

## Summary on the current state of knowledge on HACCP and the use of e-learning in VET for cleaners

### *Introduction*

In order to be able to transfer the results of a former Leonardo da Vinci project on RABC in laundries (reference 1) to the cleaning sector, an international experts' survey has been performed. The goal of this survey was to evaluate the situation regarding knowledge on HACCP and the use of e-learning in a number of European countries. HACCP stands for Hazard Analysis and the Control of Critical Points and is a legal requirement since 2006 [European Regulation (EC) No 852/2004]. Any business working in the European food sector, i.e. even external service providers, must have applied this the international food standard (CAC/CRP 1-1969 rev5-2008). Using a questionnaire (questions and answers in references 2 and 3) we investigated how vocational education and training (VET) for cleaners is organised and to what extent the national curricula have integrated HACCP in their schedules. We asked the experts about the educational background of trainees and apprentices, and to what extent e-learning already has been applied in vocational training for employees. Additionally, wanted to find out the employers' point of view on e-learning and blended learning. The survey was restricted to the situation in the European countries of the Czech Republic, Germany, The Netherlands, Romania, and Slovenia, i.e. Leonardo Innovation Transfer Project (HygTrain) partners' home markets, and illuminated the situation at the begin of the project in Winter 2007/2008. The result of the survey is summarized in **table 1**. A detailed analysis of the expert's answers will be given below.

### *History and Institutional framework*

The name of the profession varies in the investigated countries due to the different historical developments. The profession might be denoted as the profession of a building cleaner, cleaning agent, or similarly. Most countries regulate the professional standards and do officially accept the craft as a profession, but this is not always the case. The craft is so far not regulated by the state in the Czech Republic and the Netherlands. In Slovenia, the vocational training was regulated by law in the year 2000, but a formal education program has not started yet. In the German speaking countries, the craft has developed from the craft of facades cleaners, a fact that is still visible in the Austrian name of "Cleaners of Monuments, Facades, and Buildings". In Romania the roots of the craft lie in pest control which still is expressed in the name of "Agent for Disinfection and Deratization". Despite the differences in branding, the scope of education is similar, i.e. cleaning, disinfection and maintenance of buildings. Vocational training and education is commonly bound to a shorter traineeship or an intensive apprenticeship period of 2 to 3 years. In many countries education and training is given in a system of in-school and in-company training, the so called dual system. It provides a number of theoretical lessons in vocational schools – commonly 1 day per week - with a strong engagement by the state as the provider of vocational education without additional fees for the candidate. This is the case in Austria, Germany, and partly in the Netherlands. Slovenia currently is in a period of transition, as most of the theoretical and practical education of building cleaners will be conducted in public vocational schools within the next few years. In the central and eastern European countries, the Czech Republic and Romania, vocational schools often belong to the private sector. Do the companies pay course fees in such countries? Such schools often operate in close co-operation with the unions, guilds and crafts.

### *The curricula*

A national curriculum is compulsory for public vocational schools in Austria and Germany and Slovenia. Such curricula have been developed in close co-operation between employers, the state, guilds, chambers of craft, and employee's representatives and represent the professions standard of knowledge. Countries with vocational education and training in private sector schools (Czech Republic, Romania) often do not have a national curriculum to rely on. Instead, the standard of vocational training is controlled by certification of schools and the courses on offer. This however, might lead to the situation where equally ranked certification standards exist in parallel. Almost all country's curricula contain modules on Hygiene and Microbiology, Cleaning Technology, Cleaners and Disinfectors, Hygiene

Management and QM (**table 1**). According to the curricula investigated and the expert's comments, some recently developed curricula contain modules on HACCP, e.g. in Romania, but generally they do not include HACCP. Only curricula from the Czech Republic contained modules on cleaning of clean-room. The experts pointed out, that HACCP training is compulsory for in-company cleaners in the food industry. Many employees in small and medium sized businesses however do not receive HACCP training as it is not part of the curriculum, or simply because small companies can not afford specialists training on HACCP to all cleaners. Hence, there is a need for education in the hygiene demands of the food industry in most of the investigated EU countries, in particular for employees in small and medium sized companies.

#### *Educational background and extent of vocational education and training*

The numbers of compulsive school years before vocational education and training is very similar (8-9 years) in the investigated European countries, i.e. that apprentices have received a lower secondary school education. The expert's answers however revealed huge differences in the duration of traineeship periods (3 days – 1 year) and the volume of theoretical training for apprenticeship training, ranging from 16 hours to achieve basic skills for office cleaning in up to 980 hours for apprenticeship holders in Austria. The Slovenian curriculum with a total number of training hours of 2336 hours sounds very ambitious in comparison to the other countries. It notes 490 hours of crafts specific theoretical training, and 875 hours of practical lessons in school. As the Slovenian experts pointed out however, the system so far only exists on paper and can not be compared to already existing educational systems. Similarly, it is difficult to evaluate the quality of a traineeship or apprenticeship period, but somehow it is evident, that the standards of training must differ substantially due to the extent of training hours. One of the experts pointed out, that the starting age in the profession in some countries goes from 15 – 55 years. Accordingly, many trainees probably are not used to regular studies and lifelong learning. The knowledge level however can not be too low, as pointed out in the German vocational school framework: "it is assumed that students have received 9 years of public school education". Students with lesser education must take extra courses to achieve the common standard of knowledge. Hence, the modules will be developed assuming basic knowledge in the national language, in physics, biology, chemistry, and mathematics.

