MAKE African European Maker Innovation Ecosystem

Deliverable 1.3

# Residency and Matchmaking Report

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# Progress Report

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| **Abstract (for public dissemination only)** | This report outlines key initiatives aimed at fostering innovation between African and European makers, startups, and investors. The Residency Program enabled cross-cultural collaboration and prototyping, while the Founder-to-Founder (F2F) Matchmaking facilitated trust-building and strategic partnerships. B2B matchmaking events supported startups by linking them with complementary partners in design and agriculture. Despite challenges such as funding constraints, the initiatives laid a strong foundation for future Afro-European collaborations, with continued financial and strategic support essential for scaling and sustaining these partnerships. |
| **Keywords** | Final reporting, residency, cooperation, matchmaking |

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# List of Abbreviations

| | |
|---|---|
| AGF | African Golden Foods |
| BMZ | Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development) |
| B2B | Business-to-Business |
| DTI | Design and Technology Institute |
| EU | European Union |
| F2F | Founder-to-Founder |
| GIG | Global Innovation Gathering |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation) |
| GT | GreenTec Capital Africa Foundation |
| H2H | Hub-to-Hub |
| MIP | Maker Institute Praha |
| MiR | Makers-in-Residency |
| UNDP | United Nations Development Programme |
| VR | Virtual reality |
| WP | Work package |

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# Executive Summary

This report highlights the results of initiatives fostering innovation between African and European makers, startups, and investors.

**Residency Program**

The Residency Program brought together African and European makers to collaborate, prototype, and exchange knowledge. Participants focused on using local resources and fostering cross-cultural understanding. This program laid the groundwork for future partnerships by fostering hands-on collaboration and skill sharing.

**Founder-to-Founder (F2F) Matchmaking**

Designed to connect innovators across continents, F2F emphasized trust-building through informal, community-driven events. Investors played a key role, providing funding insights and strategic guidance. Notable outcomes include:

- **Design and Technology Institute (DTI) Ghana & Maker Institute Praha**: Plans for collaborative student-led maker projects.
- **African Golden Foods & XR Global**: A Virtual Reality (VR) -based training partnership in agribusiness, pending funding.

**Business-to-Business (B2B) Matchmaking**

B2B matchmaking events focused on connecting startups with complementary partners, especially in design and agriculture. The Cairo pitch event catalyzed discussions, fostering new collaborations and identifying supply-demand channels.

**Key Challenges & Learnings**

- **Funding constraints**: Limited financial resources for early-stage startups hindered immediate project execution.
- **Trust and ecosystem-building**: Informal, community-based events proved effective in overcoming cultural and geographical barriers.

These initiatives have laid a solid foundation for Afro-European collaborations. Continued financial support and strategic networking will be crucial to scaling and sustaining these partnerships, driving long-term innovation and cross-border cooperation.

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# 1. Introduction

The Matchmaking and Residency Report serves as a comprehensive documentation of the matchmaking and makers-in-residency programs, along with the business-to-business (B2B) events that were hosted. The report outlines the strategies and outcomes of these initiatives aimed at fostering collaboration between innovators from Africa and Europe. By highlighting the connections made between entrepreneurs, investors, and support organisations, the report underscores the importance of building a robust ecosystem that promotes best practices, knowledge sharing, and sustainable economic growth. Additionally, it provides insights into the processes, selection criteria, and key participants involved in the residency programs and events, offering valuable lessons for future initiatives in the realm of digital social innovation.

This report is not meant for public distribution via social media. However, select sections that have been shared publicly, such as key learnings from the Makers-in-Residency Program and impact stories which are included in the appendix for reference.

# 2. Objectives

The matchmaking activities of Work Package 1 are dedicated to facilitating connections among a diverse array of stakeholders in the social innovation landscape. This initiative encompasses a series of matchmaking events designed to bridge the gap between investors, entrepreneurs, innovators, and other key players in both Europe and Africa. By organizing events focused on networking and collaboration, these activities aim to foster Afro-European partnerships that go beyond traditional company-investor dynamics. They encourage meaningful connections among makers, founders, business partners, and support organizations, creating opportunities for long-term collaborations and cross-border innovation. The goal is to lay the foundation for future collaborations, partnerships, investments, and knowledge sharing that will enhance the capacity of participants to address societal challenges.

- **T1.3.1 Hub-to-Hub (MiR) Residency**
  This component focuses on establishing a residency program for innovations that allows participants to develop prototypes collaboratively. By promoting a value chain across various hubs in different sectors, the objective has been to select up to ten entrepreneurial makers for an international makers-in-residency program. This program is intended to enable African and European makers to work together in developing digital innovation prototypes. Selection criteria was established in collaboration with the consortium and advisory board, and candidate selection involved a high-level stakeholder jury.
- **T1.3.2 Founder-to-Founder (F2F) Matchmaking**
  This initiative aimed at providing matchmaking opportunities for founders or founders to be seeking co-founders with complementary business specialisations. The goal was to connect like-minded makers to co-create new European-African digital joint ventures. This effort is also intended to link with the Maker Passport initiative outlined in Task 4.1 of Work Package 4.
- **T1.3.3 Business-to-Business (B2B) Connections**
  To enhance business growth in new markets, this component seeked to facilitate networking among complementary businesses, SMEs, corporates, and start-ups. It aimed to build new supply and demand channels, potentially integrating with the contracting initiative outlined in Task 4.3 of

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Work Package 4 later in the project timeline. To further promote collaboration and growth, this component aimed to facilitate two dedicated B2B networking events as extensions of the pitch events.

# 3. Hub2Hub: Makers-in-Residency

## 3.1 Explanation of Work Completed and Challenges Encountered

During the project term, a total of three Makers-in Residency (MIR) calls were completed with a total of six African makers and five European hub mentors taking part in the program. The response to the call for applications yielded 104 maker applications and 29 makerspace applications.

**MIR 1.0**

The first MiR programme was officially launched by WP1, WP5 and WP6 in May 2023, alongside announcement of the names of mAkE's five-person high-level Stakeholder Jury. WP6 supported the community engagement and activation of the programme planning and implementation and the call for applications was disseminated through each consortium member's network, as well as through dedicated mAkE channels. AMN was the predominant community network from which applications were received, followed by applications from members of the AfricaOSH and GIG networks. In addition, applications from more than 30 non-affiliated applicants were received, expressing interest in becoming part of a network which sparked the discussions on community engagement and activation as part of the mAkE project. These strategy discussions aimed to facilitate the involvement of non-affiliated individuals and DIHs/makerspaces becoming part of one or more of the existing community networks in the consortium. Thus, the close collaboration between WP1 and WP6 was amplified with regards to community building and broadening the networks to include VULCA Network, a European makerspace network with special emphasize on residencies, thus ensuring representations from Africa and the EU..

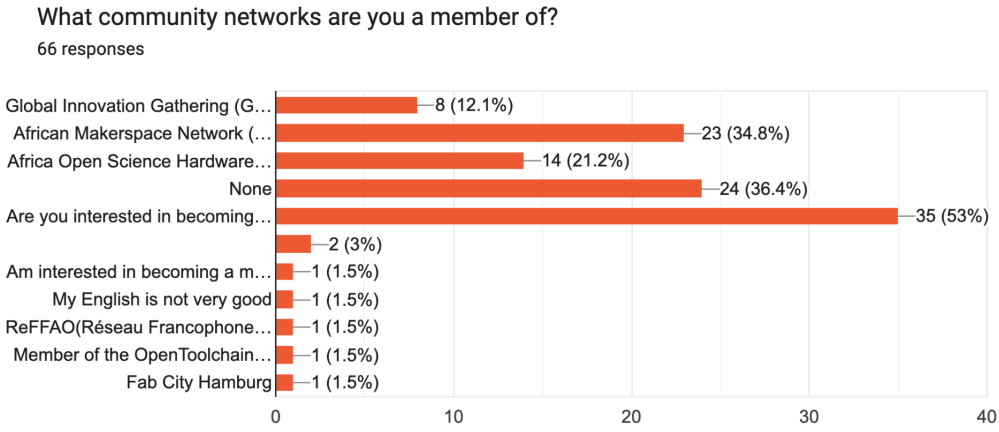


***Figure 1: Community network affiliation of MiR applicants***

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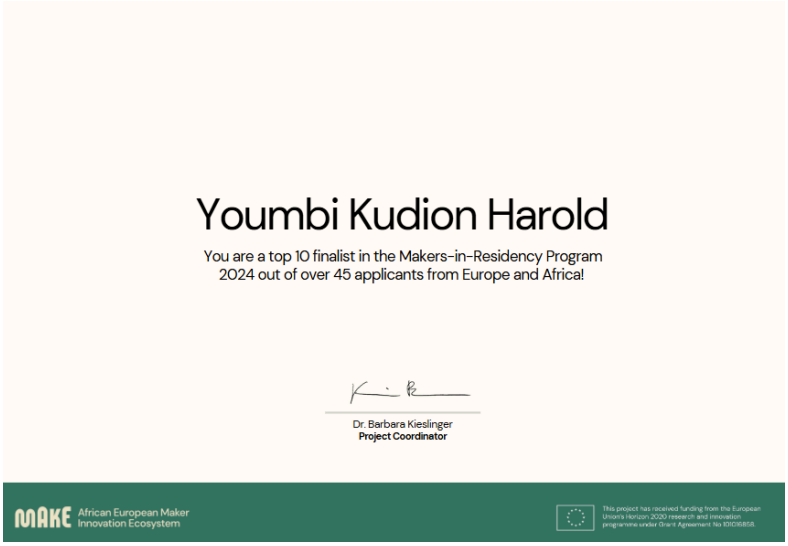
Via the initial call for applications, we received 60 applications from makers and 25 applications from makerspaces interested in hosting a maker. The Stakeholder Jury (3 women, 2 men; 2 European, 3 African) was officially introduced to the mAkE project and received a briefing on the ranking of the MiR candidates. Thereafter, they focused their decisions only on the projects proposed by the applicant makers. GT, in close collaboration with GIG, used the Jury ranking of all applicants to create a shortlist of 10 makers. Based on this shortlist, the matchmaking of DIHs/makerspaces and makers was facilitated.

All 10 shortlisted makers have received a certificate that they can use for other programme applications and/or to share on social media.




***Picture 1: MiR certificate example***

The final decision process for selecting the four makers was based on criteria such as:

- has proposed a worthwhile concept/project that will clearly benefit from the available support in Athens
- shows commitment to the project
- understands the expected outcomes
- has good communication skills
- has a valid passport

The final selection and matching process for the African makers was a difficult undertaking, and it was decided to send four of the African makers to a single makerspace in Athens, called AstroLab. This not only reduced the costs, but also provided the makers the opportunity to exchange with, and support each other during the residency, especially keeping in mind that two of the makers had never travelled outside of their countries before.

However, challenges arose in attracting female and European makers to the program, with some European and African finalists declining due to capacity constraints. As a result, the program encountered a standstill, necessitating a second call for applications to move forward effectively.

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**MiR 2.0**

To enhance the reach and effectiveness of the Makers-in-Residency (MiR) Program, a second call for applications was issued in November 2023, specifically targeting female makers with innovative ideas. Following valuable insights gained through collaboration with the Vulca Network—which has extensive connections across European makerspaces—a new application process was launched, enabling African makers to participate in residencies at European makerspaces. This approach leverages Vulca's deep familiarity with the makerspace community, addressing the challenge of limited material and machinery access in many African makerspaces.

This decision was based on several key factors: the strong partnership with Vulca, which has established a well-connected community of European makerspaces, and their extensive hands-on experience with these spaces. Additionally, the challenge of accessing materials and machinery in many African makerspaces made it difficult to ensure a fully equipped residency for the makers, prompting the choice to rely on Vulca's network for a more supportive environment.

The response to the second call yielded 46 maker applications (total: 104) and four makerspace applications (total: 29). The lower engagement from makerspaces reinforced the importance of working with networks like Vulca, who understand these communities deeply and can assist with targeted matchmaking. Vulca facilitated the selection by analysing shortlisted projects and providing contacts to suitable makerspaces.


***Picture 2: Meet the 6 chosen makers.***

However, visa challenges significantly impacted program planning. Visa application backlogs, limited appointments, and embassy communication delays required the residency to be postponed multiple

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times. This has made MiR programme-planning extremely challenging. The MiR for African makers, initially scheduled for September 2023, was postponed to May 2024 (MiR 2.0) due to visa and logistical challenges. During this period, some makers withdrew from the program, citing reasons such as new job opportunities, also prompting the second call for applications. Ultimately, the residency was rescheduled to the end of May, as visa issues continued to impact planning and accessibility for two participants. Two makers faced persistent visa issues: one was denied due to recent European travel, while another struggled with embassy closures and appointment scarcity.

**MiR 3.0**

In light of these barriers, an alternative residency in South Africa (MiR 3.0) was arranged, offering makers a chance to engage with local innovation events and network at the AfriLabs and African Makerspace Gathering. To facilitate their collaboration with an expert from FabLab Copenhagen, the makerspace mentor travelled to Cape Town to work in-person with the makers at The Cape Craft and Design Institute.

For one maker, whose project aimed to develop a low-cost educational device, persistent communication challenges arose during the project. Despite initial expectations, the maker struggled to deliver the agreed-upon educational content that was central to the project's objectives. The content, which was intended to complement the creation of the low-cost device, was not submitted within the agreed timeline. This misalignment between the project's goals and the maker's progress led to the decision to provide material support for the development of the device but to refrain from funding the maker's travel. Since the collaboration with the expert in Cape Town would not have been effective without the necessary educational content to build upon, it was determined that flying the maker in would not be a productive use of resources or funding.

