Syllabus of face-to-face workshop

Day 3

Topic:

Digital competences

Content

1 INTRODUCTION

Project CAR Master, No. 2021-1-CZ01-KA220-VET-000033332, is a European Project which is supported by ERAMUS+ – KA2 Cooperation for innovation and the exchange of good practices, Strategic Partnerships for VET education.

The project is mainly focused on blended learning educational program CAR Master and on creating an online platform as a tool for innovative methods which educates masters. The aim of our project is to identify current qualification requirements of CAR Masters in the European automotive sector.

40 % of the education is available online in the CAR Master program, and this tool is supported by face-to-face training, which consists of 60% of the whole learning content. Online learning platform provides modern and attractive methods of education – MOOC, microlearning, gamification etc.

In order to achieve this objective, CAR Master intends to create a standardized non-academic knowledge base with the learning material to spread out the information about the benefits and challenges of blended learning in Europe. More specifically, the project results are the following:

Result 1: Definition of key skills of masters

Result 2: CAR Master Curriculum

Result 3: CAR Master Learning experience platform

Result 4: Face to face study

Result 5: Accreditation CAR Master

Result 6: CAR Master xlearning platform - finalization

This workshop syllabus is part of the result 4– Face to face study. We are using the flipped classroom methodology, when the target group will be supported by a face-to-face workshop to successfully graduate the whole learning sessions, including the learning materials in Results 2 and 3.

The workshop syllabus is a very detailed document for the teachers and trainers, including the schedule, goals, and teaching methods of working with the target group during the face-to-face sessions.

Consequently, the Erasmus+ project CAR Master aims at the following activities:

1. To define the competence framework of production managers

2. To improve the combination of hard and soft skills of production managers (masters)

3. To develop open education and innovative practices in a digital area and face-to-face (blended learning)

4. To create an online platform as a tool for innovative methods which educate masters.

This **workshop syllabus** was **established for adult educators** working in production companies with masters, foremen, team leaders or productive managers. The main objective is to develop the competencies that productive managers need for daily practical work in industrial companies. It gives an overview of the objectives, the target group, and the contents of the learning materials. In addition,

it provides adult educators with ideas on how to include these contents in their teaching and how to deliver them to their learners.

1.1 Face to face workshop

CAR Master methodology consists of 10 learning units in MOOC:

Unit 1: Total productive maintenance

Unit 2: Production process

Unit 3: Quality control methods

Unit 4: Digital Competences

Unit 5: Economical and organizational knowledge

Unit 6: Professional communication

Unit 7: New technologies

Unit 8: Environment and green skills

Unit 9: Health promotion and Risk prevention

Unit 10: Leadership role of masters

All content units have in the online platform the sections self-assessment tool, MOOC with quizzes, gamification and microlearning.

Face-to-face workshop consists of 5 days to support the self-study during the learning session through the CAR Master Learning experience platform. The workshop syllabus follows the 7 units from the whole learning content as follows:

- o Day 1: Total productive maintenance (4 hours) and Production process (4 hours)
- o Day 2: Quality control methods (4 hours) and Economic and organizational knowledge (4 hours)
- o Day 3: Digital Competences (8 hours)
- o Day 4: Professional Communication (8 hours)
- o Day 5: Leadership role of masters (8 hours)

We, therefore, support using the **flipped classroom principle** with self-assessment tool, MOOC, microlearning, and gamification (PR3) primarily for theoretical parts of courses that do not require intensive student-teacher interaction. This frees up discussion between the teacher and the student within the direct teaching subsidy - in a face-to-face meeting, there is more space for critical topics, deeper explanations or confrontation of expert opinions and their defence.

One day/8 hours will be focused on the above-mentioned 7 topics – in total 5 days.

That document is primarily addressed to adult educators: teachers, trainers or some persons realizing the training with adults in production companies. It is a detailed syllabus with the proposed time schedule, which can be modified according to the needs of the trainers and especially of the workshop´s participants.

2   WORKSHOP SYLLABUS

2.1   Goals

The aim of this workshop series is to help the adult learners to become more effective in their daily work of master/productive manager. They will practice the knowledge from the self-study with many practical examples, case studies with the support of the trainer and in the team.

- Adult learners will be able to use the theoretical knowledge in practice.

- Adult learners will be able to use the theoretical knowledge in team cooperation.

- Adult learners will understand the consequences of the appropriate topics in practical use.

- Adult learners will learn to share the obtained skills with your colleagues and teacher.

2.2   Session Goals

The following session goals follows the learning objectives of online study and are addressed to the adult educators to understand the learn objectives of each topic. The session goals for workshop´s participants are stated in the attachment Nr. 1 (Syllabus of full-time workshop for adult learners) and should be share with the participants before workshop or on its very beginning.

2.2.1   Total productive maintenance

After completing the session "Principles of Total Productive Maintenance" the participant will know and be able to:

- the basics around maintenance

- describe maintenance strategies

- the economic importance of maintenance

- describe typical weak points

- the most important basics of Total Productive Maintenance (TPM)

- the 8 pillars concept of TPM

- goals of TPM

- the 5S method

- the most important basics of people management under TPM

- the concept of autonomous maintenance

- how to introduce the concept of TPM to employees

- how to delegate tasks

- the concept of autonomous maintenance

2.2.2 Production process

In this learning session, the participant deals with the most essential basics of the production process. The participant will learn:

- important elements and instruments around work and process planning

- planning strategies and planning methods

- coding and numbering

- the tasks of scheduling

- how the lead time is made up

- the most important terms of capacity and materials management

- methods and goals around material planning as well as working time organization

