



Pilot Report – Assocam Scuola Camerana



Index

Introduction	2
1. Microcredential issuing and realization.....	3
2. Pilot and finalization phase.....	6
2.1 Pilot initialization.....	6
2.2 Pilot realization	7
2.3 Feedback questionnaire subministration.....	8
2.4 Results reporting and analysis	8
SWOT Analysis	14
Conclusions	15

Introduction

The report describes the process carried out by Assocam Scuola Camerana, as part of the MAGIC project, for the issuing of microcredentials and their piloting. Activities taken into consideration are A4 – MICROCREDENTIALS ON INDUSTRY 4.0 and A5 – PILOT AND FINALIZATION. The report focuses on the pilot phase, from initialisation to implementation and analysis of the results.

1. Microcredential issuing and realization

Introduction

In the first phase, Microcredentials were created through Micoo platform. The process of creating the microcredentials involved the Assocam Scuola Camerana designers who received training sessions from Azulchain technicians, supported by industry experts. This collaboration allowed the correct identification of skills and activities that were included within the microcredentials.

The microcredential creation phase also required the training of the assessors, who were chosen in relation to their technical skills in the microcredential's area of expertise.

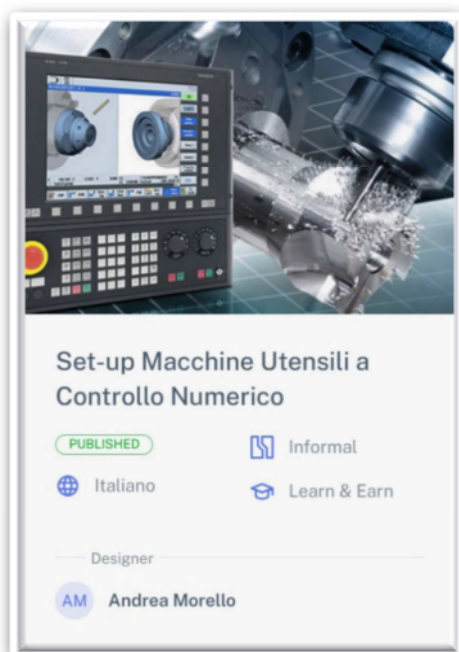
In total the training by Azulchain technicians involved 3 designers and 2 assessors of Assocam Scuola Camerana.

A set of 3 microcredentials has been implemented, focused on the themes of automation in the industrial sector through the use of numerical control machines, augmented and virtual reality and artificial intelligence. In particular, these last two themes were found to be of predominant importance in relation to the results obtained by the research phase.

Microcredentials issued by Scuola Camerana are summarized and briefly described below:

- 1 – CNC (Computerized Numerical Control) Machines Set-Up
- 2 - Basic use of Unity for Virtual Reality applications
- 3 - Artificial Intelligence application to support Virtual Reality programming in Unity

CNC (Computerized Numerical Control) Machines Set-Up

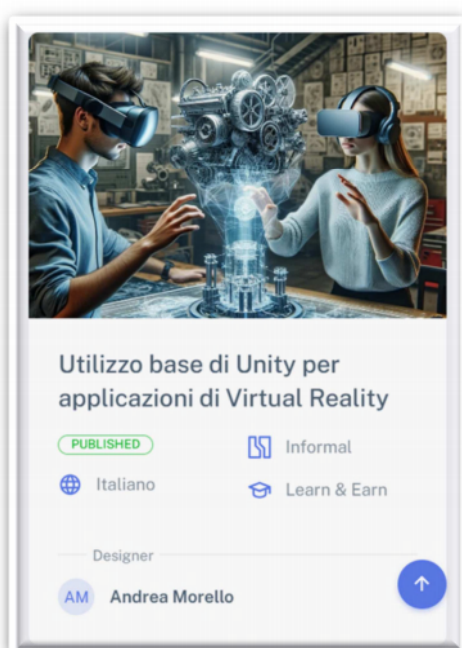


The "CNC Machine Set-Up" microcredential provides practical skills to set up and prepare numerically controlled machine tools. Students will learn the set-up procedures, knowledge of the instructions for configuring the tool table of numerical control machines, tooling management and determination of the piece zero. This microcredential is ideal for those who already have basic skills in metrology, mechanical processing and technical drawing reading and wish to acquire specialized skills in the metalworking sector through the use of numerically controlled machine tools.

