



FROM MIKE VALLEZ™

Newsletter No. 11, December 20, 2025

An Action Plan for Building Welding and Manufacturing Capacity in Africa

GFP International is an independent nonprofit organization based in the United States. Its mission is to enhance the capabilities of technical universities, polytechnics, and vocational training institutions across Africa by providing support to improve their welding and manufacturing training programs. GFP does not depend on funding from the U.S. government. GFP is the leading organization of its kind operating in Africa.

About GFP International

- **Overview:** A U.S.-based 501(c)(3) nonprofit focused on developing certified welding schools in Africa.
- **Services:** Handles planning, fundraising, equipment procurement, and instructor training.
- **Website:** gfp-intl.org

GFP is implementing a strategic plan to execute the **\$100 Million USD African Welding School and Training Program** as described on its website.

GFP International Capabilities

Workforce Demand Assessment

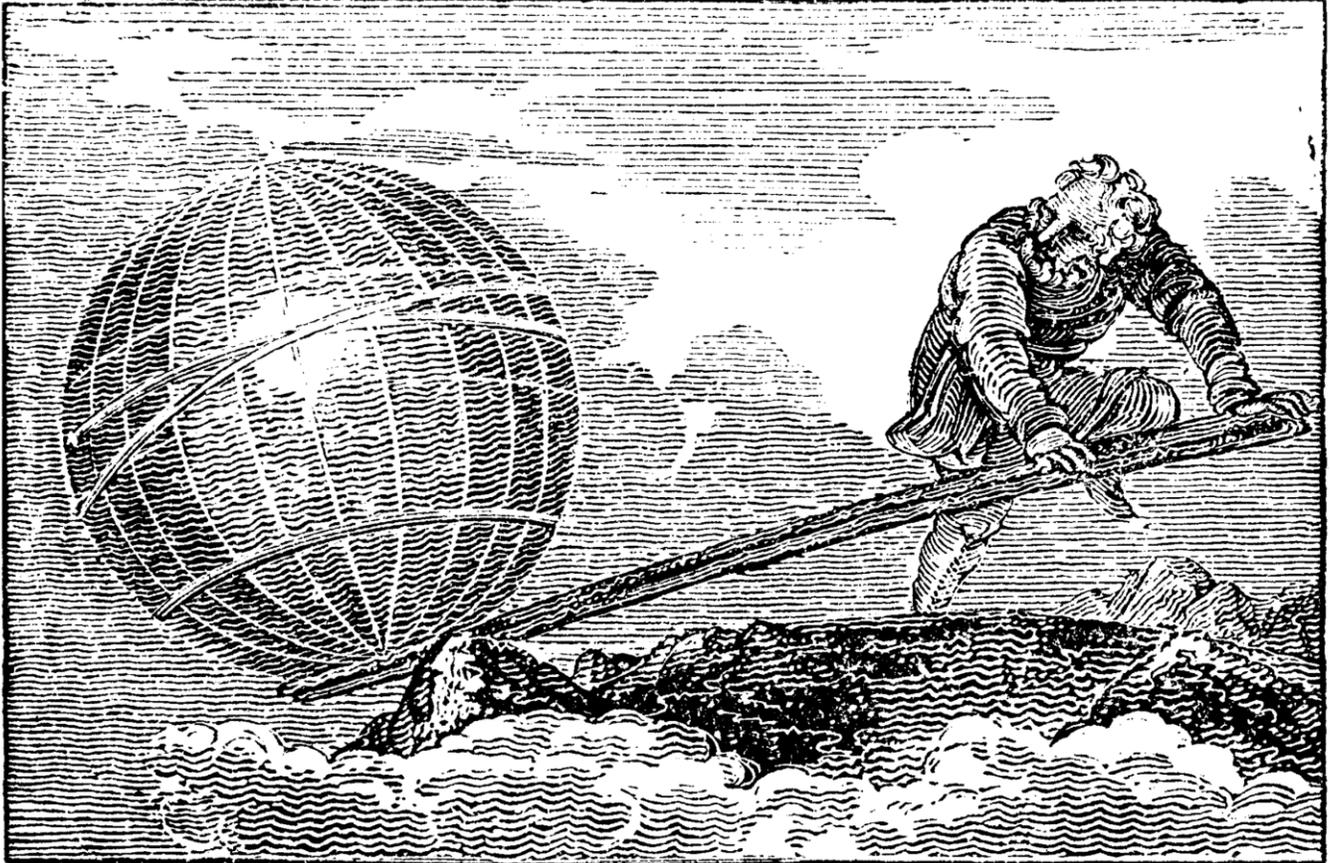
GFP has initiated a workforce demand assessment aimed at determining the requisite number and types of certified welders and manufacturing personnel needed to achieve the diverse industrial development objectives set forth by the African Union, the United Nations, the Institute for Security Studies, and multiple African governments. We have assembled a team of policy advisors, development economists, engineers, professional welders, welding instructors and industry representatives to carry out this study.