- the objectives of capacity management

- material requirements planning

- the basics of working and operating time organisation

- the principles of Lean production and associated tools

- the basics of the value chain and how to fundamentally reduce waste along it

- how the KANBAN system works

2.2.3 Quality control methods

To understand the important and cross-company aspect, the participant will

- Know what quality planning involves

- Able to name the levels of quality planning

- Know quality characteristics

- Able to describe internal and external advantages of quality management systems

- Know the objectives, principles, and benefits of quality management systems

- Know the continuous improvement process (CIP) approach to product, process and service quality

- Able to name the phases of CIP

- Know the differences between CIP and Kaizen

- Four important quality management tools and their use in the automotive industry (Ishikawa/fishbone diagram, 5 Why method, Poka-Yoke, 8D method)

2.2.4 Economic and organizational knowledge

In this session the participant will learn about:

- the sub-areas of accounting

- the principles and tasks of controlling

- definitions the terms income and expenses

- definitions the term costs

- name the objectives of human resource planning

- definitions qualitative human resource planning and describe the procedure in qualitative human resource planning

- definitions the terms payment system and remuneration

- the European minimum requirements of working conditions

- the EU regulations to improve work-life balance

- questions they are allowed to ask during a job interview

2.2.5 Digital Competences

In this session the participant will:

- understand the basic characteristics of data security.

- understand the terms cybercrime and hacking.

- be able to recognize malicious and unsolicited emails.

- know measures to physically secure computers and mobile devices.

- know the important mathematical and statistical functions of Excel.

- be able to visualise the data adequately.

- be able to create a pivot table.

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2.2.6 Professional Communication

After completing this unit, the participant will have the following knowledge to:

- understand how communication processes are structured.

- explain how communication works according to the sender-receiver model.

- know possible reasons for communicative misunderstandings.

- explain which goals can be pursued with questioning techniques.

- explain when a conflict exists and what the basic characteristics are.

- name the basic characteristics of an escalation.

- know the basic patterns of conflict resolution.

- know potential subjects of dispute which can further lead to conflicts.

- know tools for difficult communication situations.

- explain possible meeting objectives.

- know the rules of meeting preparation.

2.2.7 Leadership role of masters

In detail, the participant should have the following knowledge after completing the course unit:

- define the leadership styles and list the competence of leaders.

- know the basic pillars of successful (team) leadership.

- know the definition of a team role.

- present different circumstances that have a motivating effect on employees.

- know the characteristics of ageing-appropriate work design.

- describe how age can influence the ability to work and behavioural prevention of work in old age.

- explain the term gender.

- explain the relationship between language and reality and use this to make arguments for gender-sensitive language.

- awareness that the unequal treatment of men and women is not only based on biological but rather on social factors.

- know what intercultural diversity is and can effectively support cultural diversity, promote cross-cultural communication and understanding.

2.3 Duration

The recommended duration of the workshop is 5 days, 8 hours per day and 40 hours in total. The recommended length for each of 7 learning session is stated above and can be changed according to the requirements of the particular company or participants. The workshop is designed to support the students in the whole process of blended learning:

- To explain the adult learners the complete methodology of CAR Master

- To prepare the adult learners for all phases of blended learning and be a supportive guide for them during the workshops

- To provide the adult learners with face-to-face support, interactive activities, and practical examples of the learning content

- To ensure the adult learners the various interactive methods in groups, pairs or self-study with the teacher´s support in workshops

All proposed activities are specified in more detail and with an estimated time framework. But of course, the activity running or final evaluation discussion is directly proportional to the number and activity of the participants, and the planned time could be longer. It is up to the teacher or trainer to manage the activities and discussions to benefit all participants and to adjust the quantity and length of all proposed activities to the particular group of participants.

The mentioned duration and schedule of the whole workshop is only a recommendation. If the teacher/trainer feels that it would be useful to prolong the duration for more days using all proposed activities, it can be provided. The minimal duration of 5 days/40 hours should be kept reaching the required educational effect for the target group.

It is up to teachers and trainers to customize a proposed pool of activities to the national and local habits. The teacher or trainer is the most familiar with the needs of a particular group, so it is up to him/her to change the start of the workshop (f.e. from 9:00 to 8:00) or the duration of the workshop from 8 to 6 hours and plan more days to keep the recommended duration. The teachers and trainers can understand the proposed learning content as a pool of recommended activities, and their use and composition should strictly respect the needs of a particular group of participants and national/local habits.

1st day is recommended to realize before starting the whole study to obtain the appropriate information on how the whole learning methodology works.

The other days should follow the week (or more) after self-study of the appropriate unit/topic.

The recommendation for the total period of face-to-face workshop is 5 weeks (1 day per week), but the final decision on how to implement this workshop is up to the teacher/trainer. The workshop can also be realized as intensive training in 1 week, or the trainer can choose another division of 5 days.

2.4 Required texts, materials or equipment

Each activity proposed in the workshop design has its structure with a detailed description of the required texts, materials or equipment. The following items are generally necessary for successful workshop running in general.

For participants:

- link to learning texts for self-study: CAR Master platform registration, including the self-assessment tool

- notebook/tablet/smartphone for self-study sessions

- papers/pencils etc.

For trainers/adult educators:

- flipchart, board

- data projector for presentations

- notebook

- cards for participants

- papers, pencils

- dissemination material of the project (PR video, leaflets etc.)

- equipment stated directly in the description of each activity.

2.5 Target group

The target group we focus on is formed mainly by masters (foremen/production managers). They implement the management decision right into the work of operators. They have a direct impact on the quality of products and the effectiveness of the process. Right now, all industrial companies have a lack of educated employees for the position of managers. In general, CAR Master's target audience is:

- Industrial companies
- Masters and talents in industrial production
- Trainers, HR experts
- Educational institutions and schools

It is recommended to have only a small group of the participants – maximum of 15 persons to ensure the individual access and support to all of them.