**Maker and Makerspace support**

To support effective planning and tracking, a structured reporting framework with templates was developed for the MiR makers. Each maker, together with their hosting makerspace, prepared a work plan with guidance on progress tracking from an Internet of Production's representative. In partnership with IAAC / Fab Lab Barcelona, participants received a communications briefing on documenting their experiences through photos, videos, and weekly reports.

In addition, regular update calls and check-ins were facilitated, alongside the coordination of travel logistics, including visa arrangements, flight bookings, and accommodation. Communication with the makerspaces regarding materials and resources was also managed, ensuring smooth coordination between all parties involved.

**Cooperation with WP4**

- The MiR application form inquired whether participants were interested in learning about the Map of Machinery. The responses were shared with WP4, leading to an increased interest in the Map of Machinery and the Makers Passport. This collaboration facilitated a greater exchange of data and generated further enthusiasm for these resources.
- Hosting makerspaces joined the Map of Machinery.
    - Forms and data available at: https://map.internetofproduction.org/makers-in-residency/

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        - A form was distributed over a span of two months to collect inventories of machinery and materials in their facilities.
        - Takeaways: The inventory collection exercise revealed that most makers didn't follow inventory management best practices, like keep up-to-date records periodically or document their machinery specifications. Both practices enable users to explore their own manufacturing capabilities and plan effectively their projects.
- Makers received an intro session on project planning by Antonio from the Internet of Production.
    - Workshop Proposal available here: https://map.internetofproduction.org/makers-in-residency#onlineworkshopproposalprojectdocumentationwithwikifactory
        - The session was an open conversation about documentation version control, failsafe planning for their project prototyping journey. Based on FabAcademy content and experiences. https://fabacademy.org/.
        - Takeaways: The makers in residency participants had very diverse profiles and technical backgrounds, projects span from Affordable food production modules to CanSat Experimental educative Satellites.
- The Maker Passport's research on Open badging and micro-credentialing was presented to the maker during a call June 27th, 2023. It was the opportunity to present the benefits of having a maker passport. It helped getting more insight on how useful a maker passport could be for them. One more thing learned was that some of the makers who participated in the programme had received training and certifications during their residency.

**Budget**

Moreover, after inflation the budget of 30.000€ was not sufficient to cover the full costs of a residency programme for 10 makers including travel costs such as flights, visa, transport, accommodation, per diem and the costs to be incurred by the host the makerspaces, such as material and expert costs. Thus, it was necessary to reduce the number of makers sent to residencies.

## 3.2 The Residencies and Achievements

Six makers were chosen to develop projects that focus on addressing social and environmental challenges through innovative and sustainable solutions. Each project aims to create a positive impact in their respective communities, with a strong emphasis on creativity, functionality, and collaboration. The following provides an overview of their objectives, the progress they have made, and the potential outcomes of their work.

*Table 1: Overview MiR logistics*

| Name of Maker | Gender | Country of Origin | Hosting Makerspace | Residency Location |
|---|---|---|---|---|
| Asem Kamaal | Male | Egypt | La Bricothèque Fablab | Pernes, France |
| Witness Shangali | Female | Tanzania | EcoCentre-Varennes-sur-Allier | Varennes-sur-Allier, France |

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| | | | | |
|---|---|---|---|---|
| Martine Basaninyange | Female | Rwanda | Hackerspace Liège | Liège, Belgium |
| Leonard Shayo | Male | Tanzania | Fab Lab Barcelona | Barcelona, Spain |
| Elisee Jafsia | Male | Cameroon | FabLab Copenhagen | Copenhagen, Denmark |
| Joseph Orya | Male | Nigeria | FabLab Copenhagen | Copenhagen, Denmark |

## Achievement overview


Picture 3: MiR Achievements Overview

## MiR projects and outcomes

### Asem, from Egypt to France

**Project Description**: Asem is developing an innovative **Perpetual Wall Calendar** that combines aesthetic design with interactive functionality and sustainability. This calendar, crafted from natural wood and translucent acrylic, features 365 recessed squares representing each day of the year. Users can place

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coloured acrylic squares into these slots to highlight specific days—such as weekends, events, or holidays—allowing for a visually organised, personalised schedule.

This concept builds on an earlier 2020 project, where Asem created a simple, vinyl-based wall calendar. The new version elevates this idea, transforming it into a modern, open-source tool that allows users to download plans and instructions to create their own customised versions. This open-source nature encourages a DIY culture and community collaboration, with the aim of fostering shared creativity, as users can adapt and improve upon the design according to their needs and tastes.

**Impact**: The calendar introduces a sustainable alternative to disposable paper calendars, promoting reusability and waste reduction. It encourages creativity by allowing individuals to personalise their schedules through an enjoyable, interactive process. The design merges functionality with modern decor, making it ideal for homes and offices. This project also contributes to a collaborative culture by encouraging users to build and share their own customised versions. Potential challenges include accessibility to the required materials and tools, complexity of assembly, and environmental concerns regarding acrylic production.

**Experience:** Asem Kamal's journey from Giza, Egypt, to Southern France through the Makers-in-Residency (MIR) program was an enriching experience that allowed him to expand his skills and connect with a global creative community. Starting with his first visit to Europe, Asem attended re:publica 2024 in Berlin, where he participated in workshops on robotics, printing, and recycling, and visited several maker spaces, including the Berlin Textile Coop. The event provided a unique chance to collaborate with other makers, exchange ideas, and immerse himself in Berlin's vibrant, creative atmosphere. Asem then travelled to Pernes Les Fontaines in Southern France, where he worked at La Bricothèque Fablab on a smart wall calendar project. This was his first experience with coding and embedded systems, and with the support of the Fablab team, he integrated Arduino-controlled backlight LEDs into his design. Despite the challenge of a language barrier in the town, Asem found great value in the camaraderie and expertise of the makerspace team, who became both colleagues and friends. The experience inspired him to further pursue coding and Arduino projects and to continue expanding his creative work. Asem is grateful for the opportunity to network, collaborate, and grow as a maker, and he looks forward to applying the skills and ideas gained from this journey in his future projects.

**Outcome:** The final working prototype consists of two main components: hardware and software.

*Hardware:* The hardware component is fully assembled and functional but has encountered some technical challenges. One issue is the size of the power supply, which proved too large to be seamlessly integrated into the calendar's design. Additionally, the initial LED animation created an overheating issue, prompting discussions with Loïc and Olivier on alternative illumination techniques to reduce power consumption. Another adjustment needed involved aligning the square "day" components within the calendar grid, as minor inconsistencies in the laser-cutting process led to a less-than-ideal fit.

*Software:* Together with the expert, a basic LED animation code was developed, which successfully demonstrated the initial functionality of the lighting component. However, due to the limited timeframe of

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the program, additional LED animations envisioned for the calendar couldn't be implemented within the project period.

For more information about his experience, please read her blog post here: https://makeafricaeu.org/maker-residency-la-bricotheque-fablab/

Picture 4: MiR Project: Asem, from Egypt to France

**Witness, from Tanzania - to France**

**Project Description**: Witness is developing the **Ugali Maker Machine**, a device designed to improve the traditional, labour-intensive process of making ugali, a staple East African food. Constructed from stainless steel, the machine uses an electric-powered mechanised whisker and employs gas as a heat source to reduce the environmental impact of firewood usage. This approach not only makes the process more sustainable but also ensures that the machine is safe and suitable for food processing.

The Ugali Maker is specifically tailored for large-scale food production, such as in schools, institutions, and restaurants, where making ugali manually can be arduous and time-consuming. By enhancing hygiene, safety, and efficiency, the Ugali Maker streamlines ugali preparation, making it accessible and feasible for high-volume kitchens. It minimises health risks associated with open-flame cooking while enhancing the consistency and quality of food preparation.

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**Impact**: Witness's project offers considerable benefits, including improved hygiene and efficiency in food preparation, environmental sustainability through reduced firewood reliance, and economic opportunities by lowering labour intensity. Additionally, it supports gender equality, as women are often tasked with cooking in these contexts. Challenges may include the machine's initial cost, maintenance requirements, and possible cultural resistance to mechanised food preparation. However, it provides a safer, more efficient alternative that could transform the way ugali is produced on a large scale.

**Experience:** Witness Shangali's journey through the Maker in Residency Program at EcoCentre-Varennes-sur-Allier in France was an invaluable opportunity to develop a scalable and user-friendly ugali maker. As a member of Twende Makerspace, Witness had access to the FabLab's diverse capabilities, such as embroidery machines, laser cutters, and 3D printers, which he used to enhance his design skills. Through hands-on workshops and guidance from the FabLab team, he learned to use tools like CNC milling, laser cutters, and design software such as Inkscape and SolidWorks, enabling him to create a motor-driven ugali maker prototype that automates the stirring process. Although the prototype was not fully completed due to time constraints, the project has the potential to revolutionise ugali preparation in Tanzania, benefiting schools and restaurants. Throughout the residency, Witness also experienced French culture, from tasting local foods to exploring historic sites. He is grateful to Twende Makerspace, EcoCentre, and the organisations that made this opportunity possible, including The Global Innovation Gathering (GIG), GreenTec Capital Africa Foundation, and mAkE Africa EU.

**Outcome**: The Ugali Maker prototype is fully assembled and operational, with the motor, chain, and gear system successfully facilitating the pan's rotation. However, the current design presents limitations: it is not easily scalable for different batch sizes, and challenges remain in the installation of the whisker and the controlled movement of the saucepan. These issues will need to be addressed in future iterations to improve functionality and adaptability.

For more information about her experience, please read her blog post here:
https://makeafricaeu.org/maker-residency-scalable-ugali-maker/

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Picture 5: MiR Project: Witness, from Tanzania - to France

**Martine, from Rwanda to Belgium**

**Project Description**: Martine is working on a **Filament Maker Machine** to recycle plastic waste into affordable 3D printer filament, addressing the high cost and scarcity of 3D printing materials in West Africa. This machine allows makerspaces and 3D printing enthusiasts to produce their own filament from discarded plastic, creating a sustainable, locally-sourced option for those engaged in prototyping and product development.

This project goes beyond technical innovation; it's a community-building tool that promotes recycling awareness within the 3D printing ecosystem. By providing an affordable way to produce 3D printer filament, Martine's machine encourages a circular economy that reduces waste and empowers local communities. The machine is also intended as an educational tool, helping local makers gain hands-on experience with plastic recycling and sustainability practices.

**Impact**: Martine's machine has wide-reaching positive impacts, from environmental conservation by reducing plastic waste to economic growth through local production and job creation. It strengthens the region's maker community by fostering self-sufficiency and sustainable manufacturing practices. However, there may be barriers to adoption due to the need for training and initial setup. Collaboration with local 3D printing experts and enthusiasts will be essential to help overcome these hurdles and build a sustainable, resourceful community.

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**Experience:** Martine's journey through Germany and Belgium in 2024 focused on advancing her project that transforms plastic bottles into 3D printer filament, aiming to promote sustainability in education. She began by attending the re:pulica conference in Germany, where she connected with global innovators and discussed sustainability. In Belgium, at Hackerspace Liège, Martine refined her recycling machine, learning new skills and tools to improve its efficiency and make it user-friendly. The experience culminated in a working prototype that could help schools and makerspaces in Rwanda, where 3D printing filament is costly. Now back in Rwanda, Martine plans to introduce the machine to schools and universities, training students and teachers to produce their own filament, thereby reducing costs and fostering innovation and sustainability in education.

**Outcome**: A functional recycling machine is now in use at Makerspace Kigali. A compatible 3D printer has been ordered, as the existing Ultimaker 2+ only supports larger filament sizes. The project is particularly valuable for universities and high schools to implement learned concepts, and collaboration with these institutions is being pursued. Additionally, support was provided to IPRC Tumba for a similar project, and the makerspace recently received another recycling machine through the James Dyson Award, enhancing innovation efforts.

For more information about her experience, please read her blog post here: https://makeafricaeu.org/maker-residency-recycling-3d-filament-solution/

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***Picture 6: MiR Project: Martine, from Rwanda to Belgium***

**Leonard, Tanzania to Barcelona**

**Project Description**: Leonard's project, **MapinduziSat**, is a CubeSat satellite prototype aimed at providing affordable, accessible solutions for Earth observation, environmental monitoring, and STEM education. Operating at a low Earth orbit of 500 kilometres, the CubeSat will be equipped with sensors for environmental data collection, a camera for Earth imagery, and a LoRa transceiver for communication with a ground station. The satellite is designed to capture data on temperature, humidity, UV radiation, and forest fire detection, which will then be transmitted back to Earth. In addition to its technical functions, MapinduziSat serves as an educational platform, designed to engage young people in Tanzania and sub-Saharan Africa in STEM fields. The project uses affordable, off-the-shelf components such as the Raspberry Pi and LoRa modules to make satellite development accessible to institutions and individuals. Leonard aims to inspire young students and amateur radio enthusiasts by demonstrating how CubeSat technology can provide real-world data for research and exploration.

**Impact**: MapinduziSat has significant potential to inspire interest in STEM among young people, particularly those in sub-Saharan Africa who have limited exposure to space technology. The CubeSat offers a cost-effective platform for environmental research and Earth observation, promoting STEM education and sparking interest in satellite and space science. Potential challenges include technical difficulties, regulatory concerns, and ensuring the CubeSat's reliability. Despite these, Leonard's project represents a groundbreaking step in accessible space exploration for the region, helping to foster a new generation of STEM professionals.

**Experience:** Leonard Shayo's time at Fab Lab Barcelona as part of the Makers-in-Residency Program was a transformative experience that helped him refine his CubeSat project for environmental research. As one of the participants in the mAkE – African European Maker Ecosystem program, Leonard had access to

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advanced fabrication tools and expert guidance, which allowed him to make significant progress on his CubeSat prototype. This satellite, designed to monitor the effects of climate change, is particularly important for Tanzania, where it will aid in understanding shifting weather patterns and inform conservation efforts. During his residency, Leonard also explored ways to combine space technology with renewable energy to address Tanzania's energy challenges. His experience at Fab Lab Barcelona reinforced his commitment to developing Olspace, his aerospace startup, and establishing a local makerspace to support innovation, STEM education, and technological advancement in Tanzania. Leonard hopes to use the CubeSat project as an educational tool to inspire and empower the next generation of STEM innovators. Although the CubeSat prototype is still in progress, Leonard is optimistic about the future of Olspace and its potential to drive technological advancement in the region.

