

ULTRAXS

**The world's first fully automated AI controlled
Fire Protection System**

**BUSINESS VALUE PROPOSITION FOR
THE UNITED REPUBLIC OF TANZANIA**



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1. EXECUTIVE SUMMARY

Ultraxs is a **smart robotic firefighter** equipped with **artificial intelligence (AI)** to automatically identify and **extinguish fires in less than 27 seconds**.

Due to its revolutionary design and use of new technology where traditional fire prevention systems have failed, Ultraxs is poised to be a global leader in firefighting technology. Additionally, Ultraxs costs less than its competitors to install and maintain and has positive environmental impacts due to its **drastic reduction in water use** to suppress a fire.

In its Africa's Macroeconomic Performance and Outlook – January 2023, the **African Development Bank (AfDB)** estimates that the **GDP of Tanzania** will have grown by +4.6% in 2022, and projects it will **grow by +5.1% in 2023, and by +6.1% in 2024**.

In April 2021, **Her Excellency President Samia Suluhu Hassan** gave her first speech to the parliament, mentioning the **priorities of the Sixth Phase Government in the next five years to reach a GDP growth rate of at least 8% yearly**.

Ultraxs is uniquely positioned to become **a national job creator** and **boost the country's economy**, and furthermore will **enhance international business** ties between the producing country and others in the world market.

**DETECT FIRE IN
20 SECONDS**



**SUPRESS FIRE IN
27 SECONDS**



Reduce fire
safety system
problems by

99%

Reduce water
usage by

99%

Reduce installation
costs by

70-95%

1.1 SUCCESS FACTORS

GIWUS is **uniquely qualified to succeed** due to the following reasons:

Smart Detector: Ultraxs Robotic Firefighter utilizes one of the most intelligent fire detection technologies on the market. Ultraxs detects fires in less than 20 seconds, scanning 360 degrees continuously, detecting with the highest accuracy, analyzing fire patterns, and understanding changes in the detection area. Ultraxs is also designed to avoid false alarms providing additional savings in both time and money. This smart detector decreases cases of false alarms by 99%.

Advance Fire Suppression: Ultraxs has a powerful fire suppression system that rotates 360 degrees to accurately aim and eliminate fire in less than 27 seconds. Unlike traditional sprinkler systems which dispense water universally, the Ultraxs fire suppression system only disperses water in the immediate area of the fire, sparing surrounding areas from damage. Ultraxs uses two capsules containing water or fire suppression chemicals without the need for pipes. Ultraxs can also work by using its own material tank connected to one pipe, or by connecting to an existing fire protection system. Its precision aiming functionality reduces property damage costs by 99%, while preventing the spread of fire to other areas.

Artificial Intelligence (AI): Ultraxs uses artificial intelligence to handle multiple tasks at the same time. Acting like a brain to control all the aspects of the Ultraxs device, artificial intelligence ensures Ultraxs makes the correct decision in all circumstances without the need for human intervention. Ultraxs automatically learns the surrounding conditions and functions appropriately in different situations.

- ✓ The Ultraxs Robotic Firefighter has proven to have **less than 1% error in detecting and extinguishing fires**. It avoids and mitigates several risks and issues that other devices pose including false alarms, wasted materials (water, wet chemicals, foam, etc.), delays in detecting and suppressing fires, damage to properties, expensive replacements, maintenance, etc.
- ✓ Ultraxs Robotic Firefighter has been **lab and real-world tested**. The Ultraxs Robotic Firefighter's smart technology has been shown to perform significantly **better than traditional fire prevention methods**, such as sprinkler systems, by **saving time, money**, and preventing fire and water damage.
- ✓ Ultraxs Robotic Firefighter's **unique design** makes it **easy to install and use**. Occupying a small space and **made of fire resistance materials**.
- ✓ Ultraxs works by connecting to the building's electricity. However, in the case of a power outage, Ultraxs **has a backup battery** that can power the device for **up to 130 hours**. Once back online, the battery **recharges automatically**.

Ultraxs is scalable from all aspects. Some additional key features are as highlighted below:



SMART APP

Users can access the app on any smart device. It provides the user with the location of any fires, a status of the facilities & any firefighting efforts, and setting options for the firefighting devices. The notifications can be audio or visual in any desired language.



ALARM

Ultraxs connects to existing alarm systems to notify building inhabitants of a fire. If a fire is detected, an alarm is also be sent to the Ultraxs smart app. Three specific notification alarms are sent before Ultraxs acts to extinguish the fire, allowing a user to intervene if needed.



LASER

Ultraxs uses laser technology allowing users to accurately identify the location of a fire in the facility. Once a fire is identified, two lasers are automatically activated, rotating up to 360 degrees, to show the exact location of the fire and take action on it.

Ultraxs installation is versatile and can be used with or without a connection to piping.



Ultraxs is equipped with capsules that can be filled with different materials including ABE Powder and ABC Dry Chemical to release automatically.



Ultraxs can work using its own material tank which connects to one pipe. It is highly cost effective with no requirements for any additional parts.

