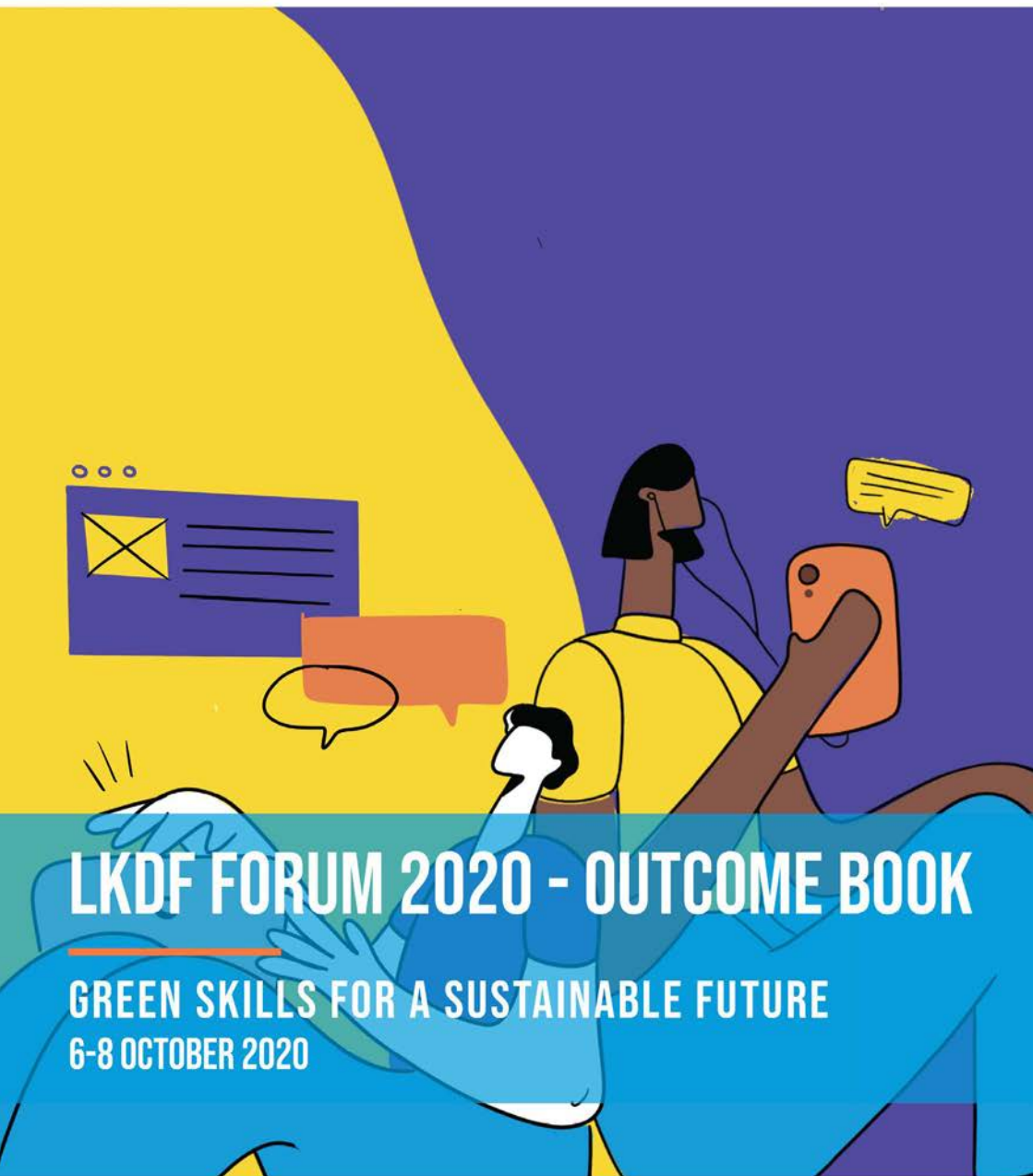




UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



Learning and Knowledge Development Facility



# LKDF FORUM 2020 - OUTCOME BOOK

GREEN SKILLS FOR A SUSTAINABLE FUTURE  
6-8 OCTOBER 2020





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# EXECUTIVE SUMMARY



In 2016, OECD countries had reduced productivity by 6% due to skills mismatch, with global GDP going down by USD 5 trillion in 2017. The COVID-19 related labor market shock is likely to worsen the scenario, with productivity losses going up by 11%. Therefore, demand-oriented industrial skills need to be urgently developed. And technical skills development without taking into account inclusivity and sustainability factors is no longer a strategic, future-oriented approach.

The LKDF has been striving since 2012 to anticipate market demands within the framework of industrial skills development. In the wake of COVID-19 and the European Union Green Deal, there is a renovated spirit to act greener and act now. The private sector is indirectly incentivized to make a quick transition to a) enter innovative market niches, b) remain an attractive employer, c) revive corporate social responsibility and citizenship, and d) increase efficiency. However, how to go green and stay green with a solid (social) return on investment is the real question that we posed at the LKDF Forum 2020. This outcome book depicts the proceeding from the 3-day virtual event,

a voice and venue for open dialogue between the public and private sector and the donor community to generate knowledge, exchange best practices, and lessons learned while exploring synergies for partnerships and projects that can spur job creation for inclusive and sustainable economic growth through industrial development. The proceedings show how the forum's lively debates informed about the market needs for green and digital skills, the public-private coordination or lack thereof, policymaking processes of designing green policies to meet the needs of the layers of society, or whether there is a mismatch of "offer and supply".

We navigated the land of public and private and innovative investments, as well as existing tools to improve the delivery of development interventions and coordination of public-private collaboration. The LKDF Forum 2020 indeed deliberated on the challenges and opportunities of green industrial skills. Despite the physical distance, participants confronted each other generating the following consensus points.



**AGEVEC**, partnering to enhance skills development and youth employment in Morocco, the Ivory Coast, and Senegal

## 01 Today is The Future of Skills and Work

When speaking in future terms, everything sounds somehow distant from us. However, if no assessment is being delivered, or guidelines provided, and an action plan established there will be consequences for not being prepared to face the future that is just now in front of us. If we think about how COVID-19 has hit all parts of the world indistinctly and unpreparedness caught us hard. The LKDF Forum 202,

Among the key areas recommended, experts requested greater attention towards soft skills and entrepreneurial education. As work becomes more agile and consumer-oriented, skills such as analytical skills and problem-solving, design-thinking and creative approach, self-learning, flexibility, and multitasking are becoming a consistent demand from employers. But other skills such as social and sustainability awareness can offer an additional value-added and comparative advantage to boost engagement and efficiency. It was also agreed that skills development should not only focus on skills transferable to an established company but rather promote entrepreneurship, which can spur employment and overcome labour market saturation. Such development interventions must always be driven by local contextualization to meet national demands and empower local citizens.



**ACCESS** is a Public-Private Development Partnership providing drivers with technical and professional skills to ensure responsible and safe driving practices in Morocco

 [@MoroccoSkills](https://twitter.com/MoroccoSkills)

## 02 Innovation in Skills Development

### for Business Development

We live in the climate change and Fourth Industrial Revolution (4IR) era. A global crisis and a global revolution that force public and private leaders to quickly shift, adapt, and adjust to not only be competitive but sometimes just stay in the market. The COVID-19 global crisis has then come into play to shed light on who had the skills and capacity to re-invent and/or innovate, those moving on survival mode, and those who went out-of-business. Frontrunners appear to be industries with a human-centered, digital, and green approach that connects markets and creates jobs. Resilient companies that provide lifelong learning opportunities, reskill and upskill their workforce, while also serving on digitalization and automation to close the gender gap faster. It is no doubt anymore that limited digital infrastructure and knowledge of the use of digital tools can hamper productivity.



## 03 Education is an investment and not a cost

Whether they are public, private, or innovative, it is no news that investments are needed for development. So, we can only imagine how much is needed for equal development. But if all market actors truly understood the importance of education, investments would be crowded in and repurposed to fund an attractive technical education system to achieve one common goal: shared prosperity. Forecast results of development interventions can help to select and involve the right stakeholders to co-create inclusive and sustainable solutions that can generate the most wanted ROI. Experts agreed that now is the time to invest in green technologies development. Hence, reskilling and upskilling current and future workers to fulfill the green requirements is a strategic move not to be missed. Our hope is one that focuses on sustainable interventions towards a low-carbon economy.

## 04 Non-formal and informal learning must be validated

Other educational systems beyond formal education exist and are meaningful ways to acquire skills and knowledge spendable in the market. Nevertheless, there is a lack of a universal skill taxonomy, poor global cooperation in recognizing non-formal and informal learning as valid education, thus hampering mobility of recognized skilled labour. Experts from public, private and international organizations said it loud and clear: national governments need to support this process and work in cooperation with other sectors as well as with international players to establish systems that allow individuals to identify, document, assess, and certify all forms of learning to advance in their career and for long-life learning.

# 05 Public-private collaboration is the way

## for a systematic and sustainable change

International cooperation and development has been working towards equal opportunities for a very long time. And even though Public-Private Partnerships (PPPs) are an ancient phenomenon, it is in the late 1980s that we can find serious studies, when public administration and business management in developed and developing countries alike started to adopt the practice. Ever since the international community has been pushing and fostering public-private collaboration on most development issues. For example, in industrial skills development, the public and private actors must work together to inform each other about the market needs and public resources that can be channeled towards local development. Moreover, as public policies play a fundamental role in setting-the-standards for educational systems, a systematic process of stakeholder consultations must be enacted for policy coherence and applicability by practitioners. In the green field context, experts suggested,

among other solutions, combining public procurement and business stimuli with green conditionality to speed up the green transition and create immediate jobs. To fasten the transition, the EU, the largest development cooperation donor in the world, agreed on their EU Green Deal. What does this mean for the EU's partner countries? Speakers at the LKDF Forum 2020 informed that it may very well become an instrument to drive skills development programmes for green jobs and employment. However, the EU should guarantee cooperation supported by regulatory mechanisms to grant high environmental standards and avoid trade restrictions and bans. Experts also elaborated on frameworks and methods that can better solve development issues by intervening at the root of the problem. The proposed approach is called Market System Development (MSD), which promises to facilitate partnership development in a more agile, flexible way conducive to long-term, sustainable impacts that enable behavioral change of market actors.

Moving forward with the industrial skills development agenda to take advantage of the new shared knowledge, the LKDF will support UNIDO's Member States, project partners, and beneficiaries to develop green skills curricula or integrate green skills training in existing ones. We will leverage on the six guidelines provided in the background paper presented at the Forum to assess needs and demands and form partnerships for demand-oriented training.

