

# KEEPING KNOWLEDGE FLOWING FOR HYDROGEN TRANSITION



# Keeping knowledge flowing for the hydrogen transition

For the hydrogen transition to succeed, a lot of new knowledge is needed. That is why GroenvermogenNL invests in R&D, demos and pilots. To deploy this new knowledge on the labor market, GroenvermogenNL connects knowledge development with regional learning communities where innovation, learning and working come together. In this way GroenvermogenNL gives substance to skills valorization: valorizing new knowledge from research and innovations by developing the skills of professionals and students. These learning communities form the foundation of GroenvermogenNL's human capital agenda.

## Skills valorization through learning communities

To shape skills valorization, GroenvermogenNL encourages applicant consortia to seek cooperation with regional learning communities. This creates a collaboration and approach between companies, researchers from all walks of life, and students and (inquiring)

teachers from across the range of (vocational) education (wo, hbo and mbo). Together they can develop the approach per research where innovation, learning and working come together.

**Learning Communities: PPPs that form the pivot between innovation, working and learning. They build on the existing initiatives and structures, such as the PPPs in CIVs and CoEs, Fieldlabs, lectureships and practorates.**

### What are they?

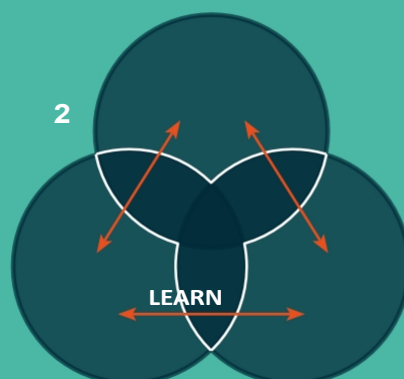
- Public-private cooperation between research/innovation, education and business/public organizations.
- Physical location(s) with facilities.
- Concrete outputs and products: application-oriented research, education and training programs, educated students and professionals.
- Established through Key Enabling Methodology (KEM) of Learning Communities.

### Expert and/or application areas

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

### What do they do?

- New knowledge fast to education and the workplace.
- Application-oriented research.
- Develop new education and training programs.
- Smart forms of transmission (digital, hybrid).
- Increase training capacity together (teachers).
- Training (including informal) of professionals.
- Making large-scale facilities available.
- Certification and recognition.
- Transparent and broad accessibility of courses and modules.



INNOVATE  
LEARNING COMMUNITIES

WORK

## Who will participate?

- Research and innovation labs
- Education: wo, hbo and mbo.
- Business:  
front  
runner  
companies  
and  
innovative  
SMEs.
- Public organizations.
- Public and private educators.

## Translation to training and SMEs

In order to achieve this, professors from universities of applied sciences and practitioners from intermediate vocational schools are indispensable in research consortia. It is their specialty to make the translation from practice-based research to the training of students and professionals. Together, they have a central role in making this a success. Moreover, with applied research, they are closer to SMEs and can initiate projects with SMEs so that knowledge development with and knowledge valorization to SMEs is given form and substance. Here special attention is needed to exploit the (unknown) potential of the MBO. MBO teachers and -students who participate in knowledge development will use practical research to make new knowledge relatively easy to make practical, and thus applicable to (SME) companies.



**Lecturers from colleges and practitioners from MBO institutions are indispensable in research consortia.**

### Practor

A practioner is a figurehead, inspirer and/or motor of a practorate in an MBO institution. A practioner is responsible for the development, application and dissemination of knowledge, both within the institution and outside. Practice-oriented research and the professionalization of teachers are also important tasks.

Practorates are the centers of expertise in the mbo. They are focused on sharing and deepening knowledge to then apply it in practice. In doing so, practitioners actively involve the business community to promote the innovative power of the sector and the further development of senior secondary vocational education. Practorates experiment and explore innovations on the borders of their own field and in coordination with the work field and research centers. In doing so, practorates share their experiences with the outside world.

### Lecturer

Colleges appoint professors. The lector's core tasks are related to research, education and professional practice. A lecturer is responsible for initiating, developing and conducting practice-oriented research. In interaction with professional practice and in connection with education - the lector stimulates knowledge innovation and the professionalization of teachers.

Applied research at universities of applied sciences is inextricably linked to education. Research is aimed at increasing the quality of students, connecting education to current developments in practice and introducing innovation in (professional) practice. That is why the research always takes place in the triangle of research, education and professional field. The lector has a pivotal role in this triangle.

## Strong collaboration by high school and college

So: in a new, challenging approach to strengthen the connection, colleges and MBO institutions are needed in both teaching and research. In a significant number of regions, colleges and MBO institutions have already developed successful and proven approaches to this. These approaches have already proven to work and are a valuable complement to research and innovation.

