

Alignment of qualification grid of Electro-Mechanical Technician and Metal Cutting Technician

COMMET Work package IV Summary of project outcomes

The Innovation Project COMMET illustrates in an exemplary way the effects of a grid of competences for the vocations of metal cutting and mechatronic technicians. By regarding the professional ability to act from a multidimensional point of view, the requirement profiles can be matched with the professional abilities to act in a job environment. As the results of this working paper show, it is about classifying the spheres of activity of business processes, also on an international scale, such as preparation, organizing, executing and controlling a production order, and to attribute them to the respective competence dimension. The juxtaposition of activities and the competences necessary to be able to execute them shows in the case of Germany that the following competences are represented in four columns being, whereby only specialist and social competences are needed.

Specialist Competence: Comprehends subject-based knowledge as well as interdisciplinary knowledge; signifies the ability to combine knowledge, to further one's knowledge, to censor and to apply it in a framework of actions; implies (preparatory) training, know-how and work experience.

Methodological Competence: Means the ability to obtain know-how and to make use of it, to handle problems in general; it mean to gather information, to analyze it, to deal with it, to put it aside and to reapply, to describe it and to reconstruct results of manufacturing processes and to present them in an appropriate way; enable a person to apply techniques of problem solving and enables to create problem solving techniques.

Social Competence: comprehends all dispositions to act in a communicative, co-operative and self-organized way; it means the degree in which a person interacting in a private, professional and general social contexts – is able to act autonomously, and in a far-seeing and constructive way.

Personal Competence: describe capable terms of dealing with the self; comprehends all dispositions of a person in order to act in a reflected an self organized way, comprehends self-assessment and progress in beneficial attitudes, ethic values, motives and self-perceptions; implies the expression of one's ability to grow and to learn creatively within and beyond work environment.

In contrast to Germany, where the competence based descriptions of the spheres of activity are represented in four columns with emphasis on special- and social competences, the French competence dimension is presented as a table comprising five fields. The first column comprises five basic competences such as mastering a foreign language, with (specialist) English knowledge in the first place, in order to be able to understand the technical vocabulary linked to one's specialty in a foreign language. The methodological competence appears five times, comprising thirteen faculties, while social competence appears only in two fields and personal competence in three fields. Although cooperation is certainly as important as in Germany, personal competence takes a higher priority and is understood somewhat differently. The point to be able to strictly respect the controlling methods, the safety procedures locally in force, whatever the country is, or able to master basic computer skills are given as examples. The scheme shows that in France all competences are equally used in order to perform.

Italy, as a Latin country, has a very similar distribution as France, although the primary competences are grayed out, just as in the German example. Special knowledge along with social competences are the important ones.

The Spanish comparison of spheres of activity and competences resembles much to the German one, whereby the survey is even better. The table subdivides itself into two parts, whereby the spheres of activity are listed in the first half of the table, prolonging itself in the competence dimensions. There crosses mark in which categories the activities belong to. As in the German and Italian diagram mainly the special knowledge and social knowledge come to fruition, although methodological and personal competences are not missing.

Hungary proceeds differently from the others. Right from the start there is a basic distinction between the two professions, which are viewed separately, according to the spheres of activity and competence dimensions. The representation is similar to the French one. If we are looking at the scheme of the mechatronic, in the first column we find listed six modules such as analyzing, planning, performance, checking and documentation, in order to demonstrate, which competences are needed in each case. Surprisingly the methodological and personal competences are predominantly as far as the mechatronic is concerned, whereby the social competences are needed the least. As to the metal cutting technician there is a somewhat different picture. Here the specialist- and methodological competences dominate whereby personal competences range before social competences.

Denmark's table is very similar to the German and Spanish one, which is to say that the spheres of activity are at the right hand side of the table that prolongs itself into a rating table at the left hand side. There is marked by a cross to which competence dimension each activity is to be attributed to. While we find six crosses in the column specialist competence, methodology shows nine crosses, social competence four and personal competence only three crosses.

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