The microcredential consists of 4 skills and 4 activities, for which users were asked to provide evidences.

The microcredential is integrated with learning paths (videos, learning materials...).

Basic use of Unity for Virtual Reality Applications



The "Basic Use of Unity for Virtual Reality Applications" Microcredential provides basic training in using Unity to create virtual reality experiences. Students will learn to create interactive virtual environments using the Unity game engine. This microcredential offers practical skills and theoretical knowledge to enter the world of virtual reality and exploit the potential of Unity to create immersive experiences. The microcredential is aimed at users with basic C# programming skills.

The microcredential consists of 5 skills and 4 activities for which users were asked to provide evidences.

The microcredential is integrated with learning paths (online tutorials and videos).

Artificial Intelligence application for Virtual Reality programming in Unity



The “Artificial Intelligence application to support Virtual Reality Programming in Unity” microcredential focuses on the application of Artificial Intelligence to optimize the programming and development of Virtual Reality environments in Unity. Students will learn to use AI algorithms to assist in scripting to improve user experiences and create interactive and engaging environments. This microcredential provides basic skills in using AI for VR programming in Unity. The microcredential is aimed at users who use Unity software for VR applications and know the C# programming language.

The microcredential is integrated with learning paths (online tutorials and videos). The microcredential consists of 5 skills and 4 activities.

This microcredential is in sequence to the previous one, relating to the basic use of Unity for virtual reality applications.

2. Pilot and finalization phase

2.1 Pilot initialization

The initialization phase of the pilot consisted of several activities:

- 1) Test user identification for microcredentials
- 2) Assessors identification for microcredentials
- 2) Basic training and instructions for using Micoo platform
- 3) Micoo account activation and assignment of challenges

Users were mainly chosen among Assocam Scuola Camerana students, trainers and sector technicians in the area of expertise of microcredentials.

Two assessors were also chosen based on their areas of expertise: the first one, in relation to the numerical control area, is a trainer with many years of teaching experience at Assocam Scuola Camerana, the second one is a Physics Engineer with virtual and augmented reality and AI skills included in the team that deals with the implementation of virtual and augmented reality at Assocam Camerana School and ITS Aerospace and Mechatronic Foundation.

Assessors were trained through a series of 4 online meetings with Azulchain.

Users initially received short training on the use of the platform by designers through physical or online meetings. Users were also provided with a file with instructions relating to the Micoo platform and the uploading of evidence and sending the microcredentials for evaluation.

We then proceeded with the activation of the accounts and the assignment of challenges.

2.2 Pilot realization

Pilot implementation phase involved chosen users in testing the microcredentials assigned as challenges.

In this phase users received telephone or email assistance from the Platform Manager of Assocam Scuola Camerana for any problems encountered (for example access, loading of evidences as videos, photos..). WhatsApp groups have also been created to encourage communication and resolve any problems as quickly as possible.

The following is reported for each microcredential:

CNC (Computerized Numerical Control) Machines Set-Up

Number of Users involved: 11

Number of Users who completed the challenge: 10

Basic use of Unity for Virtual Reality Applications

Number of Users involved: 12

Number of Users who completed the challenge: 10

Artificial Intelligence application for Virtual Reality programming in Unity

Number of Users involved: 12

Number of Users who completed the challenge: 10

It is possible to notice that some of the users did not complete the challenge. With a subsequent investigation we found out that this was not due in particular to problems related to platform usability but rather was justified as a lack of time to carry out this activity.

Several of these were requested by telephone and email several times but did not complete the activity.

2.3 Feedback questionnaire subministration

At the end of the pilot, a questionnaire was sent to users via Google Form, in agreement with Azulchain, which included questions mainly related to platform usability and the experience evaluation through Micoo Platform.

