



Chamber of Commerce, Industry &  
Agriculture in Sidon and South Lebanon

# CCIAS

## CNC Training Program

### FINAL Report

From 01-March-25 till 31-December-2025

**Prepared for:** ICU

**Program:** CNC Machines & Steel Laser Cutting Training

**Implemented by:** Chamber of Commerce, Industry, and Agriculture in Sidon & South Lebanon (CCIAS)

**Funded by:** Agenzia Italiana per la Cooperazione allo Sviluppo (AICS)

**Date:** 31 DECEMBER 2025



## **1.Executive Summary**

Lebanon is currently facing a multifaceted crisis marked by economic collapse, political stagnation, social unrest, and high unemployment—issues rooted in part in the country's longstanding energy mismanagement. Approximately half of Lebanon's public debt (ISPI, 2020) has resulted from decades of inefficient, politicized energy administration, culminating in the country's financial default in 2019. Any realistic development trajectory for Lebanon must address this crisis through sustainable energy solutions that support economic recovery and employment generation.

The **TESSA Project**, funded by the **Italian Agency for Development Cooperation (AICS)** and co-funded by the **Government of Monaco**, is implemented by **ICU – Istituto per la Cooperazione Universitaria**. It aims to drive the energy transition as a catalyst for inclusive economic growth, job creation, and environmental sustainability. The project is carried out in partnership with local institutions, including **CCIAS (Chamber of Commerce, Industry and Agriculture in Saida and South Lebanon)**, with the goal of developing green businesses, enhancing workforce skills, and supporting the regulatory framework for sustainable investment.

This Final report focuses on the technical training component of TESSA, specifically the **CNC Training Machine Program at CCIAS**. The machines were provided by ICU under the TESSA Project, based on a labor market needs assessment conducted by the Chamber of Commerce, Industry, and Agriculture in Sidon and South Lebanon (CCIAS).

The program aims to build skills in CNC machine operation using **SolidWorks software** and to strengthen **financial literacy & Digital Marketing** among participants. Since March 2025, training activities have included sessions on 2D & 3D modeling, CNC fundamentals, Financial and Marketing tailored to participants seeking employment or launching small-scale manufacturing enterprises.

Initial data show encouraging participation and engagement with a diverse group of youth and professionals enrolled. This report presents both quantitative metrics (e.g., education levels, prior technical knowledge, session attendance) and qualitative insights (participating goals, emerging challenges) to guide the next phases of implementation.



## **2. Project Overview**

- **Project Title:** TESSA Project – CNC Steel Machines Training Workshop
- **Duration:** Initiated in March 2025 till the end of August 2025
- **Location:** CCIAS, Saida
- **Key Objective:** Equip young individuals, aspiring entrepreneurs and employees with hands-on technical skills in CNC machine operation and practical knowledge to enhance employment opportunities and support self-employment ventures.
- **Main Target:** 60 Beneficiaries

**After the project’s official completion, the Chamber of Commerce maintained the implementation of training activities until the end of December, reinforcing continuity in skills development and maximizing the project’s long-term impact.**

### **Strategic Goals:**

- Bridge the gap between technical education and job market needs
- Provide foundational and intermediate training in CNC-related skills
- Introducing participants to business planning, financial literacy, and marketing strategies

The project is structured in stages, starting with foundational training, followed by hands-on machine workshops, and later integrating entrepreneurship components. Monitoring and evaluation are ongoing to ensure adaptive programming and responsiveness to participant needs.

## **3. Objective & Activities Summary**

<b>Key Objective</b>	<b>Activities</b>	<b>Definition</b>	<b>Indicators</b>	<b>Source of Verification</b>
Enhance technical and business skills	SolidWorks introduction, CNC basics, Financial Literacy, Digital Marketing	Participant engagement, knowledge acquisition, technical skill level	Number of completed workshops, attendance rates, participant feedback, skill assessments	Attendance sheets, session evaluation forms, facilitator reports

### **Progress So Far:**

- Several sessions have been delivered on SolidWorks and CNC basics.
- Four groups have successfully completed their training. (1 March till 31 December 2025)



Groups	Number of Sessions	Number of hours (3h/Session)
A	9	27
B	10	30
C	11	33
D	9	27
E	10	30
F	8	24
1	11	33
2	11	33

- Participants are actively engaging in hands-on practice sessions
- Post-assessments are planned to track learning outcomes
- Training Evaluation Feedback collected will indicate high interest in continuing to advanced modules

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#### **4. Reporting on results achieved (Final Report)**

**(Based on Participants Who Started in Groups)**

This section presents a comprehensive overview of participant demographics, motivations, and preparedness, based on registration data and initial session observations. It also provides a summary of achievements during the reporting period and cumulative outcomes since the inception of the CNC Training Program.