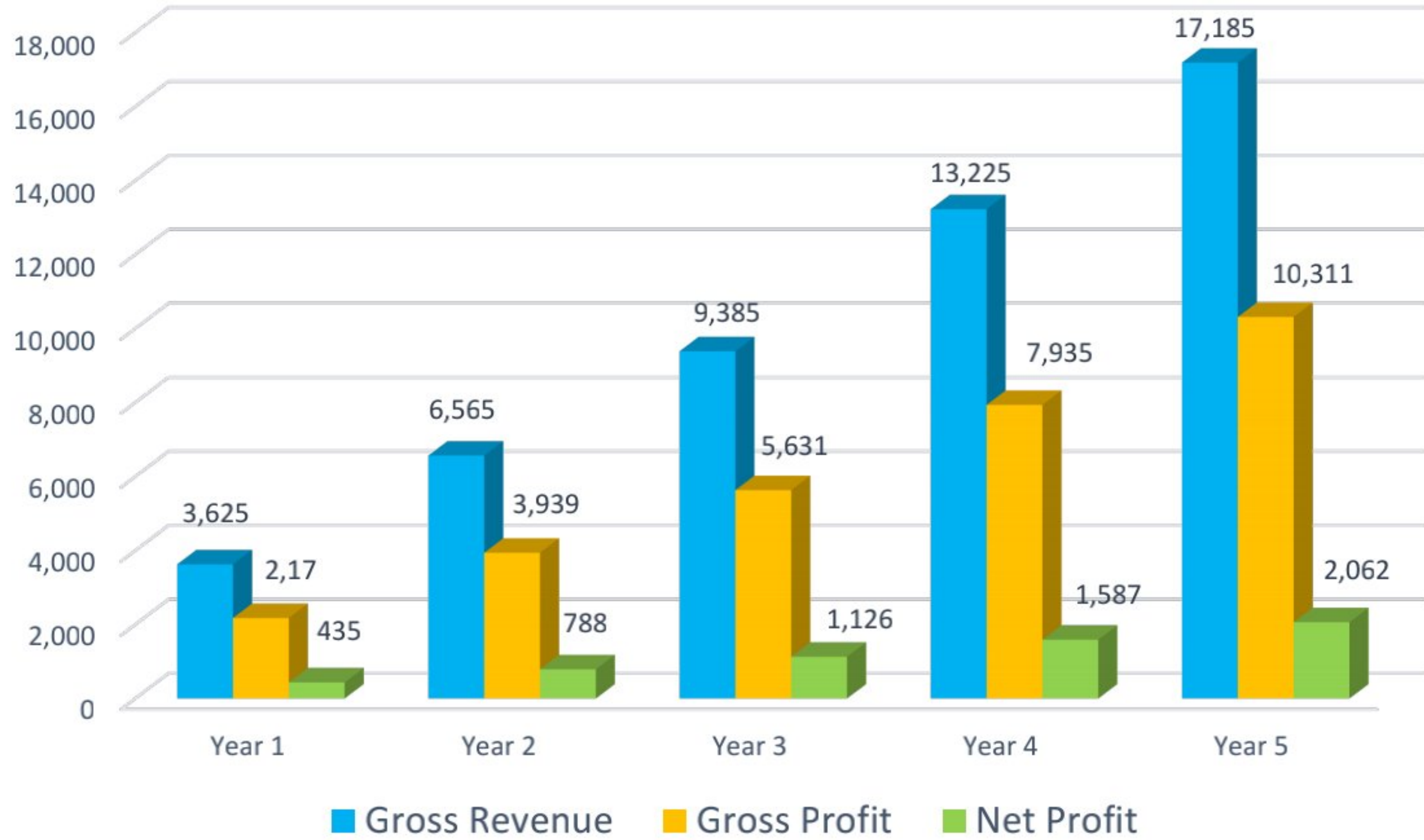


Ultraxs connects and uses the fire protection system (pipes) that are already present in the residential and commercial facilities.

2 FINANCIALS

2.1 5 YEAR PROJECTIONS

ULTRAXS PROFIT (in millions)



	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
GROSS REVENUE	3,625	6,565	9,385	13,225	17,185
COST OF GOODS SOLD	1,450	2,626	3,754	5,290	6,874
GROSS PROFIT	2,175	3,939	5,631	7,935	10,311
EXPENSES	1,740	3,151	4,505	6,348	8,249
NET PROFIT	435	788	1,126	1,587	2,062

2.2 FINANCIAL HIGHLIGHTS

The "Fire Protection System Market Size, Share & Trends Analysis Report by Product (Fire Detection, Fire Suppression, Fire Response, Fire Analysis, Fire Sprinkler System), by Service, by Application, by Region, and Segment Forecasts, 2022-2030" reports the global fire protection system market size is expected to **reach USD 130.37 billion by 2030**. It is expected to expand at a **CAGR (Compound Annual Growth Rate) of 6.7% from 2022 to 2030**.

Increasing adoption of wireless technology in fire protection systems, growing human and property loss owing to fire breakouts, and stringent fire safety regulations are **projected to fuel the market growth**.

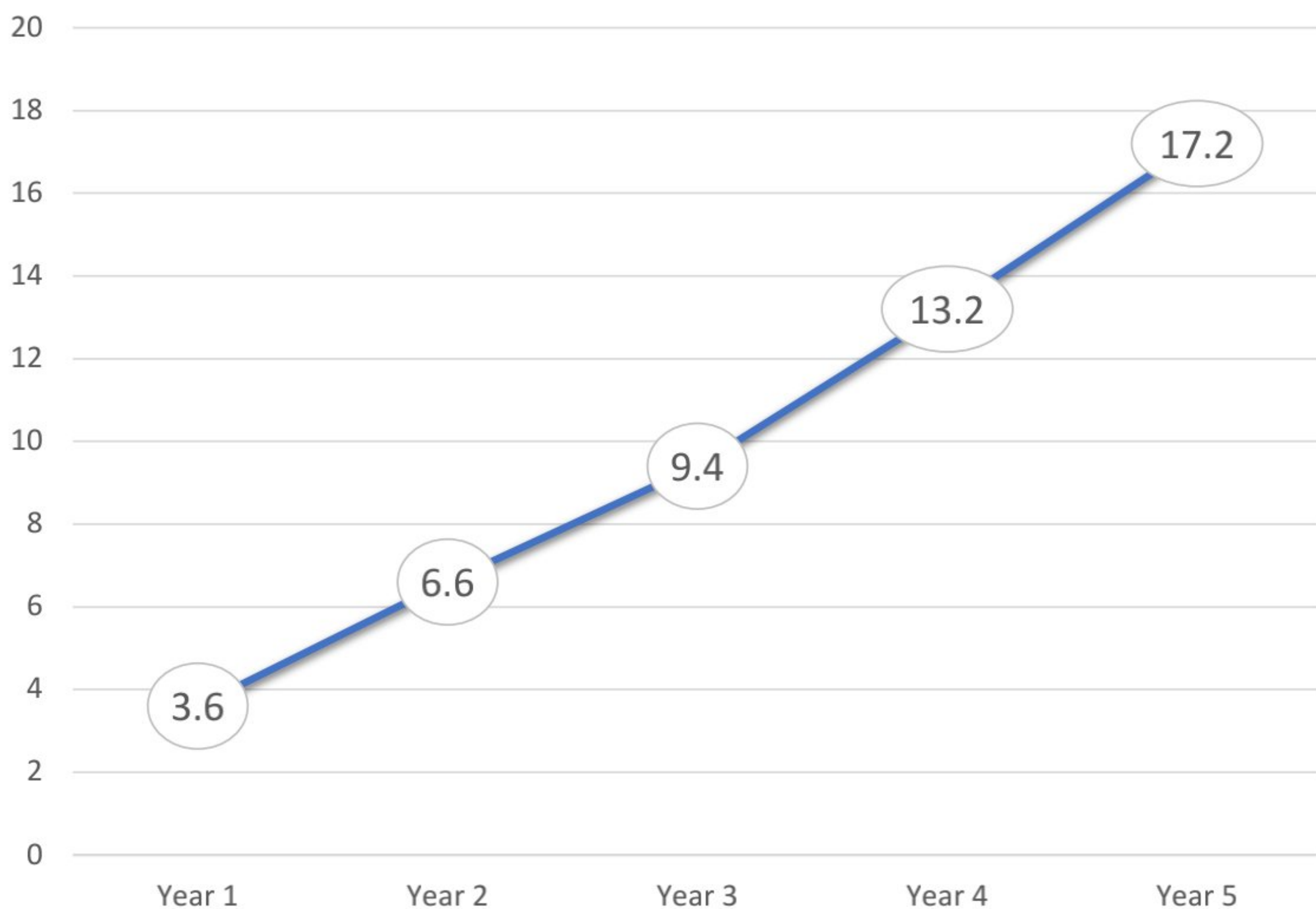
Increasing implementation of building safety codes and renovation projects is also anticipated to be a major factor influencing the market growth. The application and usage of fire protection systems are **anticipated to increase continuously with the developments of commercial entities and corporations**. Furthermore, **technology enhancements such as extinguishing technology based on mist and products such as laser optical/infrared smoke detectors, alarms with embedded voice evacuation announcements, hypoxic air fire suppression systems, and wireless fire alarm systems are expected to gain traction in the market globally**.