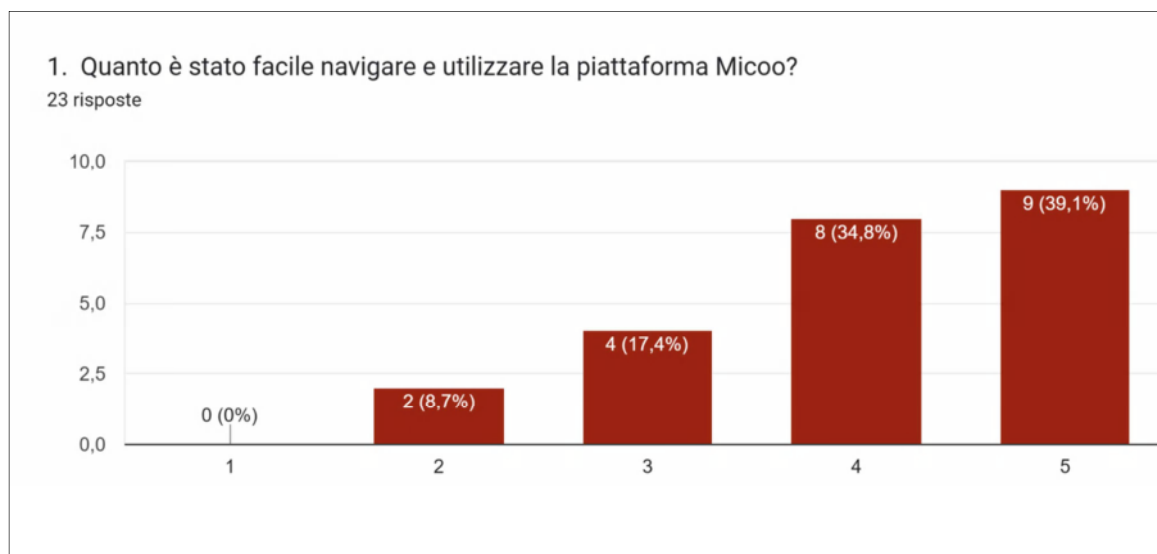
Questionnaire consisted of 13 questions divided into 3 different areas:

- General usability and User Experience
- Data storage, Blockchain integration & Portability
- Overall feedback & Recommendations

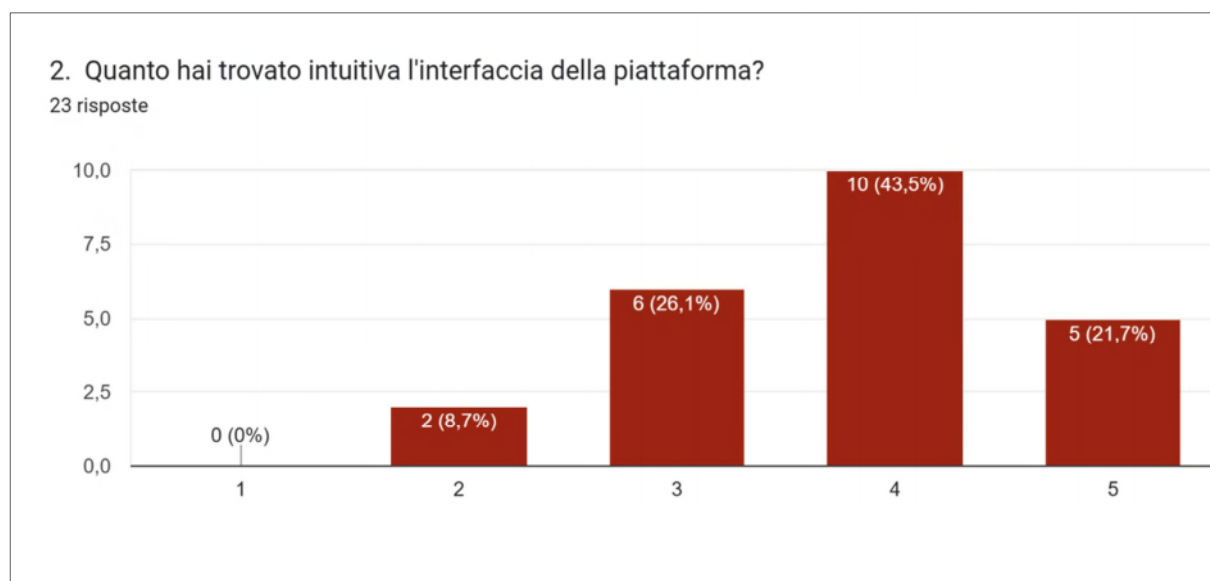
The questionnaire received 23 answers.