##### **Enrollment and Participation**

During the initial registration phase, the program received **87 applications**. From this pool, **64 participants** were selected and enrolled, distributed across **four structured training groups**, while the remaining **23 applicants** were placed on a **standby list** for future cycles.

Following the successful completion of training by these four initial groups, a second call for registration was launched to further strengthen participation. This phase generated **17 new applications**, of which **20 participants** were organized into **two additional groups** that began training in **early June**.

During the **final registration phase in October 2025**, the program received **25 confirmed applicants**, along with **two candidates placed on standby**. These participants were divided into **two training groups**, with sessions conducted from **October through December 2025**.

##### **Achievements and Certifications**



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A total of **111 participants** began training across all program groups. Of these, **80 participants** successfully completed the CNC Training Program and obtained certification, exceeding the initial project target of **60 certified beneficiaries**.

Among the certified participants, **15 trainees** progressed further and achieved certification in the **CNC Advanced Training** level, demonstrating strong technical advancement and program impact.

Only a limited number of dropouts were recorded throughout the training cycles, reflecting the **high level of commitment, motivation, and engagement** of participants.

### Program Structure and Outcomes

The creation of **six structured cohorts** has ensured effective participant engagement, targeted instruction, and efficient monitoring of learning outcomes. This structured approach not only facilitated strong completion rates but also provided a clear pathway for participants to progress from foundational to advanced training levels.

The program's achievements to date can be summarized as follows:

- **Total applicants:** 127
- **Total participants enrolled:** 111
- **Total certified (CNC Training):** 80
- **Certified in Advanced Level:** 15
- **Program target achieved and exceeded** (initial target: 60 certifications).

### Sustainability and Future Outlook

The presence of a standby list ensures a **sustainable pipeline of interested candidates** for future training cycles. The progressive structure, combined with demonstrated participant motivation, highlights the program's effectiveness and provides a strong foundation for ongoing vocational training initiatives.

**The following analysis focuses exclusively on the 84 participants who began training in groups, encompassing those who completed, dropped out, or are currently in progress.**

- *The first Registration Form Link:*

[CCIAS - CNC Workshop Registration Form](#)

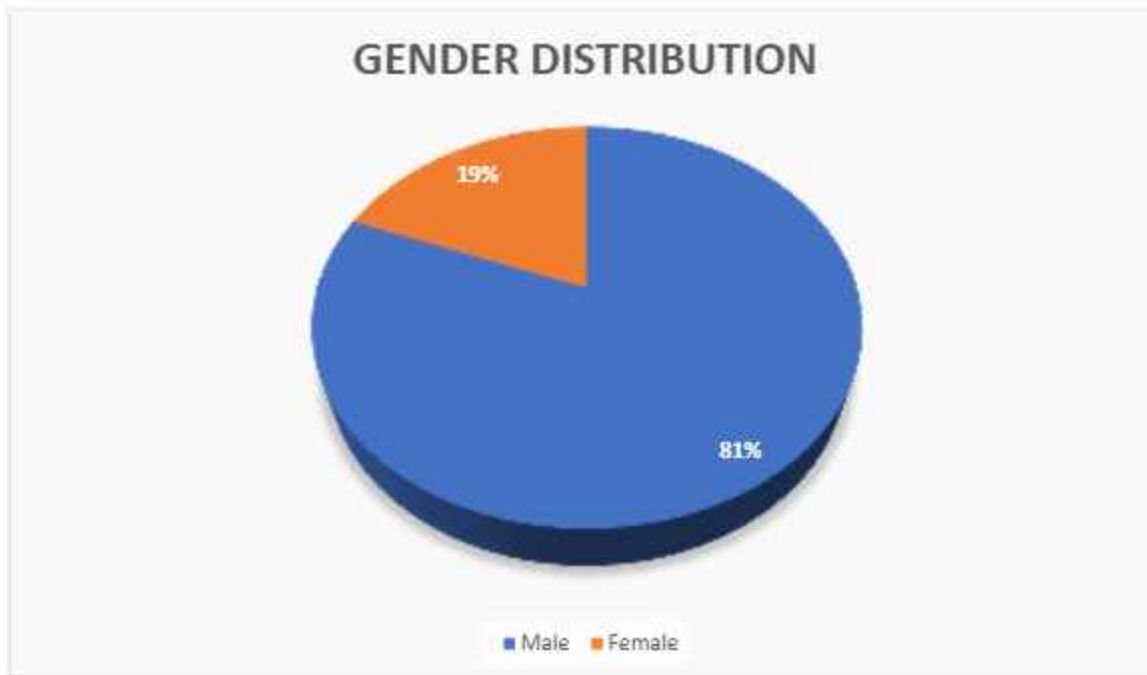
- *Google Drive Link:*

[CCIAS - CNC Training Workshop 2025](#)



In [the Google Drive link](#), you will find all the necessary information and documentation related to the training, including attendance sheets, recorded training sessions, photos, training materials, and more.

