



# Developing professional competence standards

Final report of the project ComProCom

July 2017



Co-funded by the  
Erasmus+ Programme  
of the European Union



Project	<b>Communicating Professional Competence</b> (ComProCom)
Project number	2015-1-EL01-KA202-013960
Title of Document	Developing professional competence standards: final report of the project ComProCom
Intellectual Output no.	Intellectual Outputs 2-6
File name (with extension)	Development report final.pdf
Document Version	Final
Dissemination Level	Public
Authors	Stan Lester (SLD) (main author/editor), Sinead Heneghan and Angela O'Donovan (IITD), Jens Hoffmann (SBG-Dresden), Erol Koc (die Berater), Anna Koniotaki (EETAA), and Jolanta Religa (ITeE-PIB)
Acknowledgements	The authors are also grateful to Dr Georg Hanf, formerly of BIBB, for reviewing and commenting on the report.
Date	26th July 2017

The European Commission support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**Copyright © The ComProCom Partnership 2017**

This document may be used and distributed in its original and unabridged form for non-commercial purposes. No other public reproduction of this document, or publication of extracts from it, is permitted unless permission is obtained from the authors and reference is made to the source material and to ComProCom.

# CONTENTS

<b>SUMMARY .....</b>	<b>4</b>
<b>PREFACE .....</b>	<b>5</b>
<b>INTRODUCTION .....</b>	<b>6</b>
PROJECT PARTNERS, THEIR ROLES AND OCCUPATIONAL AREAS .....	7
<b>1. PRINCIPLES UNDERPINNING COMPROCOM.....</b>	<b>8</b>
<b>2. THE DEVELOPMENT PROCESS .....</b>	<b>11</b>
<b>3. MANAGEMENT OF SOCIAL ENTERPRISES.....</b>	<b>13</b>
<b>4. BUSINESS ADMINISTRATION FOR START-UPS.....</b>	<b>17</b>
<b>5. MANAGEMENT OF INNOVATION.....</b>	<b>20</b>
<b>6. TRAINING AND DEVELOPMENT .....</b>	<b>24</b>
<b>7. CHEMICAL ENGINEERING.....</b>	<b>28</b>
<b>8. DISCUSSION.....</b>	<b>31</b>
THE VALUE OF THE FRAMEWORK TO THE PARTNER AND THE SECTOR .....	31
THE DEVELOPMENT AND SUPPORT PROCESS.....	31
THE APPROACH TO 'COMPETENCE' .....	32
THE RELATIONSHIP BETWEEN 'COMPROCOM' STANDARDS AND VET FRAMEWORKS AND INSTRUMENTS.....	34
<b>9. CONCLUSIONS .....</b>	<b>36</b>
<b>REFERENCES AND PROJECT OUTPUTS .....</b>	<b>37</b>
PROJECT DOCUMENTS .....	37
REFERENCES.....	38

## Summary

ComProCom (Communicating Professional Competence) was an Erasmus+ Strategic Partnership project that ran between 2015 and 2017, aiming to improve descriptions of competence relating to higher-level occupations where 'competence' models have generally been most criticised. It involved partners from six countries, five developing frameworks or standards each in a different field, and one acting as scientific co-ordinator and methodological adviser.

The project's approach to competence was concerned with describing practice in an occupation or profession, rather than with knowledge, skills or other attributes. In principle it also aimed to encompass whole professions or occupational fields in a single description as opposed to focusing on discrete occupational roles. This basic approach evolved in some UK professions, where it is typically used in the context of awarding qualified or licensed status in order to apply a common standard of practice across the entire field. The project's aims included testing this approach outside of the context of licensing and in countries with different vocational education and training traditions.

The early stages of the project included research into the use of occupational or professional competence models across the partner countries, along with induction into and agreement on the principles and approaches to be used. In the next phases each partner developed a framework for their respective field in conjunction with industry experts, which was then consulted on, trialled and if necessary modified.

Current indications are that the project approach has been successful in developing practice-based frameworks for a variety of purposes, including updating a curriculum to reflect current practice, providing the foundations for developing a commercial training offer, and helping to give definition to emerging fields of practice and highlight the abilities needed in them. Limitations have also been illustrated, particularly in situations where it is useful to emphasise differences between roles and contexts in order to aid movement or progression between them, and some additional points have been identified for future development. The project process also identified refinements that could be made to the development and support provided to standards developers, and these have been taken into account in the developer training course which forms one of the project outputs.

The project offers a well-defined approach and methodology, based on clear underlying principles, that has potential to clarify the definition and description of occupational or professional competence in Europe. Useful further developments include strengthening its linkages with vocational education and training systems and exploring its applicability for lower-level occupational applications.

In addition to this report and the individual frameworks and partners' development reports, the project outputs include the comparative research referred to above; the methodological guide; the developer course and associated resources; and academic papers discussing the comparative research, the project principles, and the value of the approach in practice.

## Preface

This paper reports on the Erasmus+ project ComProCom, which ran between 2015 and 2017 to trial and refine an approach to professional or occupational competence that was developed in the context of 'higher-level' (i.e. EQF level 5+) work, though with potential for wider application. This approach offers a clear definition of, and concise way of describing, work-based competence. It provides a set of principles and a rule-of-thumb model for describing practice that is concise, holistic, allows for contextual interpretation and further development, incorporates the ethos and ethics of the field, and can be used directly as a practising standard or as a base on which to build curricula, qualifications, and continuing development frameworks.

Research carried out at the beginning of the project indicated that neither 'policy borrowing' from the now partly redundant British occupational standards model, nor the definitions articulated in the EQF, are achieving consistency in the understanding and communication of occupational and professional competence in Europe. The approach used in ComProCom offers a means of providing this clarity without undermining different VET traditions, and as such the project team commends it to national bodies and to European institutions.

Stan Lester  
Taunton, July 2017.

## Introduction

‘Communicating Professional Competence’ (ComProCom) is an Strategic Partnership project supported by Key Action 2 of the European Union’s Erasmus+ programme (project number 2015-1-EL01-KA202-013960) via the State Scholarships Foundation (IKY) in Greece. It was designed to improve the way that professional competence is described and represented, particularly in relation to complex work in higher-level occupations where outcome-based conceptions of competence have proved most challenging. It ran between September 2015 and August 2017. The project was co-ordinated by the Hellenic Agency for Local Communities and Local Government (EETAA), with five further partners from Austria, Germany, Ireland, Poland and the United Kingdom; details of the partners and their roles are given on the next page.

ComProCom originated in discussions between the British, Greek and Polish partners about the approaches to occupational competence standards or profiles in their respective countries’ vocational education and training (VET) systems, and alternative models that are emerging particularly among self-regulating professions. An area of concern was the tendency of some models to produce detailed descriptions of competence that were not well-suited to higher-level work, particularly when this involves significant uncertainty, discretionary action and complex decision-making. The British occupational standards model has attracted criticism for its narrowness both in the UK itself, where it has lost much of its official support over the last decade, and in comparison with approaches used in the VET systems of other European countries including Germany, France and the Netherlands. Nevertheless, as a major model that can be considered independent of educational curricula or training specifications, it has been influential particularly via Cedefop and the European Training Foundation in informing the development of competence descriptions or profiles in Europe. A significant factor in the development of ComProCom was an interest in alternative models that, while still working from a professional or occupational view of competence (i.e. a concern with practising standards rather than directly with educational curricula or with the attributes of the person), have more flexibility to reflect different practising requirements and contexts, allow interpretation within a common standard, and accommodate evolving practice and emerging work roles. Additional discussions with agencies and potential partners in further countries indicated that an applied research-and-development project would be viable in this area, leading to an Erasmus+ application.

The project was set up so that five partners were involved in developing competence frameworks or standards in specific areas, with a sixth acting as scientific co-ordinator to provide methodological guidance. The basic elements of the project were an induction phase, to agree approaches and allow knowledge transfer; a development phase, to assemble the frameworks; and a consultation and trialling phase, to test them in their respective sectors or industries before finalisation. In addition to the frameworks or standards themselves, major project outputs include a report into the use of competence descriptions in the partner countries; a methodological guide; a validated developer training course; various resources to support both the guide and the course; and a series of journal articles. These are listed at the end of the report, and documents are available at [www.comprocom.eu](http://www.comprocom.eu).

