

TAMTAM Project
*Exploiting the TIPTOE pIAforM by transferring ECVET and EQF
semAntic tools in a Multi-sectoral perspective*
2011-1-IT1-LEO05-01969 CUP G12F11000600006

WP4.R11. Annex 2. Transcriptions of expert interviews

November, 2012



Exploiting the TIPTOE pIAforM by transferring ECVET and EQF semAntic tools in a Multi-sectoral perspective (2011-1-IT1-LEO05-01969 CUP G12F11000600006) Website: www.tamtam.polito.it

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Lifelong
Learning
Programme

Result:	11	Updated qualification responding to sectoral innovation needs
Work package:	4	Transfer of Innovation
Description:	Transcriptions of expert interviews exploited in Result R11	
Edited by:	P1. 3s research laboratory	
Contributing partners:	As indicated in the reference document	
Public/Confidential:	Public	

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Remark: the names of interviewees and their organisations/departments are not mentioned in this annex due to data privacy.

1. Interview ICT 1

Name of partner who conducted the interview: Terry Hook

Country: United Kingdom

Date of interview: 25th October 2011

Name of interviewed expert / function/position of expert / phone/E-mail:

###

Organisation / Department / URL / Address:

###

an ICT research company

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

The eclectic mix of competences demanded a broad ranging interview across the span of ICT occupations, ICT supports many specialisms each with detailed competence needs many of which are clearly articulated within the European e-competence framework

Remarks:

The interviewee has recently conducted a study on behalf of DG Enterprise investigating the conditions required for greater professionalism across the ICT sector.

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

Innovation is an increasing demand and Innovation Management can play a significant role in this process. As an example Apple do not develop new products randomly, management of key product components such as materials, ascetics, human interface, packing etc. are addressed. The significant growth in clouding computing and distributed networks raises a need for Value Management.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

The increasing importance of Innovation and Value Management require new roles within the ICT sector that Can cope with these demands but accompanied by traditional ICT professional skills.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

The educational drift is for higher value skills where today an educational level 3 maybe be appropriate in the future a minimum level 5 may be required. The competition from emerging economies, plus technology advances contribute to this need, alongside a trend for hybrid skills.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- **Do these profiles match with future qualification needs in your sector?**
No they contain only some traditional competences
- **Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?**
- Innovation is a key concept that needs to addressed
- **Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?**

Innovation Management is an omission but this is a new capability with limited know how on developing a competence in this area.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	ICT Exdexcel		
Professional activities			
Professional activity 1: Innovation Management	Competences Necessary additions: Explores latest ICT technological developments to establish understanding of evolving technologies	Skills Necessary additions: Identification of vendors and providers of the most promising solutions identify business benefit of developing potential innovative solutions	Knowledge Necessary additions: emerging technologies and the relevant market applications market needs relevant sources of information (e.g. magazines, conferences and events, news letters, opinion leaders, etc.)
Professional activity 2: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Missing professional activity: ...	Competences Necessary additions: ...	Skills Necessary additions: ...	Knowledge Necessary additions: ...

2. Interview ICT 2

Name of partner who conducted the interview: Terry Hook

Country: United Kingdom

Date of interview: 25th October 2011

Name of interviewed expert / function/position of expert / phone/E-mail:
####

Organisation / Department / URL / Address:
####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

The eclectic mix of competences demanded a broad ranging interview across the span of ICT occupations, ICT supports many specialisms each with detailed competence needs many of which are clearly articulated within the European e-competence framework

Remarks:

The interviewee is a respected European researcher regularly employed by DG Enterprise of the European Commission

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

There is an ever increasing growth in embedded systems i.e. intelligent products such as refrigerators, TVs and cars. Bring your own devices, users attaching to corporate networks with their own equipment, such as ipads and phones is increasing.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

Growth in hybrid skills, ICT professionals need to be able to work in an environment that crosses boundaries such as IT and audio visual equipment and automobiles etc. In addition this trend includes service industries such as e-health as a component of the health sector. Security becomes more and more important given the growth in networking and cyber terrorism.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

Education is often applied in silos and for narrow specialisms. The challenge is to maintain the level of specialised expertise but across a wider field of competences.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- **Do these profiles match with future qualification needs in your sector?**
Not in isolation they do not nearly cover the many occupations and are not clustered for a specific ICT role.
- **Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?**
- Security must be addressed
- Focus required on ICT job roles
- **Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?**