## 4.1 Gender Distribution



**Male: 90 participants (81%)      Female: 21 participants (19%)**

The program engaged a total of **111 trainees** across all training groups. Of these, **90 participants (81%)** are male, while **21 participants (19%)** are female.

This distribution continues to reflect traditional gender representation in technical and industrial training fields. However, the increased participation of **female trainees** in the final intake indicates a **positive upward trend in female engagement**, highlighting growing interest and potential for **greater gender diversification** in CNC-related career pathways.

## 4.2 Ages Distribution Analysis

Age Range	Number of Participants
15–19	10
20–24	40
25–29	12
30–34	8



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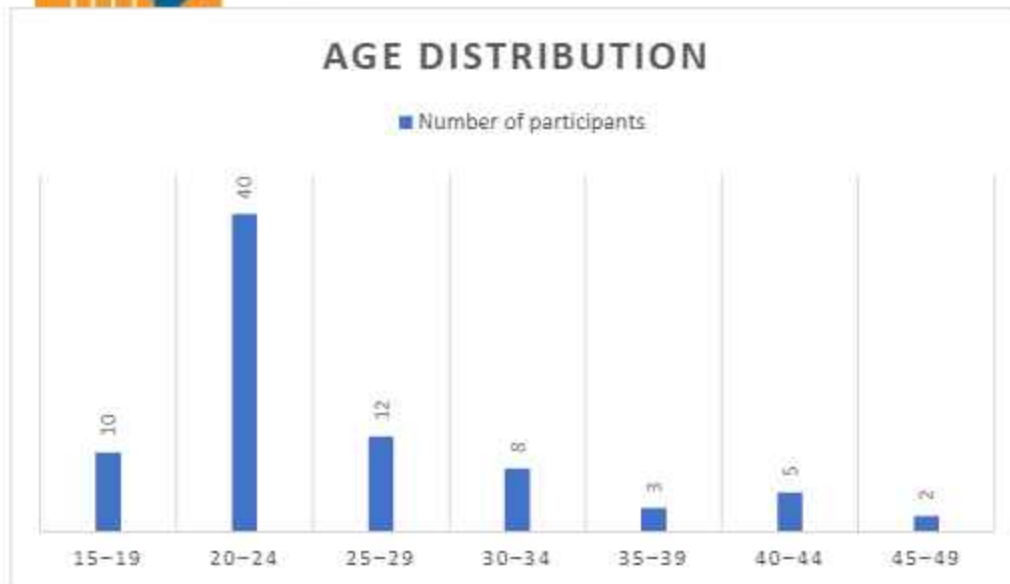
35–39	3
40–44	5
45–49	2

The age distribution of the **80 certified participants** in the CNC training program demonstrates a strong concentration of young adults, confirming the program’s effectiveness in attracting youth to technical and vocational education. Participants aged **20–24 represent the largest group (50%)**, highlighting substantial interest among young people who are entering the labor market or actively building industry-relevant skills in advanced manufacturing.

In addition, **15% of participants are aged 25–29**, indicating meaningful engagement from early-career individuals seeking to enhance their technical competencies and improve employment prospects. Participants aged **30–34 account for 10%**, reflecting continued participation from individuals pursuing professional development and specialization within the industrial sector.

Notably, **12.5% of certified participants are aged 35 and above**, underscoring the program’s inclusivity and relevance for experienced professionals committed to lifelong learning, reskilling, and adapting to evolving CNC and digital manufacturing technologies.

Overall, this balanced age distribution—spanning participants from their late teens to late forties—demonstrates the CNC training program’s broad appeal and impact. The program successfully supports both new workforce entrants and seasoned professionals, contributing to the development of a skilled, adaptable, and future-ready manufacturing workforce.



This trend reflects the growing demand for hands-on technical training among youth aiming to enhance their employability and practical expertise. The data underscores the relevance and appeal of the program for early-career individuals. To build on this momentum, offering advanced modules, internships, or industry partnerships would be beneficial in supporting their continued growth and professional integration.

### **4.3 Prior Technical Experience**

#### **Experience in AutoCAD or Similar (SolidWorks)**

A substantial portion of participants report some prior exposure to design software like AutoCAD, but few have practical CNC experience. The curriculum has been adapted accordingly to ensure foundational content is accessible to all while allowing more advanced learners to proceed at a quicker pace.