The LKDF further commits to learning from existing activities and PPDPs to scale-up successful training models through new forms of learning, including digital tools, while consistently researching innovative methodologies. To ensure successful development operations, we will be implementing the MSD approach and monitor the sustainability of our intervention over time through stakeholder consultation and partners engagement, as well as by attempting to develop a tool to systematically measure the contribution of LKDF-supported industrial academies and PPDP partners in achieving the Sustainable Development Goals (SDGs).



**MISALE** is a public-private development partnership that supports specialized skills development for heavy duty and industrial vehicles in Ethiopia

# **THE INDUSTRIAL SKILLS DEVELOPMENT CHALLENGE**

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**& the role of LKDF**

# THE INDUSTRIAL SKILLS DEVELOPMENT CHALLENGE

BCG foresees the skill mismatch to affect 1.3 billion people worldwide. Certainly, the phenomenon is more pronounced in some countries and less so in others, such as Northern European countries. Nevertheless, technical industrial skills need to be properly developed at the global level to achieve inclusive and sustainable industrial development. Meeting new labour market demands and successfully tackling technological, social, and environmental challenges, associated with industrial development, is only possible through equal access to quality education and training programmes. However, the development and sustainability of a modern Technical and Vocational Education Training (TVET) system capable of harnessing technological progress and addressing environmental threats can only be achieved if the dialogue between the government and private sector is coordinated effectively.



Furthermore, a weak collaboration between the private sector and TVET centers limits their capacity to offer curricula and programmes capable of meeting labour market needs and future skills requirements. Finally, limited financial investments and corporate commitment mean that the TVET system remains outdated and inadequate. Young people, therefore, do not perceive the TVET system as a driver of employment, entrepreneurship, or as having the capacity to promote equitable, inclusive, and sustainable growth.



Improving industrial vocational and technical training to accelerate the re-establishment of sustainable livelihoods in Syria

[Read the story](#)

## The Learning and Knowledge Development Facility (LKDF)

The Learning and Knowledge Development Facility (LKDF)<sup>1</sup> is a platform promoting industrial skills development among young people in emerging developing economies. It supports the establishment of industrial training academies that help meet the labor market's demand by upskilling employees, ultimately contributing to inclusive and sustainable industrial development (ISID)<sup>2</sup>.

Many developing countries lack quality educational systems and training programs. The LKDF delivers a modern TVET system while creating the link between governments, national and international private companies. This way the skill gap is addressed to meet new technological, social, and environmental demands and seizing opportunity in technological progress (SDG4, SDG9).

Hence, UNIDO (United Nations Industrial Development Organization) identifies the skills gap in developing countries and collaborates with Public-Private Development Partnerships (PPDP) to develop and scale-up training centers that innovate curricula and equip young females and male students with demand-driven and future skills. To date, in collaboration with more than 40 partners, UNIDO has established and or upgraded about 15 training centers with a yearly intake of 100-500 students and the participation of 20-100 trainers per TVET center.

The PPDP projects support social and environmental standards, such as gender equality, women empowerment (SDG5), and climate resilience (SDG13). Our TVET projects achieved 35% female participation in male-dominated sectors, and 60% of trainees were able to upgrade their job status.

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. It provides the policymakers and the donor community with guidelines to demonstrate the cost-effectiveness of programmes and justify their expansion to other countries or sectors.

1 <https://lkdfacility.org>

2 <https://www.unido.org/inclusive-and-sustainable-industrial-development>

# THE LKDF FORUM 2020

The LKDF Forum convened virtually 6-8 October 2020 under the theme Green Skills for a Sustainable Future. Through a combination of plenary sessions, virtual booths, networking opportunities, and an expert-led workshop, the Forum offered an occasion for partners, project teams, training specialists, TVET experts, and interested stakeholders to come together, discuss the importance of green skills development, and provide recommendations on ways to include green skills curricula in training activities. The LKDF Forum 2020 was a collaborative effort by UNIDO, the European Training Foundation, and WorldSkills International.

## The Theme

The world is currently facing an unprecedented crisis that is affecting social and economic systems alike. We must therefore think ahead and help countries recover and rebuild sustainably. In particular, we address how public and private sector partners can work together to reduce the mismatch between supply and demand for skills, a mismatch causing graduate unemployment and shortage of skilled personnel for Companies. Our challenge lies in aligning technical training to the skills demanded in the private sector.

The need to transition towards more environmentally sustainable modes of production and consumption has become an imperative both for developed and developing countries. Increasing evidence for environmental degradation and health damage caused by pollution and decreasing costs for green technologies suggests that such a transition is desirable and economically possible. Studies have shown that green technologies' deployment has a positive net effect on job creation (ILO 2018), an essential co-benefit for developing countries seeking to foster inclusive green growth (OECD, 2011).

The transition to a low-carbon, resource-efficient economy involves systemic interventions to change production methods across several sectors (ILO 2018). Despite several measures and existing opportunities, industry and transportation remain the fastest-growing sources of greenhouse gas (GHG) emissions (Friedlingstein et al., 2019). Industry-related GHG emissions, in particular, have continued to increase despite the declining share of manufacturing in the global gross domestic product (GDP) (Fischedick et al., 2014).

The decoupling of industrial activities from excessive use of natural resources and environmental degradation is essential for the green transformation (UNIDO 2020). The systemic changes necessary to enable such a shift will result in new products and services and changes in production processes and business models (Altenburg and Rodrik 2017). To make these outcomes possible, aside from policies and institutions, technology development and appropriate "green skills" are necessary. Three main trends are likely to influence what green skills are necessary and in which activities/sectors (Cedefop and OECD 2018: 9): (a) greening requires upgrading skills and adjusting qualification requirement across occupations and industries; (b) new economic activities related to the transition to a low-carbon economy create new careers and related qualifications and skills profiles; (c) structural change creates a need to reintegrate workers in the declining sectors into the labor market through retraining programs.




# Statistics

## At-a-glance

 **12 high-level speakers**  
45 speakers in total

 **15 sessions**

 **16,5 h live streaming**


 **4 co-organizers**

 **203 retweets**

 **385 likes**

 **69 new followers**

 **1598 profile visits**

 **250k people reached online through the hashtag #LKDForum**

**+684**

Total registration

### Top traffic

**Austria 96**

**Italy 30**

**South Africa 29**

Nigeria 26

Morocco 22

Zambia 22

Somalia 22

USA 17

Germany 16

Kenya 14

India 14

Switzerland 13

Egypt 13

United Kingdom 12

Bangladesh 10

**+480**

Live attendees

**+20**

Workshop live participants

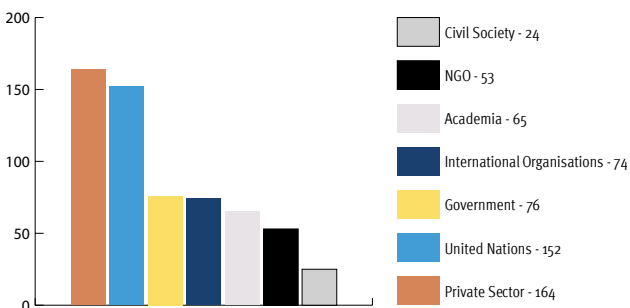
**+740**

On-demand attendees

**1178**

People in total

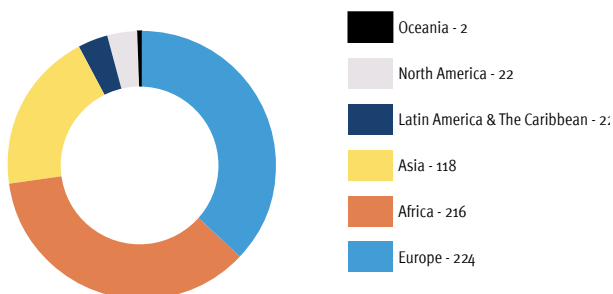
### Sector Breakdown



**+96**

Total countries

### Continent Breakdown



# **DAY 01**

# **PROCEEDINGS**



# 01 OFFICIAL OPENING: WELCOME TO THE LKDF FORUM 2020

**Director General of United Nations Industrial Development Organization, LI Yong**, opened the LKDF Forum 2020 recognizing the great challenges of unemployment and the reskilling but looking at the

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“More than 1 in 5 young people globally are neither in employment nor in education and training, and 2 out of 3 are young women. In a world of work that is rapidly transforming digitally, 65% of children at primary school are estimated to fill jobs that do not yet exist. Recognizing these gaps, UNIDO, [...] drawing on the platform's Public-Private Development Partnership business model, will develop the necessary green industrial skills and encourage investments in training and lifelong learning, aligned to the Sustainable Development Goals of the 2030 Agenda”.



Director General of UNIDO, **LI Yong**

# Quick data

1 in 5 young people globally are neither in employment nor in education and training



2 out of 3 are young women



65% of children at primary school are estimated to fill jobs that do not yet exist.

High-level dignitaries from beneficiary countries, the donor community, UN sister agencies, and other international organizations joined UNIDO to call for action. The dramatic consequences of the COVID-19 pandemic and the new European Union Green Deal offer a timely opportunity to build back better, certainly more sustainably and inclusively. And as we know, the industrial sector plays a key role in economic development.



As noted by the **Ethiopian Minister of Industry and Trade, Melakul Alebel**, “we must not forget about (...) sectors like agriculture and education”, because “without developing these sectors we cannot hope for success in the industrial sector”; an industrial sector that is undergoing the Fourth Industrial Revolution (4IR).



**H.E. Melakul Alebel**  
Ethiopian Minister  
of Industry and Trade



**H.E. Ali Hassan**  
Former Minister of Commerce  
and Industry of Somalia,  
Abdullahi

4IR has ushered in the digital transformation era of the industry and industrial markets. **The former Minister of Commerce and Industry of Somalia, Abdullahi Ali Hassan**, indeed explained that it is shaped by several technological breakthroughs: “this revolution is a fusion of advancement, artificial intelligence, robotics, the Internet of Things, 3D printing, genetic engineering, quantum computing, and laser technologies”, that will help global economies through industrialization, leading to growth, improving the quality of life and allowing job creation.

## Green economy

A poorly addressed skill mismatch could soon affect 1.3 billion people worldwide. Starting a green revolution might have a twofold impact as put by **Inger Andersen, Executive Director of UN Environment Programme**. To “better equip us to achieve the SDGs and the goals of the Paris agreement (...)” and create millions of jobs. “Studies show that government spending on renewable technologies creates over two-and-a-half times more jobs than spending the same amount on fossil fuels.” The UNEP Executive Director emphasized that “[the LKDF] Forum can help draw attention to skills gaps and build partnerships to ensure that the workforce is equipped for a green economy.”



