

**The
FutureList**

Yemaachi Biotech

Innovation Memo

WWW.THEFUTURELIST.COM

Innovation In Words



A note from the Founder and CEO of Yemaachi Biotech, Yaw Bediako;

Yemaachi ensures the long-term sustainability and growth of its African Clinical Cancer Research Network by taking a proactive approach to initiating partnerships and projects. Rather than being passive, we lead the engagement by conceiving project ideas and approaching relevant individuals or institutions. Our focus is on bringing value to these partnerships through the quality of our work and intellectual contributions.

Yemaachi Biotech


Executive Summary



Health




Biotechnology Research



yemaachi.com



US\$ 6,000,000



2020

Yemaachi Biotech is a groundbreaking biotechnology company founded in 2020 in Accra, Ghana. They are rewriting the narrative of precision oncology by harnessing the triad of immunogenomics, bioinformatics, and artificial intelligence; Yemaachi is at the forefront of developing strategies for cancer detection and cure using data across Africa.

Yemaachi operates in the emerging health tech area that seeks to promote diversity in oncology research, focusing on Africa. Yemaachi is a pioneer in this subsector and faces challenges with capital and logistics needs. Despite these obstacles, Yemaachi is actively seeking solutions to overcome them and ensure the success of their initiatives. They have raised approximately \$6 million to support their operations from investors, such as V8 Capital, LifeLine Family Heritage Fund, Y Combinator, Tencent, as well as from foundations including the Bill and Melinda Gates Foundation.

Yemaachi is leveraging Africa's diverse genetic population to build a first-of-its-kind pan-African clinical and genomic database. The growing demand for precision oncology solutions worldwide is driven by the increasing prevalence of cancer and the need for more effective and personalized treatment options. Yemaachi's commitment to developing affordable diagnostics and therapeutics to cater to the demand for precision medicine in oncology presents ample opportunities for growth and expansion. Their focus on Africa significantly promotes diversity and inclusion in cancer research providing data to support the development of solutions that aligns with Africa' diverse population.



Yaw Bediako, PhD
Founder and CEO

Yaw is an accomplished researcher with experience working at renowned institutions like the Francis Crick Institute and Northwestern University, where he obtained his Ph.D. in Microbiology and Immunology. Yaw's expertise lies in immunology, particularly in understanding the immune responses to infectious and non-communicable diseases.



David Hutchful
Co-Founder & CTO

David is an experienced technology entrepreneur and leader with a passion for building tech companies in emerging markets that are grounded in a deep understanding of the socio-economic and cultural contexts of those markets. He has over 25 years of experience in software development and has created and led teams to develop innovative platforms aimed at driving social change.



Joyce Ngoi
Co-founder

Joyce is an expert in next-generation sequencing and genomics. She currently serves as the Head of Technical Services at Yemaachi Biotech. Joyce also served as the Head of the Next Generation Sequencing (NGS) core facility at the West African Centre for Cell Biology of Infectious Pathogens (WACCBIP) at the University of Ghana.



Yaw Attua-Afari
Co-founder

Yaw is an accomplished investor and entrepreneur whose worldview has been shaped by his extensive finance and investing experience across North America and Africa. He has had a successful career in investment banking and private equity, with a proven track record of structuring and investing capital across various industries and financing structures.

Innovation Spotlight

Core Functionality:

- Yemaachi Biotech focuses on cancer research, utilizing immunogenomics, bioinformatics, and artificial intelligence to develop cancer detection and cure strategies.
- The core features include molecular and immunological cancer research towards the establishment of a first-of-its-kind Pan-African clinical and genomic database and subsequent development of novel therapeutic and diagnostic targets for cancer.
- The company collects and sequences samples from genetically diverse African populations to optimize existing diagnostic tests and discover new ones.

Design and User Experience:

- Yemaachi's cancer diagnostics and therapeutics design emphasizes cutting-edge immunogenomics, bioinformatics, and artificial intelligence solutions. The user experience is designed primarily for healthcare professionals, researchers, and biotech partners who can leverage the Pan-African genomic database to develop innovative products.
- Yemaachi partnered with Scispot to templize their complex workflow. Scispot provides them with a flexible and customizable digital platform to record their clinical data.
- Yemaachi prioritizes patient involvement in research by securing informed consent and striving to engage beyond medical data. Efforts vary by project, but they aim to understand the social determinants of health and collaborate with advocacy groups for community awareness.