The growing trend of integrating fire alarm and detection systems with building automation systems offers **vast growth opportunities** to the market. **Connectivity with building automation systems is increasingly becoming a major feature of fire protection systems in commercial, industrial, and residential applications**. This can be attributed to the fact that such integration allows for the development of systems that are capable of sharing and gathering data, which can help in alerting individuals about fire safety issues in the premises. **A notable rise in investments in smart building automation technologies across several regions is expected to lead to new opportunities** for building automation systems in the industrial and commercial sectors.

Infrastructural development activities across the Asia Pacific region owing to the rising demand for new transport and utility infrastructure **will drive the demand**. The high rate of urbanization is placing increased pressure on under-invested, weak city infrastructure. The consecutive rise in focus on new residential and infrastructural development projects is expected to propel the demand for fire protection systems across this region; thus, such factors are fueling the market growth.

The fire industry had revenues of \$79 billion dollars in 2022. **Ultraxs** at a low estimate can take **4.3% of the market**, thus **projecting \$3.6 billion in revenues in the first year** and **over \$17 billion in the next five years.**

Global Revenue for 5 Years (in billions)



Using the assumption that Ultraxs maintains the same percentage of each year's market increase, Ultraxs is estimated to grow its market share by an average of 2.76% each year.

The growing trend of the fire protection system market translates to a high potential for the Ultraxs device. It is expected that this technology will take over a significant percentage of the market in its early years and be highly profitable. However, it should be kept in mind that the buyer's performance in introducing and selling this device is critical.

Using the industry standard of 60% gross margin & 12% operating margin, we can extrapolate estimated costs and net profit.

We estimate that the Cost of Goods Sold per unit will range from \$1,500 to \$2,000. Based on this estimate, we recommend the purchase price be around \$5,000 per unit to maintain 60% gross margin.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
ESTIMATED UNITS SOLD	724,980	1,312,980	1,876,980	2,644,980	3,436,980

2.3 METAVERSE SCALABILITY

The Metaverse is a convergence of physical, augmented, and virtual reality in a shared online space. Ultraxs is the world's first fire safety product integrating metaverse technology.

The Metaverse market is expanding at an increasing rate every year, and according to Goldman Sachs, the Metaverse is a **\$8 trillion opportunity**.

- ✓ Global metaverse market size in 2020: USD 47.69 billion (Emergen Research)
- ✓ Market size by 2028: USD 828.95 billion

Ultraxs Metaverse Scalability



MONITORING

Virtually for engineers, support staff for real time visibility, traceability, and analysis.



TRAINING

VR, AR, XR based training driven by AI case scenarios amalgamating real time data.



SUPPORT

Global support staff expertise and data can be leveraged based on the situation. Location is no longer a constraint.



AR

COMMUNICATION

Crews are better equipped with real time analytics driven from the ULTRAXS to provide second per second changing scenarios of the situation.



2.4 PRICING

The cost of Ultraxs with the application (including installation) is:

- ✓ \$5,000 USD per unit
- ✓ Estimate \$10,000 USD for a three-bedroom house (includes 2 Ultraxs Devices + Smart Application + Installation)

3 FEATURE HIGHLIGHTS

- ✓ The smart detector rotates 360-degrees and identifies a fire in a matter of seconds with the highest accuracy leveraging artificial intelligence.
- ✓ Automatically learns the surrounding conditions and functions in accordance with the new situation including the analysis of fire patterns and changes in the detection area.
- ✓ After identifying the fire, and learning the condition, it calculates a decision to eliminate the fire with 99% accuracy.
- ✓ Ultraxs's smart application sends out alarms showing the location of the fire and the status of the building and facilities.
- ✓ Two laser pointers are automatically activated, rotating up to 360 degrees to show the exact location of the fire.
- ✓ The Ultraxs fire suppression system disperses materials only in the immediate area of the fire (traditional sprinkler systems dispense water all over the building), sparing surrounding areas from significant damage and subsequent losses.
- ✓ Ultraxs is the most environmentally friendly fire safety system on the market reducing wasted fire-extinguishing materials (water, chemicals, etc.) by 99%.
- ✓ Ultraxs can detect and suppress multiple fires simultaneously, including areas distant from the first fire.
- ✓ Once the fire has been suppressed, the app will send notifications about the safe zones (building safety notifications)
- ✓ In the case of a power outage, Ultraxs has a backup battery that can power up the device for up to 130 hours. Once the power comes back on, the battery recharges automatically.
- ✓ Ultraxs can be connected to all existing sensors and fire detector/fire alarms in any building for an even safer fire protection system.
- ✓ Ultraxs is an open source technology; its shape, software, size, and materials used in the device can be modified and enhanced based on users' needs and building requirements.
- ✓ In cases of buildings with special equipment such as highly combustible products like oxygen tanks, the product can be programmed and adjusted to those buildings' special settings and conditions.

4 CUSTOMER ANALYSIS

The **EU-Tanzania Business Forum** will take place on the 23rd and 24th of February 2023, in Dar es Salaam with a focus in the sectors of **energy transition, agriculture, manufacturing, logistics, digital connectivity and construction**, will convene for the two-day, high-profile event. There is a **growing desire to bring in technology and expertise to the country and increase employment.**

Ultraxs opens the door to Technology expertise, manufacturing, and logistics to be held within the country, surging employment opportunities in the country, and boosting the economy. Ultraxs can be used both **within the country and exported globally** to a myriad of customers including (but not limited to):

CONSTRUCTION: Ultraxs offers more accurate and less costly fire protection than traditional fire sprinkler systems. When constructing new properties, traditional sprinkler systems can cause considerable time delays and installing sprinkler piping throughout a building can be extremely costly. Additionally, sprinkler systems require ongoing maintenance. The Ultraxs Robotic Firefighter's smart technology offers a comprehensive fire protection solution at a substantially reduced cost, with little or no maintenance required.

