

**Report on the
National TVT Digitalization Framework Implementation Plan, and
IT Infrastructure and Digital Skills Standards**

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1. Background

The Technical and Vocational Training (TVT) sector has long been considered as a cornerstone of Ethiopia's industrialization, employment creation, and inclusive growth agenda. Several initiatives, policies and strategic plan have been designed and enormous efforts have been undertaken. However, to meet the needs of a rapidly evolving digital economy, the sector must modernize its delivery systems, particularly quality and relevant curriculum and equitable access through technology-enabled learning.

The Ministry of Labor and Skills (MoLS) of the Federal Democratic Republic of Ethiopia (FDRE) has developed a national policy for Blended Learning for TVT (BL4TVT) in 2023, which is aligned with the latest national TVT and digital 2030 strategies and other sectoral and national development plans. The policy has five pillars, namely the E-Learning technologies, pedagogy and instructional design, evaluation of effective learning, institutional support and governance, and PPP and TVT-Industry linkage. Subsequently, a policy implementation roadmap was developed.

Moreover, an implementation strategic plan i.e. a strategic framework, with details of deliverables, budget and responsibilities of stakeholders was necessitated. This strategic framework outlines a comprehensive implementation plan for the BL4TVT policy and the governance digitalization of the TVT sector in Ethiopia. Effective implementation of the BL4TV policy requires a holistic fundamental capacity development, mainly TVT IT infrastructure, management process, digital skills and defining the role of public-private partnership and industry-TVT linkage.

This report briefly highlights two major accomplishments of Ministry of Labour and Skills (MoLS) in TVT digital transformation process. The first important milestone is the national TVT digital transformation framework and the implementation plan including institutionalization and budget plan. The second milestone is setting standardized requirements of IT infrastructure and digital skills for the implementation of BL4TVT policy formulated to enhance digital transformation in the national TVT sector. All these supports the digital infrastructure and technology integration that enhances the digital capacity development of TVT institutions.

These outcomes have been possible due to active and close follow up of the top management of MoLS, under the leadership of the Deputy Minister and the management of FTI. The ad hoc TVT digital team consisting of senior experts from MoLS and FTI have also greatly contributed.

2. Objectives and Deliverables

2.1. Objectives

Major objective of engagement of the senior E-Learning consultant was to complete the development of the TVT digital strategic framework and refined implementation roadmap for the BL4TVT policy, with which MoLS can commence with capacity development and enter into the desired digital TVT deployment.

Specific objectives were:

- a. Refine the Digital TVT strategic framework
- b. Revise the B4TVT implementation roadmap, and institutionalization (Unit structure) of digital TVT
- c. Set requirements and minimum standards for the IT infrastructure and digital skills necessary for the implementation the BL4TVT and digital TVT transformation.

2.2. Tasks and Deliverables

Based on the set of objectives formulated above, concrete tasks and deliverables were highlighted. The timeline for the deliverables was envisaged from mid-July to early November 2025. Therefore, the consultant has started with planning the tasks and resources required for the accomplishment of the following deliverables.

1. TVT Digitalization Framework
2. BLTVT implementation roadmap and institutionalize a unit structure
3. Minimum TVT IT infrastructure and digital skill standards
4. Presentation slides,
5. Endorsed the Framework, standards and implementation plan
6. Report on the overall accomplishments

3. Accomplishments

There are three major tasks accomplished during the consulting agreement period. These are working out the national TVT Digitalization Framework and implementation plan; setting requirements and standards for the TVT IT infrastructure and digital skills and refining BL4TVT Implementation

Roadmap. While the first two were part of the contractual agreement, the second was included due to the fact that the implementation plan shall consider the policy implementation roadmap.

3.1. Tasks 1: National TVT Digitalization Framework and implementation plan

The National TVET Digitalization Strategy establishes a coherent framework for transforming TVET through the use of digital technologies, with a focus on ensuring relevance, quality, inclusiveness, and sustainability. The strategy builds on the Blended Learning for TVT (BL4TVT) initiative and aligns with Digital Ethiopia 2030 (the national digital transformation strategy), the National TVT Strategy, the Ten-Year Development Plan, and the Education and Training Policy.

