



**Network for future innovation of major competences
in vocational education and training in construction**

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Phase 6:
Role of VET-centres
in
Building Information Modelling – BIM
Worked based learning
Digitalization
Transition in VET



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Bildungszentren des
Baugewerbes e.V.

Comprehensive situations in partner organisations/regions

by

Exchange of Ideas and Good Practices

The previous phases in this project dealt with the four main topics 1. Building Information Modelling (BIM), 2. Work Based Learning, 3. Digitalisation and 4. Transition in VET seen from different points of view, like: 1. from companies, 2. from stakeholders in initial VET, 3. from stakeholders in further VET and 4. in the light of existing curricula/contents/methods.

Bearing in mind also the numerous questionnaires and interviews that have been conducted in all partner regions/countries, the exchanges of experiences and opinions, which have been realized during the 8th project meetings as well as the frequent interaction with the Conference on Project Development (CPD), with which NETconVET has interacted 6th times throughout the project life cycle, NETconVET concludes the following for the role of VET-centres:

BIM and VET centres

VET-centres in the construction branch in Europe but in small also in the partner countries of NETconVET do have an interpretation of their roles and tasks, which cover a wide range. When focussing on BIM, nevertheless there are mainstream topics and activities, that all VET-centres have expressed in their experiences in NETconVET. In a short list they are:

- Sensitizing / informing: most of the members and / or customers of VET-centres are small and medium sized companies (less than 20 employees) with their staff, be it apprentices/students/trainees in initial vocational education and training or skilled staff to be further trained. They focus on daily tasks and assignments. New developments and formal technical obligations are dealt with, when necessary for business and for legal demand; so is it with BIM. It will become essential in the future to deal with this topic and technique as well as to apply it either as a leading instance or also as being a subcontractor for bigger companies. In either case staff has to be trained in BIM in the one or the other way. Hence, the role of VET-centres in this sphere is to bring entrepreneurs and leading staff first to think about BIM and then hopefully train staff from a very early stage in the working life onwards.

- Gathering offers: VET-centres' role is also to assist member companies in bringing transparency in BIM-software available to operate with. There are at least more than a handful of major software solutions which stand for the majority of applications while dealing with BIM. To help them select appropriate software and to balance advantages and obstacles in using this or that software can be of big support to compete at the market.
- Training for apprentices/VET-students/VET-trainees (in short "apprentices"): There could be mainly two options how to bring apprentices closer to BIM. One is via formal VET defined in curricula, which can be influenced among others by VET-centres on medium and long term only. On the other hand it can be offered optional in voluntary periods of attendance in the VET-centres; this could be done relatively quickly. In most schedules of VET-centres in Europe, there are flexible periods, when apprentices are there voluntarily/optional; an attractive additional VET-offer could promote this. Basic knowledge can be taught then and experience can be gained by participating in short sequences of BIM applications in order to promote the use amongst (mostly) young workers.
- Training for skilled staff: already experienced staff of companies could need BIM-knowledge and BIM-skills based on current or future aspects of their jobs or assignments. VET-centres will anticipate the needs of these people on-site and design proper courses and seminars to train them. Pre-requisite is that the VET-centres have own staff or can engage external experts to conduct the training.
- Training for entrepreneurs: Almost the same stands for company owners. Despite other aspects, they decide upon who of their workforce is going to be trained with what and when. Hence, addressing entrepreneurs with BIM-related topics is decisive to reach regular staff as long as workers to not have an intrinsic motivation to upskill in BIM by themselves.
- Training for public authority staff: The situation with public authority staff is somehow different since the necessities and tasks of public authorities are touched by legal obligations to deal with BIM in tenders of defined volumes. Hence, skilled staff in construction related offices and departments are obliged to be trained in BIM under distinct circumstances.

- Living laboratories: some VET-centres are already experienced and proceeded on the learn curve. They can present “BIM-parcours” or similar what can be used as living laboratories. These ‘LivingLabs’ offer opportunities to experience BIM related applications or at least digital innovations connected to BIM. One example is gaining data via NFC – Near Field Communication or feeding BIM software. BZB Krefeld can offer this for example.
- Projects: not least projects of national and/or European stage can boost the offers for different target group mentioned here. The NETconVET project partners have met and currently meet in different BIM-related projects to increase the number and quality of VET-offers for people in initial training (SiBIM: Step into BIM → lead by Coventry University), in training for regular workers (Icons → lead by Scuola Costruzione Vicenza Andrea Palladio) or skilled staff/entrepreneurs (“Schaufenster Digitales Handwerk” → lead by BZB Krefeld).

