

ANALYSIS OF THE PROFESSIONAL QUALIFICATIONS SYSTEMS IN
RELATION TO DAIRY SECTOR IN THE UE
Comparative Study



PROMOTER:



FENIL

Federación Nacional de
Industrias Lácteas
Spain
Pedro Valetín-Gamazo
info@fenil.orgwww.fenil.org

PARTHERS:



CULS

Czech University of Life Sciences
Prague
Czech Republic
Prof. Jaroslav Havlicek
havlicekj@pef.czu.cz
www.czu.cz



IDEC S.A.

International Development
Education Centre
Greece
Elias Kyrgiopoulos
elias@idec.gr, info@idec.gr

COORDINATOR:



IFI

Instituto de Formación Integral, S.L.
Spain
Emilia Martín Sánchez
emiliamartin@unihost.org
www.ifi.com.es



BDF

Balear de Desarrollo y Formación
Spain
Alexandra Pavlovic
proyectos@bdf.es
www.bdf.es



FAI CISL

Federazione Agricola Alimentare
Ambientale Industriale
Italy
Claudio Pinto
federazione.fai@cisl.it
www.fai.cisl.it



ANIL

Associação Nacional Dos Industriais
de Lactínios
Portugal
Pedro Pimentel
ppimentel@anilact.pt
www.anilact.com

Lifelong Learning Programme - Leonardo da Vinci – Transfer of Innovation
Project: EU-DAIRY ES/07/LLP-LdV/TOI/149052
Leader of the study: Czech University of Life Sciences Prague
Collaborative entities: Partners of the project
Design: Cursoforum S.L.U.

This project has been funded with support from the European Commission.
This publication reflects the views only of the author, and the Commission cannot be held responsible for
any use which may be made of the information contained therein.

Contents

| | |
|--|-----|
| Preliminary note..... | 5 |
| Terminology..... | 7 |
| | |
| Part 1 The European Context..... | 13 |
| Introduction | 13 |
| Selected indicators of cow milk production and consumption - world and the EU | 14 |
| The European Qualification Framework | 20 |
| Current situation in the EQF implementation | 21 |
| EQF and the National Qualification Framework..... | 23 |
| Some specifics concerning the relation between NQF and EQF | 25 |
| Recommended information sources | 26 |
| | |
| Part 2 Comparison in National Contexts | 27 |
| Chapter 1: National Qualification Systems in involved countries..... | 29 |
| Chapter 2: NQS and national educational and scholastic system | 59 |
| Chapter 3: Situation in dairy sector | 85 |
| Chapter 4: Additional information | 117 |
| | |
| Part 3 Results and conclusions..... | 129 |
| Results | 129 |
| Conclusions..... | 131 |



Preliminary note

This comparative study is part of the Leonardo da Vinci Project – Transfer of innovation EU-DAIRY. This project has the aim to improve the visibility of professional qualifications in the dairy sector in the European Union, establishing connections between education, training and labour market.

The objective of this study is to be the base for the elaboration of the self-diagnosis interactive tool IN_DAIRY, final product of the project, targeted to the dairy sector companies, for the recognition of the professional qualifications of the workers.

This report is based on the results of the national analysis that the partners of the project elaborated in their countries.

A template has been developed to guide the work of the Leonardo da Vinci project's partners in gathering information about policies and other measures in their country that address the issue of "National Qualification Systems" and processes of formal and informal recognition of qualifications within European Union. It begins with a presentation of the background to this information gathering exercise in terms of a brief explanation of its objectives, issues to be considered and the information gathering methods and tools to be applied.

The data gathering template itself is then presented, structured into 3 main parts as follows:

- 1) Description of basic ideological and legal framework for recognition of qualification (further "framework") developed by European Union in the field which is/should be a base for creation of national frameworks. In this part also a list of special terms and terminology is defined to enable the users to use the same vocabulary and exact meanings of words.
- 2) Description of national frameworks: legal environment, traditional influences, national specifics, problems solved, works done, works planned in the near future. The information will put all projects partners involved. Information in this part of the study will be the base for comparative study.
- 3) Two case studies illustrate national frameworks – they give illustration of practical examples of national strategies described in the part two.

Data and information included in this document will serve as a base for the first meeting of the opinion group in partner's countries. The opinion groups should.

- Validate, assess and fulfill the material.
- Provide detail SWOT analysis of national environments in dairy sector.
- Identify new opportunities in the areas of dairy education.
- Finalize the document of comparative study at national level.

The final version of comparative study has been elaborated after the celebration of these opinion groups.

Terminology

In order to properly understand the subject of delimitation and recognition of qualifications specific terminology is required.

The definitions of terms mentioned in the first part of this section, are based on the works of CEDEFOP, OECD and other international organisations. They also reflect the Bologna and Lisbon process. The concepts that are mentioned concern the specifics of qualification framework implementation. They are interconnected, which implies that the full and exact meaning of each concept relates closely to definitions listed in the EQF dictionary.

Learning

“Learning” is a process by which individuals acquire and assimilate information, thoughts and values, practical and cognitive skills as well as all as other personal and social competencies. Individuals learn by reasoning, reflecting and social interaction.

Learning outcomes

“Learning outcomes” specify that which the learner knows, understands and is capable to perform after going through the learning process.

Knowledge

Knowledge is the result of accumulating and adapting information acquired through learning. *EQF distinguishes between theoretical and/or concrete knowledge.*

Skill

“A skill” is the capacity of applying knowledge and know-how in work activity and in solving problems. *EQF defines skills as cognitive (logical, intuitive and creative thinking) and practical (manual, using methods, materials and instruments).*

Competence

Competence is a manifested capability for using knowledge, skills and other capabilities for specific work activity, according to a set of standards of a relevant job or study in professional or personal situations. EQF defines competence in terms of responsibility and self-reliance.

Qualification

Qualification is gained when an authorised institution assesses that a person or individual achieved learning outcomes according to specific standards. Qualification is the formal outcome of an evaluation and/or assessment process.

- **Complete qualification** shall mean professional qualifications of natural persons to duly perform all work activities pertaining to a relevant profession.
- **Partial qualification** shall mean professional qualifications of a natural person to duly perform a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively, in the scope defined in a qualification standard.

National Qualification Framework (NQF)

NQF is an instrument of classification focused on qualification, according to a set of criteria referring to a specific level of achieved learning outcomes. Frameworks are foundations for the implementation of transparency, accessibility, development and quality of qualifications in relation to the employment market and civic society.

National Qualifications System (NQS)

NQS shall mean a publicly accessible register of complete or partial qualifications acknowledged, defined and recognised in the country. NQS should be a common comprehensive framework for all forms of learning and education. The most adequate comparative attribute of all forms and ways of learning and education are the outcomes. Outcomes of learning and education are the building blocks of the architecture of the NQS. If NQS should at all be an operational, usable and comprehensible system that allows comparison and recognition of learning outcomes, the results should be described:

- in a standard form,
- in the most simplified structure and
- with the aid of elements, which may easily be interchanged after eventual alteration and updating.

Qualification standard for partial qualifications

A qualification standard for partial qualifications shall mean a structured description of professional competence of a natural person for the due performance of a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively.

Assessment standard for partial qualifications

An assessment standard for partial qualifications shall mean a set of criteria, organisational and methodological procedures and material and technical prerequisites specified for the verification of the attainment of professional qualifications to duly perform a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively.

Lifelong learning

Lifelong learning is defined in the Communication as “all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective.”

Lifelong learning is therefore about:

- ▶ acquiring and updating all kinds of abilities, interests, knowledge and qualifications from the pre-school years to post-retirement. It promotes the development of knowledge and competences that will enable each citizen to adapt to the knowledge-based society and actively participate in all spheres of social and economic life, taking more control of his or her future and
- ▶ valuing all forms of learning, including: formal learning, such as a degree course followed at university; non-formal learning, such as vocational skills acquired at the workplace; and informal learning, such as inter-generational learning, for example where parents learn to use ICT through their children, or learning how to play an instrument together with friends.

Vocational education

“Vocational education (or Vocational Education and Training (VET), also called Career and Technical Education (CTE)) prepares learners for careers that are based in manual or practical activities, traditionally non-academic and totally related to a specific trade, occupation or vocation, hence the term, in which the learner participates. It is sometimes referred to as technical education, as the learner directly develops expertise in a particular group of techniques or technology.

Generally, vocation and career are used interchangeably. Vocational education might be contrasted with education in a usually broader scientific field, which might concentrate on theory and abstract conceptual knowledge, characteristic of tertiary education. Vocational education can be at the secondary or post-secondary level and can interact with the apprenticeship system. Increasingly, vocational education can be recognized in terms of recognition of prior learning and partial academic credit towards tertiary education (e.g., at a university) as credit; however, it is rarely considered in its own form to fall under the traditional definition of a higher education.” (The Wikipedia definition is cited).

European Credit Transfer and Accumulation System (ECTS)

A credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits in higher education systems may be based on different parameters, such as student workload, learning outcomes and contact hours.

The European Credit Transfer and Accumulation System is a student-centred system based on the student workload required to achieve the objectives of a programme, objectives preferably specified in terms of the learning outcomes and competences to be acquired.

ECTS was introduced in 1989, within the framework of Erasmus, now part of the Socrates programme. ECTS is the only credit system which has been successfully tested and used across Europe. ECTS was set up initially for credit transfer. The system facilitated the recognition of periods of study abroad and thus enhanced the quality and volume of student mobility in Europe. Recently ECTS is developing into an accumulation system to be implemented at institutional, regional, national and European level. This is one of the key objectives of the Bologna Declaration of June 1999.

ECTS makes study programmes easy to read and compare for all students, local and foreign. ECTS facilitates mobility and academic recognition. ECTS helps universities to organise and revise their study programmes. ECTS can be used across a variety of programmes and modes of delivery. ECTS makes European higher education more attractive for students from abroad.

CEDEFOP

CEDEFOP is the European Agency to promote the development of vocational education and training (VET) in the European Union. To ensure economic and social development it is essential that vocational education and training meets the needs of the citizen, the labour market and society. Building on a rich tradition of VET systems in Europe, governments and social partners devise policies for modern and innovative VET, which is a key element for employment, social inclusion and the competitiveness of the EU.

ISCED

The International Standard Classification of Education (ISCED) was designed by UNESCO in the early 1970's to serve 'as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally'. It was approved by the International Conference on Education (Geneva, 1975), and was subsequently endorsed by UNESCO's General Conference when it adopted the Revised Recommendation concerning the International Standardization of Educational Statistics at its twentieth session (Paris, 1978).

The present classification (now known as ISCED 1997) was approved by the UNESCO General Conference at its 29th session in November 1997. It was prepared by a Task Force established by the Director-General to that effect and is the result of extensive consultations of worldwide representation. ISCED 1997 covers primarily two cross-classification variables: levels and fields of education.

ISCO

The International Standard Classification of Occupations (ISCO) is one of the main international classifications for which ILO is responsible. It belongs to the international family of economic and social classifications.

The International Standard Classification of Occupations is a tool for organising jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. It is intended both for statistical users and for client-oriented users. The main client oriented applications are in the recruitment of workers through employment offices, in the management of short or long-term migration of workers between countries as well as in the development of vocational training programmes and guidance. ISCO-88 is currently in the process of being updated to take into account the developments in the economies of countries all over the world. The updating will not affect the basic principles and structure of ISCO-88 but will take the form of new occupational groups in some areas and improved descriptions in others. The updating process will be carried out on the basis of feedback from countries as well on the experience gained in applying ISCO-88 in countries. The updated version will be ready in 2008 so that countries can incorporate it in their preparations for the next round of Population Censuses.



Part 1

The European Context

INTRODUCTION

In a Europe that is going through rapid technological and economical transformations with the perspective of a growing percentage of its senior citizens, lifelong learning has become a necessity. The need of constantly renewing knowledge, skills and competencies of its citizens is crucial for Europe's competitiveness and social coherence. Unfortunately lifelong learning is hampered by insufficient communication and cooperation between the providers of education and professional preparation and competent legislative agencies on various levels and in different countries. Due to such obstacles citizens are unable to acquire education and professional preparation and cannot combine qualifications acquired in different institutions. Mobility and access of citizens to the employment market within the EU is made difficult. In such conditions lifelong learning and education in all spheres of life (i.e. through all levels of education and professional preparation using formal, non-formal and informal learning methods) are hardly achievable.

The European Council came to the conclusion, during its meeting in Lisbon in 2000, that greater transparency in qualification and lifelong learning should be the two main issues in the efforts of adapting the European educational systems and professional preparation to the demands of knowledge based societies and the need of more and better quality employment opportunities. Further discussions and developments led to the creation of a key instrument for supporting lifelong learning, namely the European Qualification Framework (EQF).

SELECTED INDICATORS OF COW MILK PRODUCTION AND CONSUMPTION – WORLD AND THE EU

World production and consumption

According to the FAO data, the volume of milk production on the world scale rose from 464 mil. tons in 1995 to 541 mil. tons in 2006. This represents an increase of 77 mil. tons or 16.6%. In the same period, the total world population grew by 981,1 million or 17.2%. These figures indicate that during the last decade the growth rate of world population slightly exceeded the rate of milk production.

Major milk-producing regions and countries are shown in Table 1.

Table 1

| Regions | | | Countries | | |
|--------------------|---------------|-------|-------------------------------|---------------|-------|
| Region | Milk ('000 t) | % | Country | Milk ('000 t) | % |
| EU-25 | 141,6 | 26,2 | USA | 82,5 | 15,3 |
| North America | 90,8 | 16,8 | India | 39,8 | 7,4 |
| Asia | 90,0 | 16,6 | China | 31,9 | 5,9 |
| Russian Federation | 66,0 | 12,2 | Russia | 31,1 | 5,7 |
| South America | 65,4 | 12,1 | Germany | 28,0 | 5,2 |
| Other countries | 87,2 | 16,1 | Other countries ¹⁾ | 327,7 | 60,5 |
| World Total | 541,0 | 100,0 | World Total | 541,0 | 100,0 |

Table 1: Major cow milk-producing regions and countries (2006)

Source: ZMP Bonn, IDF 2007

In terms of milk production, other countries are listed in the following order: Brazil (4.8%), France (4.5%), New Zealand (2.8%), Great Britain (2.7%), Ukraine (2.5%), Poland (2.2%), Italy (2.1%), the Netherlands (2.0%), Mexico (1.9%) and Argentina (1.9%).

Table 2 shows that between the years 2000 and 2006 the milk production increased in all world regions except for the EU. One of the reasons for stagnation in EU member-states is the regulation of milk production through national milk quotas since 1984.

Table 2

| Country | Year | | | | Difference 2006/2000 | |
|---------|------|------|------|------|----------------------|-------|
| | 2000 | 2002 | 2004 | 2006 | '000 tons | % |
| EU | 143 | 144 | 143 | 142 | -1 | -0,7 |
| India | 76 | 81 | 85 | 91 | 15 | 19,7 |
| USA | 76 | 77 | 78 | 83 | 7 | 9,2 |
| China | 8 | 13 | 23 | 32 | 24 | 300,0 |
| Others | 186 | 194 | 194 | 193 | 7 | 3,8 |
| Total | 489 | 509 | 523 | 541 | 52 | 10,6 |

Table 2: Milk production in selected world regions (in '000 tons)

Data in Table 3 refer to differences among world regions in terms of per capita milk production.

Table 3

| Country | 2000 | | 2006 | | Difference 2006/2000 | |
|-----------------|------|-----|------|-----|----------------------|--------|
| | kgs | % | kgs | % | | |
| EU | 317 | 406 | 306 | 373 | -11 | -3,5 |
| USA | 269 | 345 | 278 | 339 | +9 | +3,3 |
| India | 76 | 97 | 82 | 100 | +6 | +7,9 |
| China | 6 | 8 | 24 | 29 | +18 | +300,0 |
| Other countries | 57 | 73 | 57 | 70 | 0 | 0 |
| World total | 78 | 100 | 82 | 100 | +4 | +5,1 |

Table 3: Reference indication of per capita milk production (in kgs)

Production, procession and consumption of cow milk in the European Union.

Data for the EU refer to the year 2000 (EU-15) and, minimally for the last two years, give figures as published in "statistics" (EU-25). Most data shown in this chapter come from the ZMP Bonn publications (2000 up to 2007). Table 4 shows the balance sheet for production and use of milk.

Table 4

| Indicator | | 2000 (EU-15) | 2004 (EU-25) ¹ | 2006 (EU-25) ¹ | 2007 (EU-27) ¹ |
|-----------------------|-------------------|--------------|---------------------------|---------------------------|---------------------------|
| Milk supplies | | 114,7 | 131,0 | 131,7 | 133,0 |
| + imports | | 4,5 | 3,7 | 3,0 | 3,2 |
| - exports | | 15,3 | 14,9 | 12,1 | 13,2 |
| change | | -1,9 | -2,5 | -0,3 | 0,0 |
| Milk consumption | | 105,7 | 122,3 | 122,9 | 122,9 |
| of which: | | 94,7 | 111,4 | 114,7 | 122,8 |
| - including subsidies | | 11,0 | 10,9 | 8,2 | 0,2 |
| Self-sufficiency (%) | current | 109 | 107 | 107 | 108 |
| | without subsidies | 118 | 115 | 113 | 108 |

Table 4: Balance sheet for production and use of milk in the EU (In mil.tons of milk equivalents)

Apart from the scope of milk production (see table 1), the prominent position of the EU in the world market is also upheld by its share in the world trade in dairy products (table 5), selected indicators of milk production (table 6) and processing (tables 7-9).

Table 5

| Commodity | 2000 | | | 2004 | | | 2006 ¹⁾ | | |
|--------------------------|-------|-----|-----|-------|-----|-----|--------------------|-----|------|
| | World | EU | EU% | World | EU | EU% | World | EU | EU % |
| Butter ¹⁾ | 763 | 175 | 23 | 936 | 333 | 36 | 890 | 243 | 27 |
| SM ²⁾ Cheeses | 1 252 | 458 | 37 | 1 490 | 576 | 39 | 1 580 | 582 | 37 |
| Condensed milk | 512 | 279 | 54 | 640 | 197 | 31 | x | 213 | x |
| Casein (estimate) | 250 | 90 | 36 | 270 | 92 | 34 | 215 | 76 | 35 |

Table 5: Share of EU member-states in world dairy trade ('000 tons)

Source: ZMP Bonn; European Commission.

- 1) Preliminary data.
- 2) Incl butter oil.
- 3) Dry milk.

Table 6

| Indicator | Unit | 2000 | 2005 | | | 2006 ¹⁾ | | |
|-------------------|-----------|--------|--------|---------------------|--------|--------------------|---------------------|--------|
| | | EU-15 | EU-15 | EU-10 | EU-25 | EU-15 | EU-10 | EU-25 |
| Dairy cows | 000 heads | 20 313 | 18 444 | 4 543 | 22 987 | 17 970 | 4360 | 22 330 |
| Milk per cow | Kgs. | 5 850 | 6 450 | 4 850 | 11 300 | 6 540 | 5 000 | 11 540 |
| Milk production | mil. tons | 121,2 | 121,1 | 21,8 | 143 | 119,8 | 21,9 | 142 |
| Milk supplies | '000 tons | 114,7 | 115,7 | 16,9 | 133 | 114,8 | 16,9 | 132 |
| Butterfat content | % | 4,08 | 4,07 | 3,96 | 8 | 4,07 | 3,95 | 8 |
| Protein content | % | 3,31 | 3,33 | 3,28 | 7 | 3,33 | 3,27 | 7 |
| Cows per breeder | heads | 29 | 35 | 15 ²⁾ | 50 | x | x | x |
| Price of milk | €/100 kg | 29,18 | 28,00 | 27,40 ²⁾ | 55 | 27,40 | 26,50 ²⁾ | 54 |

1) Preliminary figures.

2) EU-25.

Table 7

| Commodity | Production | Imports | Exports | Consumption | | |
|------------------------------|------------|---------|---------|-------------|--------------|----------------|
| | | | | '000 tons | % production | kgs per capita |
| Fluid milk | 29 390 | 0 | 86 | 29 304 | 99,7 | 96,6 |
| Cream | 1 770 | 1 | 48 | 1 663 | 94,0 | 4,4 |
| Yogurt and cultured products | 6 490 | 4 | 149 | 6 345 | 97,8 | 16,9 |
| Butter | 1 839 | 104 | 184 | 1 749 | 95,1 | 4,6 |
| Cheeses | 6 933 | 149 | 458 | 6 855 | 98,9 | 18,2 |
| Processed cheeses | 547 | 5 | 105 | 446 | 81,5 | 1,2 |
| Condensed milk | 1 249 | 1 | 276 | 965 | 77,3 | 2,6 |
| Dried whole milk | 873 | 8 | 575 | 336 | 38,5 | x |
| Dried skim milk | 1 038 | 78 | 357 | 759 | 73,1 | x |
| Dried whey | 1 420 | 0 | 167 | 1 253 | 88,2 | x |
| Lactose | 340 | 0 | 85 | 255 | 75,0 | x |
| Casein | 157 | 49 | 70 | 136 | 86,6 | x |

Table 7: Production, trade and consumption of dairy products in the EU-15 in 2000 ('000 tons)

Table 8

| Commodity | Production | Imports | Exports | Consumption | | |
|------------------------------|------------|---------|---------|-------------|--------------|----------------|
| | | | | '000 tons | % production | kgs per capita |
| Fluid milk | 33 609 | 1 | 104 | 33 506 | 99,7 | 72,9 |
| Cream | 2 375 | 1 | 54 | 2 323 | 97,8 | 5,1 |
| Yogurt and cultured products | 8 920 | 10 | 61 | 8 869 | 99,4 | 19,3 |
| Butter | 2 173 | 82 | 342 | 1 972 | 90,8 | 4,2 |
| Cheeses | 8 584 | 102 | 543 | 8 402 | 97,9 | 18,1 |
| Processed cheeses | 650 | 3 | 85 | 568 | 87,4 | 1,2 |
| Condensed milk | 1 180 | 1 | 200 | 981 | 83,1 | 2,1 |
| Dried whole milk | 858 | 2 | 490 | 360 | 42,0 | x |
| Dried skim milk | 1 114 | 7 | 194 | 970 | 87,1 | x |
| Dried whey | 1 610 | 2 | 330 | 1 282 | 79,6 | x |
| Lactose | 335 | 0 | 228 | 107 | 31,9 | x |
| Casein | 175 | 41 | 83 | 123 | 70,3 | x |

Table 8: Production, trade and consumption of dairy products in the EU-25 in 2005 ('000 tons)

Table 9

| Commodity | Production | Imports | Exports | Consumption | | |
|------------------------------|------------|---------|---------|-------------|--------------|----------------|
| | | | | '000 tons | % production | kgs per capita |
| Fluid milk | 33 366 | 1 | 117 | 33 250 | 99,7 | 72,0 |
| Cream | 2 392 | 1 | 57 | 2 337 | 97,7 | 5,1 |
| Yogurt and cultured products | 9 219 | 8 | 69 | 9 158 | 99,3 | 19,8 |
| Butter | 2 042 | 82 | 253 | 1 911 | 93,6 | 4,1 |
| Cheeses | 8 694 | 107 | 582 | 8 483 | 97,6 | 18,4 |
| Processed cheeses | 675 | 4 | 81 | 598 | 88,6 | 1,3 |
| Condensed milk | 1 190 | 3 | 210 | 983 | 82,6 | 2,1 |
| Dried whole milk | 780 | 1 | 420 | 360 | 46,2 | x |
| Dried skim milk | 1 037 | 18 | 84 | 950 | 91,6 | x |
| Dried whey | 1 620 | 2 | 350 | 1 272 | 78,5 | x |
| Lactose | x | 0 | 250 | x | x | x |
| Casein | 141 | 44 | 68 | 122 | 86,5 | x |

Table 9: Production, trade and consumption of dairy products in the EU-25 in 2006 ('000 tons)

1) Preliminary figures.

The share of dairy cattle rearing in EU agricultural production averages around 14%. The chief marketed product of this cattle category is the milk production. However, this breeding also accounts, directly or indirectly, for about one third of the beef production in EU member-states. Depending on the breeding intensity in particular countries, milkers and relating categories of cattle participate in performing some non-reproductive functions, such as the utilization of TTP, upkeep of landscape in a cultural condition and job creation also outside the agricultural sector. Long-term filling of set milk quotas at 100% indicates a higher production potential of this industry than that specified by quotas. Developments that took place during the year 2007, characterized by increased demand for milk and dairy products in international markets together with a market increase in milk purchase prices also outside EU, gave a strong impetus for stepping up the milk production in the EU.