**Outcome**: The MapinduziSat-1 prototype, developed at Fab Lab Barcelona during the Maker-in-Residency program, is a 1U CubeSat built to explore Earth's magnetic field and environmental conditions. Key improvements during the residency included enhanced data logging accuracy and real-time visualisation through a Grafana dashboard. Successfully tested in a simulated environment, the CubeSat demonstrated reliable performance in capturing data on magnetic fields, temperature, pressure, and humidity. This prototype highlights CubeSats' potential as educational tools, providing a platform for STEM engagement and foundational space technology development in Tanzania and across Africa.

Leonard's blog post and the video documenting his journey can be found here: https://makeafricaeu.org/makers-residency-fab-lab-barcelona/


***Picture 7: MiR Project: Leonard, Tanzania to Barcelona***

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MiR 3.0

**Elisee, from Cameroon**

**Project Description:** Elisee's current project is the development of a digital, wireless, 3D-printed stethoscope prototype aimed at providing an accessible, locally produced alternative to traditional stethoscopes. This innovative device leverages 3D printing technology to reduce the high costs typically associated with modern stethoscopes. Designed for remote operation, the stethoscope allows a patient to position the device while the practitioner interprets the readings, minimising the need for close contact and reducing cross-contamination risks. The stethoscope also features replaceable 3D-printed components, which streamline maintenance and allow for easy sterilisation. Elisee's expertise in 3D modelling, digital fabrication, and electro-mechanical systems has been essential in creating this affordable healthcare solution. Future plans include developing an application with AI-based sound classification to enhance the device's diagnostic capabilities and improve its user interface for broader accessibility.

**Impact:** Elisee's digital stethoscope addresses multiple healthcare challenges by offering an affordable, replaceable, and easy-to-clean alternative to conventional stethoscopes, particularly in regions with limited access to medical equipment. By reducing the need for physical proximity, this device promotes safer healthcare practices in the context of infectious disease outbreaks. The stethoscope's locally produced components can boost availability in underserved markets and support sustainable production practices. However, Elisee acknowledges the importance of responsibly managing the device's use, including providing training to avoid misdiagnoses by unqualified users and ensuring the recycling of 3D-printed parts. Ultimately, this project exemplifies the potential of 3D printing in advancing accessible healthcare solutions.

**Experience:** Elisee faced ongoing challenges in obtaining his visa in time for the project, with unexpected issues such as power outages at the embassy causing further delays. However, the Cape Town makerspace remained open to the possibility of his arrival at a later stage, offering flexibility to support his participation if circumstances changed. Despite his efforts to secure the visa, he was unable to join the program as initially planned.

In the meantime, Elisee's mentor from FabLab Copenhagen, Rasmus, arrived in Cape Town as scheduled and began preparations for the project. Rasmus and Elisee maintained regular contact via phone calls to coordinate next steps remotely. Ultimately, Elisee's visa did not come through, and Rasmus continued working on the prototypes independently, coordinating closely with Elisee to ensure the project's progress. Arrangements have been made for another participant from Cameroon attending the African Makerspace Gathering to deliver the completed prototypes to Elisee, enabling him to carry on the project locally.

**Outcome**: The project began as a cost-effective solution to create stethoscopes in Cameroon, using 3D-printed parts and basic materials like a plastic membrane and a microphone connected to a microcontroller. Early versions emphasized affordability and reduced patient-therapist contact.

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Subsequent iterations improved power efficiency by adopting a more compact and energy-saving microcontroller, shifting towards wireless communication. A modular design emerged, with reusable electronics and disposable parts. The final prototype is a handheld, self-operated device incorporating AI for diagnostics. Both Elisee and Rasmus together are now focused on obtaining medical approval and refining the device for scalable, global use through localized manufacturing.

This example highlights the significant time (and budget) required to bring together innovators who share a vision and collaborate to co-develop an idea into a viable company. The journey from concept to prototyping to founding a potential enterprise is a lengthy process, demanding patience, sustained effort to achieve success.

**Feedback by Rasmus Fangel, Makerspace manager FabLab Copenhagen, Denmark:**

"I really appreciated the corporation and the possibility to help being midwife to a few projects that really should have a chance to receive more counseling and closer co-development. That being said, we have enjoyed the approach of taking a very raw idea and putting it into a setting where it has inspired a whole community and fostered ongoing conversations about creations and how to think globally but make locally. As a lab and as a community we've been honored to take on the task of helping Elisee's digital stethoscope project to a new level and we hope to give the project a life beyond the first initial framework and idea.

In some ways working with real life problem-based projects is such a boon to rapid prototyping and digital manufacturing. It creates an urgency and relevance for our institutions to be involved. Although, unfortunately, such initiatives sometimes arise from tragic events like COVID-19, it underscores the importance of developing projects like this in times of stability. Establishing these collaborations proactively ensures resilience and preparedness for future challenges.

Looking back, these projects really suffered from one thing. The lack of an exchange. The project development would have been much faster, the engagement with the community much deeper and the inspiration of our makers much stronger with a stay at our FabLab. We hope we can make a better version of this part soon. "

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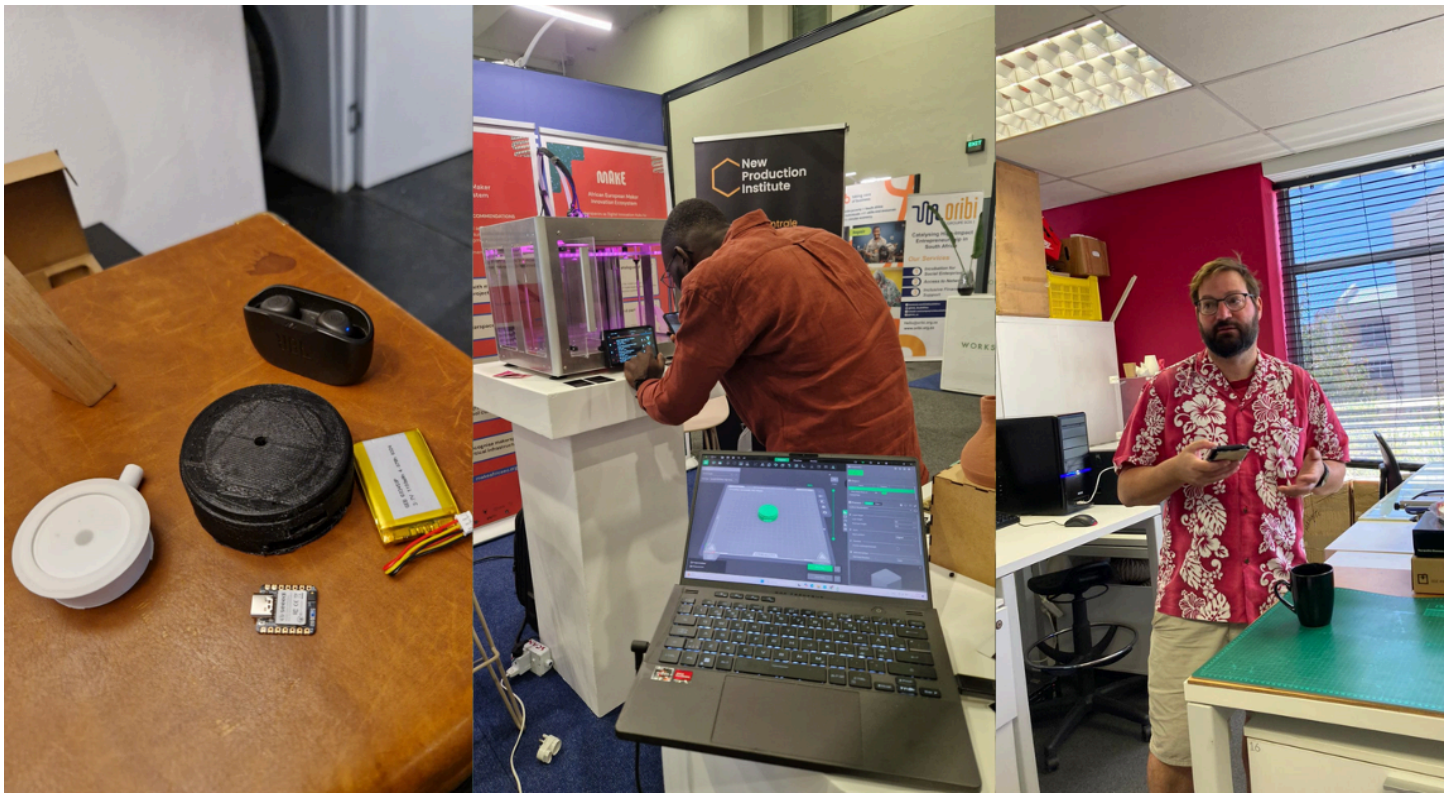


***Picture 8: MiR Project: Elisee, from Cameroon***

**Joseph, from Nigeria**

**Project Description:** The maker behind Cumpas is focused on developing a solar-powered, rugged educational device designed to address the disruption of education caused by crises, such as conflicts and climate disasters. Cumpas, a portable solution, is engineered with a durable, water-resistant casing, making it suitable for challenging environments. Pre-loaded with educational content covering a wide curriculum, the device operates offline, ensuring that children in crisis-affected areas can access learning materials without the need for a stable internet connection. It incorporates interactive learning tools, including quizzes and adaptive lessons, to enhance engagement and promote project-based learning. Additionally, Cumpas is designed to be solar-powered, ensuring continuous functionality even in areas with limited access to electricity. The device's culturally sensitive content ensures it is relevant to the diverse backgrounds of its users, primarily focusing on children in refugee camps and disaster-stricken regions.

**Impact:** Cumpas aims to address the critical issue of education disruption in crisis and disaster-affected regions. By providing a portable, durable, and sustainable educational device, Cumpas ensures that children facing displacement can continue their learning despite the lack of traditional educational infrastructure. The device's offline capabilities overcome the limitations of connectivity in remote areas, offering a reliable and accessible source of education. The interactive, hands-on nature of the learning

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tools also fosters skills development, empowering children with essential knowledge and confidence. With its focus on marginalised communities, particularly children in poverty and refugee settings, Cumpas has the potential to bridge the educational divide, offering a lifeline for young learners and promoting long-term empowerment through education.

**Experience:** Between May and October, Joseph received continuous online support from his mentor, an experienced librarian and programming expert from FabLab Copenhagen, to advance his project. His initiative was selected specifically for its aim to create not just a low-cost computer, but a comprehensive educational tool for children in remote areas, including tailored learning content.

Joseph's trip to Cape Town was not funded due to a shift in project focus. While his original plan centered on creating an educational tool with custom content for children in remote areas, his efforts were primarily directed toward building a low-cost laptop. As educational content development did not progress as intended, the decision was made to prioritize resource allocation and avoid unnecessary travel costs without a strong foundation for continued mentorship and collaboration.

## 3.3 Summary of Maker-in-Residency Feedback

### Makerspace Experience

**Strengths:**

- The international exchange added value to makerspaces, fostering cultural insights and connections. Despite initial concerns about hosting African participants in rural areas, the collaboration overcame language barriers, resulting in a positive and enriching cultural exchange.
- Integration into local communities enabled active participation in community events, adding depth to the residency experience.
- Communication flowed smoothly between experts and makers, with few language or cultural barriers, facilitating teamwork.
- Strong peer support and collaborative efforts enhanced project outcomes.
- The cultural exchange aspect was widely appreciated, allowing participants to learn from diverse operational practices.
- Positive momentum toward future residencies and interest in maintaining connections among makers and spaces.

**Areas for Improvement:**

- Preparation could be streamlined, as hosts noted delays in document sharing and limited pre-planning on makers' side.
- Compressed project timelines led to rushed deadlines; a longer duration would allow for more comprehensive project completion.
- Technical limitations and limited material availability in some regions posed project challenges.
- Managing expectations and aligning goals with resources would support better outcomes.

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- More transparent financial guidelines and pre-set arrangements for hosting and funding would ease the residency experience.

### Maker Experience

**Strengths:**

- Participants reported considerable growth in both design and technical skills, with newfound confidence in coding and experimentation.
- A strong sense of community within well-organised makerspaces enriched the residency.
- Participants described an open, curious, and collaborative environment within makerspaces, feeling welcomed and engaged.
- Workshops, local engagement, and networking opportunities were highly valued, adding to the program's impact.
- Residencies fostered ongoing collaboration with makerspaces, supporting participants' growth even after residency.
- Access to new equipment and exposure to innovative ideas expanded participants' creative horizons and ambitions.

**Areas for Improvement:**

- Language barriers, though generally manageable, occasionally impacted communication effectiveness.
- Short project durations often resulted in unfinished prototypes, with limited time for adjustments.
- Preference for streamlined communication, with fewer but more focused emails, was noted.
- Longer residency periods (ideally two to three months) would provide sufficient time for thorough project development.
- Budgetary considerations, including increased per diem funds and funds for project planning times, would improve participants' financial security and availability during the residency.