**Inger Andersen**  
Executive Director of UN  
Environment Programme

**Sangheon Lee, Director of the ILO Employment Policy Department,**

confirms that "the transition to energy sustainability and a circular economy may create 100 million jobs, but nearly 80 million jobs may also be lost if re-skilling and upskilling is not embraced to help workers to transition to new jobs...", hence "a human-centered approach (...) will help facilitate these changes" and tackle the current crisis while counteracting environmental degradation.



**Sangheon Lee**  
Director of the ILO Employment  
Policy Department



**Carin Jämtin**  
Director-General of the  
Swedish International  
Development Cooperation  
Agency (Sida)



**Helen Hai**  
UNIDO Goodwill  
Ambassador for Africa  
Industrialization



**Janne Vangen Solheim**  
CEO at Janusfabrikken AS. The  
UNIDO Goodwill Ambassador  
for Manufacturing

**Carin Jämtin, Director-General of the Swedish International Development Cooperation Agency (Sida)** adds that "lifelong learning and skills development are necessary ingredients for productive employment" and "necessary for people to lift themselves out of poverty." But it is paramount that "[the efforts are] guided by the 2030 Agenda, where the global goals are inclusive and sustainable." Jämtin said, hoping the LKDF Forum would lead to catalytic solutions in regard to the green revolution.

**UNIDO Goodwill Ambassador for Africa Industrialization, Helen Hai** reminds us that “there are only 10 years left (...) to achieve the 2030 Agenda”. She also explains that the economic instability caused by COVID-19 leaves us in a fragmented world where the countries are isolated, and a resilient global plan is vital to support education, innovation, and industrial development, reconnecting economic players, while engaging in green skills development.

“We need to meet the future with equal opportunities” prompts **Janne Vangen Solheim, CEO at Janusfabrikken AS. The UNIDO Goodwill Ambassador for Manufacturing** tells us to develop green skills, knowledge, and competencies to enable “the adoption of resource-efficient sustainable processes and technology for the private sector and individual consumers.” “We all need to be changing agents.” she states, explaining change has never been so relevant, and that it has to be “green” to move to a low-carbon economy.

Nevertheless, shared goals cannot be obtained unless we make a cumulative effort. **David Hoey, CEO of WorldSkills International** expressed the need of working unitedly for the “greening of industrial activities”.



**David Hoey**  
CEO of WorldSkills  
International

The partnership between WorldSkills and UNIDO aspires to grow a network of capacity-building centers, transforming traditional methods of production, and optimizing practices “into solutions that are more environmentally sustainable.” According to David Hoey, the steppingstone for these results is knowledge development, providing training programmes, and putting forwards projects such as WorldSkills Africa.



# Key messages



Agriculture and education are vital elements driving an inclusive and sustainable industrial development to fill the (green) skill gaps.



A human-centered, digital and green revolution can connect markets and create new jobs.



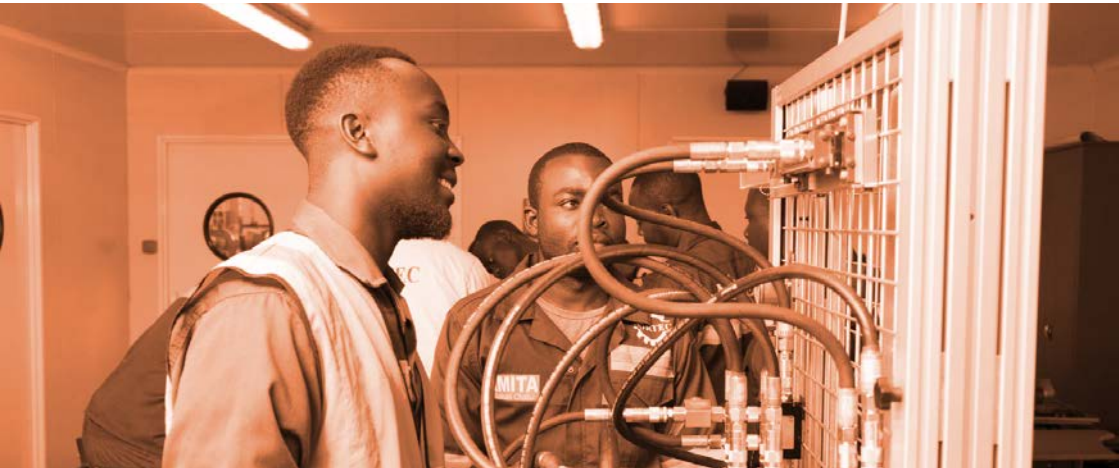
Lifelong learning, innovation, industrial development, and skills development can boost employment opportunities and improve resilience.



Act as change agents to enable the transition to a low-carbon economy.



Focus on partnerships for knowledge development in the skill landscape.



**ZAMITA** is a Public-Private Development Partnership to enhance youth employability in the transport and Heavy-Duty Equipment sector in Zambia



[@ZamitaZambia](https://twitter.com/ZamitaZambia)

# 02 THE RESKILLING REVOLUTION OF THE WORLD ECONOMIC FORUM

**LIVE INTERVIEW**



**Saadia Zahidi**

Managing Director of WEF and Head of the  
Centre for the New Economy and Society

**Saadia Zahidi, Managing Director of WEF and Head of the Centre for the New Economy and Society**

discussed how to use industrial advancements to our advantage, adopting a sustainable use of technology to save our planet and to reskill the workforce of tomorrow.

As the interview title suggests, the Reskilling Revolution was clearly the leading topic of the interview. Launched at Davos 2020, which celebrated the 50th anniversary of the WEF Annual Meeting, this initiative aims “to provide better education, better skills, and better jobs to 1 billion people by 2030.” WEF has been driving the 4IR agenda aware that technological disruptions would both

create and hamper job opportunities.

Therefore, creating a dedicated movement to meet the requirements of the future of work seemed in order. The COVID-19 global crisis has however changed the game once again as companies are cutting hundreds of thousands of jobs and limited funds and investments that could stimulate action.

The skill mismatch continues to be a pressing global issue. Saadia Zahidi, in fact, emphasized WEF’s efforts in creating a skills consortium where “leading industry players in online learning and training are coming together to address this problem collectively”.

Considering the challenge of world recognition of online courses, WEF is working on a universally recognized “skills taxonomy”. What are the limitations of these digital platforms? In an effort to “not leave anyone behind”, WEF launched the “skills gap country accelerators” to promote connectivity, and “collectively setting targets of the set of people that they want to reskill and upskill into their jobs of tomorrow”.

WEF’s Managing Director confirmed that the “green skills and jobs”, among the seven jobs of tomorrow, is “the fastest-growing cluster but the smallest in terms of absolute number of current jobs.” Investments are being poured into a “greener economy”; however, similar amounts of money should be invested in skilling workers to fill in those new green jobs. Wrapping up, Saadia Zahidi called on policymakers and business leaders “to strengthen the development of green skills in light of the Fourth Industrial Revolution”, especially in light of the current socio-economic situation, so that national economies do not simply “return to productivity growth, but also look at the right kind of growth, the right quality, and direction of growth.” She further prompts investments in reskilling and upskilling activities.



**It is very clear that there is a return on investment when it comes to providing re-skilling and upskilling support.**

The expected ROI should happen within a year. Nevertheless, businesses seem to be unable to wait and take a more short-term approach instead. Governments have a chance to provide workforce skilling related incentives, “this is where the public-private collaboration that you’re alluding at comes in.”

# Key messages

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Universal skill taxonomy to globally recognize and certify online training.



A Collective long-term vision is needed to capitalize on re-skilling and upskilling programmes.



Investments are needed to skill, re-skill, and upskill current and future workers to meet the green jobs "demand."



**AGEVEC**, partnering to enhance skills development and youth employment in Morocco, the Ivory Coast, and Senegal

# 03 SETTING-THE-STAGE: GREEN SKILLS PAPER SESSION & ASK-US- ANYTHING



Professor **Georgeta Auktor** from the German Development Institute

How to define green skills? Finding a universally accepted definition seems a tall order. The LKDF accepted the challenge and published a background paper “to raise critical questions and reflect on preconditions to manage the development of green skills development [and] better understand why this is important and what some of the key challenges are”, said the author, **Professor Georgeta Auktor from the German Development Institute.**

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Professor Auktor strongly emphasized the need to guide policy intervention for green skills to effectively operate and develop green technologies. Understanding how green skills can induce the transition to a green economy and what the green skills demands are, is crucial to inform policy interventions. A significant challenge for all stakeholders is the lack of consensus on labeling green occupations and skills. Therefore, understanding what green skills refer to, permits firms, training, and education institutions (and other stakeholders) to assess skills and address whether further interventions are needed.

It “is important both for policymakers as well as for the private sector to understand how fast markets are expected to develop for growing technologies.”, said Auktor.

The effectiveness of skill development programs depends, not only on the set of policies for green technologies and building knowledge to transition to a green economy but most importantly, on the implementation of policies and interventions across sectors. (ANNEX I)

In an **Ask-Us-Anything** session, Professor Auktor and Niels Schulz from UNIDO, addressed several questions, including one about whether the post-COVID recovery can afford a proactive development of green skills while national governments are faced with health, and economic crisis. Auktor argues that “the COVID-19 pandemic has affected all societal groups, but it has definitely hit harder low-income groups [...]”.



**Niels Schulz**

Industrial Development Officer,  
UNIDO

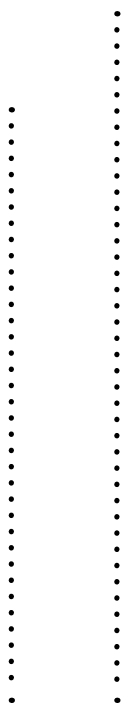
Building back better would definitely call for intensifying green skills development programs, especially since [...] this crisis was really a wake-up call for the importance of sustainable inclusive development. As I emphasized in my presentation, [...] greening the industry can contribute to job creation.” Auktor also added that “for policymakers, this may be even an opportunity for fiscal recovery for improving the fiscal space, tax collection systems, so that [they] could reorient resources towards low-carbon efficient clean production and/or social protection policies by shifting subsidies for instance from fossil fuels towards education training goals.”

Regarding the work of international organizations supporting developing countries in this green transition, such as UNIDO, Schulz explained how this is done in four steps: technical cooperation through technology transfer in partnership with the private sector; policy advisory to ensure coherent towards industrial development; standard and quality to acquire certification and help emerging markets become internationally competitive; and convening to share knowledge and foster partnerships. The LKDF covers all four core functions on the industrial skills development landscape, while adding the monitoring of the social, environmental, and economic impact of projects, added Niels. How can governments and businesses collectively accelerate the transition to a green economy with everything else going on?



