MECHATRONICS and METALLURGICAL VET
for sectors' industries

2019

MeMeVET4Industries Project

Co-funded by the Erasmus+ Programme of the European Union

Project number: 591854-EEP-1-2017-1-DE-EPPKA2-SSA

Quality assurance policy and adequate procedures of the MeMeVET4Industries project (2nd version)

Prepared by the Technical University – Sofia

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Appendix – list of partners' signatures

Note: This is the second version of the document. The newest version includes the Agency's request for more precise description of quality criteria to deliverables and measurements of mitigation. Two new boards are added: Board Modules/Curriculum development and E-card Board. Some other minor changes have been made.

List of partners:

P1	ITKAM	Italian Chamber of Commerce for Germany (Italienische Handelskammer für Deutschland)
P2	CCIS	Italian Chamber of Commerce and Industry for Spain (Camera di Commercio Italiana per la Spagna)
P3	ZIP	Consortium Industrial Zone of Padua (Consorzio Zona Industriale e Porto Fluviale di Padova)
P4	TUS	Technical University of Sofia
P5	CCIB	Bulgarian Chamber of Commerce & Industry
P6	CAARAGON	Asociacion Cluster de Automocion de Aragon
P7	SOPK	Presov Regional Chamber of Commerce and Industry (Prešovská regionálna komora)
P8	HIGHTEH STARTBAHN	High Tech Startbahn
P9	UNINETTUNO	International Telematic University UNINETTUNO (Università telematica internazionale – Uninettuno)
P10	T.I. A.Volta	State Technical Technological Institute A. Volta, T.I. A.Volta (Istituto Tecnico Industriale Statale Alessandro Volta)
P11	ELCOM	limited liability company, Prešov ELCOM (SPOLOCNOST S RUCENIM OBMEDZENYM, PRESOV)
P12	Klaster AT+R	Klaster AT+R
P13	COMET	COMET scrl
Affiliated	POLOPN-POLO	POLOPN- POLO Tecnologico Pordenone
P14	GENERALITAT VALENCIANA	Council of education, investigation, culture and sport- Valencia regional government (IES Tirant Lo Blanc)
P15	AECIM	Association of Metal Companies of Madrid (Asociacion de Empresarios del Comercio e Industria del Metal de Madrid AECIM)

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List of abbreviations:

VET	Vocational Education Training
WP	Work Package
WG	Working Group
QCMG	Quality Control and Monitoring Group
SCM	Steering Committee Meeting
CDB	Curriculum Development Board
EC	European Commission
CV	Curriculum Vitae
EQAVET	European Quality Assurance in Vocational Education and Training

1. Introduction

During the project implementation it is scheduled to implement a Quality Assurance Policy and describe adequate procedures and indicators foreseen to verify the outputs of the project. This is needed in order to ensure the monitoring and evaluation of the project, its deliverables, results and outputs. Quality Assurance Policy contains internal quality monitoring measures that aim to guarantee that the quality of the project processes and results will meet the predetermined plans.

This Quality Assurance Policy and corresponding procedures is a guideline, which describes how and in which way quality comes into action during the implementation of MeMeVET project. The quality assurance policy gives all parties involved a guideline for a successfully and timely implementation of all project activities. In addition, it supports the measuring of the overall satisfaction of the consortium within the project as well as the overall project management performed by the leading partner. The quality will be measured through the whole project duration.

The leading partner has the overall responsibility for the production, planning and realization of the quality by drafting this Assurance Policy, which will be submitted and signed to all project partners.

2. Project content

The mechatronics and metallurgy are very relevant sectors in the European market as they represent almost 20% of the manpower in the countries involved in the present project.

In order to support the specific growth and further development of the mechatronics and metallurgical sectors, the project partners aim to establish a sector skills alliance between VET providers and relevant organisations representing enterprises in five European countries (Germany, Spain, Italy, Bulgaria, and Slovakia).

The purpose is to create new transnational vocational curricula related to the need to facilitate freedom of movement for students and workers, fostering mobility in the mechatronics and metallurgical industries in Europe.