The implementation plan is designed to strengthen BL4TVT by digitalizing all TVT modules currently offered—or planned to be offered—across TVT institutions in Ethiopia.

Key activities include:

- Translate the BL4TVT policy into strategic plan and actionable implementation plan,
- Explicitly indicate actions to be undertaken for the effective implementation,
- Allocate necessary resources, mainly training-learning technologies,
- Ensure sustainable digital TVT development , and
- Monitor and evaluate performances

Major accomplishment of the Development of the National TVET Digitalization Strategy and Implementation Plan, encompasses:

Goal 1: ***Adopting Digital Blended Learning:*** All formal and Short-term TVT programs are digitalized, delivered and assessed in blended learning system

Goal 2: ***Integrating Digital Assessment:*** All sorts of competency assessments are digitalized and integrated in the TVT systems.

Goal 3: ***Implementing Integrated TVT Enterprise Resource Planning (ERP) System:*** Digitalize all TVT management services and products.

Goal 4: ***Maintaining Governance and Partnership:*** Data and resource governances at all levels and key partners are effectively coordinating.

Efforts have been made to estimate the resources required—including human resources, infrastructure, and other essential inputs—for the effective implementation of BL4TVT and the broader digital transformation of the TVT sector. Budget estimations are based on 2017 E.C. market prices; however, these may vary due to the Macroeconomic Adjustment Policy. Final budget plans and resource

mobilization strategies will be refined through consultation and critical reflection with key stakeholders.

3.2. Task 2: BL4TVT Implementation Roadmap

Cognizant of the importance of the holistic approach to the implementation of the BL4TVT policy the consultant has revisited, reviewed and updated the implementation roadmap and institutionalization.

a. Implementation Roadmap

The roadmap underscored a phased digitization of modules and the BL4TVT program designed as a five-year plan, i.e. from 2018 to 2022 E.C. This program is deliberated as an implementation scheme of the BL4TVT policy and strategic plan, as well as part of the overall TVT digital transformation Strategic Plan of the MoLS. The Plan broadly consists of the digital content development (digitalization of all TVT modules), establishing and effective use of a national resource centre (Centre of Excellence), and the establishment of a special BL4TVT unit to coordinate the overall TVT modules digitalization, the digital resource centre and implementation of the BL4TVT throughout Ethiopia, (which may grow to an autonomous BL4TVT Institute).

The team has identified approximately 90 modules fall under three categories: agriculture TVT as a special development sector, all modules delivered within regular TVT institutions, and short-term training modules for out-of-school youth. Moreover, a practical implementation roadmap with short-, medium-, and long-term milestones, detailing roles and responsibilities, estimated budgets, funding strategies, and risk mitigation measures

b. Institutionalization

For the effective implementation of the BL4TVT policy and the national digital TVT framework, a dedicated unit has been established. This unit is institutionalized across all levels, from the Federal Ministry of Labour and Skills (MoLS-FTI) down to regional TVT offices and individual TVT institutions.

The framework emphasizes both the resources required and the sustainability of the unit. To lead this initiative, MoLS and FTI have mobilized their experts and set up the first digital unit, housed at the FTI Digital TVT Development Centre. Clear functions, activities, and job descriptions for the experts have been defined, enabling the unit to begin coordinating the implementation of the BL4TVT strategic framework.

In the next phase, similar structures will be progressively rolled out at regional and institutional levels, ensuring a coherent and unified approach nationwide.

