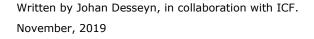# Mutual Learning Programme

DG Employment, Social Affairs and Inclusion

Peer Country Comments Paper – Belgium

Exploring the potential of AI to build an ever more comprehensive and intuitive competence system

Peer Review on "Competence Assessment System: MyCompetence"

Sofia (Bulgaria), 28-29 November 2019

Mutual Learning Programme
DG Employment, Social Affairs and Inclusion

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1   Introduction

This paper has been prepared for the Peer Review on "Competence Assessment System: MyCompetence" within the framework of the Mutual Learning Programme. It provides a comparative assessment of the policy example of the host country and the situation in Belgium. For information on the host country policy example, please refer to the Host Country Discussion Paper[1].

2   Situation in the peer country

Belgium is a federal state, with three communities and three regions. In Flanders, the Dutch speaking part in the north of the country, the Flemish community and Flemish region are one entity. As such, it is almost fully competent to organise its own labour market and educational policy, limited only by constraints stemming from the federal state. As policies evolve independently in Brussels and Wallonia, as well as in the French and German speaking communities in the south of the country, Belgium offers a diverse range of practices and measures, across regions. For clarity reasons this paper will therefore focus on the systems in place in Flanders.

In Flanders, there are two competence assessment systems, *Competent* and *Kwalificatiedatabank* (qualifications database). Both systems offer descriptions of job requirements, detailing the skills and competences relevant for an occupation and validated by the social partners.

The first system, *Competent*, is deployed by the Public Employment Service (PES) VDAB and mainly aims to establish a common language among employers, jobseekers and the employment service to foster proper matching of demand and supply on the labour market.

The second system, *Kwalificatiedatabank* (qualifications database), is deployed by Agency for Quality Assurance in Education and Training (AHOVOKS) and serves as a reference for educational standards.

To understand the current challenges and roadmaps in relation to these competence assessment systems, it is relevant to know that[2]:

- Flanders' labour market is tight, with very low unemployment rates (3,5% in 2018) but face important challenges to activate people currently not in the labour market in order to increase the employment rate and to compensate for the growing replacement demand.

- Like many other labour markets, Flanders is being impacted by new technologies and digitalisation, resulting in changing jobs and transitions in the labour market structure as a whole.

- Flanders provides high-quality education but faces challenges to keep its quality label and to adequately prepare students for current and future jobs. Participation in lifelong learning is only comparable with the OECD average and is low compared to high performing OECD countries. Flanders is also characterised by low labour market mobility (with an average of 11.5 years of job seniority in 2016).

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[1] Loukanova, P. (2019) Workforce Competence Assessment -in retrospect and in perspective, Host Country Discussion Paper – Bulgaria. Peer Review on "Competence Assessment System; MyCompetence", Sofia (Bulgaria), 28-29 November 2019. European Commission, DG Employment, Social Affairs and Inclusion.
[2] The figures mentioned in this paragraph come from the data of the 'Departement Werk & Sociale Economie', 2019.

3 National policies and measures

3.1 Description of the policies/measures

With respect to competence models and competence assessment systems, the two main initiatives are the already mentioned *Competent* and *Kwalificatiedatabank* (qualifications database). While both systems respond to the same labour market challenges in essentially the same way, defining and describing relevant sets of competences in a labour market context, they each present distinct focus and approach.

3.1.1 Competent

Competent is the Flemish online database for occupations and competences and an initiative of the interprofessional social partners. It contains 642 occupational profiles, covering the entire labour market. Each occupational profile consists of a title (i.e. the most common name for the profession), a definition, a short description of the job context referring to specific aspects like regulation and legislation, an overview of the relevant certifications and its embedding in one of the fourteen sectors, as well the description of how the job relates to similar positions. The main part of an occupational profile is the list of competences relevant for the job. *Competent* divides them in two categories: essential competences, which are always necessary, and optional competences, required only in specific job settings. Every competence is described as relying on specific skills and knowledge and being demonstrable through a series of behavioural indicators. Each profile also mentions the soft skills relevant to the job.

In total *Competent* distinguishes 5 299 competences, 5 047 skills, 3 709 knowledge elements and 26 soft skills.

The mapping of *Competent* in the International Standard Classification of Occupations (ISCO) and European Skills, Competences, Qualifications and Occupations (ESCO) is guaranteed through codes linking the database records of *Competent* with the international classifications.