The project will deliver a common curriculum for complementary educational skills requested by the labour market in the five countries. The second most important output will be the development of an e-card for EU CV in which all complementary educational skills acquired in

mechatronics and metallurgical sectors will be uploaded. The e-card is an outstanding new tool, as it will allow young people to easily obtain specific certificate required by industries in the target countries and enter faster into the EU labour market.

The project will boost employability, developing a transnational curriculum focused on mobility and providing an innovative digital tool that will make easier the movement of students and workers. The design and development of the digital tool as well as putting the e-card into practice will show the commitment of the project partners and their important contribution in keeping up-to-date the mechatronics and metallurgical sectors along with the digital evolution toward the "forth industrial revolution".

Referring to the identified challenges, the aim and the specific objectives of the project are:

- The final aim of the consortium is to increase the mobility of students and workers in the mechatronics and metallurgical sectors and their fast track integration into EU labor market.
- The main problem consists in a lack of coordination among EU countries in terms of formally accepted knowledge and competences required to work in European mechatronics and metallurgical sectors, with consequent damages in terms of mobility of students and workers of the above mentioned sectors at European level.
- In order to increase mobility and to foster the work-integration, both at national and international level, the consortium will create a new transnational and common vocational curriculum for the complementary educational skills requested by the labor market. The objective is to develop a unique European certification to be demanded by the enterprises, fostering in this way mobility of
- students and workers of mechatronics and metallurgical sectors, and promoting an integration of competences required for these sectors at European level.
- Indeed, the consortium wants to respond to identified skill gaps and needs in a specific sector, by developing the curricula, teaching and training delivery methodologies and by implementing vocational education and training.
- In order to facilitate the recognition of the skills, knowledge, competences acquired during formal and non-formal education and training, beyond creating a specific CV, the consortium will develop an e-card for the EU CV, with the aim to obtain specific certificates required by industries, thus designing qualification standards to respond to the needs of this specific economic sector.
- Additional objectives of the project are to facilitate inter-generational learning through VET and to identify, document and promote successful skills, qualification and good practices at European level.

3. Quality management strategy

The Quality Assurance Policy includes a quality strategy for the entire project activities. It covers the quality of documents and reporting (including the partner report, progress report and final report), the communication between project partners as well as the quality standards for deliverables. The Quality assurance policy is also a framework, which instructs the implementation of activities and guaranties that all activities are realized in a high quality. Thus secures and improves the projects effectiveness, efficiency and impact.

For efficient achievement of planned objectives, the MeMeVET project members defined a detailed work plan of different work packages. The work plan is presented in the Application form in detail and is one of the main tools to monitor and evaluate the project activities' progress:

WP1 - Quality Control and Monitoring

WP2 - Dissemination and exploitation strategy

WP3 - Overall project management

WP4 - Assessment of the skills required in the mechatronic and metallurgical labour market, with the objective to verify how to translate in a smart way the needs of the labour market into education and training.

WP5 - Design of the training modules for students of VET schools

WP6 - Definitive vocational EU CV in mechatronics and metallurgical sectors, including testing and evaluation of the training modules of the TC

WP7 – Development of an e-card to upload all soft and transversal skills acquired during formal and informal education. The card will be useful to obtain specific certificates required to guarantee a fast integration into EU labour market of young people

WP8 - Mobility and Networking

All activities within each work package have to be completed as planned and within the deadline provided in the work plan.

3.1.   Quality strategy objectives

For this project Quality Strategy Objectives are the following:
- improve the quality of the deliverables within the project
- provide a framework for the quality measurement
- provide a framework about quality requirements
- improve the quality of evaluation

3.2.   Responsibilities for quality assurance

Leading partner (a partner who is leading an activity):
- for the development and implementation of quality management;
- monitoring of overall activities in the group

Project partner (partner who develops an activity):
- for the high quality of own deliverables;
- for delivering financial report

4. Quality assurance process

4.1.   Quality control and monitoring group

Quality Control and Monitoring Group (QCMG) is established during the first meeting in Sofia as a permanent institution during the whole project. The group is led by the Technical University of Sofia in collaboration with all project partners. Each project member nominates a contact person responsible for participating in each QCMG meeting. The quality control procedures will be carried out by the Quality Control and Monitoring Group. The QCMG will conduct regular meetings.