Very difficult to identify all hybrid competence requirements so we should focus on Security.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	ICT Exdexcel		
Professional activities			
Professional activity 1: The securing of ICT systems from malicious attack.	Competences Necessary additions: Uses defined standards to create objectives for information integrity, availability, and data privacy.	Skills Necessary additions: develop and critically analyse the company strategy for information security define, present and promote an information security policy for approval by the senior management of the organisation apply relevant standards, best practices and legal requirements for information security	Knowledge Necessary additions: the potential and opportunities of relevant standards and best practices the information strategy of the organisation possible security threats
Professional activity 2: Information Security Management	Competences Necessary additions: Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.	Skills Necessary additions: analyse the company critical assets and identify weaknesses and vulnerability to intrusion or attack perform security audits	Knowledge Necessary additions: the best practices and standards in information security management the critical risks for information security management the IS internal audit approach
Missing professional activity: ...	Competences Necessary additions: ...	Skills Necessary additions: ...	Knowledge Necessary additions: ...

3. Interview ICT 3

Name of partner who conducted the interview:

DEKRA

Country:

DE

Date of interview:

2012-10-29

Name of interviewed expert / function/position of expert / phone/E-mail:

####

Organisation / Department / URL / Address:

Consultancy

Sector: ICT Mechanics/Mechatronics Fashion/Textile Energy efficiency / Green building**Referred occupations:**

IT Specialist – application development

Remarks:

None

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

- market developments
Need to reduce costs in order to remain competitive; globalisation.
- legislation/governmental regulations
Data security issues are playing an increasingly important role in all areas of working with computers and information technology.
- technological developments
Development of virtual platforms for training/learning/work; infrastructure is improving and network stability is being achieved; most online applications have more functionality than is actually needed.
- corporate/organizational developments
Organisational structures will have to change to keep pace with virtualisation of work environment and work being conducted with distributed teams.
- international developments
Language skills, in particular English in the area of IT, are becoming more and more important.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

Occupational profiles are established in Germany as a result of a rather long and detailed process. As developments occur, attempts are made to improve the profiles. To date, however, the focus has been on hard skills and subject-matter knowledge.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

A greater focus on interpersonal (i.e. soft skills) and dealing with occupational issues in English. Need for more concentration on development of these skills.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- Do these profiles match with future qualification needs in your sector?

In regard to the transmittal of hard skills, yes.

- Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?

There is little need for the development of new areas of skills and knowledge as long as what is being taught and learned provides a solid basis for further personal development.

- Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?

Yes, in regard to hard skills, however, the development of behavioural, interpersonal skills and competences needs to be much more emphasized, for example:

- In light of the use of virtual platforms and working at a distance, the ability to listen carefully and to deduce attitudes, mood, and disposition is becoming increasingly important
- Social and interpersonal skills are an absolute must and should also be reflected in the curriculum
- Cultural issues are gaining in significance, but still remain secondary
- Language (in particular English) skills
- Which media are to be used in which work (and training) situations needs to be considered carefully; what works in India, for example, doesn't necessarily work in Germany (e.g. the use of pre-recorded videos as a form of instruction).
- Vocational trainers also have to be better prepared to use and teach soft skills, to set a good example for the learners.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	...		
<i>Professional activities</i>	...		
Professional activity 1: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Professional activity 2: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Missing professional activity: ...	Competences Necessary additions: ...	Skills Necessary additions: ...	Knowledge Necessary additions: ...

4. Interview Fashion/Textile 1

Name of partner who conducted the interview:

P0 - POLITO

Country:

ITALY

Date of interview:

25/10/2012

Name of interviewed expert / function/position of expert / phone/E-mail:

####

Organisation / Department / URL / Address:

####

Sector: ICT Mechanics/Mechatronics Fashion/Textile Energy efficiency / Green building**Referred occupations:**

Headmaster

Remarks:

/

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

- market developments

Activities to support the promotion of Italian fashion products in new markets.

- legislation/governmental regulations

Tax exemption of social charges.
Tax relief for enterprises.

- technological developments

Encourage the creation of networks between research centers, Universities and innovative enterprises.

- corporate/organizational developments

Resources aimed at research in support of business development.
Contributions aimed at promoting development of industrial districts.

- international developments

Creation of commercial spots on foreign markets.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

Increment of occupations.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

Ensure training plans at different levels for the support of the professional figures that drive the business organization.