2.6 Evaluation of the workshop

The participant will be a successful graduator if participates in 70% of the total workshop duration, i.e. he/she has to pass at least 28 hours in face-to-face learning (in case of planned 40 recommended hours). After successful participation, the participant will receive the certificate confirming the attendance. The certificate template is attached to that document as Appendix Nr. 3.

It is recommended to ask the participants for their expectations at the beginning of the face-to-face workshop and to obtain the final feedback on the last day of the workshop. The continuous evaluation will be made at the end of each session day.

The evaluation of the knowledge and skills will be realized continuously during the session by the teacher. The participants will receive individual recommendations continuously during the whole workshop.

The trainer should appreciate the partial successes of the learning and be supportive individually to each participant.

3 SCHEDULE OF THE WORKSHOP

3.1 Day 3 – Digital Competences

Introduction:

The third day of the face-to-face methodology is focused on the fifth learning topic: Digital competencies. The whole learning topic should be 8 hours; the whole learning day is planned for 8 learning hours with short coffee breaks and 1 hour for lunch. The planned schedule can be changed according to the trainer's needs and participants' group – also, division to 2 half days is possible.

9:00 – 9:30 – Welcome/Warming/Expectations

The teacher will introduce himself/herself and ask the participants for an introduction of each participant and expectations (2-3 minutes per participant). After the introduction, the teacher will warm up the participants with an icebreaker.

WORKSHOP SESSION	**CAR Master - Icebreaker** **Day 3, 9:30 – 9:55**
ACTIVITY NAME	**Icebreaker – Going on a picnic**
OBJECTIVES	● To know each other ● To be warmed up ● To ice break the group atmosphere

DESCRIPTION	● **Preparation**
	The preliminary preparation is not necessary
	
	● **Explain the activity to the students (briefing) – 5 minutes**
	  1. Explain what students can expect from the next 25 minutes
	  2. Create a pleasant and positive atmosphere
	
	● **Run the activity – 15 minutes**
	  ● In the ice game "Going on a picnic" you not only meet new people, but also train your memory.
	  ● The person starts the round by saying their name and choosing an item to take on the picnic.
	    Example: "Hey, my name is Lisa. I'm going on a picnic and I'm taking my dog."
	  ● The next person repeats the name and the item the person mentioned, and then says their name and the item.
	    Example: 'Lisa takes her dog on a picnic. My name is Barbara and I'm taking the microwave."
	  ● Each person in the group must repeat everyone's name and items in the correct order before adding a new item to the list. The game ends when one person does not remember all the names and items.
	
	● **Evaluation (debriefing) – 5 minutes**
	  ● Ask your learners if they have some questions.

TIME FOR THE ACTIVITY	**Total time:** 25 minutes (+ preparation time) --- **Preparation time:** 0 minutes **Briefing time:** 5 minutes **Activity time:** 15 minutes **Evaluation time:** 5 minutes
SETTING OF THE ACTIVITY	*Identify if it is an individual or group activity, if it is led by the teacher or if it is self-learning, if it is done in class or at home. If it is done in group, specify the number of students per group. Specify also the different roles of the teacher and the learners.*

	This activity is led by the teacher/trainer and done in the plenum in class.
	
	Teacher's/Trainer's role:
	    ● Explaining the running of activity
	    ● Continuous organization of the activity
	    ● Facilitation of the discussion and evaluation
	Learners' role:
	    1. The students are listening to the explanations, actively working (individually, in the plenum)

MATERIALS FOR THE TEACHER	
MATERIALS FOR THE STUDENT	

9:55 – 10:25   **Learning unit: Digital competencies**

WORKSHOP SESSION	**CAR Master: Learning unit Digital competences** **Day Nr. 3, time 9:55 – 10:25**
ACTIVITY NAME	**Introduction to Digital Competences at the workplace**
OBJECTIVES	The central topic of the module is the use of digital technology for example, to communicate, to collaborate in a safety way. It´s also about digital competences in the manufacturing/automotive industry. In the process, you will reflect on your digital skills and previous experiences.

DESCRIPTION	● **Preparation (5 Min)**
	    - distribute materials and credentials for WEB applications,
	    - Input – Video:
	    Input Why Digital Competences are important…
	    Accelerating Digital Transformation in the Automotive Industry
	    https://www.youtube.com/watch?v=6jAi4N5uImM
	2. **Explain the activity to the students (briefing) – 5 minutes**
	    -Explain what students can expect from the next 20 minutes
	    -Create a pleasant and positive atmosphere
	
	●**Run the activity – 15 minutes**
	    - start with the presentation about digital competences (15 Min)
	    - digital skills / future soft skills in the automotive workplace
	    - Why they are important – Brainstorming session -
	    ● **Evaluation (debriefing) – 5 minutes**
	    -Brainstorming
	    -Individual Feedback
	    -Lesson learnt.

