

**TOP
DUTCH**
Naturally leading
the transition

Your guide to...

THE TOPDUTCH REGION

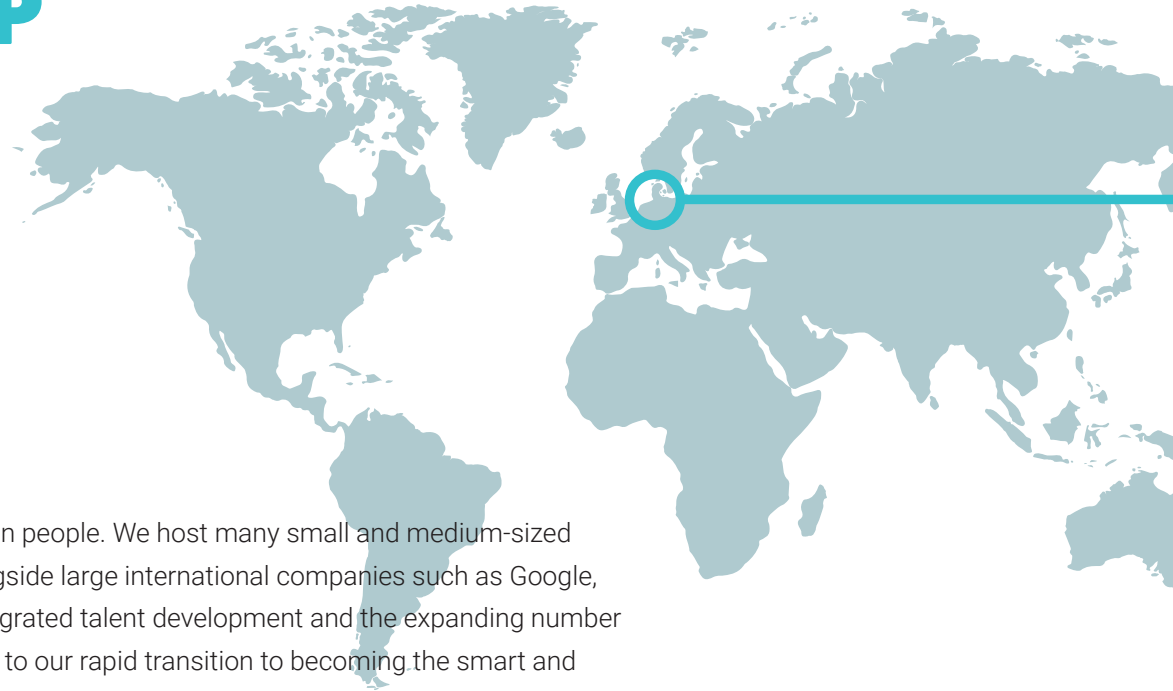


TopDutch is the economic region of the Northern Netherlands. We're TopDutch because we're located literally at the top of the Netherlands, bringing together the provinces of Groningen, Friesland and Drenthe. And on top of that, we're TopDutch because we're home to top Dutch business ecosystems, knowledge and solutions.

