institute	Tunisia	Tunisia	
Beem	Heather	Case Study Researcher	Natural Sciences	Practical Education Network (PEN)	Ghana	United States	Ghana
Belete	Wondwossen	Collaborator, Case Study Researcher	Economics, S&T Policy	Society for Technology Studies	Ethiopia	Ethiopia	
Blom	Meghan	NERG	Law	University of Ottawa	Canada	Canada	
Cameron	Heather	NERG	Law	University of Ottawa	Canada	United States	
Carter	Brandon	NERG	Law	University of Ottawa	Canada	Canada	
Chartrand	Larry	Collaborator	Aboriginal Law	University of Ottawa	Canada	Canada	
Chuma-Okoro	Helen	NERG, Collaborator, Case Study Researcher	Law	Nigerian Institute of Advanced Legal Studies	Nigeria	Nigeria	Nigeria
Cocchiaro	Gino	Collaborator	Law	Natural Justice	South Africa	South Africa	
Cumbaa	Emily	NERG	Law	University of Ottawa	Canada	Canada	
Dagne	Tesh	Collaborator, Case Study Researcher	Law	Thompson Rivers University	Canada	Canada	Uganda
de Beer	Jeremy	Director, Steering Committee, Theme (Co) Leader, Hub (Co)Leader	Law, Business, Innovation Studies	University of Ottawa	Canada	Canada	

SURNAME	FIRST NAME	PARTNERSHIP ROLES	DISCIPLINE/ EXPERTISE	ORGANIZATION	COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP	RESEARCH COUNTRIES
Degendorfer	Katie	NERG	Law	University of Ottawa	Canada	Canada	Nigeria
Dos Santos	Fernando	Collaborator	Law	African Regional IP Organisation	Zimbabwe	Mozambique	
El Houssamy	Nagham	Collaborator, Case Study Researcher, NERG (Co)Leader	Political Science, Economics	American University of Cairo	Egypt	Egypt	Egypt
Elahi	Shirin	Collaborator	Business	Normann Partners	United Kingdom	United Kingdom	
Elisha	Lotha	Case Study Researcher		Nelson Mandela African Institution of Science and Technology	Tanzania	Tanzania	Tanzania
Ellis	Meika	NERG	Law	University of Ottawa	Canada	Canada	South Africa, Canada
El Said	Ayah	NERG	Economics	American University in Cairo	Egypt	Egypt	
Etuk-Ekong	Esther	Collaborator		Nigerian Institute of Advanced Legal Studies	Nigeria	Nigeria	Nigeria
Ezeala Ijeoma	Chinonyerem	NERG	Law	University of Ottawa	Canada	Nigeria	
Faye	Assane	Collaborator	Business	Universite Alioune Diop de Bambey	Senegal	Senegal	
Gaffen	Alyssa	NERG	Law	University of Ottawa	Canada	Canada	
Gelderblom	Elsabe	Collaborator	Design, web and Photography	Farm Design	South Africa	South Africa	
Gichuki	Douglas	Collaborator	Law	Strathmore University	Kenya	Kenya	
Hume	Theresa	Administrator	Business	University of Cape Town	South Africa	South Africa	
Hirko	Sileshi	NERG	Law	University of Ottawa	Canada	Ethiopia	
Isiko Štrba	Susan	Collaborator	Law	University of the Witwatersrand	South Africa	South Africa	
Jain	Vipal	NERG		University of Ottawa	Canada	Canada,India	
Jegede	Oluseye	Collaborator, Case Study Researcher	Innovation Studies	African Institute for Science Policy and Innovation	Nigeria	Nigeria	Nigeria
Kai-Philips	Freedom	NERG	Law	University of Ottawa	Canada	Canada	
Kamel	Farida	NERG, Collaborator, Case Study Researcher	Business	American University in Cairo	Egypt	Egypt	Egypt
Kedama	Yolisa	Collaborator, Case Study Researcher		University of the Witwatersrand	South Africa	South Africa	South Africa
Kraemer-Mbula	Erika	Steering Committee, Theme (Co)Leader, Case Study Researcher	Economics, Innovation Studies	Tshwane University of Technology	South Africa	South Africa	South Africa
Laltaika	Eliamani	Collaborator, Case Study Researcher	Law	Nelson Mandela African Institution of Science and Technology	Tanzania	Tanzania	Tanzania
Lemma	Markos	Collaborator	Information and Technology	GIZ	Ethiopia	Ethiopia	Ethiopia
Maister	Bernard	Collaborator	IP Law	University of Cape Town	South Africa	South Africa	
Malima	Gabriel	Collaborator, Case Study Researcher	Business	Nelson Mandela African Institution of Science and Technology	Tanzania	Tanzania	Tanzania
Mgbeoji	Ikechi Maduka	Collaborator	Law	Institute for Research and Innovation in Sustainability	Canada	Nigeria	