	Total time: 30 minutes

TIME FOR THE ACTIVITY	--- **Preparation time:** 5 minutes **Briefing time:** 5 minutes **Activity time:** 15 minutes **Evaluation time:** 5 minutes
SETTING OF THE ACTIVITY	*Identify if it is an individual or group activity, if it is led by the teacher or if it is self-learning, if it is done in class or at home. If it is done in group, specify the number of students per group. Specify also the different roles of the teacher and the learners.* This activity is led by the teacher/trainer and done in the plenum in class. Teacher's/Trainer's role: ● Preparation of automotive-related scenarios for the activity ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: 2. The learners are listening to the explanations. 3. They brainstorm and share their ideas with others. 4. They adapt their ideas to the context of the automotive industry https://platform.car-master.eu/wp-login.php?action=registerstry 5. They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	● Presentation slides (concerning real-life situations assigned to each group) Whiteboard and markers. ● Projector and screen (if available) ● CAR Master Videos (CANVA; Youtube)
MATERIALS FOR THE STUDENT	● Handouts with key concepts and case studies ● Sheets of paper and writing utensils ● Wifi-Code ● Credentials / Links for online work

10:25 – 10:40   Coffee break

10:40 – 11:20   Digital Competences at the workplace

WORKSHOP SESSION	**CAR Master: Digital competences Part 02** **Day Nr. 3, time: 10:40 – 11:20**
ACTIVITY NAME	**Digital Competences at the workplace – Individual exercises**
OBJECTIVES	Digital skills are essential for working, studying, accessing services and buying products, or keeping in touch with friends and family. Take this test to learn more about your digital skills, discover your level, and take the next step to improve them.
DESCRIPTION	1. **Preparation (5 Min)** - short introduction to this individual exercise

	- distribute materials and credentials for the WEB applications
	- Short intro to the Digital skills tes (Dream job,…
	Test your digital skills & choose your language:
	2. Explain the activity to the students (briefing) – 5 minutes
	  -Explain what students can expect from the next 20 minutes
	  -Create a pleasant and positive atmosphere
	
	●**Run the activity – 15 minutes**
	    Link: **Test your digital skills & choose your language:**
	
	● **Evaluation (debriefing) – 15 minutes**
	  -Brainstorming
	  - Evaluation of individual digital skills test results & recommendations
	  -Individual Feedback
	  -Lesson learnt

TIME FOR THE ACTIVITY	**Total time: 40** minutes -- **Preparation time:** 5 minutes **Briefing time:** 5 minutes **Activity time:** 15 minutes **Evaluation time:** 15 minutes

SETTING OF THE ACTIVITY	*Identify if it is an individual or group activity, if it is led by the teacher or if it is self-learning, if it is done in class or at home. If it is done in group, specify the number of students per group. Specify also the different roles of the teacher and the learners.*
	This activity is led by the teacher/trainer and done in the plenum in class.
	
	Teacher's/Trainer's role:
	  ● Preparation of digital skills test
	  ● Explaining the running of activity
	  ● Continuous organization of the activity
	  ● Facilitation of the discussion and evaluation
	Learners' role:
	  6. The learners are making the individual the digital skills test
	  7. They present the results to the forum

MATERIALS FOR THE TEACHER	● Whiteboard and markers ● Presenter case ● Flipchart ● Projector and screen (if available)
MATERIALS FOR THE STUDENT	● Sheets of paper and writing utensils ● Wifi-Code ● Credentials / Links for online work

11:20 – 12:30   **Digital tools at the workplace**

WORKSHOP SESSION	CAR Master - Digital competences: part 3 Day Nr. 3, time: 11:20 – 12:30
ACTIVITY NAME	Introduction to Digital Tools at the workplace
OBJECTIVES	The objective of this workshop is to introduce participants to a range of digital tools and technologies that can enhance productivity, creativity, and communication in both personal and professional contexts. Participants will gain practical knowledge of various digital tools and learn how to select the right ones for their specific needs.
DESCRIPTION	Introduction (5 minutes) ● Welcome and brief overview of the workshop's objectives. ● Highlight the importance of digital tools in today's world. Types of Digital Tools (10 minutes) Overview of different categories of digital tools: ● Productivity tools (e.g., task management, calendars) ● Communication tools (e.g., email, messaging apps) ● Collaboration tools (e.g., project management, cloud storage) ● Learning and development tools (e.g., online courses, e-books) Essential Productivity Tools (10 minutes) Demonstration and discussion of essential productivity tools: ● Microsoft Office Suite (Word, Excel, PowerPoint) ● Google Workspace (Docs, Sheets, Slides) ● Task management apps (e.g., Trello, Asana) ● Calendar apps (e.g., Google Calendar, Microsoft Outlook) Communication and Collaboration Tools (10 minutes) Introduction to communication and collaboration tools: ● Email clients (e.g., Outlook, Gmail) ● Messaging apps (e.g., Slack, Microsoft Teams) ● Video conferencing (e.g., Zoom, Microsoft Teams) ● Cloud storage (e.g., Google Drive, Dropbox) Learning and Development Tools (5 minutes) ● Mention the importance of continuous learning. ● Suggest online course platforms (e.g., CarMaster Platform). Choosing the Right Tools (10 minutes) Discuss factors to consider when selecting digital tools: ● Purpose and goals ● User-friendliness ● Compatibility and integration ● Cost and budget Q&A Session (10 minutes) ● Open the floor for questions from participants. ● Provide answers and additional insights. Resources and Next Steps (5 minutes)

	● Share a list of recommended resources for further learning. ● Encourage participants to explore and experiment with digital tools. ● Provide contact information for follow-up questions or assistance. Conclusion and Thank You (5 minutes) ● Summarize key takeaways. ● Thank participants for attending the workshop. ● Request feedback for future improvements.
TIME FOR THE ACTIVITY	**Total time: 70** minutes --- **Preparation time:** 0 minutes **Briefing time:** 5 minutes **Activity time:** 55 minutes **Evaluation time:** 10 minutes
SETTING OF THE ACTIVITY	*Identify if it is an individual or group activity, if it is led by the teacher or if it is self-learning, if it is done in class or at home. If it is done in group, specify the number of students per group. Specify also the different roles of the teacher and the learners.* This activity is led by the teacher/trainer and done in the plenum in class. Teacher's/Trainer's role: ● Preparation of automotive-related scenarios for the activity ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: ● The learners are listening to the explanations ● They brainstorm and share their ideas with others ● They adapt their ideas to the context of the automotive industry ● They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	● Presentation slides or visual aids ● Access to a computer or projector for demonstrations ● Handouts or resource lists ● Q&A session setup (microphone, online chat, or in-person)
MATERIALS FOR THE STUDENT	● Handouts with key concepts and case studies ● Sheets of paper and writing utensils ● Wifi-Code ● Credentials / Links for online work