Conclusion

The increased demand for milk and dairy products in world markets, coupled with a sharp rise in milk prices during the second half of 2007 offers a good chance to the CR as well as other EU countries to increase their output which has so far been limited. However, even if long-term prices remain higher than those quoted in 2006, the competition among breeders, countries and regions will not go off. Production scores, external factors and EU common agricultural policies will keep on influencing the economic indicators. The rise in purchase prices that occurred almost simultaneously in all major regions (see chart 1) points to continuing globalization of agrarian markets. The reaction of Czech milk processors to this situation was rather belated and less “intensive” (chart 2).

Major economic factors include the health condition of cows, herd alimentation and management. Their optimum level makes it possible to choose economically advantageous efficiency, achieve high labor productivity and adequate production intensity, good pregnancy of cows, low mortality rate, high life-long efficiency, low rate of herd change, top quality of marketed products, adequacy of costs etc. The enterprise economics also include maximum income derived from bonuses and subsidies as well as involvements in suitably financed projects.

THE EUROPEAN QUALIFICATION FRAMEWORK

The European Qualification Framework should support lifelong learning and increase transparency and mutual trust in the field of qualifications.

Its core element is a system of reference levels defined by a set of descriptors, which assess learning outcomes for awarding or verifying a specific qualification relevant to the qualification level in any given qualification system.

It is assumed that the implementation and further development of the EQF will:

- Accelerate the creation and development of an integrated European Credit Transfer and Accumulation System acquired through lifelong learning,
- inspire and support reforms by promoting changes on national and sector levels and
- help supporting the foundation of a “European Consensus” for the cooperation between involved parties and systems in areas concerning the principles and means for achieving quality assurance in education leading to acquisition of qualifications.

As stated, the basis of the EQF are reference levels (8 in number), which will have the function of a common and neutral reference criteria for agencies active in the area of education and professional preparation on national and sector levels. These eight levels cover a large scale of qualification – from qualifications acquired after obligatory schooling to qualifications awarded at the highest level of academic, professional and specialisation education and preparation. As an instrument for supporting lifelong learning, EQF includes general education, adult education, professional education and preparation, as well as university education. Level 5 to 8 clearly refer to levels defined within the framework of the European Higher Education Area in connection with the Bologna process.

The description of all eight reference levels in the EQF is based on learning outcomes, which are understood within the context of the EQF as expressions of an individual's level of acquired knowledge, understanding and skills, upon completing the process of education.

This represents an important shift in the definition and description of education, professional preparation and learning. Thanks to the focus on learning outcomes a common language has been introduced allowing comparison of qualification according to content and profile instead of process and means. In the EQF learning outcomes are described as combination of knowledge, skills and competencies. The balance of these elements may vary according to the qualification because the EQF includes all qualifications at all levels as well as academic and specialised qualifications. Using learning outcomes for assessment of qualification levels will simplify validation of education acquired outside of the official framework of institutions offering education and professional preparation. This may be regarded as a key element of lifelong learning.

CURRENT SITUATION IN THE EQF IMPLEMENTATION

As a means to implement the Lisbon strategy the European Commission has submitted a proposal to the European Parliament and the European Board to introduce a European Qualification Framework for life long learning. This proposal was endorsed by the European Parliament on 24 October 2007 in Strasburg.

The European Parliament and European Board recommended to the member states, amongst other measures stipulated in the accepted proposal, to:

- Use the European Qualifications Framework as a reference tool to compare the qualification levels of the different qualifications systems and to promote both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market, while respecting the rich diversity of national education systems.

- Relate their national qualifications systems to the European Qualifications Framework by 2010, in particular by referencing in a transparent manner their qualification levels and, where considered appropriate, by developing national qualifications frameworks in accordance with national legislation and practice.
- Adopt measures, as appropriate, so that, by 2012, all new qualification certificates, diplomas and “Europass” documents issued by the competent authorities contain a clear reference, by way of national qualifications systems, to the appropriate European Qualifications Framework level.
- Use an approach based on learning outcomes when defining and describing qualifications, and promote the validation of non-formal and informal learning in accordance with the common European principles agreed in the Council conclusions of 28 May 2004, paying particular attention to those citizens most likely to be subject to unemployment or insecure forms of employment, for whom such an approach could help increase participation in lifelong learning and access to the labour market.
- Promote and apply the principles of quality assurance in education and training when relating higher education and vocational education and training qualifications within national qualifications systems to the European Qualifications Framework.
- Designate national coordination points, linked to the particular structures and requirements of the Member States, to support and, in conjunction with other relevant national authorities, to guide the relationship between the national qualifications system and the European Qualifications Framework, in order to promote the quality and transparency of that relationship.
- The tasks of those national coordination points should include:
 - referencing levels of qualifications within national qualifications systems to the European Qualifications Framework levels and
 - ensuring that a transparent methodology is used to refer national qualifications levels to the European Qualifications Framework in order to facilitate comparisons between them, and ensuring that the resulting decisions are published.

EQF AND THE NATIONAL QUALIFICATION FRAMEWORK

Preparation and introduction of the EQF implies the initiation and progressive creation of National Qualification Frameworks (NQF), which further support the guiding principles of the EQF. The newly emerging frameworks generally tend to assess learning outcomes from different areas (schools, active work, university education and adult education) in connection with strategies of lifelong learning, in an effort of integrating and optimising qualification for broader recognition on the employment market.

From information made available by CEDEFOP at the end of 2007, only three countries have endorsed or introduced NQF – Ireland, Malta and the UK. The UK and Ireland have worked out their NQF on the basis of national programmes before work even started on the EQF. The Irish NQF is an example of how these frameworks already integrated some elements of the EQF. Ten levels of the Irish NQF (endorsed in 2003) reflect all learning outcomes, from the lowest to the highest level. Each level is based on nation wide accepted standards expressed as learning outcomes. In the current stage of development of the framework a more consistent approach is ensured concerning learning outcomes, transfer of credits and result recognition of non-formal education. Other countries introducing NQF have similar goals – focus is given on standards in learning outcomes, quality assurance, combining qualifications and on questions relating to accessibility and transferability.

The various attitudes towards NQF in the rest of Europe may be classified as follows:

- Group 1 countries, i.e. Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Germany, Hungary, Italy, Latvia, Portugal, Slovakia, Slovenia and Turkey, have endorsed the creation of an NQF explicitly connected to the EQF.
- Group 2 countries, i.e. Estonia, the Netherlands, Lithuania, Luxemburg, Norway, Poland, Romania, Greece and Sweden, started preparations for a framework, however without fully endorsing it legally. There are countries with different levels of commitment – from the reflection stage to pending decision on definitive endorsement.
- Group 3 countries, i.e. Cyprus and Finland, which have not yet started preparations or decided that framework implementation is not a priority (such as Finland).

With a few exceptions (e.g. Czech Republic) most countries started systematic actions only after official consultations on EQF started in June 2005. Whereas EQF plays a crucial role as catalyst of reform, fast development of the NQF can not be understood without considering the specifics of each country's political status. However there are evident common denominators:

- An approach based on learning outcomes is largely accepted despite various views on the NQF. This implies that countries where NQF is not a priority may be ahead in connecting qualification to the EQF. Finland is a good example of this. Focus on learning outcomes is closely linked to the desired transparency of qualifications, meaning necessary prerequisites for access to broader and equitable lifelong learning. The objection may be that whereas the learning outcomes based approach has been largely adopted in professional education and preparation, in the area of general and higher education it is not yet common.
- Quality assurance is a key issue of NQF and necessary condition for connecting to the EQF.
- Many countries have decided to accept an eight level structure for their NQF, i.e. Flanders and the Walloon Union, Czech Republic, Estonia, Croatia, Latvia, Lithuania, Malta, Northern Ireland, Slovakia, Slovenia, Spain and Turkey. This may be understood as an effort to fully adapt NQF to EQF. However the Irish and the Scottish NQF (with 10 and 12 levels respectively) clearly indicate that that is not the only way. Former Irish experiments of adopting national frameworks to the EQF show no serious discrepancies, provided that learning outcomes are the basis for the national as well as the European frameworks.
- Some countries (Belgium – Flanders, Bulgaria, France and Portugal) are creating national qualification registers parallel to NQF. These registers are a prerequisite for transparency. For example in France there is the National Register of Professional Certificates (Répertoire National des Certifications Professionnelles – RNCP) containing 4000 qualifications in major areas of education and professional preparation.
- Many countries consider validation procedures of non-formal and informal learning as an integral part of NQF implementation (i.e. Austria, Croatia, France Ireland, Italy, Germany, the Netherlands, Poland and Portugal).

SOME SPECIFICS CONCERNING THE RELATION BETWEEN HQF AND EQF

In connection with the creation of national frameworks we may inquire about what can and what can not be adopted from the European context and what is to be shared or set as a standard within national frameworks. The question of descriptors and their application may be raised, e.g. if European descriptors can apply to NQF. Documents published by the European Commission answer this often cited question:

“The purpose of qualification frameworks vary according to their context (international, national, regional or subject area) and thus the specific proposals for framework creations may also vary. EQF is created as a meta-framework, which means more general descriptors will be considered than in national, regional and subject area frameworks. EQF descriptors do not replace descriptors of other qualification frameworks. However the structure and the number of levels of these various descriptors may evidently tend towards those of the EQF. This implies that the EQF descriptors may not be taken as an exact standard without taking into consideration specific requirements of each qualification framework. Nevertheless EQF descriptors may be applied as initial reference points, which may be changed, extended etc.”

The answer to the question of the possible application of EQF in classification of educational programmes and occupation is also relevant.

EQF has not been created for the purpose of educational programmes or occupation classification but rather focuses on various systems and frameworks of qualification assessment. EQF levels do not reflect on any particular educational programme or competency required for performing specific tasks or occupations. Of course qualifications relate to education, preparation and the world of occupations and as such play an important role within the EQF. The ISCED (International Standard Classifications in Education) and the ISCO (International Standard Classification of Occupations) have been created specifically for the purpose of classifying education and occupations. EQF partly indicates the hierarchy of educational programmes (e.g. higher qualification level in the EQF will most probably correspond with the higher level in the ISCED) and occupations (e.g. lower qualification of occupations and skills will most probably correspond with the lower level in the ISCO). However EQF focuses on learning outcomes in the form of knowledge, skills and competence, separately from educational programmes and occupation. EQF is a new instrument which allows combining the systematic of educational programmes and occupations and thus in one sense interconnects ISCED and ISCO.

RECOMMENDED INFORMATION SOURCES

There are many correlations between professional education and qualifications. There is a lot of information available too. Instead of recommended literature the following web addresses may be listed.

| | |
|---|--|
| http://europa.eu.int/eures | European web page for employment opportunities, allows easy access on employment and education opportunities in the EU. |
| http://europa.eu.int/ploteus | Education opportunities in the EU. Facilitates orientation. |
| www.naric.cz/ | Information supplied by the Czech part of the European network of national information centres for recognition of academic education and mobility in higher education. |
| www.cedefop.eu.int/ | Information supplied by the European centre for professional development. "The European Professional Preparation Village" project is a part of this web page. |
| www.europass.cz | Information on the activities of the Czech Office of Europass offering information and support to its users. |
| www.euroguidance.org.uk | Information on the network of consultancy centres focusing on information dissemination concerning student and professional mobility. |

Part 2

Comparison in National Contexts

Following tables provide detailed information about implementation of National Qualification Systems in selected European countries: Czech Republic, Greece, Italy, Portugal and Spain. Sixteen sections illustrate different views of the problem and serve to mutual comparison among European countries with various educational systems. In the comparison study countries are listed in alphabetical order.



CHAPTER 1: National Qualification Systems in involved countries

Introduction

Systems for qualifications are established in all involved countries. The systems have been developed since early 2000 with a distinct stress to harmonization with EUs and OECDs documents. In the Czech Republic (as well as in other former eastern countries) the legal background was established later, in 2006. The aims and effort of systems are to give national education systems and other educational bodies functioning instruments for promotion and development of vocational education and training, increase the efficiency and effectiveness of long-life education beyond the traditional educational period, to promote the freedom of movement for workers and thus facilitate the adoption of supply and demand on the labour market in the Europe. The aims are formulated as follow:

- 1) Comparability of learning outcomes acquired by various forms of learning and education.
- 2) Achieving full qualification by combining partial qualifications.
- 3) Transfer of employment market requirements in the area of education.
- 4) Public awareness of nation wide recognised qualifications.
- 5) Adjustment of qualification levels in all European countries.

Each country found the system of qualifications on the base of traditional educational systems with respect to national specifics. Thus the formal structure of national qualification systems differs. Although systems differ in involved states the content and framework is relevant EU requirements and mutually comparable. Frameworks are foundations for the implementation of transparency, accessibility, development and quality of qualifications in relation to the employment market and civic society. National qualification frameworks (NQFs) are instruments of classification focused on qualification, according to a set of criteria referring to a specific level of achieved learning outcomes. Some important concepts related to the specifics of the country are largely based on current legislation.

National qualification frameworks are usually implemented through National qualification systems, which are more specific than frameworks. They are based on definitions of standards.

The standards of the NQs are developed to work with knowledge, skills and competencies in close relationship with learning outcomes. Focus on learning outcomes represents a fundamental principle in all involved countries, surely in the European context and increasingly in other European countries. In this connection it is quite important to note that this principle is being implemented naturally and without undue pressure and asserting itself as truly basic, in the full scope of its implication – from legal recognition of the results of further education to initiating curricular reforms for basic professional education leading to secondary or high school qualification. Thus, in all involved countries it will be a rather long-term process.

Full relevant information from individual countries:

Section 1

Background and actual state of National Qualification Systems implementation

- Background of NQs implementation.
- Harmonisation with documents of European Commission.
- National specifics.

The **Czech Republic** had its own traditional system of qualifications which was a product of the former politic of totality environment. After gentle revolution in 1989, the education system in the country as well as relevant supporting legal backgrounds were newly created and developed to fit the profile strategic educational European documents. In 2006 a qualification framework as defined in the materials of the EC and OECD was newly created and now it is fully harmonised with EU requirements. There are no special national regulars and rules.

In **Greece** the process of certification of qualifications acquired either through training or professional experiences is provided up to now by various bodies and not by a specific national agency. Process of certification of qualifications acquired by formal education is guaranteed by the Ministry of Education and Religious Affairs. However, also other bodies' agencies provide vocational training under the supervision of Ministry of Labour and Social Affairs, Ministry of Commercial Navy, Ministry of Health and Welfare, Ministry of Agriculture and Ministry of Development. In addition to public agencies, formal education is also provided by private organizations (private schools and Technical Vocational Schools (TEE), which are supervised by the Ministry of Education and Religious Affairs in relation to courses and the level of training provided.

A qualification system in **Italy** was established by the "Lavoro" DM (Minister's Decree) in 2001. A special Technical Board, appointed by the Ministry of Labour, is responsible for amendments to and/or implementation of the process. Although the process is just in its first step, the solution adopted makes it possible to set up employment centres with the procedures already in use and to make a comparison with the nomenclatures in use. The compliance with EU requests took the form in 2007 when the Ministry of labour promoted the "Round Table for the Construction of the National System of Minimum Professional, Certification and Training Standards". The objective of the Round Table is to set up a national standards system consistent with the establishment for the European Qualifications and competences Framework. The Round Table is composed of: Ministry of Education, Ministry of the University and Research, the Regions, Autonomous Provinces and Social Representatives.

In **Portugal** the process of certification of qualifications is within the legal framework of Decree-Law number 396/2007, of 31st December, which establishes the juridical regime of the National Qualifications System (NQS) and defines the structure of its functioning. The NQS adopts the principles set down in the agreement signed with the Social Partners and restructures the professional training covered under the educational system and labour market, making them come together in terms of objectives and instruments.

The **Spanish** National System for Qualifications and Vocational Education and Training, known in Spanish as SNCFP, was established by Spanish Organic Act 5/2002 of 19 June 2002. It consists of instruments and actions which are necessary to promote and develop the integration of Vocational Education and Training, as well as to assess and accredit professional competencies. The SNCFP was created to respond to the demand for qualifications of people and enterprises in a society trying out a continuous process of change and innovation, to adapt the vocational training to the qualification demands of productive organizations, to facilitate the adaptation of supply and demand on the labour market, to extend life-long and to promote the mobility of workers. For these reasons, it plays an essential role in the labour and education in Spain.

The formal structure of National Qualification System

- Formal education.
- Non-formal education.
- Classification of qualifications.
- Structure of formal elements of NQS.

The **Czech Republic** has its own functional qualification system (NQS) analogues to qualification framework as defined in the materials of the EC and OECD. The key term “qualification” is defined in Czech legislation by Act 179/2006 Coll. as follows:

Complete qualification shall mean professional qualifications of natural persons to duly perform all work activities pertaining to a relevant profession.

Partial qualification shall mean professional qualifications of a natural person to duly perform a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively, in the scope defined in a qualification standard.

The Act establishes a national framework of qualifications register, the NQS:

A publicly accessible register of complete or partial qualifications acknowledged, defined and recognised in the Czech Republic. NQS is a common comprehensive framework for all forms of learning and education. The most adequate comparative attribute of all forms and ways of learning and education are the outcomes. Outcomes of learning and education are the building blocks of the architecture of the NQS. Comparison and recognition of learning outcomes are described: a) in a standard form, b) in the most simplified structure, c) with the aid of elements, which may easily be interchanged after eventual alteration and updating.

A qualification standard for partial qualifications means a structured description of professional competence of a natural person for the due performance of a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively.

An assessment standard for partial qualifications means a set of criteria, organisational and methodological procedures and material and technical prerequisites specified for the verification of the attainment of professional qualifications to duly perform a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively.

The NQS in the **Czech Republic** is designed with the following sections:

1. **NQS Units** – distinguished through two types of qualifications:
Complete qualification – the capacity to duly perform a specific professional occupation (or several occupations).
Partial qualification – the capacity to duly perform a certain work activity or a set of work activities enabling professional occupation.
2. **NQS Standards** – they assess qualifications in a standard way in two ways:
Qualification standards – systematic description of requirements for a relevant qualification.
Evaluation standards – a set of and criteria and methods for assessment of the requirements for qualification.
3. **NQS Levels** – classify NSQ vertically while respecting levels defined by the Czech educational systems and are related to the levels defined in the EQF.
4. **Qualification area (groups of occupations)** – classifies NQS horizontally (according to area of occupation) while respecting area classification as applied in the Czech educational system.
5. **Correlations within NQS** – correlation between the above mentioned units and standards.
6. **Correlations without NQS** – correlation between NQS and the world of employment and education.

In **Greek**, there are two forms of education considered: the formal and the non-formal education.

1. **Formal education** is governed and ruled by the Ministry of Education & Religious Affairs (YPETH) which has the general responsibility for formal education and implements the national policy for education system in the country. The ministry provides recognition of qualifications in the whole area of the formal education:

Recognition of certificates and qualifications acquired by the graduates of TEE and IEK is done by the OEEK. The OEEK determines professional rights for all levels of vocational training and education in co-operation with the respective ministries and social partners. In order to perform this task a National Committee for Professional Rights (EEKED) was established and is in operation. The professional rights of 37 professions have been included in draft Presidential Decrees for the professional rights of graduates of IEK. Also, IEK offer numerous courses for professions that are unregulated and, consequently, no provisions on professional rights are required. These professions are for example information technology technician, tour agent specialist, assistant chef, commercial enterprise specialist, clothing and fashion designer and so on.

The vocational training diploma issued by the OEEK is recognized as a formal qualification for appointment by the public sector.

Degrees and diplomas acquired from tertiary education Faculties and Schools are recognized as formal qualifications for appointment of graduates to corresponding posts in the public sector. Registration to Chambers or Professional Associations endorses graduates of tertiary education to obtain the license to exercise their profession and have their professional rights protected.

2. **Non-formal education** covers all organized educational activities outside the formal education system, either on an individual basis or as part of a wider activity, which is aimed at a specific group and has specific educational objectives. Certificates issued by agencies providing non-formal vocational education and training are not officially accredited for the purpose of certifying qualifications. Consequently, the above certificates are not documents that their holders can use in order to seek a position in the public sector. Despite this, the courses run by the Education Directorates of the various Ministries for their staff can lead to certificates which constitute qualifications for their career development inside the departments.

Likewise in the private sector, vocational qualifications acquired via vocational training courses run by companies themselves in their own work environment for their staff are accredited.

In *Italy*, the adoption of the NQS introduces a general rule that must always be followed: every person seeking employment must fall within at least one “Occupation” (practised or desired), sometimes they must also be included under an “Item”, it is never sufficient for them to fall within an “Occupational Group”.

In **Portugal**, the National Qualifications System promotes effective articulation of vocational training included within both the Educational System as well as in the Labour Market, establishing common objectives and instruments in the context of a renovated institutional framework. It assumes objectives which have already been established in the New Opportunities Initiative, especially the promotion of the secondary level as the generalised minimum qualification of the population, identifying the instruments required for its effective implementation.

The following were created within the context of the National Qualifications System: The **National Qualifications Framework**, which defines the structure of the qualification levels, based on the principles of the European Qualifications Framework, with respect to the description of national qualifications in terms of learning results, in accordance with the descriptors associated to each qualification level.

The National Qualifications Framework is aimed at integrating the national qualifications subsystems and improving access: the progression and quality of qualifications in relation to the labour market and civil society.

The **National Qualifications Catalogue** is a dynamic instrument which integrates qualifications based on competences, identifying for each competence the respective references of competence, training and level of qualification in accordance with the National Qualifications Framework.

Evidence of possession of a qualification established in the National Qualifications Catalogue is provided through a Qualification Diploma, which should refer to the corresponding level of qualification, in accordance with the National Qualifications Framework, as well as the professional activity for which the qualification was obtained.

The successful conclusion of one or more training units developed based on the references of the National Qualifications Catalogue, which does not allow the immediate obtaining of a qualification or the conclusion of a process for the recognition and validation of competences is proved through a Qualifications Certificate.

The successful conclusion of a training action not included in the Catalogue is proved through a professional training certificate and registered in an individual booklet of competences for the effects of educational and vocational progression, through the New Opportunities Centres.

The **Individual Booklet of Competences**, in which the competences acquired or developed throughout the life of the individual are registered, referred to in the National Qualifications Catalogue, as well as any successfully concluded training sessions which do not correspond to the originally registered competences.

The Individual Booklet of Competences is an official, personal, non-transmissible and optional document, allowing individuals to present and communicate their training and competences acquired throughout their life in a more effective manner, as well as giving employers an easier way to ascertain the appropriateness of the competences of the candidates to the work posts.

Individuals may request the respective booklet from any entity belonging to the National Qualifications System training entity network in which they attend a training session or course.

The **Spanish** National System for Qualifications and Vocational Education and Training is formed by the following tools and actions:

The National Institute of Qualifications, INCUAL, is the technical tool, fitted with capacity and independence of criteria, which supports the Spanish General Council of VET to achieve the goals of The Spanish National System for Qualifications and Vocational Education and Training.

- *National Catalogue of Professional Qualifications* is an instrument of the Spanish National System for Qualifications and Vocational Education and Training (VET) which arranges the professional qualifications according to competences appropriate for an occupational performance. The professional qualifications are identified in the productive system and they are susceptible of being recognized and accredited.
- *Procedure to recognize, to assess, to accredit and to register the professional qualifications, to be developed.*
- *Information and Guidance* concerning VET and Employment.
- Assessment and quality improvement of the SNCFP.

The CNCP consists of professional qualifications arranged in professional families and levels of qualification taking into account UE criteria.

The 26 professional families which make up the CNCP have been created according to professional competence affinity criteria.

The 5 levels of professional qualification are based on the professional competence required for each productive activity taking into account different criteria like knowledge, initiative, autonomy, responsibility and complexity, among others, necessary for the accomplishment of every activity. There is a comparison chart of these 5 levels and the other 8 from the European Qualification Framework.

Level 1: Competence in a reduced group of relatively simple working activities related to normalized processes, in which the theoretical knowledge and practical capacities involved are limited.

Level 2: Competence in a group of well-defined professional activities with the capacity to use particular instruments and techniques concerning, mainly, an execution activity which can be autonomous within the limits of the above-mentioned techniques. It requires knowledge on the technical and scientific fundamentals of the activity concerned and capacities for the comprehension and the application of the process.

Level 3: Competence in a group of professional activities which require the command of different techniques and can be executed in an autonomous way. It involves responsibility on the coordination and supervision of technical and specialized work. It demands the understanding of the technical and scientific fundamentals of the activities concerned as well as the assessment of the factors in the process and the assessment of the economic repercussions.

Level 4: Competence in a wide group of complex professional activities performed in a great variety of contexts which require to combine technical, scientific, economic or organizational variables to plan actions, or to define or develop projects, processes, products or services.

Level 5: Competence in a wide group of professional activities of great complexity performed in different contexts, often unpredictable, which imply to plan actions or to conceive products, processes or services. Great personal autonomy. Frequent responsibility on the assignment of resources and on the analysis, diagnosis, design, planning, execution and assessment.