2.4 Results reporting and analysis

General Usability and User Experience



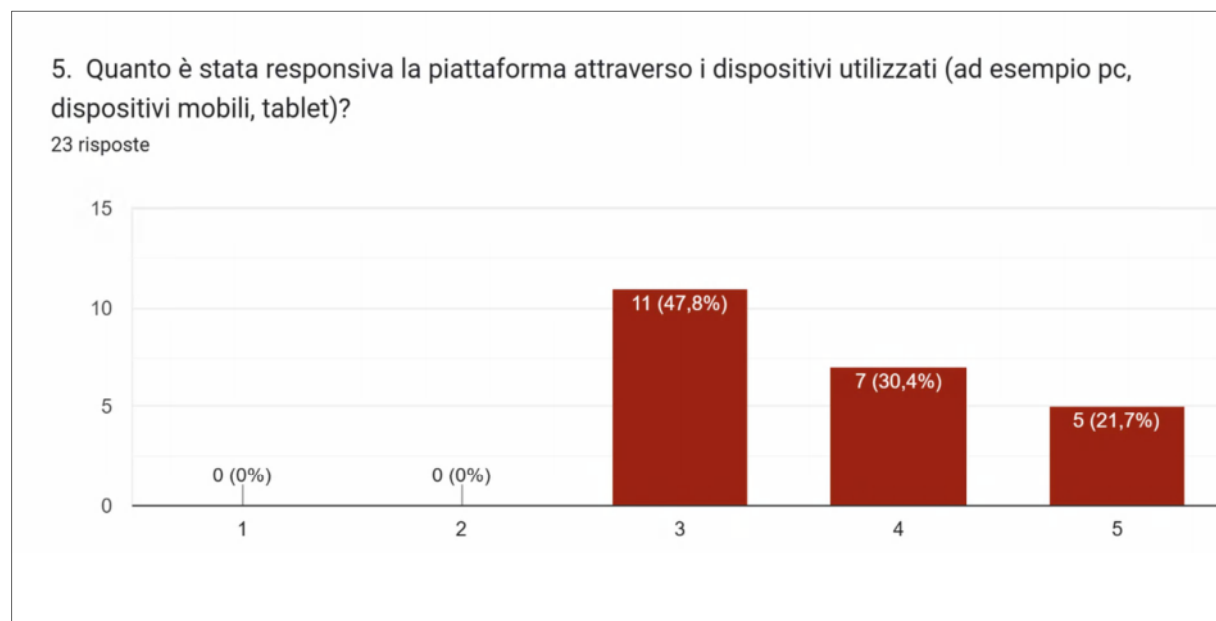
- **39,1 %** of respondents rated 5 out to 5 on the ease of navigation and use of Micoo Platform
- **34,8 %** of respondents rated 4 out to 5 on the ease of navigation and use of Micoo Platform
- **17,4 %** of respondents rated 3 out to 5 on the ease of navigation and use of Micoo Platform
- The remaining **8,7 %** rated 2 out to 5 on the ease of navigation and use of Micoo Platform



- **21,7%** of respondents rated 5 out to 5 on the intuitiveness of Micoo Platform
- **43,5 %** of respondents rated 4 out to 5 on the intuitiveness of Micoo Platform
- **26,1 %** of respondents rated 3 out to 5 on the intuitiveness of Micoo Platform
- The remaining **8,7 %** rated 2 out to 5 on the intuitiveness of Micoo Platform