HEALTHCARE: Healthcare organizations and hospitals routinely use highly combustible products, such as oxygen tanks, for patient care. These lifesaving products need to be protected from the devastating impacts of fires. Additionally, healthcare organizations utilize medical equipment that would cost millions of dollars to be replaced in the case of fire or water damage. Ultraxs offers one-of-a-kind protection for these facilities.

COMMERCIAL: Commercial areas such as shopping malls, businesses and offices are in high demand to use high technology to keep them safe from fire and to decrease the damages and cost. Ultraxs offers highest fire safety with considerable savings for commercial areas.

EDUCATION: High demand areas that should protect the life of our teachers and students for creating a better future for the country. Ultraxs can provide outstanding level of safety for our teachers, students, and staff.

GOVERNMENT: Government facilities, such as government buildings, public libraries, military bases, ships, and data centers can be protected from fire and damages by the state-of-the-art Ultraxs super quick reaction via its artificial intelligence.

5 COMPETITIVE ADVANTAGE:

ULTRAXS ROBOTIC
FIREFIGHTER



GOOGLE NEST
SMOKE DETECTOR



FIRE SPRINKLER
SYSTEM



COMBINED FIREFIGHTER & DETECTOR

- ✓ **Advance** artificial intelligence
- ✓ **Rotatable** shape; Needs only **one** pipe
- ✓ Reduces false alarm by **99%**
- ✓ Ultraxs reacts **instantly** + reduces damage by **99%**
- ✓ Uses only **1/4 gallon** of water per fire case; saves materials by 99%
- ✓ Fully **AI-controlled** application
- ✓ Reduces installation and maintenance costs from **70% to 95%**
- ✓ Ultraxs is the **world first** fire safety product that **integrates with the metaverse**

NOTIFICATION DEVICE (ALARM ONLY)

- ✗ No Artificial Intelligence
- ✗ **Not** easy to use; Significantly **slow** fire detection
- ✗ **Only** a smoke and carbon monoxide detector & sends out **false alarms**
- ✗ **Does not** eliminate fire
- ✗ Not user friendly
- ✗ **No** alerts on mobile phone upon Nest Protect alarm
- ✗ **Need** to replace the battery constantly
- ✗ **Cannot** integrate with metaverse

FIREFIGHTER WITH PIPE CAPABILITY

- ✗ No Artificial Intelligence
- ✗ **No** functional or practical shape. Need a lot of pipes
- ✗ **2,889,000** false alarms, not smart
- ✗ Reaction activation **155°F - 165°F**; **Losses** of \$**21.9** billion USD
- ✗ **15 gallons** of water per sprinkler per fire case; Wastes water and costs billions annually
- ✗ No smart application
- ✗ **Costs millions** to install and maintain; requires lots of maintenance & space
- ✗ **Cannot** integrate with metaverse

6 ECONOMICAL & ENVIRONMENTAL IMPACTS

ECONOMIC IMPACT OF ULTRAXS ON TANZANIA'S BUSINESSES

According to a recent Allianz Global Corporate & Specialty® (AGCS) report:

1. Fires and explosions are the cause for the highest losses in businesses.
2. From 2013 to 2018, more than 470,000 global insurance claims were filed.
 - a. In all these fire incidents, defective product and faulty workmanship incidents were regarded as the top cause for losses.

In the past five years, fire and explosion incidents have caused more than \$18 billion worth of losses and are responsible for more than half of the 20 largest non-natural catastrophic events analyzed globally. Having a safe fire system in place not only creates jobs for the country, but it also avoids business disruptions. Technology can single-handedly improve the job market and advance society in several ways.

The [World Economic Forum](#) terms it as “**Leapfrogging and innovating**” and reports the following:

“The fourth industrial revolution, which merges the physical and digital worlds empowered emerging economies to experiment with new technologies in creative and unconventional ways. This has allowed them to leapfrog over conventional stages of development and set their own priorities for innovation. Often, these homegrown innovations are then adopted regionally and internationally.

