



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Skills Development



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INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

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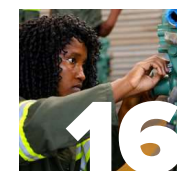
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Context



The new industrial revolution, known as the “fourth industrial revolution”, is transforming the socioeconomic landscape and offering new opportunities for growth and development in emerging economies.

Around the world, technological progress is leading to an increasingly sophisticated industrial landscape, providing opportunities for higher-paying jobs and spurring economic growth. To succeed, this technological evolution requires a fleet of workers equipped with the necessary skills and expertise. While many low-income countries are currently transitioning from labour-intensive agriculture to manufacturing-based industries, the lack of a skilled workforce remains a major challenge to achieving this objective.

Worker productivity is closely linked to gross domestic product (GDP): the more efficient the production, the higher the economic gains. By transitioning from agriculture to manufacturing industries, developing countries are seeking to enhance their labour productivity. Developing in-demand skills supports the growth of manufacturing, absorbing excess labour from the agricultural sector and, in the process, boosting labour productivity.

Industrializing countries are facing a skills mismatch, where graduates struggle to find

jobs while employers in high-growth industries are unable to find candidates with the required skill sets. This has the effect of stifling youth employment opportunities and economic development by lowering worker productivity and increasing the costs incurred by firms that need to invest in additional training for their staff.

The new industrial revolution, known as the “fourth industrial revolution” and characterized by the growing use of new and advanced technologies, is transforming the socioeconomic landscape and offering new opportunities for growth and development in emerging economies. As technology brings about the growing convergence of automation and work, skills gaps are changing rapidly, leading to both talent shortages and job redundancies, as well as new possibilities for market innovation. Moving into the next decade, harnessing approaches to provide market-driven and agile skills development will become increasingly important for ensuring sustainable and inclusive industrial development.



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Challenges to Demand-driven Skills for Industries

Low social perceptions of technical skills as a driving force for youth employment and entrepreneurship create additional barriers to participation and investment in many developing countries.

In many developing countries, technical and vocational education systems often remain outdated and inadequate owing to limited financial investments and corporate commitments. Low social perceptions of technical skills as a driving force for youth employment and entrepreneurship create additional barriers to participation and investment.

Developing a sustainable and modern industrial skills delivery system, capable

of harnessing technological progress and adapted to local contexts and global market needs, requires dialogue between the public and private sectors. This strategic coordination is often inconsistent or altogether lacking, however, thereby limiting the ability of training providers and other education governing bodies to develop curricula and programmes to build the skills that meet labour market needs for today and the future.