Competent has been in place since 2012. It has been replacing analogue, non-databased versions of occupational competence profiles, that were the standard until then. Due to their limited impact, Flanders looked for an alternative offering more perspectives in terms of practical use (e.g. the potential to support or even drive digital labour market services)

The solution was found in the French *Répertoire opérationnel des métiers et des emplois* (ROME) and its *fiches métiers* (ROME-sheets for short) of *Pôle Emploi* (the French Public Employment Services)[3]. Up until today, the ROME-sheets represent the foundation of *Competent.* To transform the ROME-sheets into *Competent*-sheets and eventually into databased occupational profiles, three main steps are implemented: the sheets are translated, references to the French context are taken out, and the description of the competences are enriched by adding contextual elements like behavioural indicators.

The main goal of *Competent* is to establish a common competence language, as a prerequisite to match skills supply and demand in a tight and rapidly evolving labour market. The Flemish Public Employment Services (PES) VDAB became manager of *Competent*, hence the key beneficiary of the system became prominent in developing and deploying the tool.

Currently, *Competent* serves as a backbone for several of the services offered by VDAB. The most important application of *Competent* is in the generation of competence-based match suggestions between job seekers and vacancies. Both job seekers' profiles and skills demands in vacancies are described in terms of competences, thus enabling automated matchmaking. Any employer and any job seeker can use the competence model *Competent* to detail their demand and profile respectively, free of charge.

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[3] https://www.pole-emploi.fr/employeur/les-nouvelles-fiches-metiers-@/article.jspz?id=60703. Flanders tied in with the third version of the ROME-sheets deployed by *Pôle Emploi* since 14 december 2009.

Competent also serves as a reference framework to describe individual vocational training pathways in the context of certain apprenticeship programmes (IBO) and to report acquired competences after following a selection of training courses. It is also used to draw up personal development plans and to issue competence visa to workers in sectors undergoing restructuring[4].

Finally, the occupational profiles provided by *Competent* are also the primary reference for the development of professional qualifications, stored in the *Kwalificatiedatabank* (qualifications database).

3.1.2 Kwalificatiedatabank (qualifications database)

The *Kwalificatiedatabank* (qualifications database) is the second important catalogue of skills needs relevant to the Flemish labour market. Whereas enabling and supporting labour market services is the main goal of *Competent*, the primary goal of the database is to be the standard for educational and qualifying training trajectories.

The entirety of the qualifications in the *Kwalificatiedatabank* (qualification database) also represents the Flemish Qualification Structure (FQS). In accordance to the Flemish Parliament Act on the Flemish Qualifications Structure of 2009[5], the database allocates each qualification in one of the eight levels of FQS and references to the European Qualification Framework.

In principle professional qualifications are primarily based on the profiles of *Competent*, but they differ in the way they present the information. In contrast with *Competent*'s profiles, professional qualifications describe expectations referring to level descriptors, introducing, besides knowledge and skills also context[6], autonomy and responsibility as key elements. Moreover, professional qualifications are typically much more specific in how they describe competence needs compared to occupational profiles in *Competent*.

The coordination of the Flemish *Kwalificatiedatabank* (qualification database) is the responsibility of the Agency for Quality Assurance in Education and Training (AHOVOKS). AHOVOKS supports the sectoral organisations in the compilation of a professional qualification dossier and organises the validation and classification of the qualification.

The professional qualifications are the legal basis upon which qualifying trajectories in vocational education and training should by be build.

3.2 Analysis of the policies/measures

It is very interesting to see how two linked systems sharing the intention to improve transparency and mobility on the labour market, diverged over time into two competence models.

It appears that the rigid framework the ROME-sheets offered, provided a standard essential to build digital services upon on the one hand, but was sometimes less helpful to attain the support of the sectoral social partners for (some of) the occupational profiles on the other hand. Until recently there was a strict one-on-one relationship between ROME-sheets and *Competent*-profiles. Even though this did not impede its potential to make successful matches between job seekers and vacancies as VDAB pursued, sectoral social partners were in some cases reluctant to or even against using the *Competent*-profiles as an undisputed source and basis for the professional qualifications and the educational standard as a consequence. This resulted in competences added to or deleted from occupational profiles in the professional

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[4] The competence visa list the professional experience, training, language skills and competences of workers in a standardised way and confirmed by their employers to demonstrate peer potential in their search for a new job.

[5] Decreet betreffende de Kwalificatiestructuur; 30 april 2009, Brussels: Belgisch Staatsblad.

[6] 'Context' has been defined as a level descriptor referring both to the 'environmental context' and the 'actor context' characterizing the setting in which a qualification should be demonstrated.

qualifications – a flexibility *Competent* didn't allow – or professional qualifications being established whereas there was not an occupational profile in *Competent*.