A professional qualification is a set of professional competences significant in employment which can be acquired through VET modules or any other kind of learning structure as well as through work experience.

A person is qualified when he/she achieves the expected outcomes during his/her professional performance, with reasonable resources and quality levels. The professional qualifications do not involve any regulation of professional practice.

Every professional qualification consists of competence units (UC, in Spanish). The competence unit is the minimum set of professional competences which can be partially recognized and accredited.

The competence unit is described through professional performances (RP) which set up the expected behaviour of one person in terms of outcomes or results of the activities performed.

Every competence unit is linked to a learning module which describes the necessary learning to acquire that competence unit.

Section 3

National projects focussing on creation of HQS

- Projects accomplished.
- Projects in run.
- Projects in preparation.

The NQS in the **Czech Republic** is legally endorsed by the Czech Act on Verification and Recognition of Further Education Results. The Act is formulated in such a way as to motivate adults in the Czech Republic to pursue further education, to broaden their individual qualifications, to acquire new qualification for getting a better occupation. The Act encourages systematic harmonisation of the educational systems offer with the demands of the labour market.

The Ministry of Education, Youth and Sports (MSMT) of the Czech Republic has been working since 2005 on two important System Projects that are meant for the development and partial implementation of a national qualification system:

1. Project aimed at developing a national qualification system (project NQS). In broad cooperation with the employers this system focuses mainly:
 - Conception and overall architecture of NQS.
 - Implementation of NQS for the lower qualification level – secondary high school education level with certificate of professional competency, ISCED 3 C.
 - ITS system for NQS.

2. Project aimed at developing recognition of outcomes of non-formal and informal learning in school networks providing educational services for adults (project UNIV). One of the goals of this project is to propose, design and implement as a pilot project a system for recognising outcomes of non-formal and informal education within the legal dispositions concerning recognition of further education.

For the creation and practical implementation of NQS it is necessary to ensure sustained cooperation of all relevant partners, particularly with the representatives of the employment market and the providers of professional educational. The System Projects of the MSMT concerned with the implementation of NQS include the creation of partnerships at various levels of interest. Permanent partnerships are established with the assumption that they will continue after the projects are completed.

The establishment of Sector Boards is a good example of this policy. These recently created executive boards are composed of sector oriented specialists nominated by employers and their organisations in close cooperation with centralised agencies; they are the future authorisation offices which will award recognition of further education according to the relevant Act.

The model of Sector Boards as a body of representatives of employer organisations oriented on promoting professional as well as economic and political requirements in the area of human resources development has been inspired by practical experiences made in the UK.

The impulse for testing the possibility of transferring this model of Sector Boards to the Czech Republic was the construction of a NQS and a National Occupation System. Within the context of the Czech Republic Sector Boards may have several other functions and they may impact on many other areas. At present one of expected areas for the implementation of Sector Boards is in authorisation and recognition of learning outcomes in accord with the Act on Verification and Recognition of Further Education Results.

The main strategic aims of Sector Boards are:

- To become respected sources of information on trends in sector development, on human resources and the requirements of employers in various sectors.
- To become important partners to state and government agencies in the educational sector.
- To set up rules for functioning and interrelated systems providing basic information in the matters of further education and ensuring the update and proper function of these systems.

- To become key actors in designing an opportune environment for labour forces in the sector and to promote innovative actions in the qualification contents and cooperate with schools and other educational institutions.

Support of the NQS in **Greek** is provided by the Community Support Frameworks.

1) Community Support Frameworks II - EPEAEK I.

Within the 2nd Community Support Framework (1994-1999), the Ministry of National Education and Religious Affairs integrated in its educational policy the Operational Programme for Education & Initial Vocational Training (EPEAEK I, 1994-1999), co financed by the European Structural Fund, at both national and regional level with three strategic goals:

- access of all young people aged 15-20 to education and vocational training;
- reform and upgrading of the education system and its linkage with the new needs of the labour market;
- improvement of infrastructure (libraries, equipment etc.) and upgrading of administration.

The analysis report on the correlation between the goals set out in EPEAEK I, and the problems of education concluded that achievement of these goals would meet the needs of education and initial vocational training at a satisfactory degree.

2) Community Support Framework III - EPEAEK II.

The imminent integration of the countries of Eastern and Central Europe reinforce the role of the European Union internationally. The fundamental policy priority of the European Structural Funds is the achievement of economical and social cohesion. The present social needs highlight the importance of the role of the human capital to development and progress. In Greece, the strengthening of the economy and the strong immigration flow give rise to new needs and challenges for the education and training systems. Within the framework of the 3rd Community Support Framework, the Operational Programme for Education & Initial Vocational Training (EPEAEK II, 2000-2006). The program aimed at the improvement of the education system and the services provided to respond more effectively to the real social needs and link education and training with the needs of the labour market. Pilot interventions, which began during the implementation period of EPEAK I, have provided valuable experience.

3) ESSEEKA.

The diversity of Ministries and agencies related to VET and VET qualifications in Greece has produced problems of overlapping and duplicate efforts and structures. The National System for the connection of Vocational Education and Training with Employment (ESSEEKA) has been approved in 2003. ESSEEKA is an integration of operations and means, through which, the national policy for VET and Employment is planned and implemented, so as to fulfil personal and social needs of individuals as well as needs of the labour market.

ESSEEKA demands real and close cooperation between different organisations working until now separately – not to say competitively – in the fields of initial and continuing vocational training. For this reason it is the most interesting to study and the one that involves different final beneficiaries from both operational programmes. The objective of ESSEEKA is to develop occupational profiles for all specialisations, to develop a certification system for occupational skills and competencies and to develop a correspondence between different qualifications gained in Greece or in other Member States. Initially these operations were covered by OEEK and EKEPIS, with the provision that the main social partners (GSEE, SEV, ESEE and GSBEE) may act as certification bodies. Later in the law 3369/2005, the certification procedure of occupational profiles is established and it is the role of EKEPIS, with a Committee of all stakeholders acting as an advisory body. ESSEEKA consists of the following sub-systems:

System of Labour market needs:

2. System of Technical vocational education.
3. System of Initial vocational training.
4. System of continuing vocational training.
5. System of accreditation of vocational training and competences.
6. System of Occupational Guidance.

4) Community Support Framework IV (2007 – 2013).

Although this Community Support Framework has not been in place yet, various activities are going on and it is expected that ESSEEKA will be completed and will jointly be implemented by the Ministry of Employment and Social Protection and the Ministry of Education through their competent organizations. ESSEEKA is a common objective of the two major ESF operational programmes in Greece, namely OP Employment and EPEAEK (OP Education and initial VET).

Reliable data do not exist in **Italy**. The development of qualification frameworks in the country has so far been mainly a verbal exercise for promoting the concept. Little progress has been made with regard to practical implementation and in many cases the experience is too recent to permit a real assessment of the contribution that a qualifications framework could make, for example, from the point of view of the promotion and development of learning throughout a lifetime.

In **Portugal** only 20% of the adult population (25-64) completed upper secondary education, whilst the OECD average is 70%. Furthermore, of the 5 million active workers, 50% did not complete compulsory education (9 years of schooling). Also, the average schooling years of the adult Portuguese population is 8.2, the lowest in the EU.

The consequence for (e.g.) ICT, according to Information Society statistics 2004-2007, is that Portugal lags significantly behind other EU countries in the use of the internet: whilst 40% of the overall population (16-74 years old) uses the internet regularly – which is significantly lower than the EU25 average, 59% -- the breakdown by education level is revealing:

- individuals with low education level: 24% (19% in 2006)
- individuals with medium education level: 81% (80% in 2006)
- individuals with higher education level: 90% (87% in 2006)

This means that among the more educated segments of the population, Portugal ranks a respectable 5th in EU25. What pulls the global numbers down is really the average low schooling level of the overall population and the associated digital illiteracy.

The basis for the Initiative is clear: the upper secondary education level is the reference objective for the qualification of young people and adults.

By 2010, the goals are to involve over 650.000 young people in courses of double certification at the upper secondary education level and to integrate in occupational paths those at risk of leaving school without qualification, as well as to involve 350.000 adults in vocational education and training courses and to guarantee that more than 650.000 adults have obtained a competences certificate.

Of particular importance is the synergy between the New Opportunities Initiative and the e.School Programme.

New Opportunities, in general terms, aims at significantly enhancing the relatively low qualification levels of the Portuguese population, which generally involves older generations but also younger people. Thus, the guiding objective for New Opportunities is to bring the general schooling up to the upper secondary education level. The project has two main pillars: 1) Addressing the low levels of schooling (and high drop-out) among young people; 2) Raise the basic qualification levels of the adult population. This requires: a) Structuring the supply of vocational education and training courses to cover a growing number of people in qualifying paths; b) Recognizing (lifelong acquired) competences; c) Stimulating demand, mobilising the Portuguese population to the challenge of lifelong learning.

In **Spain**, the Catalogue development methodology is based on the guidelines approved by the Spanish General Council of VET in May, 2003.

In order to define the qualifications, 26 working groups have been created (one per professional family). The members of these working groups are learning and productive experts selected through the proposals made by the organizations of the General Council of VET. The activities of the different stages to identify and develop the qualifications included in the CNCP are directed by the National Institute of Qualifications (INCUAL). In the development of some professional families the Autonomous Communities made an active cooperation according to their productive context.

Stages in the determination and development of the CNCP:

1. Collection and treatment of information, and creation of working group.
2. Qualification design.
3. Definition of related learning
4. External review. Once the qualification is designed by the working groups, it is submitted to the general and regional administrations, social agents and other organizations related to the qualification. All of them represented in the General Council of Vocational Education and Training in order to improve its quality and to ensure that it fits to the productive services.

5. Qualification approval as a Royal Decree.
6. Updating. The CNCP and the Modular Catalogue of Vocational Education and Training will be updated through revisions no more than five years since the date the qualification is included in the CNCP.

ERA is an experimental project related to the National System of Qualifications for the evaluation, recognition and accreditation of professional competences. The project was a participation, through institutional channels, which has designed, experimented and contrasted a methodology to evaluate, recognize and accredit the professional competences and qualifications acquired during the working experience or by other means of no formal training.

It is aimed to workers who have non officially accredited professional competences, and who belong to any of the following communities:

1. Youngers with non official accreditation and incorporated to the labour market in any of the sectors to which the project is focused and with an experience of at least two years in the fields which are to be evaluated.
2. Workers in active with non official accreditation and a professional experience of, at least, five years in the fields of the competences to evaluate.
3. Unemployed workers with non official accreditation and with a professional experience of, at least, three years in the fields to the competences to evaluate.

This project was promoted by the Ministry of Education and Culture as part of its Working Programme, co-financed by the European Social Fund and with the participation of seven Spanish Autonomous Communities: Andalusia, Castile-La Mancha, Galicia, Murcia, Navarra, Basque Country and Valencian Community as well as the collaboration of the Spanish National Institute of Employment (INEM in Spanish).

Problems in implementation of HQS

- Problems identified within implementation.
- How are problems treated
- Risks identification and overcome.

The creating of an NQS is from the start understood in the **Czech Republic** as means of achieving a state wherein the NQS will not only bridge the gap between initial and subsequent education but also between the world of labour and education. It is being created with the aim of interconnecting job related requirements with adequate feedback from the educational sector.

A potential risk is involved with “ad-hoc” regulations, consisting in temporary limitations of the current “free market fluctuation mechanisms” in initial as well as subsequent education programmes offers.

This potential risk may be eliminated through several measures. Initial education involves “mutual influence” – complete qualifications are strictly delimited not only in the area of occupation and job requirements, but also in relation to the possibilities (and to a certain extent necessities) offered by the sphere of education. The relationship between NQS and learning outcomes is defined by the requirements of the labour market. Partial qualifications strictly delimitate qualification related to the sphere of work, provided the education offer will adapt accordingly. A description of certain partial qualification by no means implies the abolishment of free conception of courses and other educational initiatives without direct correlation with the NQS.

The creation of an NQS implies many organisational measures and requires important financial means. This is mainly due to the fact that the NQS design and implementation requires active cooperation of many partners.

In **Greece** there are three big systems dealing with VET. The Ministry of National Education and Religions supervises two of them that of Technical vocational education and that of initial vocational training. The third one that of continuing vocational training is supervised by the Ministry of Employment and Social Protection.

These three systems are built at different times and have different background. As a result, there are the following problems:

- › Duplication, at least, of some systems e.g. accreditation of trainers.
- › Duplication of resources spent.
- › Difficulty of co-operation between institutions and between programmes.
- › Difficulty to accredit knowledge, skills and competencies regardless of the way a person has acquired them.
- › Difficulty to plan VET in a way to meet the labor market needs, facilitate insertion of young individuals as well as women in the labor market and update knowledge, skills and competencies of employed and unemployed.

The above features also determine the priorities, which have been set by policymaking. In this context, it is expected that the initiatives which will be undertaken by ESSEKA, via the National System to Link Vocational Training and Education to Employment, but also via agencies such as the National Accreditation Center of Greece (EKEPIS), the Organization for Vocational Education and Training (OEEK), etc., will assist in overcoming these difficulties.

In **Italy**, with a view to the construction of the national framework for recognition and certification of competence of persons and for the mobility of citizens, the Institutions and Social Representatives have agreed on certain basic requirements:

- › the need to establish and use a shared language;
- › the need to fix minimum reference standards to enable systems and bodies to communicate while, at the same time, maintaining their own particular identities;
- › the need to maintain separate professional standards, training standards and recognition and certification standards, in order to ensure effective communication between the education, training and employment systems and flexibility in the supply of education and training.

The experience of recent years may be decisive for responding to Community requests with a view to closing the existing gaps:

- › it is necessary to go beyond the experimental phase and provide sure prospects for learning, guaranteeing the possibility of access to different opportunities, making use of the skills acquired;
- › it is necessary for the approach to the supply of education and training to be influenced by the idea of learning aimed at the achievement of results through different methods, systems, experiences and timeframes, to suit the characteristics of the individuals.

There is also a need for:

1. cooperation between all the parties (National Bodies, Regions, Social Representatives);
2. infrastructures, creating consistency with the rules and processes conducted within the framework of instruments, policies and actions on the subject implemented at the national level;
3. support for the processes.

In **Portugal**, the recent implementation of New Opportunities framework does not allow many comments about related problems on its own set up.

Portugal carried out follow-up studies carried out in both education and training systems in Portugal, as well as on data relating to school achievement based on research made at national level. It should also be pointed out that available data show the pecuniary benefits resulting from the lifelong learning recognition.

The Ministry of Education and the Ministry of Social Security and Labour have been implementing some observation and follow-up mechanisms, allowing thereby the monitoring both education and training systems. The information made available further on, is the result of some analyses and observations carried out under the referred bodies. However, the results refer to some years only, being impossible at this moment to provide a significant data series.

In what concerns the impact on the labour market it is possible to provide some data based on trajectory surveys that have been carried out regarding former students of the secondary and higher education, as well as regarding former trainees.

The complete set up of the National Qualification System and Vocational Training in the working market in **Spain** depends on three circumstances:

- The increase of participation of the active population in the programs of vocational training.
- The start up of a system of evaluation and recognition of professional competences acquired by the non formal and informal learning.

The link between qualifications with collective negotiation and the professional ranking as one of the most important challenge for the social dialog in the future years.

The Employer Organizations share the same goal, but there are some reticence related to the collective negotiation, since at the end everything has effect on compensations. A personal satisfaction is experienced when somebody officially certifies a qualification; however, the enterprise is reluctant to modify the status of the worker despite his or her training, since it increases the worker's competitiveness. The aim is not other than associating the qualified worker to a specific agreement group and salary as well as making worthy the National Qualification Catalogue for the collective negotiation.

Section 5

The focus on learning outcomes

- Qualitative elements of national systems.
 - Development of knowledge, skills and competences
 - Process of implementation.
- Influence on curricula.
- Influence on learning outcomes.

In the **Czech Republic**, NQS is understood to be a publicly accessible register of all complete and partial qualifications confirmed, classified and recognised on a national scale in the country and their correlations. Their basic elements are qualifications described according to a simple set of criteria oriented on learning outcomes expressed independently from place and means of acquisition or attainment. The NQS represents a basic systematic framework for initial and further education and recognition of learning outcomes. Its conceptual platform is learning outcomes.

The new conception influences the development of curricula (creation of study programmes) to be directed towards more complex and practically oriented skills, which enables an individual to succeed on the basis of performance, self-reflection and cooperation in known as well as unknown situations. According to this new model teaching should make students feel self assured each one being capable of experiencing success. Students should develop their social skills that will help them to achieve success in our dynamic world that is more than often filled with contradiction.

The core elements of the Czech curricular system are educational programmes frameworks. These define education corresponding to the respective levels and subjects. They reflect humanistic and democratic values, which are at the heart of school life and student and pupil education, setting goals for education as well as key professional competencies and contents necessary for their acquisition. Educational programmes frameworks set up structures for the realisation of study plans and formulate rules for the creation of school educational programmes. Educational programmes frameworks do not insist on content but rather on learning outcomes.

Major reforms and changes in Education system were performed over the last decade in **Greek**. Technological developments, the globalisation of the market, the revolution in telecommunications and the transition from the information society to the knowledge society are major challenges, which Greece has to confront. The financial assistance provided to Greece by the European Social Fund since the 1990s has been a major financial instrument for the development of human resources and employment promotion. Adapting human resources to constantly changing market needs is vital to the competitiveness and growth of the Greek economy and to increasing employment and combating unemployment. Success in this area will depend on mobilising all human resources and, more importantly, on the availability of a highly qualified workforce with the skills needed to master advanced technologies and adapt to change.

During the programming period 2000-2006, the actions have addressed two target groups, who have been the recipients of the direct benefits of outcomes and results:

- Students of primary, secondary and technical-vocational education, who are in need of special measures to access and stay in the educational system, i.e. students of cultural diversity, students with special needs, students with learning problems.
- Adults, who due to the fact that they have not completed the cycle of their compulsory education and therefore are not holders of a formal qualification, are at risk of exclusion from the labour market and, consequently, social exclusion.

The main qualitative factors taken into account for developing a qualifications framework in the **Italy** are:

- Changing over from education and training based on supply to an approach dictated by demand. It is no longer the schools that propose or impose their products or their diplomas but rather the market and the competition that force schools to evolve and even to compete with one another in giving their students chances of professional success, in other words, of finding the best “placement” in the labour market.
- Improving the coherence of a particular system of national qualification by proposing a qualifications structure that emphasizes its complementary elements and is therefore more transparent and understandable.
- Making the elements of individual qualifications more “transferable” from one sector to another.
- Adopting a model that takes into account formal, non-formal and informal individual learning, permits the legal recognition and therefore the exploitation of every type of learning and can be used to allocate training credits (for continuing studies, training, finding a suitable job, promoting professional mobility, etc.).
- Creating bases for exchange, transfer of credits and recognition of qualifications among the various countries.

The most important qualitative factors taken into account for the qualifications framework in Portugal are:

- › Raise the basic training of the active population, enabling its educational and professional progress;
- › Guarantee that the professional courses of young persons confer double certification: educational and professional;
- › Reinforce and consolidate the process of recognition, validation and certification of skills;
- › Promote the qualification and socio-professional integration of groups with particular difficulties relative to insertion;
- › Promote the coherence, transparency and comparability of qualifications at a national and international level.

As qualitative elements of the SNCFP in *Spain*, it is important to emphasize the Modular Catalogue of Vocational Education and Training, which consists of all the learning modules. Each module is associated with one of the competence units which form a professional qualification. The Modular Catalogue provides a common reference for the integration of the Vocational Education and Training offer in order to allow the capitalization of learning and the promotion of lifelong learning.

The Modular Catalogue of Vocational Education and Training promotes a quality VET offer, which is updated and appropriate for the different recipients, according to their expectations for professional promotion and personal development.

Besides, the Catalogue meets the productive sectors' demands for qualification. The catalogue aims to increase competitiveness by reinforcing the working population's qualifications.

On the other hand, the National Catalogue of Professional Qualifications makes possible evaluate and accredit the worker in each one of the units of competence (obtained by means of training or working practice). So, they can be gathered until the accreditation of the full qualification is obtained by the Vocational Training Diploma. It is achieved by the initial vocational training, managed by the Ministry of Education or by a Certificate of professional standards, obtained from the Occupational Training (for unemployed), and managed by the Ministry of Labour.

Results of the comparison

Czech Republic

- 1) There is traditional system of qualification. The main impact is given on formal education; it is not long time ago when the bachelor degree was (as a new element in educational system) much downgraded. Now, legislation in the scope of NQs is fully harmonized with EU requirements.
- 2) NQs is based on hierarchical structure complete qualification – partial qualification. For recognition and identification of partial qualifications, both qualification standards for partial qualifications and assessment standards for partial qualifications are defined.
- 3) Systemic project that covers both developing NQs and developing recognition of outcomes of non-formal and informal learning in school networks. The Sector Boards play key role.
- 4) Risks: ad-hoc, non consistent regulations, the creation of an NQs implies many organisational measures and requires important financial means and connected possibility of undue competition.
- 5) NQs basic elements are qualifications described according to a simple set of criteria oriented on learning outcomes expressed independently from place and means of acquisition or attainment. The core elements of the Czech curricular system are educational programmes frameworks.

Greece

- 1) Training and professional experiences are acquired both in educational or training institutions and at work. Government through Ministries supervises both formal and non-formal education and vocational training. Until recently, there was no specialized national agency responsible for qualifications. EKEPIS, to which it was finally designated this task has tackled only with a very limited number of professions, figuring as pilots.
- 2) Typology: formal and non-formal education. The vocational training diploma issued by the OEEK (Organization of Professional Education & Training), an organisation supervised by the Ministry of Education, is recognized as a formal qualification for graduates wishing to be appointed by the public sector as well as by the labour market. Certificates issued by agencies providing non-formal vocational education and training are not officially accredited for the purpose of certifying qualifications. There is no certification system for qualifications acquired through these routes.

- 3) Non-formal education to a large extent is supported by CSF Community Support Frameworks II – III. The National System for the connection of Vocational Education and Training with Employment (ES-SEEKA), legally established but not fully operational yet, previews the collaboration of all actors and stakeholders involved both in vocational education and training, in order to avoid overlapping and to contribute to an integration of operations and means, through which, the national policy for VET and Employment is planned and implemented, so as to fulfil personal and social needs of individuals as well as needs of the labour market.
- 4) Standard risks and problems in phase of implementation phase (NQS is not running). The most important are: duplication, at least, of some systems e.g. accreditation of trainers, duplication of resources spent and difficulty of co-operation between institutions and between programmes.
- 5) Connected with the mainstream initiatives are ESF objectives and outcomes related to supporting young, disabled or disadvantaged persons and/or those who are threaded by social exclusion.

Portugal

- 1) The process of NQS application is in the beginning, formally started in the end of 2007. NQS reflects principles set down in the agreement signed with the Social Partners to be in concordance with needs of labour market.
- 2) Hierarchical structure of NQS is proposed: The National Qualifications Framework defines the structure of the qualification levels. The National Qualifications Catalogue integrates qualifications based on competences. The Individual Booklet of Competences is an official, personal, non-transmissible and optional document, in which the competences acquired or developed throughout the life of the individual are registered.
- 3) Only New Opportunities project is mentioned. The project has two main pillars: 1) Addressing the low levels of schooling (and high drop-out) among young people; 2) Raise the basic qualification levels of the adult population.
- 4) No relevant data. Methodology is suggested well but there is not experience with implementation.
- 5) The most important objectives and outcomes are to raise the basic training of the active population, enabling its educational and professional progress, to guarantee that the professional courses of young persons confer double certification: educational and professional and reinforce and consolidate the process of recognition, validation and certification of skills.

Italy

- 1) The process is in the first step. The effort (from 2007) is to develop "National System of Minimum Professional, Certification and Training Standards" to be in concordance with EU requests.
- 2) General rule that must always be followed is now available only.
- 3) Reliable data does not exist. The development of qualification frameworks in the country has so far been mainly a verbal exercise for promoting the concept.
- 4) Requirements are known only. The most important that should be reflected in the process of IN_DAIRY tool design are: the need to establish and use a shared language; the need to fix minimum reference standards to enable systems and bodies to communicate while, at the same time, maintaining their own particular identities and the need to maintain separate professional standards, training standards and recognition and certification standards, in order to ensure effective communication between the education, training and employment systems and flexibility in the supply of education and training.
- 5) Changing over from education and training based on supply to an approach dictated by demand. Improving the coherence of a particular system of national qualification by proposing a qualifications structure. To make individual qualifications more transferable. To take into account formal, non-formal and informal individual learning.

Spain

- 1) Fully compatible scheme for assessing and accrediting professional competencies is called National System for Qualifications and Vocational Education and Training (SNCFP). This can reflect supply and demand on labour market and so it plays essential role in the labour and education in Spain.
- 2) SNCFP is based on hierarchical structure. It includes National Catalogue of Professional Qualifications that arranges the professional qualifications according to competences appropriate for an occupational performance as well as procedure to recognize, to assess, to accredit and to register the professional qualifications.