UNIDO and the Industrial Skills Development Sector

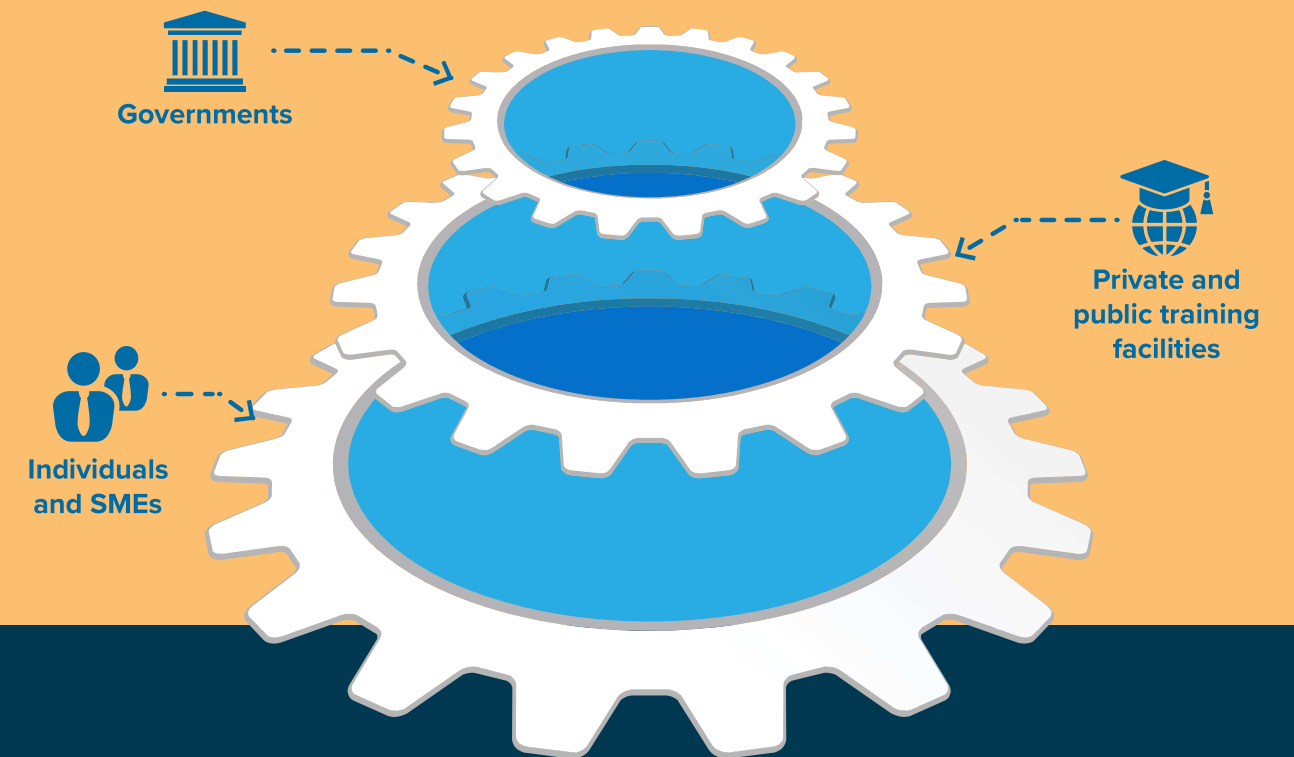
UNIDO's Learning and Knowledge Development Facility (LKDF) fosters dialogue and knowledge sharing between the private and public sectors to promote inclusive and sustainable practices in global skills development. LKDF plays a strategic role in reducing skills mismatch and enhancing economic growth by coordinating efforts between the public and private sectors. For more information, see <https://lkdfacility.org>

UNIDO provides a cross-cutting approach in support of sustainable and inclusive solutions to the development of technical training providers by mobilizing its international expertise in a diverse array of areas, including private sector development, institutional capacity-building and market-driven skills development. Drawing on its specialized divisions across the Organization, UNIDO offers a range of tools, coupled with leading industrial partnerships and methodologies, to customize a solution fit to every country's development context.

UNIDO is a neutral broker between the private and public sectors and uses its strategic position to establish common ground and build synergies for mutual benefit. The private sector – from small

local businesses to large multinational firms – has an interest in supporting the development of market-ready skills. UNIDO brings these stakeholders to the table along with the public sector to create innovative solutions that respond to local needs and market priorities.

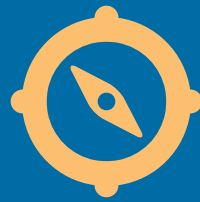
With decades of experience, UNIDO is a leader in providing technical assistance for industrial skills development to countries around the world. The Organization's technical coordination services and highly adaptable training materials are developed and deployed by in-house experts and include a network of skills experts delivering programmes around the world.



UNIDO'S MULTIPLE-LEVEL APPROACH IN THE INDUSTRIAL SKILLS DEVELOPMENT SECTOR

UNIDO solutions follow a holistic approach that aims to engage stakeholders at multiple levels simultaneously. In the industrial sector, UNIDO works directly with individuals (with a focus on youth) and small and medium enterprises to upgrade skills. The Organization also collaborates with private and public training facilities in upgrading their overall training delivery capacity and advising on how to better align curricula with international qualification frameworks and standards as well as with market demands. UNIDO also assists governments in evaluating their technical and vocational education system by identifying financial and human capacity requirements and existing links with the private sector, as well as shortcomings.