Fund Raising



Many private foundations, government and corporate donor organizations are expressing a desire to support skills training in Africa. GFP leadership has participated in several recent skills conferences in Africa. The African Union recently held its second African Skills Week in Addis Ababa Ethiopia. In 2023, The World Bank held its African Human Capital Heads of State Summit in Dar es Salaam, Tanzania. In October 2025, the World Bank held another Africa Skills for Jobs Policy Academy in Nairobi, Kenya. Skills development has become one of the top development priorities across Africa. However, all funders, whether they be foundations, governments, corporations or aid agencies want to rest assured that their investments will yield the desired returns with a system to measure outcomes and know that there is a team with the capabilities to implement a program successfully.

GFP has assembled a team of distinguished welding training specialists and civil society leaders from various regions of Africa. Starting in 2023, GFP International launched a newsletter that reaches 4,000 policymakers, leaders of charitable foundations, and corporate executives in sectors such as manufacturing, mining, energy, power and civil society organizations. By applying the principles of leverage, GFP is executing a proven fundraising strategy designed to direct these organizations toward impactful human capital investments. This approach aims to maximize the benefits for every dollar spent to improve African economies and empower young men and women with the skills needed for industrialization.



Archimedes Law of the Lever

Based on our deep understanding of engineering, technology, industry, economics and training, GFP’s \$100 Million African Welding School and Training Program applies the Law of the Lever as depicted in the above image that first appeared on the cover of Mechanics Magazine in London in 1824.

Train the Welding Trainers

GFP has developed the best world class train the trainer program that includes technology transfer and adaptation to the African environment.

Why? Because

GFP’s esteemed Train-the-Trainer program is founded on the belief that sustainable development is rooted in localized knowledge and empowered educators. This initiative facilitates structured technology transfer while ensuring that global solutions are tailored to Africa’s unique economic, social, and industrial contexts.

Instead of merely replicating external models, GFP collaborates with trainers to adapt technology, processes, and teaching methodologies to fit local circumstances. This approach enhances relevance, fosters adoption, and promotes lasting impact. Through experiential learning, mentorship, and continuous improvement frameworks, participants evolve into trainers, innovators, and leaders within their respective fields.

The outcome is a multiplier effect that cultivates local expertise, fortifies institutions, and propels Africa towards technological self-sufficiency and sustainable industrial growth.



Train the Trainers Program

Our training curricula have been designed to meet or exceed the training systems of the American Welding Society, the International Institute of Welding and the Canadian Welding Bureau.



American Welding Society
EDUCATIONAL INSTITUTION MEMBER

**American Welding
Society**



**International Institute of
Welding**



**Canadian Welding
Bureau**

Welding School Facility Design and Development

One of GFP's initial objectives is to support existing schools to create thirty welding and manufacturing training centers of excellence across Africa. These model schools will seed the African continent with trained personnel with the expertise to continue to expand with other schools. Furthermore, students who are taught by the skilled trainers will either gain employment in established larger companies, or enter the informal sector as entrepreneurs and build their own successful companies.

Based on our inspection of 40 welding schools across ten African countries, few of the existing welder training facilities can be adapted to meet the needs of a modern welding school of excellence. Therefore, GFP has consulted with architects and welding schools across the United States and Europe to design prototype facilities which will best suit the needs of a world class welding and manufacturing training centers of excellence. Below find renderings of one of these prototypes.