- 3) In order to define the qualifications, 26 working groups have been created (one per professional family). ERA is an experimental project related to the NQS for the evaluation, recognition and accreditation of professional competences. Projects (non-formal education) funded by ESF.
- 4) The link between qualifications with collective negotiation and the professional ranking as one of the most important challenge for the social dialog in the future years. The Employer Organizations share the same goal, but there are some reticence related to the collective negotiation, since at the end everything has effect on compensations. A personal satisfaction is experienced when somebody officially certifies a qualification; however, the enterprise is reluctant to modify the status of the worker despite his or her training, since it increases the worker's competitiveness.
- 5) Modular Catalogue of Vocational Education and Training, which consists of all the learning modules. The National Catalogue of Professional Qualifications makes possible evaluate and accredit the worker in each one of the units of competence (obtained by means of training or working practice). So, they can be gathered until the accreditation of the full qualification is obtained by the Vocational Training Diploma.

| | Czech | Greece | Italy | Portugal | Spain |
|--------------------------------|---|--|---|---|--|
| Background of NOS | Traditional system of qualifications based on formal education, doubts about new forms of education, harmonization with EU. | Training and professional experiences are provided by various bodies; there is no specialized national agency. The new NOS initiative is undertaken by EKEPIS, the National certification Centre, which is supervised by the Ministry of Labour. | The process is in the first step. The effort (from 2007) is to develop "National System of Minimum Professional, Certification and Training Standards" to be in concordance with EU requests. | The process of NOS application is in the beginning, formally started in the end of 2007. | SNCFP - fully developed scheme for assessing and accrediting professional competences. |
| Formal structure of NOS | Based on hierarchical structure complete and partial qualifications. Recognized by qualification and assessment standards. | Vocational education and training are yet not officially accredited for the purpose of certifying qualifications. On the other hand the whole effort for the development of the NOS is a part of a greater initiative for harmonisation of vocational education and training provided/ supervised by the Ministries of Education and Labour involving all social partners (ESSEKA-National System for Continuous Vocational Education and Training) | General rules that must always be followed are now available only. The qualifications reenter in "Professionals Group", "Professions" and detailed items. | Hierarchical structure of NOS is proposed: The National Qualifications Framework -> National Qualifications Catalogue -> The Individual Booklet of Competences. | SNCFP is based on hierarchical structure. National Catalogue of Professional Qualifications arranges the professional qualifications according to competences. |

| | Czech | Greece | Italy | Portugal | Spain |
|---|---|---|--|---|---|
| Objectives and learning outcomes | Qualifications described according to a simple set of criteria oriented on learning outcomes expressed independently from place and means of acquisition or attainment. | Connected with ESF objectives and outcomes, support to both sides of the labour market, especially for the young, disabled or disadvantaged persons and/or for those that are threatened by social exclusion. | Improving the coherence of a particular system of national qualification by proposing a qualifications structure. To make individual qualifications more transferable. To take into account formal, non-formal and informal individual learning. | To raise the basic training of the active population, enabling its educational and professional progress, to guarantee that the professional courses of young persons confer double certification: educational and professional and reinforce and consolidate the process of recognition, validation and certification of skills. | Modular Catalogue of Vocational Education and Training, which consists of all the learning modules. The National Catalogue of Professional Qualifications makes possible evaluate and accredit the worker in each one of the units of competence. |

| | Czech | Greece | Italy | Portugal | Spain |
|---|---|---|--|---|---|
| Objectives and learning outcomes | Qualifications described according to a simple set of criteria oriented on learning outcomes expressed independently from place and means of acquisition or attainment. | Connected with ESF objectives and outcomes, support to both sides of the labour market, especially for the young, disabled or disadvantaged persons and/or for those that are threatened by social exclusion. | Improving the coherence of a particular system of national qualification by proposing a qualifications structure. To make individual qualifications more transferable. To take into account formal, non-formal and informal individual learning. | To raise the basic training of the active population, enabling its educational and professional progress, to guarantee that the professional courses of young persons confer double certification: educational and professional and reinforce and consolidate the process of recognition, validation and certification of skills. | Modular Catalogue of Vocational Education and Training, which consists of all the learning modules. The National Catalogue of Professional Qualifications makes possible evaluate and accredit the worker in each one of the units of competence. |



CHAPTER 2: NQS and National Educational and Scholastic System

Introduction

General educational systems in involved countries are very similar, because Bologna Declaration is usually implemented in national educational systems.

NQs bring new possibilities for schools in the national educational systems. When an individual's partial qualifications are assessed and put together to make a complete qualification, the individual may pass an examination at a relevant school, which will then validate the complete qualification. Schools maintain their power of attorney in the recognition of complete qualification, i.e. qualifications related to the acquisition of a specific education level.

Schools will also have the opportunity to become authorising agents, implying the responsibility of verification of partial qualifications, which are integrated in study programmes of subject areas. There is also the opportunity for schools to offer subsequent courses for partial qualification. Thus, complete qualification may be attained outside of schooling, yet only the school where the applicant will pass an examination will validate it. Equality of qualifications achieved through will be the integration in their study programmes the preparation for acquiring partial qualification. Graduates may acquire, for example in addition to Vocational Certificate, a nation wide recognised Certificate on Partial Qualification, which represents another specialisation and increase the chances of getting a better position on the labour market. Changes in study programmes influence professional, initial and further educational.

Full relevant information from individual countries:

Section 6

General educational system

- Secondary education.
- Tertiary education.
- Vocational training.

In **Czech Republic**, secondary and tertiary education can be specified as follows:

- **Secondary education**

Secondary education at present takes place in three relatively separate types of schools: general in upper secondary general schools (“gymnázium”), specialised technical, economic, agricultural, artistic, etc. mostly in upper secondary technical schools (“střední odborná škola”), and vocational in upper secondary vocational schools (“střední odborné učiliště”).

Generally oriented educational programmes will be fully supported by the government and about 35% of young people is accommodate in upper secondary education now. The plan is to increase the proportion of the population completing upper secondary education and passing the A-level “maturitní zkouška” to 75% of the cohort of the year.

- **Tertiary Education**

The tertiary education sector is understood as all types of education recognised by the state, that follow general upper secondary education or upper secondary technical education and the final examination A-level (“maturitní zkouška”). In accordance with one of the main goals of Czech educational policy, it is necessary to enable half the 19-yearolds in any year to enter some type of tertiary education by 2005.

- **Levels of the tertiary education**

Bachelor’s study programmes. Three-year in accordance with the Bologna Declaration represents a varied set of programmes with a more or less applied orientation, which prepare students for the labour market as well as for further education studying for a master’s degree.

Master's programmes are focused on acquiring theoretical and practical knowledge based on scientific, research and other creative activities, which are an inseparable part of this. In accordance with the development of bachelor's study programmes, they are seen as following on from these. As in the other cases, their structure is modular to enable the maximum possibilities for moving throughout the tertiary education sector.

Doctoral studies, as the highest level of tertiary education, are focused primarily all on research and development and independent creative activities.

Various other forms of tertiary education of study recognised by the state and provided by state and non-state institutions within the framework of lifelong education are usually short types of study with a vocational or recreational orientation.

The Education and Vocational Training in **Greece** can be divided into two sub systems: 1) the Formal Educational and Vocational Training and 2) the Informal Educational and Vocational Training.

The Formal Education System is provided by well-organised state or private institutions. One can distinguish general and vocational education. Following compulsory education of 9 years, the technical vocational schools (TEE) offer two and three years-long initial vocational education; the lyceum is three years-long; the higher technological institution is three and a half years-long; and finally, the duration of universities studies last from four to six years. On the other hand, the Ministry of Education establishes curricula and each title of studies gives the student the right to go to the next education level or enter in the labour market according to the criteria the law has set. Lately, universities have established Life-Long Learning Institutes.

The main goals of the National Vocational Education and Training System are:

- The organisation, development and provision of vocational training;
- The formal certification of vocational training;
- The harmonization of vocational training with the educational system;
- The implementation of various national or European Union vocational education and training programs.

Within the framework of the National Vocational Education and Training System has been established the "Organisation for Vocational Education and Training", which is an autonomous legal entity. It provides formal initial vocational education and training and has the overall responsibility for the Vocational Training Institutes both public and private ones, which have been operating in our country since 1992.

Lately, there is a big initiative for harmonisation/ unification/ rationalisation and links with production of the two main systems dealing with VET in Greece, the one supervised by the Ministry of education and the one by the Ministry of Social Affairs.

Additionally, there is a provision for vocational education, by private training organisations. Post-compulsory Secondary Education also includes the Vocational Training Institutes (IEK), which provide formal but unclassified level of education. These Institutes are not classified as an educational level, because they accept both Gymnasium (lower secondary school) and Lyceum (upper secondary school) graduates according to the relevant specializations they provide.

Public higher education is divided into Universities and Technological Education Institutes (TEI). Students are admitted to these Institutes according to their performance at national level examinations taking place at the second and third grade of Lyceum. Additionally, students are admitted to the Hellenic Open University upon the completion of the 22-year of age by drawing lots.

The fixed length of studies, the possibility of repetition and the award of a formal school-leaving certificate characterize formal education, which is the official authorization. As a consequence of the classification of the education institutions, a title (school-leaving certificate, degree, diploma etc.) is compulsory for students at each education level in order to continue to the next.

The current scholastic system in **Italy** includes (some names no longer officially valid but still commonly used are given in parenthesis):

- first cycle consisting of:
 - primary school (or elementary school), which lasts 5 years;
 - first level secondary school (or lower middle school), which lasts 3 years;
- the second cycle, which lasts 4 or 5 years, is divided into:
 - Education (second level secondary school (or upper middle school), including grammar schools, technical colleges, five-year vocational schools);
 - Training (three-year vocational schools, vocational training centres).

There is a State examination at the end of each of the two cycles. The State examination at the end of the first cycle replaces the former lower middle school certificate.

Schools come under the Ministry of Education, with different procedures depending on their legal status (public State schools, officially recognised schools, private schools). Vocational training comes under the Regions.

The Italian university has changed radically as the result of the introduction of two levels of degree. The reform is destined to have great effects on the entry of university graduates to the labour market.

In fact it ought to help to limit dropping out and excessive duration of studies, two phenomena typical of Italian universities, and should therefore lead to an increase in the number of graduates and have them enter the labour market earlier. Moreover, the diversification of the supply of training should favour more compatibility between the demand for and supply of labour.

The Education Training in **Portugal** can be divided into three subsequent steps: Compulsory Education, Upper-Secondary Education and Higher Education (with also Non-higher post upper-secondary education).

Upper-secondary education is structured according to differentiated forms, both for further study or working life, including:

- Scientific-humanistic courses, essentially directed at further study at higher education level;
- Technological courses, designed for students that wish to join the job market;
- Specialised artistic courses, organised in order to ensure artistic training in the areas of visual and audiovisual arts, dance and music;
- Vocational courses are designed for students that wish to join the job market.

All students who complete this level are given a diploma of upper-secondary studies. Technological, specialised artistic and professional courses also confer level 3 vocational qualification certificate.

Technological Specialisation Courses (CET) facilitate specialised training paths in different technological areas, developing professional capacities and competencies.

This allows students to enter the job market or further study at a higher level. The training received on these courses can be credited on any higher education course that successful students may be admitted to.

Higher education includes universities and polytechnics administered by public, non-public or cooperative institutions.

Universities award first degrees, master's degrees and doctorates. Polytechnic institutions award first degrees and master's degrees.

Government established the qualification of the Portuguese in Europe as one of the policy objectives for higher education, thus implementing the Bologna Declaration. To do this, the principal mains are:

- ▶ To improve the quality and the relevance of educational provision;
- ▶ To encourage student mobility;
- ▶ To promote the internationalisation of training;
- ▶ To make institutions more open to society and the economy.

Higher education reform is part of the European movement of modernisation of universities and polytechnics for the development of the knowledge society. The Government has taken other steps that are equally crucial to the implementation of the policy objectives for higher education.

To this end, a new system has been set up to encourage the creation of technology specialisation courses, particularly in polytechnics, with the aim of increasing level 4 vocational training provision and extending access to this training to a wide range of people, opening up new ways of entering higher education.

Lastly, the "Commitment to Science" promoted a new phase of investment in science with impact on the position of higher education and the consolidation of the institutional role of research institutions. To this end, a programme of international partnerships was initiated (MIT, CMU, Austin) at a national level, ensuring the consolidation of institutions and the mobility of students, teachers and researchers.

These partnerships boost the provision of teaching programmes at an international level and aim to stimulate economic development via science-based innovation.

In **Spain**, secondary education is divided into compulsory secondary education and post-compulsory secondary education. Postcompulsory secondary education consists of bachillerato, intermediate level vocational training, and plastic arts and design and sports education.

University education, higher level Arts education, higher level vocational training, plastic arts and design and sports education constitute higher education.

Formación profesional (vocational training) refers to all types of training which equip students to carry out a range of jobs in a professional capacity. It provides them with access to employment and active participation in social, cultural and economic life.

Vocational training, within the education system, aims to prepare students to work in a professional field and prepare them for the ever-changing employment market, as well as contributing to their personal development and to their participation in democratic citizenship. Vocational training within the education system consists of a range of formative cycles organised into modules of varying duration and with theoretical and practical contents relevant to the different professional fields.

The formative cycles will be of an intermediate and higher level, linked to the **National Professional Qualifications Board** and will constitute respectively intermediate level and higher level vocational training. The curriculum for this training will be adapted to the demands of the National System of Qualifications and Vocational Training.

Students who hold the Certificate in Compulsory Secondary Education may take intermediate level vocational training courses.

Students who hold the Bachiller Certificate may take higher level vocational training courses. Students who do not hold the academic qualifications but who pass an access test set by the Education Administrations may also access vocational training. To access intermediate levels by this route they must be at least seventeen, and nineteen for the higher level, having reached the age in the year of the test or eighteen if they hold a Technical qualification related to the area of study.

Students who pass the intermediate level of vocational training will be awarded the Technical qualification in the corresponding profession. Students who have passed higher level vocational training will obtain the Higher Technical qualification. This qualification will allow them access to the university studies determined by the government, following consultation with the Autonomous Communities and a report from the University Coordination Board.

Influence of HQS onto national educational and scholastic system

- Influence on national educational system.
- Changes in national educational systems.
- Added value.

In the **Czech Republic** consultations were held already at the preparation stage of the NQS not only about the impact that NQS will have on (traditional) professional education in the country, but also on the role and the position of secondary high schools. Main outcomes of these consultations are following:

- Complete qualification may be attained outside of schooling, yet only the school where the applicant will pass an examination will validate it. Equality of qualifications achieved through different ways and means will thus be ensured.
- Schools will also have the opportunity to become authorising agents, implying the responsibility of verification of partial qualifications, which are integrated in study programmes of subject areas. There is also the opportunity for schools to offer subsequent courses for partial qualification.
- Another possible use of NQS by schools will be the integration in their study programmes the preparation for acquiring partial qualification. Graduates may acquire, for example in addition to Vocational Certificate, a nation wide recognised Certificate on Partial Qualification, which represents another specialisation and increase the chances of getting a better position on the labour market.

The National Qualifications System as implemented to date in **Greece** has focused on the acquisition of accredited qualifications via the formal education process. Until recently, the provision of accredited qualifications was mainly done via the acquisition of a tertiary level education degree. Over recent years, however, there has been a move towards providing accredited vocational training and education through programmes at both secondary education level (Technical Vocational Schools of the Ministry of Education and OAED Apprenticeship Vocational Schools) and at post-secondary level education (Vocational Training Institutes [IEK]).

This trend has led to the accreditation of qualifications for a plethora of technical areas of specialization, in particular, which are not covered by tertiary level education.

In parallel with the formal education courses, over recent years has been significant increase in continuous vocational training courses. This increase is primarily due to financing of the aforementioned courses as part of the Community Support Framework, as well as due to implementation of self financed programmes by enterprises for their employees. The issue for the years to come is to what extent it is possible to develop and implement a system for certifying knowledge acquired via the aforementioned courses.

In **Italy**, during the last ten years the structure of the education and training system underwent great transformations in both nature and functions. In particular, also following a decentralisation policy, the State is not longer the sole actor in the system and territorial authorities and scholastic institutions have acquired greater autonomy. In the new official setup the State has three main functions:

- it unitarily controls the national education system;
- it controls the overall quality of the education and training system;
- it adopts equalisation measures (financial and/or technical).

The Italian education and training system, as reformed by recent law no. 53 of 2003, guarantees every individual the right to education and training for twelve years or, at least until a qualification has been obtained, within the eighteenth year.

But, in particular, the most recent legal reforms are aimed, in harmony with Community principles and policies on the subject of education and training, as well as with the EQS, at promoting and guaranteeing learning throughout the whole lifetime, equal opportunities, development of knowledge and full development of the individual.

In **Portugal**, there are not relevant data.

The National Catalogue of Professional Qualifications in **Spain** is the basis upon which is developed the training offer aimed to obtain the VET Diplomas, Certificates of Professional Standards and the accumulative modular training offer linked to a unit of competence as well as other training offers adapted to people with special needs. Vocational Education and Training is the set of training activities that prepare one for the qualified performance of the diverse occupations, access to employment and active participation in social, cultural and economic life, to enable the acquisition and continuous updating of professional skills. It includes the sorts of teachings given in initial Vocational Education and Training; integration and reintegration schemes for workers and schemes oriented towards continuous training in undertakings.

The Education and Labour Administrations shall establish by mutual agreement and previous consent of the General Council of Vocational Education and Training, the basic quality indicators and requirements for the education and training offer based on the CNCP to guarantee the essential elements of a Training Integrated System.

VET Diplomas and Certificates of Professional Standards are official in nature and valid throughout Spanish territory, they are issued by the competent Administrations and they shall have the effects that are their due in accordance with rules on recognition of qualifications in the European Union.

The said Diplomas and Certificates accredit that the persons who have earned them hold the corresponding professional qualifications, and where appropriate the said Diplomas and Certificates have the proper academic effects under applicable legislation.

The General State Administration after consultation to the General Council on Vocational Education and Training, shall determine what Diplomas of VET and Certificates of Professional Standards shall constitute the vocational and education training offers referring to the National Catalogue of Professional Qualifications.

It is predictable that the National Qualification System and Vocational Training contribute to the spreading of the training offer bounded to the competence units. It will make easier the workers progression in their professional career. Besides, an increase of the training offer and the program outlines for the employment training is expected.

Section 8

Influence of HQS onto educational programmes

- Influence on study programme.
- Changes in study programmes.
- Added value.

NQS is slowly becoming a platform for designing educational programmes in the **Czech Republic**. The NQS, or more specifically its standards of qualification, are expected to become a source of information for the creators of educational programmes.

Now it slowly realized for initial education where these interrelations may be interpreted in the following way:

- In their final form must refer to descriptions of requirements for relevant occupation in the National System of Occupations qualification standards of complete qualification in the National System of Qualifications.
- Qualification standards of complete qualifications are partial requirements issued from the sphere of to which qualification frameworks react directly and educational, school programmes indirectly.
- Acquired skills are assessed and recognised in a standard way, in standardised parts of examinations with reference of the requirements set in the evaluation standards.

The system basis of relating the aims and content of educational programmes with the requirements of the labour market is that the standards of qualification are, as a part of NQS, created in concert with social partners. These may and do enter at all stages, by which the above-mentioned national system is not filled, but in the preparation and implementation of school educational programmes.

In **Greece** there is remarkable:

- Influence of European legislation and initiatives in the implementation of training/educational projects.
- Accreditation of qualifications and promotion of lifelong learning in the context of the Community Initiative "EQUAL".
- Transparency of qualifications and linking of lifelong learning with employment –Common European Diplomas.

The actions to promote equality of access and provide opportunities for lifelong learning are as follows:

- Integration of social groups with a particular cultural and language identity into the education system.

A certain number of schools run programs of cross-cultural education, which will provide teaching of the Greek language, student support in their mother tongue, individual teaching approach as well as communication networks between schools for the school integration of the target groups of Muslims, gypsies, repatriates and immigrants.

- Schools of Second Chance – Adult Education.

Greece has recently introduced the institution of the «Second Chance Schools» to combat the problem of illiteracy and its negative consequences of social exclusion and unemployment.

Over the last two years shortcomings in education are being covered by this institution with the aim of reintegrating adults into the formal education system and eventually the initial and continuing vocational training system. Law 2525/1997 gives Greek citizens aged over 18 who have not completed their compulsory education the opportunity to attend an eighteen-month course and obtain a certificate corresponding to that of junior high school (lower secondary level education).

In **Italy** there is planned that when the training systems, in line with the NQS, are fully operational they will have to:

- correlate with the activities of the public and private bodies that interpret and survey the dynamics of the labour market and that are always in possession of, and take into account, up-to-date information for planning training activities;
- respond to the needs of the workers, whether future or already employed, and the labour market;
- be extremely flexible as far as both models and training contents are concerned.

In **Portugal**, through the Direcção-Geral de Inovação e Desenvolvimento Curricular, the Portuguese Ministry of Education (Ministério da Educação) grants equivalence or recognition of qualifications, studies and diplomas of foreign education systems to Portuguese qualifications, studies and diplomas at basic and secondary education level. For information on the process, visit the webpage of the Direcção-Geral de Inovação e Desenvolvimento Curricular.

The awarding of the equivalence of foreign higher qualifications to the corresponding Portuguese qualifications is also regulated in Portugal. For information on the process, visit the web page of NARIC, in the Direcção-Geral do Ensino Superior, in the Ministry of Science, Technology and Higher education (Ministério da Ciência, Tecnologia e Ensino Superior).

The SNCFP objectives in **Spain** are to adapt the vocational training to the qualification demands of productive organizations, to facilitate the adaptation of supply and demand on the labour market, to extend lifelong learning beyond the traditional educational period, and to promote the freedom of movement for workers. For these reasons, it plays an essential role in the labour and education world.

The arrangement of this Catalogue by professional families allows classifying the qualifications, according to functional and sartorial criteria, among the areas which include similar professional fields and economic activity. This ranking is in agreement with the organization of the initial professional and vocational training, what makes easier the integration of the training offers came from the National Catalogue of Qualifications. However, the structuring could experiment the necessary modifications to reflect the changes that may suffer the productive system ain order to cover their needs.

The learning module of the Modular Catalogue of Vocational Education and Training is a coherent education and training block related to each of the competence units which form a professional qualification.

Each learning module has a standardized structure which includes the identification and specifications of that particular learning process. These specifications must be included in any educative offer leading to an official diploma on VET or a certificate of professional standards based on the CNCP.

The training offers shall be able to regulate the length of the learning module according to the nature of the group receiving the education, the learning modality, the number of students and other objective criteria.

Section 9

Results

- Achieved results.
- Possibilities for applicants.
- Possibilities for authorised persons.

In **Czech Republic**, the Ministry of Education, Sports and Youth endorsed the first qualification and evaluation standards in 2007. This represents the last stage in the preparation process for the factual implementation of the NQS mechanisms.

Applicants for qualification recognition will thus have access to a complete register of partial qualification at www.narodni-kvalifikace.cz. For an applicant assuming he/she is qualified in a particular area it will be important to consult this register, particularly the evaluation standards section, in which all requirements that the applicant must fulfil during the examination are listed in detail. The standards include further information, including a list of persons authorised to carry out relevant examinations.

For a natural or a legal person who wishes to become an authorised person, as described in the relevant legal disposition, this implies that authorisations will be delivered only for accepted partial qualifications described in the information system of the NQS www.narodni-kvalifikace.cz. An application for the status of authorised person is submitted to an authorisation agency, i.e. a relevant Ministry mentioned in the heading of each standard partial qualification form. The requirements for the status of an authorised person in the sense of technical skills are also mentioned in the headings of each partial qualification. General requirements are stipulated in the Act, further information and guidelines concerning the application for authorisation status, including relevant forms, are usually accessible at the respective web pages of each authorisation agencies.

In **Greece**, recognition of qualifications is realized through all formal, non-formal and in-formal education.

Recognition of certificates and qualifications acquired by the graduates of TEE and IEK as a learning outcome of formal education is done by the OEEK. The OEEK determines professional rights for all levels of vocational training and education in co-operation with the respective ministries and social partners. In order to perform this task a National Committee for Professional Rights (EEKED) was established and is in operation. The professional rights of 37 professions have been included in draft Presidential Decrees for the professional rights of graduates of IEK. Also, IEK offer numerous courses for professions that are unregulated and, consequently, no provisions on professional rights are required. These professions are, for example, information technology technician, tour agent specialist, assistant chef, commercial enterprise specialist, clothing and fashion designer and so on.