4) Please look at the qualification “Higher Technician of process, product and communication – marketing for the Fashion” and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- **Do this profile match with future qualification needs in your sector?**

Currently this profile fits only in part with the future fashion/textile qualification needs.

- **Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?**

Products having higher quality (e.g. resistant to physical/mechanical actions and weather - self-cleaning).

- **Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?**

Two professional activities could be added to the list.

Since the unit "Use CAD for design tissues" in the profile "Higher Technician of process, product and communication - marketing for the Fashion" doesn't talk specifically of the knowledge of technical manual drawing, could be necessary to add the following activity:

- 1) Making sketches or drawings

C: Be able to develop the graphic design

- S: Be able to develop the graphic design based on stylistic aspects and technical constraints
- K: Know technical drawing
- K: Know fashion drawing
- K: Know technologies for technical and fashion drawing

It could also be necessary to add the following missing activity:

2) Create and design new collections

- C: Be able to solve problems (as the marketing concept) by developing creative solutions after consultation with the marketing department
- S: Be able to consult the customer about the desired design and the design team and the marketing department about new collections
- K: Know visual/tactile properties of textiles
- K: Know process techniques and methodologies
- K: Know production processes and their interactions
- K: Know the concept of marketing, company and customer
- K: Know characteristics, processing solutions and quality related to materials and accessories used in new collections

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	Higher Technician of process, product and communication – marketing for the Fashion		
<p>Missing professional activity: Making sketches or drawings</p>	<p>Competences Necessary additions: Be able to develop the graphic design</p>	<p>Skills Necessary additions: Be able to develop the graphic design based on stylistic aspects and technical constraints</p>	<p>Knowledge Necessary additions: Know technical drawing Know fashion drawing Know technologies for technical and fashion drawing</p>
<p>Missing professional activity: Create and design new collections</p>	<p>Competences Necessary additions: Be able to solve problems (as the marketing concept) by developing creative solutions after consultation with the marketing department</p>	<p>Skill Necessary additions: Be able to consult the customer about the desired design and the design team and the marketing department about new collections</p>	<p>Knowledge Necessary additions: Know visual/tactile properties of textiles Know process techniques and methodologies Know production processes and their interactions Know the concept of marketing, company and customer Know characteristics, processing solutions and quality related to materials and accessories used in new collections</p>

5. Interview Fashion/Textile 2

Name of partner who conducted the interview:

P0 - POLITO

Country:

ITALY

Date of interview:

25/10/2012

Name of interviewed expert / function/position of expert / phone/E-mail:

####

Organisation / Department / URL / Address:

####

Sector: ICT Mechanics/Mechatronics Fashion/Textile Energy efficiency / Green building**Referred occupations:**

Head responsible of the School-University area

Remarks:

/

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

- market developments

Actions for entering new markets.

- legislation/governmental regulations

Support to business aggregations through tax incentives.
Tax incentives to encourage and maintain employment.

- technological developments

Incentives to enterprises for hiring professional figures that operate in research and innovation.

- corporate/organizational developments

Resources aimed at supporting the integrity of supply chains.

- international developments

Contributions for the aggregation of small enterprises to create commercial spots on foreign markets.
Incentives for participation in trade fairs in Italy and abroad.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

Increment of occupations (also in an international perspective).

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

Ensure initiatives of career orientation in the fashion system.

4) Please look at the qualification “Higher Technician of process, product and communication – marketing for the Fashion” and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- Do these profiles match with future qualification needs in your sector?

Currently this profile fits only in part with the future fashion/textile qualification needs.

- Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?

Products of higher quality (for the customer satisfaction).

- Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?

The following professional activities could be added to the list:

3) Liaise with clients

C: Be able to consult with the customer

S: Be able to consult with the customer in order to be customer-oriented

K: Know how to communicate with the customer

4) Liaise with suppliers

C: Be able to evaluate and select materials' suppliers, the processing, the final products, the service and the cost's requirements

S: Be able to interpret suppliers' evaluation rankings

K: Know suppliers market

K: Know how to evaluate suppliers

C: Be able to study and develop the collection in cooperation with the suppliers

S: Be able to prevent and/or solve problems related to the introduction of new materials and industrial processes, also taking into account the suppliers opinions related to possible solutions and qualitative standards

S: Be able to choose materials and processes based on suppliers technical competences and reliability of materials

K: Know how to design materials and processes according to suppliers technical competences and reliability of materials