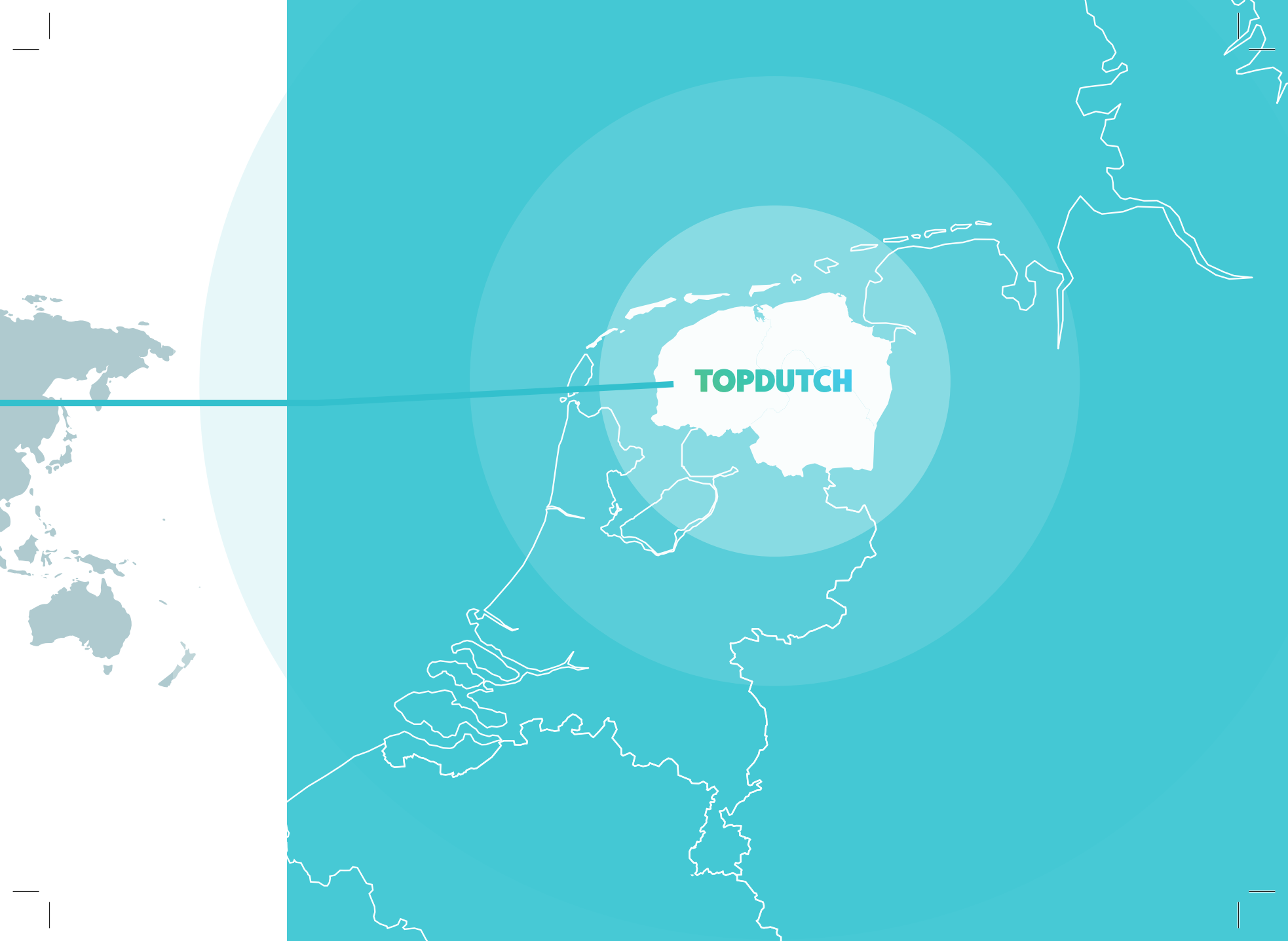
We're leading key, system-level transitions by building smart and sustainable solutions for global challenges, and inviting ambitious talent and business to join us. Because we believe the best way to predict the future is to create it together.

- 1. EXPLORE TOPDUTCH 4**
- 2. EUROPE'S GREEN POWERPLANT 14**
- 3. HEALTHY AGEING & WATERTech
CAPITALS OF EUROPE 22**
- 4. EUROPE'S DIGITAL TEST GROUND 28**
- 5. FASTEST GROWING START-UP
ECOSYSTEM 32**
- 6. BEST CONNECTED GATEWAY TO
EUROPE 36**

TOPDUTCH PUTS THE NORTHERN NETHERLANDS ON THE MAP



The TopDutch region is home to 1.7 million people. We host many small and medium-sized businesses and intelligent start-ups, alongside large international companies such as Google, IBM and Shell. Regional partnerships, integrated talent development and the expanding number of strategic international alliances are key to our rapid transition to becoming the smart and sustainable region of the future.



