Water sector professional -
skills and competence gap Latvia

- Motivated desire to be in the water industry;
- Willingness to study continuously and independently (not only in the specificaly on topics covering water sector)
- To be able to share your experience with industry colleagues
- Supportive
- Don't be afraid to ask and take on responsibilities (but not too much, within reason)

Table: Skills and competences that future Water sector professionals currently lack but desperately need in Latvia

Progression routes for Regional CoVE Water Latvia

Key Issues

There is lack of education of Industry, they can't define needs of future employees, they do not understand that are customers (do not understand option of – to sit in driver seat). Awareness raising is needed

Business Model Canvas or Activities

Involvement of Industry representatives (experienced but retired VET teacher, experts from waterworks and Cleantech cluster) as an expert in development of the modular education programs (EQF 4-5).

Synchronisation of new modular programs in EQF 4-5 with Baltic region. Needed synchronisation with Western and Central Europe (PoVE partners).

Outcomes

Two new modular education programs for waterworks and companies of waste management:

- "Environmental Equipment Technician" (EQF 4), direction - automation modules, electricians, both computer and programmers, construction, mechanics and control systems, can be tested firstly for c-VET in end of 2021 or 2022.
- "Environmental Technician" (EQF 4), direction - analytics, documentation, management, can be tested firstly for c-VET in 2023.

The collaboration with Latvian Employers Confederation and Latvian Water and Wastewater Works Association, Riga Technical university and Cleantech Latvia cluster have been established by designation of experts to work in national expert panel with intension to increase

		the level on Vocational education. Initiated discussions with potential industrial teachers to understand the possibility on involvement in development of study programmes and lecturing.
Limited number of successful collaboration projects with industry where result is the commercialization of technologies – strengthen triple helix	There is an example of spin-offs in development of technologies: 1. *Conelum* from RTU, where dairy industry operates as playground; 1. *Watson* from RTU, where municipal waterworks operates as playground. Mentioned examples missing involvement of VET schools.	Needed improvements in Knowledge triangle (involvement of companies - technology producers, and VET schools).
RTU Department of Water and Engineering Technologies (DWET) had limited number of training facilities for students	Promotion of pilot equipment, for example: (a) sewage treatment plant, dimensions - height 2000 mm, diameter 1400 mm from VET school to waterworks of municipality. This equipment was purchased more than 10 years ago and need to be updated; (b) sludge dewatering pilot 3 m3/h with technology provider. Involvement in education process the technology manufacturers/ distributors (above mentioned example (b)) to use their facilities for training of students.	Strengthened technical material base for training. Cooperation of higher education (HE) institution with industry in education process of students. Cooperation between HE and industry can be improved by introduction of other HE organisations (University of Agriculture and Life Sciences of Latvia) and VET schools. Initiated the discussion on consolidation of training facilities within HE institutions and VET schools. Some first cases have been introduced within RTU (Faculty of Civil Engineering and Faculty of Mechanical Engineering, Transport and Aeronautics).
In Latvia only RTU OTK provides Biotechnology and Environmental Technology higher professional education programmes. This leads to the lack of experience exchange within the country.	Synchronisation of study programms of RTU OTK (EQF 4-5) with RTU and University of Latvia jointly developed bachelor program "Biotechnology and bioengineering" (EQF 6) and tested since 2020. Development of informative material (electronic, flyers etc) explaining education pathway in water sector in Latvia and few examples with possibility education in partner countries.	Clear Education pathway for students. Cooperation between VET and HE institutions to use similar methods, common training facilities and jointly improve staff (teachers) experience.

Current project activities (creation of a hybrid teaching environment) create opportunities for paid industry trainings (adult education).

Assessment of EQF 4-5 teachers' competences and knowledges (teachers from VET, HE and industrial teachers/from companies). Development of portfolio of water sector teachers.

Awareness raising and application of work-based learning (WBL) principle for municipal companies (waterworks) and technology providers.

Understanding for needed improvements of teacher's competences (teachers training, incl. – international via PoVE 2.0) and possible resources for teacher's salaries.

VET education more orientated for market needs.