Work based learning and VET centres

- Sensitizing / informing: Mostly VET-centres are facilitators of training. They have an important role and position in the (tri-parted) relation between companies, (VET-) schools and themselves. One task is to inform about career paths (→ see here under “Transition in VET”). They are partners for companies about training offers and modalities how to convey training as well as for schools in order to organize practical insights for youngsters into professional opportunities (making temporary job placements available via contact to companies)
- VET-offers initial training: the core of all operations is offering and conducting training for apprentices / VET-students / trainees, whatever the target groups are called in the particular country. This includes the practical part of any school-based training as well as training within dual training systems.
- Training for skilled staff / further training: this is the second main field of operation of VET-centres. In dialogue with companies there is an offer for specific trainings (partly based on legal requirements with obligatory certifications) that reflect market needs of companies to compete with other market actors.

- Action / market orientation: Any operation is orientated towards people being able to practically operate in companies and to further develop own professional positions for active participation as a market stakeholder.
- Projects: local, regional, national and supra-national projects are brilliant opportunities to develop additional, optional and innovative contents, methods and approaches to update, modernize and enrich VET-offers. VET-projects are timely-limited activities and they regard content exactly defined developments. Mostly these new developments are being tested with different VET-target groups and hence results of the testing shows how to implement new VET in regular VET in training centres, VET-schools or companies. These innovations are mostly optional and non-formal. Exemplary projects, which arose from NETconVET in this field of activity are CODESMA → lead by Coventry University or D-VET-Hub → ERASMUS+ application by BZB Krefeld.

Digitalization and VET centres

Often Digitalization is mixed up with BIM; but BIM is only one facet of this. A particular opportunity for VET-centres lies in the facilitation of digitally enriched VET in order to get VET-target groups accustomed to a more digital context in companies and on sites. This is less dealing with pdf-formats (of course also included) but more with APPLications, online-portals, internet based tenders, serious gaming in VET, semi-practical online simulations (e.g. entrepreneurial trainings), online-communication and online-etiquette.

But VET-centres do have to re-organize themselves in terms of becoming more digital. The daily operations are increasingly digital due to third parties requirements.

Exemplary projects, which arose from NETconVET are Tyco(o)nstructor → lead by Open University of the Netherlands or SoMExNet → lead by CentreIFAPME in Belgium.

Transition in VET and VET centres

VET-centres also act as facilitators between schools and working life. In the transition phase from school to apprenticeship or other vocational trainings, VET-centres are able to offer orientation in terms of job-profiles, how and where to apply for a job (matching applicants and companies), VET-procedures (alternating periods in VET and exams) or future opportunities (career paths). VET-centres can accompany people throughout a long period to support

them in development of skills, steps to take in the personal development and consider aspects for personal professional decisions. This includes to also open up construction for under-represented groups e.g. girls/women.

VET-centres can thus offer an individual guidance for personal and company development.

Exemplary projects which arose from the interaction of NETconVET and CPD are UniVET → lead by Talentbrücke in Germany or WomenCanBuild → lead by Fundación Laboral de la Construcción.

VET-projects and VET-centres

The main opportunity for VET-centres to engage in projects on transnational stage is ERASMUS+. It offers the chance to develop and test new approaches with the help of European funding. VET-centres often face shortages in staff being able to apply for funding, conduct projects and report them properly, since project activities are extra terrain for most VET-centres besides their regular tasks.

There are networks like the Conference on Project Development (CPD) – all NETconVET partners are member in the CPD – which meet regularly and exchange about fields of interest in (construction) VET. The current work and activities are subject to intense exchange in order to further develop own VET-offers and adjust them transnationally by jointly applying for European funding and jointly conducting these projects. During 8 NETconVET meetings from 2017 - 2020 there was an mutual integration with CPD in six CPD-meetings.

In recent years this has lead to more than a dozen of VET-projects in different areas of operation: new technical developments, strengthening the importance of communication and soft skills, presenting innovative ways to integrate digital methods in VET (simulations, MOOCs, VOOCs, entrepreneurial games for training, etc.), forstering the engagement of girls and women in the construction sector or improving the image of the sector.

NETconVET partners represent a fraction of the bigger circle of NETconVET stakeholders.

Facilitation of VET and VET-centres (indirect financing and administrating)

The before written proves that VET-centres have quite a number of tasks from being facilitators of VET. This ranges from development and/or application of concepts and curricula in VET followed by organising and conveying theory and training up to documentation, reporting and financial documentation and financial reporting. Sometimes also taking exams and issuing certifications can be tasks of them or at least professional preparation of apprentices to pass formal exams. This requires a high quality work force being allowed and being trained for training of people ; mostly these are professional experts form the practical field of construction. Furthermore it needs workshops and classrooms as well as a proper (digital) infrastructure.

VET-centres do provide with information in schools about careers in construction, they conduct VET and they offer higher VET as well. They observe the market and develop new offers based on qualifications needs of employees in companies.

Hence VET-centres merge a variety of requirements of different stakeholders in the VET-market. They match interests and support people with professional orientation. Not least they cooperate with each other on different levels (regional, national, European) in order to accumulate new mainstream ideas and spill these ideas into concrete initiatives and projects.

Exactly the very final statement was realized in NETconVET – from exchanging of ideas to approaches and eventually into concrete initiatives (→ together with CPD) and project like exemplary mentioned in this report.



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