12:30 – 13:30 Lunch

13:30 – 14:50 Activities to the topic: Individual exercises Digital tools

WORKSHOP SESSION	**Digital competences** **Day Nr. 3, time: 13:30 – 15:00**

ACTIVITY NAME	Individual exercises Digital Tools
OBJECTIVES	This workshop is designed to provide participants hands-on experience using various digital tools to enhance their productivity and efficiency. Participants will gain practical knowledge and skills in using these tools effectively through individual exercises.
DESCRIPTION	Introduction (5 minutes) ● Welcome and overview of the workshop's objectives. ● Highlight the importance of hands-on learning. Types of Digital Tools (5 minutes) ● Briefly introduce different categories of digital tools. ● Emphasize the relevance of these tools in daily life and work. Individual Exercise 1: Productivity Tools (10 minutes) ● Provide instructions for the first exercise. ● Each participant should choose a task from their daily routine and use a productivity tool (e.g., a task management app) to organize and plan it. Group Discussion 1 (10 minutes) Have participants share their experiences and insights from the first exercise. Individual Exercise 2: Communication and Collaboration Tools (10 minutes) ● Provide instructions for the second exercise. ● Participants should simulate a collaborative project using communication and collaboration tools (e.g., creating a shared document or setting up a project in a collaboration platform). Group Discussion 2 (10 minutes) Encourage participants to discuss their collaboration exercise and what worked well. Wrap-up and Reflection (5 minutes) ● Summarize key takeaways from the exercises. ● Emphasize the importance of integrating digital tools into daily routines. Q&A Session (5 minutes) Allow participants to ask questions and seek clarification. Resources and Next Steps (5 minutes) ● Share a list of recommended resources for further learning. ● Encourage participants to continue experimenting with digital tools. Conclusion and Thank You (5 minutes) Thank participants for their active participation. Request feedback for future improvements.
TIME FOR THE ACTIVITY	**Total time: 70** minutes -- **Preparation time:** 5 minutes **Training time:** 15 minutes **Activity time:** 30 minutes **Evaluation time:** 20 minutes

SETTING OF THE ACTIVITY	Teacher's/Trainer's role: ● Preparation of automotive-related scenarios for digital tools ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: ● The learners are listening to the explanations ● They brainstorm and share their ideas with others ● They adapt their ideas to the context of the automotive industry ● They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	● Computers or laptops with internet access for participants ● Pre-installed digital tools or guidance on installation ● Presentation slides ● Handouts with instructions and exercises
MATERIALS FOR THE STUDENT	● Handouts with key concepts and case studies ● Sheets of paper and writing utensils ● Computer / Wifi-Code ● Credentials / Links for online work

14:50 – 15:10 Energizer

WORKSHOP SESSION	**CAR Master - Energizer** **Day 3, 14:50 – 15:10**
ACTIVITY NAME	**Energizer: Positive message**
OBJECTIVES	This activity allows team members to express their gratitude, appreciation and encouragement to their colleagues. It contributes to a positive environment and helps build strong relationships among team members. It is a short and simple activity, but can have a significant impact on team dynamics and morale.
DESCRIPTION	● **Preparation** The preliminary preparation is not necessary ● **Explain the activity to the students (briefing) – 2 minutes** ● Explain what students can expect from the next 13 minutes ● Create a pleasant and positive atmosphere ● **Run the activity – 8 minutes** ● Each member of the group chooses someone from the team and writes a short, encouraging message. ● This message should include words of appreciation, praise and encouragement. ● Each member has 5 minutes to write a message. ● After this time, the group leadership can decide whether to share the messages out loud or give them directly to the recipients. ● **Evaluation (debriefing) – 5 minutes** ● After 5 minutes, you can discuss with the group whether they would like to share their messages out loud or forward them directly to the recipients. If you choose

	to share your messages out loud, it can help strengthen the team atmosphere and create a wave of positive energy. ● If the messages are passed directly to the addressees, you can let the members read them themselves after the activity and then organise an informal discussion where they can share their impressions and reactions. ● Ask your learners if they have some questions.
TIME FOR THE ACTIVITY	**Total time: 1**5 minutes -- **Preparation time:** 0 minutes **Briefing time:** 2 minutes **Activity time:** 8 minutes **Evaluation time:** 5 minutes
SETTING OF THE ACTIVITY	*Identify if it is an individual or group activity, if it is led by the teacher or if it is self-learning, if it is done in class or at home. If it is done in group, specify the number of students per group. Specify also the different roles of the teacher and the learners.* This activity is led by the teacher/trainer and done in the plenum in class. Teacher's/Trainer's role: ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: 8. The students are listening to the explanations, actively working (individually, in the plenum)
MATERIALS FOR THE TEACHER	
MATERIALS FOR THE STUDENT	Papers, pencils

15:10 – 15:55 Practical activities to the topic of Digital competencies

WORKSHOP SESSION	**CAR Master - Digital competences** **Day Nr. 3, time: 15:10 – 15:55**
ACTIVITY NAME	**Data analysis**

OBJECTIVES	● to demonstrate how data analysis can inform decision-making in a production context. ● Briefly review the key functions of the chosen spreadsheet software (e.g., Excel) that participants will be using ● This specific scenario guides participants through hands-on data analysis using real data, fostering a deeper understanding of how to explore, visualize, and interpret data to make informed decisions in a production setting. It also encourages critical thinking and problem-solving skills.

