

Human Capital Agenda GroenvermogenNL

Making knowledge flow for the hydrogen transition



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Innovation engine for the
green hydrogen economy

Making knowledge flow for the hydrogen transition

Much new knowledge is required to ensure the success of the hydrogen transition. This is why GroenvermogenNL (GVNL) invests in R&D, demos and pilots. To deploy this new knowledge in the labour market, GVNL connects knowledge development activities to regional learning communities where innovation, learning and working come together. This is how GVNL ensures skills transfer: new knowledge generated by research and innovation is converted into new skills for professionals and students. These learning communities are the foundation of GVNL's Human Capital Agenda.

Skills transfer through learning communities

To ensure skills are transferred, GVNL encourages applicant consortia to seek cooperation with regional learning communities. This will foster collaboration between businesses, researchers in all fields, and students and lecturers (including research lecturers) from all relevant vocational and higher education institutions. Together, they can develop specific approaches to the specific fields of research where innovation, learning and working will come together.

Learning Communities

PPPs at the intersection of innovation, working and learning. They build on existing initiatives and structures, such as the PPPs in Centres of Innovative Craftmanship and Centres of Expertise, Fieldlabs, research groups and expertise platforms.

What are they?

- Public-private partnerships between research/innovation institutions, the education sector and the business community and public sector organisations.
- Physical locations with teaching facilities.
- Concrete outputs and products: applied research, education and training programmes, skilled students and professionals.
- Driven by the Key Enabling Methodology (KEM) of the Learning Communities.

Areas of expertise and/or application

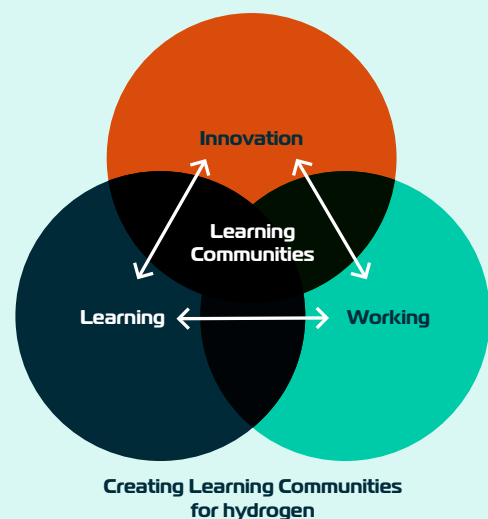
- Clear focus on a specific sector, theme or area of application, or a combination of these.

What do they do?

- Rapidly transfer new knowledge to education programmes and working practice.
- Conduct applied research.
- Develop new education and training programmes.
- Facilitate smart forms of knowledge and skills transfer (digital, hybrid).
- Jointly increase the training capacity (lecturers).
- Provide formal and informal training of professionals.
- Make large systems available for educational use.
- Develop certification and accreditation programmes.
- Provide a transparent and accessible range of education programmes and modules.

Who is involved?

- Research and innovation labs.
- Education sector: vocational and higher education.
- Business: frontrunner companies and innovative SMEs.
- Public sector organisations.
- Public and private training providers.



From learning communities to educational institutions and SMEs

Lectors (research group leaders) at universities of applied sciences and practors (teacher-researchers) at vocational institutions are indispensable members of research consortia. They are specialised in applied research and translating this into training programmes for students and professionals. Together, they play a pivotal role in the success of the transition. Thanks to the applied nature of their research, they are also closer to the SME sector, and can initiate projects with individual SMEs to ensure that knowledge is developed and transferred to the SME sector as a whole. Here, special attention must be paid to both the known, and as yet unexplored, potential of the vocational institutions. Vocational trainers and students who participate in applied knowledge development can transfer this new knowledge relatively easily to working practice, and so to SMEs and larger businesses.

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Practors

Practors (teacher-researchers) are the figureheads, inspirers and/or driving forces behind the expertise platforms of the vocational institutions. A practor is responsible for the development, application and sharing of knowledge, both within their own vocational institution and beyond. Applied research and the professionalisation of teaching staff are also important responsibilities.

Expertise platforms are the centres of expertise of the vocational institutions. They focus on developing and sharing knowledge which is then applied in practice. Expertise platforms also actively involve the business community to promote innovative capacity in the sector and help the further development of senior secondary vocational education. They experiment, explore the latest innovations and test the boundaries of their own field in close consultation with the professional field and research centres. They also make sure to share the experience they gain with the outside world.

