



Memorandum of Understanding



1. Objectives of the Memorandum of Understanding

The Memorandum of Understanding¹ (MoU) forms the framework for cooperation between the competent institutions. It aims to establish mutual trust between the partners. In this Memorandum of Understanding partner organisations mutually accept their respective criteria and procedures for quality assurance, assessment, validation and recognition of knowledge, skills and competence for the purpose of transferring credit.

Are other objectives agreed on? Please tick as appropriate	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes – these are: Explore opportunities for the mobility of students and VET staff between Romania and Portugal Recognition learning outcomes and credits for completed units of study using abroad ECVET
--	---

2. Organisations signing the Memorandum of Understanding

Organisation 1	
Country	ROMANIA
Name of organisation	Colegiul Tehnic General “GHEORGHE MAGHERU”
Address	Str. Lt. Col.D.Petrescu No.3 210132 Targu Jiu ,Gorj County , Romania
Telephone/fax	+ [REDACTED]
E-mail	[REDACTED]
Website	https://www.ctgm.ro/
Contact person	[REDACTED]

¹ For more information and guidance on the establishment of a MoU please refer to the ECVET User's Guide: 'Using ECVET for geographical mobility (2012) - Part II of the ECVET Users' Guide - Revised version – including key points for quality assurance' – available at: http://www.ecvet-projects.eu/Documents/ECVET_Mobility_Web.pdf

	Director
Telephone/fax	+ [REDACTED]
E-mail	[REDACTED]@gmail.com
Organisation 2	
Country	PORTUGAL
Name of organisation	CINEL - Centro de Formação Profissional da Indústria Electrónica, Energia, Telecomunicações e Tecnologias da Informação
Address	Rua Jau - Alto de Santo Amaro, 1300-312 Lisbon, Portugal.
Telephone/fax	+ [REDACTED]
E-mail	[REDACTED]@cinel.pt
Website	www.cinel.pt
Contact person	Paulo Lopes
Telephone/fax	[REDACTED]
E-mail	[REDACTED]l@cinel.pt
Organisation 3	
Country	PORTUGAL
Name of organisation	SAPERE AUDE - EDUCAÇÃO E FORMAÇÃO UNIPESSOAL LDA - CASA DA EDUCAÇÃO
Address	Rua Rio Mira, nr. 26 2865-335 Pinhal General - FERNÃO FERRO, Portugal
Telephone/fax	+ [REDACTED]
E-mail	[REDACTED]@gmai.com
Website	http://www.casadaeducacao.pt/
Contact person	[REDACTED], director
Telephone/fax	[REDACTED]
E-mail	[REDACTED]@gmai.com

3. Other organisations covered by this Memorandum of Understanding (if appropriate)

Explanatory note:

For MoUs established within a broader context (such as agreements set up by sector based organisations, chambers, regional or national authorities) a list of organisations (VET providers, companies, etc.) who are able to operate in the framework of the MoU can be added. This list can consist of their names or it can refer to the type of VET providers. The list can be included as an annex.

-Sending school:

4. The qualification(s) covered by this Memorandum of Understanding

Qualification 1

Country	ROMANIA
Title of qualification	Computer Technician Training field: Electronics automation
EQF level (if appropriate)	3
NQF level (if appropriate)	4
Unit(s) of learning outcomes for the mobility phases (refer to enclosure in the annex, if applicable)	L.O.1 Realization of simple electronic circuits with discrete analogic components L.O.2 Realization of combinational logic circuits with digital integrated circuits https://www.alegetidrumul.ro/uploads/calificari/143/Standard%20de%20pregatire%20profesionala/SPP_niv4_Tehn%20operator%20tehnica%20de%20calcul.pdf
Enclosures in annex - please tick as appropriate	<input type="checkbox"/> Europass Certificate Supplement <input checked="" type="checkbox"/> The learning outcomes associated with the qualification <input type="checkbox"/> Description of the unit(s) of learning outcomes for the mobility <input type="checkbox"/> Other: Quality requirements

Qualification 2

Country	PORTUGAL
Title of qualification	Electronics and Telecommunications Technician
EQF level (if appropriate)	4
NQF level (if appropriate)	4

Unit(s) of learning outcomes for the mobility phases (refer to enclosure in the annex, if applicable)	https://catalogo.angep.gov.pt/qualificacoesDetalhe/7406
Enclosures in annex - please tick as appropriate	<input type="checkbox"/> Europass Certificate Supplement <input type="checkbox"/> The learning outcomes associated with the qualification <input type="checkbox"/> Description of the unit(s) of learning outcomes for the mobility <input type="checkbox"/> Other: -

5. Assessment, documentation, validation and recognition

By signing this Memorandum of Understanding we confirm that we have discussed the procedures for assessment, documentation, validation and recognition and agree on how it is done.