The vocational training diploma issued by the OEEK is recognized as a formal qualification for appointment to the public sector, 2 on determination of qualifications for appointment to positions in the public sector structures.

Certificates issued by agencies providing non-formal vocational education and training are not officially accredited for the purpose of certifying qualifications. Consequently, the above certificates are not documents that their holders can use in order to seek a position in the public sector. Despite this, the courses run by the Education Directorates of the various Ministries for their staff can lead to certificates which constitute qualifications for their career development inside the departments.

Likewise, in the private sector vocational qualifications acquired via vocational education courses run by KEK or by companies themselves in their own work environment for their staff are accredited. In relation to other vocational education courses run by other bodies in the context of non formal education (NELE, KEK, Liberal Studies Workshops, etc.) there is no certification system for qualifications acquired through these routes. Despite this, certificates of attendance at such courses are an element that may be positively taken into account during staff selection procedures by employers.

In *Italy*, all learning experiences in life contribute to personal growth and lead to a better understanding of the environment in which we live, also leading to fuller participation in society. The formal education system (school, university, vocational training) aims at providing young people with basic knowledge to use in their integration with society.

Unfortunately, the formal education system often, for various reasons, does not provide young people with a sufficient store of knowledge to meet their needs. For this reason, a person needs other sources for his/her personal development. Non-formal education is one of these, in particular, but not exclusively, for young people with fewer opportunities.

At the end of a course of learning a written document certifies the knowledge acquired by the student on the basis of certain official criteria. Certificates and diplomas are often needed as keys for opening the doors to the labour market and to social life.

If offers pupils a practical qualification that can be used directly on the labour market; apprenticeship is usually part of vocational training. Apprentices learn a trade, starting from an elementary level of the working context, with the aid of a tutor. A certificate is given at the end of the learning process.

Non-formal education, on the contrary, can be summed up by the "learning by doing" formula, in other words, learning directly in the field. The method of learning consists of the interaction between the pupils and the actual situations where they gain experience.

The instructor, or facilitator, can be more or less active in the construction of the learning experience for the good of the pupil. Unfortunately, at present there are no means of certifying the skills acquired through non-formal learning.

In short, certification in formal education is usually given at the end of the course of studies, to evaluate the level of knowledge acquired. It follows criteria fixed by official educational structures. In non-formal or vocational education certification is usually given at the end of the training period, to evaluate the level of practical skills acquired. It follows criteria fixed by official educational structures. On the other hand, to date no certification exists for non-formal education.

In **Portugal**, the Adult Education and Training Courses (AET Courses) are methodological programmes run by the late ANEFA, presently the Directorate General for Vocational Education and Training). They are based on the integrated provision of education and training, awarding double certification, both academic and vocational, and aimed at adults who are academically and professionally underqualified (Annex- Profile of the population attending AET Courses).

As a matter of fact, approximately 3.2 million active adults over 18 (representing 64.2% of the active Portuguese population) did not complete the nine years of basic schooling, demonstrating, a priori, a low level of literacy. This fact represents an enormous weakness and vulnerability for the country, not only from an internal point of view – in that it undermines social cohesion, individual employability and the competitiveness of the economy, impacting negatively upon participative and responsible citizenship – but also from an external point of view, within the European Union enlargement context and in the international framework of globalisation.

Using flexible solutions that articulate education and training – through organised programmes based on processes of recognition and validation of skills, based on the Key-Competences Framework for Adult Education and Training, and modular training systems - the Adult Education and Training Courses (AET Courses), the courses are aimed at adults over the age of 18 not having accomplished the basic schooling of 9 years, who have no professional qualifications, are employed or unemployed, enrolled at IEF (Institute for Employment and Vocational Training) Job Centres or indicated by other organisations, such as companies, ministries, trade unions and others.

The plan for AET Courses is based on a medium-term training model that is organised into training units created in accordance with the Key-Competences Framework, which previously recognises and validates the skills acquired by adults throughout their life. This training blends a Basic Training (FB) component with a Vocational Training (FP) component.

Trainee assessment includes three significant stages: (i) recognition and validation of the trainees' prior acquired skills and competences, placing them at a determined stage along the training route and providing guidance concerning the respective curricular development; (ii) formative assessment, with effects on the training process and not exclusively on the results, allows insight into learning progress, forming the starting point for the (re)definition of the strategies of recovery and/or deepening of knowledge; (iii) summative assessment, as a synthesis and consequence of the conjugation of all the stages and instruments of assessment used throughout a determined training process, based on decisions about the certification of the trainees.

Once the training period has finished, the adult sees registered in his or her Personal Key-Competences Portfolio not only the validated and certified skills through this process, but also those that he or she may acquire in other formal or informal contexts, providing that they are duly assessed and accredited on a central level.

In parallel, he or she is issued with an Adult Education and Training Certificate that corresponds to the level (academic and vocational) attended, and, for all due legal purposes, it is equivalent to the certificates issued by the Ministry of Education and the IEFP.

In **Spain**, only 5 from the 17 Autonomous Communities are experimentally working with any of the systems of evaluation and recognition and accreditation of competences. Most of these systems are based on professional training titles from the educative system, and a lower amount of professional certificates, managed by the Ministry of Labour and Employment for employers. The Autonomous Communities with the biggest offer of recognizable qualifications are Catalonia and the Basque Country.

The process is usually the same: information, enrolment, assessment, evaluation and certification. The candidate attends one of the information centres, which is usually the Institutes of Professional Training, and he or she enrolls in an announcement. Then, the candidate passes an interview about assessment and evaluation of competences, if the evaluator considers that the candidate is suitable, he or she passes to the demonstration of competences phase, in which the candidate makes some practical tests in the training centres or enterprises.

Assessment and accreditation of professional competences acquired through on the job experience or non-formal training channels, to be developed, shall use the National Catalogue of Professional Qualifications as their referent and shall at all events be implemented under criteria guaranteeing the evaluation's reliability, objectivity and rigorous technical standards.

Professional competences thus assessment that fail to complete the professional qualifications listed in a VET Diploma or Certificate of Professional Standards may be recognised through saved up partial accreditation with the finality, where applicable, of completing the training towards the proper Diploma or Certificate.

The Government, after consultation with the General Council on Vocational Education and Training, shall set the requirements and procedures for competences evaluation and accreditation and the effects thereof.

For now there are no proceeding to authorize both the institutions and persons to recognize competences. They are the authorized Learning and Training Centres and the teachers who evaluate the professional competences in the Autonomous Communities where this experimental process is being carried out. It is considered that in the Integrated VET Centres teachers for accredited training, for employment training and professional of particular initiative. If this Integrated VET Centres become evaluation centres, these teachers would also become evaluators.

Section 10

National specifics, other relevant information

- Indicators for qualification recognition and identification.
- Other information.

For **Czech Republic**, implementation of NQS in numbers can be presented. Both system projects, whose purpose was the implementation of the NQS, will be terminated by 2008. In practice this means that:

1. Now, there are 58 partial qualifications, 20 authorized persons and 14 sector boards presented in the web www.narodni-kvalifikace.cz.
2. NQS project has elaborated qualification a assessment standards of 92 complete and 320 partial qualifications. In the approval process the following qualifications are expected to be endorsed during 2008:
 - 160 partial qualifications approved by sector boards;
 - 60 partial qualifications approved by authorised agencies;
 - 57 partial qualifications approved by the Ministry of Education Youth and Sports.
3. In its section concerned with the recognition process, the UNIV project tested more than 100 partial qualifications relevant to 7 professional occupations, e.g. waiter, baker, hairdresser.

The **Greece** comment is that the procedure of developing NQS is now taking place, taking into account the EU system and guidelines.

The **Italian** recommendation is that it would be advisable to clarify, whether in the NQS of the various countries, all three indicators laid down in the EQF are required for a qualification to be placed at a given level: knowledge, technical skills and transverse skills. It should be integral part of comparative study and it is reflected by the table above.

The major initiatives on implementation of NQS in Portugal are still in the beginning and there is no other relevant information on this subject.

In **Spain**, the future law that regulates the procedure to recognize, assess, accredit and register the professional qualifications will consider the possibility that workers have knowledge not contemplated in the CNCP due to the training received in their enterprises. In case that knowledge is standard enough in the field all over the Spanish territory, professional qualifications could be incorporated.

There are competences in common to all qualifications and professional families, as the ones related to quality, health and safety at work, etc. INCUAL is working in these transectorial competences and it has been studied, since the doubt about answering to knowledge and general competences or adapting them to each professional sector characteristics.

In this moment the INCUAL is just developing qualifications of level 1, 2 and 3. Right now there exist 390 qualifications approved by the Council of Ministers published in the Spanish State Official Journal.

Results of the comparison

Czech Republic

- 1) Secondary education is represented by upper secondary general schools and by upper secondary technical schools. They are fully supported by the government. Higher education is in accordance with the Bologna Declaration divided into Bachelor, Master and Doctoral studies. Various other forms of tertiary education of study recognised by the state and provided by state and non-state institutions within the framework of lifelong education are usually short types of study with a vocational or recreational orientation.
- 2) Especially for secondary high schools. Complete qualification may be attained outside of schooling, yet only the school where the applicant will pass an examination will validate it. Authorize persons for verification of partial qualifications could be such schools or other entities whose study programmes ensure the preparation for acquiring partial qualification.
- 3) NQS is slowly becoming a platform for designing educational programmes. The system basis of relating the aims and content of educational programmes with the requirements of the labour market is that the standards of qualification are, as a part of NQS, created in concert with social partners.

- 4) The Ministry of Education, Sports and Youth endorsed the first qualification and evaluation standards in 2007. Complete register of partial qualification is available at www.narodni-kvalifikace.cz. Accepted partial qualifications are also described in the information system of the NQS at the same address.
- 5) Now, there are 58 partial qualifications, 20 authorized persons and 14 sector boards presented in the web www.narodni-kvalifikace.cz. NQS project has elaborated qualification and assessment standards of 92 complete and 320 partial qualifications. More than 100 partial qualifications relevant to 7 professional occupations, e.g. waiter, baker, hairdresser is being tested in 2008.

Greece

- 1) The Formal Education System is provided by well-organised state or private institutions. Many universities have established Life-Long Learning Institutes. There is a big initiative for harmonisation/ unification/ rationalisation and links with production of the two main systems dealing with VET in Greece, the one supervised by the Ministry of education and the other by the Ministry of Social Affairs.
- 2) The National Qualifications System as implemented to date in Greece has focused on the acquisition of accredited qualifications via the formal education process. The other possibility is in implementation of self financed programs by enterprises for their employees. Additionally, there is a levy of 0,45% on the payroll paid by employers dedicated to training purposes, which may be used by companies in order to train their staff.
- 3) Through training/educational projects (ESF, EQUAL). Impact on disadvantaged social groups. Integration of social groups with a particular cultural and language identity into the education system. Example: Schools of Second Chance – Adult Education for combating the problem of illiteracy and its negative consequences of social exclusion and unemployment.
- 4) The professional rights of 37 professions have been included in draft Presidential Decrees for the professional rights of graduates of IEK. (Vocational Training Institutes). Certificates issued by agencies providing non-formal vocational education and training are not officially accredited for the purpose of certifying qualifications. In the private sector vocational qualifications acquired via vocational education courses run by KEK (Vocational Training Centres accredited by EKEPIS) or by companies themselves in their own work environment for their staff, although non officially recognised are well appreciated by the labour market.

- 5) Finally we may conclude that in Greece, the procedure of developing NQS is actually at the first stages of its implementation, taking into account the EU system and guidelines.

Italy

- 1) Schools are differentiated depending on their legal status (public State schools, officially recognised schools, private schools). Vocational training comes under the Regions. In fact it ought to help to limit dropping out and excessive duration of studies, two phenomena typical of Italian universities, and should therefore lead to an increase in the number of graduates and have them enter the labour market earlier. Moreover, the diversification of the supply of training should favour more compatibility between the demand for and supply of labour.
- 2) Underwent great transformations in both nature and functions. Community principles and policies on the subject of education and training, as well as with the EQS, at promoting and guaranteeing learning throughout the whole lifetime, equal opportunities, development of knowledge and full development of the individual.
- 3) After implementation, NQS will have to:
 - correlate with the activities of the public and private bodies that interpret and survey the dynamics of the labour market and that are always in possession of, and take into account, up-to-date information for planning training activities;
 - respond to the needs of the workers, whether future or already employed, and the labour market;
 - be extremely flexible as far as both models and training contents are concerned.
- 4) Unfortunately, the formal education system does not often provide young people with a sufficient store of knowledge to meet their needs. Non-formal education is one of these, in particular, but not exclusively, for young people with fewer opportunities. In non-formal or vocational education certification is usually given at the end of the training period, to evaluate the level of practical skills acquired. It follows criteria fixed by official educational structures.
- 5) The Italian recommendation is that it would be advisable to clarify, whether in the NQS of the various countries, all three indicators laid down in the EQF are required for a qualification to be placed at a given level: knowledge, technical skills and transverse skills. It should be integral part of comparative study and it is reflected by the table above.

Portugal

- 1) The Education Training can be divided into three subsequent steps: Compulsory Education, Upper-Secondary Education and Higher Education (with also Non-higher post upper-secondary education). Government established the qualification of the Portuguese in Europe as one of the policy objectives for higher education, thus implementing the Bologna Declaration. Higher education reform is part of the European movement of modernisation of universities and polytechnics for the development of the knowledge society.
- 2) No relevant data.
- 3) Ministry of Education grants equivalence or recognition of qualifications, studies and diplomas of foreign education systems to Portuguese qualifications, studies and diplomas at basic and secondary education level. Information is available at the webpage of the Direcção-Geral de Inovação e Desenvolvimento Curricular.
- 4) Three stages: (i) recognition and validation of the trainees' prior acquired skills and competences, (ii) formative assessment and (iii) summative assessment, as a synthesis and consequence of the conjugation of all the stages and instruments of assessment used throughout a determined training process, based on decisions about the certification of the trainees.
- 5) The major initiatives on implementation of NQS in Portugal are still in the beginning and there is no other relevant information on this subject.

Spain

- 1) Secondary education is divided into compulsory secondary education and post-compulsory secondary education. University education is in concordance with Bologna Declaration. The formative cycles will be of an intermediate and higher level, linked to the National Professional Qualifications Board and will constitute respectively intermediate level and higher level vocational training.
- 2) The National Catalogue of Professional Qualifications is the basis upon which is developed the training offer aimed to obtain the VET Diplomas, Certificates of Professional Standards and the accumulative modular training offer linked to a unit of competence as well as other training offers adapted to people with special needs. It is predictable that the NQS and VET contribute to the spreading of the training offer bounded to the competence units. It will make easier the workers progression in their professional career.

- 3) The SNCFP objectives are to adapt the VET to the qualification demands of productive organizations. The arrangement of the Catalogue by professional families allows classifying the qualifications, according to functional and sartorial criteria, among the areas which include similar professional fields and economic activity. The learning module of the Modular Catalogue of Vocational Education and Training is a coherent education and training block related to each of the competence units.
- 4) Only 5 from the 17 Autonomous Communities are experimentally working with any of the systems of evaluation and recognition and accreditation of competences. The process is usually the same: information, enrolment, assessment, evaluation and certification. Assessment and accreditation of professional competences acquired through on the job experience or non-formal training channels, to be developed, shall use the National Catalogue of Professional Qualifications as their referent and shall at all events be implemented under criteria guaranteeing the evaluation's reliability, objectivity and rigorous technical standards. For now there are no proceeding to authorize both the institutions and persons to recognize competences; only experimental process is being carried out.
- 5) Future law that regulates the procedure to recognize, assess, accredit and register the professional qualifications will consider the possibility that workers have knowledge not contemplated in the CNCP due to the training received in their enterprises. In case that knowledge is standard enough in the field all over the Spanish territory, professional qualifications could be incorporated. In this moment the INCUAL is just developing qualifications of level 1, 2 and 3. Right now there exist 390 qualifications approved by the Council of Ministers published in the Spanish State Official Journal.

| | Czech | Greece | Italy | Portugal | Spain |
|--|---|--|--|---|--|
| General educational system | <p>Secondary education - upper secondary general schools and upper secondary technical schools. Higher education - Bologna Declaration</p> <p>- Bachelor, Master and Doctoral studies.</p> <p>Other forms of tertiary education - short types of study with a vocational or recreational orientation.</p> | <p>The Formal Education - well-organised state or private institutions. Many universities have established Life-Long Learning Institutes. There is a big initiative for harmonisation/unification/ rationalisation and links with production of the two main systems (ME vs. MSA).</p> | <p>The scholastic institutes depend on the Office of the education with diversified formality on the base of the juridical form. The radical reform ought to help to limit dropping out and excessive duration of studies and could contribute to an increase in the number of graduates, favouring the entry in the market of the job of the graduates.</p> | <p>The Education Training can be divided into three subsequent steps: Compulsory Education, Upper-Secondary Education and Higher Education (with also Non-higher post upper-secondary education). Bologna Declaration is applied in higher education.</p> | <p>Compulsory secondary education and post-compulsory secondary education. University education is in concordance with Bologna Declaration.</p> <p>National Professional Qualifications Board plays key role in constitute respectively intermediate level and higher level vocational training.</p> |
| Influence of NQS onto national educational system | <p>Especially for secondary high schools. Complete qualification may be attained yet only in the school where the applicant will pass an examination. Authorized persons for verification of partial qualifications must provide such qualifications in their study programmes.</p> | <p>The NQS as implemented to date has focused on the acquisition of accredited qualifications via the formal education process. The other possibility is in implementation of self financed programmes by enterprises for their employees.</p> | <p>Underwent great transformations in both nature and functions. Community principles and policies on the subject of education and training, as well as with the EQS, have been conclusive to promote and guarantee the lifelong learning throughout the whole lifetime.</p> | <p>No relevant data.</p> | <p>The NCPQ is the basis upon which is developed the training offer aimed to obtain the VET Diplomas, Certificates of Professional Standards. NQS and VET contribute to the spreading of the training offer bounded to the competence units.</p> |

| | Czech | Greece | Italy | Portugal | Spain |
|---|---|---|--|--|---|
| Influence of NQS onto educational programmes | <p>NQS is slowly becoming a platform for designing educational programmes. The system basis of relating the aims and content of educational programmes with the requirements of the labour market is that the standards of qualification are, as a part of NQS, created in concert with social partners.</p> | <p>Through training/ educational projects (ESF, EQUAL). Impact on disadvantaged social groups and social groups with a particular cultural and language identity into the education system.</p> | <p>Not relevant, NQS is not implemented now.</p> | <p>Ministry of Education grants equivalence or recognition of qualifications, studies and diplomas of foreign education systems to Portuguese qualifications, studies and diplomas at basic and secondary education level.</p> | <p>The SNCFP objectives are to adapt the VET to the qualification demands of productive organizations. The learning module of the Modular Catalogue of Vocational Education and Training is a coherent education and training block related to each of the competence units.</p> |
| Results | <p>The Ministry of Education, Sports and Youth endorsed the first qualification and evaluation standards in 2007. Complete register of partial qualification is available at www.narodni-kvalifikace.cz. Accepted partial qualifications are also described in the information system of the NQS at the same address.</p> | <p>Recognition of qualifications is realized through all formal, non-formal and in-formal education. The professional rights of 37 professions have been included in draft Presidential Decrees for the professional rights of graduates of I.E.K. Certificates issued by agencies providing non-formal vocational education and training are not officially accredited for the purpose of certifying qualifications.</p> | <p>Unfortunately, the formal education system does not often provide young people with a sufficient store of knowledge to meet their needs. Non-formal education is one of these, in particular, but not exclusively, for young people with fewer opportunities. In non-formal or vocational education certification is usually given at the end of the training period, to evaluate the level of practical skills acquired.</p> | <p>Three stages: (i) recognition and validation of the trainees' prior acquired skills and competences, (ii) formative assessment and (iii) summative assessment, as a synthesis and consequence of the conjugation of all the stages and instruments of assessment used throughout a determined training process, based on decisions about the certification of the trainees.</p> | <p>Only experimental working with system of qualifications recognition. The process is usually the same: information, enrolment, assessment, evaluation and certification. For now there are no proceeding to authorize both the institutions and persons to recognize competences; only experimental process is being carried out.</p> |

| | Czech | Greece | Italy | Portugal | Spain |
|--|---|---|---|--|---|
| <p>National specifics, other relevant information</p> | <p>Now, there are 58 partial qualifications, 20 authorized persons and 14 sector boards presented in the web www.narodni-kvalifikace.cz. NQS project has elaborated qualification and assessment standards of 92 complete and 320 partial qualifications. More than 100 partial qualifications relevant to 7 professional occupations, e.g. waiter, baker, hairdresser is being tested in 2008.</p> | <p>The Greek comment is that the procedure of developing NQS is now taking place, taking into account the EU system and guidelines.</p> | <p>The Italian recommendation is that it would be advisable to clarify, whether in the NQS of the various countries, all three indicators laid down in the EQF are required for a qualification to be placed at a given level: knowledge, technical skills and transverse skills.</p> | <p>The major initiatives on implementation of NQS in Portugal are still in the beginning and there is no other relevant information on this subject.</p> | <p>Future law that regulates the procedure to recognize, assess, accredit and register the professional qualifications will consider the possibility that workers have knowledge not contemplated in the CNCP due to the training received in their enterprises.</p> <p>In this moment the INCUAL is just developing qualifications of level 1, 2 and 3. Right now there exist 390 qualifications approved by the Council of Ministers published in the Spanish State Official Journal.</p> |

CHAPTER 3: Situation in dairy sector

Section 11

Situation of the labour market in the dairy sector

- Overall situation in the dairy sector.
- Overall situation in relation to labour market.

The reform of Common Agriculture Policy and milk regulation in some ways negatively changed trends on milk and milk products market in **Czech Republic**. In dairy sector there were cut down interventionist prices of butter and dry milk, butter purchase to interventionist stocks was restricted. CAP reform in lower trading prices of raw milk and in payments for exceed of milk reference level in deliveries in 2005/2006 affected economical situation of Czech milk producers.

Number of people employed in NACE sector 15 and practically all its crucial branches in evaluated years was falling down, in opposite to total of manufacturing industry, where the number fall down till 2004, but in next years, with increase of new job positions, it rise up. Lasting fall of employment in food and drink industry is mirror of still running restructuring.

Work productivity from accounting added value in common prices in NACE sector 15 during lasting decrease of worker number and added value rise up in evaluated years 2000 – 2006 affected significant increase. At the same measure in common prices was decrease in evaluated sector in 2001 – 2005, but in year 2006 was mentioned significant increase.

In **Greece**, there have not been observed particular labour problems in the dairy producing industry that would differentiate the dairy companies from the companies of other branches during the past few years. The dairy enterprises have not left Greece to be transferred to neighbouring countries, due also to the fact that raw material used is extremely delicate. On the other hand, new companies are founded so that the total number of workers in the branch is increased.

Wages are determined by sector-based Collective agreement that is signed by the Association of Greek Industries and the Labour Federation of Dairy Foods and Drinks. Wage increases agreed upon for 2007, were 3% from 1/1/07 and 3, 2% from 1/9/07 with rate inflation, for 2006, 3, 9%. Sector-based collective agreement concerns the jobs directly linked with production. It is sought to be included, in this agreement, most professions of workers in the branch (office employees, drivers, warehousemen, technicians, salesmen, chemists etc) that for the time being have their salaries determined by the special agreements of each profession. The office employees, the warehousemen the drivers and the salesmen have already been included to the sectorial 2007 collective agreement.

The main part of the dairy products (milk and yoghurt) are products that have to be consumed very fast and this requires good forecast of sales and efficient production planning . If it isn't the case, there is need for overtime job that consequently increases the products'cost and creates dissatisfaction from the part of workers, all the more if they have not been notified in time.

Another problem is that of leaves for holidays, which occurs more in the branch of yoghurt. This product, because of climate and diet reasons, is sold mainly from May-September. As a consequence sales and, of course production, rise during this period. This has as a result that huge percentage of the personnel working in the yoghurt producing department cannot take their leaves for holidays in summer. This causes a big problem, because on the other hand, personnel wish their holidays during summer time. This problem can only partly be resolved by hiring seasonal personnel for the positions of unskilled workers. Nevertheless, most jobs in a modern dairy company require well trained and specialised personnel that may not easily be substituted.

In **Italy**, the dairy sector is mainly broken down into three separate organisational systems:

- A. Farming, with integrated production and processing.
- B. Middle-level and industrial cooperative of the artisanal type.
- C. Industrial.

The type (A) farming system is generally small or medium in size and covers every segment of the chain:

- › rearing cattle;
- › producing milk;
- › treating and processing;
- › selling directly at the farm or indirectly through small and medium distribution systems.

The type (B) farming system is usually of medium size and covers the following segments:

- › treating and processing milk supplied by members;
- › selling directly and indirectly.