### **4.4 Educational Background**

#### **(Based on 111 applicants)**

The analysis of the educational and professional backgrounds of the **111 applicants** to the CNC training program indicates a diverse cohort, with a strong dominance of youth and early-career individuals, alongside meaningful participation from employed professionals, freelancers, and business owners.

**Students represent the largest group, accounting for 48% (53 applicants).** This strong representation highlights the program's appeal to individuals who are still in education and seeking practical, industry-relevant skills to enhance their employability and facilitate a smoother transition into the labor market.



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**Employees constitute 23% (25 applicants)**, reflecting interest from individuals already engaged in the workforce who aim to upskill, reskill, or expand their technical competencies in response to evolving industrial and manufacturing demands.

**Freelancers account for 16% (18 applicants)**, demonstrating the relevance of CNC skills for independent professionals seeking to diversify their services, increase income opportunities, or transition into higher-value technical work.

**Business owners represent 8% (9 applicants)**, indicating engagement from entrepreneurs who view CNC technology as a strategic tool to improve production capacity, innovation, and competitiveness within their businesses.

Additionally, **5% of applicants (6 individuals)** identify with **dual professional roles**, including *Student & Freelancer*, *Student & Employee*, and *Business Owner & Freelancer*. This group reflects flexible and hybrid career pathways, highlighting the growing trend of multi-skilled individuals combining education, employment, and self-employment.

Overall, this distribution underscores the CNC training program's **broad appeal and inclusivity**, successfully attracting students, workers, independent professionals, and entrepreneurs. The diversity of backgrounds confirms the program's strong alignment with labor market needs and its role in supporting workforce entry, professional advancement, and entrepreneurial development within the manufacturing and industrial sectors.

### 4.5 Level of Education & Field of Study

(Based on 111 applicants)

Education Level	Number of Participants	Percentage (%)
Bachelor's Degree	64	57.7%
Master's Degree	21	18.9%
Technical School	16	14.4%
Currently Undergraduate / Still Studying	5	4.5%
University (not specified)	3	2.7%
Ph.D	2	1.8%
<b>Total</b>	<b>111</b>	<b>100%</b>



Field of Study	Participants
Engineering	75
Business	14
IT / Computer Science	7
Designing	4
Handicrafts	4
Handicrafts (Accessories)	1
Accounting	1
English Literature	1
Education (Science/Biology)	1
Mechanical (Automotive / Technical)	2
Electronics	1

### Education Level of Participants

The educational background of the 111 applicants indicates a predominantly university-educated cohort. The majority of participants hold a **Bachelor's degree (57.7%)**, reflecting strong academic foundations and readiness for advanced technical and professional training. This is complemented by a significant proportion of **Master's degree holders (18.9%)**, suggesting that nearly one-fifth of the applicants possess advanced academic qualifications and may seek specialized or upskilling opportunities rather than entry-level training.

Participants from **technical schools account for 14.4%**, demonstrating the program's reach among vocationally trained individuals who are closely aligned with hands-on and practical skill development. Additionally, **4.5% of applicants are currently undergraduate students**, indicating interest from individuals still in the process of completing their higher education and seeking early exposure to applied training.

A smaller segment includes applicants with **unspecified university education (2.7%)** and **Ph.D. holders (1.8%)**, highlighting a diverse academic spectrum. Overall, the education profile reflects a balanced mix of academic and technical backgrounds, positioning the program to effectively serve both theoretically trained and practice-oriented participants.

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### Field of Study of Participants



The field of study distribution shows a strong concentration in **Engineering**, which represents **approximately two-thirds of all participants (75 applicants)**. This dominance aligns closely with the technical and applied nature of the program, particularly in areas related to manufacturing, mechanics, and industrial skills.

**Business-related fields constitute the second largest group (14 participants)**, indicating notable interest from individuals seeking to complement managerial, entrepreneurial, or commercial expertise with technical competencies. This interdisciplinary mix supports the development of well-rounded profiles capable of bridging technical execution and business decision-making.

Participants from **IT and Computer Science (7 applicants)** form a meaningful subgroup, reflecting the growing convergence between digital technologies and industrial systems. Smaller yet relevant groups include **Designing (4 participants)** and **Handicrafts (5 participants in total)**, suggesting creative and craft-based interests that may benefit from technical fabrication and production skills.

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## Overall Interpretation

Collectively, the data demonstrate that the applicant pool is **highly educated, technically inclined, and multidisciplinary**. The strong presence of engineering and university-educated participants ensures technical depth, while the inclusion of business, IT, creative, and vocational backgrounds adds strategic, digital, and practical dimensions. This combination positions the program to support **innovation, employability, and applied skill transfer** across multiple sectors.