5) Study the competitors

C: Be able to analyse, code and positioning competing companies

S: Be able to collect, analyse, code and describe data

K: Know fashion products

K: Know fashion products market

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	Higher Technician of process, product and communication – marketing for the Fashion		
<p>Missing professional activity: Liaise with clients</p>	<p>Competences Necessary additions: Be able to consult with the customer</p>	<p>Skills Necessary additions: Be able to consult with the customer in order to be customer-oriented</p>	<p>Knowledge Necessary additions: Know how to communicate with the customer</p>
<p>Missing professional activity: Liaise with suppliers</p>	<p>Competences Necessary additions: Be able to evaluate and select materials' suppliers, the processing, the final products, the service and the cost's requirements</p>	<p>Skills Necessary additions: Be able to interpret suppliers' evaluation rankings</p>	<p>Knowledge Necessary additions: Know suppliers market Know how to evaluate suppliers</p>
	<p>Competences Necessary additions: Be able to study and develop the collection in cooperation with the suppliers</p>	<p>Skills Necessary additions: Be able to prevent and/or solve problems related to the introduction of new materials and industrial processes, also taking into account the suppliers opinions related to possible solutions and qualitative standards Be able to choose materials and processes based on suppliers technical competences and reliability of materials</p>	<p>Knowledge Necessary additions: Know how to design materials and processes according to suppliers technical competences and reliability of materials</p>
<p>Missing professional activity: Study the competitors</p>	<p>Competences Necessary additions: Be able to analyse, code and positioning competing companies</p>	<p>Skills Necessary additions: Be able to collect, analyse, code and describe data</p>	<p>Knowledge Necessary additions: Know fashion products Know fashion products market</p>

6. Interview Mechanics/Mechatronics 1

Name of partner who conducted the interview: UFFICIO SCOLASTICO REGIONALE PER IL VENETO

Country: ITALY

Date of interview: 29/10/2012

Name of interviewed expert / function/position of expert / phone/E-mail:
####

Organisation / Department / URL / Address:
####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

Remarks:

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

- market developments
- legislation/governmental regulations
- technological developments
- corporate/organizational developments
- international developments

Mechanical engineering and automation sector represent important market segment in the Italian as well as global economy. Mechatronics is the pillar of two major world markets: automotive industry and production systems, without overlooking its applications in home automation. Thus mechatronics is the tool that joins mechanics, electronics and computer science with the aim, on the one hand, to realize flexible products with high operational characteristics and on the other hand to automate industrial processes. In order to effectively tackle this, it is necessary to implement methods, tools and applications to support the development of already available products, to use products that promote the exchange of different data but pertaining to the same project (geometric, mechanical, electrical, electronic) and, above all, to promote a culture to support the innovation and the rapid-changing.

In a production system mechatronics becomes an extremely complex technological application based on certain specific steps such as research, design and prototyping. These phases can be considered as key functions that play a central role within the production of a mechatronic system. The versatility and the complexity of the mechatronics entail that several organisations are involved and cooperate in these phases: companies, research centres and universities.

In order to compete companies must innovate their products and, increasingly, adapt them to the needs of potential buyers; the process should be systematic, flexible, programmable and controllable. Thus it is necessary to rethink and adjust not only the product development process, but also the methods, the tools and new skills needed in an increasingly multi-technology and multi-sector context that is characterized by remarkable developments of solutions that cover mechatronic and multiphysic areas. Objectives and activities focus more on the innovativeness of the project proposal, the ability to plan and manage the innovation and to predict and verify in advance the match with the needs of potential buyers, rather than on the simple incremental increase of performances and/or the mere optimization.

Taking into account a broader market prospect as well as demand and supply relations, it is considered worthwhile to point out that the mechatronics development - and thus the importance of the mechatronics in the production system - is primarily

lead by the growing demand for one "intelligent mechanics" aiming at meeting more and more advanced and sophisticated users' needs (for example, mechatronic solutions in home automation in terms of comfort and safety); also companies aim at increasing processes' efficiency and quality (for example, instrument mechanics).

With regard to possible technological developments different areas of the production system are involved:

- transport by rail and air transport
- automotive
- space sector
- production of flexible structures (skyscrapers, bridges, footbridges: today active devices are inserted, especially for vibrations control)
- production of flexible arms, robotics (for example, medical robots and industrial robots, parts of satellites)
- energy sector (for example, wind turbines)
- home (home automation, household appliances)
- MEMS (sensors for biomedical applications)
- biomechatronic systems (systems for rehabilitation).