In CINEL and his partners students will have their tutor (a competent company/institution worker) who knows their training curriculum and is obliged to its completion. Tutor will regularly control students' work, monitor their progress and in case of their inappropriate attitude inform their Portuguese supervisor/coordinator and Romanian accompanying teachers. Tutors in companies/institutions will regularly monitor students' progress and their documentation, make conclusions and give remarks to students. Their will essentially lead the training including students' assessment in accordance with their training curriculum. Results will be confirmed by filling individual evaluation sheets, Europass Mobility certificates and ECVET documents.

In companies will be coordinators who will be responsible for contacts with Colegiul Tehnic General Gheorghe MAGHERU and monitoring students' progress. These people will control correct performance of students' trainings and their prompt realization in accordance with previously prepared schedule as well as maintain contact with students and their tutors in companies. Progress validation and validation of acquired professional skills will be held regularly by students' tutors in a form of observation, conversation, controlling questions, marking the fulfilment of professional tasks, fulfilling observation sheets. It is also acceptable to use other standard methods of checking knowledge/skills commonly used for students.

Verification of learning outcomes acquired during traineeship by consideration assessment procedures described in the ECVET documentation, Learning Agreement and issue grades for students.

Achievement validation during the practical training abroad will be held in accordance with previously approved program, which is confirmed by contracts. Validation in Colegiul Tehnic General Gheorghe MAGHERU, the sending organisation will be performed by teachers of vocational subjects who compare the learning outcomes from Europass Mobility certificate with the requirements of the professional standard and if there is match, the learning outcomes are validated. Learning outcomes are granted grades according to the Romanian national assessment system.

Documentation: Memorandum of Understanding, ECVET Learning Agreements to be carried out during training, observation charts, practical notebooks, individual assessment sheets, **Europass Mobility certificates** which will contain all the learning outcomes and the activities that led to them, attendance certificates and final report.

6. Validity of this Memorandum of Understanding

This Memorandum of Understanding is valid until: **21.12.2023**

7. Evaluation and review process

The work of the partnership will be evaluated and reviewed by: 01/09 of each year. Next evaluation and review, 01.12.2023, prof.dr.Buzera Marius, director of Colegiul Tehnic General Gheorghe MAGHERU and Otávio Oliveira

8. Signatures

Organisation / country	Organisation / country
Colegiul Tehnic General Gheorghe MAGHERU, Tg.Jiu, Romania	CINEL, Portugal
Name, role	Name, role
Buzera Marius,director	██████████, director
Place, date	Place, date
Targu Jiu , 21.12.2022, Romania	Lisbon 21.12.2022, Portugal

9. Annexes

I. Description of the unit of learning outcomes with relevance for the mobility phases:

Qualification 1: **Computer Technician**

The field of professional general training: **Electronics and Automation**

L.O.1 Realization of simple electronic circuits with discrete analogic components

(ULO3 according to Romanian Standards of Professional Training for Level 4, Annex no. 2 to the Order of the Minister of Education and Scientific Research OMENCS nr. 4121 from 13.06.2016)

Knowledge	Skills:	Attitudes :
<p>3.1.4 Selection of Discrete Electronic Components Identification of the terminals and the connections of discrete electronic components</p> <ul style="list-style-type: none"> • Checking the functioning of discrete electronic components by measuring specific parameters • Making analog circuits with discrete electronic components <p>3.1. 5 Checking the functionality of analog circuits</p> <ul style="list-style-type: none"> • Detecting and fixing defects in analog circuit 	<p>3.2.2 Realization of wired electronic circuits according to the electronic scheme.</p> <p>3.2.7Assembling / disassembling discrete components on printed / test wiring boards in accordance with the requirements.</p> <p>3.2.8 Bonding of discrete / SMD components to printed / test wiring boards using appropriate technologies.</p> <p>3.2.12 Identifying the terminals of discrete electronic components using component catalogs.</p> <p>3.2.14 Measuring the parameters of discrete analog components using AM .</p> <p>3.2.15 Checking the functionality of discrete analog components with AMC.</p>	<p>3.3.2 Assigning within the work team the responsibility for the workload received.</p> <p>3.3.3 Taking the initiative to solve some problems</p>