The type (C) farming system consists of the processing industry and covers the following segments:

- › treating and processing local, national and foreign milk;
- › selling to medium and large-scale distribution chains.

In short, the three systems differ in their:

- › management methods and techniques;
- › number of employees;
- › organisation and management of human resources.

Relations between employers and workers vary according to the sizes of the farms.

In **Portugal**, a large percentage of milk and dairy sector workers acquire professional qualifications through the informal training, that is, through in job experience, turning very important apprehension and validation of working experience added to the non formal training received both inside and outside enterprises.

The major companies have made strong efforts on modernization and engineering of their plants and, in several cases, these processes have as consequence the reduction of number of workers, especially in more undifferentiated categories. But there is still demand of qualified workers and companies have difficulties (technical but also geographical) to find them.

The professional categories recognized in the own-state collective vertical agreement of dairy industries and similar companies are:

- › Technical and production groups.
- › Administrative and commercial groups.

In **Spain**, most of dairy sector workers acquire their professional skills through the informal training, that is, through the labour experience. This is the reason why the recognition and accreditation of working experience is considered important, apart from the non formal training received both inside and outside enterprises.

Besides, there is a strong demand from enterprises of qualified workers and have difficulties to find them, that is why the recognition from enterprises becomes necessary.

In the dairy sector there is an own-state association that controls the labour relationship of the dairy industries and their derivatives related to the organization of the work, the extra ordinary hours, holidays and rest periods, economic conditions, promotion and training. According to the creation of the agreement it shows that the enterprise, together with the workers agents, will establish the programs and activities necessary for the continuous training of their workers.

The professional categories recognized in the own-state collective agreement of dairy industries and their derivatives are:

- › technical groups (positions like Chief Technical Expert and Superior, Dairy Control Chief or Cheese Master);
- › administrative and commercial group (First Chief, Sales Promoters and Supervisors or Commercial Agent);
- › production group and assistant tasks (Different occupations - First rank officer Lab official, Stockers, Doorman, Labourer or Cleaning staff).

Section 12

Existing qualifications in dairy sector

- Determination of qualifications in dairy sector.
- Determination of partial qualifications in dairy sector.

Despite very precise methodological scheme of NQS implementation in Czech Republic, full and partial qualifications in dairy sector are not determined by professions, but by operations in production process. It means that only three universal partial qualifications are determined now, independently on final product:

- › input operations,
- › production operations,
- › distributions.

There is radical contrast in full and partial qualifications determination in comparison with e.g. bakery sector. The full qualification "Baker" on the third level is set as a base for determination of partial qualifications. For example, they are:

- › bread and standard bakery products production (level 3),
- › gingerbread production (level 2),
- › long-life bakery products production (level 2).

In connection with dairy sector, there is defined one qualification standard for partial qualification that is not included under some full qualification: ice-cream producer (level 3) for now only. According to experts from Czech opinion group, no other full and/or partial qualifications in dairy sector will be defined in next three years.

In **Greece** there are not specific qualifications for dairy sector, most managers of dairy companies are University or TEI graduates. Technicians and workers are mostly graduates of TEE. Mainly training is provided by the companies or the mechanical equipment suppliers and by older technicians and workers through mentoring.

The **Italian** classification (NQS) has three levels: occupational groups, occupations and detailed items. On the whole, at present the NQS foresees 32 occupational groups, 569 occupations, 6761 items. The professional qualifications of the dairy sector at present are "Cheese Expert," "Agro-Industrial Cheese Operator" and "Dairy-Cheese Agro-technician".

The EQF uses a system based on the results of learning, in other words what a student has learned, understood and is able to do at the end of a training course. The results of learning are defined in terms of knowledge, technical skills and transverse skills. The only transverse skills taken into account are responsibility and autonomy.

In secondary education and, partly in Italian vocational training also, training is on contents and not on technical skills. There is no systematic training on transverse skills in Italy. Therefore it is hard to relate skills to study courses and, at the moment, impossible to relate transverse skills to them.

In **Portugal**, in the System of Professional Qualifications, there are not qualifications specifically in dairy sector, there is one which is general and transversal to the food industry which could be applied to dairy sector: technical of quality control of food. Nevertheless, there is a definition about the competences that should have different professions in dairy sector:

Appointed - Manufacture of Milk Products 8.2.7.2.80

It controls the production in a section of a company that manufactures dairy products or processes and coordinate the tasks of workers engaged in various functions of that section: implementing the programs of production in accordance with instructions received and labor available; evaluate the needs for equipment and meets the necessary requisitions, distributes and supervises the work in various stages of manufacture and monitor the degree of perfection from them; announced and / or addresses deficiencies found and arrange for their correction, if necessary. Can you advise on issues of superior personnel, such as promotions, transfers, exemptions and disciplinary measures.

Operator Concentration - Milk 8.2.7.2.20

Opera, watches and regulates the operation of an installation designed to concentrate the milk by evaporation of the water: opening the steam valves Marshalling appropriate devices, regulates and maintains the flow of movement of milk; notes through graphs of temperature and pressure or of thermometers, manometers and densímetros the respective levels; notes on the document itself made adjustments and data on time and executed; watches the operation of the facility by making the appropriate corrections in the control panel; steam sterilizer with the installation. You can work with facility for the manufacture of concentrated milk with sugar, requiring knowledge appropriate.

Operator skimming and Pasteurization - Milk Products 8.2.7.2.05

Opera, watches and regulates the operation of an automatic installation for the skimming and pasteurization of milk, cream and other dairy products: makes the transfer of milk or other dairy products of deposits for the pasteurizer Handling appropriate devices, regulates the apparatus for heating and cooling; regulates the flow of transit of goods to the pasteurizer; controls time, temperature and pressure of pasteurization, observing instruments for measuring appropriate, so that dairy products are free of harmful germs; performing skimming the milk separator for regulating the appropriate percentage of cream to be withdrawn; controls the pressure and speed of rotation using stopwatches and gauges; operates when needed , The cooling vat of cream and controls the time of operation of the pump. Sometimes cut samples of pasteurized product to be analyzed.

Sterilization Operator - Milk 8.2.7.2.15

Opera, watches and regulates the operation of a facility designed to sterilize the milk to eliminate bacteria, molds or other microorganisms not removed in the pasteurization: steam valve opens so that the temperature reaches of the tower above pre-determined and introduces the packaging of milk , From the pre-sterilization, the Tower of triggering devices suitable sterilization; controlling temperature and pressure levels in thermometers and manometers; make the adjustments necessary to obtain the sterilization of the product, determines the existence of any anomalies in sterilization by observation the color and stiffness of the pack, and communicates them superiorly; cut some sterile packaging in order to are analyzed in the laboratory.

Operator extruder - Malted milk 8.2.7.2.65

Opera, watches and regulates the operation of a molding machine for the mass of flour for flakes of various shapes: connecting the pump lubrication of the machine and its heating system triggering the appropriate; verifies that the values of temperature, pressure and speed of the never-ending are in line with the parameters required; feeds of raw materials to extruder, through control panel, cut a sample to check the texture, making the necessary changes in speed, pressure and / or temperature, where the product does not present conditions, controls the specific weight of the granules produced in lump-mill, using measuring and balance; compares them with standard samples to make sure that the grains are obtained under appropriate conditions.

Operator Manufacturing - Malted milk 8.2.7.2.60

Opera, regulates and watches, through control panels, the operation of a facility for mixing, drying and pasteurization of milk meal: valve opens to the ingredients are pumped into the tank; add other products according to the formula of manufacturing; moves the shoulder of the tank, triggering the appropriate devices, to mix the ingredients; regulates the time and temperature of the mixture, check the figures recorded in the panel certifying whether they correspond to established; regulates the injection of steam, so that the product will be transported to the pasteurizer; regulates the speed of cylinders of transport and flow of the product so that it submit to the appropriate thickness; ensures the transfer of it to the mills, using spatula to shave mass adherent.

Operator Manufacturing - Butter 8.2.7.2.40

Opera, watches and regulates the functioning of churn for the manufacture of butter: regulates the passage of cream, and pasteurized before maturity, to churn; selects the speed to get butter for agglomeration of the fat cells of the cream; the seeps serum and introducing water to wash the butter, salting it and maintains the beater in operation so that if the salt mix with the butter; there, through the viewfinder, the aspect of regulating the speed of the butter churn, in order to obtain a product with the proper consistency, cut the butter from the churn to a tank. You can operate a continuous churn, for which cools with ice water in a closed, in order to prepare for the receipt of the cream.

Operator Manufacturing - Ice cream for Masses 8.2.7.2.70

Opera, watches and regulates the operation of a machine intended for the manufacture of ice cream: weigh in blender and introducing water, powdered milk, sugar, fat, fruit essences and other substances used in the manufacture of ice cream; regulates temperature and pressure, opening or closing valves in steam in order to fusion of ingredients; watches the operation of the mixer and ensure the transportation of the product to the homogeniser; governs by means of appropriate devices to pressure the homogeniser in order to dissolve or reduce the fat particles incorporated; ensure the passage of the substance homogenized for pasteurizing; regulates the speed of agitators and the temperature of the blender, to ensure uniformity of the product makes the transfer by means of appropriate device for warehouse storage, transit and ready for the freezer, Maneuvers appropriate devices.

Operator Manufacturing - Cheese (cheesemaker) 8.2.7.2.45

Opera, watches and regulates the operation of a facility to produce ripened cheese, and fresh curd: fill it with milk containers appropriate; performs operations related to the process of pasteurization and cooling of milk; triggers the means to stir the milk for that the fat is not deposited at the bottom of the containers, add yeast to get the coagulation of milk and colors, as needed; eliminates the mass of liquid milk (whey), compressing the surface clot, or manually using press, puts the mass curd in a way to the desired size and configuration and previously covered with cloth to prevent the adhesion to the walls. You can perform tasks in the manufacture of curd and / or salting and curing of cheese, in particular, preparing brine, drying them and untando them.

Operator Manufacturing - Processed cheese 8.2.7.2.50

Opera, watches and regulates the operation of a facility for the manufacture of cheese from different types of cheese: preparing the cheeses of different qualities, taking - their packaging and cleaning them using appropriate tool; weighs them in line with the manufacturing formula to be crushed in a grater; add emulsifiers and other products, feeds and links the founder of the cheese; regulates, through appropriate devices, the quantities of water and steam, temperature controls and times of melting mode that the product obtain the desired characteristics; forwards the case to the Board of packaging; meets map of daily production.

Operator Pre-Sterilization - Milk 8.2.7.2.10

Opera, watches and regulates the operation of an automatic installation for the pre-sterilization of milk: regulates the temperature of the pre-sterilizing up to the level desired, activating the appropriate; transfers pasteurized milk for the pre-sterilizing and down towards the homogeniser, Having reached the required temperature, triggering appropriate devices;-racking the homogeniser for filling opening of pressure valves, watches the operation of the facility and will make adjustments where necessary.

You can perform the job of filling and packaging.

Operator Mixer - Milk 8.2.7.2.25

Opera, watches and regulates the operation of a machine to mix milk and various ingredients, in order to obtain flavored milk: weighs the ingredients to mix the milk, gives instructions to the section of treatment to be sent to specified quantity of milk or triggers pump in order to make the transfer to blender; steam valve opens and regulates the temperature in order to begin the process of mixing, add, manually, several milk ingredients such as cocoa, sugar and vanilla, taking into the amount of attention being flavored milk; finds the time for mixing and ensures its passage to deposits; cut, possibly, the mixture samples for laboratory testing.

Operator manufacturing plant - Milk Powder 8.2.7.2.30

Opera, watches and regulates the operation of an automatic facility for the manufacture of milk powder: Mounts conductive pipes and other devices in order to prepare the facility; connecting pipes and valves of steam, so that the temperature reaches the default -set; controls values of temperature and pressure, making the necessary corrections; collects, with the help of milk-gauge, samples of milk to check the level of density of condensation, watches and regulates the functioning of capacitors, dryers and / or sprinklers and makes the appropriate corrections, so that the milk is processed into powder.

Operator Preparation - Yogurt 8.2.7.2.35

Opera, watches and regulates the operation of a facility for the manufacture of yoghurt: regulates, through appropriate devices, the values of temperature and pressure in order to heat the milk in the vat, where appropriate mix the various ingredients (milk powder, sweeteners and flavorings) for connecting the shaker the cell, making the passage of the mixture to the evaporator, activating commands appropriate to be extracted from the water they contain; makes the transition from blend of evaporator for the homogeniser to be fermented by beating; transfer the mixture to the fermentation vat, adding it ferments in certain quantities and regulating the temperature of the vats to go through the coagulation of the mixture, transferring the product for deposits . Sometimes ensures the functioning of the oven and cold, regulating temperatures and making the necessary records.

Operator Mold - Ice cream 8.2.7.2.75

Opera, watches and regulates the operation of a molding machine for the ice-cream: regulates and controls through valves, thermometers and manometers, the temperature of the cooling system, the velocities and pressures of the appliance to obtain ice-cream with the consistency and quality desired; regulates the flow of mass for the device of automatic molding; feeds the machine with media or to be involved or containers filled with mass; watch, by means of appropriate tools to measure, if the operations of casting and solidification of ice cream is conducted properly; desmolda products and controls the process of engagement with appropriate hedges to machine; provides information or participates in the manual or mechanical packaging of ice cream.

Other operators Machinery Manufacturing of Milk Products 8.2.7.2.90

This includes operators of machinery for the manufacture of dairy products, which are not classified elsewhere.

8.2.7.2.05 - Operator of skimming and Pasteurization - Milk Products

Opera, watches and regulates the operation of an automatic installation for the skimming and pasteurization of milk, cream and other dairy products; makes the transfer of milk or other dairy products of deposits for the pasteurizer Handling appropriate devices, regulates the apparatus for heating and cooling; regulates the flow of transit of goods to the pasteurizer; controls time, temperature and pressure of pasteurization, observing instruments for measuring appropriate, so that dairy products are free of harmful germs; performing skimming the milk separator for regulating the appropriate percentage of cream to be withdrawn; controls the pressure and speed of rotation using stopwatches and gauges; operates when needed , The cooling vat of cream and controls the time of operation of the pump. Sometimes cut samples of pasteurized product to be analyzed.

8.2.7.2.10 - Operator Pre-Sterilization - Milk

Opera, watches and regulates the operation of an automatic installation for the pre-sterilization of milk: regulates the temperature of the pre-sterilizing up to the level desired, activating the appropriate; transfers pasteurized milk for the pre-sterilizing and down towards the homogeniser , Having reached the required temperature, triggering appropriate devices;-racking the homogeniser for filling opening of pressure valves, watches the operation of the facility and will make adjustments where necessary.You can perform the job of filling and packaging.

8.2.7.2.15 - Sterilization Operator - Milk

Opera, watches and regulates the operation of a facility designed to sterilize the milk to eliminate bacteria, molds or other microorganisms not removed in the pasteurization: steam valve opens so that the temperature reaches of the tower above pre-determined and introduces the packaging of milk , From the pre-sterilization, the Tower of triggering devices suitable sterilization; controlling temperature and pressure levels in thermometers and manometers; make the adjustments necessary to obtain the sterilization of the product, determines the existence of any anomalies in sterilization by observation the color and stiffness of the pack, and communicates them superiorly; cut some sterile packaging in order to are analyzed in the laboratory.

8.2.7.2.20 - Operator Concentration - Milk

Opera, watches and regulates the operation of an installation designed to concentrate the milk by evaporation of the water: opening the steam valves Marshalling appropriate devices, regulates and maintains the flow of movement of milk; notes through graphs of temperature and pressure or of thermometers, manometers and densímetros the respective levels; notes on the document itself made adjustments and data on time and executed; watches the operation of the facility by making the appropriate corrections in the control panel; steam sterilizer with the installation. You can work with facility for the manufacture of concentrated milk with sugar, requiring knowledge appropriate.

8.2.7.2.25 - Operator Mixer - Milk

Opera, watches and regulates the operation of a machine to mix milk and various ingredients, in order to obtain flavored milk: weighs the ingredients to mix the milk, gives instructions to the section of treatment to be sent to specified quantity of milk or triggers pump in order to make the transfer to blender; steam valve opens and regulates the temperature in order to begin the process of mixing, add, manually, several milk ingredients such as cocoa, sugar and vanilla, taking into the amount of attention being flavored milk; finds the time for mixing and ensures its passage to deposits; cut, possibly, the mixture samples for laboratory testing.

8.2.7.2.30 - Operator manufacturing plant - Milk Powder

Opera, watches and regulates the operation of an automatic facility for the manufacture of milk powder: Mounts conductive pipes and other devices in order to prepare the facility; connecting pipes and valves of steam, so that the temperature reaches the default -set; controls values of temperature and pressure, making the necessary corrections; collects, with the help of milk-gauge, samples of milk to check the level of density of condensation, watches and regulates the functioning of capacitors, dryers and / or sprinklers and makes the appropriate corrections, so that the milk is processed into powder.

8.2.7.2.35 - Operator Preparation - Yogurt

Opera, watches and regulates the operation of a facility for the manufacture of yoghurt: regulates, through appropriate devices, the values of temperature and pressure in order to heat the milk in the vat, where appropriate mix the various ingredients (milk powder, sweeteners and flavorings) for connecting the shaker the cell, making the passage of the mixture to the evaporator, activating commands appropriate to be extracted from the water they contain; makes the transition from blend of evaporator for the homogeniser to be fermented by beating; transfer the mixture to the fermentation vat, adding it ferments in certain quantities and regulating the temperature of the vats to go through the coagulation of the mixture, transferring the product for deposits . Sometimes ensures the functioning of the oven and cold, regulating temperatures and making the necessary records.

8.2.7.2.40 - Operator Manufacturing - Butter

Opera, watches and regulates the functioning of churn for the manufacture of butter: regulates the passage of cream, and pasteurized before maturity, to churn; selects the speed to get butter for agglomeration of the fat cells of the cream; the seeps serum and introducing water to wash the butter, salting it and maintains the beater in operation so that if the salt mix with the butter; there, through the viewfinder, the aspect of regulating the speed of the butter churn, in order to obtain a product with the proper consistency, cut the butter from the churn to a tank. You can operate a continuous churn, for which cools with ice water in a closed, in order to prepare for the receipt of the cream.

8.2.7.2.45 - Operator Manufacturing - Cheese (cheesemaker)

Opera, watches and regulates the operation of a facility to produce ripened cheese, and fresh curd: fill it with milk containers appropriate; performs operations related to the process of pasteurization and cooling of milk; triggers the means to stir the milk for that the fat is not deposited at the bottom of the containers, add yeast to get the coagulation of milk and colors, as needed; eliminates the mass of liquid milk (whey), compressing the surface clot, or manually using press, puts the mass curd in a way to the desired size and configuration and previously covered with cloth to prevent the adhesion to the walls. You can perform tasks in the manufacture of curd and / or salting and curing of cheese, in particular, preparing brine, drying them and untando them.

8.2.7.2.50 - Operator Manufacturing - Processed cheese

Opera, watches and regulates the operation of a facility for the manufacture of cheese from different types of cheese: preparing the cheeses of different qualities, taking - their packaging and cleaning them using appropriate tool; weighs them in line with the manufacturing formula to be crushed in a grater; add emulsifiers and other products, feeds and links the founder of the cheese; regulates, through appropriate devices, the quantities of water and steam, temperature controls and times of melting mode that the product obtain the desired characteristics; forwards the case to the Board of packaging; meets map of daily production.

8.2.7.2.60 - Operator Manufacturing - Malted milk

Opera, regulates and watches, through control panels, the operation of a facility for mixing, drying and pasteurization of milk meal: valve opens to the ingredients are pumped into the tank; add other products according to the formula of manufacturing; moves the shoulder of the tank, triggering the appropriate devices, to mix the ingredients; regulates the time and temperature of the mixture, check the figures recorded in the panel certifying whether they correspond to established; regulates the injection of steam, so that the product will be transported to the pasteurizer; regulates the speed of cylinders of transport and flow of the product so that it submit to the appropriate thickness; ensures the transfer of it to the mills, using spatula to shave mass adherent.

8.2.7.2.65 - Operator extruder - Malted milk

Opera, watches and regulates the operation of a molding machine for the mass of flour for flakes of various shapes: connecting the pump lubrication of the machine and its heating system triggering the appropriate; verifies that the values of temperature, pressure and speed of the never-ending are in line with the parameters required; feeds of raw materials to extruder, through control panel, cut a sample to check the texture, making the necessary changes in speed, pressure and / or temperature, where the product does not present conditions, controls the specific weight of the granules produced in lump-mill, using measuring and balance; compares them with standard samples to make sure that the grains are obtained under appropriate conditions.

8.2.7.2.70 - Operator Manufacturing - Pasta for Ice cream

Opera, watches and regulates the operation of a machine intended for the manufacture of ice cream: weigh in blender and introducing water, powdered milk, sugar, fat, fruit essences and other substances used in the manufacture of ice cream; regulates temperature and pressure, opening or closing valves in steam in order to fusion of ingredients; watches the operation of the mixer and ensure the transportation of the product to the homogeniser; governs by means of appropriate devices to pressure the homogeniser in order to dissolve or reduce the fat particles incorporated; ensure the passage of the substance homogenized for pasteurizing; regulates the speed of agitators and the temperature of the blender, to ensure uniformity of the product makes the transfer by means of appropriate device for warehouse storage, transit and ready for the freezer, Maneuvers appropriate devices.

8.2.7.2.75 - Operator Mold - Ice cream

Opera, watches and regulates the operation of a molding machine for the ice-cream: regulates and controls through valves, thermometers and manometers, the temperature of the cooling system, the velocities and pressures of the appliance to obtain ice-cream with the consistency and quality desired; regulates the flow of mass for the device of automatic molding; feeds the machine with media or to be involved or containers filled with mass; watch, by means of appropriate tools to measure, if the operations of casting and solidification of ice cream is conducted properly; desmolda products and controls the process of engagement with appropriate hedges to machine; provides information or participates in the manual or mechanical packaging of ice cream.

8.2.7.2.80 - Appointed - Manufacture of Milk Products

It controls the production in a section of a company that manufactures dairy products or processes and coordinate the tasks of workers engaged in various functions of that section: implementing the programs of production in accordance with instructions received and labor available; evaluate the needs for equipment and meets the necessary requisitions, distributes and supervises the work in various stages of manufacture and monitor the degree of perfection from them; announced and / or addresses deficiencies found and arrange for their correction, if necessary. Can you advise on issues of superior personnel, such as promotions, transfers, exemptions and disciplinary measures.

8.2.7.2.90 - General Machine Operators Manufacturing of Milk Products

This includes operators of machinery for the manufacture of dairy products, which are not classified elsewhere.

It could be said that the "classic" qualifications from the professional families of food and beverages industries are defined. In the **Spanish** System of Professional Qualifications there are three professional qualifications within this professional family, which are the ones typical of the dairy sector, one from level 3 and two from level 2, and other two that are relevant in all the sub sectors of the food and beverage industry, including the dairy sector, both from level 1.

Specific Professional Qualifications in the dairy sector:

Dairy Industries, level 3:

- General competence: Managing a unit or section in the dairy industry, programming, preparing and supervising the material and human resources, as well as the necessary works to achieve the fixed goals for the production, food safety, traceability, quality and environmental protection plans.
- Occupations and relevant positions: Person in charge of supply, business-technical expert of derivatives and milk products. Person in charge of production, line chief or floor chief in dairy industries. Quality control expert of dairy labs in small and medium cheese factories. Assistant of the Inspector-auditor of quality and environmental control.
- Associated training: 600 hours. Training modules:
 - Management of quality and environment of food and beverage industries.
 - Organization of a food production unit.
 - Management of storing and marketing in the food and beverage industry
 - Processes in the industry of consuming milk and dairy products.
 - Elaboration in the industry of consuming milk and dairy products.
 - Elaboration of consuming milk and dairy products.
 - Analytic and sensorial control of consuming milk and dairy products.

Cheese factory, level 2.

- General competence: Carrying out the reception and conditioning of raw materials, milk previous treatments and manufacturing cheese, storing and preservation of final product, following the technical specifications about how to use equipments and methods; preserving the hygienic and sanitary conditions, respecting the security and hygienic rules at work and the established environmental protection.
- Occupations and relevant positions: Milk processor. Cheese maker. Storer, packer.
- Associated training: 390 hours. Training modules:
 - Cheese production.
 - Reception, warehousing, and previous milk treatments.