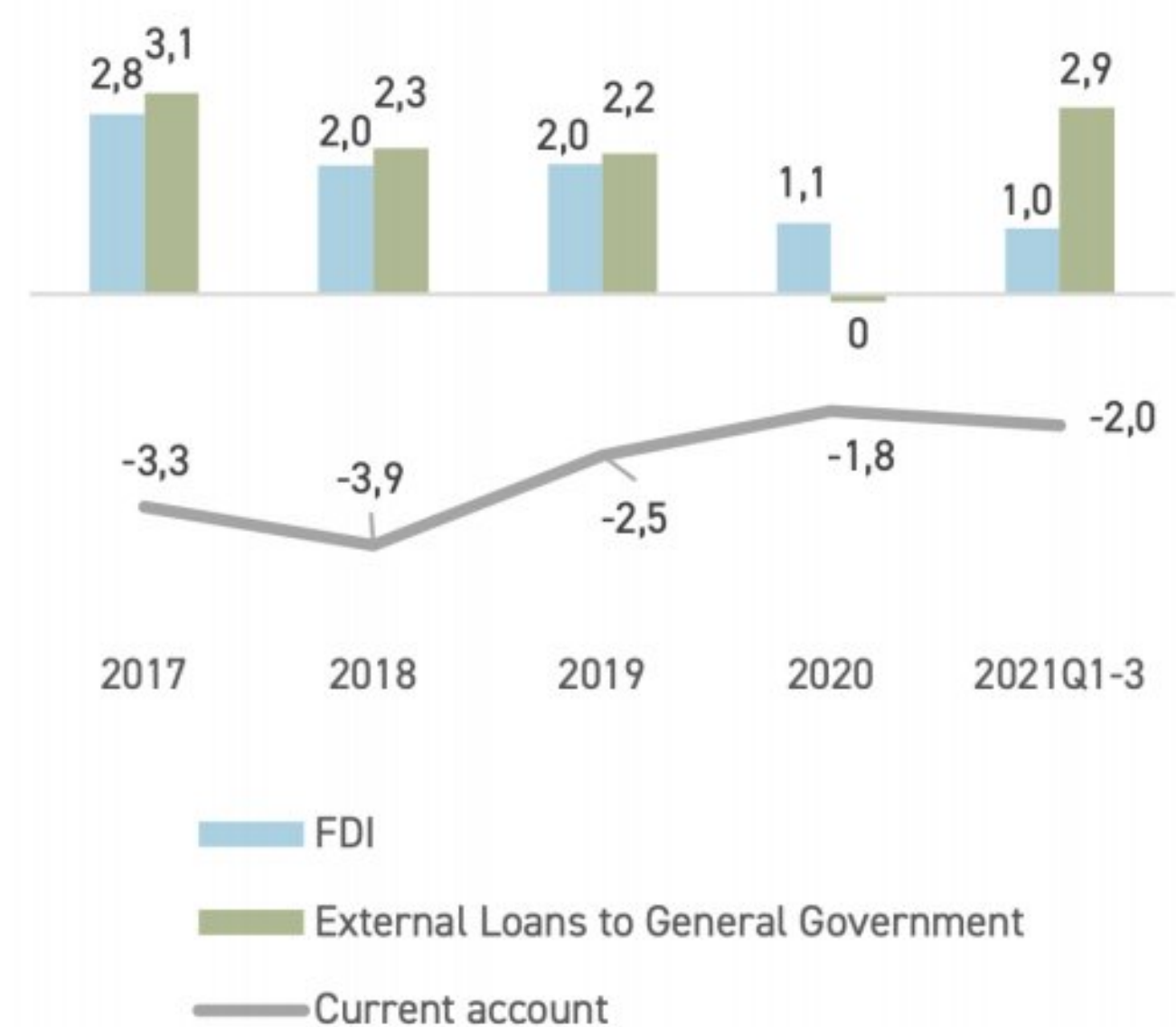
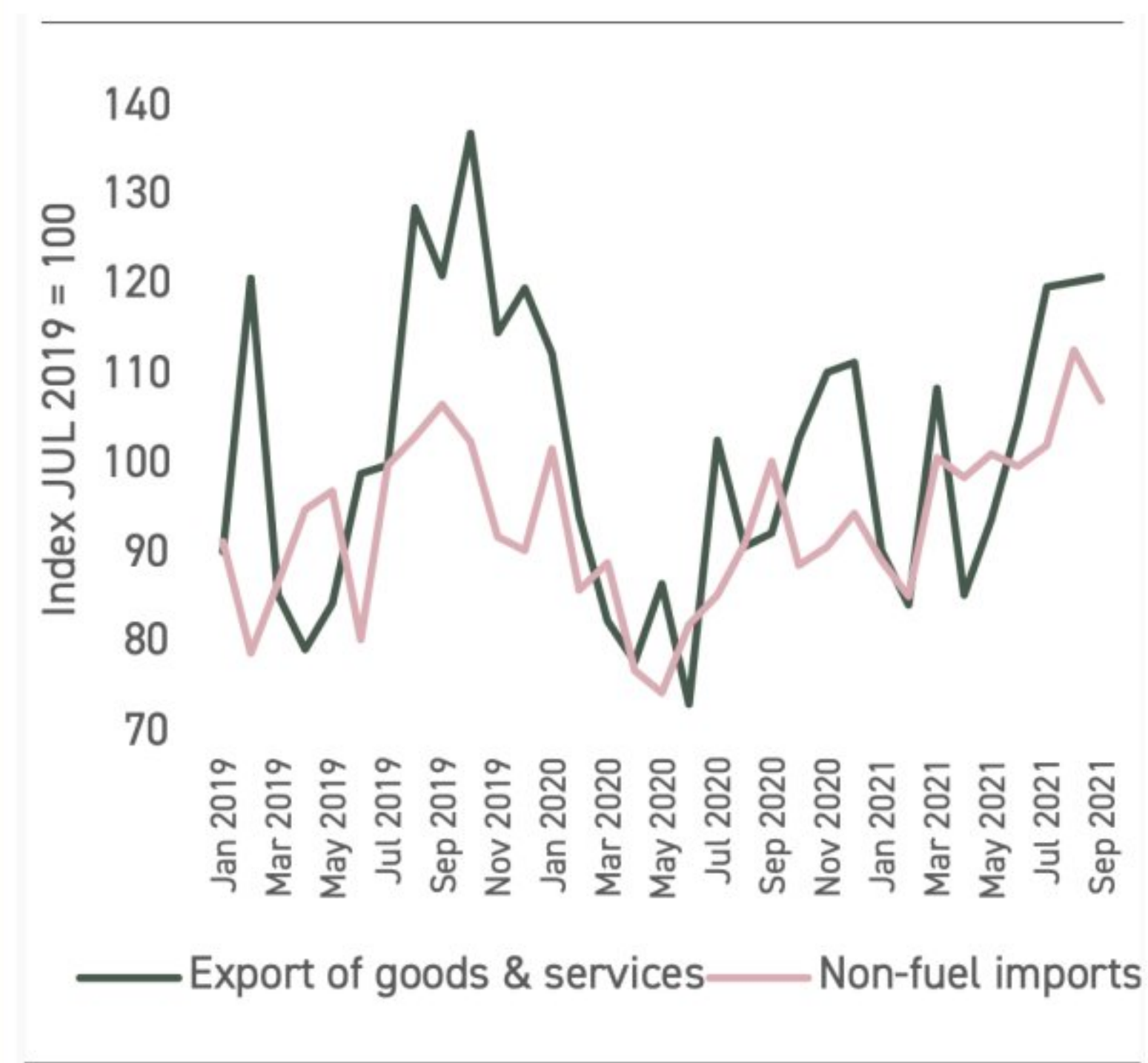
For example, Rwanda has developed the largest civil-operated drones network in the world. Since 2016, it has embraced the use of commercial drones to deliver vital medicines and blood for transfusions all over the country, even to rural communities in areas with little infrastructure. It also uses drones to deliver health supplies to neighboring countries. The strategy has been so successful that other African countries have started using drones in their fight against COVID-19. Similarly, these successes have also been scaled in advanced economies with Chinese retailer JD.com using drones to support COVID-19 contact tracing and delivery efforts in rural China. In April 2020, the US Postal Service collaborated with drone developer Matternet to become the first approved drone prescription delivery service in the US.

*This **growing trend of African innovation is strengthening the continent's profile as a hub of local ideas with global potential.** It builds on success stories such as M-PESA, a mobile money transfer service in Kenya, which is credited with sparking the boom of mobile money in Africa. Services like this drove the move to a greater use of phone-based services from payments to medical advice all over the world.*

Innovation flourishes when we can embrace our differences, individuality, and ability to think in unique ways. However, to fully realize the potential for research and development in emerging markets, more investment is needed. This is where an enormous gap still exists between different regions. In 2019, the total annual investment in technology start-ups came to \$258 billion in China, \$130 billion in the US and \$122 billion in Europe. India lagged far behind with a total tech investment of \$14.5 billion that year. Africa was even further behind, with an investment of \$1.3 billion across the entire continent.”

The World bank published a report on 13th Feb 2023, “Tanzania Economic Update: Universal Access to Water and Sanitation Could Transform Social and Economic Development.”

