



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



LKDF Forum 2024

Skills for Critical
Raw Materials
Supply Chains

Programme





TABLE OF CONTENTS

The Forum	1
Agenda	5
Venue and Contact Information	8
The Organizer	11
References	13



The Forum

The Learning and Knowledge Development Facility (LKDF), a joint initiative of the United Nations Industrial Development Organization (UNIDO) and the Swedish International Development Cooperation Agency (Sida), convenes a Forum on the theme **“Skills for Critical Raw Materials Supply Chains: Ensuring responsible and sustainable practices for the Green and Digital Transition”**. The LKDF Forum 2024 will take place on **13 and 14 November 2024** in **Kitwe, Zambia**. The event on the 13th will be held in person with the possibility to follow the event virtually, while the event on the 14th will be in person and by invitation only. The event will bring together a diverse array of stakeholders for discussions on skills for CRM supply chains, with a focus on responsible and sustainable practices for the green and digital transition. Under this theme, the Forum aims to facilitate an action oriented dialogue on the importance of providing skills to existing workers and to the future workforce for efficiently extracting, processing and utilizing CRM, with a special focus on industrializing countries.

[Register to attend in-person](#)

[Register to attend online](#)

The format

On Day 1 of the Forum, the event will consist of a combination of keynote speeches, technical panel discussions, and networking opportunities. The format is designed to stimulate discussion, share innovative

ideas, and address key questions related to driving a conversation that addresses our constituency’s actual needs.

Day 2 will focus on a co-creation workshop and site visits to facilitate hands-on learning and collaborative project development. In this occasion, UNIDO will present its recently created sustainability curricula, a co-creation effort with private sector companies and academic institutions.

The theme

Skills for CRM Supply Chains

The theme "Skills for Critical Raw Materials Supply Chains: Ensuring Responsible and Sustainable Practices for the Green and Digital Transition" highlights the important link between economic growth, environmental sustainability, and technology.

As the world shifts towards green and digital economies, the demand for critical raw materials (CRM) like cobalt, lithium, and rare earth elements has surged. The International Energy Agency warns that mineral supply must quadruple in 20 years to keep global warming below 2°C. These materials are vital for renewable energy, electric vehicles, and advanced electronics, requiring significant investment and skilled labor to extract, process, and use them responsibly (IEA, 2021). This rise in demand is expected to be strongest in countries focusing on low-carbon economies, where ensuring a steady supply of these materials



is now a key priority.

Regions rich in CRM, such as Southern and Central Africa, play a central role in economic development through mining, contributing to GDP. However, this also brings challenges, including environmental damage, labor rights issues, and economic inequality. Addressing the skills gap is critical to ensuring sustainable development and creating local value (AUC/OECD, 2024).

An extensive literature has shown the link between increased skills and an improvement of the socio-economic well-being of workers, their families and future generations. Technical skills for green economy activities, such as mineral refining, recycling, and eco-design, are crucial (IEA, 2023). Digital and Industry 4.0 skills are necessary to improve traceability and compliance with sustainability regulations (UNIDO, 2024). Collaboration, conflict resolution, and inclusivity management skills are essential for creating a safe and equitable work environment. Failing to provide proper equipment, training on safe procedures, or adequate working conditions can lead to stop-work orders or mine closures (IEA, 2023).

Education in CRM-rich regions also needs improvement, as limited vocational programs hinder locals from engaging in higher-value supply chain roles. Strengthening educational systems to meet CRM supply chain needs is key for a skilled workforce that can drive the green and digital transitions (AUC/OECD, 2024). Local suppliers must also gain the skills needed

for sustainable practices, including business development, legal, digital, and technical knowledge, to meet international standards and manage sustainability requirements like the EU's Corporate Sustainability Due Diligence Directive (CSDDD). Green skills, such as environmental management and circular economy principles, are becoming essential for compliance (AUC/OECD, 2024), and suppliers must also be ready for environmental, social, and governance (ESG) demands (UNIDO, 2024).