#### *E-learning and blended learning*

E-learning has been applied in further educational training, e.g. specialists courses for foreman and middle management, but not into *initial* vocational education and training. As a prerequisite for e-learning, the experts regarded a cheap internet access and an own PC at home. This might be difficult to achieve for countries with a rudimentary internet infrastructure. Additionally many cleaners do not have the resources to buy their own information and communication technology (ICT), as one expert pointed out. Hence e-learning may have to be designed for self learning or group studies in vocational schools or study centres. According to experiences from the Czech Republic, e-learning can be integrated into presentations and used as a tool for workshops, but may not work as a stand alone learning tool, i.e. it should be used in a blended learning situation. Due to these experiences, the experts recommend to apply e-learning as an amendment to already existing courses and workshops, and not in a work alone in front of the computer learning situation.

#### *Summary*

The survey on the current state of knowledge on HACCP and e-learning in the Czech Republic, Germany, The Netherlands, Romania, and Slovenia revealed differences in the depth and duration of vocational education for cleaners. The modules to be developed therefore must provide the basic concepts of Hygiene and Microbiology in order to understand the role of QM and HACCP in the food industry. The experts welcomed the idea of integrating HACCP into the curriculum, i.e. transferring this knowledge to businesses which currently do not operate in the food industry. The standards set in this project will help reanimate discussions on a national curriculum for those countries without any, and may function as a starting point for a discussion on an EU-wide working guideline on HACCP in cleaning enterprises.

Stefan Kokalj, wfk in March 2008

## Appendix:

<b>Table 1</b> Results of the Leonardo Innovation Transfer Project (HygTrain) expert's survey regarding integration of QM, HACCP, and e-learning into educational programs in 6 European countries. March 2008						
<i>Basic facts</i>	AT	CZ	DE	NL	RO	SI
Occupation's name	cleaner of monuments, facades and buildings	no data	building cleaner	no data	cleaning agent, or agent for disinfection and deratization	building cleaner
State-recognised occupation?	+	-	+	-	+	-
Traineeship	-	+	+ <sup>DE</sup>	+	+	+
Apprenticeship	+	-	+	-	+	+
Educational period	2,5 years	3 days	3 years	1 year	2 years	2 years
Dual System?	+	-	+	+	+	-
<i>Vocational school</i>						
Compulsive school years before VET	9	no data	9 <sup>DE</sup>	8 <sup>NL</sup>	no data	9
Earliest starting age	16	16	16	16	16	16
The majority starts at the age of	18-20	25-55	16-25	25-45	16-19	16
Gender distribution (f/m)	40/60	no data	15/85	68/32	no data	60/40
Vocational schools	public	crafts association	public	unions, crafts, industry <sup>NL</sup>	private <sup>RO</sup>	public SI
Theoretical training (hours)	980	18-20	840	252	> 360	1365 <sup>SI</sup>
<i>Modules and curriculum</i>						
National curriculum?	+	-	+	- <sup>NL</sup>	-	+
Hygiene Microbiology	+		+	+	+	+ <sup>SI</sup>
Cleaning technology and hygiene for food industry	+	+	+	-	+	+
Cleaners and disinfectors	+	+	+	+	+	+
Cleaning of cleanrooms	-	+	-	-	-	-
Hygiene management and hygiene plans	+	+	+	-	+	+
European ordinances on cleaning and disinfection in food facilities	+/-	-	+/-	-	+	+
QM	+	-	+	+	+	-
HACCP	-	-	-	+ <sup>NL</sup>	+	+ <sup>SI</sup>

<i>Further education</i>						
Master training (hours)	58		no data	no data		-
Skilled craftsmen education	-	-	+ <sup>DE</sup>	-	-	-
University studies in cleaning technology	+		+ <sup>DE</sup>	-	-	-
Courses for management on QM and HACCP, European legislation on hygiene of foodstuffs	+	+	+	-	+	+
<i>E-learning</i>						
In vocational schools	-	-	-	-	-	+/-
For advanced vocational education	+	+ <sup>CZ</sup>	+	-	-	+ <sup>SI</sup>

<sup>CZ</sup> E-learning is often used in combination with presentations

<sup>DE</sup> Some companies take trainees for a period of 1 – 2 years. No data available on the curriculum for those trainees. 9 years of compulsive school education is expected by the companies, but it is not a legal requirement. After advanced vocational training, one can receive a specialist degree as Staatlich geprüfter Reinigungs- und Hygienetechniker. Both masters of craft and specialist are entitled to university studies in engineering (FH-Studium Reinigungs- und Hygienemanagement)

<sup>NL</sup> Vocational training is organised in private educational organisations (SVS), learning centers which were both organised by the unions and employers organisations. Starting in September 2008, a formal training will be given in state funded regional educational centers (ROC). A national curriculum is currently under development. There are only introductory courses on HACCP available

<sup>RO</sup> Private institutions are allowed to organise educational training if they are accredited according to Law no.: 1225/2003

<sup>SI</sup> Only in-company cleaners in the food industry are trained on Hygiene, Microbiology, and HACCP. Educational period depends on the needs of the company. Big companies employ internet education for their employees

### References

- 1) <http://www.rabc-wfk.com/>
- 2) HygTrain-Survey\_State\_of\_knowledge.PDF
- 3) HygTrain-All\_answers\_state\_of\_knowl.PDF

### Disclaimer

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