## Project partners, their roles and occupational areas

### **Die Berater**

Vienna, Austria

[www.dieberater.eu/](http://www.dieberater.eu/)

*Business administration for entrepreneurs*

### **Ελληνική Εταιρία Τοπικής Ανάπτυξης και Αυτοδιοίκησης/Hellenic Agency for Local Development and Local Government (ΕΕΤΑΑ)**

Athens, Greece

[www.eetaa.gr](http://www.eetaa.gr)

*Lead partner/project management; social entrepreneurship*

### **Instytut Technologii Eksploatacji- Państwowy Instytut Badawczy (ITeE-PIB)**

Radom, Poland

[www.itee.radom.pl](http://www.itee.radom.pl)

*Background research; managing innovation*

### **Irish Institute of Training and Development (IITD)**

Naas, Ireland

[www.iitd.ie](http://www.iitd.ie)

*Developer training; training and development*

### **Sächsische Bildungsgesellschaft für Umweltschutz und Chemieberufe Dresden mbH (SBG-Dresden)**

Dresden, Germany

[www.sbgdd.de](http://www.sbgdd.de)

*Chemical engineering*

### **Stan Lester Developments (SLD)**

Taunton, United Kingdom

[devmts.org.uk](http://devmts.org.uk)

*Scientific co-ordinator, methodology (not developing/trialling).*

Project web site: [www.comprocom.eu](http://www.comprocom.eu)

## 1. Principles underpinning ComProCom

The main activities of ComProCom were to develop a set of standards describing competent action in each partner's professional or occupational area, according to principles agreed at the outset of the project, and to publish relevant methodological principles and guidance. A set of general principles relating to the articulation of occupational or professional competence was proposed in the project's first meeting, and agreed with minor modification by the project partners. These were based in part on what has been termed a 'second-generation' approach to competence that has emerged in some self-governing professions in Britain and to some extent Ireland (see pp17-18 in the ComProCom methodological guide). Competence descriptions have been criticised for being too role- and context-limited to represent higher-level professional work adequately (e.g. Carroll *et al* 2008, Billett 2009), and this second-generation approach can be considered as an attempt by professions to rework earlier models in order to overcome or reduce these problems (Lester 2014, 2017). The principles adopted in ComProCom can be summarised as follows, and are described in more detail in Part 1 of the methodological guide.

*Competence* was described as 'the ability to do something successfully or efficiently', using the Oxford English Dictionary definition, emphasising the action itself rather than the knowledge, skills or other attributes that underpin the ability to act (guide section 1.1). This was accepted as a clear and concise definition that would benefit from wider adoption across Europe. It emphasises an 'external', social expectation or activity-based approach to competence (Eraut 1998), rather than an 'internal' or competency-oriented one based on the attributes and abilities of the competent person (guide section 1.3). However, this was not intended to deter partners from developing descriptions of knowledge or other attributes in addition, but to emphasise that the principal requirement for a description of occupational or professional competence is defining what it is that a competent person needs to be able to do. It is compatible with the use of learning outcomes in European VET instruments, while noting that learning outcomes may be 'internal' as well as 'external' in nature, and are not limited to those associated with professional competence.

A *professional or occupational perspective* on competence was adopted. This emphasises what it is that the person needs to be able to do in order to act effectively in a profession or occupation, rather than for instance at the end of an educational programme or to support the goals of a particular organisation (guide section 1.2). There was general agreement that this should be at least at the minimum level needed for effective job performance, but it was left open to partners to define where this should be positioned as relevant to their individual contexts, as well as whether more than one level of work (for instance in the sense of basic and advanced practitioner) needs to be described.

In principle, a *field-level and 'centre-outwards'* approach to competence was agreed, although this was modified according to the needs of the specific field being addressed by each partner (guide sections 1.5 and 1.6). The basic principle of a field-level approach is that it aims to describe what is needed for a whole professional or occupational field rather than for discrete roles or specialisms. It tends to consist of a single set of standards that are applicable to all practitioners in the relevant field regardless of role or context (rather than having different streams or options), and it is normally also quite concise (typically 5-12 pages of text). The 'centre-outwards' principle highlights the fact



that the description starts from the purpose, ethos and ‘core capability’ of the occupation or profession (Lester 2014) – the central things that a practitioner in the field needs to be able to do – rather than with every possible role that he or she could perform. This type of description aims to capture something akin to what in the German system is referred to as *berufliche Handlungsfähigkeit*, sometimes translated as ‘occupational capacity’ (Winch 2014) or ‘occupational action capability’, and describe it in external, activity-based terms. It tends to be applicable across a wide range of contexts, with the addition of relevant guidance it is normally assessable for instance to award a qualification, qualified status or licence-to-practise, and it can be quite resilient over time, although it may lack the detail needed for some kinds of application. While all the project frameworks started from these principles, in practice some adopted some elements of a role-based approach according to the applications they were covering.

At the outset of the project there was some exploration of the relationship of knowledge and skill to (external) descriptions of competence. This recognised the inadequacy of simply developing lists of knowledge and skill parallel with key activities as has been done in some types of description. It also acknowledged the need, if knowledge is to be included, for it to be presented as a knowledge structure underpinning the entire field rather than only at the level of key areas and activities. The consensus was that, apart from references to general principles and professional judgement that might be included in a section on general professionalism or business practice, knowledge and skills should not be referred to in what are essentially descriptions of practice. Some guidance on knowledge and skills has been retained in a ‘walk-through’ Powerpoint presentation included in the project resources, but not in the methodological guide.

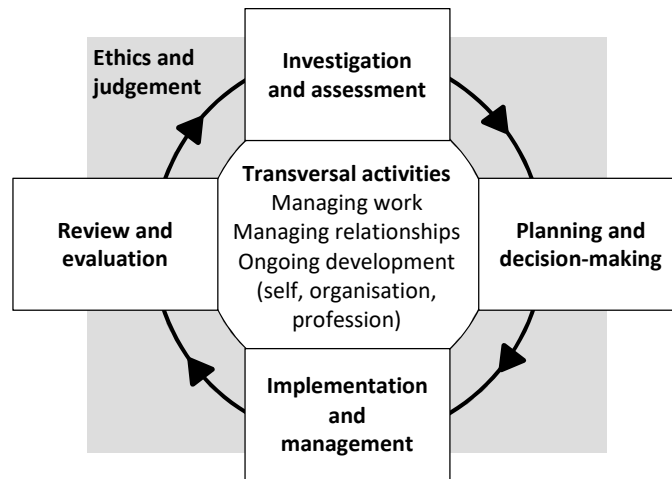
There was also discussion in the project about the extent to which frameworks should follow a common format. While it was agreed as not compulsory, a baseline model or template was proposed based on a project cycle underpinned by more generic or transversal activities such as organising and managing work, managing relationships, and ongoing development, and by professional ethics or business practice (figure 1 below). This model is common though not universal in ‘second generation’ competence frameworks. It is discussed by Lester (2014), and outlined in the methodological guide (appendix 1D). An alternative thematic model was also presented, drawing on the Irish professional standards for accountancy.

Several rules of thumb were also agreed for the presentation of the framework, including:

- Three levels of depth, i.e. (i) main headings, (ii) key activities, and (iii) critical points, examples or explanations.
- Approximate limits to the number of items at each level, as well as a suggested overall page limit for the framework.
- Principles relating to language and clarity, e.g. addressing the reader directly (as if prefaced by ‘you should be able to...’), avoiding multiple objectives, the permissibility of examples in the third level (e.g. ‘this could include...’), and using explanatory text rather than bullet-points where it is more helpful to do so.

These points were offered as suggested approaches to be modified by partners according to need, so that for instance while four partners adopted a cyclic model, the fifth framework (training and development) could be described as part cyclic and part thematic or function-based.

*Figure 1: A cyclic model for the work of a profession or occupation.*



After Lester (2014) and Koniotaki (2017).

## 2. The development process

The overall process used in ComProCom can be divided into an induction phase, concerned with familiarising partners with relevant approaches and agreeing a broadly common approach to development; a development phase, involving partners working with relevant occupational experts in their own countries to develop their frameworks or standards; and small-scale consultation and trialling to test the standards before finalising them. The first phase took place during winter 2015-16, the second up to autumn 2016, and the third over the winter of 2016-17.

Each set of standards is available on the project web site, [www.comprocom.eu](http://www.comprocom.eu).

### The induction phase

The induction phase took place during the period October 2015 to February 2016 via the provision and discussion of relevant materials, along with presentations and discussions led by SLD as scientific co-ordinator at the first two project meetings.

The basic methodological principles underpinning the project had been agreed by the partners as part of the discussions leading up to the project application, and these were developed into a rough draft for the methodological guide ready for the first project meeting. These principles, and the draft guide, were presented and discussed at the first meeting, with some refinements agreed including some flexibility to accommodate the needs of individual partners. Concurrently, ITeE-PIB investigated approaches to occupational and professional competence in the partner countries, resulting in a report presented in the second meeting and some amendments that were incorporated into the second version of the methodological guide. An article based on the investigation was also prepared for publication (Lester and Religa 2017).

A more detailed methodological induction took place during the second project meeting, based on the revised guide and a step-by-step illustration of the development process. This provided partners with a flexible methodology for developing their frameworks, along with an agreed broad format for the final output. A broad plan for consultation and trialling was also discussed, for finalisation by each partner at the third project meeting.

### Development, consultation and trialling

The main standards development phase took place between March and September 2016. This involved each partner, in conjunction with relevant professional or industry experts, in researching their occupational field and preparing a draft framework based on the guidance provided in the induction phase and the methodological manual. The actual activities carried out for this phase varied according to the partner's existing level of immersion in the field and currency of knowledge. The scientific co-ordinator acted as an arm's-length adviser, through among other things a 'clinic' session at the third project meeting in June, commenting on (English-language versions of) the standards at intervals, and responding to questions by partners.