The group is in collaboration with all partners and is ensuring quality control procedures and evaluation criteria for quality control and monitoring during the whole project. It is permanently monitoring the project concerning activities, duration limits, use of allocated inputs and equipment, impact in didactic of teaching, number of students frequenting new modules and acceptance of the project.

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4.1.1 QCMG members

Members of the QCMG are:

Partner	Organisation Name	Acronym	Country	Name
1	ITALIENISCHE HANDELSKAMMER FUR DEUTSCHLAND	ITKAM	Germany	**Vincenza D'Ambrogio**
2	CAMARA DE COMERCIO E INDUSTRIA ITALIANA PARA ESPANA	CCIS	Spain	**Fadia Khraisat**
3	Consorzio Zona Industriale e Porto Fluviale di Padova	ZIP	Italy	**Stefano Bressan**
4	Technical University of Sofia	TUS	Bulgaria	**Lubomir Dimitrov**
5	Bulgarian Chamber of Commerce and Industry	BCCI	Bulgaria	**Christina Shotekova**
6	Asociación Cluster de Automoción de Aragón	CAARAGON	Spain	**Antonio M. Soriano**
7	Presovskaregionalnakomora SOPK	SOPK	Slovakia	**Helena Vircikova**
8	HighTech Startbahn Netzwerk	HSK	Germany	**Thomas Welsch**
9	Univeristà Telematica UNINETTUNO	UNINETTUNO	Italy	**Elpidio Romano**
10	Istituto Tecnico Tecnologico Statale A. Volta	T.I. A.Volta	Italy	**Tiziana Guerrini**
11	Elcom, Spolocnosts Rucenim Obmedzenym, Presov	ELCOM	Slovakia	**Radko Lapoš**
12	Cluster for Automation Technologies and Robotics Klaster AT+R	Klaster AT+R	Slovakia	**Lubomira Levocka**

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13	Cluster regionale della metalmeccanica Friuli Venezia Giulia	COMET	Italy	**Tamara Roveredo**
affiliated	POLOPN-POLO Tecnologico Pordenone	POLOPN-POLO	Italy	**Diego Santaliana**
14	Conseller D'Educacio, Investigacio, Cultua I Esport – Generalitat Valenciana (IES Tirant Lo Blanc)	Generalitat Valenciana	Spain	**Mar González Gómez**
15	Asociacion de Empresarios del Comercio e Industria del Metal MCA Madrid Cluster de Automoción	AECIM	Spain	**Montserrat Carreño-Sanz**

4.1.2   MeMeVET Board Modules/Curriculum development

For efficient and on time evaluation of the modules, curriculum and other didactic materials the QCMG affiliates a "MeMeVET Board Modules/Curriculum". This board should ensure the link between need of industry and VET institution, give the evaluation on terms of relevance and formal items of all the deliverables and output before they are submitted by the coordinator, etc. The board should serve the immediate need for improvement of the quality monitoring and control.

The board is headed by the P1 - TUS as leader of WP 1 and by P 10 – T.I.A. Volta as leader of WP 5. The board main tasks are:

- Monitoring and control on the developed modules in terms of their relevance and adequacy to the company needs and qualifications.

- Supervision and internal evaluation of the deliverables and outputs Modules and Curriculum.

- Harmonization of the modules as they have been developed by different VET partners.

- Selection and cooperation with to ensure the adequacy of the developed modules to standards, principles and European rules before they get public.