## Key Recommendations

- **Contracts and Deliverables**: Establish contracts that clearly define project deliverables, timelines, and responsibilities. A well-outlined project structure helps prevent misunderstandings, as seen in the example with Joseph's project, where initial expectations differed from final project actions.
- **Visa Planning**: For makers coming from countries with complex visa requirements, include ample lead time for visa approvals. Inquiring about other pending visas could help avoid delays related to passport availability.
- **Matchmaking Resources**: Allocate funds to support network partners like Vulca, enabling a more thorough matchmaking process. Early alignment on project goals ensures both the maker and expert have a shared vision from the outset.
- **Pre-Residency Design Support**: Consider funding the maker and the expert during the preparation phase, encouraging them to work on design and planning tasks ahead of the residency. This advance work facilitates smoother project progression on-site.
- **Advance Planning and Timeline**: Begin residency planning and application calls at least six months in advance. This longer timeline allows for effective preparation and helps accommodate visa processing, material sourcing, and clear budgeting.

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- **Rural Areas**: Consider hosting two residencies simultaneously to mitigate challenges faced in remote locations. This approach ensures better resource allocation, while also facilitating networking and community engagement for participants.

Please find both the key recommendations shared with the ecosystem and the impact story created in collaboration with WP7 in the appendix.

## 3.4 Conclusion

The experience of the residency offered important insights, starting with the value of preparation. The logistical issues that some participants faced, such as visa delays and document challenges, highlighted the importance of early coordination and planning. A more structured approach, with thorough pre-arrival meetings and clearer timelines, could ease the process and allow participants to focus on their projects from the outset.

**Language and communication** also played a crucial role. While the language barrier wasn't a significant issue, smoother communication channels and better linguistic support would have enhanced the collaboration. Participants emphasised the need for more concise and organised communication to avoid misunderstandings or delays.

**Cultural exchange** emerged as one of the residency's most enriching aspects. Makers didn't just gain technical expertise—they learned new ways of thinking and problem-solving by interacting with people from different cultural backgrounds. This exchange was a highlight for many, providing insights that will likely influence their work long after the program ended.

**Resource management** was another key learning point. Some participants faced difficulties in sourcing materials or accessing specific tools, particularly in regions where such resources were scarce. Ensuring better preparation around equipment needs, or having alternative solutions in place, would help mitigate these challenges in future residencies.

**Financial support** and clear arrangements were also identified as areas needing improvement. Participants noted that having a more reliable and transparent financial structure, along with increased per diem funds, would reduce stress and allow them to concentrate fully on their creative work.

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# 4. Founder 2 Founder Matchmaking

## 4.1 Explanation of approach

The primary objective of this task is to connect European and African innovators to collaboratively co-create and co-found new ventures. Given the inherent challenges in establishing intercontinental ventures—particularly because many founders prefer locally based co-founders to facilitate easier collaboration—it was essential to design a process that fosters trust and encourages long-term partnerships. Recognizing that trust often takes time to develop, we focused on creating community-based events as an initial platform for connecting and co-creation.
These matchmaking events provided a structured yet informal setting for makers and innovators to meet, share ideas, and discuss common challenges, helping to bridge the geographical and cultural gaps that can hinder cross-border collaborations. By introducing innovators into an established and supportive community, these events foster a foundation of trust and mutual understanding essential for successful collaboration.

Including investors in these matchmaking events is seen as important, as capital availability plays a key role in the feasibility of co-founded ventures. Capital availability is a crucial factor in the viability of co-founding ventures, as demonstrated by examples like the DTI and Maker Institute Praha, where potential partnerships hinged on investor support of makerspaces. By introducing investors to makerspaces and innovators, we aimed to establish a foundation of financial and strategic support that could nurture future partnerships and co-creation efforts. By introducing f.e. European investors to African ventures, we have added to the overall target of increased collaboration between Europe and Africa.

In addition to funding, investors bring valuable insights into structuring companies and transforming ideas into scalable, successful ventures. Many investors also prefer to work with companies that have multiple founders, as a diverse founding team is often seen as better equipped to address the complexities of scaling and sustaining a business. By introducing makers and founders to investors early on, we helped them access not only potential capital but also expert advice on essential business fundamentals that can make or break a new venture.

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## F2F Events Report

### 2022

**December**

01 December 2023
**SPTA Networking Event Nairobi**
Partcipants: 80
Organizer: GT
Location: Nairobi, Kenya

### 2023

**October**

17 October 2023
**Meet Fablab Founders / Managers**
Partcipants: 12
Organizer: GT / GIG
Location: Online Event

**November**

24 November 2023
**Vulca Network Seminar**
Partcipants: 70
Organizer: GT / Vulca
Location: Ljubljana, Slovenia

31 November 2023
**Africa Early Stage Investor Summit**
Partcipants: 4
Organizer: GT
Location: Capetown, South Africa

**May**

10 May 2023
**STEM Makerspace for Young Girls**
Partcipants: 30
Organizer: GT
Location: Abidjan, Ivory Coast

MAKE African European Maker Innovation Ecosystem

## F2F Events Report

### 2024

**January**

21 January 2024
**Networking between XR Global and African Golden Foods**
Partcipants: 3
Organizer: GT
Location: Online

**April**

10 April 2024
**Networking Lunch (Pitch Event Cairo)**
Partcipants: 18
Organizer: GT
Location: Cairo, Egypt

18 April 2024
30 April 2024
**DTI Kenya X Maker Institute Praha**
Partcipants: 6
Organizer: GT
Location: Online

30 April 2024
**Africa Golden Foods & XR Global**
Partcipants: 3
Organizer: GT
Location: Online

09 May 2024
**Ecosystem Night Cairo**
Partcipants: 30
Organizer: GT
Location: Cairo, Egypt

**May**

10 May 2024
**IFC "Scaling African Golden Food Business Model"**
Partcipants: 2 (AGF & IFC)
Organizer: GT
Location: Online

11 & 12 May 2024
**Startups Without Borders: Matchmaking with Startups and Investors**
Partcipants: 400
Organizer: GT
Location: Cairo, Egypt

MAKE African European Maker Innovation Ecosystem

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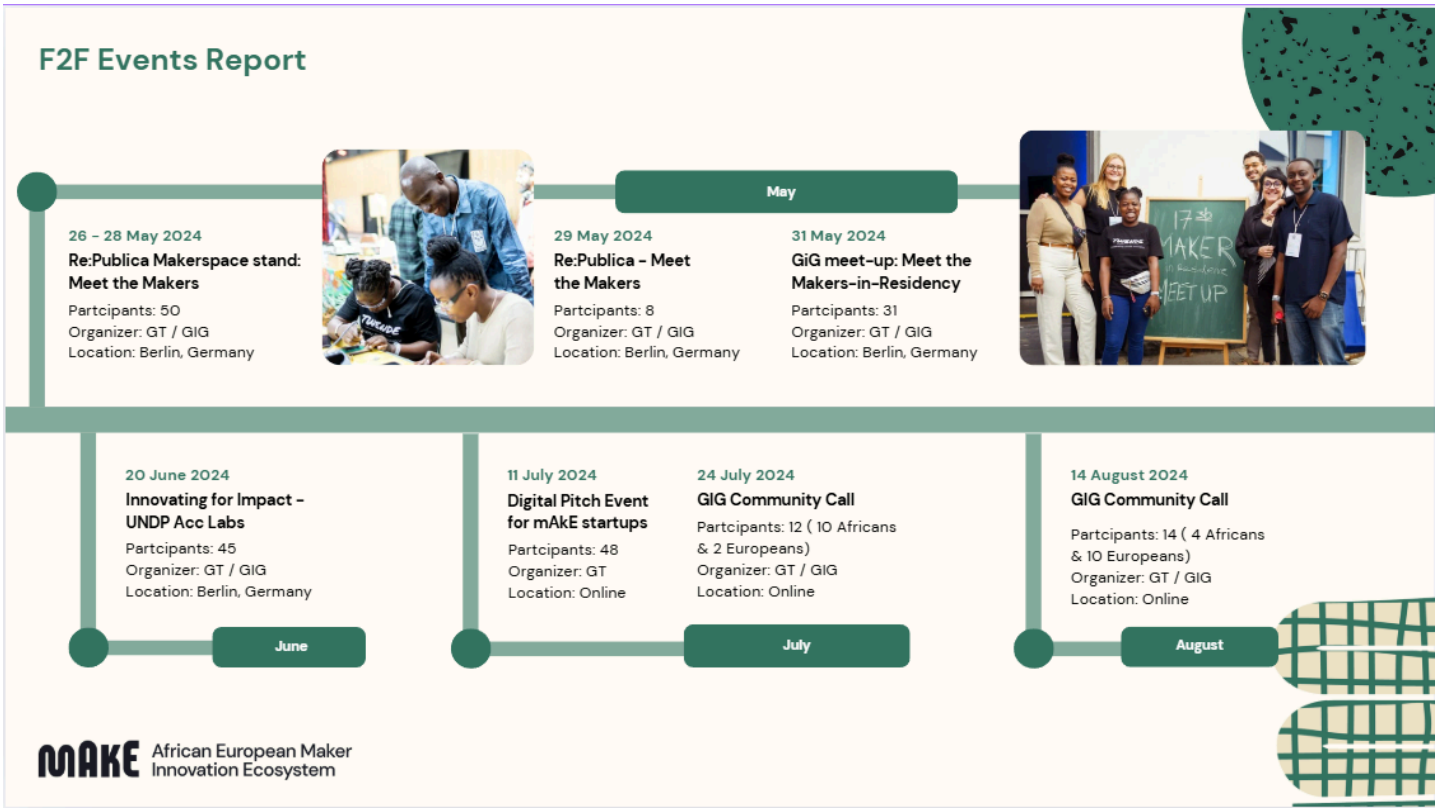


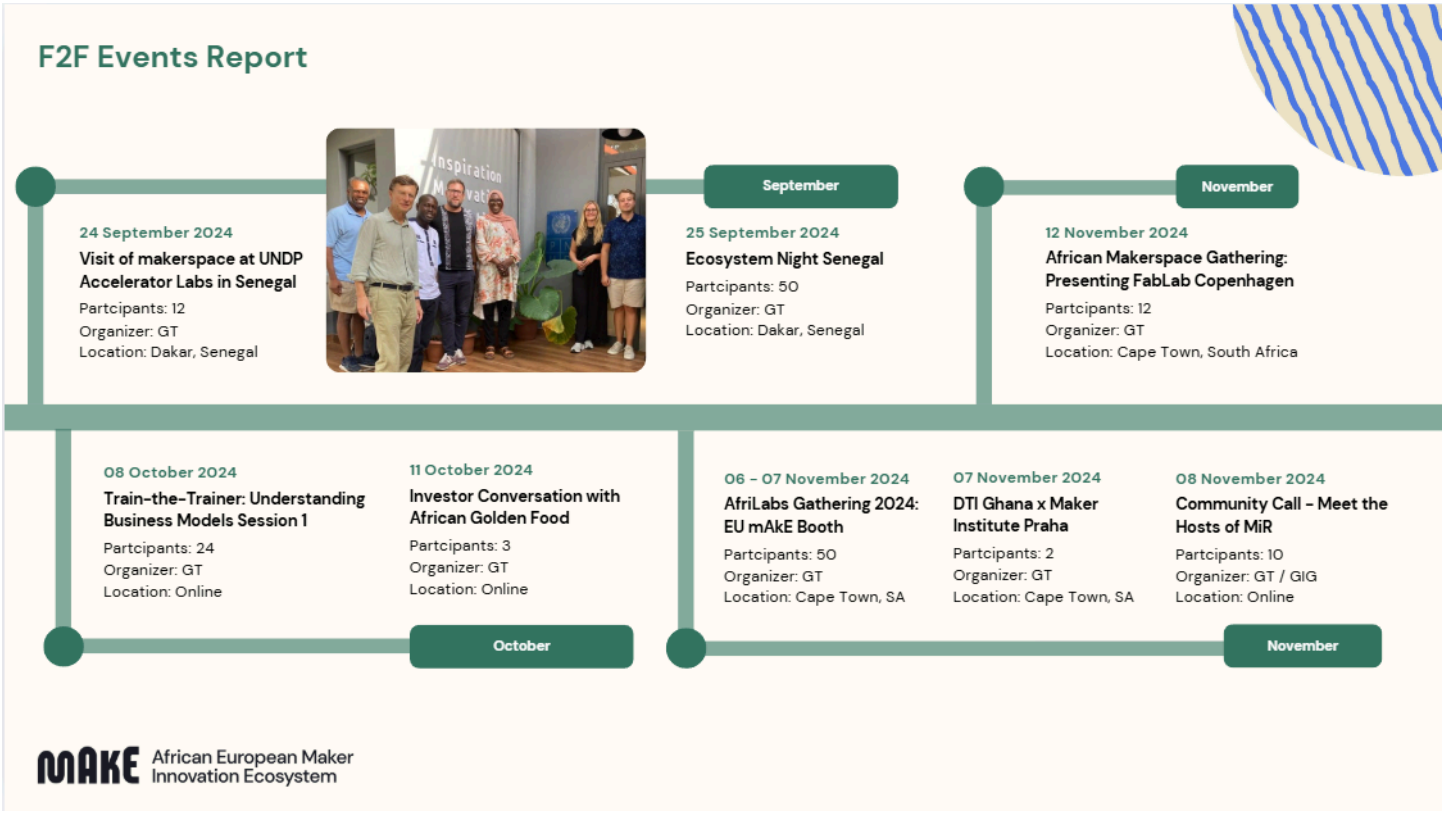


***Figure 2: F2F Events Timeline***

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A detailed table outlining all events can be found in the appendix

## Type of events

**Partnership Development:**

- **Purpose**: Although all events have the long-term goal of building Afro-Euro partnerships and joint ventures, this grouping focuses on fostering already *concrete* partnerships between organisations, across continents, with the intent to build long-term collaborative projects, initiatives or ventures. These events explore mutual goals and provide platforms for initial discussions and planning.
- **Key Activities**: Exploratory meetings, follow-ups on partnership ideas, creating shared resources, and formalising partnerships for specific projects.
- **Example Events**:
    - "African Golden Foods and XR Global exploring opportunities" which aimed at developing a partnership for VR-featured field training in agri-business.
    - Interactions like "DTI Kenya x Maker Institute Praha," where ideas and resources were shared to build a partnership and collaboration on projects between European students and African makers.