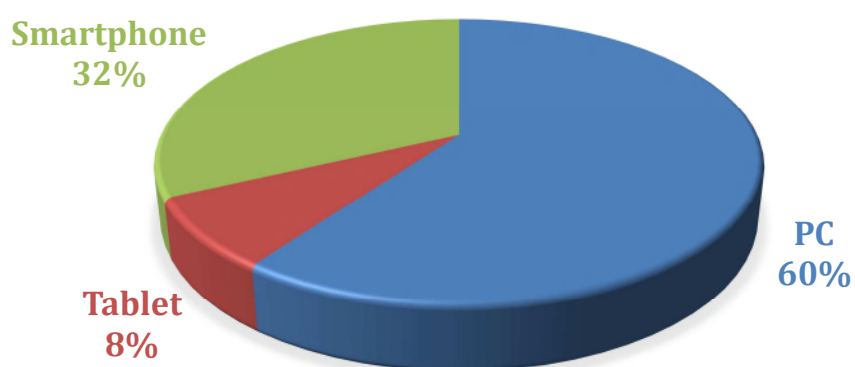


- **26,1%** of respondents rated 5 out to 5 to their user experience on Micoo Platform
- **39,1 %** of respondents rated 4 out to 5 to their user experience on Micoo Platform
- **30,4 %** of respondents rated 3 out to 5 to their user experience on Micoo Platform
- The remaining **4,3 %** rated 2 out to 5 to their user experience on Micoo Platform



- **26,1%** of respondents rated 5 out to 5 to their user experience on Micoo Platform
- **39,1 %** of respondents rated 4 out to 5 to their user experience on Micoo Platform
- **30,4 %** of respondents rated 3 out to 5 to their user experience on Micoo Platform
- The remaining **4,3 %** rated 2 out to 5 to their user experience on Micoo Platform

USE OF DEVICES

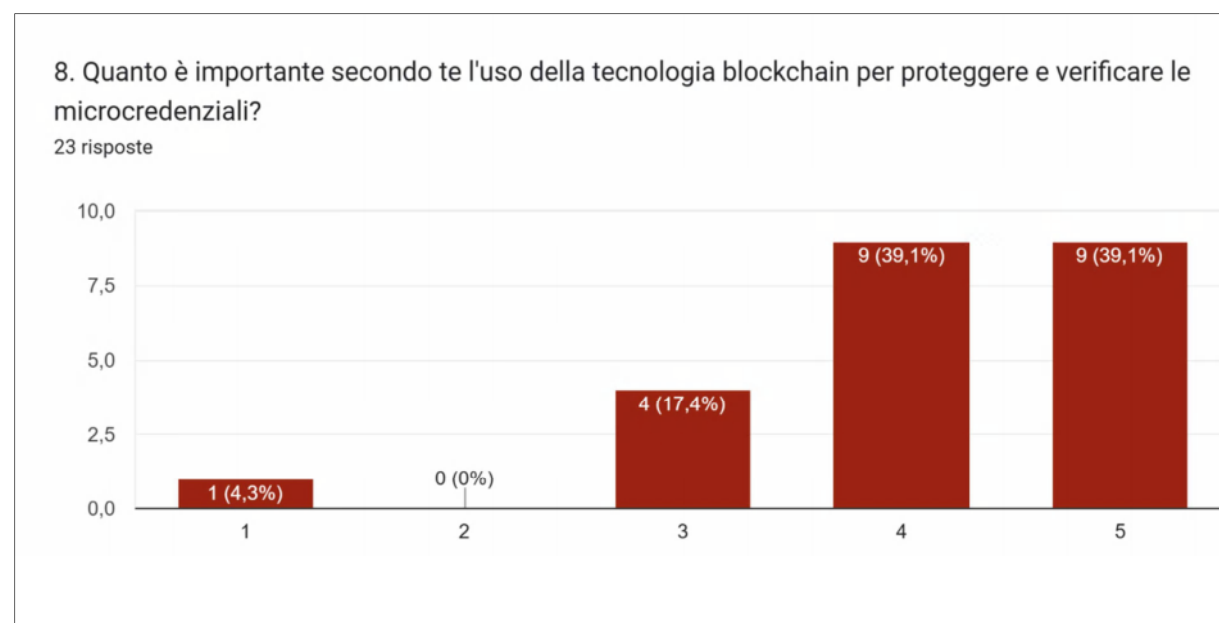


The majority of respondents (**60%**) used PC for their experience on Micoo Platform, while **32%** of respondents used smarthphone. The remaining **8%** used tablet devices.