	<p>3.2.16 Identification of the types of analogue electronic circuits based on the given electronic schemes.</p> <p>3.2.17 Selection of components for making simple electronic circuits according to the technical documentation.</p> <p>3.2.18 Making electronic circuits according to technical documentation. Using software like Autocad, PCB, Solidworks, etc.</p> <p>3.2.22 Checking the functionality of the electronic circuits and correction of the defects found.</p>	
<p>LO2: Realization of combinational logic circuits with digital integrated circuits (ULO4 according to Romanian Standards of Professional Training for Level 4, Annex no. 2 to the Order of the Minister of Education and Scientific Research OMENCS nr. 4121 from 13.06.2016)</p>		
Knowledge	Skills:	Attitudes :
<p>4.1.2 Implementing logical gates with logical functions</p> <p>4.1.3 Makes Combined Logic Circuits (CLC)</p> <ul style="list-style-type: none"> • Checks the CLC functionality • Detects and fixes defects in CLC 	<p>4.2.6 Identification of digital integrated circuit pins using component catalogs.</p> <p>4.2.8 Creating CLCs with digital integrated circuits</p> <p>4.2.9 Identification of defects in CLC using AMCs and troubleshooting</p> <p>4.2.11 Applying health and safety regulations at work Using simulating software like Logic Gate / Cedar / etc.</p> <p>4.2.12 Applying environmental protection regulations concerning the materials and the technologies in the electronic field Adaptation to the demands and dynamics of technological evolution</p>	<p>4.3.4 Adoption of critical and reflective attitudes and responsible use of the media</p> <p>4.3.6 Observance of health and safety rules in work and environmental protection rules for materials and technologies in the electronic domain</p>

II. Competent Institutions with regard to ECVET technical specifications

Functions -	Qualification1: Computer Technician
Who is responsible for :	
Identifying the unit(s) of learning outcomes suitable for the mobility	Colegiul Tehnic General Gheorghe MAGHERU
Delivering the education and training programme/learning activities preparing for the unit(s) of learning outcomes addressed by the mobility	Cinel and his partners
Assessing whether the learner(s) has(have) achieved the expected learning outcomes	Cinel and his partners
Validating and recognizing learners' credit on their return to the home institution	Colegiul Tehnic General Gheorghe Magheru"
Language spoken during the mobility period	English

Health –leisure-and travel insurances for the time abroad	Colegiul Tehnic General Gheorghe Magheru
Payment for mobility students(travel and subsistence expenses)	Colegiul Tehnic General Gheorghe Magheru

III. Assessment:

The person responsible for the mobility period in the hosting organization will ensure that the learning outcomes specified in this Learning Agreement are assessed by qualified assessors.

Assessment to be carried out by Portuguese assessors by the same criteria as local students using :

1. **Practical tests** → the candidate will solve a specific workload without help
2. **Oral questions** → the candidate is often asked to describe the actions he/she would perform in front of the assessor

Assessment tools

Test relating to the relevant qualification

LO comprised in ULO1 and ULO2 are considered as acquired if the Portuguese assessor grades at least with “Sufficient”

Oral questioning/professional discussion may be used to reinforce the assessment process.

Assessment Scale

Ratings	Performance descriptors	Grades in Romania	Grades in Portugal :
Unsatisfactory(fail proof):	Insufficiently developed competences, cannot perform the work task.	1-4	1 until 9.5
Sufficient	Sufficient competences to perform a simple work task, but it requires guidance and supervision.	5	9,5
Satisfactory	Sufficient competences to perform a simple work task, but it requires supervision	6-7	9.5-13
Good	Sufficient competences to perform a simple work task, and it does not require	8	14-15
Very Good:	Sufficient competences to perform a complex work task but it requires supervision.	9	16-18
Excellent:	Sufficient competences to perform a complex work task and it does not require supervision.	10	19-20

IV. Documentation of learning outcomes:

- **EUROPASS MOBILITY CERTIFICATE** which will contain all the learning outcomes and the activities that led to them.