3.3. Task 3: TVT Digitalization Standards

Key achievements under this task include

1. IT Infrastructure Requirements and Standards

The development of minimum ICT infrastructure standards aims to establish a uniform baseline for digital readiness and capacity across all levels of the TVT system—national, regional, and institutional. These standards define the essential technological components and services required to effectively implement the BL4TVT policy and support the broader digital transformation of the sector. The process involves:

- a. Assessing existing infrastructure gaps in connectivity, hardware, software, and digital learning platforms across TVT institutions.
- b. Setting clear benchmarks for minimum ICT requirements—covering internet bandwidth, network reliability, computing devices, digital classrooms, servers, and power backup systems.
- c. Ensuring scalability and interoperability, so that the digital systems at institutional, regional, and national levels can function cohesively and evolve with emerging technologies.
- d. Promoting equity and inclusion, by guaranteeing that all TVT institutions, regardless of location or resource capacity, can meet a minimum digital standard to ensure consistent learning experiences.
- e. Providing a foundation for monitoring and resource planning, enabling MoLS, FTI, and regional offices to allocate resources efficiently and guide future ICT investments.
- f. Ultimately, these standards serve as a strategic tool to harmonize infrastructure development, improve quality assurance, and ensure that the TVT system nationwide is adequately equipped to deliver effective, technology-enabled training and learning.

Major accomplishments are:

- Defined tiered infrastructure requirements, which could be considered as a de facto standards at national, regional, and institutional levels.

- Specified requirements for connectivity, power, hardware, software, ICT-enabled classrooms, and data security.
- Established minimum digital skills benchmarks for leaders, managers, trainers, trainees, and ICT staff.
- Implemented governance, compliance, and monitoring mechanisms for continuous improvement.

2. Digital Skills Requirements and Standards

Defining minimum digital skills standards for various roles within the TVT ecosystem is a critical step toward ensuring that all personnel—administrators, instructors, and learners—possess the competencies required to effectively participate in and sustain the digital transformation process. The main focuses were on establishing a clear framework that outlines the digital competencies expected at different levels of responsibility and function. The process involves:

- a. Mapping key roles within the TVT system, including policymakers, institutional leaders, trainers, ICT support staff, and learners.
- b. Identifying essential digital competencies for each role, such as basic computer literacy, use of e-learning platforms, digital content development, data management, online assessment, and cybersecurity awareness.
- c. Classifying skill levels (basic, intermediate, and advanced) to guide tailored capacity-building and training interventions.
- d. Aligning standards with national digital literacy frameworks, international best practices, and the practical requirements of the BL4TVT policy.
- e. Integrating the standards into TVT professional development programs, ensuring continuous upskilling and sustainability of digital transformation efforts.
- f. Ultimately, these digital skills requirements and standards will serve as a benchmark for capacity development, recruitment, and performance evaluation within the TVT sector, ensuring that all actors are digitally competent and able to deliver high-quality, technology-enabled vocational education and training

3. Cascading responsibilities

Implementation responsibilities have been systematically cascaded from MoLS and FTI to regional TVT offices, and further down to TVT institutions to ensure coordinated and effective execution at all levels.

While maintaining the standard, the framework has also allocated the responsibilities at national, regional, and institutional levels.

- At the national level, priorities include centralized ICT procurement, cybersecurity, and data management policies; the rollout of core platforms such as a national Learning Management System (LMS), TVT Management Information System (TMIS), digital content repository, and competency-based assessment tools; and the establishment of secure national data centers. These systems will be complemented by role-specific capacity building for leaders, trainers, and IT professionals.
- At the regional level, authorities will bridge national strategies with institutional realities by strengthening localized ICT infrastructure, building leadership capacity in governance and innovation, and coordinating institutional training and support.
- At the institutional level, the focus is on ICT-enabled learning environments, including smart classrooms, computer labs, and campus-wide connectivity. Leaders will benefit from administrative automation and data-driven decision-making, while trainers will gain digital pedagogy and online facilitation skills. Trainees will be equipped with digital literacy, collaboration, and occupational ICT competencies, reinforced by cross-cutting soft skills such as teamwork, ethics, and self-directed learning

3.4. Endorsement

The BL4TVT policy and implementation roadmap were developed in 2023. The policy formulation process began with an inception concept and was subsequently endorsed through a stakeholder validation workshop. During this period, the implementation roadmap was further refined to ensure clarity, relevance, and feasibility. The policy had been finalized after the validation workshop on Mon 26 June 2023.