Following development of the draft framework, each partner carried out a small-scale consultation on the standards followed by testing with a group of practitioners. Guidance for consultation and trialling was provided in the methodological guide (section 2.8) and discussed at the third project meeting. The consultation typically asked practitioners, industry experts and sometimes other stakeholders such as VET experts and educators for feedback on how well the standards reflected the profession or occupation, whether they took account of current and emerging changes ('future-proofing'), and how easy they were to understand. Trialling involved practitioners using the standards in a way that engaged with their work or their development, in most cases through completing a self-assessment; feedback was captured, through a questionnaire or interview, to cover similar areas to the consultation along with more detailed information on applicability to the participant's work.

An issue encountered by most partners was getting enough people to comment or to take part in trials. Simply emailing relevant contacts resulted in one case in a response rate of less than 1%, and some partners had to make considerable efforts to recruit people to take part. For the development of national VET standards or professional practising standards, there are often significant numbers of stakeholders who will be affected by the outcomes (for instance via alterations to curricula or to the criteria for becoming qualified) and who will want to comment; given that most of the ComProCom frameworks would not have an immediate impact of this type, this automatic constituency of willing consultees was largely lacking.

Feedback from consultation and trialling was collated by each partner and used to inform final changes to the framework.

Summary reports from each partner follow. The individual reports, in some cases with additional information and appendices, are on the project web site [www.comprocom.eu](http://www.comprocom.eu).

### 3. Management of social enterprises

*Anna Koniotaki, EETAA, Athens*

#### Summary of the occupational field

Social entrepreneurship is probably the newest area of private-sector economic activity in Greece, highly promoted by state policies since 2011, when the first legislative framework for the establishment and operation of social cooperative enterprises was passed (Law 4019/2011). Further legislation (Law 4430/2016) was enacted in 2016 to cure certain weaknesses and to provide a more robust base for the development of social and solidarity economy in Greece.

The term ‘social cooperative enterprises’ in the context of the Greek legislation encompasses the following types of enterprises:

- Limited Liability Social Cooperatives (*Kinonikos Sineterismos Periorismenis Efthinis* or Koi.S.P.E.), according to Law 2716/99, a special form of enterprise operating in a rather protected mode (partially state-funded), that provide opportunities for the work integration of people with mental health problems, and
- Social Cooperative Enterprises (*Kinoniki Sineteristiki Epihirisi* or Koin.S.Ep.), according to Law 4430/2016.

Koin.S.Ep.s are further categorised into two types according to their purpose:

- *Inclusion Koin.S.Ep.*, aiming at the socio-economic inclusion of members of vulnerable or other special groups mainly through work integration.
- *Koin.S.Ep. of Collective and Social Benefit*, focusing on the production and supply of goods and the provision of services in the field either of ‘sustainable development’ (culture, environment, ecology, education, fair trade, etc.) or ‘social services of general interest’.

According to Greek legislation, social cooperative enterprises, legally attributed with commercial capacities, are the agencies of social entrepreneurship in the country. Both natural and legal persons can take part in such enterprises on the basis of one-member-one-vote, regardless of the number of the cooperative shares they hold.

The objective of social economy enterprises, as foreseen by law, is the performance of any commercial activity, which however, aims at the fulfilment of collective interests or includes actions that intend to enhance local and/or regional development. Moreover, another characteristic that differentiates commercial activities taken by social enterprises compared to those taken by any other type of commercial enterprises is that there is no such provision as profit share among shareholders. Profit is treated as surplus, and there are specific limitations to its distribution (5% is annually allocated for the creation of reserve, 35% is distributed to enterprise employees as productivity incentive, and the remaining amount is used in order to cover the activities of the enterprise and the creation of new jobs).

According to the latest data from the Social Economy Registry of the Ministry of Labour (October 2016) 1,221 social enterprises of the above categories had been registered and out of them, 908

have been economically active. Regarding the size of those enterprises, in their vast majority belong the category of very small businesses (up to 9 employees), following the dominant trend in Greece. As regards the sectoral dimension, the majority of enterprises focus on service provision. There are no reliable data on employment since most of the social enterprises are rather new (established since 2012 onwards).

The Competence Framework for the Management of a Social Enterprise refers to the management of the above enterprises. It is not a formal profession that requires any specific legal requirements or entry qualifications. Furthermore, there is no specific educational framework that provides qualifications directly linked to the role.

### **The rationale for the framework**

The choice of the 'Management of a Social Enterprise' as the subject for the development of a competence framework was made on the basis of the fact that although social entrepreneurship in Greece has been a policy priority for the last 6 years, the competence profile for the management of a social enterprise remains unexplored. Furthermore, despite the large-scale programmes to promote social entrepreneurship that took place in 2013-2015, a large number of social enterprises that have been established are facing severe viability problems, that to a larger or lesser extent have to do with the lack of basic knowledge, skills and experience related to management and entrepreneurial experience.

In that context, the competence framework for the Management of a Social Enterprise is expected to contribute to the dialogue currently under way as regards policies to support social entrepreneurship in Greece. It provides a rich insight into the requirements for the post and the fact that it was developed after wide consultation with the social entrepreneurial community renders it a credible tool to support policy-makers.

The Framework may also provide the basis for the development of educational and/or continuing vocational programmes and serve as a basis for qualifications, in the context of the NQF.

### **The development process**

The draft Framework was developed by EETAA in cooperation with practitioners in the field and sector experts who voluntarily assisted with the development. The procedure involved meetings and e-mail communications for the exchange of comments and the various versions of the draft Competence Profile. The team started its work from a blank paper, and the draft Framework was built gradually, following a participative mode of cooperation.

The organisations involved in the development process were excluded from the consultation and the trialling processes. The decision about the final content was consensus-based, while the whole procedure was coordinated by the EETAA scientific responsible.

## Consultation and trialling

The consultation process was launched on August 31<sup>st</sup>, 2016. The initial step was to send by e-mail an invitation to participate in the consultation process to 100+ entities. The vast majority of the recipients were social enterprises across Greece and a limited number of individual experts, and competent national authorities.

The initial deadline was September 15<sup>th</sup>. However, the response rate was disappointingly low, so in late September we started contacting practitioners and sector experts in person via e-mail or telephone. That practice bore positive results, but on the other hand it has proven time- and effort-consuming. Each potential respondent was met twice (in most cases) while in some cases skype meetings were contacted. The usual practice was that one meeting was devoted to the presentation of methodology and the logic of the Framework and the second meeting was after a request of the respondent for a further discussion or clarifications. In all cases the feedback report was completed without the presence of the ComProCom team member. In almost most cases the feedback was sent by e-mail to the ComProCom team member responsible for the consultation.

The individuals selected for personal contacts were:

- Social entrepreneurs
- Training and Qualifications experts
- Social Economy experts.

The consultation phase ended in early December 2016 and in total, we received 11 responses:

- 5 responses from social entrepreneurs
- 2 responses from VET / qualifications experts
- 4 responses from social economy experts (working for social entrepreneurship initiatives / representative bodies).

The consultation procedure was very productive, because it gave us the opportunity to discuss in detail all aspects of the draft framework with the respondents. In general, no major changes were suggested, and the feedback was positive, the comments helped us clarify certain areas of the Profile and the whole process confirmed the relativity of the Framework with the actual challenges and conditions faced by a manager of a social enterprise. As a general conclusion based on the consultation results, it can be claimed that the Framework is meeting the expectations of its potential users in terms of content, clarity and resistance to future changes.

After the consultation phase, the draft of the Competence Framework for the Management of the Social Enterprise entered its trialling phase, in December 2016. We designed a rather lengthy (28 pages) quantitative questionnaire with a limited number of open questions. The answering of the questionnaire prompted the respondent to probe into the content of the Framework and enter into a self-evaluation process. The questionnaire was distributed in printed form to 20 people involved in the management of social enterprises. The distribution took place at an event organised by a network of social enterprises on 21 December 2017, in Athens. We were allowed to have an info point at the entrance hall, where we had the chance to inform in depth potential respondents about the project and ask them to participate in the trialling. It should be noted that (a) the main selection criterion was that respondents are involved in the management of an economically active social

enterprise and (b) that the people who participate in the trialling are different to those who took part in the consultation or the development phase. The trialling process ended in February 2017. In general, the findings validated the content of the Competence Framework and no further changes were made. The Framework thus was finalized after the completion of the trialling process.

## **Matters arising**

The situation so far indicates that the Framework is being broadly endorsed by the social entrepreneurs. The Framework has been widely discussed among networks of social entrepreneurs, with the competent authorities of the Ministry of Labour (Directorate for Social Economy) and with representatives of the National Organisation for Qualifications (EOPPEP).

The Framework has revealed that the management of a social enterprise requires a combination of knowledge and skills that are significantly differentiated to those needed for the management of any other type of private enterprise. Issues such as social and environmental impact concerns and moreover participative leadership are priority issues for a social enterprise but on the other hand that contradicts with the governmental policies so far, that focus on socially vulnerable groups who in their vast majority lack any knowledge and skills as far as entrepreneurship is concerned. Thus, in that context, the Framework challenges dominant perceptions about the population that can be successfully involved and the terms and conditions that may guarantee a successful outcome.