Addressing gender disparities is another critical issue in CRM supply chains. Despite women's higher educational attainment, they are underrepresented in STEM fields, and cultural and workplace barriers limit their participation. Policies should be gender-responsive, including ensuring access to appropriate training, creating a safer and more inclusive work environment, and providing career development opportunities that align with the needs of a future-oriented CRM supply chain industry (IGF 2023).

The application of circular economy principles, such as reprocessing mining waste (tailings) to recover more metals, can reduce environmental impact and create economic value (Kinnunen et al. 2022). Advanced technologies can make operations more efficient and less damaging, and developing the specialized skills needed to manage these technologies is crucial. By integrating renewable energy and better waste management practices, the CRM industry can lower its carbon footprint while creating economic opportunities (The World Bank, 2020).



Companies along the CRM supply chain and governments must prioritize training and development programs that equip workers with the necessary skills to handle CRM responsibly. Public-private partnerships (PPPs) are crucial in bridging the skills gap by providing targeted vocational training that aligns with the industry's technical and digital needs, ensuring the workforce can meet current and future demands in CRM supply chains. Developing a skilled workforce is crucial for optimizing CRM supply chains, enabling the sector to implement best practices that ensure the efficient and sustainable extraction and processing of CRM while maintaining economic viability and environmental integrity.

The objectives

The LKDF Forum 2024 tackles the critical challenge of building a skilled workforce for a just green and digital transition. This year's edition will focus on:

- 1. Convening public and private stakeholders** by facilitating action-oriented debates on the skillsets needed for responsible and sustainable practices in CRM supply chains.
- 2. Proposing pragmatic and tangible solutions** to enhance the capacities of developing and industrializing economies to participate in and contribute to sustainable CRM supply chains.

3. Exchanging innovative ideas and facilitating connections between industry, governments, and educational institutions, share best practices to stimulate collaborative projects in CRM through Public-Private Development Partnerships (PPDP).

4. Generating consensus and engagement by advocating for continuous partners' engagement in skills development initiatives aligned with sustainable supply chain requirements in CRM.

The audience

The LKDF Forum will provide a platform for exchange including policy makers, development practitioners, representatives from the private sector (companies, associations, and organizations), experts from academia (universities and research institutions), civil society, non-governmental and intergovernmental organizations. It will also provide opportunities for representatives of young leaders and associations to voice their concerns.

The LKDF Forum aims to create a dynamic exchange of views, identify trends and solutions, and highlight the critical role of industry and globalization in promoting growth, inclusivity, and sustainability.



Agenda - Day 1

Time (GMT+2)

Session

09:15 - 10:00	Registration and welcome coffee
10:00 - 10:30	<p>Session 1 - Opening Remarks</p> <p><i>Speakers:</i> Hon. Paul Chanda Kabuswe, Minister, Ministry of Mines and Mineral Development of Zambia (MMMD) TBC Precious Lisulo, Director Vocational Education Training, Ministry of Technology and Science Gerd Müller, Director General, United Nations Industrial Development Organization (UNIDO) Jakob Granit, Director General, Swedish International Development Cooperation Agency (Sida) Beatrice M. Mutali, Resident Coordinator of the United Nations System in Zambia, United Nations</p>
10:30 - 11:45	<p>Session 2 - Setting the scene</p> <p>Latest research and emerging trends in the skills development in ensuring that the extraction, processing, and utilization of CRM are aligned with sustainable and responsible practices.</p> <p><i>Speakers:</i> Cleophas Takaiza, Director General, Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) Antonio Andreoni, Professor of Development Economics, Department of Economics, SOAS University of London and Co-Director of the SOAS Centre for Sustainable Structural Transformation (CSST) Mulenga Tembo, Technical Training Manager - Head of Department, First Quantum Minerals Virpi Stucki, Chief - Division for Fair Production, Sustainability Standards and Trade, UNIDO Patrick Ndzana Olomo, Head of the Economic Policy and Sustainable Development Division, African Union Commission TBC</p>
11:45 - 13:00	<p>Session 3 - Deep-dive session: From mine to market - the CRM supply chain explained</p> <p>Addressing challenges and enhancing local value addition in developing countries on the CRM supply chain</p> <p><i>Speakers:</i> Sokwani Chilembo, Chief Executive Officer, Zambia Chamber of Mines Martford Mumba, Secretary General, Federation of Small Scale Mining Associations of Zambia Ivy Kasoma Alwiso, Membership and Business Development Specialist, Zambian Association of Manufacturers Namakau Kaingu, President, Association for Zambian Women in Mining (AZWIM) Fulano Musonda, Assistant Superintendent, Procurement, Mopani Albert Halwampa, Director General, Zambia Development Agency TBC Kangwa D. Bwalya, Managing Director, Zambia Metal Fabricators Plc (ZAMEFA) TBC</p>