Performance Metrics:

- Yemaachi performance metrics include the size and breadth of the Pan-African clinical and genomic database; geographical diversity of research collaborations; commercial value of data and derived drug targets. Success is measured by the company's ability to contribute to advancements in oncology research and data collection globally, driven by diverse genetic data.

Safety, Compliance, and Sustainability:

- Yemaachi has built several control security features into its digital platform, which it uses to collect clinical data. It employs the best practices for handling health data and personal health information.
- Yemaachi is fully compliant with local Ghanaian regulations regarding data protection. They also aim to attain full compliance with the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Innovation in Business Model:

- Yemaachi's innovation in its business model lies in its approach to diversifying and expanding access to precision cancer diagnostics. The company collaborates with pharmaceutical and biotech partners, leveraging a unique Pan-African genomic database.
- Their business model also involves offering molecular cancer testing services, partnering for research, and utilizing data-driven strategies to redefine cancer diagnosis and treatment in Africa.

Scalability of the Innovation

The technology and database of Yemaachi Biotech can evolve and adapt to increased demand by expanding the collection and sequencing of samples. As more data is gathered, the Pan-African clinical and genomic database can

become a scalable resource for advancing research, which will lead to possible expansion of the startup's offerings.

Yemaachi's business model also allows for scalability by addressing diverse cancer types and populations, making it applicable to future advancements in oncology research and services.

Market Impact & Future Outlook

Yemaachi Biotech is making significant strides in cancer research, diagnostics, and therapeutics, mainly focusing on the genetic diversity of African populations.

- Yemaachi's market impact extends to addressing the underrepresentation of African populations in genetic studies, aiming to create a comprehensive database that reflects the continent's genetic makeup.
- Yemaachi has received significant funding, highlighting the need for investment in the biotechnology subsector.
- Again, their collaborations with international partners and academic entities for cancer genomics studies demonstrate Yemaachi's commitment to expanding its research capabilities. Such collaborations contribute to the global understanding of cancer and open avenues for potential partnerships with international players.

Yemaachi's future outlook suggests potential cancer diagnostics and therapeutics breakthroughs with broader implications for global healthcare beyond Africa.

- Possible future advancements for Yemaachi include using cutting-edge technologies and research findings to develop novel therapeutics in Africa. This could revolutionize cancer treatment strategies, making them more effective and tailored to diverse genetic backgrounds.
- The establishment of AfriCAN, Yemaachi's African Cancer Research Network, reflects a commitment to collaborative research. As the network grows, it can contribute to a collective effort to advance cancer research and care in Africa.
- In the long term, Yemaachi's model and network can be replicated in regions with low representation in the oncology database.

Societal and Environmental Impact

Yemaachi Biotech's work has significant and far-reaching implications for society and the environment.

- Their efforts to build a first-of-its-kind Pan-African clinical and genomic database contribute to a more comprehensive understanding of cancer in people of African descent. Yemaachi contributes to a more inclusive and representative approach to genomic studies by emphasising the genetic diversity in African populations.
- Furthermore, Yemaachi is contributing to improving healthcare infrastructure in the region by building local capacity for molecular diagnostics and cancer research.
- Yemaachi's involvement in projects related to COVID-19, such as the Sequencing for Covid Mitigation in Ghana (SeqCoM-Gh) and their Heritage Study, showcases the company's versatility in addressing emerging health challenges.

Yemaachi Biotech's work goes beyond cancer research and diagnostics; it promotes inclusivity in genomics and fosters sustainable solutions that have positive implications for society and the environment.

Potential Roadblocks & Risks

Here's an explanation of each potential risk and the recommended mitigation strategy for Yemaachi Biotech:

- **Limited Funding for Research**

Conducting extensive research and developing innovative healthcare solutions requires significant financial resources, which can be challenging, especially for startups and organizations operating in resource-constrained environments.