In the same line of thought, in the case of the work done for the development of the present Framework, it should be noted that the participants could be considered as isolated 'cases' of social entrepreneurs who manage to keep their enterprises alive, despite the negative market circumstances of the Greek economy, satisfying to a larger or lesser extents certain success criteria (as regards knowledge, skills, previous work experience).

## **Conclusions**

The whole process for the development of the Framework was constructed bottom-up, based on the work experience of people involved in the management of social cooperative enterprises. In that context, the whole procedure had a strong participative element and allowed stakeholders' voices to be heard. The fact that the Framework has been presented in various settings and it was scrutinised and discussed in depth, proves in a way the reliability of the ComProCom methodology as a tool to describe the profile necessary for the Management of a Social Enterprise. The project team has been invited to present the work done in various events and, as already mentioned, the authorities that are responsible for the policy making in the field (a) of social entrepreneurship and (b) qualifications have invited us to contribute to relevant discussions.

Finally, the Framework and the results from the trialling questionnaire give us the opportunity to identify specific training needs and we are considering ways to develop training programmes for social entrepreneurs or contribute to the design of such programmes by other parties. Furthermore, the ComProCom methodology for the development of competence profiles may be applied in other fields within the scope of EETAA's activities.



## 4. Business administration for start-ups

*Erol Koc, die Berater, Vienna*

### Summary of the occupational field

Before around ten years ago, the Austrian economy was primarily defined by large corporations and thriving small and medium-sized enterprises (SMEs); in 2008, 87% of Austrian businesses (a relatively low number by international standards) were 'micro'-businesses with less than 10 workers, accounting for around 24% of employment (OECD 2012). In the last years, more start-ups began to emerge and are quickly playing an important role in Austria's economic development as they spawn innovations and create jobs.

As a rule, start-up refers to digitally-driven companies which are not more than five years old. It is difficult to determine the exact number of young entrepreneurs this covers. In Austria, there are in total more than 470,000 people (around 8.7% of Austrians between 18 and 64 years) actively involved in the founding of a company or are the owners and managing directors of a new company. Business Administration can be learned in universities or VET courses but is not necessarily a requirement for creating a start-up. In today's start-up culture, the typical founder is driven by their business idea, establishing business administration skills as these become needed in the process.

The Austrian Government is actively working to deliver a start-up friendly environment with changes in business rules and regulations and start-up programs (beginning in 2017 - mainly for lowering the tax burden, increasing the seed financing fund of the Austria Wirtschaftsservice (AWS) and opening up new funding sources).

### The rationale for the framework

The framework is geared to improving the consistency, relevance and quality in the way that the business administration competence is described, using an 'external' or learning outcome approach. It is planned to be used for supporting the design of start-up learning programmes.

The framework aims to improve the way that descriptions of the competence match how start-up entrepreneurship works in practice, in particular in moving away from descriptions of tasks and responsibilities to considering core capabilities that have wide application within the field, are not limited by any assumptions and are resilient to changes in practice and technologies. Another aim of the framework is to develop competence descriptions that are supported across the partnership's countries making it easier to develop a common international language of competence to aid mutual recognition and transferability.

### The development process

The initial development was done by an internal team which develops private and public sector training as well as with input from project team members. With elements from our business and soft skill courses we set up a first draft, which then was redrawn after participant feedback.

The development of the framework was supported by SLD in the form of an initial version of the methodological manual for framework developers and a knowledge transfer session (covering models, approaches and methods). Further guidance from SLD on trialling and a discussion on our draft framework with all partners followed, as well as continuous commentary and guidance on the framework and the development and trialling processes. The framework development included consultation with potential users, comment from external experts and trialling.

## Consultation and trialling

After finishing the draft version, information asking for comments and inviting users to take part in trialling was posted on our website, emails were sent to our partner network and postings were made in social media groups for Austrian start-ups (reaching approximately 6,200 people). Despite a very low response rate we managed to get 20 participants for consultation and trialling. The group consisted of 20 different companies: 12 start-up founders and 8 start-up employees on a management level (including one competence expert). Seven had 1-2 employees, ten 3-10 employees and three more than 10. These companies were drawn from a wide range of sectors: software, transport, marketing, education, production and consulting. Each participant received the draft framework and commented on it on a phone call. As a result of the consultation changes in the framework were made.

The phase was followed by trialling. Over 3 months the same 20 participants carried out a self-assessment with the competence framework. After completing the self-assessment exercise participants reported their comments and feedback via phone calls. Their feedback about usefulness, problems or applicability was logged and further changes in the framework made.

## Matters arising

The main matters arising from the consultation and trialling were:

- Not all points were relevant for every start-up context: Some elements were seen as less important than others. But at the same time, participants who stated this did not want to take any less important points out of the framework. Nearly all participants stated that it is very detailed and were positive about this.
- Some terms were difficult to understand without any special knowledge: After such comments we changed the wording of specific framework statements and spelled out abbreviations.
- Not all areas are relevant for early stage start-ups: Participants from start-ups in their first 1-3 years stated the two main areas their companies have to focus on are sales and marketing. Resources for focussing on other areas like communication or business ethics and compliance seem to only come later (“in quieter waters”). But interestingly, like in the first point above, participants who stated this also stated it would be important to leave the framework as it is. So this was rather a criticism of the harsh business realities than the framework.
- No disadvantage of any practitioners: None of the participants felt that the framework disadvantaged any specific entrepreneur or that it assumed particular educational background.

Overall, the framework received a really positive feedback. Following the trialling the framework was updated to the final version.

## **Conclusions**

The development process has been successful in establishing a framework for Business Administration for Entrepreneurs. Business courses for start-up entrepreneurs are increasingly gaining in relevance and we intend to use the framework as a basis for future course design. In its current state it is a more-or-less finished product which should be easily adaptable for any specific contexts. Of course, further testing and optimization will be needed to refine it and make it even more easily accessible.

The big difference in the entrepreneur's perceptions between theoretical and real-life environments was remarkable. Under this aspect, our work for this framework changed our sensibility for potential gaps between theory and reality and to improve our course design and communication.

## 5. Management of innovation

*Jolanta Religa, ITeE-PIB, Radom*

### Summary of the occupational field

In Poland, effective “bridges” between science and the economy are still searched for. It is about the provision of the flow of knowledge from research centres to enterprises and the efficient implementation of innovative solutions. One of the most important obstacles in this process is constituted by the competence gaps both among the researchers/constructors/inventors who do not know how to sell their “products” and employees/employers who do not know where to find and finance innovations for their companies. They can be supported by specialists (e.g. in commercialisation, innovation, development, etc.), hired both in the R&D institutions and in the innovation support centres. Innovation support centres support the commercialisation processes, connection of scientific and business partners, promotion of innovation, building the awareness and culture of innovation in both communities, as well as education and consultancy within this scope. Competences of the employees of this type of institutions constitute the barrier limiting the effective accomplishment of the above-mentioned purposes and performance of the tasks for which these centres have been appointed.

In order to counteract these barriers, there should be defined the competences that must be acquired by a person participating in the innovation management processes – from the moment of generation of new solutions, through their development and implementation, to commercialisation. Innovation management requires the interdisciplinary competence. In the Polish classification of occupations and specialisations (KZiS) there is no such profession as “innovation manager”, no description of the competence standard and no statistics concerning this profession. Innovation management entails the organisational, research and analytical, advisory tasks, as well as requiring great independence and responsibility. An estimated 4000 organisations need innovation management expertise, of which 1000 are involved directly in innovation and technology or knowledge transfer, and the remainder are companies involved in commercialising new developments.

The innovation management area should be perceived as the area of “complex” professional activity, of great importance and responsibility towards the society. It entails the necessity of keeping the principles of social ethics, including the observance of the applicable intellectual property rights or compliance with the concept of responsible research and innovation (RRI). The innovation manager should be prepared to hold an independent, separate position, as well as to combine the competence of innovation management with other professional duties and tasks. The competence set for innovation management presented in this document is dedicated to the following target groups:

- Enterprise managerial staff, e.g. managers/heads of strategy and planning, R&D managers, HR development managers, heads of sales and marketing, or managers of small enterprises (regardless of a company size or business sector);

- Specialists in commercialisation, innovation, development, etc. in R&D institutions or innovation support centres, such as technology transfer centres, innovation centres, technological parks, business incubators, etc.

## The rationale for the framework

The Polish national professional competence standards reflect the expectations of employers and are defined as *standards describing professional competences necessary to perform the professional tasks included in the occupation, accepted by the representatives of professional associations and industry organisations, employers, employees and other key social partners* (Bednarczyk et al 2014). The professional competences defined in the standards are not a formal result of the process of assessment and validation, so they are not directly related to qualifications. But professional competence standards constitute the information material for a description of qualifications.