**FabLab & Makerspace Development:**

- **Purpose**: This grouping is dedicated to developing and supporting FabLabs and makerspaces, especially in regions where they are emerging. The focus is on resource-sharing, infrastructure support, and community building within these spaces.
- **Key Activities:** Presenting successful FabLab models, sharing project progress, and discussing challenges specific to FabLab development and sustainability.
- **Example Events**:
    - "Community Call - Meet the Hosts of MiR," which served as a platform to discuss FabLab support and collaborations.

**Knowledge Exchange & Skill Building:**

- **Purpose:** Events in this category aim to facilitate the sharing of knowledge, skills, and experiences among participants, often across diverse geographic and professional backgrounds. The goal is to foster learning, capacity building, and knowledge-sharing for makers, founders, and innovators; to create connections and trust, leading to future collaborations.
- **Key Activities:** Presentations, seminars, and brainstorming sessions, often involving sharing experiences, discussing challenges, and offering training or structured learning opportunities.
- **Example Events:**
    - "Vulca Network Seminar 2023" where possibilities for collaboration and knowledge exchange between African and European makers were explored.
    - Community calls, like "Introducing our MiR Makers," which facilitated insights into personal experiences, challenges, and collaborative opportunities in projects like the Ugali maker.

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**Investor Connect**:

- **Purpose**: This type was focused on connecting startups, founders, makers and makerspaces with potential investors, partners, and funders to encourage investment and support for innovation. These events enable networking and initial dialogues that might lead to funding opportunities, partnerships, or collaborations.
- **Key Activities**: Includes investor introductions, networking opportunities, matchmaking, and pitch events where startups or projects are showcased to potential investors but also program-external founders, organisations and innovators.
- **Example Events**:
    - Networking events like the “Ecosystem Night Cairo” and “Innovating for Impact" by UNDP Acc. Labs that bring Innovation Hubs, companies and various types of investors together.
    - Specific investor meetings, such as “Digital Pitch Event for mAkE startups” where investors could ask questions and follow up on innovative startups.

## 4.2 Explanation of work done

The following activities were carried out to ensure the successful execution and follow-up of the matchmaking events:

- Delivered informative presentations about matchmaking events to engage participants and clarify event goals and expected outcomes.
- Reached out to relevant individuals and organisations to encourage participation and ensure diverse involvement in the events.
- Facilitated introductions between participants and stakeholders, fostering connections and potential collaborations.
- Managed the promotion of the events, moderated calls, and ensured smooth communication throughout the process.
- Handled follow-up actions after the events, addressing inquiries and maintaining relationships with key contacts.
- Developed and maintained a comprehensive contact book to support ongoing communication and networking.
- Created secure data rooms to store and share key documents, providing easy access to essential resources for all involved.

Events

All facilitated events include participants from both Africa and Europe, with some events also featuring international attendees.

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## 4.3 Highlights

**AfriLabs Gathering 2024: EU mAkE Booth**

During the Show and Tell at the AfriLabs Gathering booth, Rasmus from FabLab Copenhagen 3D-printed parts for a digital stethoscope using an open-source printer, attracting significant interest. He engaged in knowledge exchange with African makers and makerspaces and extended an invitation to a Nordic FabLabs Bootcamp. The event will focus on creative making with local resources, skill-sharing workshops, and initiating Afro-Euro makerspace collaboration, laying the groundwork for a partnership and future exchanges.


***Picture 9: AfriLabs Gathering 2024: EU mAkE Booth***

**Innovating for Impact**

Public investors, including prominent European organisations such as Siemens, Bayer, and SAP, alongside public institutions like German Federal Ministry for Economic Cooperation and Development (BMZ) and GIZ, participated in a detailed session on the innovation hubs known as *UNDP Accelerator Labs* organised by GreenTec. This session introduced the overall concept and methodologies of the Accelerator Labs, sharing three impactful case studies from Zimbabwe, North Macedonia, and the Philippines to showcase the Labs' approach to fostering local solutions and creating scalable innovations. This event brought public investors to understand the importance of innovation hubs and to in the long run collaborate with and invest in them.

In the latter part of the event, participants engaged in interactive work sessions, exploring specific ways to generate measurable impact through future partnerships. The event concluded with a "commitment game" to reinforce shared goals, followed by an informal networking dinner, which facilitated deeper discussions on potential collaborations.

Several follow-up conversations took place after the event, leading to new partnership possibilities. Siemens, for example, expressed a strong interest in collaborating with the UNDP Accelerator Labs. After

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aligning on strategic objectives, the Accelerator Lab Network was activated to develop and share proposals for joint initiatives with Siemens. In addition, Siemens confirmed its participation in the UNDP work session at the Hamburg Sustainability Conference, where both organisations further explored their partnership potential and aligned on sustainable development goals.

***Picture 10: Innovating for Impact Event***

**DTI Ghana x Maker Institute Praha**

At the Vulca Gathering, Leyla from Maker Institute Praha (MIP) was introduced to the matchmaking events and showed interest in exploring potential collaborations for her university student projects. These student projects focus on solving real-life problems over a few weeks. DTI Ghana makers, on the other hand, either already run their own companies or are working towards creating them.

During the initial calls, both parties shared information about their organisations, discussed synergies, and explored what they were looking for in a partnership. Both DTI and MIP are highly interested in running a program together. DTI is also keen on raising funding for residencies.

However, DTI is currently experiencing a personnel shortage due to delayed funding and efforts to establish a new makerspace. They are still very interested in pursuing a partnership with MIP and anticipate being able to dedicate more capacity to this collaboration by February.

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***Picture 11: DTI Ghana x Maker Institute Praha Event***

**African Golden Foods & XR Global Exploring Opportunities**

We facilitated a strategic connection between the Ghanaian founder of African Golden Foods (AGF), an agrifood startup, and the European and American founders of XR Global, who specialise in designing and implementing VR-based training solutions. AGF is keen to collaborate with XR Global to introduce VR field training for participants in the agri-business ecosystem. Both parties have agreed to progress their partnership upon AGF securing the necessary funding. This example underscores the essential role of investment and cash flow in enabling impactful collaborations and partnerships. To support this, we also introduced AGF to an investor with a strong interest in the agricultural sector in Ghana.

***Picture 12: African Golden Foods & XR Global Exploring Opportunities***

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**EU mAkE Pitch Event in Cairo**

At the EU mAkE pitch event in Cairo, Vortex—a startup from the cohort of seven presenting—had the opportunity to connect with European and African investors, Egyptian founders, and makerspace representatives. Following this event, Vortex and San3aTech/FabLab Egypt decided to collaborate and co-host an event on May 20 in Cairo. This session, which included a total of 14 participants, was designed as a project portfolio-sharing session to explore partnership opportunities. They now plan to establish an annual platform to support comic book creators in Egypt through FabLab Faire, as well as to establish a FabLab at Vortex's Hub in Lagos to further support the creative community.
The connections made at the EU mAkE pitch event in Cairo catalyzed Vortex's expansion efforts, fostering ongoing collaboration with FabLab Egypt. Inspired by the event's impact, Vortex now focuses on translating its platform and launching original content for the MENA region. Additionally, the collaboration will support creative communities by hosting North African comics on a cloned platform.

***Picture 13: EU mAkE Pitch Event in Cairo***

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## 4.4 Learnings

The primary learnings from the Founder-to-Founder matchmaking initiative can be summarised as follows:

- **Trust-building is key to cross-continental collaboration**:

  Establishing long-term partnerships between European and African innovators requires an intentional focus on trust-building and time. Events that create informal yet structured spaces for sharing ideas, discussing challenges, and co-creating solutions play a crucial role in overcoming geographical and cultural barriers.

- **Community-based events foster collaboration**:

  By introducing participants into an established and supportive community, matchmaking events help build a foundation of trust and mutual understanding. These events encourage meaningful connections and facilitate cross-border collaborations that may not have occurred in a more formal setting.

- **Investor involvement is crucial for venture success**:

  The inclusion of investors in matchmaking events is essential for turning collaborative ideas into viable ventures. Investors not only provide the necessary capital but also bring expertise on structuring businesses and scaling operations. They play a key role in enabling the feasibility of co-founded ventures by offering guidance on business fundamentals and identifying opportunities for growth.

- **Strategic matchmaking fosters sustainable partnerships**:

  The matchmaking process works best when it aligns the strategic objectives of both parties. Examples, such as the potential partnership between Siemens and the UNDP Accelerator Labs, demonstrate the importance of aligning on shared goals before activating networks to explore joint initiatives. This strategic alignment is crucial to ensuring the success and longevity of the partnerships.

- **Cross-sector collaboration strengthens innovation ecosystems**:

  Matchmaking events also facilitate collaboration between various sectors—public, private, and non-profit—leading to more robust innovation ecosystems. Events that bring together diverse stakeholders, such as investors, makers, founders, and public institutions, create the conditions for more impactful, collaborative efforts that can drive sustainable development.

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## 4.5 Conclusion

The Founder-to-Founder matchmaking initiative effectively connected European and African innovators, fostering long-term partnerships. By organising community-based events that built trust and facilitated knowledge exchange, the initiative helped bridge geographical and cultural gaps. Future investor involvement will be crucial for providing capital and strategic guidance to transform ideas into viable ventures.

While this round of matchmaking did not immediately result in intercontinental co-founderships, it succeeded in enhancing visibility and creating valuable connections for makers, makerspaces, and companies. This approach aligns with our ecosystem-building goals by providing participants with access to the partnerships, expertise, and resources necessary for sustainable growth and future collaborative innovation.

We are confident that, with the foundation laid through these matchmaking initiatives, we will soon be able to highlight the formation of official, enduring partnerships.

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# 5. Business2Business Matchmaking

## 5.1 Explanation of the work done

GT has hosted an online kick-off event for the cohort companies, providing each participant with the opportunity to introduce themselves and their businesses. A contact book was shared afterwards to facilitate further networking and connection.

Additionally, GT hosted an in-person business-to-business event in Cairo, where the seven companies had the chance to meet one another. Each company delivered a 5-minute pitch, with a particular focus on asking questions and exploring potential collaboration opportunities. GT also led a discussion on the mutual challenges faced by startups in Africa and Europe, encouraging shared insights and fostering deeper connections.

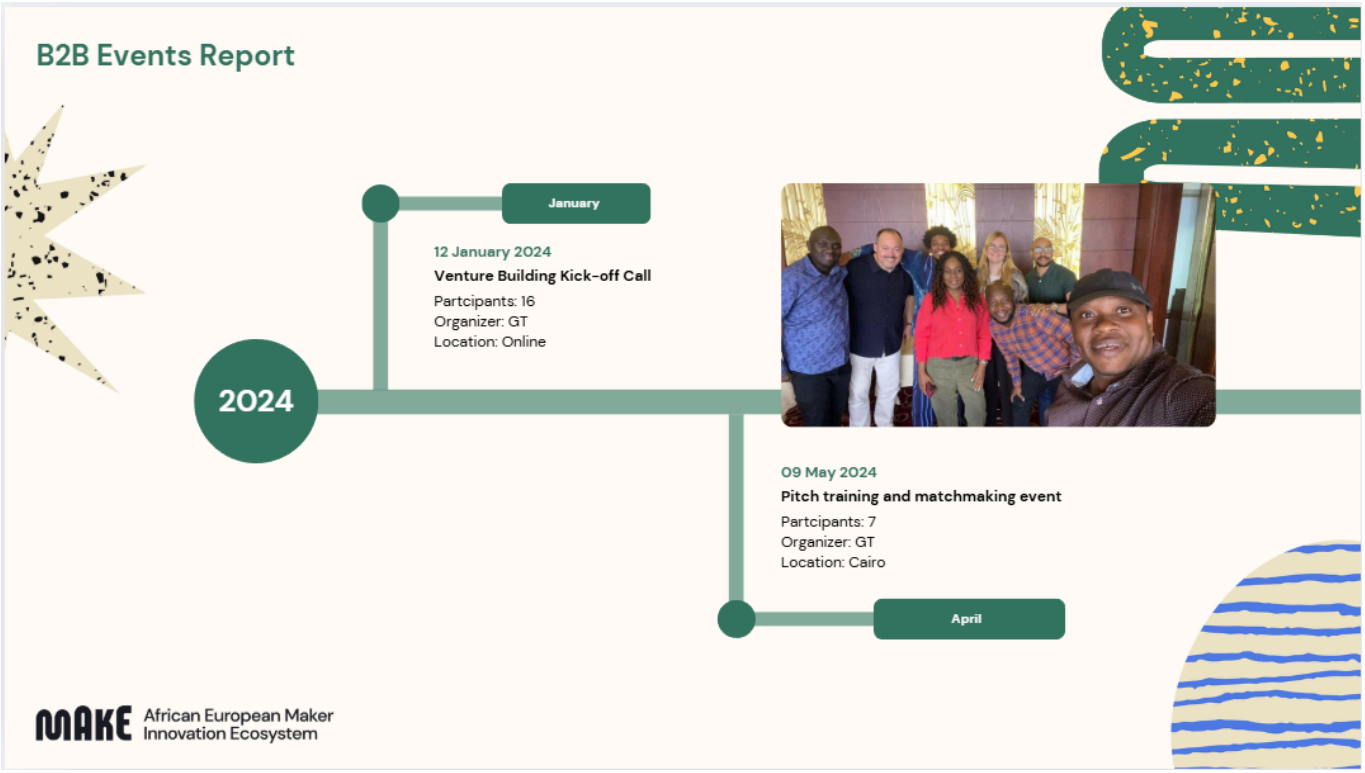


***Figure 3: B2B Events Timeline***

## 5.2 Highlights

The initial online kick-off event successfully set the stage for new partnerships, notably leading to the first meeting between AGF and XR Global. Building on this virtual introduction, the two companies met in person in Cairo, where they solidified their plans to collaborate on VR-based agriculture training programs.