The board consists of the following members:

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Partner	Organisation Name	Acronym	Country	Name
1	Italienische handelskammer fur deutschland	ITKAM	Germany	**Vincenza D'Ambrogio**
2	Camara de comercio e industria italiana para espana	CCIS	Spain	**Fadia Khraisat**
3	Consorzio Zona Industriale e Porto Fluviale di Padova	ZIP	Italy	**Stefano Bressan**
4	Technical University of Sofia	TUS	Bulgaria	**Lubomir Dimitrov**
5	Bulgarian Chamber of Commerce and Industry	BCCI	Bulgaria	**Christina Shotekova**
9	Univeristà Telematica UNINETTUNO	UNINETTUNO	Italy	**Elpidio Romano**
10	Istituto Tecnico Tecnologico Statale A. Volta	T.I. A.Volta	Italy	**Patrizia Roma**
12	Cluster for Automation Technologies and Robotics Klaster AT+R	Klaster AT+R	Slovakia	**Lubomira Levocka**
14	Conseller D'Educacio, Investigacio, Cultua I Esport – Generalitat Valenciana (IES Tirant Lo Blanc)	Generalitat Valenciana	Spain	**Mar González Gómez**
15	Asociacion de Empresarios del Comercio e Industria del Metal MCA Madrid Cluster de Automoción	AECIM	Spain	**Montserrat Carreño-Sanz**

4.1.3 E-card Board

For efficient and on time development and implementation of the E-card, E-card board is established. The board is headed by the P 6 - CAARAGON as leader of the WP 7. The board main tasks are:
- Monitoring and control on the developed of E-card.
- Supervision and internal evaluation of the E-card and its implementation.

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- Selection and cooperation with an external evaluator to ensure the adequacy of the E-card to the standards, principles and European rules before its use.

The board consists of the following members selected in order to ensure the representation of the five participation countries:

Partner	Organisation Name	Acronym	Country	Name
3	Consorzio Zona Industriale e Porto Fluviale di Padova	ZIP	Italy	**Stefano Bressan**
5	Bulgarian Chamber of Commerce and Industry	BCCI	Bulgaria	**Christina Shotekova**
6	Asociación Cluster de Automoción de Aragón	CAARAGON	Spain	**Antonio M. Soriano**
8	HighTech Startbahn Netzwerk	HSK	Germany	**Thomas Welsch**
11	Elcom, Spolocnosts Rucenim Obmedzenym, Presov	ELCOM	Slovakia	**Radko Lapoš**

4.1.4   QCMG role

The QCMG will conduct regular meetings, especially before each Steering Committee Meeting (SCM). The QCMG is responsible for quality management and for control of implementation of the project results. The group works in collaboration with all partners and is ensuring quality control procedures and evaluation criteria for quality control and monitoring during the whole project. It is permanently monitoring the project concerning activities, duration limits, use of allocated inputs and equipment, impact in didactic of teaching, number of students frequenting new modules, e-card implementation and final acceptance of the project. The QCMG elaborates and publishes a yearly report on the project web site.

The project management is ensured also by other groups such as Project Steering Committee (PSC), Curriculum Development Board (CDB), Modules Evaluation Board (MEB) and Working Package Managers, which were set up during the first SCM in Sofia on February 27th 2018. Meetings of these working groups will take place at the same time as the SCM, allowing reports

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and discussion of the specific topics at the SCM and saving costs on travelling. Additional WG meetings will be arranged as necessary. Close communication will be established via email and phone.

In order to satisfy the quality standards and the integrity of its awarded qualifications, partners will follow the comprehensive policies and processes for quality assurance, covering:

- The development, design and structure of training modules for VET schools courses (the academic framework)
- Training modules approval, monitoring and review
- Training modules periodic academic review and academic audit
- The development and design of a vocational EU CV in mechatronics and metallurgical sectors
- The development of an e-card and to upload all soft and transversal skills acquired during formal and informal education
- Students assessment, including assessment regulations
- Student appeals
- Ethics policy
- Admission, supervision, monitoring and examination of research students
- Project's reports production concerning all WPs.
- Deliverables concerning all WPs.