The professional competence standardisation process in Poland is not too advanced. So far the standards have been developed for 553 occupations/professions, which constitute only approx. 20% of all occupations (2,443) presented in KZiS. Merely 300 standards have been prepared according to a new methodology, revised in 2012, adjusted to the EQF requirements. There is a lot of work to be done in Poland in the field of standardisation, therefore it is justified and reasonable to look continuously for any good practice. In the current legal situation, the professional qualification standards constitute a recommended rather than obligatory document.

Respecting the profile of the ITeE-PIB, as well as the importance of the processes of innovation transfer for the economy nowadays, “innovation management” has been selected as the field to be covered in the project ComProCom.

## The development process

The Competence Framework for Innovation Management was developed by the Polish expert team, which followed the ComProCom methodological approach. Occupational expertise for the field of “innovation management” was provided by the advisory group (5 persons), established by the Polish partner institution. The team included the representatives of inventors/constructors, specialists in commercialisation, trainers, as well as people experienced in the development of the professional competence standards. There was also a representative of a research institution (Innovation Centre accredited by the Polish Ministry of Development). Thanks to the cooperation with an umbrella organisation gathering about 200 innovation and entrepreneurship centres, their representatives participated in the works on the development of the competence framework for innovation management within the ComProCom project.

Next to the expert method, team developing the framework used also some key information relating to the professional area of “innovation management” collected in primary research based on the results of the assessment of competence required by employers (occupational analysis) for such professions like: *Specialist in the commercialisation of innovative technologies; Specialist in market analysis and development, Product manager.*

The team developing the framework for IM was working since March 2016. They were meeting face-to-face for several times and cooperating with use of all available media (email, phone, Skype). All decisions connected to the content of the framework were made as a result of discussion of the whole team. By the end of September the full draft of the framework was developed as the version ready for the consultation with the group of practitioners in the field of innovation management.

## Consultation and trialling

Consultation of the competence framework for the area of innovation management started in October 2016 and took two months. We used the professional contacts of the project partnership and the request for participation was directed to the intentionally selected persons representing proper expertise. The consultation included professionals and trainers in the field of innovation management, and experts in the field of standardisation of professional competence (generally).

13 responses were received from people having expert insights into the area of innovation management and representing different contexts of professional work, comprising 4 from companies interested in development and/or transfer of innovation, 5 from R&D institutions, one from a consulting organisation, and 3 experts in competence and qualifications development.

Most important findings from the consultation phase:

- The draft was assessed as generally clear and well-structured;
- Respondents noticed that the applied terminology was too specific (too much theoretical or even academic style), difficult to understand by some practitioners (on the base of that some elements of the draft framework were reworded after the consultation phase);
- Content was assessed as relevant and updated, but too general for some respondents (pointed mainly by representatives of the economy sector);
- Terminology confusion was noticed for the term “competence standard” or “competence framework”, with “standard” being preferred;
- Level of detail: there were voices of representatives of the economy sector for more detailed descriptions;
- Experts in standardisation stressed the lack of references to the European or national tools like EQF or NQF, International Standard Classification of Occupations developed by ILO (ISCO) or International Standard Classification of Education ISCED etc.

The advisory group analysed the feedback from the consultation phase and amended the content of professional framework, if justified. A revised version of the competence standard for innovation management was developed in November 2016.

Trialling was launched in November and lasted until January 2017. It was agreed that the most appropriate way to trial the validity of the competence frameworks/standards is to work with a small sample of individuals to carry out a detailed self-assessment. We chose people intentionally, ensuring that standard would be tested by persons from across different contexts, comprising 13 people (4 from research institutions, 4 from companies and 5 from ‘bridge’ institutions).

The findings from trialling phase were:

- The structure was clear and understandable;
- The description was easy to understand;
- No issues were stressed as obviously missing, wrong, out of date or becoming out of date over the next 5-10 years;
- There were a few activities (level II) assessed by one trialling participant as “not particularly relevant”;
- There were some suggestions for additional (more detailed) content on level III;
- The majority of respondents was interested in the further development of their competences needed for more than one critical activity (level II); there were also additional proposals beside those suggested by the project team.

## **Matters arising and Conclusions**

The main matters arising from the consultation and trialling phase are as follows:

- The development process was successful in establishing a standard for the professional area of “innovation management”. For us it was the first attempt to describe the standard for a professional area, instead of a separate profession/occupation.
- Professional competence standard developed in the form suggested by the project was very useful for self-assessment (easy to transfer standard’s content into the self-assessment questionnaire).
- People participating in the development process, as well as the “end users” enjoyed the simplicity of the proposed standard’s structure and conciseness of its content (11 pages all together).
- As far as the detail is considered, “the golden mean” is needed. The chosen professional area (innovation management) is very complex, possible job roles are diverse. Therefore it is very difficult to develop a universal standard, which will cover all professional contexts (e.g. strategic planners, innovators, quality managers, marketing experts). It means the standard that is general enough, but also detailed enough to ensure its usability. It should be rethought whether a model with subsets of standards/sub-categories or a hybrid approach would be better for this specific professional area.
- Considering the Polish reality of the standardisation process of competences, the most critical point expressed by the participants of consultation and trialling was the question concerning the need for other (new) model than quite “fresh” one developed and tested within the national strategic project (2012-2013). It was needed for the project team to explain very clearly what the differences between those two approaches were and what our expectations were.
- There were important differences between the ComProCom approach and that currently used in Poland, most notably the former’s lack of linkage to qualification frameworks and its different structure. However, the ComProCom model may aid the standards being used more often by practitioners.

We are going to use our experience in the conceptualisation and implementation works of the newest national project, which will be realised with the Institute’s involvement at the request of the Ministry of Family, Labour and Social Policy. This project assumes development of modern, attractive and up-to-date descriptions for one thousand professions existing on the Polish labour market.

## 6. Training and development

*Sinead Heneghan and Angela O'Donovan, Irish Institute of Training and Development, Naas*

### Summary of the occupational field

The Irish Education and Training Sector from a national statistical point of view are synonymous with each other, but from a professional perspective are separate entities. Therefore, an ongoing challenge for the Learning and Development profession<sup>1</sup> in Ireland is the capturing of its occupational boundaries within national data collection approaches. Those working in Learning and Development do so in a 'pure' professional sense as well as in an application of the tools and approaches of the professional through other professional lenses. Therefore, those professionally engaged in the Learning and Development Profession in Ireland fall into a number of categories for which there is little accurate visibility leading to a lack of representation of the professional nationally:

- i. Learning and Development Professionals who hold L&D roles either in an organisation or on an independent consultancy basis.
- ii. Those belonging to another professional area who employ the approaches, tools and techniques of the Learning and Development Profession e.g. engineers, quality specialists etc.
- iii. Those in the more mainstream Educational Sector who provide training.

Most learning and development professionals have a minimum of a QQI (Quality & Qualifications Ireland) level 6 Train the Trainer award with the majority having a primary degree or post-graduate qualification.

Reflective of international movement in training and development focus, the following emerging trends which inform the activity of the profession, are evident in the Irish learning and development professional context:

1. Increased value on accreditation related to training provision;
2. Response to regulatory requirements and economic challenges;
3. More external than internal training being conducted;
4. Training planning and auditing becoming a mainstream activity;
5. Increasing interest in eLearning and more innovative approaches to support workplace learning;
6. Improvement of 'soft skills' to complement 'technical skill sets';
7. A continued focus on leadership skill development.

An emerging challenge for the profession and for Irish organisations in general is their approach to the training, learning and development (L&D) of a multicultural workforce. To put this into context the number of non-Irish workers has been increasing year-on-year since 2001, and in 2014, there

---

<sup>1</sup> Although the institutional title is 'training and development', it is increasingly usual to refer to the field as 'learning and development' to reflect the wider range of means used to facilitate learning.



were approximately 564,200 migrants in Ireland (Central Statistics Office, 2013). This has a significant impact on the cultural diversity of Irish organisations.

The aforementioned change of focus and emerging trends for the profession requires more than ever before an articulation of the profession within a Competence Framework which can be used to inform Learning and Development activity as well as the education of Learning and Development professionals.

## **The Rationale for the Learning and Development Profession Framework**

The economic and other challenges in organisations now and for the foreseeable future will make it imperative that learning and development professionals have the capability and competence to deliver innovative and fit for purpose training and development services and interventions to enable organisational sustainability and performance. Through the development of this profession competence framework the IITD is promoting professional standards, inform education and training for the profession and provide a means of supporting the establishment of a stronger professional foundation for learning and development professional's capacity.

There is no universal or common pathway followed by learning and development professionals and the manner in which those working in the profession demonstrate competence and ability varies according to the individual's career trajectory and their level of experience. An important aspect to the framework is that all competences should be capable of being achieved at any career stage, though at varying degrees, dependant on context, configuration of role and activity exposure. The framework recognises the many varied titles and roles applied to individuals within the profession, working in different settings and at different levels. As roles evolve and diversify, this framework can help create consistency in the interpretation of responsibility levels.