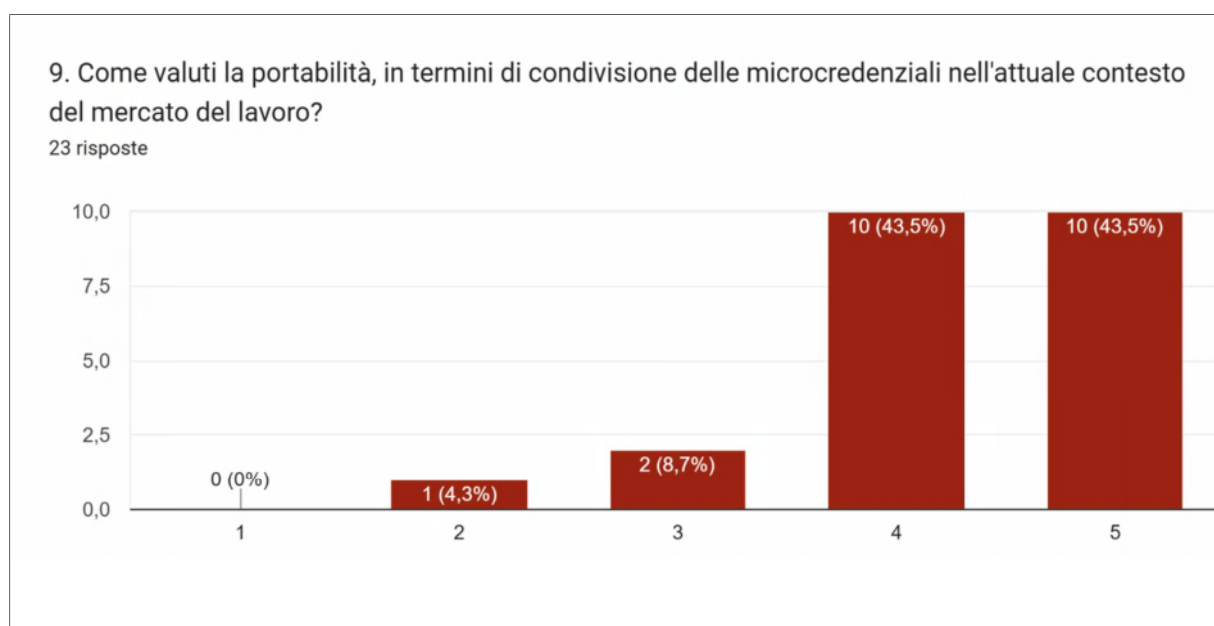
Data storage, Blockchain integration & Portability



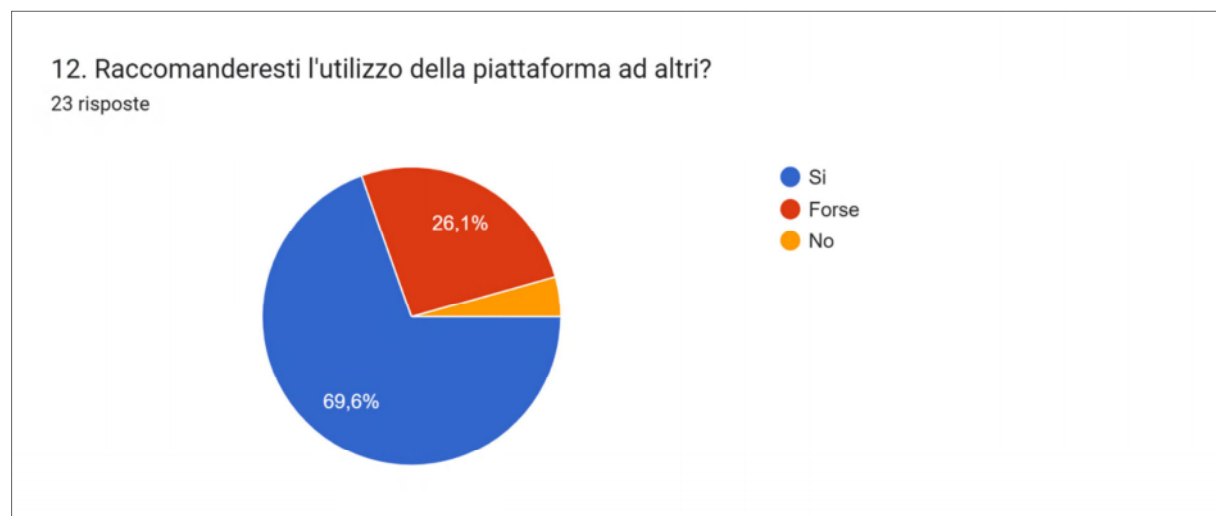
- **13%** of respondents rated 5 out to 5 to their feeling of cyber security on Micoo Platform
- **52,2 %** of respondents rated 4 out to 5 to their feeling of cyber security on Micoo Platform
- **26,1 %** of respondents rated 3 out to 5 to their to their feeling of cyber security on Micoo Platform
- **8,6%** of respondents rated 1 or 2 out to 5 to their to their feeling of cyber security on Micoo Platform