**H2O MAGHREB** is a Public-Private Development Partnership to equip the next generation of Moroccan water technicians with skills for a sustainable future of this critical natural resource

 [H2OMaghreb](#)



“The COVID crisis is very similar to the climate crisis”, says Prof Auktor, “an important lesson here both for governments and private sector is that acting with delay would come with a huge cost. So, prevention is definitely better than the cure and as specific interventions that the government put people in focus to stimulate job creation. And with that of course-related interventions to develop relevant skills.” Auktor alludes to “public procurement”, especially in the energy sector, as a source of direct employment funded by the government, and also “targeted business stimulus [with a] green conditionality.” In the short-term, a green sector for job creation, especially for low skilled workers that are more vulnerable during these times, is forestry. Labor intensive, no large needs to retrain and technology requirements are low.

## Questions from the audience



### What is the role of digital platforms for green skills development in COVID-19 times?

Niels informed that the LKDF has been providing programmes through digital channels. However, COVID speeded up the process and required a swift transition from face-to-face to online classes (e.g., H2O Maghreb). However, significant challenges remained, including accessibility and technical skills that cannot be taught online.

### Why there are so many people without a job?

Georgeta stressed the existing skill mismatch. People are jobless because they do not possess the necessary skill set for jobs in demand in the current market. On the one hand, most green technologies are expected to deploy rapidly across developed and developing countries. On the other, we lack adequate skills development programmes.

## Key messages



A systematic process of stakeholder consultations is necessary for policy coherence (green skill development programs and other policy goals).



Monitoring and evaluation of inputs and outcomes .



Systematic mechanisms for green skills forecasting develop interventions, where goals and interventions are aligned across sectors and stakeholders. Public procurement and business stimuli with green conditionality can speed up the green transition and create immediate jobs.



Focus on sustainable interventions, including replanning resources towards a low-carbon economy.



UNIDO assists developing countries in the transition through technology transfer, policy coherence, standardization and quality assurance, and open public-private dialogue.



# 04 FIRESIDE CHAT: WHAT DID WE LEARN FROM THE #LKDF4INDUSTRY INITIATIVE AND WHAT WILL THE FUTURE OF SKILLS AND WORK LOOK LIKE?

**UNIDO**, ETF, and Nokia Bell Labs shared opinions on how to adapt skills to the new needs that emerged from the COVID-19 crisis.

Riccardo Savigliano, Chief of Agro-industries and Skills Development at UNIDO said that:



**Industrial leaders are taking time to rethink, replan and innovate their processes, their businesses.**

**Riccardo Savigliano**

Chief of Agro-industries and Skills Development at UNIDO

Savigliano stressed how the pandemic has pushed industries to shift and reconvert their production, benefitting from their resilience and capacity to reskill and upskill their workforce. Building on the experience shared by industries through the Voice of Industries, it appeared that resilient workforces also possess soft skills, a skillset to invest in together with digital and green skills.

Carrying on, **Anastasia Fetsi, Head of Operations Department at ETF** elaborated on the experience of ETF's 29 beneficiary countries across North Africa, Eastern Europe, and Balkans, as the pandemic hardly hit education and training fields.

“We have to admit that all countries really tried to address the situation and mitigate this negative impact on the learning process”, confirmed Fetsi, “but the success of these stories is limited.”



**Anastasia Fetsi**  
Head of Operations  
Department at ETF

On the one hand, there is limited access to digital infrastructure, and limited knowledge of digital technologies, on the other, the digital learning experience, when successfully integrated and deployed, “brings useful results in terms of learning outcomes” facilitating access to education and training, said Anastasia. Furthermore, the effects of the pandemic are showing some levels of polarization between people who possess soft, digital, and technical skills, who can better absorb the labour market shock, and those who are not qualified. As suggested by the UNIDO-ETF global survey on the impact of COVID-19 on the demand for skills, “companies think about skills only when the time comes”, and the COVID-19 crisis highlighted that companies need more soft skills, including design thinking, creativity, and teamwork. Furthermore, public skills programmes should be offered to match these needs.



**Fuad Siddiqui**  
Executive Partner  
and Vice President of  
Nokia Bell Labs

About the future, Fuad Siddiqui, Executive Partner and Vice President of Nokia Bell Labs explained a 3-stage recovery: the fall, the rise, and the new normal. More traditional industries have suffered incredibly from the pandemic as they had not invested in ICT. Whereas digital and service industries retrained and reskilled their workforce. They have augmented technology and could dynamically shift during the shutdown of production. This shift is paving the way for “the new-collar worker” as Fuad calls it. “Essentially a hyper augmented worker both in terms of its ability to perform cognitive and physical tasks by the help of mutual learning and collaboration with machines” he added.

Fuad also recognizes the pivotal role of digitalization and automation in increasing social inclusion. Automated and remotely controlled work does not require heavy physical work, offering an opportunity to close the gender gap in manufacturing. Blended machine-human skills will make new collar jobs, which will dominate the market by 2030<sup>3</sup>.



## Questions from the audience

### **Are motorized skeletons going to steal jobs for humans instead of increasing them?**

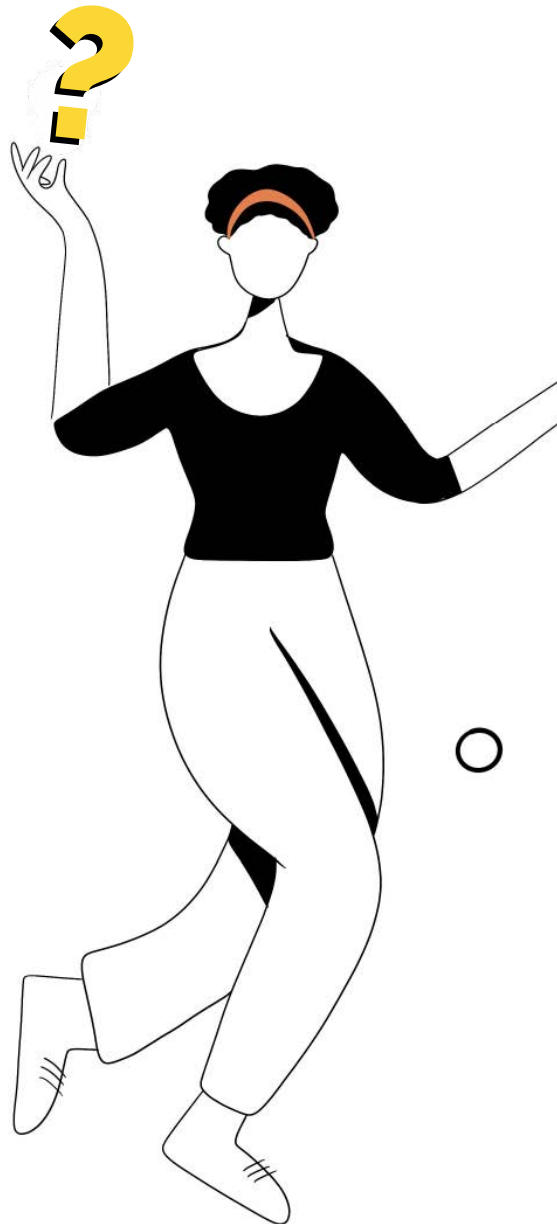
"I wanted to address this because contrary to popular belief that these machines and AI are going to take away our jobs, we found the opposite to be true," confirmed Siddiqui. "I've been looking at the automobile sector and how they have very effectively used robots and machines to further improve their assembly lines and improve productions and none of the jobs were lost," he added. "So in some ways that the jobs are being augmented not replaced [...] you have to ensure that the human operator is not taken out of the equation.", Fuad concluded.

### **How can the UNIDO-ETF survey's next steps better involve projects and make job opportunities more accessible for young people?**

"This is an issue that cannot be resolved only with projects," said Anastasia. It is a matter of "how you prepare yourself for a very changing labor market and how you ensure lifelong learning opportunities. [...] I think it is an issue of permanent re-skilling and upskilling in parallel with work", she concluded.

### **Is there a net loss of jobs despite all the great efforts?**

We have to learn how to retain traditional skills while acquiring new ones. This is how Savigliano answers, making sure that people do not forget about conventional and vulnerable sectors that do not necessarily have access to large capital but deserve equal attention and care for a prosperous future.



# Key messages



Resilient companies can re-skill and upskill their workforce to innovate and stay up to date while also serving on digitalization and automation to close the gender gap faster.



Limited digital infrastructure and knowledge of the use of digital tools can hamper the new learning. Increase investments in ICT are crucial to compete in the global market and stay relevant.



The future of work needs greater attention on soft skills.



Early planning on skills development programmes and training can assist companies in critical times.



Train the workforce on blended machine-human skills.



Improving industrial vocational and technical training to accelerate the re-establishment of sustainable livelihoods in Syria

[Read the story](#)

# 05 ASK THE PRIVATE SECTOR: SKILLS IN GREEN DIGITAL TIMES

Insights from FESTO Didactic - Huawei - PETRA Engineering

## What are green skills from the lens of the private sector?



**Enrico Rühle, Board Member of FESTO Didactic** answered that one for us. “From our point of view is to reduce the impact on the environment”, Rühle claimed. He also added that COVID-19 might have slightly slowed down the fight against climate change, but this will be back on track, especially under the framework of the EU Green Deal.

**Enrico Rühle**

Board Member of FESTO Didactic

“From our point of view is to reduce the impact on the environment,” Rühle claimed. He also added that COVID-19 might have slightly slowed down the fight against climate change, but this will be back on track, especially under the EU Green Deal framework.

“We want to reduce CO<sub>2</sub> emissions by 50% by 2030 and make Europe the first climate-neutral continent by 2050.”, said the FESTO Representative. These are undoubtedly ambitious goals, and “what we do in FESTO Didactic, and what I could commit as a board member, is that any kind of products or services released to the market [...] are tested against green skills. And that our learning systems and our teachers can make sure that whatever we are going to sell in the future, that whatever people learn on our systems, take into account green elements and skills”, concluded Enrico.

## Digitalization is the driver for going green.

As explained by **Angeliki Dedopoulou**, Senior Manager of EU Public Affairs at Huawei, AI, and Blockchain are “technologies for sustainable development.”