### Examples include:

1. Communities for Development in Southeast Region: in this community of students and professionals, a cooperating foreman coach provides focus on innovation, professionalization and training.
2. ART, the so-called Applied Research Team, through which a mixed team of students and researchers in the East Region works on knowledge development, practical applications and knowledge sharing, starting from a question from the field.
3. Greenwise Campus in Northeast Region: This is where students, teachers, researchers, companies, governments and civil society organizations come together. Greenwise Campus offers a multidisciplinary environment, with plenty of interaction with real-world practice.

New forms of collaboration like this, combining skills and knowledge development, can inspire even more concrete new collaborations in which the triangle of learning-working-



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innovation is developed integrally. Each form, of course, depends on the context and is designed to achieve the optimal impact in the region. But in all these examples, the college has the central role and there is additional added value through the involvement of MBO institutions.

## Bottlenecks in participation by mbo in public-private partnerships

There are still bottlenecks experienced in the participation of MBOs in public-private partnerships such as learning communities. One of these is that MBO institutions also count as economic parties in the state aid regulation for their research, which means that subsidy percentages are lower than for colleges and universities. Also, the (re)recognition of MBO institutions and their public-private collaborations as an interesting cooperation partner still lags behind. For better participation of MBO institutions and thus higher added value of the innovation ecosystem, it is important to solve these bottlenecks.



## Communities for Development (Southeast region)

In so-called Communities for Development (CfDs), students and experienced professionals work under coaching from a researcher on a field challenge. The assignment is central to the research group and the learning outcomes are mapped by an independent assessor.

Deployment of an experienced professional as 'collaborative leader' ensures the quality of the research result and a low threshold with the novice professional (student). In addition to building up knowledge, which flows back into education, this coach ensures continuity in longer projects on which several CfDs are working.

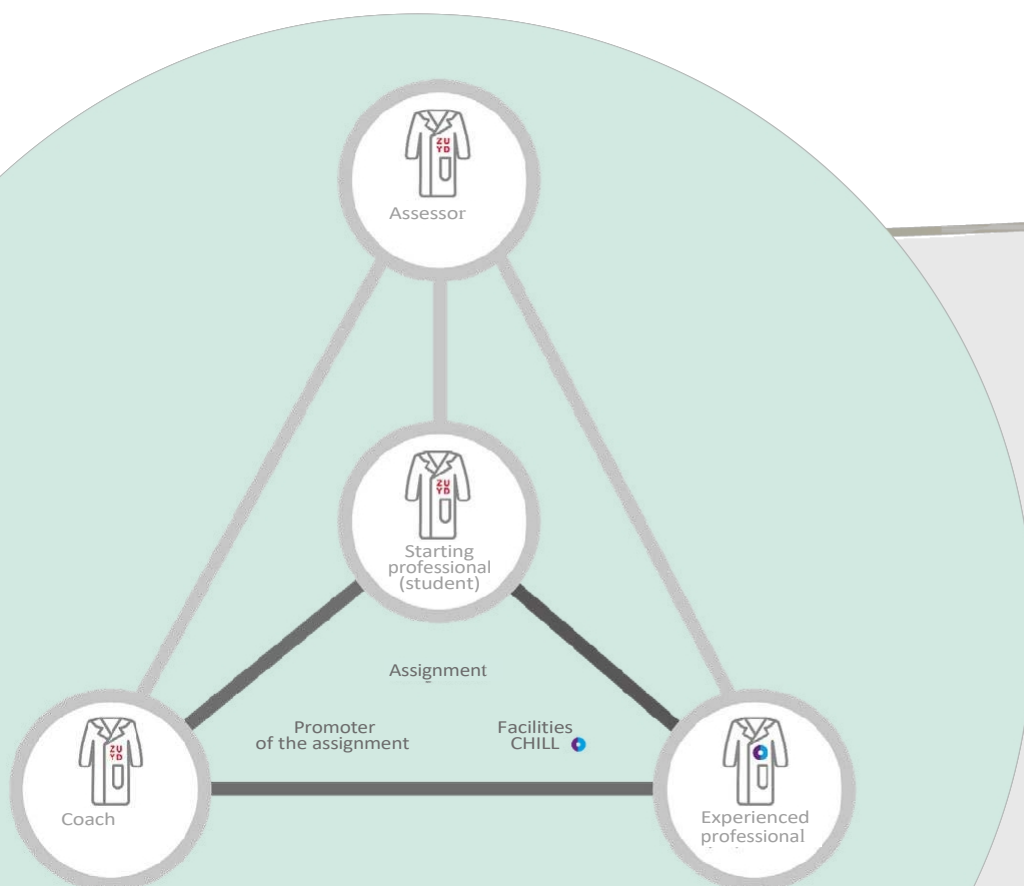
In addition, the coach is important for knowledge and filling knowledge gaps (literature, network, et cetera).