4.2. Quality control process basics

In order to guarantee the expected quality performance, the following points are applied:

4.2.1 Quality standards

The Quality Standards defines the requirements and demands for quality. These have to be followed by all project partners in order to secure the overall quality of work for every deliverable and process. This includes the time planning for deliverables and also a general check-up through regular communication. The quality measurement will be supported by a general reporting tool (excel-sheet), where the working progress can be seen and is traceable

4.2.2 Quality criteria for deliverable development

Quality criteria for development of the project deliverables are an integral part of the project Quality Assurance Policy. They have to be applied by all project researchers and developers to all deliverables, regardless their type and the regardless the type of provided information. A general principle in the delivery development is that the content of each deliverable is consortium responsibility and each partner must respect the rules of copyrights and the contractual obligation in terms of expected quality. At the same time the content of all type of deliverables should always meet a number of requirements, which cover quality:

- *completeness*
- *correctness*
- *punctuality*
- *Involvement of all project partners*

On the basis of these main quality requirements the following 5 quality criteria for the project deliverables are proposed:

Completeness: The information provided have to cover all contents related to the purpose for which it is designed for. The lack of information has to be avoided. All information presented in a deliverable should be provided to the depth needed for the purpose of this deliverable, considering the target group knowledge and skills.

Relevance: All information provided in the deliverable should be focused on the key issues. It must take into account the target group knowledge and skills. As the project aim is to develop an European core curriculum program responding to the needs of the industries, the developed modules and Curriculum have to ensure this relevance.

Accuracy: The information provided must be accurate, clear and presented in accessible form. It has to be supported by newest and relevant references. It should be written in a clear and understandable language.

Appearance and structure: (Formal rules for writing and preparing the deliverables). Nevertheless, that the deliverables are prepared by different authors and different partners within the framework of the project, it is important that they have a uniform appearance and structure, so that they appear as originating from a single initiative. The project deliverable templates have to be presented in Dropbox/Templates. This part should cover the deliverables structure, organization of content, layout and their appearance.

Punctuality: (On time)**:** Each deliverable has to prepared in relation to the particular phase of the project's development and according to the Project Plan. The above criteria shall be observed by authors when drafting any project deliverable

4.2.3   Document Management

The document management offers all documents, templates, guidelines, such as this document, and necessary contracts and forms concerning the project MeMeVET. All documents are in the common online-platform (DROPBOX), which serves as a storage. Every document is available for every project member, so it is secure, that everyone can see the working progress and have the same level of information.

4.2.4   Communication among partners

For the realization of a high quality standard it is necessary to keep the communication between all project partners efficient and productive. It will contribute to the quality of deliverables. Meetings and teleconferences will take place on a regular basis. This secures, that a regular exchange of the work progress is discussed and further actions can be planned. Another tool and place for communication is the common online platform.

4.3.   Quality control procedure

4.3.1   Quality control evaluation criteria

The group, led by the Technical University of Sofia in collaboration with all partners is ensuring quality control procedures. The quality control evaluation *criteria*, set by the QCMG, include as follow:

- number of project meetings

- number of meetings outputs

- quality of meeting outputs

- actors involved in the project activities

- gender balance

- training and internships (motilities) in private or public industry (number, gender, country)

- agreements between the consortium MeMeVET and universities, higher education institutions and secondary schools and private or public industry willing to adopt the MeMeVET Curriculum

- participants' reports and dissemination

- newsletters and brochures issued

- quality of newsletters and brochures issued

- partners' activity reports

- quality of WP deliverables

- evaluation of the new transnational vocational curricula

- consistency of the developed curricula with the Bologna Process recommendations

4.3.2 *Quality measurement*

For the measurement of quality during the project, the work package leading partner is going to produce a survey after each period on which all project partners value the quality and satisfaction of work and teamwork. The survey secures a general measurement of all activities and actions during the project and gives the possibility to adopt countermeasures if necessary. This survey has to include the following four parts:

- Quality and satisfaction of the tasks
- Quality and satisfaction of the work flow and work organization
- Quality and satisfaction within the teamwork
- General feedback

After each project meeting P1 (ITKAM) distributes a satisfaction questionnaire and minutes.

4.3.3 Quality control indicators

The quality control, evaluation and monitoring will be carried out on the base on already formulated in the proposal *indicators*:

Indicator 1: Number of the VET providers involved in the project that have an internal quality assurance systems defined by law/at own initiative.