Similarly, the National TVT Digitalization Framework was designed and developed in 2024 by a team of experts. The Framework was informed by a comprehensive gap assessment involving more than 330 participants, including trainers, managers, and trainees. The final version was presented to

TVT regional office management and experts at MoLS, and the implementation plan was also introduced during a session in Bishoftu workshop on Digital TVT for all stakeholders. Valuable and reflective feedback was gathered and incorporated into the Framework, ensuring its practicality and alignment with sector needs.

The IT Infrastructure and Digital Skills Requirements and Standards were developed by a group of experienced experts with extensive experience in TVT, digital training, IT infrastructure management, and data center administration. Much of the content was derived from national practices identified through a large-scale survey.

Most importantly, top management and senior experts (advisors) closely followed the development of all these documents and provided insightful feedback throughout the process. As a result, MoLS leadership endorsed the thoroughly reviewed documents and moved promptly into the implementation phase. To this end, a dedicated Digital TVT team has been established, composed of members from MoLS and FTI. The management is fully committed to cascading roles and responsibilities to regional TVT offices and TVT institutions as the next step in the rollout.

3.5. Milestones

The following milestones summarize the major outputs delivered during the consultancy:

- Preparation of a detailed Work Plan.
- Refinement of the TVT Digitalization Framework and Implementation Plan
- Development of the BL4TVT Implementation Roadmap
- Compilation of IT Infrastructure minimum Standards.
- Identification of Minimum Digital Skills Requirements.
- Preparation of a presentation slide deck summarizing the strategy and implementation plan.
- Submission of a Final Report including recommendations and lessons learned.

4. Concluding Remarks

The National TVT Digitalization Framework sketches a forward-looking strategy to modernize Ethiopia's TVT system—aligning it with 21st-century employable skills, labor market needs, and the national digital transformation agenda. By addressing challenges such as outdated training methods and limited IT infrastructure, the Framework seeks to enhance access, quality, and equity in TVT delivery through digital innovation.

Comprehensive discussions involving top management, experts, and stakeholders have been undertaken, resulting in strong commitment and motivation across MoLS and regional TVT offices. These conditions provide a solid foundation for driving digital transformation in the national TVT system.

Lessons Learned

The BL4TVT is purely an innovative way of designing and developing the digitalizing TVT curriculum, which is different from recycling the existing systems. It is quite a new pedagogical system, enhanced by new multimedia content development approach, shared IT infrastructure, namely Data center that host standardized shared repository of quality, relevant and equitable digital TVT modules, National LMS, and digital assessment.

To sustain the digital TVT transformation we should also rethink digitalization of the management process at all levels through adopting Digital TVT MIS or Enterprise Resource Planning (ERP) system. Resource governance, collaboration with industry and public-private-partnership are new phenomena. Moreover, we have learned that, we need to set up a new institution lead by autonomous high level management council and professional technical experts.

Recommendations and Next Steps

The consultant recommends the following actions (huge tasks) to ensure sustainability and full-scale implementation:

1. Institutionalize and sustain the National Digital TVT / BL4TVT Policy and Strategic Framework by integrating them into MoLS's annual, five-year, and ten-year plans—as well as those of FTI, regional TVT offices, and institutions. This includes establishing a National Digital TVT Centre (Institute) accountable to top management and integrated across all levels.
2. Set a clear vision and design a robust policy for implementing high-quality, contextually relevant, and equitable digital TVT content, complemented by a digital assessment system that accurately measures learning outcomes.
3. Allocate sufficient resources—acknowledging that quality digital transformation requires significant investment in technology, infrastructure, and human capital.
4. Adopt a holistic digital transformation approach, encompassing not only training and learning but also the management processes and governance systems.
5. Establish a monitoring and evaluation mechanism to continuously assess implementation progress and ensure accountability at all level.