This framework was designed in the context of a fairly large organisation with a T&D organisational structure which includes a strategic management role, operations management role, specialist T&D (non- managerial/leadership) role and T&D co-ordinator/administrative function. This approach was taken to assist in the clear identification of those competencies as relevant to four separate roles – these being i) strategic, ii) managerial, iii) operational and iv) administrative in nature. Where an organisational structure differs from the one presented, it is intended that the post holders will assume the relevant competencies as applicable to their role. It is accepted that this will inevitably create a situation in smaller T&D functions where a role crosses over more than one of the four functional roles.

The Competence Framework will be used for recruitment, performance management, development and talent management discussions. For instance, using competencies in the performance review process can help to assess not only whether the individual has fulfilled their objectives but also which competencies they have demonstrated while doing so and which ones they need to work on. Skilled and effective learning and development practitioners have a significant impact on organisation and individual improvement. The framework is designed so that pathways to progression can be easily identified and the core competencies desired across all levels of responsibility can be shared and understood.

It is envisaged that the competence framework would become central to delivering for the profession:

- An agreed description of good practice using a consistent language and a means of raising the profile of the profession.
- A reference document acting as a basis for: supporting the professional development of learning and development practitioners within organisations; self-monitoring of professional development; recruitment and selection; course design and accreditation.
- As a basis for initial and ongoing professional assessment.
- As a set of benchmarks for CPD.

## **Methodology**

Primary and secondary research was carried out from during 2016, to identify the different factors, or competencies, which are important in the Learning and Development profession as it operates in Ireland. Although developed in the Irish context it was anticipated that the global nature of the framework allows for application across other EU contexts.

1. A review of secondary evidence sources. The aim of the review was to identify the characteristics, skills, resources, and additional contextual factors that are important in the Learning and Development profession. The review drew on a range of material, including both published and unpublished reports; personal communications, academic papers, reports and web-based tools.
2. The results of the literature review were reviewed to produce a draft competence model which comprised of an initial 'long list' of competencies which were categorised into groupings. These competencies could theoretically apply to any role within the profession and within any organisational/ individual context regardless of size or type ensuring the universal applicability of the Competence Framework to the Learning and Development profession.
3. The draft model summarised the factors identified by the research to date, and a tiered system/categorisation of headline, supporting and collateral competencies was proposed.
4. The subsequent qualitative stage of the project tested the Competence Framework Model to identify which competencies are representative of the Learning and Development Profession- (in depth discussion and interviews with subject matter expertise related to IITD) to test the initial framework.
5. A quantitative survey to develop an understanding of the representation, robustness and ease of use of the Competence Framework.
6. Producing a finalised Competence Framework.

## **Consultation and Trialling**

Consultation and trialling of the framework was conducted via an electronically platformed survey and direct feedback via telephone from subject matter experts. Following an initial draft of the framework four subject matter experts were engaged in a meeting to discuss the framework in

detail, followed by telephone interview on their views of the proposed framework. This grouping made minor changes to the framework (expansion on items under sub-categories, order of presentation of items) but highlighted the need for a behavioural focus to the framework. It was agreed by this subject matter group to issue the framework to trial phase in order to gather a range of views on the framework itself. Fifteen learning and development professionals engaged in the trialling of the framework in January 2017. These were drawn from a variety of organisations with an emphasis on larger organisations; roles ranged from training administrators to L&D managers to L&D/OD consultants, ensuring that the trialling cohort was representative of the professional span which the framework would need to cover. Each participant assessed their own competence using the framework for which detail is given on the specific knowledge, skills and experience they would further like to develop in light of the framework competencies. Feedback from the trial was collected via an online survey built around the structure of the framework.

It was found that regardless of the organisations that they were working in, learning and development practitioners embraced the concept of the Profession Competence Framework as a key reference for a common and consistent language and an approach based on common professional values and beliefs. This would allow those in the profession access to a more global interpretation of the profession irrespective of their own organisation's interpretation of their professional role.

### **Matters Arising and Conclusions**

There was a high level of endorsement of the overall representation of the framework and individual competence sub-categories of the framework as detailed above. The ease of use and applicability of the competencies presented in the framework were received positively. An overriding matter arising was the applicability of a global/universal competence framework for the Learning and Development Profession. There was an expressed desire for a translation to context and behavioural attributes which was counter to the universal approach. It was discerned that the span of the Learning and Development Profession posed a challenge to the development of a competence framework at a universal level in that the profession spans from operational to strategic with a variety of combinations in between. The application of a universal competence framework model therefore may have been most challenged when applied to such a professional context as opposed to a more concisely spanned profession of for example Engineers, Quality, Legal professions.

The current focus is on the finalisation of the ComProCom Profession Competence Framework, inclusive of the consultation and trial feedback, and broad dissemination of the framework in a format that engages key stakeholders in the use of the framework to optimise achievement of the objectives outlined above for the Learning and Development Competence Framework.

## 7. Chemical engineering

*Jens Hoffmann, SBG-Dresden*

### Summary of the occupational field

The chemical industry is the third biggest industry in Germany (after car manufacturing and mechanical engineering) and the sixth biggest employer with 446,000 employees (VCI 2016).<sup>2</sup> It comprises 1600 companies, both SMEs and larger corporations; numerically, SMEs dominate. All employ foremen or chemical foremen (middle managers) for running chemical plants.

This technical middle level management ensures the functioning of processes, especially concerning technical and human resource issues. It is a formal profession with the following entry requirements:

- Occupation in the chemical industry, that requires formal training
- At least 4 years work experience in the chemical industry.

The further training (at EQF 6) to become a chemical engineer (“Industriemeister Fachrichtung Chemie”) takes place in private organisations in the form of distance trainings (2 years) or full time trainings (approx. 6 months). Most of the participants prefer to continue in their job with an accompanying distance training. An estimated 500 people undertake the training each year.

The current German competence framework was developed by industry specialists from chemical companies, under the guidance of the DIHK (Association of the German Chamber of Industry and Commerce). The framework is reviewed at least during a five years timespan or on demand. This ensures the inclusion of new working tasks.

The framework consists of so called base competences and action-specific competences. The base competences cover business, legal, communication and cooperation topics. The action-specific competences include chemical synthesis (chemical engineering), leadership (human resources, accounting, quality management, responsible care, information and communication) and further specializations, such as chemical synthesis planning, automatization and controlling.

In the future, the ongoing automatization in chemical industry (start in the 1970s) and the impact of digitalisation will affect the course of the industry as well as the shift from the production of base chemicals toward speciality chemicals. This trends will influence the contents of the competence framework and will be pointed out during the meetings of the industry specialists to review the existing competence framework.

### The rationale for the framework

There is a need for qualified technical, middle management in the chemical industry, which requires formal, further training. The training is equal to EQF level 6 and therefore to the academic

---

<sup>2</sup> Chemical industry on a glance, association of the chemical industry (VCI), 2016, p.2.

qualification of a bachelor. However, the practical skills obtained are much more extensive than solely academic studies.

The aim of developing the framework is primarily to review the current state of the already existing competence framework for the chemical foremen (“Industriemeister Fachrichtung Chemie”), in order to improve and enrich it. This ensures that the competence framework is up-to-date and responds at the same time to the requirements of SMEs and bigger firms in the chemical industry.

## The development process

For the development of the framework of the recognized qualification *Industriemeister: certified Master (industrial) – in the field of chemistry* the specified cyclic competence framework was applied. The basis of the framework is the core capabilities of business and production assessment, planning and decision-making, managing production and people as well as evaluation. All these activities are connected to corporate and professional responsibility as well as self-development. The training of the *Industriemeister: certified Master* is a recognized qualification in Germany. So the cyclic framework model reflects all the necessary capabilities / skills and competences as well as transversal abilities.

The framework development included the following steps:

- Development of the draft framework by SBG expert staff, drawing on the existing framework and curriculum
- Feedback by an internal SBG industry expert, who is also member of the national council, to review the competence framework
- Translation of the key elements of the existing competence framework for chemical foreman
- Advice with the scientific lead of ComProCom on which parts to include/structure and final contents of the framework
- Carrying out consultation and trialing phases.

## Consultation and trialing

At first the consultation was carried out, then the trialing phase followed. For both phases tidy drafts and accompanying questionnaires were used. The sample groups were participants on the further training course to become a chemical engineer. Most of them have worked in the chemical industry for 4 and more years and are in technician roles.

The consultation was carried out between September and November 2016. It consisted of the draft framework and an accompanying questionnaire being presented to 27 people from across the chemical industry and from different-sized firms, from 30 to 10,000 employees. 21 responses were received with some participants also being interviewed; the responses broadly endorsed the framework. There were some differences between smaller and larger firms; in larger companies the range of tasks carried out by Chemiemeisters could be more limited or specialised, while in smaller ones there was not always as much emphasis on automation.

Trialling took place in January 2017, and involved 22 people completing a self-assessment questionnaire and in addition selecting one area each of the framework and examining the relevant work task against it in detail. 17 full responses were received, with participants coming from across the industry and from both smaller and larger companies. Trialling also explored participants' perceptions of how the relevant activities would change in the future, with the framework being endorsed as reasonably robust in terms of emerging developments.