Production of consumer milk and dairy products, level 2:

- General competence: Carrying out the elaboration of liquid, condensed, evaporated and fermented milk for consumption, yogurt and quark desserts, as well as butter, ice creams and similar in the established process conditions according to the procedure and quality manual, proceeding to its packing and conditioning, following the quality and food safety conditions.
- Occupations and relevant positions: yoghurt maker. Ice cream maker. Milk processor. Milk treatment worker. Prosecutor. Reception and standardization operator. Dairy soups maker. Machines operator for the treatment and elaboration of dairy products in general. UHT machines operator for the treatment of milk. Milk and dairy products pasteurization machine operator. Milk condenser machine operator. Milk and dairy products refrigerating machine operator. Milk dryer-pulverizer machine operator. Milk and dairy products sterilizer machine operator. Powdered milk maker machine operator. Butter and derivatives maker machine operator. Yogurts and derivatives maker machine operator. Fresh cheese and derivatives maker machine operator. Ice cream maker machine operator. Control box for milk and derivatives treatment operator. Milk and dairy products bottle maker machine operator. Milk and dairy products packing machine operator. Driver. Conditioner.
- Associated Training: Training modules:
 - Recepción, almacenamiento y tratamientos previos de la leche.
 - Milk, butter and ice cream production.
 - Quark desserts, yogurts and fermented milk production.
 - Dairy products packing and conditioning.

Professional qualifications from the food and beverage industry present in every sub-sector, including the dairy sector:

Auxiliary operations for elaboration in the food and beverage industry, level 1:

- General competence: Carrying out the reception and conditioning of raw and auxiliary materials which take part in the productive processes. Collaborating in those processes, helping in the ordinary and easy operations for the creation and packing of food products, according to the working instructions and specific hygienic and safety rules. Handling lift trucks cargo for loading and unloading, taking the proper precautions.
- Occupations and relevant positions: Food and Beverages industry labourer. Raw materials composer. Food products producing and packing machine operator. Stocker.
- Associated Training. 300 hours. Training modules:
 - Handling lift trucks cargo.
 - Preparation of raw materials.
 - Basic operations for food products processes.
 - Packing of food products.

Auxiliary operations for maintenance and internal transport in the food and beverage industry, level 1:

- General competence: Carrying out the cleaning of equipments and installations, and helping with the first level maintenance.
- Handling lift trucks and internal transport devices for loading and unloading of goods in warehouses and stores, taking always the proper and necessary precautions for the safety of people and material for the fulfilment of hygienic and food quality rules.
- Occupations and relevant positions: Stocker. Food floor assistant. Food and beverage industry maintenance assistant.
- Associated training: 240 hours. Training modules:
 - Handling lift truck cargo.
 - Basic machine maintenance and installations in the industry.
 - General hygiene in the food and beverage industry.

Professional education in the dairy sector

- Direct education for dairy sector.
- Indirect education for dairy sector.
- List of schools.

In **Czech Republic**, there are several opportunities how to get education for dairy sector.

1. Direct education of dairying.

There is only one school which offers directly assigned professional education in Milk processing: Higher Professional School for Dairying at Kromeriz (www.vospaspsm.cz), which educates professionals for dairy industry in the Czech Republic. The school offer three types of study, namely

- vocational level (ended by certificate of secondary education);
- upper secondary level (ended by A-level “maturita”);
- bachelor level (ended by Bc diploma).

The school produces 75 graduates on average per year.

2. Indirect education of dairying.

There are 19 secondary technical and/or vocational school oriented to food processing and food industry. Hence dairy and relevant subjects are involved as core parts of the curriculum. The teaching is oriented to technologies, quality of production, preservation, sale, retail, distribution, advertisement. These schools are also potential institutions to become authorised institutions recognising partial and full qualifications.

Relevant subjects included in the curriculum:

- Dairy man – production.
- Dairy works.
- Analysis of foodstuff.
- Foodstuff technologies.
- Foodstuff machinery.
- Science of commodities.
- Food chemistry.

List of selected schools with indirect teaching of dairying:

1. Soukromé učiliště obchodu a služeb, Praha; SOU.Praha4@seznam
2. Vyšší odborná škola a Střední průmyslová škola potravinářských technologií, Praha, www.podskalska.cz
3. Vyšší odborná škola Střední odborné učiliště potravinářské, Praha, www.soup-pisnice.cz
4. Střední odborné učiliště potravinářské, Jílové u Prahy, www.souppilove.cz
5. Střední škola potravinářská, Smiřice, www.ssp-smirice.cz
6. Integrovaná střední škola, Cheb, kot@iss-cheb.cz
7. Střední odborná škola a Střední odborné učiliště, Kladno, www.sou-hvezda.cz
8. Střední odborné učiliště potravinářské, Plzeň, www.soupotr.cz
9. Střední škola obchodu, služeb a řemesel, Tábor, www.ssjs-tabor.cz
10. Střední odborné učiliště, Sedlčany, www.sou.sedlcany.cz
11. SPŠ potravinářská Pardubice, Pardubice, www.spspot.cz
- 12.. Střední průmyslová škola chemická, Brno, www.spschbr.cz
13. Střední škola potravinářská a služeb, Brno, www.soups.cz
14. Střední škola obchodu a služeb, Jihlava, www.ssos-ji.cz
15. Střední škola obchodu, služeb a podnikání, České Budějovice, www.ss-osp.cz
16. Švehlova střední škola, Prostějov, www.svehlova.cz
17. Střední škola zemědělská a potravinářská, Klatovy, www.sszp.kt.cz
18. Vyšší odborná škola a Střední průmyslová škola potravinářských technologií, Praha, soup.sychra@centrum.cz
19. Střední odborné učiliště potravinářské, Jeseník, www.soupjesnik.cz

In **Greece**, there are also two ways to get such education.

1. Education directly linked with dairy products production.

There are only two schools which offer directly assigned professional education related to milk processing:

- Dairy Professional School of Ioannina under the supervision of the Organization of Agriculture Vocational Education Training & Employment – Ministry of Agriculture
- Dairy Vocational Training Institute (IEK) of Patras supervised by the Ministry of National Education and Religious Affairs

2. Education indirectly linked with dairy products production.

There are 2 Universities and 3 Technological Education Institutes (TEI). Faculties oriented to food processing and food industry. Hence dairy and relevant subjects are involved as core parts of the curriculum. The teaching is oriented to technologies, quality of production, preservation etc.

In **Italy**, a Dairy-products Processor is capable of producing fresh and ripe cheese products, using specific methods and technologies during the different processing phases. This qualification can be regarded both as a qualification for access to the professional area and as a qualification of technical-specialisation studies.

As such, the professional standards can be achieved either by persons (young people-adults) with no previous knowledge-skills, who “get into” this professional area through courses, or by persons with basic knowledge-skills related to the area, which are developed/improved through the courses.

These knowledge-skills may have been acquired through vocational training, education or through professional experience in firms in the sector.

In **Portugal**, education indirectly linked to dairy (milk processing is part of the courses) is offered on:

1. Non-higher post upper-secondary education with Technological Specialisation Courses.

- Viana do Castelo Polytechnic Institute - School of Technology and Management
- Beja Polytechnic Institute - Agricultural College
- Setúbal Polytechnic Institute - School of Technology
- Portuguese Catholic University - School of Biotechnology
- Azorean School of New Technologies

2. Higher education polytechnics.

- Beja Polytechnic Institute - Agricultural College
- Castelo Branco Polytechnic Institute - Agricultural College
- Coimbra Polytechnic Institute - Agricultural College
- Santarém Polytechnic Institute - Agricultural College
- Viana do Castelo Polytechnic Institute - Agricultural College

3. Higher education universities.

- University of Trás-os-Montes and Alto Douro - Food Science Msc
- University of Minho - Biological Engineering Msc
- University of Porto - Nutrition and Food Science Msc
- University of Porto - Chemical Engineering Msc
- University of Porto - Veterinary Medicine Msc
- Portuguese Catholic University - Biosciences Msc
- Portuguese Catholic University - Bioengineering MSC
- University of Coimbra - Chemical Engineering Msc
- University of Beira Interior - Biotechnology Msc
- University of Beira Interior - Biochemistry Msc
- Universidade Nova de Lisboa - Biochemistry Msc
- Technical University of Lisboa - Veterinary Medicine Msc
- Technical University of Lisboa - Zootechnical Engineering Msc
- Technical University of Lisboa - Food Engineering Msc
- Technical University of Lisboa - Agronomical Engineering Msc
- University of Évora - Agronomical Engineering Msc
- University of Algarve - Biotechnology MSC
- University of Algarve - Agronomy MSC
- University of Algarve - Biological Engineering MSC
- University of Açores - Veterinary Medicine Msc
- University of Açores - Food Technology Msc
- University of Açores - Zootechnical Engineering Msc
- University of Açores - Agricultural Sciences Msc

In **Spain**, the training directly related to the dairy sector in the educative system is the one corresponding to the intermediate level of vocational training "Production of dairy products". In the higher level, there exists secondary education training indirectly related to the dairy sector of the "Food and Beverage Industry".

The centres offering this training are:

- Secondary School Institute Escultor Juan de Villanueva. Asturias, Pola de Siero.
<http://web.educastur.princast.es/ies/escultor/>
- Secondary School Institute IES Josep Miquel Guàrdia. Illes Balears Alaior.
- Secondary School Institute Valsequillo. Valsequillo. Las Palmas.
- Secondary School Institute Santa Cruz de Tenerife. Santa Úrsula.
- Secondary School Institute Lope de Vega. Cantabria, Santa Maria de Cayón.
- Agricultural Training School de Palencia. Palencia
- Secondary School Institute Virgen de las Cruces. Ciudad Real, Daimiel.
- Secondary School Institute Valdehierro. Toledo, Madrdejos.
- Secondary School Institute Bartolomé José Gallardo. Badajoz, Campanario.
- Secondary School Institute Escuela de la Vid e Industrias Lácteas. Madrid.

Many of these schools do not offer this training due to lack of demand.

The certificates of professional standards (related to the dairy sector it only exists the “Cheese sector”) are given in the authorized Learning and Training Centres or in National Reference Centres as well, distributed al over the Spanish Autonomous Communities.

Enterprises can also offer training to their enterprises with public funds, counting on a wide variety of private training providers with transversal education, related and specific from the sector. Among these providers, emphasize the following that offer specialized training on dairy:

- Instituto de Formación Integral. Madrid.
- Aula de Productos Lácteos. Lugo.
- Laboratorios Arroyo- Santander.
- Estacion Tecnológica de la Leche – Palencia.
- IRTA- Recerca i Tecnologia Agroalimentaries – Barcelona.
- Escuela Agraria Mendikoi Fraisoro – Guipúzcoa.
- Centro de Investigacion y Formacion Agraria – Córdoba.
- AINIA Centro Tecnológico – Valencia.
- INIA Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria – Madrid.
- Instituto Madrileño de Investigación y Desarrollo Rural, Agrario y Alimentario (IMIDRA) – Madrid.

Section 14

Product classification in dairy sector

- Specify the national classification system of dairy products.

In **Czech Republic**, the Standard International Trade Classification (SITC) is used for classification of milk and milk products as follows:

| | |
|-------|--|
| 0 | Food and live animals |
| 00 | Live animals |
| 001 | Live animals |
| 0011 | Bovine animals, live |
| 00111 | Bovine animals, live, pure-bred breeding animals |
| 00119 | Bovine animals, live, other than pure-bred breeding animals |
| 0012 | Sheep and goats, live |
| 00121 | Sheep, live |
| 00122 | Goats, live |
| 02 | Dairy products and birds eggs |
| 022 | Milk, cream, milk products, without butter or cheese |
| 0221 | Milk and cream, not concentrated or sweetened |
| 02211 | Milk of a fat content, by weight, not exceeding 1% |
| 02212 | Milk cream, of a fat content by weight, exceeding 1% but not exceed. 6% |
| 02213 | Cream of a fat content, by weight, exceeding 6% |
| 0222 | Milk and cream, concentrated or sweetened |
| 02221 | Milk, in solid form, of a fat content, by weight, not exceeding 1.5% |
| 02222 | Milk and cream, in solid form, of a fat content, by weight, exceeding 1.5% |
| 02223 | Milk cream, not in solid form, not contained sugar, other sweet .matter |
| 02224 | Milk, cream ,not in solid form, contained sugar or other sweet matter |
| 0223 | Yogurt, buttermilk, curdled, fermented or acidified |
| 02231 | Yogurt, whether or not concentrated, cont. added sugar, other sweet matter |
| 02232 | Buttermilk, curdled milk, cream, kefir, other ferm. or acidified milk, cream |
| 02233 | Ice-cream and other edible ice, whether or not containing cocoa |
| 0224 | Whey; products of natural milk constituents, n.e.s. |
| 02241 | Whey and modified whey |
| 02249 | Products consisting of natural milk constituents, n.e.s. |

| | |
|-------|---|
| 023 | Butter and other fats and oils derived from milk |
| 024 | Cheese and curd |
| 0241 | Grated or powdered cheese, of all kinds |
| 0242 | Processed cheese, not grated or powdered |
| 0243 | Blue-veined cheese |
| 0249 | Other cheese, curd |
| 02491 | Fresh (unripe or uncured) cheese, including whey cheese, and curd |

In **Greece** the Eurostat Prodcom code is used for classification of milk and milk products as follows:

- 1551113300 Milk and cream of a fat content by weight of $\leq 1\%$, not concentrated nor containing added sugar or other sweetening matter, in immediate packing of a net content ≤ 2 l
- 1551114200 Milk and cream of a fat content by weight of $> 1\%$ but $\leq 6\%$, not concentrated nor containing added sugar or other sweetening matter, in immediate packing of a net content ≤ 2 l
- 1551114800 Milk and cream of a fat content by weight of $> 1\%$ but $\leq 6\%$, not concentrated nor containing added sugar or other sweetening matter, in immediate of a net content >2 l
- 1551121000 Milk and cream of a fat content by weight of $> 6\%$ but $\leq 21\%$, not concentrated nor containing added sugar or other sweetening matter, in immediate of a net content ≤ 2 l
- 1551123000 Milk and cream of a fat content by weight of $> 21\%$, not concentrated nor containing added sugar or other sweetening matter, in immediate packing of ≤ 2 l
- 1551303000 Butter of a fat content by weight $\leq 85\%$
- 1551305000 Butter of a fat content by weight $> 85\%$ and other fats and oils derived from milk (excluding dairy spreads of a fat content by weight $< 80\%$)
- 1551403000 Unripened or uncured cheese (fresh cheese)(including whey cheese and curd)
- 1551405000 Grated; powdered; blue-veined and other non-processed cheese (excluding fresh cheese whey cheese and curd)
- 1551510400 Condensed/evaporated milk; unsweetened
- 1551524100 Curdled milk, cream, yoghurt and other fermented products
- 1551524500 Flavoured liquid yoghurt or acidified milk (curdled milk; cream; yoghurt and other fermented products flavoured or containing added fruit; nuts or cocoa)

In **Italy**, several groups of dairy products are classified:

Industrial production:

- Liquid milk
- Cheese
- Butter
- Yogurt
- Other products

Cheese products by type:

- Hard cheeses
- Semi-hard cheeses
- Soft cheeses
- Fresh cheeses

Cheese products by type of milk:

- Cow's and mixed
- Ewe's
- Goat's
- Buffalo

In **Portugal** the classification of products from Dairy sector are still in revision. But the provisory list includes:

- 0114 Milk, dairy products and eggs
- 01141 Milk, fat and half the fat cow
- 011411 Pasteurized milk cow's milk and half-fat
- 011412 Milk UHT cow's milk and half-fat
- 011413 Enriched milk cow's milk and half-fat
- 011414 Cows' milk, half-fat and fat
- 01142 011420 Skimmed from cow
- 01143 011430 Milk from another animal
- 01144 Concentrate and powdered milk
- 011441 Concentrated milk
- 011442 Milk powder

01145 011450 Flavored milk and other milk
01146 011460 Yoghurt, fermented milk products and the like
01147 Cheese and cheese-based products
011471 Cheese regional, cured or semi-cured
011472 Fresh cheese and curd
011473 Cheese type Flemish
011474 Foreigners Cheese
011475 Another type of cheese
01148 Other dairy products
011481 Dairy desserts
011482 Dairy products for cooking
0115 Dairy fat
01151 011510 Butter

According to the CPA-2002 (National Classification of Products in Activities) these are the ones corresponding to the dairy sector in **Spain**:

15.51 Dairy products
15.51.1 Elaborate liquid milk and cream
15.51.11 Liquid elaborate milk
15.51.12 Milk and cream with a with more than 31% of fat, not concentrated nor sweetened
15.51.2 Solid milk and cream
15.51.3 Butter and dairy products to be spread
15.51.4 Cheese and cottage cheese
15.51.5 Other dairy products
15.51.51 Concentrated or sweetened milk and cream in different solid conditions
15.51.52 Yogurt and other types of fermented or acidic milk or cream
15.51.53 Casein
15.51.54 Lactose and lactose syrup
15.51.55 Whey
15.51.9 Industrial services for dairy products

Results of the comparison

Czech Republic

- 1) The reform of Common Agriculture Policy and milk regulation in some ways negatively changed trends on milk and milk products market in Czech Republic. Number of people employed in NACE sector 15 and practically all its crucial branches in evaluated years was falling down. Work productivity from accounting added value in common prices in NACE sector 15 during lasting decrease of worker number and added value rise up in evaluated years 2000 – 2006 affected significant increase.
- 2) Despite very precise methodological scheme of NQS implementation in Czech Republic, full and partial qualifications in dairy sector are not determined by professions, but by operations in production process. It means that only three universal partial qualifications are determined now, independently on final product:
 - input operations,
 - production operations,
 - distributions.

In connection with dairy sector, there is defined one qualification standard for partial qualification that is not included under some full qualification: ice-cream producer (level 3) for now only. According to experts from Czech opinion group, no other full and/or partial qualifications in dairy sector will be defined in next three years.

- 3) There are several opportunities how to get education for dairy sector. For direct education of dairying, there is only one school which offers directly assigned professional education in milk processing. For indirect education of dairying, there are 19 secondary technical and/or vocational school oriented to food processing and food industry.
- 4) The Standard International Trade Classification (SITC) is used for classification of milk and milk products.

Greece

- 1) There have not been observed particular labour problems in the dairy producing industry. The dairy enterprises have not left Greece to be transferred to neighbouring countries, due also to the fact that milk, the main raw material used, is extremely delicate. On the other hand, new companies are founded so that the total number of workers in the branch has increased. Wages are determined by sector-based Collective agreement.
- 2) There are not specific qualifications for dairy sector. Most managers are University or TEI (Technological Education Institutes) graduates. Technicians and workers are mostly graduates of TEE (Technical Vocational Schools). Training is mainly provided by the companies or the mechanical equipment suppliers and by older technicians and workers through mentoring.
- 3) Professional Education directly linked with dairy products production, is provided by only two VET institutions (one in Giannena, supervised by the Ministry of Agriculture and the other an IEK in Patras, supervised by OEEK), which offer directly assigned professional education related to milk processing. As far as Education indirectly linked with dairy products production is concerned, there are 2 Universities (Agricultural University of Athens and of Thessaloniki) and 3 Technological Education Institutes (Athens, Thessaloniki and Arta).
- 4) The Eurostat Prodcom Code is used for classification of milk and milk products.

Italy

- 1) The dairy sector is mainly broken down into three separate organisational systems: farming, with integrated production and processing, middle-level and industrial cooperative of the artisanal type and industrial. Relations between employers and workers vary according to the sizes of the farms.
- 2) NQS classification has three levels: occupational groups, occupations and detailed items. On the whole, at present the NQS foresees 32 occupational groups, 569 occupations, 6761 items. The professional qualifications of the dairy sector at the present are "cheese expert", "Agro-industrial cheese operator" and "dairy-cheese Agro-tecnician".
- 3) A Dairy-products Processor is capable of producing fresh and ripe cheese products, using specific methods and technologies during the different processing phases. This qualification can be regarded both as a qualification for access to the professional area and as a qualification of technical-specialisation studies.

- 4) Several groups of dairy products are classified: industrial production, cheese products by type, cheese products by expert type of milk.

Portugal

- 1) A large percentage of milk and dairy sector workers acquire professional qualifications through the informal training, that is, through in job experience, turning very important apprehension and validation of working experience added to the non formal training received both inside and outside enterprises.

The professional categories recognized in the own-state collective vertical agreement of dairy industries and similar companies are technical and production groups and administrative and commercial groups.

- 2) In the System of Professional Qualifications, there are not qualifications specifically in dairy sector, but there is a definition of several professions related with dairy sector, for example:

Appointed - Manufacture of Milk Products 8.2.7.2.80

Operator Concentration - Milk 8.2.7.2.20

Sterilization Operator - Milk 8.2.7.2.15

Operator extruder - Malted milk 8.2.7.2.65

- 3) Education indirectly linked to dairy (milk processing is part of the courses) is offered on three types of schools: non-higher post upper-secondary education with technological specialisation courses, higher education polytechnics and higher education universities.
- 4) The classification of products from dairy sector are still in revision. Only some provisory list of products is available.

Spain

- 1) In Spain, most of dairy sector workers acquire their professional skills through the informal training, that is, through the labour experience. This is the reason why the recognition and accreditation of working experience is considered important, apart from the non formal training received both inside and outside enterprises.

The professional categories recognized in the own-state collective agreement of dairy industries and their derivatives are:

- technical groups (positions like Chief Technical Expert and Superior, Dairy Control Chief or Cheese Master);
- administrative and commercial group (First Chief, Sales Promoters and Supervisors or Commercial Agent);
- production group and assistant tasks (Different occupations - First rank officer Lab official, Stockers, Doorman, Labourer or Cleaning staff).

2) In the Spanish System of Professional Qualifications there are three professional qualifications within this professional family, which are the ones typical of the dairy sector, one from level 3 and two from level 2, and other two that are relevant in all the sub sectors of the food and beverage industry, including the dairy sector, both from level 1. Professional Qualifications typical from the dairy sector are for example:

Dairy Industries, level 3

Cheese factory, level 2

Production of consumer milk and dairy products, level 2

3) The training directly related to the dairy sector in the educative system is the one corresponding to the intermediate level of vocational training "Production of dairy products". In the higher level, there exists secondary education training indirectly related to the dairy sector of the "Food and Beverage Industry". Many of these schools do not offer this training due to lack of demand.

4) According to the CPA-2002 (National Classification of Products in Activities) these are the ones corresponding to the dairy sector in

| | Czech | Greece | Italy | Portugal | Spain |
|---|--|---|--|---|---|
| Situation of the labour market in the dairy sector | <p>Negative trend of number of people employed in dairy sector due the consequences of CAP. Work affected significant increase because of such decreasing number of employees.</p> | <p>No labour problems in the dairy producing industry. The dairy enterprises have not left Greece. New companies are founded so that the total number of workers in the branch is increased. NVQs in Greece are compiled jointly by the social partners (employers/employees) at the third level (Confederations).</p> | <p>The sector is mainly broken down into three separate organisational systems: farming, middle-level and industrial cooperative of the artisanal type and industrial. Relations between employers and workers vary according to the sizes of the farms.</p> | <p>A large percentage of milk and dairy sector workers acquire professional qualifications through the informal training. The professional categories: technical and production groups and administrative and commercial groups.</p> | <p>Workers acquire their professional skills through the informal training. The professional categories: technical groups; administrative and commercial; production group and assistant tasks.</p> |
| Existing qualifications in dairy sector | <p>Full and partial qualifications in dairy sector are not determined by professions, but by operations in production process. Only three universal partial qualifications exist: input operations, production operations, distributions. Some “free” partial qualifications (ice-cream producer) are defined.</p> | <p>There are not specific qualifications for dairy sector. Most managers are University or TEI (Technological Education Institutes) graduates. Technicians and workers are mostly graduates of TEE (Technical Vocational Schools). Training is mainly provided by the companies or the mechanical equipment suppliers and by older technicians and workers through mentoring.</p> | <p>NQS classification has three levels: Professions groups, Professions and detailed items. On the whole, at present the NQS foresees 32 occupational groups, 569 occupations, 6761 items. The professional qualifications of the dairy sector at the present are “cheese expert”, “Agro-industrial cheese operator” and “dairy-cheese Agro-technician”.</p> | <p>In the System of Professional Qualifications, there are not qualifications specifically in dairy sector, but there is a definition of several professions related with dairy sector, for example: Appointed - Manufacture of Milk Products 8.2.7.2.80 Operator Concentration - Milk 8.2.7.2.20 Sterilization Operator - Milk 8.2.7.2.15 Operator extruder - Malted milk 8.2.7.2.65</p> | <p>There are three professional qualifications typical of the dairy sector. The examples are: Dairy Industries, level 3 Cheese factory, level 2 Production of consumer milk and dairy products, level 2</p> |

| | Czech | Greece | Italy | Portugal | Spain |
|---|---|---|---|--|--|
| Professional education in the dairy sector | For direct education of dairying, there is only one school which offers directly assigned professional education in milk processing. For indirect education of dairying, there are 19 secondary technical and/or vocational school oriented to food processing and food industry. | For education directly linked with dairy products production, there are only two schools which offer directly assigned professional education related to milk processing. For Education indirectly linked with dairy products production, there are 2 Universities and 3 Technological Education Institutes (TEI). | A Dairy-products Processor is capable of producing fresh and ripe cheese products, using specific methods and technologies during the different processing phases. This qualification can be regarded both as a qualification for access to the professional area and as a qualification of technical-specialisation studies. | Education indirectly linked to dairy (milk processing) is part of the courses) is offered on three types of schools: non-higher post upper-secondary education with technological specialisation courses, higher education polytechnics and higher education universities. | The training directly related to the dairy sector is the one corresponding to the intermediate level of vocational training "Production of dairy products". In the higher level, there exists secondary education training indirectly related to the dairy sector of the "Food and Beverage Industry". |
| Product classification in dairy sector | The Standard International Trade Classification (SITC). | The Eurostat Prodcom Code. | Several groups of dairy products are classified: industrial production, cheese products by type of cheese, cheese products by type of milk. | The classification of products from dairy sector are still in revision. Only some provisory list of products is available. | CPA-2002 (National Classification of Products in Activities) |

CHAPTER 4: Additional Information

Full relevant information from individual countries:

Section 15

Professional organizations

- List of professional organizations in dairy sector

In **Czech Republic**, the most significant organizations and associations are as follows:

1. Czech-Moravian Dairy Union

The mission of the Union is to protect interests of dairy industry in negotiations with public administration and other organizations. The Union includes 62 members that cover over 90% of produced milk. Some other organizations that's aim is connected with dairy industry are also members of the Union; typically service organizations, business companies, suppliers of machinery and other technologies, and others.