**While “AI literacy and the capacity of reading and interpreting data can be considered green digital skills,” started Angeliki, “blockchain is the one of the technologies that can help to create a more sustainable economy.**

**Angeliki Dedopoulou**  
Senior Manager of EU Public  
Affairs at Huawei



It helps foster collaboration between consumers and producers [...]. Blockchain provides a verifiable record of who buys what, so it has this traceability mechanism across the supply chain. This means that companies that [...] claim that can reduce their environmental impacts, can be countered-checked and verified using blockchain technology. And with regards to climate action, blockchain is also a technology that can enable accountability and transparency for rapid carbonization as it will likely play an important role in improving that accountability and transparency of policies limiting fossil fuel consumption, for example, and for fostering carbonization”, she argued.

**And which green skills are needed by the industrial sector that is contributing to climate change?**

**And do the sectors already have a qualified workforce ready for the transition?**




**Samir Hamed**  
General Manager at Petra KSA & R&D  
Manager of Petra Jordan

Samir Hamed, General Manager at Petra KSA & R&D Manager of Petra Jordan, said, “We produce air conditioning, heat pump, and refrigeration systems [...]. Unfortunately, most of the refrigerants are flammable, so they need very big care, including safety assurance, new system design production, installation, maintenance, and servicing. You know, when we started to change [to] new technologies we trained our people [...] to deal with such systems in order to increase their green skills to use these systems [to] reduce the carbon footprint generated from our units. [...] The available technicians in the market do not have green skills”, Samir affirmed. “Another thing that we need [...] is computer skills. [...] Because of the pandemic we tried to control our units remotely. [...] So this is basically what we need in our technicians to be available in the future to use sustainable technologies”, he concluded.

However, despite all the efforts, there are still obstacles towards the green economy and a rising skills mismatch. What is the reason, and how can we overcome it? First of all, Enrico encourages a change of mindset and looks at education as an investment instead of a cost. Global issues such as water scarcity and pollution, demand food, energy crisis, mobility are changes visible to the environment, the industry, and the educational field. It is our responsibility to solve these challenges in a speedy way. Industry 4.0 leads us in that direction, and somehow COVID-19 accelerated that transformation and change of mindset.



**ZAMITA** is a Public-Private Development Partnership to enhance youth employability in the transport and Heavy-Duty Equipment sector in Zambia

 @ZamitaZambia

Angeliki further emphasized the importance of connectivity as a way to enforce policies, including those linked to the SDGs and the *Farm to Fork Strategy*<sup>4</sup>. With connectivity comes AI capability and accessibility. Angeliki's invitation is to train and upskill workers in each [EU] Member States "so that they can actively take part in the newly digitalized society." Samir concludes that in his greening experience with UNIDO, "if you look for the overall cost for the project, including the transfer [...] to the green technologies, [...] the overall cost is lower than the overall cost of the system using the [more traditional] technology, which is not the green at all."

The speakers further called on active collaboration between policymakers, business leaders, associations, and training institutions to raise awareness about environmental issues and sustainable practices and identify skills and develop university curricula jointly.



## Insights from HP Inc. - Volvo Group - International Telecommunication Union

Collaboration has been one of the common threads in every conversation so far. **Johan Reiman, Director Corporate Responsibility from the Volvo Group**, unfolded the power of a multistakeholder approach to address the skill mismatch. "What we have at Volvo Group is the strength of the PPDP model [...] where each and every partner brings their skills to the table in order to assess the market demands for a specific country." And he continues:



"The LKDF can play a vital role here in even further supporting the participating partners, when it comes to relevant research and also as a platform for best practice sharing, [...] and transparency."

**Johan Reiman**

Director Corporate Responsibility  
from the Volvo Group

Volvo decided to join UNIDO in the LKDF's efforts as they saw a shortage of competencies of mechanics, heavy-duty engineers, and as Johan said, "from our customers point of view there was also a shortage of drivers and operators." Therefore, they partnered with UNIDO in Ethiopia and noticed that the newly trained students were employable. Given that "I can really encourage other private sectors to try to identify the [mismatch] and work together with the sustainable strategists," confirmed Reiman.



**Marco Obiso**

Chief of Digital Networks  
and Society Department  
at the International  
Telecommunication  
UnionGroup

And in the name of this multistakeholder approach, bringing in another UN agency, **Marco Obiso, Chief of Digital Networks and Society Department at the International Telecommunication Union**, talked about greenhouse production in ICT equipment consumption. Another 'forgotten' area is e-waste. How much of the ICT production is wasted and not recycled? "So, for us the idea of skill has to be associated with how we use that [...] in areas like recycling, building a circular economy where the e-waste can be recycled and given back to the manufacturing for a more sustainable environment."

**Paolo Dal Santo, Education Lead for EMEA at HP Inc.**, provides HP's experience applying a circular approach focused on delivery, safety, and standards, with skills development right at the center.



**"You need a different type of skills and kind of capability that will really take everything from [knowing the] material, understanding collaboration, the local environment but also [...] empathy. This seems to be very important in education and training", said Dal Santo.**

**Paolo Dal Santo**

Education Lead for EMEA at  
HP Inc.

HP already offers a dedicated e-learning platform<sup>5</sup>, engaging local communities in training skills. "Standardization of the training using all possible technologies, remote learning, 3D, virtual reality, [is key] but ultimately [...] the end users of training are the ones which are important and can help back with the selection of the processes, the material and activities."

Paolo concluded by saying that HP has a goal of training 100 million people, but everything starts small. As the LKDF shows in Africa, there is a tangible impact on employability rates. Therefore, there is a need for enhanced collaboration on knowledge sharing and skills development at the local level.



**ZAMITA** is a Public-Private Development Partnership to enhance youth employability in the transport and Heavy-Duty Equipment sector in Zambia

 [@ZamitaZambia](https://twitter.com/ZamitaZambia)

# Questions from the audience



## Certification

Angeliki says that “we need to look not only at the skills that come out of formal qualifications, but also we need to give more emphasis on the informal or non-formal learning contexts and find ways to recognize them in the labor market.” Enrico then adds that what he is still missing is global standards to ensure that people can use their certified competencies worldwide. Samir further concludes that organizations like UNIDO are doing essential work in developing countries, especially on safety, as the developing countries need extra support. The public sector needs to have the correct legislation so that the private sector can get certifications.

## What are your views on addressing skills shortage and the linkage between the private sector and vocational institutions?

The shortage should be addressed at the policymaking-level but also in the local community, said Marco Obiso from ITU. But then he added that for green skills development, a behavioral change is necessary and that civil society, together with the UN system and the private sector, can stimulate awareness about what is needed to green the environment and encourage a 'training by doing' approach.

# Key messages



Green skills are to be embedded in all products, services, and teaching material to meet the sustainability targets.



Collaboration to identify the skill mismatch and reduce it at the local level; improve transparency; upscaling results, and measure outcomes.



More training is necessary to provide green and computer skills, incl. AI and blockchain to enable the transition to a greener economy and be part of a digitalized society.



Enable a behavioral change to think global but act locally in a greener way.



Education is an investment and not a cost.



Global standardization of technical training to facilitate mobility .

# 06 CLOSING CEREMONY: UNIDO AND ETF PARTNERSHIP ANNOUNCEMENT

UNIDO and ETF had the pleasure to announce their partnership to advancing demand-oriented skills development officially. A partnership being discussed in the difficult times of the COVID-19 pandemic bringing up the growing need for industrial skills for enterprise development.

“It is a pleasure to be partnering with UNIDO because for us as an agency of the European Union, working on promoting education and training [...] we see that now the focus is shifting and the needs are broadening and there is a growing focus on the questions of employability but in a sustainable, green, and digital agenda for all our policy partners”, stated **Cesare Onestini, Director of the European Training Foundation (ETF)**.



**Cesare Onestini**  
Director of the European  
Training Foundation (ETF)

“So, for us the partnership with UNIDO really brings out [...] a shared purpose to promote competitiveness with a green and social fairness inclusion approach, [...] a focus on enterprise development, [and] a focus on best practices and what we can learn from them”, concluded Onestini. Cesare then invited governments and private sector leaders interested in working together “to focus on solutions that work [...] based on evidence. [...] We need to focus on the next generation. [...] We need to make sure that there is this connection between what public authorities bring and the private providers [...] and offer that open dialogue.”

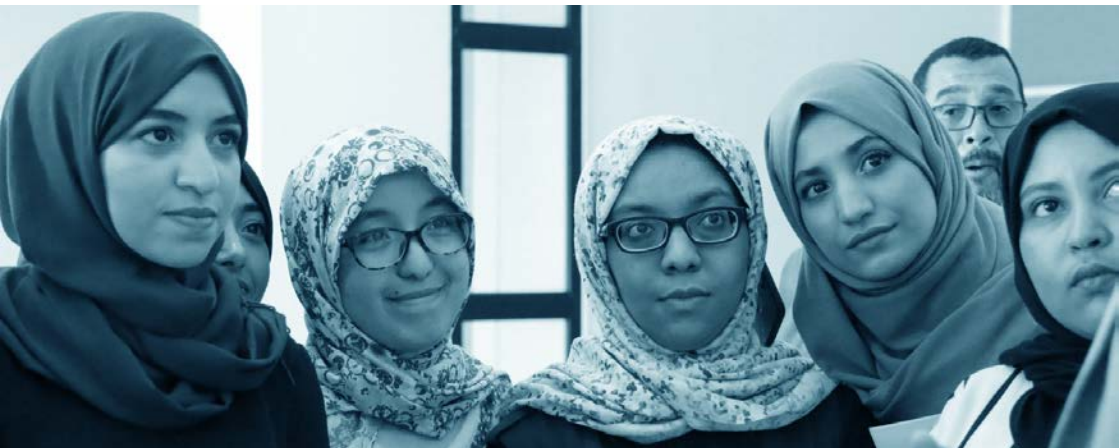


**Dejene Tezera**

Director of the Department of  
Agri-business at UNIDO

**Dejene Tezera, Director of the Department of Agri-business at UNIDO, said that** “ETF has a very strong leadership and experience supporting countries, especially in the European Union and its proximity, on the agenda of educational reform training and employment policies. So, the strategic alliance between these two organizations for knowledge creation, consolidation, and dissemination in the area of skills development across the developing countries will be very important and the impact of our joint efforts will be much better than each one of us doing it alone.”

**Tezera also pushed for more “multi stakeholder partnership to deliver adequate training and equip our young people with the necessary skills. As we all know, the public schools are usually underfunded and understaffed and have a difficulty to respond or to provide the skills, which is required by the private sector. This means that the private sectors have to support the government and have to make the school's more demand-driven.”**



**H2O MAGHREB** is a Public-Private Development Partnership to equip the next generation of Moroccan water technicians with skills for a sustainable future of this critical natural resource

# **DAY 02**

# **PROCEEDINGS**



# 01 OPENING MESSAGES: YOUNG ENTREPRENEURS AND YOUNG LEADERS FOR SDGs

The LKDF Forum 2020 called upon young entrepreneurs and leaders for the SDGs to encourage the global youth to acquire demand-oriented skills and enroll in educational programmes for better employment opportunities.