DESCRIPTION	1. **Preparation** (5 minutes)
	● Ensure a set of laptops for participants or ask them to bring their own.
	● Prepare the sample production dataset. The dataset should include various relevant parameters such as production date, product type, quantity produced, defect rates, and machine usage.
	
	2. **Briefing the participants** (5 minutes)
	● Explain to the participants what they can expect from next 40 minutes
	● Start by explaining the purpose of this exercise: to demonstrate how data analysis can inform decision-making in a production context.
	● Briefly review the key functions of the chosen spreadsheet software (e.g., Excel) that participants will be using.
	
	3. **Running the activity** (30 minutes)
	● Instruct participants to open the dataset using their spreadsheet software.
	● Guide them through the process of exploring the dataset, including sorting, filtering, and summarizing the data.
	● Ask participants to answer some initial questions about the data, such as:
	    ○ What is the overall production trend over time?
	    ○ Which product type has the highest defect rate?
	    ○ Is there any correlation between machine usage and defect rates?
	● Encourage participants to create visualizations (e.g., charts or graphs) that represent the data.
	● Demonstrate how to create basic charts like line charts or bar graphs to visualize trends and relationships within the data.
	● Discuss the advantages of visualizations in conveying information effectively.
	● Explain the concept of hypothesis testing and how it can be used to make data-driven decisions.
	● Provide a hypothetical question, such as: "Is there a significant difference in defect rates between morning and afternoon shifts?"
	● Guide participants through the process of setting up a hypothesis test using the spreadsheet software.
	● After performing the hypothesis test, participants should interpret the results.
	● Discuss how to determine whether the difference in defect rates between shifts is statistically significant.
	● Emphasize the importance of using statistical tools to make decisions rather than relying on intuition.
	
	4. **Evaluation (10 minutes)**

	● Each participant or group should present their findings, including visualizations and the results of their hypothesis test. ● The trainer should encourage discussion and questions from other participants. ● Conclude the exercise with a discussion on how data analysis can be applied in their actual production roles. ● Encourage participants to share any challenges or insights they gained from the exercise.
TIME FOR THE ACTIVITY	**Total time: 45** minutes --- **Preparation time:** 5 minutes **Training time:** 30 minutes **Evaluation time:** 10 minutes
SETTING OF THE ACTIVITY	Teacher's/Trainer's role: ● Preparation of sample production dataset ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: ● The learners are listening to the explanations ● They brainstorm and share their ideas with others ● They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	● Computers or laptops with internet access for participants ● Pre-installed digital tools or guidance on installation
MATERIALS FOR THE STUDENT	● Computers or tablets with spreadsheet software (e.g., Microsoft Excel or Google Sheets) ● Sample production dataset (can be provided as a file)

15:55 – 16:10 Coffee break

16:10 – 16:55 Group exercise

WORKSHOP SESSION	**CAR Master - Digital competences. Group exercise** **Day Nr. 3, time: 16:10 – 16:55**
ACTIVITY NAME	**IoT and monitoring**

OBJECTIVES	● To familiarize production foremen with the Internet of Things (IoT) concept and how it can be used for real-time monitoring in a production environment. ● By arranging this exercise for small groups, participants can collaborate and share their observations and ideas, fostering a more interactive and engaging learning experience.
DESCRIPTION	1. **Preparation** (5 minutes) ● Ensure a set of laptops for participants or ask them to bring their own. ● Prepare the IoT monitoring platform or software (live dashboard). 2. **Briefing the participants** (5 minutes) ● Explain to the participants what they can expect from next 40 minutes ● Start by explaining the purpose of this exercise: to introduce participants to the concept of IoT and its applications in production. ● Define IoT as the network of physical devices, sensors, and software that connect and exchange data over the internet. 3. **Running the activity** (30 minutes) ● Discuss specific use cases of IoT in production settings, such as real-time monitoring of equipment, predictive maintenance, and quality control. ● Emphasize the benefits of reducing downtime, improving efficiency, and minimizing unexpected failures. ● Provide a demonstration of an IoT monitoring platform or software (e.g., a live dashboard) on a computer or tablet. ● Show how real-time data from sensors (e.g., machine temperature, production speed) is collected, transmitted, and displayed on the dashboard. ● Explain how alerts and notifications can be set up for abnormal conditions. ● Divide the participants into small groups of 3-4 members each. ● Each group is assigned a computer or tablet with access to the IoT monitoring platform. ● Instruct them to explore the live data dashboard and interact with the interface. Encourage them to simulate changes in conditions (e.g., adjusting machine settings) to see how the system responds in real-time. ● Within their small groups, guide participants in analyzing the data displayed on the IoT dashboard. ● Discuss how trends, patterns, and anomalies can be identified from the real-time data. ● Encourage discussion within the groups on how they would use this data in a real production scenario. 4. **Evaluation (10 minutes)** ● Reconvene the small groups and ask each group to share their thoughts and insights. ● Encourage them to discuss potential use cases or improvements they've identified. ● Conclude the exercise with a reflection on the benefits and challenges of implementing IoT for monitoring in production. ● Discuss the importance of data security and the integration of IoT systems with existing processes.