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Discussions at the event highlighted the significant challenges that persist within the startup ecosystem. These exchanges underscored the ongoing need for robust startup support and demonstrated how collaborative networking enables shared knowledge that can help founders avoid common pitfalls. Many of the participating companies are now actively exploring partnership opportunities, which speaks to the event's success in fostering meaningful connections.

As shown in the diagram below, various collaboration channels were identified, but most of these potential partnerships depend on securing initial funding. For early-stage startups, especially those currently in fundraising, financial constraints limit the capacity to immediately engage in joint projects. Companies involved in design emerged as highly valuable collaborators across different sectors, while agriculture-focused businesses found natural synergies, particularly relevant as they look toward upscaling.

Reflecting on the value of networking, one founder remarked, "I will start networking more, both online and physically." This sentiment captures a key takeaway from the event: the importance of active participation within the innovation ecosystem.

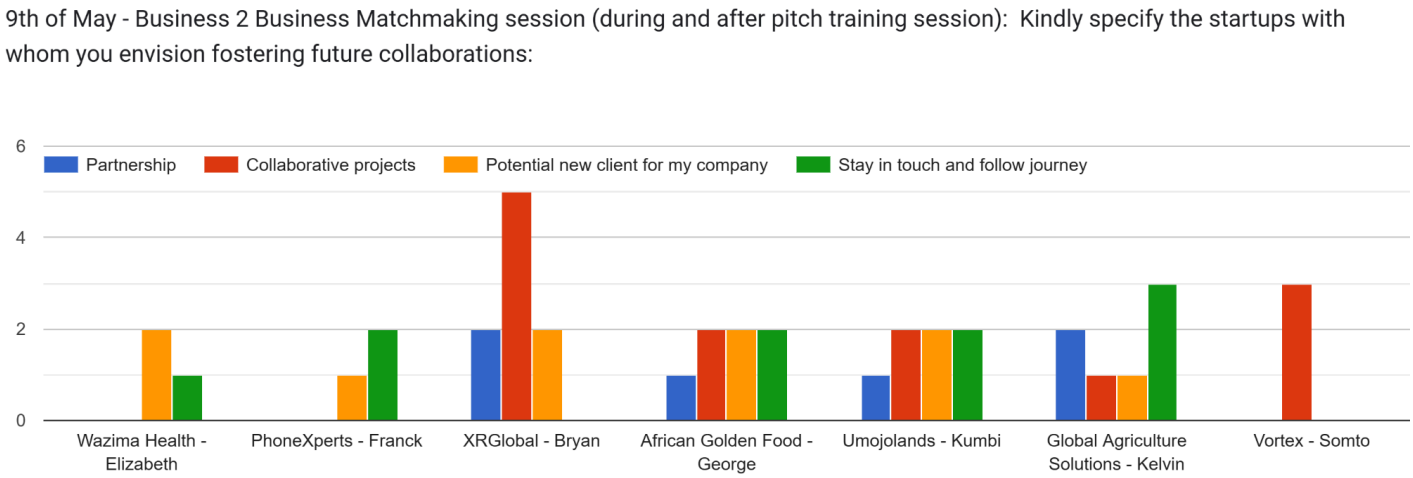


***Figure 4: B2B Matchmaking session data***

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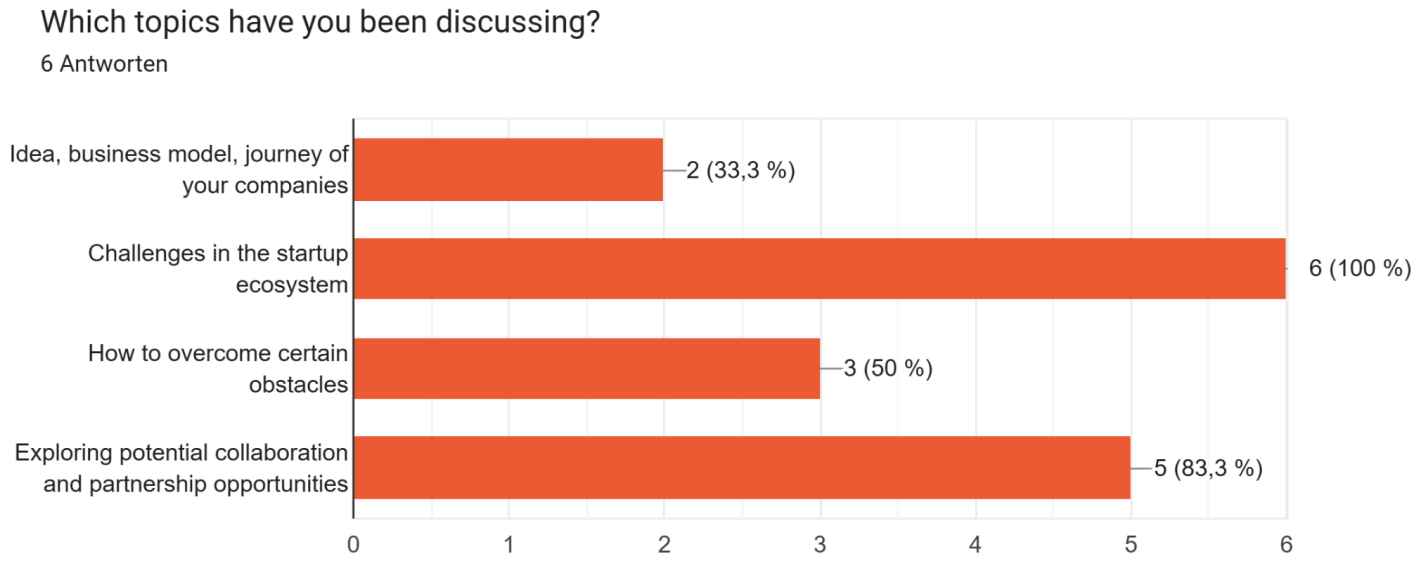



***Figure 5: B2B Matchmaking Events discussion Topics***

The startups appreciated the open exchange on challenges, to connect with people dealing with similar challenges, to explore potential collaborations and partnerships with cohort companies.

## 5.3 Challenges and Learnings

The main challenge remains the financial limitations faced by early-stage startups, especially those in the fundraising phase. These constraints restrict the freedom to engage in collaborative projects. The event highlighted the role of strategic networking and partnership discussions as valuable avenues for overcoming such barriers.

## 5.4 Conclusion

The two key events—an online kick-off and an in-person B2B gathering in Cairo—successfully laid the foundation for future partnerships by building vital supply and demand channels. These channels emerged from the structured networking and open exchange of ideas, enabling startups to connect with potential collaborators across sectors. Discussions focused on common challenges and identified opportunities for joint ventures, particularly in design and agriculture. However, financial constraints remain a significant hurdle for early-stage startups, emphasizing the critical need for ongoing support and funding to fully leverage these connections.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101016858.

# 6. Appendix

1) MiR reporting examples
2) Impact stories MiR
3) The Art of Crafting a Meaningful Residency: Key Insights for Makerspaces
4) Table of matchmaking events

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101016858.

# MIR PROJECT PLANNING

Brainstorming sheet

Name: Leonard Shayo

Date: 01-Sept-2023

## Project name

MagnetoSat: Empowering STEM Education through CubeSat Magnetic Field and Environmental Studies

## Status quo of your prototype

The CubeSat prototype is in an advanced development stage, featuring earth observation and space monitoring sensors, imaging capabilities, an onboard computer, a LoRa-based communication system, solar panels, batteries, and a 1U aluminum frame structure. Preliminary tests have shown successful image capture and data collection. Further testing and optimization are ongoing to ensure operational readiness for space deployment.

## Overall target

The overarching goal for prototype within the Makers In Residence (MiR) program is to advance its development towards a fully functional satellite for earth observation and space monitoring. The desired outcomes include achieving a stable and reliable satellite design, testing its functionality, ensuring compatibility with ground stations, and fine-tuning its sensor systems. This effort aims to validate the CubeSat's capacity to collect valuable environmental data, inspire STEM education in Tanzania, and potentially contribute to scientific research. The benefits encompass technological advancement, educational empowerment, and the promotion of space exploration in Africa.

## How will you get there?

Break down your overall target into specific weekly targets. Each week should have clear steps and actions required to reach the target, and measurable outcomes. Be realistic about what can be achieved in a week. Be detailed but concise when describing.

## Week 1

### Target

Define CubeSat subsystems, components, and aluminum frame design requirements.

### Steps

1. Review the CubeSat project's overall requirements.
2. Identify the specific subsystems (EPS, OBC, Communication, Sensors, etc.).
3. List the components and sensors required for each subsystem.
4. Prioritize the subsystems based on project goals.
5. Research existing CubeSat designs for reference.
6. Determine the size and specifications for the aluminum frame.

### Outcomes

By the end of Week 1, I should have a clear list of CubeSat subsystems, components, and frame design requirements.

## How will you get there?

Break down your overall target into specific weekly targets. Each week should have clear steps and actions required to reach the target, and measurable outcomes. Be realistic about what can be achieved in a week. Be detailed but concise when describing.

## Week 2

### Target

Begin aluminum frame design, continue with PCB CAD design, and initiate component identification and sourcing.

### Steps

1. Start the design process for the aluminum frame.
2. Choose one prioritized subsystem for PCB CAD design (e.g., EPS).
3. Research PCB design software (e.g., KiCad).
4. Learn the basics of PCB CAD design.
5. Create a schematic diagram for the selected subsystem.
6. Begin PCB layout design based on the schematic.
7. Initiate the identification of components required for the project.
8. Begin sourcing or ordering components as needed.

### Outcomes

By the end of Week 2, I should have initiated the aluminum frame design and fabrication alongside the PCB CAD design for 1U CubeSat subsystem and begun the process of identifying and sourcing components for the project.

## How will you get there?

Break down your overall target into specific weekly targets. Each week should have clear steps and actions required to reach the target, and measurable outcomes. Be realistic about what can be achieved in a week. Be detailed but concise when describing.

## Week 3

### Target

Integrate all subsystems, conduct comprehensive testing and verification, and ensure responses from the project are as expected.

Coding and programming tasks for the CubeSat subsystems and work on software deployment strategies.

### Steps

1. Begin integrating all subsystems, including power, communication, sensors, and imaging, into the CubeSat structure.
2. Start coding and programming tasks for one prioritized subsystem.
3. Execute thorough tests and verification procedures for each subsystem, checking for functionality, compatibility, and performance.
4. Address any issues or discrepancies found during testing and make necessary adjustments.
5. Confirm that the CubeSat is responding as expected to commands and functions.
6. Update documentation to reflect any changes made during integration and testing.

### Outcomes

By the end of Week 3, all subsystems should be successfully integrated, thoroughly tested, and verified, with responses from the CubeSat aligning with expectations. Any necessary updates to the project documentation should also be made.

## How will you get there?

Break down your overall target into specific weekly targets. Each week should have clear steps and actions required to reach the target, and measurable outcomes. Be realistic about what can be achieved in a week. Be detailed but concise when describing.

## Week 4

### Target

Prepare for and conduct a full-scale simulation of the CubeSat mission to validate its functionality and readiness for launch.

### Steps

1. Develop a detailed plan for the CubeSat mission simulation, covering all aspects of the mission.
2. Create a dedicated simulation environment replicating orbital conditions.
3. Load all necessary software and mission data into the simulation environment.
4. Execute a comprehensive CubeSat mission simulation, including sensor deployment and imaging.
5. Monitor the CubeSat's performance throughout the simulation.
6. Analyze simulation results to verify system functionality and address any identified issues or anomalies. Update project documentation accordingly.

### Outcomes

By the end of Week 4, a comprehensive simulation of the CubeSat mission will have been conducted, and all systems will have been validated for functionality and readiness for launch. Any issues identified during the simulation will be addressed, and project documentation will be updated accordingly.

# MIR PROJECT REPORTING

Reflection sheet

Name: Leonard Shayo

Date: 09/06/2024

## Project name

MapinduziSat-1: Educational CubeSat for Magnetic Field and Environmental Studies

## Prototype status update

The project is in the initial planning and brainstorming phase, with a focus on defining objectives and identifying key components.

## Week 1

**Target**

To finalize the design and specification details for the CubeSat prototype and begin sourcing and ordering the necessary components.

**Target Status**

Achieved? Cross.

| Yes | No | 50/50 |
|---|---|---|
| X | X | X |

If not or partially, share why.

The prototype is not yet built because the focus has been on planning, understanding the resources at FabLab, and initial brainstorming.

What has been done?

Orientation, meeting collaborators, brainstorming session, project overview, and initial component discussions.

What challenges have arisen?

Time constraints and busy schedules of FabLab staff and equipment usage due to the final projects of students.

## Week 1

What related events did you have / visit?

Attended student presentations at FabLab, which included international online participation.

---

Share your top 3 lessons learned:

1. Effective planning is crucial.
2. Understanding equipment availability is important.
3. Collaborating with others can provide new insights.

## What supplies did you use?

snap circuits  3D printers

laptops  electric tape

other supplies

Add

Add

Add

## Who did you work with?

Santi, Oscar, Jose and Adai

From, planning, brainstorming, designing, material procurement and equipment training.

## What have you achieved?

Successfully integrated into FabLab, began detailed project planning, and identified key components.

## Week 1

### How can you improve?

Better scheduling for equipment use and more efficient time management.

### How did the makerspace support you?

Provided orientation, initial support, and access to resources and networking opportunities.

### What did you (not) like?

Liked the collaborative environment and access to diverse resources. Disliked the limited access to equipment due to high demand.

### How did you feel?

Feeling enthusiastic about the project but mindful of the tight schedule and resource constraints.