2. Food Research Institute Prague

The main aim of the Institute of future depends in securing of healthy and safe nutrition for the whole population of the Czech Republic. All the above mentioned activities of the Institute are concentrated at attaining of this objective. Food Research Institute Prague is a member of Association of Research Organisations (AVO) and Food Technology Manufacturing Centre (CPTT). FRIP is a contact place of EUFIC (European Food Information Council) for the Czech Republic.

3. Institute of Chemical Technology, Prague

The Institute of Chemical Technology, Prague (ICT) is the biggest educational institution of its kind in Central Europe. Its tradition of almost 200 years combined with progressive fields of study and a good international repute allows every student to get in touch with advanced technologies and make use of foreign student exchanges, and it offers a prospect of a prestigious and highly remunerative professional career both in the Czech Republic and abroad.

The Institute of Chemical Technology offers Bachelor programmes, Master programmes and Ph.D. programmes.

Faculty of Food and Biochemical Technology offers master study programme - Food Chemistry and Technology with specialisation Milk and Fat Technology (Instruction in the field is focused on the microbiology and technology of milk, fats, detergents and cosmetic products. It proceeds from chemical-engineering, microbiological and biochemical fundamentals).

4. Agricultural Association of the Czech Republic

The Agricultural Association of the Czech Republic was founded in 2001. The basic principles of the Agricultural Association structure are determined above all by the topical situation and especially by the requirements of the modern business activities in the Czech agriculture and as well as in the European Union. The activities are concerned to:

- Organisation of agricultural business entities in the regions.
- Owners of the agricultural enterprises working out the decisive part of agricultural production.
- Interests of the members either in the Czech Republic or in the frame of the European Union.
- Services to members.
- Cooperation with other organisations of the EU countries, especially those of Germany, Great Britain and Austria.

The Agricultural Association is being built consequentially, as a business and also as employers' organisation. In this position the Agricultural Association also participate in the social partnership bodies (so called Tripartite) and the collective negotiating.

5. The Agrarian Chamber of the Czech Republic

The Agrarian Chamber of the Czech Republic is an association of legal and natural persons from the agricultural, forestry and food sectors established under Acts Nos. 301/1992 and 223/1994 Coll. The central body coordinates activities of 66 regional agrarian chambers and other 50 organizations that are engaged in the production and trade in the area of agrarian sector. The Agrarian Chamber's mission is the support of entrepreneurial activities in agriculture and forestry, pursuance and defence of its members' interests.

6. The Federation of the Food and Drink Industries of the Czech Republic

The Federation of the Food and Drink Industries of the Czech Republic associates producers of food and beverages and processors of agricultural production. It pursues interests of its members vis- -vis major business chains and the state. The member community also includes milk producers. The Federation is active primarily in the area of production quality.

7. Higher Professional School for Dairying at Kroměříž

This is the only monotype school of this scope in the whole Czech Republic. It was founded in 1902. The present school has resumed the almost 100-year tradition of The Regional School for Dairying and Cheese-making founded at Kroměříž. Great emphasis is laid on the integrity of education – a comprehensive theoretical basis of many scientific subjects complemented with practical skills which concern not only the dairy production itself, but also the areas of physical, chemical and microbial analyses. Apart from the theoretical basis acquired by students in their classic lessons, the school also offers practical education which is realized in school pilot plants. These plants (workshops) were built up in the last ten years as an intermediate stage between theory and practice in real operations. It allows production of almost all dairy products. Study plans also include subjects of general education.

In **Greece**, three the most important organizations are:

EFET

The Hellenic Food Authority (EFET) was established in 1999 under the Law 2741/28-09-1999 and became operational in May 2001. EFET is a Governmental Organisation supervised by the Ministry of Development.

EFET's headquarters are based in Athens, while five (5) of the thirteen (13) foreseen regional directorates are operational (Attica, Central Macedonia, Thessaly, Western Greece, Crete). In addition, two (2) further regional directorates are under development (Thrace, Epirus).

The principal aim of Hellenic Food Authority is to take all reasonable steps to ensure that food produced, distributed or marketed in Greece meets the highest standards of food safety and hygiene reasonably available and to ensure that food complies with legal requirements, or where appropriate with recognised codes of good practice.

EFET has national responsibility for co-coordinating the enforcement of food safety legislation in Greece. This is achieved by applying an integrated and coherent official food control system after primary production, enforced by the local authorities and supervised by EFET's regional directorates, so as to amplify its efficiency and to ensure its consistency. At the same time, EFET takes all the necessary steps to protect consumers' from misleading practices and food fraud.

EFET is also established as the national contact point of the European Union for the management of the Rapid Alert System of Food (RASFF) and for Codex Alimentary.

ETAT

The Food Industrial Research and Technological Development Company (ETAT SA) was founded in 1988 on the initiative of the General Secretariat for Research and Technology of the Hellenic Ministry of Development.

The establishment of ETAT SA was an innovation in Greece, since it emphasized the will of the Greek State to support the technological development of food industry as well as the co-operation between the academic and research communities and enterprises.

The services of ETAT SA primarily aim at the improvement of competitiveness of Greek food and drink products and alimentation services of Greek food and drink enterprises. and are mainly centered on the following fields:

- Laboratory tests for the safety and quality control of foods
- Planning and Implementation of Research Projects
- Development and Implementation of Management and Quality Systems (HACCP, ISO 22000, ELOT EN ISO 9001, BRC, ISO EN 17025, ISO 14000, OHSAS 18001 etc.).
- Technological Support
- Planning and Implementation of up to date Tools and Systems of Entrepreneurial Organisation and Improvement of Operational Functions (
- Industrial Information / NCP (National Contact Point)for the 6th Framework Programme
- Innovation Transfer
- Human Resource Training

During these 20 years of its operation, ETAT SA has brought to completion a considerable number of research projects, over 50. Within the framework of various research projects, ETAT SA has closely co-operated with several companies in the sector of Foods and Beverages, institutional organizations actively engaged in nutrition-related issues as well as collective organizations which represent various companies. ETAT also closely co-operates with a great number of educational and research institutions and organizations both in Greece and abroad, which are involved in supporting Small Medium enterprises on technological development issues.

Greek Food Industries' Federation (SEVT)

It is the Food and Drink Industries Federation. SEVT represents and promotes the interests of Greek food industries. SEVT'S role is the representation encompasses industrial policy and labour relations. SEVT has 72 branch associations and individual companies. SEVT is a member of the Confederation of Greek Industries (SEV) and the Confederation of The food and drinks Industries of the EU (CIAA). The SEVT's branch associations are members of corresponding European organisations. Main activities:

- The SEVT provides a forum for co-operation and interacts with authorities, trade, producers, and other interested parties.
- Monitors and influences legislation affecting the food industry.
- Promotes co-operative research within the industry, and research funding.
- Analyses the industry's economic trends and prepares statistics. - Provides training and information companies' export activities.

In **Italy**, there are four main kinds of professional organizations in dairy sector:

- Professional agricultural organisations
- Cooperative production processing organisations
- Industrial processing organisations
- Union of agricultural and food workers

In **Portugal** the most representative entities related with dairy sector are:

- ANIL**, Portuguese Dairy Industries Association, representing all the transformation sector;
- FENALAC**, National Federation of the Cooperative of Milk Producers
- ALIP**, Dairy Interprofessional organization
- CNL**, Portuguese Dairy Board
- SPL**, Dairy Workers Independent Syndicate (Union)

In **Spain**, the most important professional organizations in dairy sector are:

FENIL, the National Federation of Dairy Industries, is a non-profit professional organization of employers, which assumes the management of the Spanish dairy industrial sector. The National Federation of Dairy Industries (FENIL) consists of around 80 enterprises of the sector, which represent more than 95% of the national production of dairy products. In the Federation most of producers of consumer liquid milk, cheeses, powdered milk, yogurts, butter and quark desserts that operate in Spain.

INLAC, Dairy Interprofessional Organization is the instrument of dialog and decision where professional organizations representatives of the producing and transforming sector face the problems of the Spanish dairy sector, advising and taking binding decisions for its better internal regulation.

FIAB, Spanish Federation of Food and Beverages Industries, is the business organization, which now gather together most of the food enterprises producers in our country. Its main activity is to inform the food and beverages sector about the news that affect its operation, both present and possible or future ones, and to represent the food and beverage industry before the administrations and decision bodies, the national and communitarian ones.

FTA-UGT, UGT Agri-food Federation is an organism integrated in the confederation of UGT (General Union of Workers) Union confederation in Spain, whose field of actuation is the agri-food sector. Its goal is to defend the rights and interests of workers, to solve problems and give alternatives to the new situations.

AGRIFOOD FEDERATION OF CCOO is the federation of CCOO Trade Union that includes the agri-food sector and watches its labour interests.

Section 16

National legal background

- National laws

The key term “qualification” is defined in **Czech** legislation by two acts, namely (1) Act 179/2006 Coll. and (2) Act 110/2007 Coll. as follows:

- Complete qualification shall mean professional qualifications of natural persons to duly perform all work activities pertaining to a relevant profession.
- Partial qualification shall mean professional qualifications of a natural person to duly perform a certain work activity or a set of work activities in a relevant profession or in two or more professions respectively, in the scope defined in a qualification standard.

The same Act establishes a national framework of qualifications register in the Czech Republic, the NQS:

The National Qualifications System (NQS) shall mean a publicly accessible register of complete or partial qualifications acknowledged, defined and recognised in the Czech Republic.

Act 179/2006 Coll. on Verification and Recognition of Further Education Results in and Amendments of Some Other Acts as amended by Act 110/2007 Coll., which has come into force August 1, 2007 establishes a universal system of assessment of education acquired out of the educational system and introduces a unified, transparent and objective way of verification of knowledge and skills. It enables the applicant to acquire a certificate and recognition of so called partial qualification, i.e. skills acquired by non formal or informal learning, which lead to success in the labour market.

In the initial provisions it is stipulated that the Act 179/2006 Coll. amends:

- a) the system of verification and recognition of further education results;
- b) qualifications;
- c) qualification standards for partial qualifications;
- d) assessment standards for partial qualifications;
- e) the National Register of Qualifications
- f) rules for granting, extending validity and withdrawing authorisation for the verification of further education results;
- g) rights and duties of participants of further education;
- h) the scope of competencies of bodies executing state administration with regard to verifying and recognizing further education results.

The Act empowers the Ministry of Education, Sports and Youth to prepare an edict – delegate legislation – establishing particulars of the Act implementation. The edict was published 16.8.2007 in Act 208/2007 Coll. (<http://www.mvcr.cz/sbirka/2007/sb067-07.pdf>).

In **Greece** the national legislation on training and education activities implement a series of policy reforms which have been undertaken to make VET more attractive. These have been implemented with at best mixed success. A short summary will be made of three significant rounds of reform:

A large-scale round of reforms was launched in 1997 and 1998 with Laws 2525/97 and 2640/98. Law 2525/97 introduced the Unified Upper Secondary School:

- (Eniaio Lyceum) to replace the different types of schools which existed formerly. It also established a new admission system for higher education, established evaluation standards for teachers and trainers, and developed Regional Counselling and Orientation Centres.
- Law 2640/98 made significant changes to the field of secondary technical vocational education, which led to the establishment of the TEE institutes.
- Legislative amendments and revisions led to two further important laws: Law 2986/2002 on the decentralisation of education as well as the evaluation of educators; Law 2916/2001 incorporated the Technical Education Institutes (TEI) into Higher Education and “upgraded” the status of technical vocational education by making them equivalent to the academic higher education institutions (universities, or AEI).
- The new framework law 3191/2003 was ratified to rationalise services in the VET field, including the accreditation of professional qualifications and training, the improvement of counselling and vocational guidance, the coordination between ministries and the development of a national system linking VET with employment (ESSEEKA).
- Law 3369/05 about Life Long Learning.
- Law 3374/05: Quality assurance in higher education. ECTS and Diploma Supplement,
- Law 3404/05: Regulation of various issues in university and the technological sector and other stipulations.
- Ministerial Decision F5/72535/B3/2006 on issuing the Diploma Supplement on a compulsory basis.

There is no specific legislation regulating the non-formal adult education.

In addition to policy reform, a number of steps have been taken at the institutional level to improve the supply and quality of Vocational Education and Training. This has included issues such as the remuneration of teachers, renovation of schools, equipment and technology investments and other areas.

Some major initiatives include:

- ICT in education, through equipment of all schools with computer laboratories, the integration of ICT in education and teaching, and provision of classes in software use.
- The development of the Unified Cross-Curricular Approach (DEPPS) by the Pedagogical Institute (PI).
- The integration and expansion of career counselling and vocational guidance in curricula and schools.
- Teacher training and assessment of schools, curricula and training.

EKEPIS has recently procured the development of the 53 first full professional profiles, which are being finishing by social partners. Along with profiles, are also designed the wished skills, competencies and qualifications, namely NQS. Among them the only profile related to the EU-DAIRY project is the profile of the technician of food and drinks production and management.

National regulations on NQS, education and vocational training in **Italy**:

- D.M. (Minister's Decree) "Lavoro" of 30 May 2001 – Codification of professions and classification of workers.
- Decree no. 174 of 31 May 2001 – Certification in the vocational training system.
- State-Regions Conference of 18 February 2000: Agreement between the Minister of Labour and Social Security, the Regions and the Autonomous Provinces of Trent and Bolzano for identifying minimum professional qualifications standards and training criteria and for the accreditation of vocational training structures.
- Law 14 February 2003, no. 30 – Delegation to the Government on the subject of employment and the labour market.
- Art 48 of Leg. Dec. no. 276, 2003 ("Apprenticeship for exercising the right-duty of education and training") on the implementation of the delegations on the subject of employment and the labour market referred to in law 14 February 2003, no. 30.
- Leg. Dec. 10 September 2003, no. 276 – Implementation of delegations on the subject of employment and the labour market referred to in law 14 February 2003, no. 30.

- Law 28 March 2003, no. 53 – Delegation to the Government for defining the general standards for education and the basic levels of services on the subject of education and vocational training.
- Constitutional Law 18 October 2001, no. 3 – amendments to Title V of Part II of the Constitution.
- Law 15 March 1997, no. 59 – Delegation to the Government for granting functions and duties to the regions and local authorities, for the reform of the Public Administration and administrative simplification.
- Leg. Dec. 31 March 1998, no. 112 – Granting functions and administrative duties of the State to the regions and local authorities, in implementation of chapter I of law 15 March 1997, no. 59 (art.142).
- D.M. (Minister's Decree) 3 November 1999, no. 509 (MIUR) – Regulations containing standards concerning the teaching autonomy of universities.
- Law 24 June 1997, no. 196 – Regulations on the subject of promoting employment.
- D.M. (Minister's Decree) 30 May 2001 - Decree of identification of basic data on the careers of students and for the granting of the certificate of Diploma. O.G. Supplement no. 175 of 30 July 2001.

The major diplomas on national regulations on NQS, education and vocational training in **Portugal** are:

- Decree-Law n° 4/98, DR 6, Série I-A, de 1998-01-08
- Jointly Dispatch n° 1083/2000, DR 268, Série II, de 2000-11-20
- Decree n° 1 082-A/2001, DR 206, Série I-B, de 2001-09-05
- Decree-Law n° 74/2004, DR 73, Série I-A, de 2004-03-26
- Decree n° 256/2005, DR 53, Série I-B, de 2005-03-16
- Law n° 49/2005, DR 166, Série I-A, de 2005-08-30
- Decree-Law n° 88/2006, DR 99, Série I-A, de 2006-05-23
- Decree n° 797/2006, DR 154, Série I, de 2006-08-10
- Decree n° 86/2007, DR 9, Série II, de 2007-01-12
- Decree-Law n° 276-C/2007, DR 146, Série I, de 2007-07-31
- Decree-Law n° 396/2007, DR 251, Série I, de 2007-12-31
- Dispatch n° 1356/2008, DR 93, Série II, de 2008-05-14
- Decree n° 370/2008, DR 98, Série I, de 2008-05-21

National regulations on NQS, education and vocational training in **Spain**:

Rule controlling the SNCP:

- Organic Act 5/2002, of 19 June on Qualifications and Vocational Education and Training (State Official Journal of 20).

Rule controlling the CNCP:

- Royal Decree 1128/2003 of 5 September (State Official Journal of 17).
- Royal Decree 1416/2005 of 25 November 2005 (State Official Journal of 3 December 2003).

Rules establishing the Professional Qualifications related to dairy field:

- Royal Decree 1087/2005, of 16 September (State Official Journal of 5 October 2005).
- Royal Decree 295/2004, of 20 February (State Official Journal of 9 March 2004).
- Royal Decree 1228/2006, of 27 October (State Official Journal of 3 January 2007).

Rule controlling the INCUAL:

- Royal Decree 375/1999, of 5 March (State Official Journal of 16).
- Rule controlling the Vocational Education and Training For Employment:
- Royal Decree 395/2007, of 23 March (State Official Journal of 11 April 2007).
- Royal Decree 34/2008, of 18 January (State Official Journal of 31 January 2008).

Rule controlling the Education System:

- Royal Decree 1538/2006, of 15 December (State Official Journal of 3 January 2007).



Part 3

Results and Conclusions

Results

One of the most important results of the comparative study is identification of professional qualifications in dairy sector in all countries. Thus, the detailed comparison for section 12 is useful to be provided again. Now, it no use differentiating between existing and planned qualifications as well as between full/partial qualifications or qualifications/competence units; this is subject to utilization of complex methodology in IN_DAIRY tool used for pilot mapping and experiments with such categories.

| Existing/planned professional qualification | | | | |
|---|---------------------|---------------------------------|---|--|
| Czech Republic | Greece | Italy | Portugal | Spain |
| Input operations | Still not specified | Cheese Expert | Not specified in dairy sector but for the food sector | Dairy Industries |
| Production operations | | Agro-Industrial Cheese Operator | | Cheese factory |
| Distributions | | Dairy-Cheese Agro-technician | | Production of consumer milk and dairy products |
| | | | | Auxiliary operations for elaboration in the food and beverage industry |

For final decision about the source of qualifications that worth mapping see following table:

| | EQS implemented | National catalogue of qualifications exists | Qualifications in dairy sector are established |
|-----------------------|-----------------|---|--|
| Czech Republic | yes | yes | no |
| Greece | no | yes | no |
| Italy | no | yes | yes |
| Portugal | no | yes | no |
| Spain | no | yes | yes |

Although there is advanced implementation of EQS in Czech Republic and the system for recognition of qualifications is running in several areas, it cannot be used in dairy sector because of pure complete official list of qualification. It is better to use hierarchy of qualifications from Spanish National Catalogue of Professional Qualifications or even to use hierarchy of qualifications as suggested in Portugal. Although such systems are not working now, definition of professional qualification (e.g. called “competence units” in Spain) in dairy sector is well done and as is could be used for DAIRY-EU project purposes; pilot experiments using IN_DAIRY tool environment.

Conclusions

Lifelong learning is constantly gaining importance. It is manifested in so many forms that employers, as well as the general public, can nowadays hardly keep track of all the changes. The only elements that allow clear understanding are learning outcomes. With their help it is possible to compare various forms of learning and education. Learning outcomes represent the most important source of information for employers, as to what prospective candidates really know about a particular job position. Therefore, a description of qualifications by means of learning outcomes should be one of the basic conditions for ensuring that the candidate’s actual professional competencies and skills may be recognised, regardless the ways and means by which these have been achieved.

In order to make learning outcomes widely understandable it is necessary that they be classified in a comprehensive and clearly described system. This task will be accomplished through the National Qualifications System (NQS). NQS will allow their identification, selection and insertion. It will also create conditions for their recognition and certification. NQS will not replace the existing qualification and educational systems. It will simply try to interconnect, over arch and ensure their transparency. It will be a system framework of initial and further education.

In order that the NQS fulfils the set goals, qualification must be described in a standardized way. The qualification requirements are described in qualification standards, criteria and assessment methods of learning outcomes, according to evaluation standards.

The backbone of the NQS is the qualification standard system. The system was made to define qualifications in a simple and clear way. The more complicated the structure of NQS, the lesser its transparency, the more difficult it will be to implement, with a lesser chance that it may be accepted.

The qualification standard is a structured description of professional competencies for properly carrying out a specific job or activities related to a specific professional position. Such a structured description will be implemented through elementary NSQ components, i.e. competencies (capabilities).

From the above mentioned it may be understood, that the qualification standard is a set of competencies (capabilities) required for a particular qualification.

From the legislative point of view qualification standards do not represent the same value for complete and partial qualification:

- The qualifying standard for partial qualification is set according to legal norms concerning partial qualification.
- The qualifying standard for complete qualification is the basis for curricula creation in study areas (study programme frameworks) or the setting of learning outcomes; it is also a basis for establishing a relationship between specific partial qualifications and relevant complete qualifications. This relationship can only be deduced from the equality of competencies (capabilities) in the qualification standards of the particular partial and complete qualifications.

The qualifying standards for partial and complete qualifications have a common foundation in professional competencies (capabilities) as a result of work experience in particular job positions or “competence units”.

The evaluation standard is a set of criteria, organisational and methodical procedures, for assessing professional competency required for a position in a specific job. If the qualifying standard sets a competency (capability) required for a particular qualification, the evaluation standard indicates how to assess, if candidate for the specific qualification truly possesses the relevant competency (capability).

From the point of view of practical application of the NQS these evaluation standards will represent the most important value. Criteria for verification of particular competencies (capabilities) in a qualification standard.

- Criteria have the character of particular assignments, to be carried out by the examinee. For successful outcomes the competency (capability) must be assessed.
- Criteria should determine exactly what the examinee should do in order to demonstrate the competency (capability) which is subject to verification.
- Criteria may concern the process, verifying the way an examinee deals with the assignment, as well as the outcome, verifying that what was produced by the examinee.

- There should be several criteria for each competency (capability). The number of criteria cannot be determined ahead, 3 – 8 may be considered as acceptable. However, it is important that the criteria should factually be relevant to the specific competency (capability).
- In certain cases, particularly when there is an overlapping of criteria, it may be determined that some criteria must be fulfilled by all means, whereas from the remaining only one or any selected number should be fulfilled.

The most important aspect of the NQS implementation process is the professional competency of the authorising agents (persons). The evaluation standard sets the requirements for professional competency of the authorising agents (persons) and for the necessary material and technical background. Evaluation standards applied until now include requirements for professional competency of authorised agents (persons) which were established on the basis of requirements of a determined level of competency, on the level of professional education and the years of practice. The Authorisation Agency can have other requirements. Basically there are three options:

Option 1

- Qualification prerequisites documented by supplied certificates

Option 2

- Qualification prerequisites documented by supplied certificates
- Manifested competency assessed through oral and written exams, without the necessity of material and technical background

Option 3

- Qualification prerequisites documented by supplied certificates
- Manifested competency assessed through oral and written exams, without the necessity of material and technical background
- Manifested competency which can be assessed only with the help of a relevant material and technical background (may be coupled with assessment of these material and technical backgrounds)

The whole process has to be supervised and guaranteed by national authority. The ways and methods of supervising the activities of authorising agents (persons) will be subject of agreements with the Authorisation Agencies. The National Council for Qualification will also play an important role. Also, the information subsystem listing all authorised agents (persons) represents a useful instrument.

**ANALYSIS OF THE PROFESSIONAL QUALIFICATIONS SYSTEMS IN
RELATION TO DAIRY SECTOR IN THE UE**

Comparative Study