Erasmus+ project:
Qualification, Validation and Certification of Maintenance Personnel

Goto meeting, 21 st September 2020

Present:
Guðmundur Jón Bjarnason
Torsten Ekström
Ilkka Palsola
Damjan Maletič
Páll István
Ingemar Andreason

Absent:
Maria Malmrud
József Csiba
Jaakko Tennilä
Jan Skarka
Attila Kiss
Mikaela Malmrud
Tomáš Hladík
Zsolt Nyeste
Silvia Stepanova

1) **A generall status update (Erasmus+ Follow up of MCQ)**

The number of MCQ today, September 21st, is as follows:

	CS	FI	HU	IS	SL	SV	Total
Total	305	97	221	165	117	294	1147

Last time, August 17th:

	CS	FI	HU	IS	SL	SV	Total
Total	305	79	221	126	117	294	1090

Before that. June 15th:

	CS	FI	HU	IS	SL	SV	Total
Total	305	79	221	82	100	286	1015

From our last meeting:
- Ilkka noted that many people from educational institutions in Finland recommend only to use multiple choice questions (MCQ).
- The goal is to have at least 20 questions per subject on average. Adding more questions, team members from different countries can choose subjects where they have experience and questions are still missing, based on the document Erasmus+ Follow up MCQ and OQ.xlsx stored in folder O5 - O6 Validation question for EQF level 6 and 7.

- Each country will review questions from their own team members. We will later get additional feedback during testing from persons from the field.

● All the questions will be property of the EU, as it is financed through Erasmus+ but it is an important assignment for us to come up with procedures, with EFNMS, how to maintain the questions in the future and in general the results from this project.

2) Review of the previous protocol
Torsten has not gotten time reports from all, he will send a follow up e-mail

3) Updated qualifications - Proposal and decisions
This is open for further discussions.

4) Development of questions
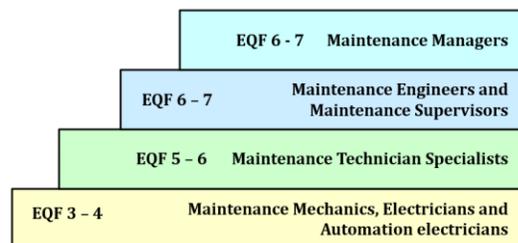Ilkka presented a suggestion for "EFNMS examination model". The suggestion includes:
● Digitized exam, only MCQ

Same exam model for all levels.

Maximum exam structure will consist of 3 sessions, two sessions a' 2 hours maximum with questions and 1-hour English language test.

Maximum total exam length will be 5 hours.

Maintenance Qualification Staircase

EQF 6 - 7	**Maintenance Managers**
EQF 6 – 7	**Maintenance Engineers and Maintenance Supervisors**
EQF 5 – 6	**Maintenance Technician Specialists**
EQF 3 – 4	**Maintenance Mechanics, Electricians and Automation electricians**

Erasmus+ structure

Subject
1. Maintenance within Physical Asset Management
2. Maintenance Management
3. Maintenance Execution
4. Health, Safety & Environment in maintenance
5. Maintenance Engineering Techniques
6. Maintenance Support
7. Basic knowledge

BoK structure

MANAGEMENT
REALISATION
SUPPORT

Maintenance within Physical Asset Management
Maintenance Management
Maintenance Execution
Health, Safety & Environment in Maintenance
Maintenance Engineering Techniques
Maintenance Support

15628 will be our marketing base

EN15628 standard structure

EN17007 standard structure

This documentation must be created by FCC !!!!!!

We will use only multiple-choice type questions.

We will use three difficulty levels for questions, we will call levels as pockets. In Erasmus+ project each question will put into one pocket.

Each question will have four answering options, one right one and three false ones. If answered right the question point value is equal the pocket rating value, if answered false question point value is zero.

The exam part will be built by using agreed amount of questions from each pocket.

The exam result will be the point sum of right answered questions. The limit to pass the exam is approx. 70 % of maximum points.

Question type	Number of questions	Points per question	Total
Pocket 1	15	1	15
Pocket 2	5	5	25
Pocket 3	3	10	30
Total	23		70
Passed			>50

The table is giving one suggestion how to compile the exam part.

- Ilkka showed three kinds of questions, an easy MCQ for pocket 1, a bit more difficult MCQ for pocket 2 and a MCQ with a numeric answer for option 3.
  - We still need an example for a MCQ in "pocket 3" testing "deeper knowledge/skill". One approach would be to have a situation explained and the student would have 4 options, each with a considerable amount of text explaining different approaches, one being correct. Ilkka will create an example.
    - Another similar way to test deeper knowledge could be to have a question with attachment(s) showing different "scenarios" text or picture, one of them being the best solution.
- It was discussed that we might want to have "cases". For each case the student has to read some text describing a situation within a company and then answer a few questions based on that case. Another way about this would be to have only one case - one question, which would be easier to create and maintain. We need an example to discuss further, Torsten will work on this.

5) Committee involvement
No additional discussions.

6) The QVCMP web page
Web site is still missing..

7) Other issues
Ilkka will suggest next meeting(s), including the ECC - GA meeting October 16 or 17th.