### Rate Week 1

Delete a start if necessary.

# MIR PROJECT REPORTING

Reflection sheet

Name: Leonard Shayo

Date: 09/06/2024

## Project name

MapinduziSat-1: Educational CubeSat for Magnetic Field and Environmental Studies

## Prototype status update

Initial design and fabrication of the aluminum frame have started, and PCB CAD design basics have been learned.

## Week 2

**Target**

Initiate the procurement process for necessary components, start the design and fabrication of the CubeSat's aluminum frame, and begin PCB layout design.

**Target Status**

Achieved? Cross.

| Yes | No | 50/50 |
|---|---|---|
| x | | |

If not or partially, share why.

The prototype is still in the design and procurement phase due to the time required for sourcing components and busy schedules.

What has been done?

Assigned procurement responsibilities, initiated procurement, started design and fabrication of the frame, learned PCB CAD design, and began subsystem design.

What challenges have arisen?

Limited access to equipment, tight schedules of instructors, and time-consuming procurement processes.

| | | | | |
|---|---|---|---|---|
| paper | tissue paper | toothpics | tablets | other supplies |
| glue | pom pom balls | binder clips | laptops | _____ |
| scissors | plastic cups | electric tape | 3D printers | _____ |
| straws | building blocks | cardboard | snap circuits | _____ |

## Week 2

### How can you improve?

Expedite procurement follow-ups and coordinate better access to FabLab equipment.

### How did the makerspace support you?

Provided guidance, resources for design and fabrication.

### What did you (not) like?

Liked the practical learning and industry visit. Disliked the limited access to necessary equipment due to high demand.

### How did you feel?

Feeling positive about progress but aware of the need for efficient use of limited time and resources.

## Rate Week 2

Delete a start if necessary.

# MIR PROJECT REPORTING

Reflection sheet

Name: Leonard Shayo

Date: 17/06/2024

## Project name

MapinduziSat-1: Educational CubeSat for Magnetic Field and Environmental Studies

## Prototype status update

Integration of all subsystems is underway. Coding and programming tasks for the prioritized subsystem have started. Initial tests have been conducted to verify functionality.

## Week 3

**Target**

Complete integration and initial testing of all subsystems within the prototype.

**Target Status**

Achieved? Cross.

| Yes | No | 50/50 |
|---|---|---|
| X | | |

If not or partially, share why.

What has been done?

- Integrated power, communication, and sensors into the prototype structure.
- Started coding and programming tasks for the power subsystem.
- Conducted tests to verify the functionality of each subsystem.

What challenges have arisen?

- Encountered compatibility issues between the communication and sensor subsystems.
- Machines room was closed due to final year project presentations, limiting access to CNC and laser cutter.

## Week 3

What related events did you have / visit?

Attended students' final year project presentations and connected with students.

---

Share your top 3 lessons learned:

1. Effective integration requires thorough planning and coordination.
2. Testing early and often helps identify issues before they become major problems.
3. Networking with peers can provide valuable insights and support.

## What supplies did you use?

Circle

| | | | | |
|---|---|---|---|---|
| paper | tissue paper | toothpics | tablets | other supplies |
| glue | pom pom balls | binder clips | laptops | Add |
| scissors | plastic cups | electric tape | 3D printers | Add |
| straws | building blocks | cardboard | snap circuits | Add |

## Who did you work with?

Adai

## What have you achieved?

1. Successful initial integration of all major subsystems.
2. Completed coding for the power subsystem.

## Week 3

### How can you improve?

Having all the components in place in time

### How did the makerspace support you?

By providing the needful accordingly

### What did you (not) like?

Liked: Connecting with students and learning from their presentations.
Disliked: Limited access to essential machinery due to room closures.

### How did you feel?

Feeling motivated and excited about the progress made this week.

## Rate Week 3

Delete a start if necessary.

# MIR PROJECT REPORTING

Reflection sheet

Name: Leonard Shayo

Date: 24/06/2024

## Project name

MapinduziSat-1: Educational CubeSat for Magnetic Field and Environmental Studies

## Prototype status update

The prototype is now capable of simulating mission conditions and displaying data on the Grafana dashboard. Some components did not arrive, impacting full functionality. The project is running and has successfully executed a mission simulation.

## Week 4

**Target**

Complete the mission simulation and analyze the results to verify system functionality.

**Target Status**

Achieved? Cross.

| Yes | No | 50/50 |
|---|---|---|
| X | | |

If not or partially, share why.

What has been done?

- Loaded necessary software and mission data.
- Executed the mission simulation with sensor deployment.
- Monitored project performance and visualized data on the Grafana dashboard.

What challenges have arisen?

- Some ordered components did not arrive.
- Machines room was closed due to student presentations.
- Had to purchase an additional sensor module last minute.

## Week 4

What related events did you have / visit?

Attended student graduations and connected with international students.

---

Share your top 3 lessons learned:

- Flexibility is crucial when dealing with unexpected delays.
- Simulation environments are essential for verifying system functionality.
- Networking with international peers provides valuable insights and opportunities.

## What supplies did you use?

Circle

| | | | | |
|---|---|---|---|---|
| paper | tissue paper | toothpics | tablets | other supplies |
| glue | pom pom balls | binder clips | laptops | _____ |
| scissors | plastic cups | electric tape | 3D printers | _____ |
| straws | building blocks | cardboard | snap circuits | _____ |

## Who did you work with?

Adai, Santi, Jose

## What have you achieved?

- Simulated mission conditions and verified prototype functionality.
- Visualized real-time sensor data.
- Documented the project's progress and findings.

## Week 4

### How can you improve?

- Improve project planning to anticipate potential delays and component shortages.
- Enhance communication with suppliers to ensure timely delivery of parts.
- Continue building and leveraging the network established at Fablab for additional support and collaboration.
- Focus on more rigorous testing and validation procedures to ensure all systems are fully functional before key milestones.

### How did the makerspace support you?

- Technical support from mentors and peers.
- Access to simulation tools and resources.
- Guidance on addressing component shortages and troubleshooting

### What did you (not) like?

Liked: Successful simulation and data visualization; connecting with international students.

### How did you feel?

Feeling accomplished and satisfied with the progress despite some challenges. Excited about the future steps and confident in the project's potential.

### Rate Week 4

Delete a start if necessary.

# MIR PROJECT FEEDBACK

Impression sheet

Name: Leonard Shayo

Date: 30/06/2024

## Project name

MapinduziSat-1: Empowering STEM Education through CubeSat Magnetic Field and Environmental Studies

## Final prototype status update

The MapinduziSat-1 prototype, developed during the Maker-in-Residency program at FabLab Barcelona, is a 1U CubeSat designed to study the Earth's magnetic field and environmental conditions, aiming to inspire students and hobbyists in Tanzania and Africa. It integrates sensors for magnetic field, temperature, pressure, and humidity, with robust communication and power subsystems. Successfully tested in a simulation environment, it demonstrated accurate data logging and real-time visualization via a Grafana dashboard. Key findings show the prototype's readiness for further development and potential low Earth orbit launch. This project highlights CubeSats' educational value, providing insights into geomagnetic activities and environmental changes, and lays a foundation for future STEM engagement and space technology development in the region.

## What is your general impression of the makerspace

I thoroughly enjoyed working with modern equipment and collaborating with European experts at FabLab Barcelona. The residency offered an inspiring environment for innovation and invaluable networking opportunities. However, the one-month duration was too short to complete the project comprehensively; extending it to three months would be more effective. Additionally, the per diem was low, making it difficult to manage expenses. Increasing the per diem would greatly improve the participant experience. Overall, the residency was highly beneficial, but these adjustments would enhance its effectiveness and satisfaction.

## How to improve the project?

The project is very positive; it provided a unique and enriching experience that greatly advanced my work. The collaboration with international experts, access to modern tools, and supportive environment were key factors in the project's success. To make the project better, extending the residency duration to at least three months would allow for more thorough development and testing. Additionally, increasing the per diem would help participants manage their expenses more comfortably, ensuring they can fully focus on their innovative work. Overall, these improvements would enhance the program's impact and participant satisfaction.

## You overall experience

Delete a star if necessary.

MAKE African European Maker Innovation Ecosystem

# The “Makers in Residency”-Programme Sparks Innovation and Collaboration between African and European Makers

The Makers in Residency (MiR) programme has successfully connected African and European makers, fostering a unique blend of knowledge sharing and collaborative innovation. In 2024, the MiR programme supported four emerging hardware innovators from Egypt, Tanzania, and Rwanda, providing a one-month residency in European makerspaces. Each maker worked on ground-breaking projects while benefiting from direct mentorship, access to advanced equipment, and an inspiring environment.

> *“This initiative aims to break down barriers, create new ideas, and build essential networks between continents.”*
> *---- Fabienne Kirchhof, GreenTec Capital Africa Foundation ----*

Martine, a maker from Rwanda hosted in Belgium, focused on a sustainable solution to reduce material costs for makers by recycling plastic bottles to create affordable 3D printer filament.

*"The timeline was tight, but with the Liege team’s support, we combined our efforts to make it happen."* --- Martine Basaninyage, Makerspace Westerwelle Startup Haus Kigali, Rwanda ---

Martine’s hosts witnessed her dedication and ingenuity,
*"We learned so much from her resourcefulness and resilience — she’s building amazing solutions with far fewer resources than we’re used to."*
--- Loic, Hackerspace Liege, Belgium ---

Asem, a maker from Egypt hosted in France, brought a sense of international community to La Bricothèque Fablab, engaging with local members and sharing his project’s vision and knowledge.

*“Asem’s openness to share his work and life experiences made our Fablab feel part of a global network. We saw a natural exchange of ideas and cultural understanding”*
*--- Olivier, La Bricothèque, France ---*

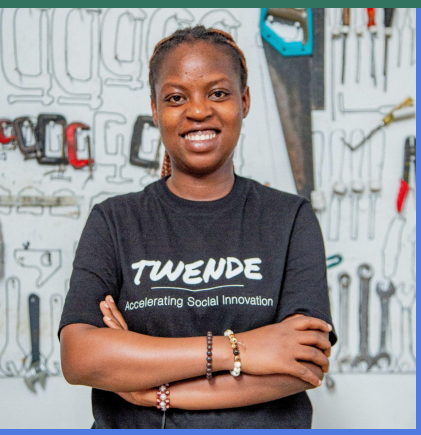
*“My impression about this program is positive and eye opening, as someone who has never been to Europe it was amazing seeing such cool places like the textile lab”.*
*--- Asem Kamal, maker and content creator, Egypt ---*

MAKE African European Maker Innovation Ecosystem


Meanwhile, Leonard, a maker from Tanzania hosted in Spain, pursued his vision to build a nano-satellite prototype to inspire African students and makers in STEM. During his residency at Fablab Barcelona, Leonard expanded his network and honed his technical skills with new equipment.

*"This programme brought me closer to new knowledge, and I had hands-on experience with different machines that sparked ideas on how I can bring similar technology to Tanzania,"*
--- Leonard Shayo, founder of the aerospace startup Olspace ---

His host, Santi from Fablab Barcelona, was equally inspired, noting Leonard's unstoppable drive: *"He came in saying, 'I have to learn as much as I can; I want to send a rocket to the moon!' His determination was infectious."*
--- Santi, Fablab Barcelona ---




Witness, a Tanzanian maker hosted in France, reflected on how the residency inspired her project management approach and technical work.
*"I have been impressed by the makerspace, the organization, the workshops and overall management. This creates a truly inspiring environment for anyone to get creative."*
--- Witness Shingali, Twende Social Innovation Center, Tanzania ---

Although she felt that one month was limited for a complex prototype, Witness returned to Tanzania with a strong foundation, sketches, and collaborative documentation to drive her project forward. This residency programme has not only equipped African makers with new tools and skills but also brought fresh perspectives and cultural insights to the European hosts.
*"We documented everything to support Witness's ongoing work in Tanzania. The collaboration doesn't end here; we'll stay connected to help her team scale up."*
*--- Matthieu, Ecocentre, France ---*

> *"Through these transformative exchanges, the MiR programme has strengthened a global network of makers committed to using their skills to address real-world challenges, demonstrating the powerful impact of cross-continental collaboration in the maker community."*
> *--- Kirstin Wiedow, Global Innovation Gathering ---*

Further information on makeafricaeu.org

This project has received funding from the European Horizon 2020 programme under grant agreement No 101016858

MAKE African European Maker Innovation Ecosystem

# The Art of Crafting a Meaningful Residency: Key Insights for Makerspaces

November 2024


**Prepared by:**

**GreenTec Capital Africa Foundation**
As part of EU mAkE Innovative Financing Mechanisms Work Package



GreenTec Capital AFRICA FOUNDATION

gig GLOBAL INNOVATION GATHERING

VULCA

# Why Residencies Matter?

Residencies are a fantastic opportunity for makers to dive into new environments, discover fresh resources, and connect with experts and like-minded creatives. It's a playground for innovation, where ideas flow freely and skills are swapped across cultures. This exchange sparks exciting new solutions and pushes the boundaries of what's possible, all while building lasting relationships and networks. It's a space where personal growth, creativity, and collaboration come together to make magic happen—long after the residency ends!

# What Works in a Residency?

### Start Early, Really Early

Planning ahead isn't just nice—it's essential. Giving yourself at least 6 months before the residency starts means you'll have time to sort out all the big stuff: visas, materials, the right people. If you don't give yourself enough time, you end up scrambling, and no one wants that. It's about setting things up so everyone can hit the ground running. Most importantly: don't underestimate the time it may take to even get a visa appointment. Prepare documents and book appointments as soon as possible!

### Get the Right Match

Matching makers with the right mentors or experts isn't just about skills—it's about shared goals and a clear vision for the project. Work closely with Makerspace Networks, as they understand their community best. Let makerspaces take the lead in selecting their participants—they know who fits their space and culture. When the match is right, everyone is more invested, and collaboration flows naturally.