The lack of flexibility of the initial profiles of *Competent*, along with the awareness that too specific descriptions of competences could be an obstacle to labour market mobility, explains why VDAB is currently using a new version of the ROME-sheets to radically reform *Competent*'s structure and to pass on from *Competent 1.0* to *Competent 2.0*.

The main adjustments being made are the following:

- Shorter, more general or transversal descriptions of competences. This results in a lower number of distinct competences and skills;
- Overcoming the strict on-on-one relationship with the ROME-sheets.

These reforms should result in a more flexible, modular competence model. *Competent 2.0* is already deployed in some new services that are being currently developed and will be fully deployed in 2020.

At the same time, efforts are made to align the activities (in particular the planning of the sector consultations) of AHOVOKS and VDAB in the development and update of profiles and qualifications.

Another important track towards the future and currently already under development is the application of Artificial Intelligence (AI) and analytics for deploying several new and mutually related services, e.g.:

- *Competentiezoeker* (Skills extractor): a tool to automatically extract competences from a unstructured text file, like a cv or short presentation and convert them into the standard language of *Competent*.
- *JobBereik* (Job Reach): a tool to visualise one's position on the labour market and the proximity of jobs based on shared competence needs and similarity in actual job holders using unsupervised clustering algorithms.

These and other new services in the pipeline should be interconnected using *Competent* competence model as a solid and shared backbone.

Less disrupting, but equally important at the moment are the incremental investments in the data quality of *Competent*. This work focuses on deleting redundancies and simplifying the descriptions. Along with the initiatives related to the use of analytics and AI, these adaptations should also contribute to the user friendliness and the intuitive character of the competence model, hence promoting the broad use of it and the services based upon. In this regard we should also mention the important, though yet embryonal ambitions to create a 'Citizen Profile', broadening the scope of assessing the competences of active job seekers towards the profiling of citizens in general.

Another challenge attracting attention, is how to formalise a process to accommodate profiles to new evolutions in competences and occupations or to even anticipate for expected changes in profiles. Currently user-generated feedback and AI-analyses, along with information provided by sector organisations fuel the update process. To guarantee that users who choose not to implement an update of the profiles, could still use the services relying on the profiles, a conversion module, detailing how versions relate to each other, ensures that different versions of *Competent* remain compatible.

4 Assessment of success factors and transferability

Success factors of the Belgian (Flemish) systems (*Competent* and/or the *Kwalificatiedatabank*):

- Data-based competence model, offering the possibility to exchange and reuse data across services (no siloed tools);

- Modular, and thus flexible competence model, constantly considering the optimal balance between specific competences and transversal, general competences;

- Developed and maintained by the key beneficiary of the service: the VDAB for *Competent* and AHOVOKS for the *Kwalificatiedatabank*;

- Intense involvement of the interprofessional social partners and the sectors in the development and update of profiles and qualifications, attempt to align planning of sector consultation between VDAB and AHOVOKS.

Transferability of the Belgian (Flemish) system (*Competent* and/or *Kwalificatiedatabank*):

- *Competent*'s standard language, *Competent*'s database engine and *Competent*-based services (e.g. matching) can be used by other organisations and in other countries. The standard language is already shared with other PES in Belgium (Synerjob-partners) and with Luxemburg. Switzerland and The Netherlands consider the use of the database engine and open services are utilised by over 300 organisations including PES of other countries (e.g. Malta).

- Reducing the number of competences, units of knowledge and skills, by describing each of them in a more general and transversal way, thus contributing to the transparency of the labour market and promoting non-traditional matches and (inter-sectoral) mobility.

- The application of the competence model and assessment system by the PES (Public Employment Agency), as it implements the model across the whole labour market, reaching many potential beneficiaries at once. This may be particularly useful to sustain the *MyCompetence* in Bulgaria, in times where the tight labour market does not push for competency assessment at the stage of recruitment in companies.

- Strong orientation to underpin services by AI (i.e. *Competentiezoeker*) and to use (AI-driven) analytics to monitor evolutions on the labour market and evolutions in competence requirements. Over time AI may help to overcome the irony of divergence in competence models, stemming from diversity in use cases for a common competence language. The possibility of automatically generated classifications may not be an idle imagination.