Lectors

Universities of applied sciences appoint lectors to lead research groups. The core tasks of the lector are related to research, teaching and professional practice. Lectors are responsible for initiating, developing and conducting applied research. The lector encourages knowledge innovation and the professionalisation of lecturers in close consultation with professional and teaching practice.

Applied research at universities of applied sciences is inextricably linked to education. The research is aimed at raising the quality of students, matching the education programme to current developments in practice, and introducing innovations to professional practice. All research takes place within this triangle of research, education and professional practice. The lector is at the centre of this triangle.

Strong collaboration between universities of applied sciences and vocational institutions

Universities of applied sciences and vocational institutions have an important role to play in both education and research to answer the new challenges and strengthen cooperation. In several regions, they have already developed successful and proven approaches to this end. These approaches have proven their effectiveness and are a valuable addition to research and innovation.

“The university of applied sciences is at the centre of this cooperation; the involvement of vocational institutions assures added value.”

Examples

1. Communities for Development in the South-East region: these are communities of students and professionals, with a foreman-coach who helps them to focus on innovation, professionalisation and training.
2. The ART (Applied Research Team) is a team of students and researchers in the East region that is generating and sharing knowledge and developing practical applications in response to research questions from the professional field.
3. On the Greenwise Campus in the North-East region, students, trainers, researchers, businesses, local government and civil society organisations all come together. The Greenwise Campus offers a multidisciplinary environment with plenty of interaction with practice.

New forms of cooperation such as this that combine skills and knowledge development can inspire more new and concrete collaborations in which the triangle of learning, working and innovating is further developed. Each form of cooperation depends on the context and is designed to achieve optimal impact in the region. In each example, the university of applied sciences is at the centre of the cooperation and the involvement of vocational institutions assures added value. Bottlenecks are still experienced where vocational institutions participate in

Bottlenecks in the participation of vocational institutions in public-private partnerships

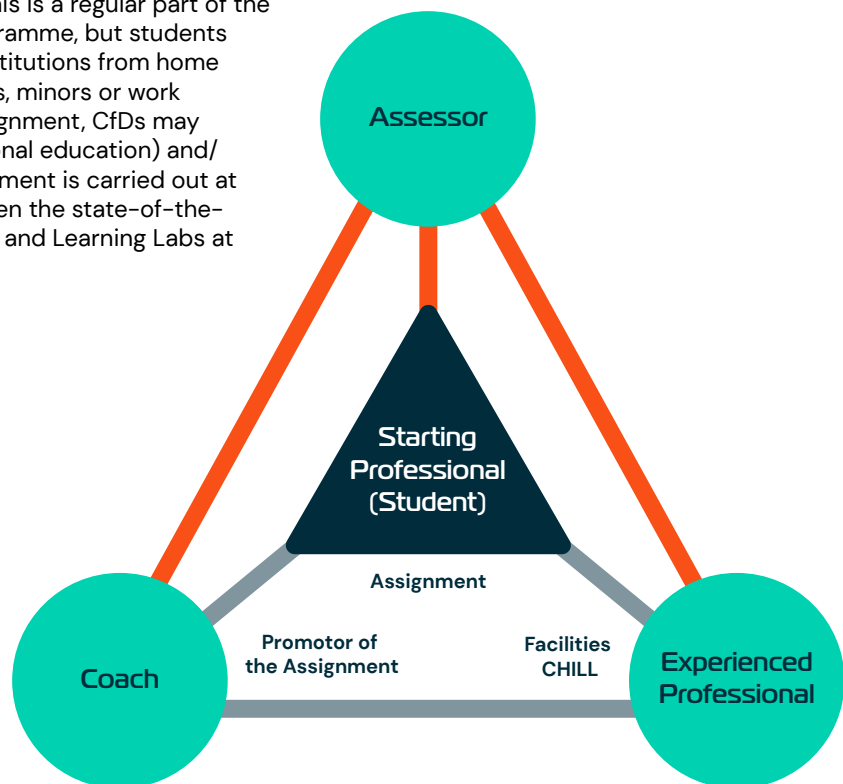
public-private partnerships such as learning communities. One is that vocational institutions are classified as economic actors for state aid for their research, which means that grant rates are lower than for universities of applied sciences and research universities. Furthermore, vocational institutions and the public-private partnerships they participate in do not yet receive the recognition they deserve, nor the corresponding accreditations. It is important to resolve these bottlenecks to ensure more participation by vocational institutions and so add more value to the innovation ecosystem.