### 4.6 Motivation for Attending the workshop

Based on a **clean count of the 111 motivation entries you provided (multi-response allowed)**, here is a **numerical analysis with clear indicators, participant counts, and percentages**. Percentages are calculated **out of 111 applicants**, and totals exceed 100% because applicants selected multiple motivations.

Motivation Category	Number of Participants	Percentage
Start a new business	60	54.1%
Improve skills for current job / future job	46	41.4%
Learn for academic purposes	45	40.5%



Motivation Category	Number of Participants	Percentage
Personal interest / self-development	44	39.6%
Find a new job / job security	2	1.8%

## Key Analytical Insights

### 1. Entrepreneurship as the Leading Motivation

With **54.1%** of applicants expressing interest in **starting a new business**, entrepreneurship emerges as the **dominant motivation**. However, this goal is **rarely isolated** and is most often paired with skill development and academic learning—indicating **intentional, preparedness-driven entrepreneurship**.

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### 2. Strong Employment & Skills Orientation

- **41.4%** aim to **improve skills for their current or future job**
- Many explicitly reference **job security, career advancement, or employability**

This confirms the program's strong positioning as a **workforce upskilling intervention**.

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### 3. High Demand for Academic & Structured Learning

- **40.5%** cited **learning for academic purposes**
- Frequently linked to:
  - CV enrichment
  - Skill formalization
  - Business readiness

Participants clearly value **structured, credible learning pathways**, not only informal training.

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### 4. Personal Interest as a Supporting Driver

- **39.6%** cited **personal interest**
- Almost always combined with professional or academic motivations



This suggests **high intrinsic motivation**, reinforcing engagement and completion likelihood.

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## 5. Explicit Job Search Is Low but Implicitly Present

Only **1.8%** explicitly stated “finding a new job” or “job security,” yet employment-related goals appear **implicitly** within skills development and academic learning responses. This reflects a **preventive career strategy** rather than reactive job searching.

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## Overall Interpretation

The motivation profile of the 111 applicants shows a cohort that is:

- **Entrepreneurially ambitious** (over half want to start a business)
  - **Highly career-oriented** (over 40% focused on job-related skills)
  - **Academically motivated** (structured learning matters)
  - **Intrinsically engaged** (personal interest strongly present)
  - **Multi-goal driven** (most applicants selected 2–4 motivations)
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## Program Relevance Indicator

The program is optimally positioned to support:

- **Entrepreneurship development**
- **Workforce readiness and upskilling**
- **Career resilience and job security**
- **Academic and professional progression**

### 4.7 Training Status



The CNC Training Program enrolled a total of **111 participants** across multiple cohorts. Based on the training status records:

- **80 participants successfully completed the training**, representing a **72.1% completion rate**.
- **31 participants withdrew or stopped the program prior to completion**, accounting for **27.9% of enrolled participants**.



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These results indicate a **strong overall retention and completion performance**, with nearly **three out of four participants** completing the full training pathway. The completion rate reflects sustained engagement despite the technical intensity of the program and highlights the effectiveness of participant selection, instructional delivery, and support mechanisms.

### Reasons for Withdrawal

Based on follow-up communication and participant feedback, the main factors contributing to withdrawals included:

- **Work commitments:** Difficulty balancing training schedules with full-time or seasonal employment.
- **Time constraints:** Professional and personal obligations limiting the ability to attend regularly.
- **Family responsibilities:** Childcare, eldercare, and other family-related duties affecting participation.
- **Relocation or travel:** Work-related or personal relocation prevents consistent attendance.
- **Personal challenges:** Health concerns and unforeseen life events.

These reasons highlight that attrition was primarily driven by external challenges, rather than issues with the training program itself. The strong completion and certification rates, combined with the achievement of **15 advanced-level certifications**, demonstrate the program's effectiveness and lasting impact.

### 4.8 Added-Value Courses (Financial & Marketing) Optional

Based on the findings of the **Short-Term Training Needs Analysis Survey for MSMEs** conducted by the Chamber in January 2025, it is evident that **most companies are facing critical challenges in two key areas:**

- **Marketing and Advertising**
- **Financial Management**

These challenges are consistent with the global trends observed across small and medium enterprises (SMEs), where mastering marketing techniques and financial management has become essential for business survival and growth. In today's competitive market, **promoting products effectively, building a strong brand, and implementing strategic pricing models are not optional—they are fundamental for sustainability.**

#### **Marketing and Branding:**

Businesses struggle to establish a strong brand identity, create engaging content, and reach the



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right audience. With the rise of digital platforms, knowing how to market a product, build a brand story, and implement effective advertising strategies is **more important than ever**.