V. Transfer and Recognition of LO acquired in mobility – procedure of Colegiul Tehnic General Gheorghe Magheru

Transfer and recognition of LO are performed according to the following justifying documents:

MoU, LA, Europass Mobility certificate and Attendance Certificate

Validation of LO –the transfer and recognition commission compares the LO after mobility with the requirements of the professional standard and if there is match, the LO are validated. LO are granted credit points according to the national professional standard.

The validated LO and the associated credit points are registered in the school documents and in the student's Educational Portfolio.

VI. Arrangement on the following aspects will be taken care of by the following organization:

ROMANIA TO PORTUGAL	Organized/arranged/advised by:	Costs covered by:
Health and travel insurance for the time abroad	Colegiul Tehnic General Gheorghe Magheru”	Colegiul Tehnic General Gheorghe Magheru
Arrangement of accommodation for the training period abroad	CASA DA EDUCACAO LISBON - PORTUGAL	Colegiul Tehnic General Gheorghe Magheru
Meals	CASA DA EDUCACAO	Colegiul Tehnic General

	LISBON -PORTUGAL	Gheorghe Magheru
Transfer	CASA DA EDUCACAO LISBON- PORTUGAL	Colegiul Tehnic General Gheorghe Magheru
Arranging travel during the training period abroad	CASA DA EDUCACAO LISBON -PORTUGAL	Colegiul Tehnic General Gheorghe Magheru

VI.2 Quality requirements

Applicant Organisation

- Will identify the learning outcomes in terms of knowledge, skills and competences to be developed during the training placement;
- Will prepare, in collaboration with the Partner organization, the appropriate training programme, which will be described in the Learning Agreement to be further signed with each participant;
- Will assure for participants international travel and accommodation during their training placement;
- Will pay the costs for participants' accommodation, meals and costs for living
- Will provide health insurance and travel insurance for their time abroad.
- Will validate and recognize mobility training for participants.

-Will select the participants for the mobility;

-Will assure the international travel for the participants;

-It will provide for participants, medical insurance for trips abroad;

-Will pay the costs for participants' accommodation, meals and costs for cultural and social activities, as established in the Contract

-

The Host Organisation

-Will receive in its structures the **10 VET trainees**, which are preparing for the qualification COMPUTER TECHNICIAN for 3 weeks of training placement from **in 2023** and will assure their training according with their study domain ;

- Will engage participants professionally and directly within the daily work and will assign to participants tasks and responsibilities in order to match their knowledge, skills and competences and training objectives, as set out in the Erasmus+ Learning Agreement;
- Will support participants to achieve the expected outcomes, taking into consideration the level of competence development of each participant;
- Will appoint tutors who will closely follow the participants activities and professional development during their whole training placement, will monitor the progress and support participants to face difficulties;
- Will give the necessary information concerning the work itself and the work environment and will help participants to understand the culture and mentality of the host country;
- Will take necessary measures to ensure occupational safety and health for the participants during their training placement, in accordance with the national regulations;
- Will make the final assessment of the participants and record their achieved outcomes in Europass Mobility certificate;

The Support Organisation

-Will help the sending organisation to find the suitable training placement for participants in order to achieve project objectives and will assure that final arrangements are in place prior to participants' departure;

-It will provide adequate and stable accommodation for the entire mobility period for 10 participants and 1 teacher- **in 2023**

-Will help the participants to understand the culture and mentality of the host country and to be involved in cultural and social life of the city during all the period of the training placement;

-Will facilitate the cooperation and communication between applicant and the host organization

-Will support the host organisation to issue the Europass Mobility document

-Will disseminate information about the project.

THE PARTNER ORGANIZATIONS DECLARE TO FULLY ACCEPT AND RESPECT THE ERASMUS+ QUALITY STANDARDS.

--

10. Signatures

Organisation / country	Organisation / country	Organisation / country
Colegiul Tehnic General Gheorghe MAGHERU, Romania	CINEL, Portugal	SAPERE AUDE - EDUCAÇÃO E FORMAÇÃO UNIPessoal LDA
Name, role	Name, role	Name, role
██████████, director	██████████, director	██████████, director
Place, date	Place, date	Place, date
Targu Jiu , 21.12.2022, Romania,	Lisbon 21.12.2022 Portugal	Lisbon 21.12.2022 Portugal