## **Matters arising**

The main matters arising from the consultation and trialling were:

- The framework was perceived as logical, good to understand and nothing obviously missing.
- There is (sometimes) a discrepancy between the skills need in small vs. bigger chemical firms
- This relates to a different perception of the impact of automatization and digitalisation on the competence profile in the future. In smaller firms this topics are mainly no issues, in bigger firms the awareness for their potential impacts is much higher.

Following the two phases SBG Dresden drew up an improved version of the competence framework.

## **Conclusions**

The development process has been successful in reviewing and enriching the existing competence framework for industrial foreman in the chemical industry ("Industriemeister Fachrichtung Chemie").

The framework will be used as a starting point for including trends, such as increasing digitization/automatization and (new) improved quality standards, in the regular reviewing process. This could lead to new contents in the frame of the current further training, to become an "Industriemeister Fachrichtung Chemie" and/or additional further training offers for industry specialists.

## 8. Discussion

### The value of the framework to the partner and the sector

The five frameworks created in ComProCom were each developed to meet slightly different needs. The chemical engineering and small business frameworks were designed to inform training programmes, though in different contexts: the first to update a programme leading to an existing regulated qualification in the German VET system, and the second to underpin a commercial training offer in a field not currently included in Austrian statutory training specifications. The social enterprise and innovation management frameworks were each the first attempts, in their respective countries, to provide descriptions of practice for these emergent and increasingly important fields. Both have potential impacts in their sectors through starting to formalise what is needed for effective practice. They are also engaging with national systems through filling current gaps in professional or VET standards, as well as offering a different format and development approach to the Mansfield-Schmidt model that has informed both national approaches (in both Greece and Poland there is interest from official bodies in more concise descriptions of competence than are provided by current models). The training and development framework has a somewhat different role in providing a set of standards for use across a profession to support activities such as continuing development, career and succession planning, but the high-level approach adopted in the project has aided a focus on the overall field rather than immediately on detailed attributes relevant to different roles.

At the current stage it is too early to identify with any certainty the extent of the benefits that the frameworks will provide for the partners or their sectors. Benefits that have already been reported include providing a basis for updating a training programme to take account of industry trends (chemical engineering); underpinning potential new training offers (small business management, social enterprise and chemical engineering); addressing current gaps in national standards as well as offering alternative formats for them at an overall level (social enterprise and innovation management); providing a 'language' or 'map' to discuss practice in emerging fields (again innovation management and social enterprise); and developing a profession-wide continuing development structure (training and development). A particular benefit reported for the social enterprise framework has been in highlighting the abilities needed to be a successful social entrepreneur, which has particular relevance in the context of national policies that have tended to regard social entrepreneurship as a route out of unemployment; the framework is providing a tool to aid the partner to engage in relevant action and debate.

### The development and support process

Subject to the comments made earlier about consultation and trialling, the development process generally proceeded smoothly using the approaches discussed in the project meetings, subject to some modification to accommodate partners' professional fields and the intended use of their standards. The support process that was used, involving the draft manual and associated materials, limited knowledge transfer inputs, and support from the scientific co-ordinator at a step removed from the development process, was unusual in the context of developing competence or practising standards. It raises two matters relevant to similar developments in the future. One suggests

strengthening the initial ‘developer development’ process through improved materials and a more co-ordinated knowledge transfer and coaching process. This first matter has been addressed through the developer training course that forms one of the outputs of the project, supported by revisions to methodological guide along with various associated resources.

The other matter concerns the level of prescriptiveness of the guidance that is provided. Although ComProCom started from the premise of developing a set of professionally-oriented, ‘external’-type competence frameworks, the extent to which a specific methodology and format would be used was left open until after the first project meeting, with the draft methodological guide supporting a variety of relevant approaches and techniques. In the second meeting a more detailed visual step-by-step guide to the development process was also presented, and this was well-received by the partners. A dilemma arises between providing a recipe for a particular type of framework (analogous to the guidance used for many years in the UK for occupational standards), and allowing for greater variation of approach. The final version of the methodological guide has opted for the latter while also providing more specific guidance in an annexe; particularly when used in conjunction with the developer training course, the aim is to allow for greater flexibility to adapt the approach to the needs of individual clients and contexts.

### The approach to ‘competence’

ComProCom used an approach to describing ‘competence’, as explained in chapter 1, that draws on what has been described as a second-generation model as developed in some British professions. It was therefore new to most of the project partners, who were variously familiar with behavioural approaches to competence, the ‘hybrid’ Mansfield-Schmidt model, or a description of occupational action capability (*berufliche Handlungsfähigkeit*) embedded in a training specification. An important part of the project from a research perspective therefore was the testing of the specific model in contexts outside arena of professional accreditation and licensing where it had developed.

One matter that was partly anticipated in the methodological manual and knowledge transfer sessions, but which continued to manifest throughout the project, was confusion between competence and skill, and to a lesser extent the relationship between knowledge and competence. The line taken in ComProCom was that, following the ISO definition (ISO 2012) and to some extent reflecting the schema (based largely on the German system) put forward by Winch (2014), competence involves the use of both knowledge and skill to achieve the aims of an occupation. However, perhaps partly reflecting the very wide and imprecise meaning of ‘skill’ in the English language, some partners appeared to have difficulty getting acceptance that action-based descriptions of practice were about more than ‘skills’ alone; this may be a particular issue where national VET systems use descriptions based on knowledge and skill or on knowledge, skill and (personal) competence.

A tension that could be observed in all of the five project fields related to the value of a field-based versus a role-based level of description (see methodological guide section 1.5). The management of both small businesses and social enterprises, and the foreman or middle-manager role addressed in chemical engineering, can all be considered as occupational roles that are undertaken in a variety of different contexts and (particularly in the first two cases) to different levels of complexity, rather than professional fields where there are many different possible roles. This suggests that the



frameworks will naturally take on some of the characteristics of role-level descriptions rather than field-level ones, although the level of detail that is common in role-based descriptions will be limited by the need for the framework to apply across different contexts. Both innovation management and training and development are more clearly fields with multiple roles. In training and development, while a field-level framework was developed it was designed so that different roles would draw on different parts of the framework. A similar but less formalised approach was envisaged for the small business framework, so that for instance not all the second-level activities would apply fully in relation to a new enterprise, but they would become increasingly relevant as it grew. The innovation management framework was designed as a single, universal entity, but the problems of applying it across a diverse set of both roles and contexts were noted, and in practice different roles and contexts are likely to map on to it differently.

The above discussion suggests that while there are clear advantages in developing a field-level description rather than starting from roles and functions, when the aim is to support development – rather than primarily assessment and licensing or accreditation – it may be more difficult and less important to ensure that all standards apply equally to all practitioners, as is commonly the case with ‘second-generation’ professional practising standards. However, it should be noted that the project frameworks have not had the same opportunity for refinement through use that the latter have had, and secondly that other options such as ‘subset’ frameworks (methodological guide page 50) were not explored more than in passing in the project.

In two of the project areas, chemical engineering and small business management, the frameworks were developed explicitly to inform training content. While an internal approach to competence is more common for this purpose, as discussed above both cases benefitted from considering first what it is that a competent person needs to be able to do at a broad level, rather than immediately examining knowledge, skills or behaviours. In particular, an external or activity-based approach appeared particularly apt at identifying trends and changes in practice, getting feedback on how the proposed content relates to real-world practice, and engaging practitioners in discussing what is important for them to be able to do.

For training and development, the IITD raised questions about the appropriateness of a universally-applicable, external approach to competence for the applications that were envisaged (see chapter 6). While some professions do use this type of structure for continuing development as well as for initial licensing or granting qualified status, others have different types of framework for different purposes. Frameworks oriented towards continuing development frequently include internal aspects of competence and have a more open or modular structure that can be mapped to different roles and individual career-paths. This does not invalidate the basic approach used in ComProCom for this purpose, but does suggest that it needs to be built on to create a more development-oriented framework as opposed to purely a set of practising standards. A field-level description emphasises common standards across the whole field, which has value in creating a set of criteria for licensing, accreditation or recognition that is equally applicable to different roles and contexts, as well as for representing a whole profession or field and its core standards of practice coherently. Conversely, a continuing development application may need to highlight differences between roles or contexts in order to help practitioners to move between them.

A dilemma is also mentioned in relation to innovation management, where several quite different practitioner roles can be concerned with managing innovation and there are also the different major contexts of research institution, intermediary, and company. A field-level description helps define innovation management as an activity in its own right, in a way that role-level descriptions would not; however in applying the framework an approach based on mapping between different roles and parts of the framework, or using subsets for the three major contexts, may be more appropriate.

In summary, the approach used in ComProCom appears to have distinct benefits for developing competence standards or frameworks for diverse applications, beyond the accreditation- or licensing-based context in which it evolved. These include starting from the perspective of what practitioners need to be able to do in their work; including an ethical or good practice dimension; and focusing on professional or occupational fields, rather than roles and contexts which are apt to change and which may never encompass more than a proportion of practitioners. The value of the approach cross-nationally also partly hinges on starting from field-level descriptions, as these are less likely to be invalidated by differences in the way that occupations and roles are organised in different countries. On the other hand it is important to note that while it results in a set of practising standards that can *inform* a curriculum or training programme, a qualification specification, or a development framework, these things are additional to the standards themselves.