The assignments connect innovation, professionalization and education on the themes of Molecular Health, Circular Materials and Sustainable Chemistry. For the Applied Science program this is a regular part of the curriculum but often students from other academies also participate



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or knowledge institutions from home and abroad in the context of a project, minor or internship. Depending on the assignment, there may be multilevel (wo, hbo, mbo), interdisciplinary CfDs. The assignment takes place at the location that is best for the assignment. Usually this is the state-of-the-art facilities of the Chemelot Innovation and Learning Labs on the Brightlands Chemelot Campus.





## Applied Research Team (East Region)

The Applied Research Team (ART) works on innovation, focusing on knowledge development, practical applications and knowledge sharing. A research question from the field is the starting point, with short lines of communication with clients. Students play an active role at various levels. So within the team, in addition to researchers, there are also passionate students who make a crucial contribution.

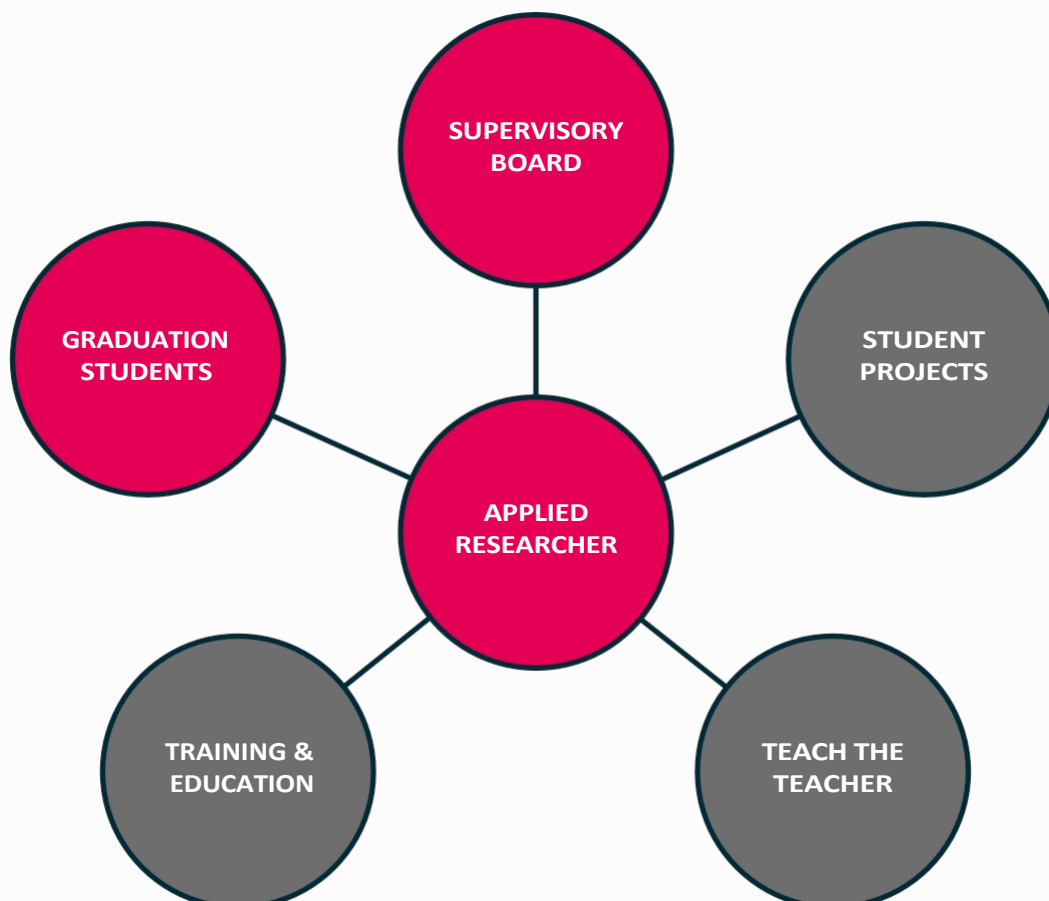
Together with the Supervisory Board, we strive to maximize the impact of the knowledge developed in research. This advisory body consists of experienced and knowledgeable professionals, from both academia and industry.

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

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

## Applied Research Team



## Greenwise campus (Northeast region)

At the Greenwise Campus, the University of Groningen, NHL Stenden and Drenthe College are working together with companies, thereby strengthening the region's innovative capacity and economic strength and retaining talent for the region. One way this is being done is through regional production of green hydrogen from alternatives to pure water such as seawater and sewage. Facilities have been built, with which tests are carried out. The resulting hydrogen is used by the companies use.

**The innovative capacity and economic strength of the region is enhanced and talent is retained for the region.**



**Want to know more?**

Contact Koen Maassen at [k.maassen@groenvermogennl.org](mailto:k.maassen@groenvermogennl.org)  
or visit [www.groenvermogennl.org/human-capital-agenda](http://www.groenvermogennl.org/human-capital-agenda).