SURNAME	FIRST NAME	PARTNERSHIP ROLES	DISCIPLINE/ EXPERTISE	ORGANIZATION	COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP	RESEARCH COUNTRIES
Millya	Christine	Collaborator	Law	Tanzania Intellectual Property Rights Network	Tanzania	Tanzania	
Mogyoros	Alexandra	Collaborator	Law	University of Oxford	United Kingdom	Canada	
Moni	Mary	Collaborator, Case Study Researcher	Law	Strathmore University	Kenya	Kenya	Kenya
Morsi	Hani	NERG	Law	American University of Cairo	Egypt	Egypt	
Muleta	Shiferaw	Collaborator, Case Study Researcher	Business, Economics	Addis Ababa University, Amsterdam Centre for Entrepreneurship	Ethiopia	Ethiopia	Ethiopia
Mulumba	Moses	Collaborator	Law	Centre for Health, Human Rights and Development	Uganda	Uganda	
Munyi	Peter	NERG, Collaborator, Case Study Researcher	Law	University of Nairobi	Netherlands	Kenya	Kenya
Musungu	Sisule	Collaborator	Law	Strathmore University	Kenya	Kenya	
Mwangi	Jacqueline	Collaborator, Case Study Researcher, NERG	Law	Strathmore University	Kenya	Kenya	Kenya
Mwaura	Caroline	Collaborator	Law	Kenyatta University	Kenya	Kenya	
Ncolosi	Mbulelo	NERG	Law	University of Cape Town	South Africa	South Africa	South Africa
Ncube	Caroline	Steering Committee, Hub (Co)Leader, NERG (Co)Leader	Law	University of Cape Town	South Africa	Zimbabwe	
Ngom	Esther Sandrine	Collaborator, NERG	Law	Nkana Law Firm	Cameroon	Cameroon	
Nzomo	Victor	Collaborator, Case Study Researcher, NERG	Law	Strathmore University	Kenya	Kenya	Kenya
O'Toole	Darren	Collaborator	Aboriginal Law	University of Ottawa	Canada	Canada	
Oguamanam	Chidi	Steering Committee, Theme (Co)Leader, Hub (Co)Leader, Case Study Researcher	Law	University of Ottawa	Canada	Canada, Nigeria	Nigeria, Uganda
Ogunjemilua	Emmanuel	Collaborator, Case Study Researcher	Science Policy and Innovation	African Institute for Science Policy and Innovation	Nigeria	Nigeria	Nigeria
Okurut	Francis Nathan	Collaborator, Case Study Researcher	Statistics	University of Botswana	Botswana		Botswana
Ola	Kunle	Collaborator	Law	Nigerian Copyright Commission	Nigeria	Nigeria	Nigeria
Oluwale	Billy	Collaborator, Case Study Researcher	Science Policy and Innovation	African Institute for Science Policy and Innovation	Nigeria	Nigeria	Nigeria
Oriakpo	Vincent	Collaborator, Case Study Researcher	Statistics	National Bureau of Statistics	Nigeria	Nigeria	
Ouma	Marisella	Collaborator, Case Study Researcher	Law	Strathmore University	Kenya	Kenya	Kenya
Rizk	Nagla	Steering Committee, Hub (Co)Leader, Theme (Co)Leader, Case Study Researcher	Economics, Business	American University of Cairo	Egypt	Egypt	Egypt
Robert	Agnes	Case Study Researcher		Terrat Computers and Vocational Training Centre	Tanzania	Tanzania	Tanzania

SURNAME	FIRST NAME	PARTNERSHIP ROLES	DISCIPLINE/ EXPERTISE	ORGANIZATION	COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP	RESEARCH COUNTRIES
Rutenberg	Issac	Steering Committee, Theme (Co)Leader, Hub (Co)Leader, Case Study Researcher	Law, Natural Sciences	Strathmore University	Kenya	United States	Kenya
Rutert	Britta	Collaborator, Case Study Researcher	Anthropology	Free University Berlin, Natural Justice	South Africa	Germany	South Africa
Sarfo	Beverly	NERG	Law	University of Ottawa	Canada	Ghana	Nigeria
Schonwetter	Tobias	Director, Steering Committee, Hub (Co) Leader, Case Study Researcher	Law	University of Cape Town	South Africa	Germany, South Africa	South Africa, Kenya
Schorr	Victoria	Manager, Steering Committee	Political Economy, African Studies	University of Ottawa	Canada	Canada	
Sihanya	Ben	Collaborator	Law	University of Nairobi	Kenya	Kenya	
Soliman	Adam	NERG	Law	University of Ottawa	Canada	Australia, Canada	
Thuswaldner	Sarah	NERG	Law	University of Ottawa	Canada	Canada	
Tivana	Sigfried	NERG	Development Studies	Tshwane University of Technology	South Africa	South Africa	South Africa
Traynor	Cath	Collaborator, Case Study Researcher	Natural Sciences	Natural Justice	South Africa	United Kingdom	South Africa
Trudy Toona	Lebo	Collaborator	Economics	Tshwane University of Technology			
Ugwu	Uchenna	NERG	Law	University of Ottawa	Canada		
Uyanze	Candide	NERG	Law	University of Ottawa	Canada		
Van Wiele	Bram	Collaborator, Case Study Researcher, NERG	Law	University of Cape Town	South Africa	Belgium	Kenya, South Africa
Waldman-Brown	Anna	Collaborator, Case Study Researcher	Innovation Studies	Practical Education Network (PEN)	Ghana	United States	Ghana
Warner	Nan	Manager, Steering Committee	Management	University of Cape Town	South Africa	South Africa	
Webb	Phyllis	Administrator	Administration	University of Cape Town	South Africa	South Africa	
Weheba	Nadine	NERG, Case Study Researcher	Economics, Development Studies	American University of Cairo	Egypt	Egypt	Egypt

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