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

In the local and national labour market the demand for a highly qualified professional profile, like the Senior Technician in Automation and Mechatronics, is high. SMEs ask for this kind of profile since they can reduce the costs and the time employed to internally train a worker who has to be well prepared. This professional profile plays an important role since the skills and the competencies needed to work in the mechatronics area are very complex and diverse; moreover they should be continuously updated since mechatronics is characterised by a continuous innovation.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

The definition of a professional profile in Automation and Mechatronics (EQF level 5) should enable to establish and consolidate strong relations between education and training and companies. The lack of a real cooperation represents a problem that does not mainly concern large companies in the mechatronics sector. Thus they have established strong partnerships with both Italian and foreign universities; this problem mainly affects SMEs which often have to find out at the outside the complex and diversified know-how functional to develop new solutions in the field of mechatronics.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- **Do these profiles match with future qualification needs in your sector?**

Given the high diversification of the local labour market, mechatronics is applied in various sectors. This represents a strength in Veneto Region and Veneto production system is of great importance in the global economy. It seems simple and at the same time complex to foresee the future demand of a sector characterized by an extreme dynamism.

- **Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?**

Two main innovation needs can be identified:

- implementation of new technologies (lean production)
 - new methodologies and technologies for the production and industrialisation of products and processes
- **Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?**

The professional profile in the Automation and Mechatronics is complete and meets the needs of local companies.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	...		
<i>Professional activities</i>	...		
Professional activity 1: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Professional activity 2: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Missing professional activity: ...	Competences Necessary additions: ...	Skills Necessary additions: ...	Knowledge Necessary additions: ...

See above.

7. Interview Mechanics/Mechatronics 2

Name of partner who conducted the interview: UFFICIO SCOLASTICO REGIONALE PER IL VENETO

Country: ITALY

Date of interview: 05/11/2012

Name of interviewed expert / function/position of expert / phone/E-mail:
####

Organisation / Department / URL / Address
####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

Remarks:

KEY QUESTIONS:

1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...

- market developments
- legislation/governmental regulations
- technological developments
- corporate/organizational developments
- international developments

At European level the contraction of domestic markets and the internationalization of the product lifecycle (also with a strong impact due to national legislations) represent factors that will more bring new balances. This will produce new balances, especially in the strategic repositioning of companies. Government actions and measures aimed at encouraging the growth in the economy might "amortize" these factors.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

A destabilization period of employment rates will continue and probably a new labour market regulation will be introduced. Occupations on EQF level 5 represent the central focus for a competitive supply and they might be less affected by these negative trends.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

Companies will remain competitive in the market if they can innovate both at organization and product/process level. The human resource will play a strategic role if:

- the institutions responsible for education and training will be able to provide a training in line with labour market's needs (to reduce the gap between education and labour market)
- the companies will be able to support and guide employees' continuing professional development.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

When it comes to specific developments in the sector and their impact on education:

- **Do these profiles match with future qualification needs in your sector?**
- **Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?**
- **Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?**

It was necessary to define a new professional profile meeting the new needs of the mechatronic sector. The Automation and Mechatronics Technician combines both traditional and innovative competences and he/she is able to work in a company as a designer of automated production systems.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	...		
<i>Professional activities</i>	...		
Professional activity 1: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Professional activity 2: ...	Competences Necessary changes: ... Necessary additions: ...	Skills Necessary changes: ... Necessary additions: ...	Knowledge Necessary changes: ... Necessary additions: ...
Missing professional activity: ...	Competences Necessary additions: ...	Skills Necessary additions: ...	Knowledge Necessary additions: ...

See above.

8. Interview Mechanics/Mechatronics 3

Name of partner who conducted the interview: 3srl

Country: Austria

Date of interview: 24th October 2011

Name of interviewed expert / function/position of expert / phone/E-mail:
####

Organisation / Department / URL / Address:
####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

Remarks:

KEY QUESTIONS:**1) Which specific developments can be detected in the sector (within the next 5 years)? Please refer to relevant ...**

The matrix you gave me covers it really well. There are only a few points that I would add. But on the whole you can find all the relevant competences needed for the professional field.

2) Which impact have these developments on occupations? [especially occupations on EQF-level 5]

The "Designer for hazards" is a necessary qualification which is available in whole Europe. Otherwise, people are building something and then they go to jail. The safety aspect is very important there.