To ensure strategies, optimize water and minimize costs, GIWUS Technology has stepped up and equipped its robotic firefighter with advanced technology to help save water by 99%. The Ultraxs fire suppression system disperses materials only in the immediate area of the fire (traditional sprinkler systems dispense water all over the building), thus sparing surrounding areas, and saving them from damage and subsequent losses. Ultraxs is the most environmentally friendly fire safety system on the market reducing wasted fire-extinguishing materials (water, chemicals, etc.) by 99%. **Ultraxs opens the door to Technology expertise, manufacturing, and logistics to be held within the country, surging employment opportunities and exports globally.**

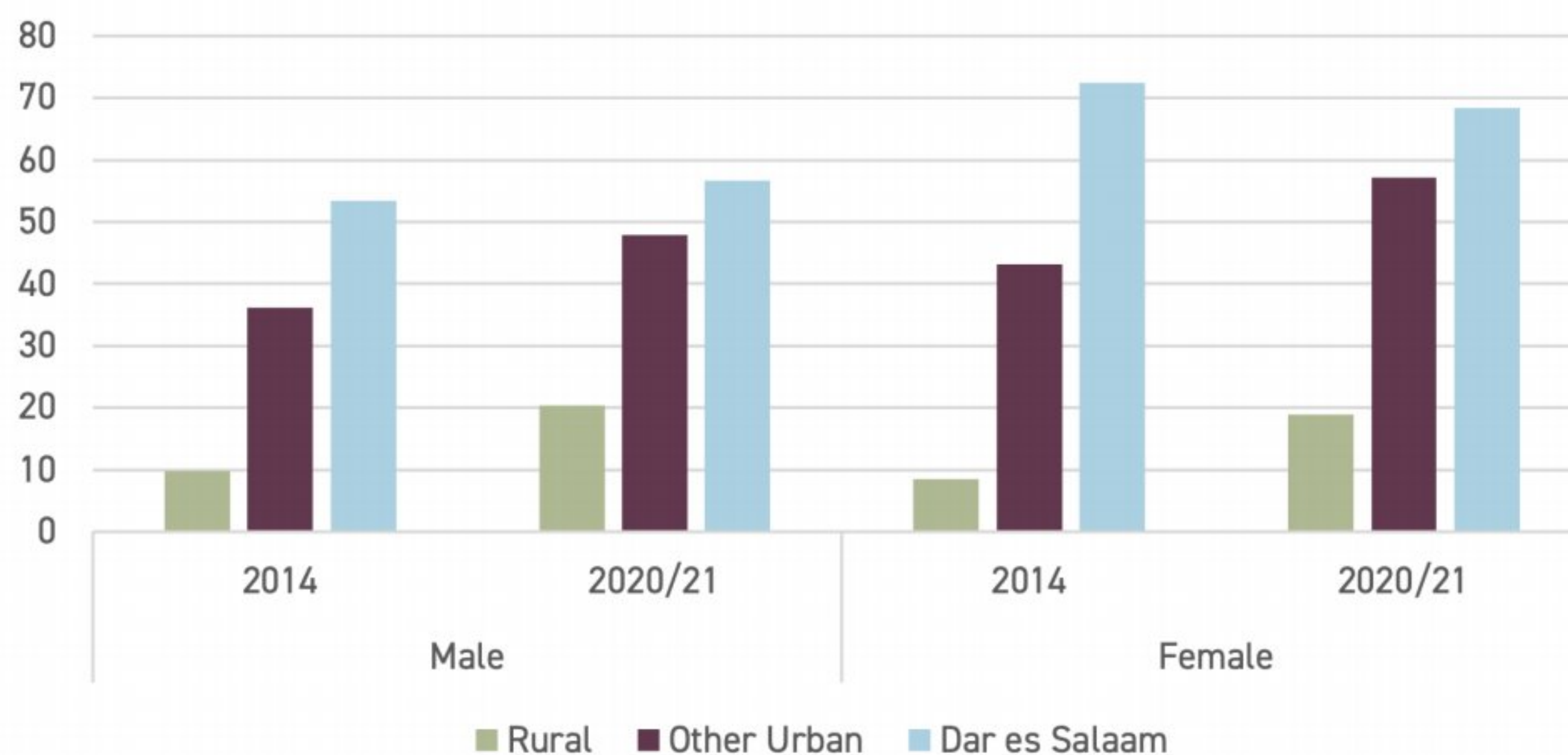


EMPLOYMENT

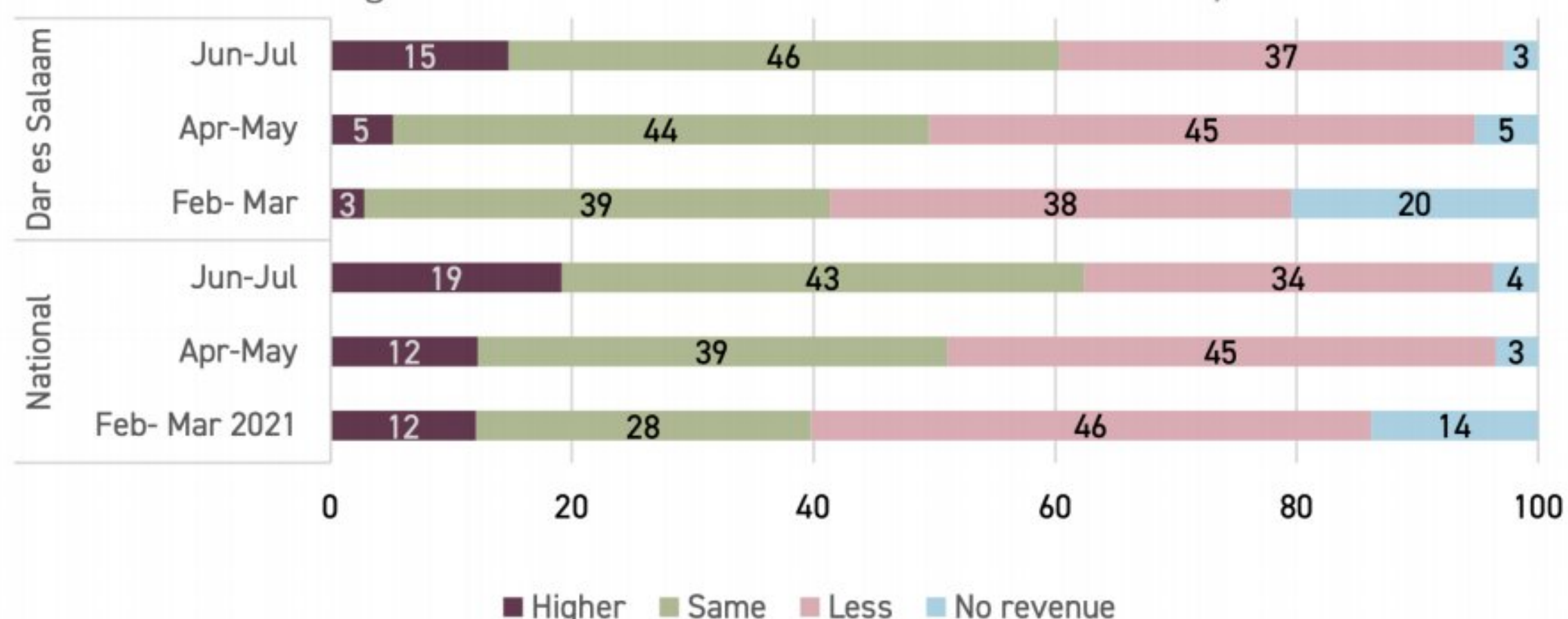
The World Bank reported, “Tanzania’s sustained progress in expanding women’s economic opportunities has contributed to its recent success in growth and poverty reduction. The female labor-force participation rate rose from 67 percent in 2000-01 to 80 percent in 2019, well above the 63 percent average for Sub-Saharan Africa and among the highest rates on the continent. A growing share of Tanzanian women are now compensated employees, and the ratio of women to men in jobs paying wages and salaries rose from 0.35:1 in 2000 to 0.64:1 in 2019, while the share of women engaged in unpaid agricultural work fell from 78 percent in 2004-05 to 64 percent in 2015-16.