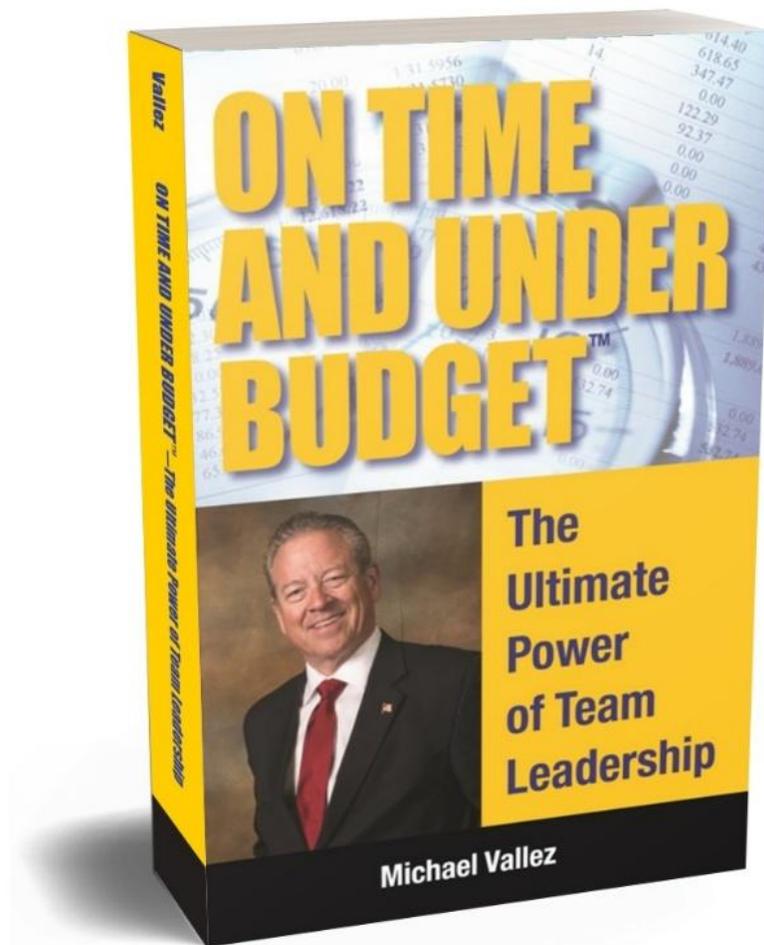


Project Management

Through an affiliation with African Skills and Development Ltd., a subsidiary of Vallez International, GFP has recruited about 100 African project managers, engineers and architects to provide professional project management staff to support the development of the centers of excellence.



These project management teams will be led by Eng. Michael Vallez, an experienced Engineer; Builder; Consultant; Speaker and author of *On Time and Under Budget*.



This book and others can be downloaded for no charge at this site:

<https://www.mikevallez.com/books-by-michael-vallez/>

Curriculum Development

As noted above, GFP has developed a world class suite of training programs to provide basic and advanced welding training based on a review of the standards of American Welding Society, the International Institute of Welding and the Canadian Welding Bureau.

Based on our inspection of 40 welding schools across ten African countries, we learned that the trainers were not fully prepared to teach certifiable industrial welding skills. The curricula also lack enough skill practice hours as indicated in the pie chart below. As noted in this chart, the typical African welding schools spend about 85% of the student's time learning welding theory and only 15% of the time in actual skill development. In contrast, welding schools which lead to welder certification spend about 85% of the student's time in

actual skills practice, under the watchful eye and guidance from a skilled and capable instructor.



GFP’s curriculum is designed to provide welding students with the skills to perform both basic and advanced welding skills and processes as indicated in the chart below.

Skills Advancement and Recognition Framework

The Welding Professional Advancement Route (WPAR) provides a comprehensive overview of the career trajectory for welding professionals across Africa. Skills development will be facilitated through the selected welding schools, guiding individuals from the level of Street Welder (SW) to that of International Welder (IW).

Advancement to higher qualifications, such as International Welding Practitioner (IWP) and International Welding Engineer (IWE), will be managed by selected universities.