TIME FOR THE ACTIVITY	**Total time: 45** minutes -- **Preparation time:** 5 minutes **Training time:** 30 minutes **Evaluation time:** 10 minutes
SETTING OF THE ACTIVITY	Teacher's/Trainer's role: ● Preparation of sample production dataset ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role: ● The learners are listening to the explanations ● They brainstorm and share their ideas with others ● They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	● Computers or laptops with internet access for participants ● Pre-installed digital tools or guidance on installation
MATERIALS FOR THE STUDENT	● Computers or tablets with internet access ● IoT monitoring platform or software for demonstration (f.e. Predix by General Electric: Predix can monitor the entire manufacturing line in an automotive assembly plant. It collects real-time data from sensors installed on machines, robots, and conveyor belts, providing insights into the production process. For example, it can track the number of completed cars, machine uptime, and any deviations in the assembly process).

16:55 – 17:45 Case study to Digital Competencies

WORKSHOP SESSION	**CAR Master - Digital competencies. Case study** **Day Nr. 3, time: 16:55 – 17:45**
ACTIVITY NAME	Interactive Case Study Scenario: "XYZ Automotive's IoT Challenge"
OBJECTIVES	The learning objectives are designed to provide a well-rounded understanding of the IoT's role in automotive manufacturing and the development of digital competencies essential for industry professionals. This case study facilitates experiential learning and enables participants to apply theoretical knowledge to practical situations, ultimately enhancing their skills and understanding in the field of IoT and digital competencies.

DESCRIPTION	1. **Preparation** (0 minutes) ● No preparation is necessary. 2. **Briefing the participants** (5 minutes) ● Explain to the participants what they can expect from next 40 minutes ● Participants are divided into small groups, each representing a department within XYZ Automotive. The case study revolves around XYZ Automotive's recent IoT implementation and its impact on various aspects of the organization. Participants are asked to discuss, make decisions, and present their department's perspective. 3. **Running the activity** (35 minutes) ● After presenting the background and objectives of the case study, divide participants into small groups representing different departments (e.g., Production, Quality Control, Maintenance, and Logistics). ● At key decision points in the case study, such as whether to invest in predictive maintenance technology or which IoT sensors to prioritize, each department participates in discussions and makes decisions. ● Each participant assumes a role within their department, such as a production manager or quality control supervisor, and considers the IoT implementation from that perspective. For example, the Production department discusses how IoT impacts production speed and efficiency, while the Quality Control department focuses on reducing defects. ● Participants engage in a debate regarding the return on investment (ROI) of implementing IoT in the maintenance department. One group argues in favour of the investment, emphasizing the savings from predictive maintenance, while the other group questions the high initial costs. ● A hypothetical challenge is introduced during the case study: a sudden increase in customer demand that requires adjusting production schedules. Participants, within their departmental groups, brainstorm solutions on how IoT data could help manage this situation effectively. 4. **Evaluation (10 minutes)** ● Ask each group to present their department's perspective, decisions, and key takeaways from the case study. ● Encourage groups to provide a brief report summarizing their findings and the impact of IoT on their respective roles.
TIME FOR THE ACTIVITY	**Total time: 50** minutes --- **Preparation time:** 5 minutes **Training time:** 35 minutes **Evaluation time:** 10 minutes
SETTING OF THE ACTIVITY	Teacher's/Trainer's role: ● Explaining the running of activity ● Continuous organization of the activity ● Facilitation of the discussion and evaluation Learners' role:

	● The learners are listening to the explanations ● They brainstorm and share their ideas with others ● They present the ideas created in their groups to the forum
MATERIALS FOR THE TEACHER	
MATERIALS FOR THE STUDENT	

17:45 – 18:00 The trainer will ask the participants about evaluation of the whole day, fulfilment of their expectations and recommend the casual sources for study to the learned topics. The trainer can inform the participants about next day of the workshop focused on Professional Communication. The follow-up of all session can be recommendation to be back to the learning units in CAR Master platform: https://platform.car-master.eu/

4 ATTACHMENTS

- Syllabus of full-time workshop for adult learners
- Schedule the full-time workshop on 1 page
- Certificate template for full-time workshop

CAR Master training

ARE YOU INTERESTED IN FURTHER INFORMATION? WE LOOK FORWARD TO YOUR VISIT TO OUR WEBSITE!

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ZAP

Syllabus of CAR Master workshop for participants

Name: CAR Master Workshop

Duration: 40 hours

Introduction:

The project is mainly focused on blended learning educational program CAR Master and on creating an online platform as a tool for innovative methods which educates masters. The aim of our project is to identify current qualification requirements of CAR Masters in the European automotive sector.

40 % of the education is available online in the CAR Master program, and this tool is supported by face-to-face training, which consists of 60% of the whole learning content. Online learning platform provides modern and attractive methods of education – MOOC, microlearning, gamification etc.

This workshop syllabus was established for masters, foremen, team leaders or productive managers working in production companies. The main objective is to develop the competencies that productive managers need for daily practical work in industrial companies.

The workshop consists of 5 days which support the self-study through the CAR Master platform. The workshop syllabus follows the learning units of the whole methodology as follows:

- Day 1: Total productive maintenance (4 hours) and Production process (4 hours)
- Day 2: Quality control methods (4 hours) and Economic and organizational knowledge (4 hours)
- Day 3: Digital Competences (8 hours)
- Day 4: Professional Communication (8 hours)
- Day 5: Leadership role of masters (8 hours)

We, therefore, support using the flipped classroom principle with self-assessment tool, MOOC, microlearning, and gamification (PR3) primarily for theoretical parts of courses that do not require intensive student-teacher interaction. This frees up discussion between the teacher and the student within the direct teaching subsidy - in a face-to-face meeting, there is more space for critical topics, deeper explanations or confrontation of expert opinions and their defence.

Learning objectives:

The aim of this workshop series is to help the masters, foremen, productive managers, team leaders to become more effective in their daily work. You will be able to use the theoretical knowledge in practice.