- **39,1%** of respondents rated 5 out to 5 to the importance of blockchain technology
- **39,1 %** of respondents rated 4 out to 5 to the importance of blockchain technology
- **17,4 %** of respondents rated 3 out to 5 to the importance of blockchain technology
- **4,3%** of respondents rated 1 out to 5 to their to their feeling of cyber security on Micoo Platform



- **43,5%** of respondents rated 5 out to 5 to microcredentials portability
- **43,5 %** of respondents rated 4 out to 5 to microcredentials portability
- **8,7 %** of respondents rated 3 out to 5 to microcredentials portability
- **4,3%** of respondents rated 2 out to 5 to microcredentials portability



- **69,6%** of respondents would recommend Micoo Platform to others
- **26,1 %** of respondents are neutral
- **4,3 %** of respondents would not recommend Micoo Platform to others

Overall feedback & Recommendations

The survey also included a final section called Overall feedback & Recommendations where users could insert comments and suggestions for improvement. These proposals were used as a basis to build the SWOT analysis in the following section.

SWOT Analysis

Below are the elements that emerged through a SWOT analysis relating to Micoo Platform environment. The analysis was conducted using data that emerged in the pilot, basing on the feedback from users and assessors experiences on Micoo Platform.

Strenghts (S)

- Web Design
- Usability
- Platform graphics
- Simplicity

Weaknesses (W)

- Log-in (*login page keeps loading but doesn't open for long moments, sometimes login seems not to be working even if email and password are correct*)
- Files upload from gallery was not possible on iOS smartphone – camera always opens instead
- Video upload (*max dimension 80 MB specified - problems in uploading videos > 30 MB*)
→ most users used photos and images as evidences because they were unable to upload videos
- Evidences (especially videos) often needs to be loaded several times because of loading problems (*suggestion: loading status bar implementation*)

Opportunities and suggestions (O)

- Increase video upload space or set a compression system for videos
- Mobile App implementation
- Possibility to realize live interviews with assessors
- Chatbot implementation for online help

Threats (T)

- Authenticity of evidences uploaded: it is necessary to carefully verify the authenticity of the evidence, as some of these, especially images and photos, may not be authentic or may have been generated by other people. From this perspective, videos are considered as strong evidence as through them it is possible to see users carrying out the activities required by the microcredential.

Conclusions

In conclusion, it is possible to summarize below the main considerations that emerged following the pilot phase:

- Users appreciated Micoo platform in terms of usability, web design, graphics and microcredentials portability;
- Users have encountered some difficulties when logging into the platform and uploading evidences, especially videos;
- It is necessary to manage video uploading in a more user-friendly way, especially because videos represent strong evidences in terms of authenticity;
- It is necessary to better understand how to deal with evidences authenticity and privacy;

Pilot activity has proven that Micoo Platform is a powerful tool for the design and acquisition of microcredentials, also receiving very positive feedback from users in terms of usability and web design. However, in order to improve user experience, it is considered necessary to resolve some technical bugs relating to login and uploading videos on Micoo.