Mitigation Strategy: Yemaachi is actively seeking additional funding sources, including grants, partnerships, and collaborations with governmental and non-governmental organizations. Building a diverse portfolio of funding sources can help mitigate the risk of limited funding and ensure the continuity of research activities.

- **Ethical Concerns and Data Privacy**

Genomic research and handling sensitive patient data raise ethical concerns regarding privacy, consent, and potential misuse of information. Breaches in data privacy can severely damage the company's reputation and trust with stakeholders.

Mitigation Strategy: Yemaachi has established robust ethical data collection, storage, and usage guidelines. We recommend regularly updating and educating employees and stakeholders on ethical standards. Invest in cutting-edge cybersecurity measures to protect sensitive genomic and clinical data from unauthorized access or breaches.

- **Intellectual Property Risks**

Failing to protect intellectual property (IP) adequately can lead to a loss of competitive advantage, as competitors may replicate unique discoveries or technologies.

Mitigation Strategy: Develop a robust intellectual property strategy, including patent filings for unique discoveries and inventions. To protect the company's interests, Yemaachi can set up clear agreements with collaborators and partners regarding intellectual property ownership and usage.

- **Market Competition and Changing Trends**

The healthcare and biotech industries are highly competitive and rapidly evolving. Failure to adapt to changing market trends and technological advancements can make the company's offerings obsolete or less competitive.

Mitigation Strategy: Yemaachi can stay ahead by continuously monitoring market trends and adapting research strategies accordingly.

- **Geopolitical and Socioeconomic Factors**

Geopolitical instability, economic downturns, and socioeconomic disparities can impact the company's operations, funding sources, and potential market reach.

Mitigation Strategy: Yemaachi should be informed about geopolitical changes and their potential impact on operations. Diversifying collaborations and partnerships across regions will reduce vulnerability to any region's geopolitical instability. Again, contributing to local socioeconomic development will strengthen community ties and establish a stable operating environment.

Conclusion

Yemaachi Biotech stands at the forefront of revolutionizing cancer research and diagnostics, mainly focusing on the genetic diversity of African populations. Their innovative approach, leveraging immunogenomics, bioinformatics, and artificial intelligence, not only addresses the under-representation of African populations in genetic studies but also promises breakthroughs in personalized cancer treatment strategies. Yemaachi's commitment to building a Pan-African clinical and genomic database reflects its dedication to inclusivity and diversity in healthcare, paving the way for more effective and tailored treatments for diverse genetic backgrounds.

As we look towards the future, it's essential to recognize the pivotal role that Yemaachi Biotech plays in advancing global healthcare beyond Africa. Their collaborative efforts with international partners and academic entities contribute to the global understanding of cancer and open avenues for potential partnerships and advancements in oncology research worldwide.

Innovation In View

How **Yemaachi Biotech** brings innovation to life



Groundbreaking Genomic Database and Novel Research Approach

Yemaachi Biotech employs a novel approach by harnessing the triad of immunogenomics, bioinformatics, and artificial intelligence for cancer research. This innovative combination allows the company to develop cutting-edge cancer detection and cure strategies, utilizing data from diverse African populations.

One of Yemaachi's groundbreaking innovations is creating a first-of-its-kind Pan-African clinical and genomic database. The company aims to optimize existing diagnostic tests and discover new ones by collecting and sequencing samples from genetically diverse African populations. This database represents a significant step towards promoting diversity and inclusivity in oncology research.

Data-driven Strategies and Collaborative Partnerships

Yemaachi employs data-driven strategies to redefine cancer diagnosis and treatment in Africa. By leveraging the power of bioinformatics and artificial intelligence, Yemaachi Biotech can analyze and derive insights from the vast amount of genomic data collected, driving innovation in precision oncology.

Yemaachi Biotech actively collaborates with pharmaceutical and biotech partners, leveraging its unique Pan-African genomic database. These partnerships foster innovation, contribute to the global understanding of cancer, and open avenues for potential advancements in oncology research.