A core component of our strategy is the issuance of internationally recognized certificates and diplomas. To achieve this, all our educational programs are meticulously aligned with pertinent international standards, ensuring that our training is both credible and respected within the global welding and construction sectors.

At GFP, the pursuit of excellence in welding training encompasses more than just technical proficiency; it is fundamentally rooted in adherence to international standards, safety, and sustainability. The incorporation of an ISO Integrated Management System (IMS) across GFP supported Centers of Excellence ensures that welding training aligns with global industry standards.

By aligning with ISO 9001 (Quality), ISO 45001 (Occupational Health & Safety), and ISO 14001 (Environmental Management), GFP establishes structured, safe, and environmentally conscious training environments. This alignment guarantees consistent training quality,

robust safety practices within welding workshops, and optimal utilization of materials and resources.

The ISO Integrated Management System allows trainees to experience learning environments that simulate real industrial workplaces, instilling essential skills in discipline, documentation, safety awareness, and quality control from the outset. Consequently, graduates emerge as job-ready, safety-conscious, and competitive on a global scale.

For industry partners, certification bodies, and development stakeholders, the ISO IMS enhances the credibility and reliability of GFP Centers of Excellence as forward-thinking institutions capable of producing skilled welders who contribute to sustainable industrial growth.

Through these ISO-driven systems, GFP is dedicated not only to training welders but also to fostering enduring excellence.

- **ISO 9001:** Quality management systems.
- **ISO 21001:** Requirements for management systems for educational and training organizations.
- **ISO 14731:** Welding coordination requirements.
- **ISO 9606:** Qualification testing for welders.
- **ISO 3834:** Quality requirements for welding.



Street to Engineer (STE) Welding Pathway - GFP International

To successfully manufacture products for the international market, African manufacturers will benefit from the skills learned by students who complete their training at one of the Centers of Excellence.

Empowering Men and Women with World Class Skills

Welding training tends to be more costly compared to other vocational skill programs. GFP has outlined several sustainability models to ensure long-term viability of the Centers of Excellence. Many vocational institutions provide students with hands-on experience across diverse industries, including textile manufacturing, furniture production, and metal fabrication. Students have the option to offset their training expenses by committing themselves to work in affiliated workshops for two to three years. Additionally, GFP will include scholarships in its funding initiatives.

Most traveling welders on construction sites are male, primarily due to the physically demanding nature of the job. However, women can also find opportunities in local fabrication shops and manufacturing companies, allowing them to balance professional work with traditional household roles, should they choose to do so.

GFP International is developing a strategy to attract women to the welding and manufacturing sectors. GFP looks to an example from the United States during World War II. During World War II, American women were instrumental in the production of ships, tanks, and weaponry while men were deployed to the front lines. To encourage American women to enter these welding and manufacturing trades, a powerful image emerged, symbolizing the contributions of women - known as “Rosie the Riveter,” accompanied by the slogan “We Can Do It.” If you ask most Americans over a certain age who Rosie the Riveter is, they will know about this PR program and the symbol of Rosie the Riveter as depicted below.



The Original Rosie the Riveter



The African Rosie the Riveter

During World War II, the Rosie the Riveter posters were ubiquitous in post offices, schools, other public buildings and vocational schools. It was a highly successful in attracting women into the work force to support the war effort.

GFP is currently working with public relations and social media consultants and numerous schools to develop an effective strategy to attract African women into the welding, manufacturing and construction trades.

Manufacturing Skills – The Society of Manufacturing Engineers

Unlocking Africa’s Manufacturing Potential is a recent report authored by Dr. Marvellous Ngundu, Senior Research Consultant at African Futures & Innovation, ISS. The report outlines the anticipated benefits of advancing the manufacturing sector in Africa, including the following outcomes:

US\$167.2 billion in manufacturing output, 34.6 million new jobs, a US\$283.5 billion boost to overall economic output, US\$83.2 billion in additional government revenues, a US\$190 increase in per capita income and 20.1 million more people lifted out of poverty.



Dr. Marvellous Ngundu

These figures solely reflect the effects of expanding the manufacturing sector. When we consider the influence on power, mining, energy, agriculture, and other industries, the overall impact of our collaborative efforts with established institutions and frameworks in Africa will be significantly amplified.