**Bonus tip:** give makers and mentors time to connect, chat, and plan before the residency kicks off. This pre-residency alignment lays the foundation for a successful and fulfilling experience.

### Make Makers Feel at Home

A residency isn't just about the work—it's about creating a sense of belonging. Especially in rural areas with limited mobility, it's vital to make makers feel at ease in their new environment. Think about inviting more than one maker to join the residency at the same time. Having peers to share the experience with can make a huge difference, both socially and creatively.

Focus on building a welcoming community within the makerspace—this can be as simple as shared meals, local introductions, or casual meetups. When makers feel connected to those around them, they're more likely to thrive. Working alongside others, sharing ideas, and supporting one another not only strengthens individual projects but also fosters collaboration that leads to something greater than the sum of its parts.

### Keep Communication Simple

Miscommunication is a killer. The simpler and clearer you can make things, the better. A quick call, rather than endless back-and-forth emails, can make a huge difference. And while language barriers may be part of the game, using plain language can go a long way.

### Provide the Tools and Space to Experiment

You can't make great things without the right tools, so make sure everything is in place from the start. If you're in a region with limited resources, plan ahead to make sure makers don't waste time hunting down materials. If they can focus on the creative process instead of logistics, the work will speak for itself.

### Give Time to Play

Innovation doesn't happen overnight. Don't rush it. Depending on the project, a month-long residency is usually the minimum. More time allows time for makers to experiment, iterate, and develop their ideas without feeling like they're racing against the clock. No matter how long the residency lasts, good preparation including co-elaborating a project plan is key!

### Be Transparent About Financial Support

The last thing a maker needs is to be stressed about money. Be clear about funding from day one—how much per diem they'll get, how expenses are covered, and what's expected financially. This clarity lets makers focus on the project, not worrying about where their next meal is coming from.

### Ensure Financial Support for Everyone

A successful residency depends on making sure all involved parties are financially equipped to participate fully. From makerspace networks to makers themselves and especially the hosting makerspaces, everyone should have the resources they need to contribute their best.

Hosting makerspaces, in particular, often need to allocate extra time and expertise to prepare for the residency, which can be a significant effort. Ensure they're supported to cover these commitments, especially if the residency itself is on a shorter timeline. Clear and sufficient funding allows everyone to focus on creating an impactful experience rather than worrying about logistics.

## How to Make It All Happen

- Plan at least 6 months ahead to give yourself plenty of time to sort out the big details like visas and materials.
- Focus on matching goals and vision, not just skills—make sure everyone is aligned.
- Keep communication short and clear—it's better to send one clear email than 10 back-and-forths.
- Make sure the space is a collaborative environment—encourage makers to share and connect.
- Give all parties enough resources from day one.
- Allow enough time for experimentation—don't rush the creative process.
- Be upfront about finances—make sure everyone knows how the funding works.

## Why It's Worth It

At the end of the day, a residency isn't just about getting work done—it's about creating something meaningful that lasts. Makers leave with new ideas, new skills, and a deeper understanding of the world around them. The connections they make often become lifelong, and the lessons they learn go beyond just the project. A good residency isn't just a short-term project; it's the start of something bigger.


# F2F Events Summary

| Date | Title | Description | Type | Location | Participants | Results |
|---|---|---|---|---|---|---|
| **01.12.22** | SPTA Networking Event Nairobi | A networking event aimed at connecting local and international innovators in Nairobi, Kenya. | Knowledge Exchange & Skill Building | Nairobi, Kenya | **~80** | Successful networking, with many connections between the local and international startup ecosystem including European investors and organisations. |
| **10.05.23** | STEM Makerspace for Young Girls in Abidjan | Investors learned about the importance of innovative spaces like FabLabs for young girls. They were impressed by the girls' interest and motivation for education, recognizing the necessity of safe and open spaces to connect, study, and experience technology, especially for girls. | Investor Connect | Abidjan, Côte d'Ivoire | **~30** | Investors were amazed by the concept of makerspaces per se since many investors have not been familiar with it. They understood the importance of acknowledging the need for safe spaces for girls to learn and create. |
| **17.10.23** | Founder of a Makerspace in Kenya Seeking Expertise for Tanga FabLab | The founder is seeking expertise in establishing the first FabLab in Tanga and applying to become a FabCity. The aim is to connect with European and African experts through the GreenTec and mAkE network to share knowledge, especially around business models. | Knowledge Exchange & Skill Building | Online | **12** | Knowledge sharing on how to become a Fab City by other innovators, what to avoid and what to look out for. |
| **24.11.23** | Vulca Network Seminar 2023 | Presentation advocating for African-European partnerships for makerspaces to showcase the possibilities of collaboration. The aim is to incentivize European makerspaces, many of which had no connection to Africa, by raising awareness and reducing barriers. | Knowledge Exchange & Skill Building | Ljubljana, Slovenia | **~70** | Leyla Yunis, Director of Maker Institute Prague, proposed two matchmaking ideas out of which one was involving African partners for future collaboration. Follow-up calls initiated. |
| **31.11.23** | Max Ebsen at Africa Early Stage Investor Summit | Max Ebsen sought connections for matchmaking and partnerships for African startups. He met several investors and shared opportunities for collaboration. | Knowledge Exchange & Skill Building | Cape Town, South Africa | **4** | Participants showed interest in future matchmaking events, and several follow-ups were conducted with three interested individuals. However, in the end, the matches did not align with the program's goals, or the participants did not respond to further engagement. |

| | | | | | | |
|---|---|---|---|---|---|---|
| **21.01.24** | Networking between XR Global and African Golden Foods | This event aimed to connect XR Global, a European organization, with African Golden Foods for potential collaboration. | Investor Connect | **Online** | **3** | African Golden Foods confirmed interest in collaboration with XR Global, particularly in providing learning platforms once funding is secured. |
| **10.04.24** | Networking Lunch After Pitch Event in Cairo | Networking session between investors, makers, and startup representatives after a pitch event. | Investor Connect | **Cairo, Egypt** | **18** | Partnerships formed between local and international makers, including a joint event scheduled for May. |
| **18.04.24** | DTI Ghana x Maker Institute Praha | Exploration of project partnership possibilities between Kenyan and European makers through collaboration on shared challenges. | Partnership Development | **Online** | **3** | Follow-up collaboration ideas on potential residency partnerships and European maker participation in Kenya. |
| **30.04.24** | African Golden Foods & XR Global Exploring Opportunities | Discussion focused on potential collaboration in the agri-business ecosystem, particularly field training and knowledge exchange. | Partnership Development | **Online** | **3** | Explored ways to enhance collaboration in agriculture, with plans for concrete collaboration once AGF secured funding. |
| **30.04.24** | DTI Ghana x Maker Institute Praha | Follow-up discussion on potential partnership between Kenyan and European makers, with a focus on European maker residency in Kenya. | Partnership Development | **Online** | **3** | Continued discussions for future collaboration, including a hybrid event and brainstorming on residency concepts. |
| **09.05.24** | Ecosystem Night Cairo | An informal networking event connecting European investors and the Cairo startup ecosystem, providing an opportunity for local startups to meet investors. | Investor Connect | **Cairo, Egypt** | **30** | Event provided ample opportunities for local startups to connect with international investors. |
| **10.05.24** | Engagement with World Bank (IFC) for Scaling African Golden Foods | IFC discussed funding options with African Golden Foods, sharing the possibility of a loan with a moratorium period to help scale their business model. | Investor Connect | **Online** | **3** | IFC shared loan options to support scaling, including a USD 10 million loan with a 2-year moratorium. |

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| **11-12.05.24** | Startups Without Borders: Matchmaking with Startups and Investors | A matchmaking event aimed at connecting startups with potential investors for future growth. | Investor Connect | **Cairo, Egypt** | **7** | Several startups pitched and were connected with potential investors, leading to follow-up meetings. |
| **26-28.05.24** | Re:publica Makerspace Stand: Meet the Makers | African makers connected with international organizations and networks at Re, sharing their projects and expanding visibility. | Knowledge Exchange & Skill Building | **Berlin, Germany** | **~50** | Networking among African makers and international stakeholders increased visibility for African projects. |
| **29.05.24** | Re:publica Meetup: Meet the Makers | A discussion on the challenges African makers face, especially around visa issues, and the negative impact it has on their opportunities. | Knowledge Exchange & Skill Building | **Berlin, Germany** | **8** | Highlighted the struggles African makers face with visa barriers, limiting opportunities and causing emotional stress. |
| **31.05.24** | GIG Gathering: Meet the Makers-in-Residency | Presentations by African makers about their projects and experiences during their residency, encouraging future collaboration. | Knowledge Exchange & Skill Building | **Berlin, Germany** | **25** | Makers shared their experiences, fostering cross-cultural understanding and collaboration. |
| **20.06.24** | Innovating for Impact - UNDP Acc Labs | Public investors were introduced to the Acc Labs model, focusing on innovation processes and featuring case studies from Zimbabwe, North Macedonia, and the Philippines. The event included work sessions on collaborative impact strategies, concluding with a commitment activity and an informal networking dinner. | Partnership Development | **Berlin, Germany** | **~45** | Following the event, several productive follow-up conversations took place, including Siemens' strong interest in collaborating with the UNDP Accelerator Labs. The Labs have since shared project proposals with Siemens, who also confirmed their participation in an upcoming work session at the Hamburg Sustainability Conference to further explore partnership opportunities. |
| **11.07.24** | Digital Pitch Event for mAkE Startups | Online event where startups pitched to potential investors. | Investor Connect | **Online** | **48** | Several successful matches were made, leading to new collaborations and investment interests. |
| **24.07.24** | GIG Community Call - Introducing Asem & Witness | Discussion on the experiences and challenges of two MiR makers, with focus on their prototypes. | Knowledge Exchange & Skill Building | **Online** | **12** | Collaboration interest sparked between European and African makers, particularly around the Ugali maker. |

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| **14.08.24** | Community Call - Introducing Martine & Leonard | Discussion about their projects, experiences and challenges faced by Martine and Leonard during their MiR residency. | Knowledge Exchange & Skill Building | **Online** | **14** | Emphasis on the challenges of transporting devices and networking with other makers, fostering collaboration. |
| **24.09.24** | Visit of Makerspace at UNDP Accelerator Labs Senegal | A visit to the UNDP Accelerator Labs to explore the challenges African FabLabs face and to discuss collaboration opportunities. | Investor Connect | **Dakar, Senegal** | **12** | Insightful discussions around FabLab challenges and the potential for future collaborations with UNDP. |
| **25.09.24** | Ecosystem Night Senegal | A networking event discussing the Senegalese innovation ecosystem, connecting local, European and international participants. | Investor Connect | **Dakar, Senegal** | **50** | Positive exchange between local and international stakeholders, strengthening connections in Senegal's innovation ecosystem. |
| **08.10.24** | Train-the-Trainer: Understanding Business Models (Session 1) | A training session for FabLabs on business models, including an intorduction of all experts and their spaces, group brainstorming on real-life cases of their startups and makerspaces. In order for them to stay connected, a contact book has been created. | Knowledge Exchange & Skill Building | **Online** | **24** | Participants shared their business model challenges, leading to a directory of contacts and resources. |
| **11.10.24** | Investor Conversation with African Golden Food | Discussion of potential partnerships between African Golden Foods and investor James Beaty. | Investor Connect | **Online** | **3** | African Golden Foods and investor James Beaty explored potential collaboration in farming and business development. AGF has shared follow-up information with the investor. |
| **06-07.11.24** | AfriLabs Gathering 2024: EU mAkE Booth | Live demonstration of MiR projects, including 3D printing of stethoscope parts, showcasing collaboration potential. | FabLab & Makerspace Development | **Cape Town, South Africa** | **~50** | Increased visibility of MiR projects and fostered new collaboration opportunities in 3D printing and innovation. |
| **07.11.24** | DTI Ghana x Maker Institute Praha | Continued partnership discussions between DTI and GT at AfriLabs with DTI confirming that they are very interested in running an Afro-Euro innovation program next year. | Partnership Development | **Cape Town, South Africa** | **2** | DTI remains highly interested in pursuing a partnership with MIP; however, due to delayed funding and concurrent efforts to establish a new makerspace, they are currently experiencing a personnel shortage. Increased capacity to actively follow up on this potential partnership is anticipated by February. |

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| **08.11.24** | Community Call - Meet the Hosts of MiR (with makerspaces and Vulca) | Introduction of Makerspaces and support organisation Vulca Network to the GIG Community. | Knowledge Exchange & Skill Building | **Online** | **10** | Shared insights and valuable experiences from Afro-Euro collaboration in residencies. |
| **12.11.24** | African Makerspace Gathering: Presenting FabLab Copenhagen | Presentation and discussion on MiR project, FabLab Copenhagen and collaboration between African and European makerspaces. | FabLab & Makerspace Development | **Cape Town, South Africa** | **~10** | A member of the Nordic Makerspace Network has invited African Makerspace Network members to their demo days to foster connections, exchange ideas, and explore potential collaborations. |

# B2B Events Summary

| Date | Title | Description | Location | Participants | Results |
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| **12.01.24** | Venture Building Kick-Off Call | Kick-off call with 11 of the 20 companies of the VB program. Elevator pitch in order to get to know each others businesses, working sectors, impact. | **Online** | **16** | The online kick-off event led to a key meeting between AGF and XR Global, resulting in plans for VR-based agriculture training solidified during their in-person meeting in Cairo. |
| **09.05.24** | Pitch training and matchmaking event | Pitch training and matchmaking event | **Online** | **7** | The event highlighted challenges in the startup ecosystem, emphasized the importance of collaborative networking, and spurred exploration of partnerships, with funding emerging as a critical enabler for early-stage startups. |