Agenda - Day 1

Time (UTC+2)

Session

13:00 - 14:00

Lunch break

14:00 - 15:15

Session 4 - Integrating skills for ESG preparedness into critical raw materials supply chains

Addressing the environmental impact of mining, the economic benefits of sustainable practices, social responsibility including gender equality, and the governance frameworks necessary to enable sustainable and responsible practices in CRM supply chains.

Speakers:

Imasiku Anayawa Nyambe, Vice Chancellor, The Copperbelt University

Ian Mwiinga, National Coordination of EITI Secretariat Zambia, Extractive Industries Transparency Initiative (EITI)

J. J. Messner de Latour, Sector Lead, Downstream Purchasers, Initiative for Responsible Mining Assurance (IRMA)

Benjamin Katz, Manager, Minerals Sector Programme, Centre for Responsible Business Conduct, Organisation for Economic Co-operation and Development (OECD)

Lauren McIntosh, Senior Compliance Officer, International Council of Swedish Industry (NIR)

Juan Pablo Davila, Head of Skills Development, Entrepreneurship and Fair Production Unit, UNIDO

15:15 - 15:30

Coffee break and networking

15:30 - 17:15

Session 5 - Public-Private-Development partnerships for skills development in CRM for Africa

The role of skills development through Public-Private-Development Partnerships (PPDP) in achieving ESG objectives in the CRM supply chain.

Part One - Speakers:

Angora Aman, Account Manager - Francophone Africa, FESTO Didactic

Jonathan Lemisa, Training Manager, Hitachi Construction Machinery

Daniel Brodeur, Training and Recruitment Manager - Industrial Projects in Guinea, Alteo Alumina

Johan Reiman, Director of Corporate Responsibility, Volvo Group

Chie Matsumoto, Industrial Development Officer, UNIDO

Part Two - Speakers:

Martin Kasonso, Principal, Northern Technical College (NORTEC)

Chrispin Kakoma, Principal, Kitwe Vocational Training Centre (KVTC)

Christopher Chileshe, Group Manager - Training and Development, Mopani Central Training Centre

Lorenzo Giacomini, Portfolio Manager, Enabel - Belgian Development Agency

Ulf Ekdahl, Counsellor, Embassy of Sweden in Zambia

Chie Matsumoto, Industrial Development Officer, UNIDO



Agenda - Day 1

Time (UTC+2)	Session
17:15 - 17:30	Session 6 - Closing Remarks <i>Speakers:</i> Pamela Nakamba , Economic Advisor to Zambia's President, Government of Zambia Mattias Larsen , Industrial Development Expert, UNIDO
18:30 - 20:00	Evening event and networking



Venue and Contact Information

Date and Venue

The LKDF Forum will take place on 13 November 2024 at:

Garden Court Kitwe

Corner Independence & Freedom Avenues
Kitwe, Zambia

Exhibition Booths

Free exhibition booths are available on 13 November at Garden Court Kitwe for showcasing initiatives and promotional materials.

For reservations, please contact IPL Events at Sales@iplevents.com with copy events@iplevents.com, operations@iplevents.com.

UNIDO Contacts

Learning and Knowledge Development Facility (LKDF) Secretariat

Division of Fair Production, Sustainability Standards and Trade
Skills Development, Entrepreneurship and Fair Production Unit

United Nations Industrial Development Organization (UNIDO)
Vienna International Centre, Austria
Email: lkd-facility@unido.org

The Organizer

THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)

UNIDO is the specialized agency of the United Nations system dedicated to promoting inclusive and sustainable industrial development in developing countries and in the economies in transition, and to fostering international industrial cooperation.