Contributors

The FutureList

Henry Duah

Healthtech Research Analyst

Eric Kamande

Research Specialist

Yemaachi Biotech

Yaw Bediako, PhD

Founder and CEO

The FutureList

Notes on our methodology

About The FutureList

The FutureList is dedicated to identifying and linking innovative technology companies with the investors, talent and strategic growth partners they need to rapidly scale their innovation. The FutureList leverages its network of local Innovation Scouts, a comprehensive online platform, and curated events to rapidly spot and match opportunities. The FutureList network has already profiled over 6,000 innovative companies, investors and partners globally.

We scout across a broad range of sectors in tech, aiming to identify the most innovative startups globally. This includes everything from AI to biotech, renewable energy, and more. The 10 categories we currently focus on are: farming (farming, food, beverages, crops, forestry, aquaculture, livestock, irrigation, veterinary, etc.), Climate (electricity, energy, environment, renewables, recycling, circular economy, carbon credits, cleantech, etc.), Education (e-learning, school management, assessments, upskilling, tutors, languages, etc.), Enterprise (legal services, AI, cyber security, market research, recruitment, HR, customer success, consulting, SaaS tools, business analytics, etc.), Finance (banking, capital, trading, lending, personal finance, insurance, crypto, real estate, etc.), Health (medicine, biotech, medical equipment, pharmaceuticals, public health, digital health, hospitals, health records, wellness, fitness, beauty, etc.), Infrastructure (architecture, materials, computer networks, safety, law enforcement, construction, data centers, machinery, telecom, wireless internet, manufacturing, etc.), Media (marketing, influencers, animation, arts, gaming, fashion, content, platforms, music, publishing, translation, editing, etc.), Mobility (delivery, transportation, etc.), and Supply Chain (e-commerce, warehousing, logistics, retail, etc.)

About Our Innovation Scouts

Our Innovation Scouts are experienced professionals from diverse sectors with a keen eye for groundbreaking technologies and business models. They undergo rigorous training to ensure they provide maximum value to the startups they work with. They conduct their research on a volunteer basis. We have strict ethical guidelines in place. Any Scout with a potential conflict of interest is recused from the process to ensure fairness and objectivity.

About Our Innovation Memos

Innovation Memos provide a comprehensive profile of an innovator, whether its a startup, hub, investor or more established corporate, highlighting technological and business model innovations. The Memo is written in direct consultation with a verified representative from that entity, and also outlines suggestions around how to rapidly scale their innovation further through use of The FutureList's network. Once published, the Memo accessible to our network of investors, partners, and the general public for free on our platform. The Memo process is completely free for the companies featured as well. The entire process, from initial contact to publishing the Innovation Memo, typically takes about 4-6 weeks, but this can vary based on the startup's availability and responsiveness. Our goal is to promote and scale innovation globally. The FutureList platform and events are sponsored by partners.

Scaling Innovation

How **The FutureList** identifies and scales innovation globally



Ecosystem and sector mapping

Our Ecosystem team identify the most innovative early-stage and growth-stage tech companies across key sectors in tech hubs around the globe.



Innovation memos and platform profiles

Our Research team interview founders and tech executives to publish innovation memos and create a comprehensive company profile on our public online platform.



Introductions to strategic opportunities

Our Ecosystem team share company profiles with relevant investors and strategic growth partners across our global ecosystem, and facilitate warm introductions where requested.



Private dinners and fireside chats

Our exclusive evening events bring together founders, tech executives and other special guests for networking and interactive discussions around technology and innovation.



Global summits & learning trips

Featured companies will be invited to larger annual events held at the regional and global stage that connect the most innovative companies with opportunities for further visibility.

Sponsor

The FutureList platform and events are sponsored by partners.



Sand Technologies, a global technology services company with presence across Silicon Valley, France, the UK, Romania, and several emerging markets, is at the forefront of supporting scale-ups worldwide in overcoming the challenges of rapid growth. We're currently aiding businesses in the United States, New Zealand, Denmark, the Netherlands, the UK, the UAE, South Africa, Kenya, and numerous other locations in developing scalable technology products, constructing world-class tech teams, enhancing revenue generation, and elevating customer satisfaction.

Learn more at www.sandtech.com

**The
FutureList**

www.thefuturelist.com