When it comes to the transferability of MyCompetence's practices, the following aspects need to be considered:

- Enrichment of occupational standards with economic sector information, especially to contribute to the design and definition of promising personal development plans;

- The elaboration of linked e-learning tools and development resources in addition to the competence model. To some extent also the assessment functionalities and the possibility to build your own e-portfolio could be considered an extension of the current systems in Flanders: today *Mijn loopbaan* (MyCareer), the portal to the services for jobseekers of VDAB only offers the possibility to self-report competences based on the competence model. *Profielbouwer* (Profile Builder) is a tool which will result in a interoperable skills portfolio, but is still under construction.

- *MyCompetence* is a source of inspiration as it seems to have realised a way to integrate projections of necessary competences in the future within the profiles. A proper integration of forecast insights could be helpful both in support of career guidance and the development of educational and training curricula.

5   Questions

- Is MyCompetence the only tool and sole basis of all labour market services in Bulgaria? If not, how does MyCompetence relate to those other tools and systems?

- MyCompetence represents a comprehensive system offering not only a competence model, but also a series of related services as competence assessments, training offers and a skills portfolio platform. How and to what extent are all these services linked together and have they been validated in relationship with the competence model?

- How does the update strategy for the competence models look like? How does MyCompetence react to or anticipate on changing requirements or even new jobs and how does it incorporate projection information?

- Is it right to say that MyCompetence is able to reconcile the diverse expectations of different labour market actors, with respect to a common competence language in one single competence model? If yes, what is the key element in explaining that diverse beneficiaries can rely on one model for multiple use cases?

6   List of references

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Annex 1 Summary table

The main points covered by the paper are summarised below.

Situation in the peer country

- Belgium is a federal state. This paper focuses on the competence assessment systems being in place in Flanders, the northern and Dutch speaking part of Belgium.

- There exist two systems in Flanders: *Competent* as reference framework for non-qualifying purposes and the *Kwalificatiedatabank* as a reference for qualifying purposes.

- Current challenges and roadmaps for the systems stem from a tight labour market, requiring optimal matching tools; a labour market in transition, requiring a structural and targeted effort in terms of upskilling and reskilling of the labour force and an educational system challenged to keep up with changing skills demand and the need to develop transversal competences in students.

Assessment of the policy measure

- The shared challenge of developing a common competence language ironically didn't prevent that the two systems in place, *Competent* and the *Kwalificatiedatabank,* diverged over time, due to the diverse expectations of the stakeholders and different levels of flexibility demonstrated in their development procedure.

- Especially within *Competent*, the use of shorter and more transversal descriptions of competences is being implemented, adding flexibility and transparency across profiles.

- Whereas today *Competent* is still mainly a database of competences and occupational profiles used to map supply and demand and match job seekers with vacancies, a series of more advanced services based on this same back bone is under construction or planned for the near future.

- A lot of attention is put on improving the data quality and intuitiveness of the model thus fostering its daily use by an ever-expanding group of citizens and companies.

- A crucial challenge is how to retrieve and incorporate insights in the future development of skills needs in the profile and standards.

Assessment of success factors and transferability

- Transferable characteristics of the Flemish 'Competent' system include the competence language, the database engine and the related services.

- Transferable practices present in Flanders include the application of the competence model by the PES and the use of AI and analytics to fuel services and to gain insights.

- The holistic nature of MC can inspire the Flemish practice to elaborate on the current services already in place.

Questions

- Is MyCompetence the only tool and sole basis of all labour market services in Bulgaria? If not, how does MyCompetence relate to those other tools and systems?

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Annex 2 Example of relevant practice

Name of the practice:	Competent
Year of implementation:	2012
Coordinating authority:	VDAB (Public Employment Service of Flanders)
Objectives:	Establishing a common competence language, as a prerequisite to match skills supply and demand in a tight and rapidly evolving labour market.
Main activities:	• Establish and update occupational standards, where possible aligned (in terms of planning) with the development of professional qualifications by AHOVOKS (education agency); • Build and implement/deploy (open) labour market services (e.g. matching of supply and demand); • Revisit the structure of the competence language in order to optimize the flexibility and user-friendliness of the services; • Promoting the use of the common language by as many relevant partners as possible.

Results so far:	Used as a backbone for:
	
	• The self-assessment of competences by career owners in the context of presenting themselves available for job opportunities through *Mijn Loopbaan* (My career), the jobseekers' window on the labour market offered by the VDAB;
	
	• The competence-based processing of job offers registered by VDAB, enabling the matching of the offers with the profiles of jobseekers;
	
	• Open labour market services used by about 350 organisations;
	
	• More (AI-driven) services recently developed, under construction or planned, including tools to:
	
	   – Visualise possible career paths;
	
	   – Automate the detection of competences in free text files;
	
	   – Enable the draw up of interoperable portfolios.