

Text

Presenting the petition "Flow to the Future in the Netherlands" to the Permanent Parliamentary Committee for Education, Culture and Science (VKC-OCW) on 6th June 2023 at 1:45 p.m. in the House of Parliament ("Tweede Kamer").

Dear parliament members,

The Netherlands neglects its engineering sciences!

When we look at scientific fields, we often think: what's new is hot. But what is old and has lasted for a long time, well, it will continue to hobble...

For example, there is a lot of political attention for artificial intelligence, for quantum, for nano..... but what about classical engineering sciences such as materials science, measurement and control technology, and fluid mechanics?

It seems like we don't think those are important anymore. Or that they will continue to exist without us investing in them!

Today we draw your attention to fluid dynamics. For more than a century, the Netherlands has been at the forefront of the world when it comes to measuring and calculating fluids. At the beginning of the 20th century, the Dutch fluid dynamics scientist Jan Burgers already worked for Nobel Prize winners such as Kamerlingh Onnes, but he also designed the ventilation system of the Maastunnel in Rotterdam.

And so it has continued over the past century: Researchers of world renown and fame conduct groundbreaking research in fluid mechanics AND they use their knowledge for practical solutions. Before the word valorisation was invented, fluid dynamics was already doing it: applying fundamental knowledge to major societal challenges.

It is a problem that fluid mechanics is mainly recognized by its applications, but is not recognized as an important pillar in fundamental science.

Due to the compartmentalization of ministries, this leads to subordination:

- At the Ministry of Education, Culture and Science, fluid mechanics is mainly seen as an application area, but not as a scientific discipline. For example, the discipline falls outside the Science and Technology sector plan.
- At the Ministry of Economic Affairs and Climate Policy, fluid mechanics is seen as a scientific discipline, but not as key technology that is important for societal applications. For example, it falls outside the list of key technologies for the Ministry's National Technology Strategy.

Fluid dynamics researchers score very well in European programs where such compartmentalization does not exist. For example, Professor Detlef Lohse, who is here with us, received an ERC Advanced Grant for his work in fluid mechanics for the third time this year. A rare hat-trick and an indication that the fluid mechanics community in the Netherlands is still playing in the Champions League of science today.

We call on you to bridge the gap between OCW science on the one hand and EZK technology on the other, to eliminate the gap so that fluid dynamics and other engineering sciences get a fair chance. We advocate recognition from two sides: from science and from innovation.

Today we present to you the report 'Flow to the Future in the Netherlands', in which we show you which groundbreaking science is taking place in the Netherlands, and the impact that Dutch fluid dynamics has on our economy:

- about 19,000 people work in and with fluid mechanics
- at about 1100 companies
- this leads to approximately 11.5 billion euros in output per year

In your debates on science policy and innovation policy, mention the important position of fluid dynamics. We call on you: ask the Ministers of Education, Culture and Science and Economic Affairs to recognize the importance of engineering sciences to the Netherlands, in particular fluid dynamics.

Thank you very much.