**Schizzo Thomson**  
CEO of Sky Energy Africa

**Schizzo Thomson, CEO of Sky Energy Africa**, clearly stated that “[those] developing tech skills are silently moving ahead of the competition, learning skills that will be directly relevant to industries and careers of the future. For instance, artificial intelligence, robotics, blockchain, smart series, machine learning.”

*Schizzo offers solar power solutions through Sky Energy Africa, which designs, supplies, and installs power backup systems providing renewable alternatives in Africa.*



**Taha Bawa**  
Co-Founder & CEO of  
Goodwall.io

While **Taha Bawa, Co-Founder & CEO of Goodwall.io**, confirmed that “[...] it is complicated for youth to navigate this ever-changing landscape [...] where skills are commoditized and rendered obsolete by the time they are learned.” But “COVID has shown just [...] how important it is to have the right hard skills [and] soft skills, notably adaptability and resilience.”

*Taha created Goodwall, a community connecting 1 million members in 150+ countries, consisting of students and professionals. They aim to enable individuals to share their interests, learning and discover about earning opportunities.*



**Hayfa Khalfaoui**,  
Co-Founder & CEO of Lait  
Espoir

**Hayfa Khalfaoui, Co-Founder & CEO of Lait Espoir and participant of UNIDO’s Mashrouzi<sup>6</sup>** who encouraged young people to “do a business you are passionate about. Don’t be afraid of changing careers and keep learning [...] This is how we can get better opportunities and improve our quality of life.”

*Hayfa innovated the agribusiness sector by bringing her IT skills for smart farming in Tunisia and created Lait Espoir to manage and monitor cows and milk production.*





**Atchara Pomee**

Managing Director of PAC Frenergy

From the Thailand chapter of UNIDO's Global Cleantech and Innovation Programme (GCIP)<sup>7</sup> **Atchara Pomee, Managing Director of PAC Frenergy**, informed that people are interested in products that meet high-quality standards and that are environmentally friendly in Thailand.



**Jaruwan Khammuang**

EO of Fang Thai Factory

**Jaruwan Khammuang, CEO of Fang Thai Factory**, joined the LKDF Forum to share how important it is to create innovative products to solve real-life problems.

*Atchara created Frenergy, a water heater that does not require electricity.*

*Jaruwan also collaborates to a more sustainable world with Fang Thai Factory's options on environment-friendly packaging.*



**Mariama Djambony Badji**

Co-founder and CEO of DNA SARRL

**Mariama Djambony Badji, Co-founder and CEO of DNA SARRL**, stressed the urgency of developing skills to adapt services and products to climate change. According to the SDGs Young Leader, "[...] developing green skills will help [you] to be more competitive".

*Mariama co-founded DNA SARRL, a Senegalese environmentally-friendly construction company creating housing that uses natural and local material. With this initiative, young people have an additional green career option, while others become sensitized about green choices when it comes to living environments.*



**Lester Philipp Vargas Angeles**

Co-Founder of FractalUp

**The co-founder of FractalUp, Lester Philipp Vargas Angeles**, provides straightforward advice to young people seeking a better future: "You need to use your time well." He also underlines the importance of developing new skills such as programming and effective communication.

*Lester created FractalUp, an initiative from Peru to integrate Artificial Intelligence in educational systems and corporate training.*



**Zahin Razeen**

Founder of Quantum Polychemics Biotechnology

While **Zahin Razeen, the founder of Quantum Polychemics Biotechnology**, addresses how even though COVID-19 has changed the way societies function in different ways, "[...] it is time to reevaluate everything introspectively and focus on things that you can control". Razeen believes in the importance of acquiring industrial skills and further solving the challenges for a greener world.

*Schizzo offers solar power solutions through Sky Energy Africa, which designs, supplies, and installs power backup systems providing renewable alternatives in Africa.*



**Tania Rosas**

Founder of El Origen Foundation

Lastly, **Tania Rosas, the founder of El Origen Foundation**, explains that education is the first step to empowering the young generation and encourages the youth to enroll in training programmes worldwide to guarantee equal opportunities.

*Tania started El Origen Foundation in Colombia, an indigenous-first model that prioritizes cultural identity and preserves it within education. It provides an online-based teaching approach for at-risk youth, granting them a second chance at education through mobile school, a magazine, and online resources.*

## Key messages



The youth must develop green industrial skills for a greener future.



Changing career paths can lead to better opportunities.



Education equals empowered citizens and access to equal opportunities.



**YOUTH RISING** strengthens the Liberian TVET sector in its capacity to deliver equitable and gender-balanced access to high-quality and demand-driven technical education

# 02 ELEVATOR PITCH: WINNERS OF THE UNIDO ITPO GLOBAL CALL



**Nnaemeka C. Ikegwuonu**

**Raphaela Egger**

Further exploring innovative ideas by young entrepreneurs, the Forum hosted two of the winners of the Global Call "Innovative Ideas and Technologies vs. COVID-19 and beyond" by the Investment and Technology Promotion Offices (ITPOs) of UNIDO<sup>8</sup> to pitch their new business models.

**Nnaemeka C. Ikegwuonu from Nigeria** founded Coldhubs, a self-sustainable start-up relying on solar-powered walk-in cold rooms to preserve perishable foods that would otherwise go to waste. The idea came to Nnaemeka while he was traveling through Nigeria and observing how the "[...] lack of infrastructure has led to being normal to see food thrown away on the roadside [...] because of the lack of storage". Coldhubs is available in primary food production and consumption centers such as markets and farms. The company's social impact is based on reducing food waste, increasing local farmer income, creating jobs for women as direct hires to manage operations, and reducing malnutrition by allowing more nutrient food among children in rural areas.

**Raphaela Egger** then pitched her co-founded Austrian social enterprise, **Plasticpreneur**, which drives the transition to a circular economy. "We want to tackle two issues, unemployment and plastic pollution, at the same time," explained Raphaela. The start-up develops and produces mobile solutions to recycle plastic, teaching social entrepreneurship skills are relevant to transforming plastic waste into new products.

**These fascinating business ideas started from young, creative minds willing to set an example and provide access to sustainable choices.**

# 03 IN CONVERSATION: PARTNERING AND SHARING KNOWLEDGE FOR A GREEN FUTURE

A fragmented global economy may potentially undermine efforts to fight climate change. The LKDF, therefore, strives to “revitalize the global partnership for sustainable development,” as outlined by SDG 17. The LKDF Forum 2020 promoted a lively debate among the global PPDPs to discuss opportunities within collaboration and knowledge-sharing for a greener economy.



**Leo Long**

Senior Practitioner of SAFCOL

**Leo Long, Senior Practitioner of the South African Forestry Company SOC Limited (SAFCOL)**, a partner of SADC Forest<sup>9</sup>, highlighted the need for intergovernmental forums and platforms to learn about and develop in-demand skills for a green economy. According to Long, “[...] international organizations like UNIDO have the cross-cutting overarching ability to bring those interstate projects into the floor where we can see expertise”.

Nevertheless, stakeholder cooperation alone would not ensure the achievement of desired results. In technical education, it is a top priority to provide modern and demands aligned curricula.

Therefore, stakeholder consultations to review existing curricula and develop new ones should prioritize public and private institutions to develop green skills, hence more jobs.

Another long-standing PPDP partner stressed the importance of redesigning curricula to fit today's greening skills needs better. From H<sub>2</sub>O<sup>10</sup> Maghreb partner's point of view, **Nader Imani, Executive Vice President Global Education of FESTO Didactic**, said it straight:

9 <https://lkdfacility.org/sadc-southern-africa>

10 <https://lkdfacility.org/zamita-zambia>



**"We cannot say that the education system has to be in an isolated island and just work on the education supply without consideration of the labor market. It has to go hand in hand together"**

**Nader Imani**

Executive Vice President Global  
Education of FESTO Didactic

To establish this cooperation, Nader Imani believes that the labor market has to take ownership of education, actively acting as a stakeholder. FESTO Didactic joined H2O Maghreb to harness the water sector's opportunities and find solutions to management challenges for a greener and more inclusive future. To deliver on its promises, technology development, and deployment for a sustainable future became a crucial driver in the Morocco project to boost employability. "The usage of water per capita is increasing, [...] and this means that nature is not, any longer, in position to recycle water. We need technologies". Several industrial sectors rely on water for their development, making water recycling an imperative green skill for the future.



**Julien Magnat**

Specialist in Skills and  
Employability at ILO

Digitalization and technology-driven development are not peculiar to Morocco or the Maghreb region. Indeed, it encompasses all levels of society across the globe. UNIDO joined the International Labour Organization (ILO) and other sister agencies for UNited for Youth Employment in Cambodia. **Julien Magnat, Specialist in Skills and Employability at ILO** explained how three trends are changing labour and skills in Cambodia: digitalization, demography, and climate change.

According to Magnat, one of the region's challenges is the lack of data on the needs of the private sector to fill the green skill gap. To better equip the youth with relevant skills, the joint UN project led by ILO supports employers and trade unions cooperating with the Government of Cambodia, reinforcing the dialogue between schools and companies through apprenticeships. By mapping the gap, Magnat said they could integrate green skills in the existing national curricula, which is the direction they are working towards by supporting the public and private sectors.

A demographic trend influencing labour market offer and supply also exists in Zambia, one of the youngest African countries and a key country partner of LKDF with its successful ZAMITA<sup>11</sup>. The private sector cannot employ all the available workforce in Zambia.



**Victor Mulenga**  
NORTEC principal

In 2019, youth unemployment was 21.41%, which may worsen due to the COVID-19 global crisis. Therefore, PPDP's partner representative **Victor Mulenga, the NORTEC principal**, emphasized the importance of entrepreneurial skills development in their training to spur employment. "[The youth] can [...] apply the [entrepreneurial] skills that they get from our training". However, Mulenga called on policymakers to support the green economy by greening the policies. Policies and actions should go hand-in-hand, and the first should reinforce what is being developed in learning institutions.

## Questions from the audience

**Skills mismatch: what can governments do to help? What would be the most helpful approach?**

Angeliki says that “we need to look not only at the skills that come out of formal qualifications, but also we need to give more emphasis on the informal or non-formal learning contexts and find ways to recognize them in the labor market.” Enrico then adds that what he is still missing is global standards to ensure that people can use their certified competencies worldwide. Samir further concludes that organizations like UNIDO are doing essential work in developing countries, especially on safety, as the developing countries need extra support. The public sector needs to have the correct legislation so that the private sector can get certifications.