Tailored Approach by UNIDO



UNIDO delivers modular and comprehensive solutions to support the development of demand-driven and marketable skills for industry. This highly adaptable model is structured in the form of individual and customizable building-blocks to respond to the particular challenges and requirements of each situation.

PRIVATE SECTOR COOPERATION

this brings the private sector into the consultation process to bridge gaps and achieve the targets for demand-driven and job-ready skills for industry. Through its LKDF platform, UNIDO provides a space to share useful technical education resources, including information about technology from private sector partners.



DIAGNOSTIC ASSESSMENT

this identifies gaps in the education framework, makes recommendations for technical requirements, supports skills development and formulates work plans to target different stakeholders.



TECHNOLOGY AND INFRASTRUCTURE UPGRADES

these ensure that the proper facilities are in place for a high-quality learning environment. UNIDO provides its expertise to the design and building process to ensure that the work is completed to the expected standard. UNIDO also supports training centres in their efforts to identify and procure equipment and didactic tools to simulate real-world applications undertaken during training in a controlled and safe environment.



GOVERNANCE MODELS AND STRUCTURES

these include improving existing qualifications frameworks and identifying capacity requirements and gaps in such areas as infrastructure, knowledge, resources, budgets, human resources and expertise. UNIDO also facilitates coordination between the private sector and governments and offers recommendations for budget and investment in technical and vocational education.



HUMAN RESOURCE DEVELOPMENT ACTIVITIES

these address the full spectrum of human resource requirements at training centres, including upgrading the pedagogical and technical skills of instructors; developing administrative capacity; and supporting the development of business plans for centres. UNIDO also supports the development of national teacher certification systems.

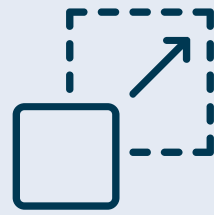


QUALIFICATIONS FRAMEWORK DEVELOPMENT SUPPORT

this includes curriculum development and certification; working with national authorities to align curricula with international qualification frameworks and learning materials; developing apprenticeship schemes with local companies; and conducting monitoring and evaluation exercises to measure knowledge transfer.



UNIDO, Industrial Skills and the Sustainable Development Goals



UNIDO interventions are designed for scaling up. While individual projects have tangible impacts at the local level, by widening interventions it is possible to achieve a larger development impact at the country level, contributing to national and international development objectives, such as the Sustainable Development Goals, through at-scale partnerships with the private sector, international financial institutions and other development partners. Industrial skills development interventions contribute directly to the following Goals:



Project Spotlight: Morocco



AT A GLANCE

Title:	Académie Engins Lourds et Véhicules Commerciaux (Heavy-Duty Equipment and Commercial Vehicles Academy – AGEVEC)
Partners:	United States Agency for International Development (USAID); Volvo Group; Ministry of National Education, Vocational Training, Higher Education and Scientific Research; Office de la Formation Professionnelle et de la Promotion du Travail (Vocational Training and Work Promotion Agency – OFPPT); and OCP Foundation
Budget:	\$7,385,215
Country:	Morocco
Duration:	2015 - 2019
Objective:	To promote youth employability and stimulate economic and social development in Morocco, Côte d'Ivoire and Senegal through the establishment of a state-of-the-art training academy in partnership with the private sector, specializing in skills development for heavy-duty industries.

CONTEXT

Despite the rapid economic growth of Morocco, a significant gap remains between the supply and demand of skilled labour in numerous sectors. In technology-intensive sectors, vocational training programmes to date have not fully met the private sector needs and youth unemployment continues to rise, placing many young people in a highly precarious situation.