GFP is a proud member of the Society of Manufacturing Engineers (SME), an organization headquartered in the United States. SME boasts local chapters across all U.S. states, as well as foreign countries including Canada, Colombia, India, Indonesia, Jamaica, Japan, Kuwait, Mexico, and the Philippines. Currently, we are in the process of establishing the first African chapter of the SME, which will be based in Nairobi, Kenya. It will accept members from other African countries.

SME has developed a comprehensive suite of training modules designed to assist manufacturing companies in equipping their workforce for operational success. Known as Tooling U-SME, this program offers competency-based learning solutions that yield measurable outcomes. For more information, please refer to the Tooling U-SME program.

<https://www.sme.org/training/training-at-tooling-u-sme/>

Here is a list of their training classes.

<https://learn.toolingu.com/globalassets/tooling-u-sme/tooling-u-sme-class-catalog-upd.pdf>

The board and committees of the Society of Manufacturing Engineers (SME) comprise distinguished professionals from both industry and academia. The North American Manufacturing Research Institution of SME (NAMRI) serves as a global hub for premier researchers, industry specialists, and academic innovators. The NAMRI committee, along with the SME board, includes top manufacturing experts from sixteen prestigious universities across the United States and Europe. In conjunction with the welding skills program, GFP will collaborate with these institutions to facilitate the enrollment of engineers from African universities into their manufacturing engineering programs.

Entrepreneurial Skills Training

Approximately 50% of Africans find work in the informal economy. As a result, Africans are some of the most entrepreneurial people in the world. The average age of the African population is 19 years old. By empowering African youth with the certified welding and manufacturing skills, combined with training on how to run a small business, time will only tell what this youthful, energetic and entrepreneurial talent can do when properly trained. Therefore, GFP's welding training includes a module on how to run a small business that will someday turn into large businesses.

Outcome Measurement Through Testing and Certification

GFP has developed strategic relationships with the American Welding Society, the International Institute of Welding and the Canadian Welding Bureau to conduct internationally recognized welder testing upon completion of every training module. Students usually begin with SMAW welding on carbon steel, then advance to TIG and MIG welding on carbon steel, stainless steel, aluminum and other materials.

Upon completion of their training, the students will take the applicable certification test and learn to apply their skills by building structures like the one below, or other structures.



The fabricated steel training model presented is a notable result of GFP's distinguished Train-the-Trainer program, which utilizes ABT Methodology. ABT suggests that we describe what know (AND), what we don't know (BUT), and our attempted resolution to overcome this gap (THEREFORE). This hands-on training experience guides instructors through essential aspects such as structural layout, material selection, welding techniques, and quality control, closely resembling real-world industrial fabrication processes

In addition to technical skills, the training focuses on adapting these structures to utilize locally available materials, tools, and site conditions. Trainers develop the expertise necessary to replicate, modify, and impart these fabrication techniques, thereby facilitating effective technology transfer and fostering sustainable skill development tailored to the African context.

Job Placement

Through a partnership with African Skills and Development Ltd., students will benefit from job placement services aimed at securing employment in both international and domestic markets. Upon earning their certification, students have various career paths available to them, with the most prevalent being in manufacturing or construction.

Currently, there exists a significant shortage of skilled and certified welders globally. Whether students choose to pursue careers in their home country or enter the pan-African or

international construction sectors, our research will underscore the growing demand for welders of all types.



African Welders Building the World

Welder Follow-up

Upon graduation from welding school, African Skills and Development will continue to follow the careers of students to assure that curricula are kept relevant and up to date and validate the return on investment in the training.

Contributors to this article



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Eng. Michael is the Founder and Executive Director of GFP International, and CEO of African Skills and Development Ltd.

Meet our People

In this month's Meet Our People section, we introduce GFP International's board of directors. GFP International is building an international board of directors with deep expertise in industrial welding, engineering and development experience. Find the detailed profiles of our board members at this link:

<https://www.gfp-intl.org/our-people/>

Board of Directors



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CHAIRMAN OF THE BOARD



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End

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