Communities for Development (South-East region)

In so-called Communities for Development (CfDs), students and experienced professionals work together to find a solution to a practical challenge, coached by a researcher. The relevant research group focuses on this assignment and the learning outcomes are evaluated by an independent assessor. The deployment of experienced professionals as co-leaders assures the quality of the research result and lowers the threshold for the starting professional (student). Besides facilitating the development of knowledge, which can flow back into the teaching process, this coach also assures the continuity of longer projects where several CfDs are involved. In addition, the coach plays an important role in knowledge development and filling knowledge gaps (using literature, their network, etc.).

“The research assignments connect innovation, professionalisation and training focussing on the themes of Molecular Health, Circular Materials and Sustainable Chemistry.”

The research assignments connect innovation, professionalisation and training focussing the themes of Molecular Health, Circular Materials and Sustainable Chemistry. This is a regular part of the curriculum of the Applied Science programme, but students from other academies or knowledge institutions from home and abroad often participate in projects, minors or work placements too. Depending on the assignment, CfDs may be multilevel (from university to vocational education) and/or interdisciplinary. The research assignment is carried out at the location that is best suited to it, often the state-of-the-art facilities of the Chemelot Innovation and Learning Labs at the Brightlands Chemelot Campus.



Applied Research Team (East region)

The Applied Research Team (ART) is all about innovation and focuses on knowledge development, practical applications and knowledge sharing. Their starting point is a research question from the field, with short lines of communication with the clients. In addition to the researchers, students with a passion for innovation play an active role at various levels and make crucial contributions to the team.

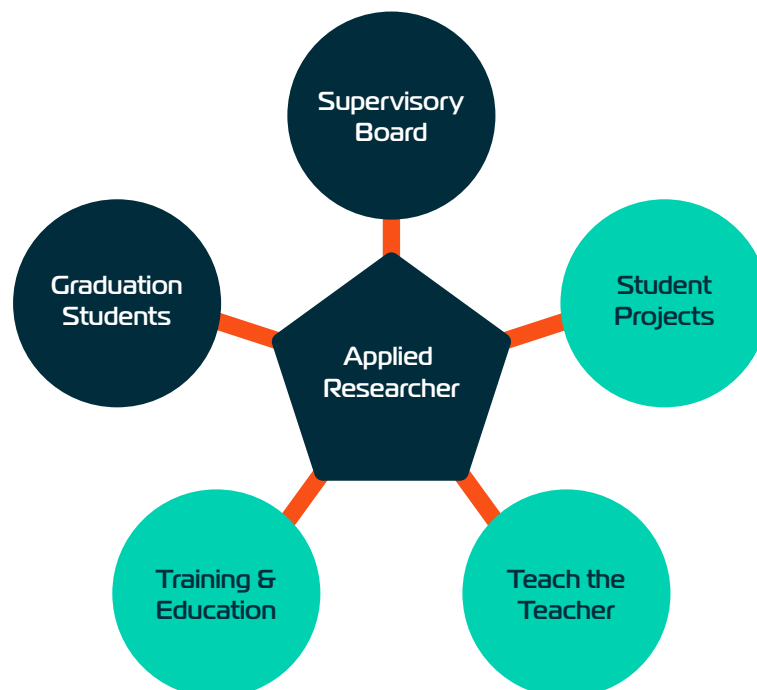
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Together with the Supervisory Board, the ART aims to maximise the impact of the knowledge developed through their research. This advisory body consists of experienced professionals from academia and industry.

Innovation, working and learning go hand in hand and form a dynamic mix.

The mission extends beyond only research: the team develops resources and materials to transfer knowledge to teachers and professionals and so contribute to a better future.

Applied Research Team





Greenwise Campus (North-East region)

At the Greenwise Campus, the University of Groningen, NHL Stenden University of Applied Sciences and Drenthe College work together with businesses, so enhancing the region's innovative capacity and economic strength and retaining regional talent. An example project is the regional production of green hydrogen using alternatives to fresh water, such as seawater and sewage water. The hydrogen produced in the newly built test facilities is used by the business community.

“The innovative capacity and economic strength of the region are enhanced and regional talent is retained.”

Want to know more?

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