APPROACH

The Government of Morocco, UNIDO, USAID, Volvo and the OCP Foundation worked together to design a specialized skills development programme in heavy equipment repair and maintenance, combining both theoretical and practical learning approaches with internship opportunities at partner companies. The project has also provided career support services to the project's beneficiaries from Morocco, Côte d'Ivoire and Senegal. The training programme received international certification, ensuring that the programme standards will be maintained in the long term.

RESULTS

- ✓ A training hub was created and 5 workshops were equipped with modern training equipment and didactic tools;
- ✓ 8 trainers received continuous maintenance training throughout the project implementation with a view to developing their pedagogical and technical skills;
- ✓ A career centre was established to transfer soft skills and work readiness skills to the trainees and support their access to the job market. In all, 676 young people benefited from career centre support;
- ✓ A total of 528 young people, male and female, attended AGEVEC-supported training courses, including 74 from Côte d'Ivoire and Senegal;
- ✓ A total of 13 female maintenance technicians were trained and all of them found a job that is linked with their training within 6 months of graduation;
- ✓ 81 per cent of the heavy equipment maintenance trainees were productively engaged at least once after completion of training;
- ✓ A one-year heavy equipment maintenance training programme was designed, including digitalized learning tools, and four batches of students were trained. This curriculum received international certification (ISO 29993) in 2019;
- ✓ 2 additional curricula on heavy equipment and crane operation were fully reviewed and updated at the request of the training centre;
- ✓ A tailor-made monitoring and evaluation system was installed at the school to collect and analyse student and company satisfaction and to assess the integration of trainees into the job market.

Project Spotlight: Zambia



AT A GLANCE

Title:	Zambian Industrial Training Academy (ZAMITA)
Partners:	Government of Sweden; Volvo Group; the Zambian Ministry of Higher Education; Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA); Northern Technical College (NORTEC)
Budget:	\$4,601,421
Country:	Zambia
Duration:	2015 - 2019 (phase I); 2019 - 2022 (phase II)
Objective:	To support initiatives mounted by the Government of Zambia to bolster youth employment by developing the skills of Zambian youth in the transport and heavy equipment sector through the establishment of the Zambian Industrial Training Academy.

CONTEXT

Zambia is one of the youngest countries in Africa, with a youth population representing over one third of the total population. Unemployment is one of the most pressing challenges faced by Zambian youth and for the economy as a whole.

Infrastructure and transport industries are some of the biggest employers but companies struggle to find candidates with the necessary technical and professional skill sets.

APPROACH

UNIDO collaborated with the private and public sector to establish a modern, demand-driven centre of excellence, located within the Northern Technical College (NORTEC), to build the skills of the workforce in key industries, including transport and heavy machinery, to develop the capacities of trainers and staff, and to foster partnerships with private sector stakeholders, with a view to strengthening the links between education and employment.

Following the success of phase I, UNIDO is contributing to the expansion of the Academy to serve the commercial transport sector by forming a partnership with the Volvo truck division to provide state-of-the-art infrastructure and technology, update the curriculum and provide staff development training.

RESULTS

- ✓ Contemporary, demand-driven Centre of Excellence established and operational within NORTEC;
- ✓ Establishment of specialized state-of-the-art simulation labs, attracting over 680 new students in just two years;
- ✓ Accreditation of the Heavy Equipment Engineering Diploma issued by TEVETA;
- ✓ High private sector interest; 6 official partnerships established with companies;
- ✓ Increase in female enrolment and change in social perceptions of mechanical occupations;
- ✓ Career service points established to facilitate apprenticeships and the transition from education to employment.

About UNIDO

Further information

Further information about this project and its activities is available on the UNIDO website: www.unido.org

This publication may be downloaded free of charge from the website.

UNIDO in brief

UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.

As of 1 April 2019, 170 States are Members of UNIDO. They regularly discuss and decide UNIDO's guiding principles and policies in the sessions of the Policy Making Organs. The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States.

UNIDO maintains a field network comprising of 48 regional and country offices around the world.



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