### **Financial Management:**

On the financial side, **mastering cash flow, pricing strategies, and feasibility studies** are crucial areas where many businesses fall short. Without a solid grasp of these topics, even the best products can fail to generate sustainable profits.

To address these needs, the Chamber has decided to offer two **optional and highly valuable training courses** for interested beneficiaries:

1. **Digital Marketing & Branding**
  - How to promote your products effectively
  - Building a strong brand identity
  - Digital marketing tools and advertising techniques
2. **Mastering Cash Flow, Pricing Strategies, and Feasibility Study**
  - How to price products strategically for profitability
  - Managing and forecasting cash flow
  - Preparing a solid feasibility study for new projects

These two courses are designed to **equip businesses with practical skills that are in high demand** today, ensuring they remain competitive in an evolving market. By providing these optional trainings, we aim to empower MSMEs to overcome their current challenges, **achieve financial stability, and thrive in a competitive landscape**.

After the completion of **Group F in August**, the project **discontinued the delivery of financial and marketing training sessions** due to the **cessation of project funding**. As a result, no additional business-related or complementary training components were implemented beyond this point. This decision was driven solely by funding constraints rather than program performance or participant demand, and it marked the formal conclusion of all non-technical training activities under the project.

### **Added Value Training Participation Analysis**

#### **Based on the 84 registered participants. (March till August 2025)**

The main target for the CNC training program was **84 participants**. While the core CNC training was central, additional **Financial and Marketing** courses were offered as **optional sessions**.

#### **Participation in Optional Courses:**

- **Financial Training:**



- **66 participants** attended.
- This represents **78.6%** of the total target group.
- **Marketing Training:**
  - **59 participants** attended.
  - This represents **70.2%** of the total target group.

### **Insights:**

- A significant majority chose to attend the **Financial Training**, indicating strong interest or perceived value in financial skills.
- Participation in the **Marketing Training** was slightly lower but still substantial, showing that many participants also valued marketing knowledge, possibly for entrepreneurial or business purposes.

## **5. Internship Process for Beneficiaries of the CNC Training under the TESSA Project (End August 2025)**

The internship component of the CNC Training Program under the TESSA Project was developed to bridge the gap between technical training and practical industry experience. It aimed to create a fair, transparent, and merit-based pathway for participants to apply their newly acquired skills in real work environments, while also providing steel industry companies with access to skilled, motivated talent.

The process has now been **successfully completed**, following a structured three-phase approach. As a result, **14 beneficiaries have signed internship agreements** with participating companies, and placements are currently underway.

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### **✓ Phase 1: Outreach to Companies & Internship Offers**

In response to the growing demand for CNC-trained professionals in the steel sector, particularly in machine operation, laser cutting, and CAD/CAM design, the Chamber proactively engaged with key industry stakeholders. Many of these companies expressed difficulty in finding technically capable staff and welcomed the TESSA initiative as a timely workforce solution.

Outreach was guided by insights from the **Short-Term Market Needs Study**, which confirmed significant skill gaps in steel machining and production roles. Interested companies were invited to participate by submitting official commitment letters specifying:



- Their need for CNC-trained personnel
- Willingness to host interns from the CCIAS CNC Workshop
- Number of internship positions available
- Preferred internship duration and schedule

The result was a strong show of interest from companies ready to integrate interns into their production processes. Most companies emphasized that interns demonstrating high performance could be considered for future full-time employment. A **standard one-month internship duration** was established, and **17 slots** were made available across partner enterprises.

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### ✔ Phase 2: Advanced Training Option

Given the limited number of internship placements, the Chamber also launched a **one-month Advanced Training Program**, scheduled for **August 2025**. This workshop offers additional hands-on training and culminates in a final project presentation. It provides an alternative pathway for participants not placed in internships, ensuring they continue to benefit from practical experience and skills enhancement.

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### ✔ Phase 3: Beneficiary Selection & Agreement Signing

A structured selection process was implemented to ensure fairness and transparency. All CNC training graduates were surveyed to confirm their interest in either the internship or the advanced training (ANNEX 6). The **Selection Committee**, composed of Chamber project staff and the lead trainer, used a scoring rubric to evaluate candidates based on the following criteria:

#### Scoring Breakdown:

1. **Final Project Evaluation (50 points)**  
Assessed on technical execution, creativity, problem-solving, and practical knowledge.
2. **Attendance Rate (30 points)**  
Based on training session participation. (e.g., 100% attendance = 30 points)
3. **Motivation & Social Responsibility (20 points)**
  - Employment necessity (up to 7 pts)
  - Commitment to career/skills advancement (up to 8 pts)
  - Entrepreneurial intent (up to 5 pts)

The score **sheet** was used to objectively rank applicants. Priority was also given to beneficiaries demonstrating social or economic vulnerability or those facing barriers to employment, in line with the Chamber's Social Responsibility principles.