TANZANIA

Percentage of non-farm employment that is in the informal sector



Change in Business Revenue Since the Previous Month, 2021



Source: Preliminary findings of the first three rounds of the HFWMS.

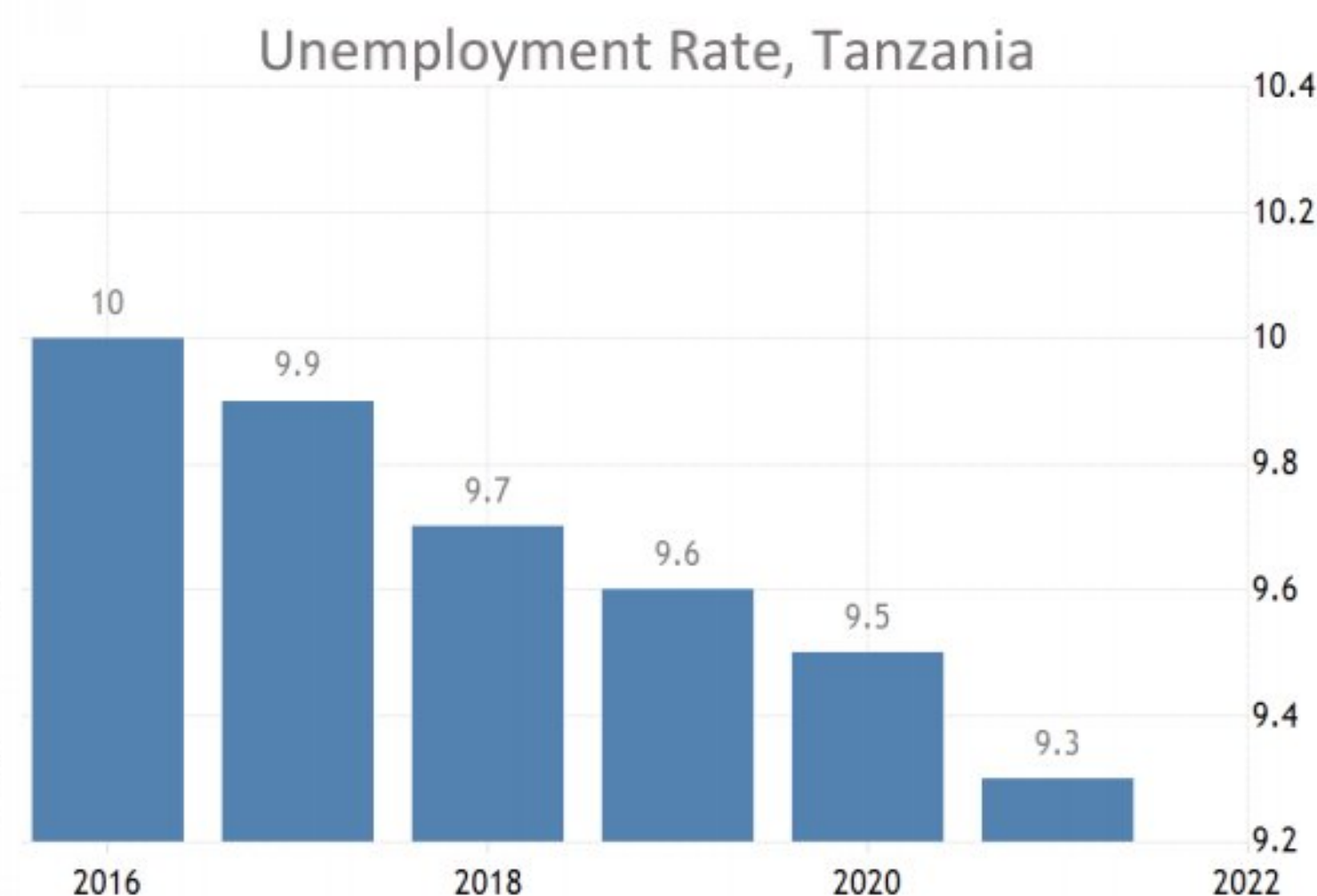
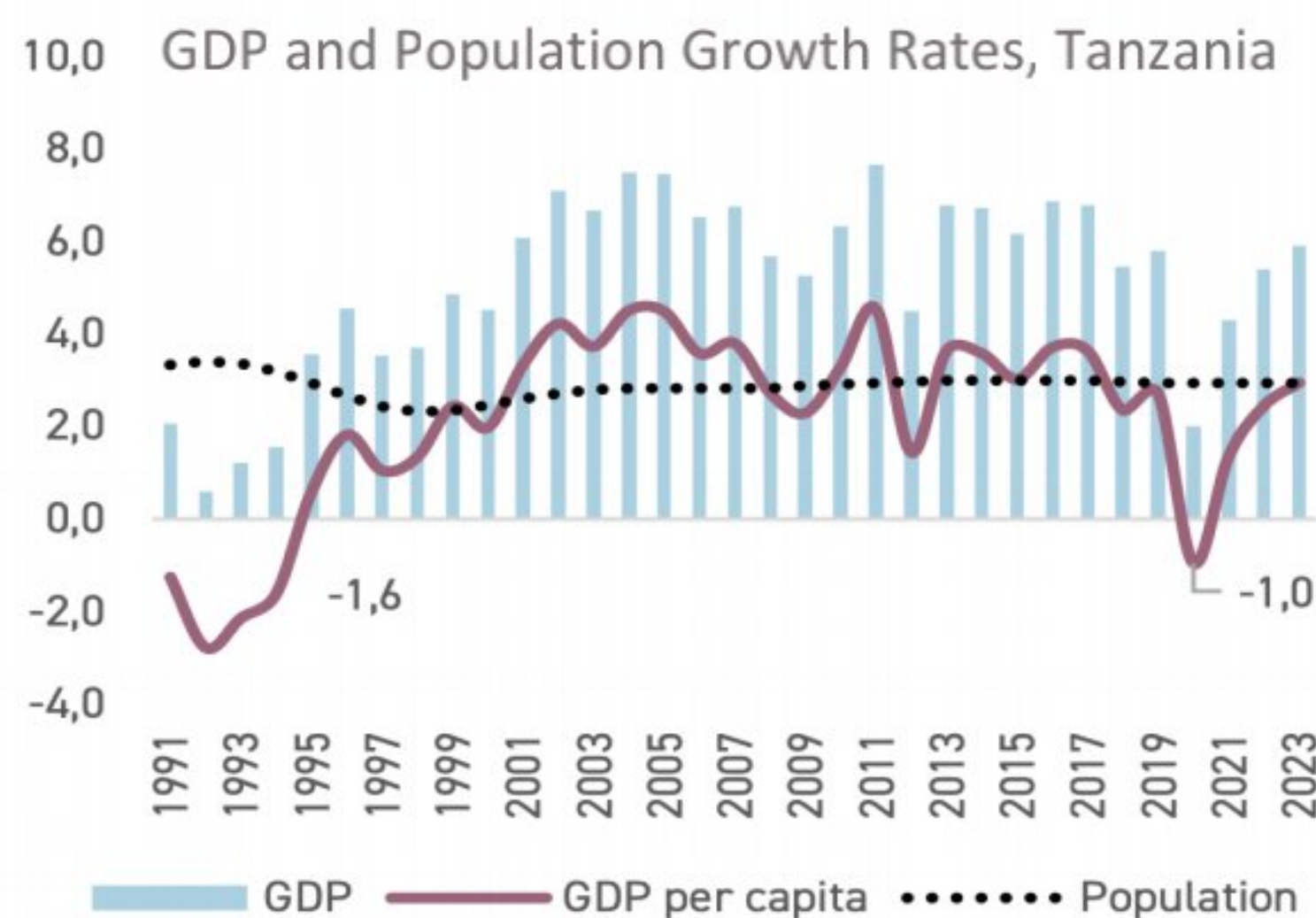
Notes: Respondents are owners of nonfarm family enterprises. Sample size 761, 610, and 737 in round 1, round 2, and round 3, respectively. The responses are for households with an active enterprise that was launched before the previous month.