Indicator 2: Number of teachers and trainers that have intention to participate in further training after delivering teaching materials and e-card.

Indicator 3: Minimum 90% attendance rate to pilot training course.

Indicator 4: Minimum 75% satisfaction rate of the people attending the new VET CV.

Indicator 5: Percentage of those completing (i.e. attaining a formal qualification) continuing VET programme(s) (which lead to recognition), compared to those entering VET programme(s) among the people that will be recruited to test the new CV.

Indicator 6: Percentage of employees of the sectors who, within a period of 2 months from completing the VET programme, find that their training is relevant for their current occupation.

Indicator 7: Percentage of employers of metallurgical and mechatronic sector who are satisfied with the new VET CV, minimum 75% satisfaction rate.

Indicator 8: Minimum 75% satisfaction rate about the e-card as recognition tool for skills among VET providers

Indicator 9: Minimum 75% satisfaction rate about the e-card recognition tool for skills among companies in mechatronic and metallurgy sectors.

Indicator 10: Report "assessment of the skills" delivered on time, M6

Indicator 11: Definitive TC delivered on time, M24

Indicator 12: E-card delivered on time, M24

4.4. Quality control procedure steps

All materials and deliverables will be assessed and evaluated internally (within the project) and externally:

4.4.1 Internal evaluation (Self-evaluation)

All the intellectual outputs will be evaluated by the QCMG in order to guarantee their quality with correspondence to EQAVET standards (European Quality Assurance in Vocational Education and Training[1]). The evaluation methodology (questionnaires, target groups and other qualitative and quantitative evaluation techniques) and the frequency of the quality checks will be

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[1] European Quality Assurance in Vocational Education and Training (EQA VET) https://www.eqavet.eu

defined according to the characteristics of each output. Finally, all materials and deliverables have to be accepted by the Steering Committee and by the specific Boards for WPs concerning curriculum & e-Card.

Because of the different challenges and objectives within the project, various types of project deliverables are expected. They can be categorized in the following types:
- documents and reports (Quality Assurance Policy, Project Brochure, MeMeVET curriculum, e-card, Monitoring and Evaluation Sheet, etc.),
- events (kick off, local and international meetings, promotion events etc.),
- actions (Trainings, Workshops, etc.).
- storage of deliverables at the online-platform DROPBOX

Evaluation of transnational project meeting: ITKAM distribute a satisfaction questionnaire to the project partners and related minutes.

4.4.2   Quality of documents and reporting

All documents and reports produced within the MeMeVET project are expected to fulfill the following quality demands:
- respond qualitatively to objectives set in the Application Form and work plan;
- delivered within the deadline set in the work plan;
- maintaining to templates and guidelines

4.4.3   Quality of meetings and events

All events planned within the project need to be professionally organized. The organizer will be responsible for the organization of the event. This includes the invitation, the location, necessary equipment (including materials required), travel arrangements, the setup of an agenda and a sufficient time planning. The organizer has to consider enough time for participants' registration and travel preparations if necessary. Every event planed within the project must also fulfill the requirements regarding the structure and target group.

All events, documents and material issued by the project members must have:

- MeMeVET project logo;
- EU flag with the information of financing;
- Disclaimer;
- Project number: 591854-EPP-1-2017-1-DE-EPPKA2-SSA;
- Attendance list (registered).

4.4.4   Quality of action

Actions (Training, Workshop, etc.) should be conformist and designed for the relevant target group in association with a detailed work plan. These actions need to follow a clearly defined methodology and should fulfill the targeted objectives planed in the work plan within the planned time frame.

4.4.5   External evaluation

The pilot version of the teaching materials and e-card skills will be evaluated by:

- External professionals who will be selected by corresponding boards (Board modules/curriculum and E-card Board).
- Direct beneficiaries during the pilot tests: students, teachers and industrial companies.

According to the results of this evaluation the pilot teaching materials and e-card skills will be modified, adapted and improved to obtain the final version.

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