After evaluations, the committee finalized selections and documented outcomes in the **Minutes of Meeting** (ANNEX 10). Internship agreement forms were signed with the selected beneficiaries, detailing their responsibilities, the terms of participation, and payment conditions.

### ✓ Final Outcomes & Internship Deployment

As of July 31, 2025, all phases of the internship process have been successfully concluded, with the following outcomes:

- **14 participants signed internship agreements:**
  - **12 participants** completed their internships on **31/08/2025**
  - **2 participants** can't continue (**Personal Reason**)

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## Conclusion

This comprehensive process has achieved its core goals:

- Facilitating the integration of skilled beneficiaries into the labor market
- Providing steel industry companies with trained and job-ready talent
- Ensuring continued learning and upskilling through the Advanced Training Workshop

By combining **technical training**, **practical experience**, and **structured career support**, the TESSA Project—under the leadership of the Chamber of Commerce, Industry, and Agriculture in Sidon and South Lebanon—has delivered a sustainable, impact-driven model for workforce development in the CNC and steel laser cutting sector.

## 6. CNC Advanced Level – Prototype

Following the successful completion of the CNC foundational training, a select group of participants advanced to the **CNC Advanced Level – Prototype**. This stage was designed to deepen technical expertise and provide participants with **hands-on, applied industrial experience**.

### Training Focus



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The **Advanced Level** was delivered over the course of **four intensive sessions spanning one month**. It concentrated on three key areas critical for modern manufacturing and prototyping:

- **Welding Techniques:** Practical training on safe and effective welding methods, enabling participants to assemble and repair metal structures.
- **3D Modeling:** Application of advanced 3D design software to create precise digital models of mechanical components and prototypes.
- **Assembly Practices:** Real-world exercises in assembling prototypes, combining design, machining, and welding into cohesive projects.

### Outcomes

- **15 participants successfully completed the CNC Advanced Level – Prototype and obtained certification.**
- The program equipped graduates with a **comprehensive skill set** that integrates CNC machining, welding, 3D modeling, and assembly, preparing them for specialized roles in manufacturing, prototyping, and product development.

By combining **theory with intensive practice in just one month**, this advanced module successfully bridged the gap between foundational training and industrial application, ensuring participants are ready to contribute effectively in real-world technical environments.

## 7. Feedback survey (CNC Training Evaluation Report)

*Based on the 64 certified participants*

Category	Summary of Feedback
<b>Relevance of the Training</b>	51 rated <b>Excellent</b> , 13 <b>Good</b> , 1 <b>Average</b> . Participants found the training highly aligned with their learning goals.
<b>Technical Coverage (CNC Knowledge)</b>	37 rated <b>Excellent</b> , 22 <b>Good</b> , 4 <b>Average</b> , 1 <b>Poor</b> . Strong emphasis on laser machines and SolidWorks skills was well received.
<b>Finance &amp; Marketing Value</b>	35 rated <b>Valuable</b> , 22 <b>Extremely Valuable</b> , 6 <b>Somewhat Valuable</b> , 1 <b>Not Valuable</b> . Useful for understanding real-world business applications.
<b>Course Materials &amp; Resources</b>	39 found them <b>Valuable</b> , 23 <b>Extremely Valuable</b> . Some suggested adding more practice-based examples and access to licensed tools.



Category	Summary of Feedback
Practical Workshops	Widely appreciated. Several participants requested <b>more hands-on time</b> with CNC machines and real-life implementation.
Instructor Effectiveness	57 rated <b>Excellent</b> , 8 <b>Good</b> . Trainers were praised for clarity, knowledge, and approachability.
Technology Tools Used	Participants gained valuable exposure to modern CNC tools and design software. Suggested improvements: more time with machines and repeated access.
Safety Precautions	Reported as <b>clear and sufficient</b> . No major concerns raised in participant feedback.
Confidence Gained	Majority reported a <b>significant boost in confidence</b> to apply CNC techniques in professional or entrepreneurial settings.
Overall Satisfaction	47 participants were <b>Very Satisfied</b> , 17 <b>Satisfied</b> , 1 <b>Neutral</b> . Almost all stated they would recommend the program to others.