3) Which impact should have these developments on the education? [especially education on EQF-level 5]

We in the education sector try to follow very closely the developments of the whole field. I think we are very engaged on that – even on the European level.

4) Please look at the qualification of ... [please refer to the qualification] and the professional activities which refer to this qualification.

See above.

When it comes to specific developments in the sector and their impact on education:**- Do these profiles match with future qualification needs in your sector?**

Programming language can not be found: f.e. PLC: Programmable Logic Controller
Plant-connections: f.e. USI model with 5 levels

What should be added:

- The Basics of mechanics calculation which is not totally covered right now.
- Being able to construct iron-carbon diagrams.
- CE marking: Each product which is marked like that has confirms by the firm itself, that it meets the requirements.
- Risk analysis is a basic knowledge that you need.

Which innovation needs would you identify in these profiles? Which elements need to be added or changed in the description of competences, skills and knowledge?

For the future there are a few competences that I would add:
SPGAs which is a standard in electronic qualifications
C programming languages
FBGAs - all electronics

That is already an important topic in the technical colleges.

- Is the list of professional activities complete from your point of view or needs a professional activity missing to be added to this list? If so, which one would you suggest? Could you please describe key competences, skills and knowledge which go along with this missing professional activity?

I would specifically add "Applying diverse forms of technologies" as an important competence for the future. That entails also applying relevant standards, best practices and legal requirements for information security. In the background you should have knowledge about the terminology that is used there.

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	Mechatronic engineer (Mechanics/Mechatronics)		
Professional activities			
Professional activity 1: Applying diverse forms of technologies	Competences Necessary additions: He/She is able to apply diverse forms of technology in an integrated way	Skills Necessary additions: He/She is able to translate between different technical terminologies He/She is able to combine different forms of technology by taking into account the overall aim apply relevant standards, best practices and legal requirements for information security	Knowledge Necessary additions: Knowledge technical terminologies Knowledge bridge technologies

9. Interview Mechanics/Mechatronics 4

Name of partner who conducted the interview: 3srl

Country: Austria

Date of interview: 29th October 2011

Name of interviewed expert / function/position of expert / phone/E-mail:
####

Organisation / Department / URL / Address:
####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

Remarks:

The interview focussed on innovation needs:

For interviewees:

Please also use the following table to add missing competences, skills, knowledge and professional activities and their description for the qualification.

Analysis of innovation needs of the labour market			
Qualification	Mechatronic engineer (Mechanics/Mechatronics)		
<i>Professional activities</i>			
Professional activity 1: Multiple and micro processor technique	Competences Necessary additions: He/She is able to work on micro processors	Skills Necessary additions: He/She is able to micro- and macro processors in an integrated way.	Knowledge Necessary additions: Knowledge micro processors Knowledge multiple processors

10. Interview Mechanics/Mechatronics 5

Name of partner who conducted the interview: IG Metall

Country: Germany

Date of interview: October 2011

Name of interviewed expert / function/position of expert / phone/E-mail:

####

Organisation / Department / URL / Address:

####

Sector:

ICT

Mechanics/Mechatronics

Fashion/Textile

Energy efficiency / Green building

Referred occupations:

Remarks:

General comments:

The profile for the Car Service Technician is out-dated due to technological innovations. It will be reformed in 2013. The reform will consider technological contents and methodological competencies at a higher level.

The developments in the sector (increasing innovation cycles, increasing influence of electronics / electronics, networked vehicle systems and high voltage in electric vehicles are resulting in new qualification requirements.

This is the reason why the initial qualification (Car Mechatronic) is currently being reformed, the Car Service Technician as a specialist profile will be reformed in 2013. These reforms will lead to a shift of qualification contents from the specialist profile to the Car Mechatronic and new qualification contents for the Car Service Mechanic. These shifts will affect fault diagnosis and assessment, analysis and assessment of hazards when dealing with motor vehicles and their complex systems. The subjects of explosive systems (air bags, seat belt tighteners), skilled electricians and handling of air conditioning systems will be intensified.

A major issue in this trend is the rising discrepancy between the required knowledge of a skilled worker (including a holistic process competence in an extremely complex reality of work) and the preconditions of apprentices acquired at school. This discrepancy is growing wider due to ever shorter innovation cycles. An approach to solving this problem is the improvement of the quality of initial training, e.g. through greater face-to-face time between apprentices and trainers.

Additional learning outcomes have been included in the profile.