## Key messages



Public-private dialogue should be assured to assess the skill mismatch degree better, and the green skills demand to meet new future requirements.



Entrepreneurial education can spur employment and overcome labour market saturation.



Green public policies to support a green educational system in a coordinated effort.

# 02 INNOVATION POWER HOUR: HOW TO IDENTIFY GREEN SKILLS AND INVEST IN GREEN TVET

**01**  
How can we equip students with green skills and improve their curricula?

**02**  
How can we monitor and evaluate environmental, social, and corporate governance?

**03**  
And to what extent can we make green skills a common and generally accepted idea?

International experts accepted the challenge of presenting innovative approaches to sector and skills assessment, monitoring, investments, and global cooperation.

## MARKET-SYSTEM DEVELOPMENT IN EDUCATION PROGRAMMES



**Elisabet Montgomery**  
Senior Policy Specialist for  
Employment at Sida

The Market-System Development (MSD) is a systemic, adaptive, and holistic approach. According to **Elisabet Montgomery, Senior Policy Specialist for Employment at Sida**, the MSD aims to tackle issues in the roots of their causes rather than only the visible symptoms, which could be in the form of regulations, behaviours, or business models. "An important part of MSD is the facilitation mechanism to create incentives and build the capacity of local actors, both public and private [...] so they can bring the change themselves", explained Montgomery.

According to the specialist, applying the approach to skills development programs could create more flexible and holistic educational systems. When looking at the skills gap with the MSD lens, "we would probably regard that as a symptom of a poorly functioning skills market," and to fill such a gap, it is necessary to look at the underlying causes. "The key question is really, why is there a skills gap? If there is a market demand for certain skills, why are those skills not provided by the skills market and why is the market not working?". For Montgomery, incentives for public and private actors must be considered, using the MSD approach to understand the broader context and address the real problem and generate a sustainable impact.

Elisabet Montgomery also underlined that the MSD approach, being explorative and innovative, can integrate environmental concerns and be a tool to explore new solutions for climate change. Innovative demand-driven skills must be incorporated into large-scale, flexible, and holistic educational systems.

## Key messages

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The MSD approach can solve development problems by curing the cause instead of the symptoms and stimulate flexibility and innovation in educational systems.



Local public and private actors must own the initiative to ensure the sustainability of impacts.



## INVESTMENTS FOR GREEN TVET



**Jonathan Lemisa**  
Training Coordinator  
at Hitachi Construction  
Machinery



**Cleophas Takaiza**  
Director-General of TEVETA

"Through partnerships with authorities [...] and agencies, we've been able to create an environment where with their infrastructure we can bring capital investment [...] and develop certain learning facilities that meet the minimum requirements", explained **Jonathan Lemisa, Training Coordinator at Hitachi Construction Machinery**. The **Director-General of TEVETA, Cleophas Takaiza**, echoed the thought as an essential step to strengthen the workforce's skills to ensure that developments are achieved.

Behavioural changes, including changes in attitudes and aspirations towards the greening of TVET, are the desired outcome. According to Takaiza, "green skills must be inherent in our training programmes," including the lectures themselves. "We must reorient our teacher training syllabus to ensure that we have green skills at that level."

Yet, funding is identified as a challenge for locals to access the demanded skills and knowledge. As Lemisa put it, "if we employ a number of experts who are coming from already developed nations [...] these people might have come with those skills already because they are coming from developed countries. However, at the moment we decide to nationalize these positions and empower our locals, then it means we also have to step in and provide them the necessary skills and knowledge".

# Questions from the audience



## Challenges in TEVETA

Cheophas Takaiza answered that most of the difficulties came from inadequate funding to the sector. TVET lacks the proper attention and awareness to attract the youth, who are mainly interested in attending universities for obtaining a white-collar job at a later point.

Additionally, the COVID-19 pandemic has hit the sector quite drastically as Zambia's learning methods were mainly based on face-to-face methods, posing a challenge for teachers to adapt to digital platforms.

## Key messages

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Public-Private Partnerships are key to narrow the skill gap in developing countries.



Empower local citizens and equip them with skills and knowledge, including green skills, for the future of work.



Green skills must be included in training curricula and train trainers to correctly deliver the programmes.



Repurpose investments to fund an attractive TVET system.

## WATER SECTOR, A DRIVER FOR GREEN JOBS



**Salma Kadiri**  
Project Management  
Specialist from USAID  
Morocco

**Salma Kadiri, Project Management Specialist from USAID Morocco**, alerted that the global water crisis impacts both disease rise and economic growth. Water scarcity increases the competition among users of different industries and the population, leading to conflicts. USAID and 17 other agencies came together and adopted a global water strategy in 2017 promoting sustainable access to safe drinking water and sanitation, as well as driving efforts for conflict resolution and strengthening the water sector through its workforce<sup>12</sup>.

**Greening industries is yet an essential steppingstone in the water sector, therefore requiring helping the existing workforce to skill their competencies, and "also training the new generation that will come to the market and equip them with the competencies that are environmentally friendly, and also, of course, respond to the labor market demand," emphasized Salma.**

Critical elements in developing such competencies are the aid of science to upgrade learning, technology (e.g., virtual reality), and up-to-date curricula fitted to the market needs.

Kadiri brought the example of the latest efforts to improve water management in Morocco. In the short-run, impacts include the training of professionals to apply resources management principles in the private or the public sector, thus upscaling the field's expertise and improving productivity. While long-term impacts include disseminating such principles among sectoral stakeholders and within the educational system to cultivate "the culture of green skills and better use of the water management all over Morocco, and maybe in other countries that are interested in adopting this model," concluded Salma Kadiri.

# Key messages

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Green solutions must be applied to industrial sectors to develop an inclusive and integrated water management system.



Forecast short-term impacts on scalability and long-term effects for replication.



Upgrade learning with science, technology, and adapt up-to-date curricula to develop green skills and competencies to meet market needs.



**H2O MAGHREB** is a Public-Private Development Partnership to equip the next generation of Moroccan water technicians with skills for a sustainable future of this critical natural resource



[H2OMaghreb](https://www.facebook.com/H2OMaghreb)

## EU GREEN DEAL DIPLOMACY

The European Union (EU) is set to reduce greenhouse gas emissions to at least 55% by 2030 and achieve climate neutrality by 2050. In a globalized world, these targets will impact how the EU will conduct international trade and cooperation, among other things. And being a well-known believer in multilateralism, the EU might have to adapt diplomacy strategies to achieve the set targets.

**Shada Islam, Managing Director of the New Horizons Project**, sheds light on the EU's role in climate diplomacy to foster low-carbon economies in developing countries. Shada explained that living in a multilateral world with a global green plan means that national governments and businesses, publicly and or privately owned, need to set-up partnerships to assist developing countries' growth through evidence-based actions. "There's a lot of potential for working together in partnership for climate change, but this needs to be a joint project," said Islam.



**Shada Islam**

Managing Director of the  
New Horizons Project

Regulations should be set to grant high environmental standards as restrictions will be applied on imports, and bans will control standards of actions. Moreover, the EU Green Deal can become an instrument to drive skills development programmes for green jobs and employment in partnership with local authorities. Global cooperation is a prerequisite towards the challenges we face to realize the 2030 agenda. According to Shada, the transition must begin from enabling access to education, designing new jobs and occupations, training women, which "[...] will be essential," and empowering them to grasp work opportunities for the future.

## Questions from the audience



### Integration between North Africa and the EU

Shada Islam emphasized how Europeans, as being the holders of funds, "need to be able to share [expertise] in an equitable manner with countries that are our neighbors," to "make sure that what we're doing doesn't turn into protectionism."

### Assisting developing countries in re-skilling and upskilling:

according to Shada Islam, this is a work in progress, and there is a lot of room for partner countries to draw up their agendas. Partnerships are the key.

## Key messages

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Global cooperation should drive regulatory mechanisms to grant high environmental standards and avoid incurring trade restrictions and bans.



Public-Private Partnerships must be evidence-based to assist developing countries in transition into the development stage.



The EU Green Deal as an instrument to drive skills development programmes for green jobs and green employment in partnership with local authorities

## GREEN BONDS VS. SOCIAL IMPACT BONDS

"Let's imagine. I am a government and I have a problem with youth unemployment. I want to fix this, but I find that simply paying for training is not enough - I keep training young people and they don't get jobs", started **Richard Johnson, Senior Advisor at the Global Fund and Senior Consultant at the World Bank.**



**Richard Johnson**

Senior Advisor at the Global Fund and Senior Consultant at the World Bank

"So, I decide that I want to pay for outcomes instead of [...] inputs [...] I want to pay only if a young person achieves employment and stays in that employment. So, I go [...] and I say to the providers: [...] I'm willing to pay 1,000\$ every time a young person finds a job, and I'm willing to pay another 2,000 if they are still in this job 6 months later. The service providers are interested in this. [...] it's demand-led strong vocational training.", continued Richard.

But "[...] where are they going to get the working capital from [...]? This is where social investors come in. [...]. This is their investment, so they need to protect it. [...] They will put in place [a strong] data [and performance] management system. [...] Once the program achieves the outcome, then the investors are repaid. That is essentially a social impact bond. [While] it's called a development impact bond when [...] a development actor, [...] pays for the outcome.", he concluded.

Richard and fellow speaker **Zach Levey, Executive Director of Levoca Impact Labs**, agreed that social investors are interested in Social Return on Investment (S-ROI). They will only invest in outcomes. Zach further stressed that social impact bonds, development impact bonds, and climate bonds are all result-based contracts, which can be integrated into developing and delivering green skills.



**Zach Levey**

Executive Director of Levoca Impact Labs

# Key messages



Development projects must focus on outcomes to attract investments and achieve long-term and sustainable impacts.



It's high time to crowd-in new investments for green technologies and increase market competitiveness.



Forecast results of development solutions must involve the appropriate stakeholders, co-create inclusive and sustainable solutions, and generate S-ROI.



Improving industrial vocational and technical training to accelerate the re-establishment of sustainable livelihoods in Syria

[Read the story](#)



# 04 CLOSING CEREMONY: UNIDO AND SIDA PARTNERSHIP ANNOUNCEMENT

UNIDO and Sida have collaborated on the delivery of demand-oriented industrial skills since 2012. On the occasion of the LKDF Forum 2020, the two Organizations officially renewed their willingness to cooperate and take the LKDF and its PPDPs to an even higher and more impactful level. The new LKDF strategy includes the already debated Market System Development (MSD) approach, a focused advocacy approach, and other novelties to be unveiled moving forward.