### **The relationship between ‘ComProCom’ standards and VET frameworks and instruments**

As discussed in the comparative research completed earlier in the project (Religa and Lester 2016), different approaches and conventions operate in the respective VET systems of the project countries within the broad umbrella provided by the European Qualifications Framework (EQF) and the European Credit System for VET (ECVET). In summary, Greece and Poland have formal but partial systems of occupational standards or profiles, the UK has recently withdrawn much official support from its system of national occupational standards while substituting a different and by comparison skeletal approach to agreeing apprenticeship content, in Germany and Austria descriptions of action competence are embedded in statutory training specifications, while in Ireland qualification specifications can include descriptions of occupational competence. In addition, the UK and Ireland also have a strong tradition of professional bodies that are self-regulating and set their own standards of practice, some with statutory backing and others through ‘private ordering’ (Ogus 2000), i.e. building authority via recognition from members, clients and employers in a largely unregulated market.

None of the ComProCom partners are national VET bodies, although ITeE-PIB has recently gained a major commission to develop national professional standards, EETAA has maintained a dialogue with the national qualifications agency throughout the project, and SBG-Dresden works with the responsible agency in its occupational sector. In the UK to date a hiatus between national VET bodies has meant that the main potential for influencing has until recently been in the professional body sector, while in Ireland and Austria the partners are engaged in professional and commercial markets respectively. The potential to influence national systems (and the extent to which this is relevant and desirable) is therefore variable; currently it may be greatest in Greece and Poland, where both of the frameworks developed in the project are for ‘new’ fields and are not competing with existing occupational descriptions or competence standards, and where the project approach

offers an evolutionary alternative to current methods of describing competence. In Greece and the UK there is also interest from national agencies in amending or supplementing current approaches, in the former to produce more concise and resilient standards, and in the latter focused particularly on defining occupations to aid the coherence of apprenticeship provision.

As discussed above, the practice-based standards developed through ComProCom are not in themselves curricula or qualification specifications, although they provide a strong but open foundation to inform both. Their potential for supporting European VET instruments is through providing a 'language' for describing practice in occupational fields that is broad enough to apply across different role-types as well as different national contexts; there is no reason for instance why it should not be used integrally to a training specification as well as as a free-standing description. In relation to qualification levels, it can be difficult to apply a national or EQF level to an entire framework particularly at field level, both because the framework may include aspects of more than one level to reflect what is actually needed in the field, and because more information is likely to be needed about the assessment standard before a level can be claimed. Within ComProCom the five frameworks were designed for applications at EQF level 5 or above, but only the relatively role-specific chemical engineering framework could be regarded as mapping to a clear framework level (6). The remaining frameworks could be used to develop training or qualification specifications at more than one level, spanning between them 5, 6 and 7 depending on the particular coverage and level of application. A similar issue arises in relation to credit, in that the volume of learning (represented by ECVET or ECTS points) depends on attaching at least an assessment specification to the framework standards or to a defined subset of them. Examples from national systems indicate that it is possible to give a level and credit rating to an 'achievement' specification, i.e. a description of competence plus an assessment standard, whether this relates to a whole qualification or to modular achievements (e.g. Bravenboer and Lester 2016).

The points above suggest that the ComProCom model has potential for use as a base to aid understanding of work-based competence within Europe, while a useful extension from the project would be to develop, from the existing standards, qualification or course specifications that carry a level and credit rating, and have cross-national currency through agreement by responsible authorities and interested parties in the relevant countries.

## 9. Conclusions

As a development project, ComProCom appears to have been successful in aiding the partners to develop frameworks that are reasonably applicable and robust and that have value in their respective contexts. In some sectors the frameworks are aiding the definition of emerging fields, and the project approach also offers alternative, evolutionary models and development methodologies from those currently used in national VET systems.

In terms of its aim of testing the relevance of the specific approach to describing competence in different countries and contexts, the project has also produced useful results. The advantages of the external, professionally-oriented, field-level description discussed in chapter 2 include:

- A concise, clear description that is easily intelligible to practitioners.
- A focus on work activity and practising standards, ensuring that qualifications, training programmes and other applications are based on an understanding of what practitioners actually need to do.
- Incorporation of the ethos and ethics underpinning the field.
- The ability to apply across different roles and contexts, avoiding the assumption that occupational fields are made up of standard roles and operate in predefinable contexts (one of the major problems that has occurred when attempting to apply role-level competence descriptions generally, and in particular to higher level work).
- The ability to reflect current and emerging practice while avoiding being so specific as to need frequent revision.

Limitations of the approach were also indicated, as discussed in relation to training and development and to a lesser extent innovation management. This suggests that future developments might explore greater use of the 'subset' frameworks referred to earlier for reflecting different major contexts, as well as developing practical examples of how the model can be used to underpin curricula, qualification specifications and more developmentally-oriented frameworks.

The project has nevertheless developed a strong base model with a clear underlying rationale and set of guiding principles that is effective in describing competence in professions and occupational fields. This model is worthy of dissemination more widely in Europe as an aid to developing a common understanding of the idea of 'competence', as well as exploring further in the context of vocational education and training at EQF level 4 and below.

## References and project outputs

### Project documents

available from [www.comprocom.eu](http://www.comprocom.eu)

In addition to this report, the main documentary outputs of ComProCom are:

#### Background research

*Models and uses of 'competence' in six countries' VET systems: cross-partner report on the reviews of the current situation.* Religa, J. and Lester, S., February 2016.

Reports for each partner country are also available at <http://www.comprocom.eu/products/41-review-on-current-situation>.

#### Frameworks/Standards

The frameworks developed in the project are available at <http://www.comprocom.eu/products/42-competence-frameworks>:

Chemical Engineering (Industriemeister) *SBG-Dresden*  
Innovation Management *ITeE-PIB*  
Business Administration for Entrepreneurs *die Berater*  
Management of a Social Enterprise *EETAA*  
Learning and Development Professionals *IITD*

#### Methodological manual

*Professional Competence Standards: guide to concepts and development.* Lester, S., April 2017.  
Available from <http://www.comprocom.eu/products/43-methodological-manual>.

#### Academic papers

Lester, S. and Religa, J. (2017) "'Competence' and occupational standards: observations from six European countries", *Education and Training* 59 (2), pp201-214.

Lester, S. (2017) "Reconciling activity-based descriptions of competence with professional work", paper currently in review, draft at [devmts.org.uk/compprofwork.pdf](http://devmts.org.uk/compprofwork.pdf)

A further paper is in development that will discuss the potential impact of the frameworks. Drafts of these papers are available from <http://www.comprocom.eu/products/44-theoretical-paper>.

## References

- Bednarczyk, H., Koprowska, D., Kupidura, T., Symela, K., and Woźniak, I. (2014) *Opracowanie standardów kompetencji zawodowych*. Radom: ITeE-PIB.
- Billett, S. (2009) "Workplace competence: integrating social and personal perspectives" in *International perspectives on competence in the workplace*, edited by C. Velde, pp33-54. Dordrecht: Springer.
- Bravenboer, D. and Lester, S. (2016) "Towards an integrated approach to the recognition of professional competence and academic learning", *Education + Training* 58 (4), pp409-421.
- Carroll, B., Levy, L. and Richmond, D. (2008) "Leadership as practice: challenging the competency paradigm", *Leadership* 4 (4), pp363-379.
- Eraut, M. (1998) "Concepts of Competence", *Journal of Interprofessional Care* 12 (2), pp127–139.
- Koniotaki, A. (2017) *Competence framework for the management of a social cooperative enterprise*. Athens: EETAA. ComProCom output.
- Lester, S. (2014) "Professional competence standards and frameworks in the UK", *Assessment and Evaluation in Higher Education* 39 (1), pp38-52.
- Lester, S. (2017) "Reconciling activity-based descriptions of competence with professional work", paper currently in review, draft at [devmts.org.uk/compprofwork.pdf](http://devmts.org.uk/compprofwork.pdf). ComProCom output.
- Lester, S. and Religa, J. (2017) "'Competence' and occupational standards: observations from six European countries", *Education and Training* 59 (2), pp201-214. ComProCom output.
- Mansfield, B. and Schmidt, H. (2001) *Linking VET standards and employment requirements*. Torino: European Training Foundation.
- Ogus, A. (2000) "Self-regulation", in *Encyclopaedia of Law and Economics*, edited by B. Bouckaert and G. De Geest, pp. 587-602. Ghent: Edward Elgar and the University of Ghent.
- Organisation for Economic Cooperation and Development (OECD) (2012) *Entrepreneurship at a Glance*. Paris: OECD.
- Religa, J. and Lester, S. (2016) *Models and uses of competence in six countries' VET systems*. Publication of the project ComProCom, available from <http://www.comprocom.eu/products/41-review-on-current-situation>
- Winch, C. (2014) "Know-how and knowledge in the professional curriculum" in *Knowledge, expertise and the professions*, edited by M. Young and J. Muller, pp47-60. Abingdon: Routledge.