## **8. Key Findings**

- Strong engagement from university students and engineering graduates
- High interest in both technical and entrepreneurial aspects of the training
- A mix of beginners and semi-experienced participants, supporting the modular design
- Demand exists for deeper focus on real-world machine applications and client-based project simulations
- A strong will among participants for upskilling and reskilling to enhance employability and adaptability in the evolving job market

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## **9. Challenges in CNC Training Sessions**

1. **Diverse Educational Backgrounds**
  - While many participants have engineering degrees, a significant portion come from non-technical fields such as business, handicrafts, or design. This diversity may lead to varying levels of comfort with technical concepts, machinery, and software like AutoCAD or similar program.
2. **Variation in Technical Proficiency**



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- Some participants reported no prior experience with CAD or similar software. Bridging the gap between beginners and those with prior exposure are requiring differentiated instruction or additional support resources.
- 3. **Language and Terminology Barriers**
  - CNC training often includes highly technical jargon. For participants whose educational backgrounds didn't focus on industrial or mechanical systems, understanding terminology could pose a barrier to learning.
- 4. **Hands-On Equipment Limitations**
  - Practical CNC training depends heavily on access to machines. With a group of 64, managing machine time equitably without compromising on learning quality could be a logistical challenge.
- 5. **Safety and Risk Management**
  - Operating CNC machines carries inherent safety risks. Participants unfamiliar with workshop environments are requiring more extensive safety briefings and monitoring. The machines need some security upgrade like the Security Laser for the Bending Machine
- 6. **Time Constraints**
  - Participants may have different learning speeds. Structuring sessions to accommodate both fast learners and those who need more time can be tricky, especially in group settings.
- 7. **Technical Troubleshooting Skills**
  - CNC operation is not only about programming but also identifying and resolving real-time machine or software issues. Non-engineers may need extra support developing this problem-solving mindset.

## **9. Recommendations**

- Continuing differentiated instruction to support diverse skill levels
- Consider adding mini-projects or capstone assignments tied to local market needs
- Plan for advanced CNC application sessions (e.g., 3D modeling, CAM integration)
- More Advanced training
- 3D printing machines and welding equipment's
- Ai Integration
- CNC Bending Machine not NC



## **10. Annexes**

- Annex 1 - CNC Training Registration Form (Google Form link)  
[CCIAS - CNC Workshop Registration Form](#)
- Annex 2- Registered Beneficiaries  
[Registration Sheet First Call & Second Call](#)
- Annex 3 - Attendance Sheets for All Groups (A, B, C, D,E,F)  
[Attendance Sheet - Group A](#)  
[Attendance Sheet - Group B](#)  
[Attendance Sheet - Group C](#)  
[Attendance Sheet - Group D](#)  
[Attendance Sheet - Group E](#)  
[Attendance Sheet - Group F](#)
- Annex 4 - Training Materials  
[Training Materials Link](#)
- Annex 5 – Added- Value Training Courses\  
[Financial Course](#)  
[Marketing Course](#)
- Annex 6 – Report on the short-term training



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### [Report CCIAS Analysis Survey](#)

- Annex 7 – CNC Training Evaluation Survey  
[CNC Training Evaluation Survey](#)
- Annex 8 – Candidates Interest for Internship  
[Internship Interest Response](#)
- Annex 9 – Total Beneficiaries Scoring  
[Total Scoring](#)
- Annex 10 – Minutes of Meeting  
[MoM\\_Selection\\_Committee](#)
- Annex 11 – Internship Program  
[Internship Program](#)
  
- Annex 12: Some Photo Documentation of Training

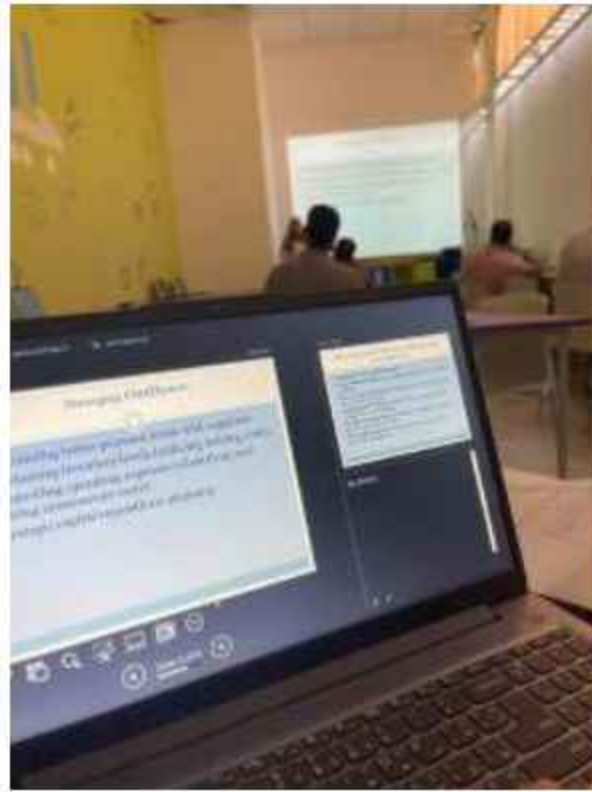


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