UNIDO provides a variety of technical cooperation services, and acts as a global forum for the accumulation, analysis, and dissemination of knowledge in the field of industrial development. The Lima Declaration, adopted by UNIDO's Member States at the fifteenth session of the General Conference in December 2013, relaunched the Organization's mandate of inclusive and sustainable industrial development (ISID) on the international stage. With the adoption of the 2030 Agenda for Sustainable Development, ISID is a central issue in global development. This is reflected most prominently in Sustainable Development Goal 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation", but also in the targets and indicators underpinning the other sixteen Sustainable Development Goals (SDGs). UNIDO promotes ISID along four strategic priorities in which the Organization has a comparative advantage and expertise: creating shared prosperity, advancing economic competitiveness, safeguarding the environment, and strengthening knowledge and institutions.

THE LEARNING AND KNOWLEDGE DEVELOPMENT FACILITY (LKDF)

The LKDF is a platform that promotes industrial skills development among young people in developing countries. The LKDF supports the establishment and upgrading of industrial training academies to help meet the labour market's increasing demand for skilled employees, ultimately contributing to inclusive and sustainable industrial development (ISID).

For many developing countries, access to quality educational systems and training programs is not adequate to meet new demands and address technological, social, and environmental challenges. Uncoordinated dialogue between governments and national and international private companies affects the development and sustainability of a modern Technical and Vocational Education Training (TVET) system. While poor collaboration between the private sector and TVET institutions often narrows the capacity of providing programmes and curricula that meet market needs and future skills requirements. Moreover, limited financial investments and corporate commitment results in an outdated and untrusted TVET system that does not influence the job market. As a result, young people do not see the value of TVET as a driver for employment, decent work and entrepreneurship that promotes inclusive and sustainable growth and supports transitions to digitalized and green economies.

UNIDO identifies and collaborates with public, private and development partners (SDG17) to develop and scale-up training centers to fill the skills gap in developing countries. Our training and innovative curricula equip young female and male students with demand-driven skills and future skills requirements to seize the opportunities of technological progress (SDG4, SDG9). To date, UNIDO in collaboration with more than 40 partners has established and or upgraded about 15 training centers with a yearly intake of between 100-500 students and the participation of 20-100 trainers per TVET center. Our TVET projects already achieved 35% female participation in male-dominated sectors, with 60% of the trainees confirming they already found a better job situation.

By establishing Public-Private Development Partnerships (PPDP), UNIDO and partners design, establish, sustain, and upgrade training centers and curricula. The PPDP projects support social and environmental standards, such as gender equality and women empowerment (SDG5) and climate resilience (SDG13). Governments receive assistance to evaluate their TVET system, identify financial and human capacity requirements and existing linkages and gaps with the private sector. TVET centers collect contributions from the public and private sector to offer training services, meeting international standards and market needs. Private companies connect with governments to learn about the local context and inform about skills needs to increase the efficiency, effectiveness, and safety of their businesses, and students acquire demand-driven skills, participate in awareness sessions on job content, and work readiness.

To ensure the long-term success of the industrial academies, the LKDF offers a systematic monitoring and evaluation (M&E) methodology that helps to track results and impacts by collecting, storing, and analyzing trainees' data. A key feature of the M&E system is the feedback loop between the LKDF and the participating PPDP projects. The projects LKDF provides an entail a monitoring database with information collected from the projects and, twice-yearly monitoring reports, and mid-term evaluations are produced along with, and ROI. While the LKDF shows project and country baseline reports, field visit reports, and mid-term and final evaluations. Through results-based learning and knowledge development, the LKDF evaluates the immediate impact in terms of sustainability and scale that will contribute to reducing overall youth unemployment in targeted regions. It further provides the policymakers and the donor community with transparent results to demonstrate the costeffectiveness of the programmes and justify their expansion to other countries or sectors



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