- You will be able to use the theoretical knowledge in team cooperation.
- You will understand the consequences of the appropriate topics in practical use.
- You will learn to share the obtained skills with your colleagues and teacher.

Required texts, materials, or equipment:

- Link to CAR Master online platform: https://platform.car-master.eu/
- Notebook/tablet/smartphone for self-study sessions
- Papers/pencils etc.

Evaluation: You will receive a certificate for completing the workshop (at least 70% of your attendance).

FACE TO FACE WORKSHOP

CAR Master

Day 1
TPM + Production processes

- 9:00 – 09:20 Introduction
- 09:20-10:00 Expectations, warming
- 10:00-10:30 Learning unit I to topic TPM
- 10:30-10:45 Coffee break
- 10:45-13:00 Activities to topic TPM, summary
- 13:00-14:00 Lunch
- 14:00 – 14:45 Learning unit II Production process
- 14:45-15:45 Activities to topic
- 15:45-16:00 Coffee break
- 16:00-17:15 Putting theory into praxis
- 17:15-17:45 Case studies to topic
- 17:45-18:00 Evaluation, goodbye

Day 2
Quality Control methods
Economic knowledge

- 9:00 – 09:20 Welcome, expectations
- 09:20-09:55 Ice-breaker
- 09:55-10:55 Learning unit I: Quality Control methods
- 10:55-11:05 Coffee break
- 11:05-13:00 Activities to topic
- 13:00-14:00 Lunch
- 14:00 – 14:20 Energizer
- 14:20-15:00 Learning unit I: Economic knowledge
- 15:00-15:15 Coffee break
- 15:15-16:35 Activities to topic
- 16:35-17:50 Case studies to topic
- 17:50-18:00 Evaluation, goodbye

Day 3
Digital Competences

- 9:00 – 09:55 Expectations, ice-breaker
- 09:55-10:25 Learning unit I. Digital competences
- 10:25-10:40 Coffee break
- 10:40-12:30 Digital skills/tools at workplace
- 12:30-13:30 Lunch
- 13:30-14:50 Activities to the topic
- 14:50 – 15:10 Energizer
- 15:10-15:55 Practical activities of topic
- 15:55-16:10 Coffee break
- 16:00-16:15 Coffee break
- 16:10-17:45 Group exercise + Case study
- 17:45-18:00 Evaluation, follow-up

Day 4
Proffessional Communication

- 9:00 – 9:30 Welcome, expectations
- 09:30-10:15 Ice-breaker
- 10:15-11:15 Learning unit I: Proffesional communication
- 11:15-11:30 Coffee break
- 11:30-12:35 Learning unit II: Proffesional Communication
- 12:35 – 13:35 Lunch
- 13:35-14:00 Energizer
- 14:00-15:35 Activities to the topic
- 15:35-15:45 Coffee-break
- 15:45-16:10 Energizer
- 16:10-17:40 Pair work to the topic
- 17:40-18:00 Evaluation, follow-up

Day 5
Leadership of masters

- 9:00 – 10:00 Welcome, expactations
- 10:00-11:10 Learning unit I: Leadership of masters
- 11:10-11:25 Coffee break
- 11:25-12:25 Learning unit II: Diversity of the work team
- 12:25-13:25 Lunch
- 13:25 – 13:45 Energizer
- 13:45-14:30 Group exercise
- 14:30-14:45 Coffee break
- 14:45-15:05 Energizer II
- 15:05-16:35 Pair work
- 16:35-16:50 Coffee break
- 16:50-18:00 Evaluation, follow-up, goodbye

Co-funded by
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CAR Master
training

CERTIFICATE

OF PARTICIPATION

THIS IS TO CERTIFY THAT

has successfully completed the tailor-made training for foremen in production through
the face to face workshop (scope of training 40 hours).

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FEMEVAL
Federación Empresarial Metalúrgica Valenciana

IHK
IHK-Projektgesellschaft mbH
OSTBRANDENBURG

bit schulungscenter
member of bit group

ZAP
ZVÄZ AUTOMOBILOVÉHO PRIEMYSLU SLOVENSKEJ REPUBLIKY

CAR Master training

The CAR Master training certificate of participation has been issued based on at least 70% of personal participation on face to face workshop duration. The 7 thematic modules of face to face training corresponding to non-formal vocational education and training represent a set of learning objectives which are presented in the table.

1. Principles of Total Productive Maintenance (TPM) –4 hours	2. Production process basics – 4 hours	3. Quality control methods – 4 hours	4. Digital competences – 8 hours
Knowing the maintenance strategies in production. Knowing the most important basics ofTPM. Knowing the most important basics of people management under TPM.	Knowledge of the most important methods and instruments of work and process planning. Knowledge of the most important terms of capacity and materials management. Knowing how production factors from all areas of the company should be used economically and efficiently.	Knowing what quality planning means. Knowing what the aims and benefits of quality management represent. Knowing what the possibilities are for safe guarding and improvements. Knowing different quality management tools.	Knowing the basis of digital security. Knowing the basics of using Microsoft Excel. Knowing the most common online communication tools work. Knowing the basic rules for presentation
5. Economic and organisational knowledge – 4 hours	**6. Professional communication – 8 hours**	**7. The leadership role of masters – 8 hours**	
Knowing the basics of finance and economics and the interrelationships within the company. Knowing the planning staff and enforcing the company's strategy. Knowing the most important European basics concerning labour law.	Knowing about communication theories and how to deal with them in everyday life. Knowing about conflict management and how conflicts can be resolved professionally. Knowing about presentation techniques and how to apply them in meetings.	Knowing how to lead their employees successfully. Knowing how to behave as a leader in a team. Knowing to work in a multigenerational mix and the changes in old age. Knowing to work with people of different backgrounds and sexual orientations	