**"The Market System Development approach is important as a way to achieve greater impact"**



**Bernardo Calzadilla-Sarmiento**

Managing Director of the Directorate of Digitalization, Technology, and Agri-Business at UNIDO

confirmed Bernardo Calzadilla-Sarmiento, the Managing Director of the Directorate of Digitalization, Technology, and Agri-Business at UNIDO. Bernardo further emphasized how extremely important is the work conducted so far on deploying demand-oriented skills development programmes, consequently, promoting a successful partnership approach with the private sector. UNIDO is a proud supporter and facilitator of the PPDP approach, which has already delivered commendable impacts.

**Alan AtKisson, Assistant Director-General and Director of the Department of Partnership & Innovation from Sida**, also emphasized the eminence that building partnerships has in solving market challenges to achieve the Global Goals of the 2030 Agenda.



**"We're in the midst of a global transformation where everything has to become green and partly digital. So, without these processes [the LKDF] and without everybody working together, we're not going to get there", underpinned AtKisson.**

**Alan AtKisson**

Assistant Director-General and  
Director of the Department of  
Partnership & Innovation from  
Sida



**UNIDO and the Government of Uganda build Uganda's first training center for road construction equipment operators in Luweero**

[Factsheet](#)



**YOUTH RISING** strengthens the Liberian TVET sector in its capacity to deliver equitable and gender-balanced access to high-quality and demand-driven technical education

# **DAY 03**

# **PROCEEDINGS**



# 01 WELCOME REMARKS: UNIDO AND WORLD SKILLS PARTNERSHIP ANNOUNCEMENT

UNIDO and WorldSkills International have been partners for a very long time. Building on each other's knowledge and expertise, the two parties could capitalize on them and deliver projects and programmes. Early 2020, the two agreed to institutionalize their collaborative efforts. There was no better platform than the LKDF Forum 2020 to announce the partnership that will deliver on co-creation of the global skills development plan, including green and digital skills and more traditional technical competencies.



**Virpi Stucki**  
Business Partnership  
Officer at UNIDO



**Alexander Amiri**  
Director of  
Partnerships and  
Sponsorship at  
WorldSkills



**Dejene Tezera**  
Director of the  
Department of Agri-  
business at UNIDO

When **Virpi Stucki**, **Business Partnership Officer at UNIDO**, asked **Alexander Amiri**, **Director of Partnerships and Sponsorship at WorldSkills**, why they decided to partner with UNIDO, he said:

"WorldSkills International is very pleased and humbled to be partnering with UNIDO, with such a great big size, international, well known, recognized organization." "We are just naturally so close together with what we are aiming to achieve to create a better world, that it was just logical to us to invite UNIDO to join our constant debate on vocational education and training," continued Alexander.

Similarly, **Dejene Tezera**, **Director of the Department of Agri-business at UNIDO** told that "joining the WorldSkills Conference Coalition and its members is an opportunity for us to exchange experiences on how to prepare our beneficiaries for the future of work including the green jobs," stated.

Regarding the co-hosted and closed-door Design Thinking Workshop, Tezera emphasized that the interactive expert-led gathering is crucial to identifying delivery solutions for green skills development. "Identifying these needs correctly is a first step to design the upskilling programs, to mobilize support for partnerships and engage [...] with employees and enterprises."

# 02 DESIGN THINKING WORKSHOP: SOLUTIONS FOR GREEN SKILLS CHALLENGES

How to develop demand-oriented green skills curricula and training and measure the impacts are hunting questions of most of all, if not all, stakeholders involved in the development arena. Twenty participants agreed to embark on a design journey to try to solve our challenge in about 4-hours.



**Gabrielle Santa-Donato**  
Design Thinking Expert

**Gabrielle Santa-Donato, the Design Thinking Expert,** guided the experts in learning about and applying design thinking in the green skills development realm. But what is this new demanded skill named design thinking? It's a human-centric, hands-on, collaborative, and problem-solving oriented approach that encourages organizations to focus on the people they're creating for, which leads to better products, services, and internal processes. When we create a development project to solve local issues in developing countries, the first question should always be the human need behind it?

We realize that at some point, nobody will be able to opt-out of the greening process, which is going to have important effects on labour markets. As green technology dissemination will increase in the coming decades, new market niches will emerge and create demand for green jobs and related skills. Actions towards greening the economy and raising environmental awareness positively affect job creation, especially for developing countries. Appropriate skills (i.e., green skills) to build and use green technologies in various sectors are essential to enable and support transitioning towards more sustainable modes of production and consumption.

A significant challenge for all stakeholders involved in the skill development process is the **lack of consensus on what types of occupations and skills should be considered green.** Understanding the extent to which the transition to a green economy induces changes in the demand for green skills, and most importantly, which skills these might be, is crucial to inform policy interventions. A second precondition for practical green skills development programs is the **anticipation of training (and retraining) needs.**

# WHAT DID PARTICIPANTS COME UP WITH DURING THEIR BREAKOUT SESSIONS?

## 01



### Green Skills Challenge App

#### Why

Lack of consensus on what green skills are and where the information/resources/training is available.

#### How

1. Identify local needs
2. Involve the gaming industry
3. Leverage investments
4. Deliver green skills

## 02



### Green Skills Integrator

#### Why

Knowledge of green skills exist, but there is a lack of formalization.

#### How

1. Collect ideas
2. Channel them into the WorldSkills Competition
3. Create a dialogue about innovative & green skills
4. Seek feedback from companies, trainers, students
5. Competition starts awards, showcases, and raises awareness.
6. The new skills are adapted and integrated globally by TVET systems.



# 03



## Green Skills Campaign

### Why

Confusion about green skills definition.

### How

1. Launch a global awareness campaign
2. Apply emotional tones to involve ALL stakeholders
3. Prompt behavioral change

# 04



## Green Skills Classifier

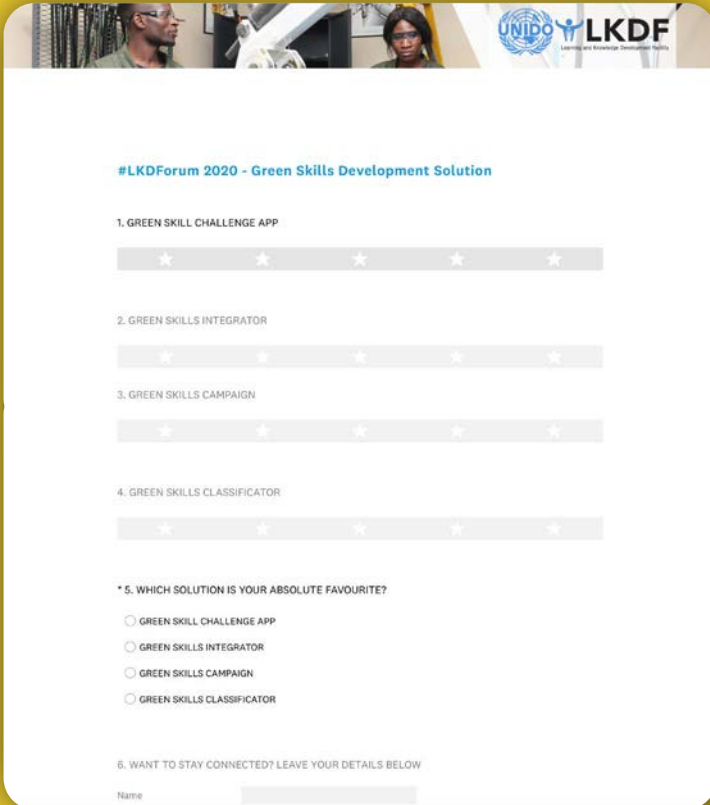
### Why

1. Why do young people need green skills?
2. Why do policymakers need to invest in green skills?
3. Why is a global classification needed?
4. Why do we need global dialogue to understand the benefits?

### How

A *Green Skills Index* to map data, create a database, monitor activities, deliver quality training.

# WHICH SOLUTION WOULD YOU LIKE TO SEE DEVELOPED IN A FULL-FLEDGED PROGRAMME?



The screenshot shows a survey form with the following content:

**#LKDForum 2020 - Green Skills Development Solution**

1. GREEN SKILL CHALLENGE APP

★ ★ ★ ★ ★

2. GREEN SKILLS INTEGRATOR

★ ★ ★ ★ ★

3. GREEN SKILLS CAMPAIGN

★ ★ ★ ★ ★

4. GREEN SKILLS CLASSIFICATOR

★ ★ ★ ★ ★

\* 5. WHICH SOLUTION IS YOUR ABSOLUTE FAVOURITE?

GREEN SKILL CHALLENGE APP

GREEN SKILLS INTEGRATOR

GREEN SKILLS CAMPAIGN

GREEN SKILLS CLASSIFICATOR

6. WANT TO STAY CONNECTED? LEAVE YOUR DETAILS BELOW

Name

**Cast your vote here**

[LKDF Forum 2020](#)

## Forum on demand

[Watch the entire LKDF Forum 2020 on the UNIDO LKDF YouTube channel](#)

## Green skills report

[Read our analytical paper on Green Skills for a Sustainable Future](#)

## News

### UNIDO

- [LKDF Forum 2020: innovative ways to identify and invest in green industrial skills for the future of work in a post-pandemic world](#)
- [WorldSkills and UNIDO to advance skills development](#)

### EUROPEAN TRAINING FOUNDATION

- [ETF and UNIDO formalize partnership to promote green skills and sustainable development](#)
- [euneighbours.eu - European Training Foundation and United Nations Industrial Development Organization formalize partnership to promote green skills and sustainable development](#)

### WORLDSKILLS INTERNATIONAL

- [CSR EGYPT - UNIDO, WorldSkills team up to promote learning opportunities for all](#)
- [WorldSkills and UNIDO to advance skills development](#)

### IMPAKTER

- [The Green Skills Revolution: Preparing the Future Workforce](#)
- [LKDF Forum Day 1: How the Pandemic Will Affect Green Skills](#)
- [LKDF Forum Day 2: Green Companies Providing Green Jobs](#)
- [LKDF Forum Day 3: Taking Action in Government](#)

FESTO DIDACTIC - [Dr. Nader Imani | LKDF Forum 2020](#)

HUAWEI EUROPE - [“AI KEY TO TACKLE CLIMATE CHANGE”](#)

# ANNEX II: #LKDF4INDUSTRY INI-

## The voice of industries

[Watch what industries have to say about their COVID-19 measures](#)

## UNIDO - ETF Global Observatory

[Read the findings of the exploratory analysis about the impact of COVID-19 on the demand for new industrial skills](#)





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