The Boston Consulting Group (BCG) in their most recent economic analysis reported that **new technologies will lead to millions of jobs by 2030**. Evidence suggests that new technologies act as a catalyst for economic growth and job creation in a country. **The formation of important technological currents such as the Internet of Things, Artificial Intelligence, Cloud Computing, and Big Data structures have undoubtedly had profound effects on all the elements of today's societies, so that all these foundational works have turned into the fourth industrial revolution.** Developing technological industry creates jobs. Such developments indicate that the returns on accumulated knowledge are highly lucrative that they can create an infinite amount of wealth without the need for involving a great deal of human resources; they can all be superseded by more-than-before relying on technologies and having the scalability features in place.

Ultraxs innovative system has the potential to create the manufacturing lines and centers for the production and distribution of this special technology worldwide, which creates **employment in various fields**, including programming, designing, robotics engineering, computer sciences, electrical engineering, transportation support system, data sciences, and many other fields, as well as fields such as marketing, sales, public services, and the like. All these fields have a significant impact on the growing economy of a country.

The increase in the labor force will increase the purchasing power of society and such spending power reflects the rise in society's demand. Commercial enterprises also develop their activities to meet society's demands.

Ultraxs is uniquely positioned to become a national job creator and boost the country's economy. Ultraxs is set to be a global leader in the fire protection industry and will enhance international business ties between the producing country and others in the world market. As such, billions of dollars will be imported into the country each year.



Source: NBS, WB staff estimates.

TRADINGECONOMICS.COM | NATIONAL BUREAU OF STATISTICS (NBS) - TANZANIA

ENVIRONMENTAL IMPACT

Building fires are known to cause significant environmental damage and are already contributing to rising pollution levels. Fires not only produce smoke, but also affect water and soil. Smoke condensation forms a layer on top of plants, limiting the number of photosynthetic plants that can survive. Toxic substances diffused by smoke are absorbed by trees and plants through their roots and leaves, negatively impacting the surrounding ecosystem. In such situations, intelligent and efficient technology is critical.

Most fires are extinguished with large amounts of water. While this is effective, it seeps into the ground if preventative containment measures are not put in place. Pollution effects depend primarily on what is burning in the fire. However, even nontoxic substances can have negative impacts to the environment, depending on the concentration.

In contrast, the Ultraxs Robotic Firefighter has a robust fire extinguishing system that precisely aims and extinguishes fire in less than 27 seconds, limiting the use of water or firefighting chemicals that could cause environmental harm. The Ultraxs system's new technology is also intended to **release high pressure with less material and extinguish the fire with high precision**. For the first time, we can **reduce the consumption of water or other materials by 99%**. It has a great impact on environmental protection, water consumption and fire damage.

One of the most devastating factors affecting economic recession and people's livelihoods is the water shortage crisis, which many countries are suffering from today. As a result, around 1.1 billion people worldwide have no access to water, and a total of 2.7 billion people are water scarce for at least one month a year. Inadequate sanitation is also a problem for 2.4 billion people, exposing them to diseases such as cholera, typhoid, and other water-borne diseases.

UN has declared water as a scarce resource and is looking for governments to align water use patterns with the needs and demands of different users, including the environment.

To ensure optimized water utilization and minimization of costs, GIWUS Technology has stepped up and equipped its robotic firefighter with advanced technology to help save water by 99%. The Ultraxs fire suppression system disperses materials only in the immediate area of the fire (traditional sprinkler systems dispense water all over the building), thus sparing surrounding areas, and saving them from damage and subsequent losses. Ultraxs is the most environmentally friendly fire safety system on the market reducing wasted fire-extinguishing materials (water, chemicals, etc.) by 99%.

7 MEET OUR TEAM:



Somayeh Separdarnasab is the CEO of New York-based GIWUS Technology LLC. With her strong leadership abilities, strategic planning, and vision, she leverages cutting edge technology to empower people and organizations to achieve more. Cognizant of business value, she also manages the overall operations, planning and prioritization activities for new product development.

Ahmad Reza Nakhost is an innovative and performance-driven entrepreneur with a deep passion for technology and business. Known for his strong product & project management skills he brings to reality the execution of the strategies. He has a master's degree in business administration and a bachelor's degree in biomedical engineering.



Husain Fakhrulden specializes in digital forensics and network security. He identifies, strategizes, develops, and drives transformative initiatives. Championing the role of innovator, he aligns business strategies with innovative thinking, leading the R&D as a subject matter expert.