TOPDUTCH

#1

most competitive economy in Europe: WEF Global Competitiveness Report

1.3 trn

GDP (USD) of the Netherlands 2022

#1

most connected country, DHL Global Connected Index 2022

170m

customers within 500km

#3

financing for start-ups and scale-ups, WIPO Global Innovation Index 2022

OUR ECONOMY

We have the most competitive economy in Europe - and fourth most competitive worldwide -according to the World Economic Forum's 'Global Competitiveness Report'.

GDP & Prosperity

We're a small country but a big economic player. We have the 5th largest economy in the EU - in terms of gross domestic product (GDP) and the 2nd richest population in the EU - in terms of real disposable income: Despite being only 23rd in size.

Fiscal Incentives

TopDutch businesses benefit from competitive corporate income tax rates, a wide tax treaty network and a number of attractive incentive programs, including special provisions for highly skilled expatriate workers.

At 25.8% (and 19% on the first €200,000), the Netherlands has one of Europe's most competitive corporate income tax rates. Certainty in assessments relating to future tax positions also helps multinational companies to thrive here.

The Netherlands assists companies who need to bring employees in from other countries through a number of tax provisions. These include a sizeable limited-time tax break (the 30% ruling) and tax-free ability to reimburse international school fees, relocation expenses and moving allowances.



Dataport Eemshaven (Groningen Seaports)



Infrastructure

The Netherlands is the world's most connected country. For the tenth time, the Netherlands came first on DHL's 2022 Global Connectedness Index. Our excellent physical infrastructure, strategic location and super-fast internet helps us stay globalized.

Regional economy in transition

Our global economy is undergoing a large-scale transition. Old industries need deep restructuring and new industries are constantly arising.

In the TopDutch region, we're leading that transition, naturally. Together, we're building smart and sustainable solutions to global challenges, and developing the applications and talent we believe are key to unlocking the economy of the future.

Here, top-rated knowledge institutions and government agencies naturally come together and are focused on co-creating system-level transitions across our region's key industries, including green energy, green chemistry, digital innovation, WaterTech, life sciences & health and AgriFood.

OUR PEOPLE

From kindergarten to retirement, TopDutch talents are constantly developing.

Education

Already in elementary school, our children foster an exploratory spirit and independent thinking with our 'learn through play' mentality. At the same time, they're learning multiple languages as a child, which is why 90% of our adults are fluent in English, and many in other major languages such as German, French or Spanish.

Once they've grown to adolescence, the 130,000+ annual TopDutch students gain access to one of the leading higher education systems in Europe. Here, they can choose between our world-renowned research universities, universities of applied sciences, and vocational education, depending on the type of skills they desire and the sort of career they'd like to develop. The curated mix of educational levels complement each other, with different expertise working together to optimize output.



no. **1**
happiest kids in the
world



4
research universities
and universities of
applied sciences



no. **3**
on IMD's World
Talent Index 2022

Business Culture

Our world-renowned knowledge institutions produce internationalized and specialized fresh talent every year, who join the workforce to add to our talent pool ranked no.3 in the world, according to the IMD's World Talent Appeal Index 2022 . Their hard work made us the 5th most innovative country worldwide, ranking in the top 3 in terms of our business environment, financing for start-ups and online creativity .



no. **1**
most proficient
non-native English
speakers



60k
IT-skilled workers in
our talent pool



no. **5**
on WIPO Global
Innovation Index
2022





Quality of life

Here in the TopDutch region, our landscape is a great mix of dynamic cities and tranquil countryside. Our residents can enjoy all the benefits of city life, whilst still being surrounded by vibrant natural environments. We're also less crowded than the western part of the Netherlands: Which means less traffic, cleaner air, lower costs of living and less pressure. We're a seriously good place to live - proven by the fact that our city of Groningen is ranked as the 5th happiest place on earth by the World Happiness Report!

The TopDutch region has always had a healthy attitude to work/life balance. We know that quality downtime is an important contributor to better productivity. We're very successful in combining work, family commitments and personal life. In the Netherlands, moms or dads often work part-time, facilitating both parents to take on a dual role, and contributing to the overall wellbeing of all household members. No wonder our citizens have some of the best work/life balances in the OECD and our kids are the happiest worldwide, according to UNICEF.

THE HEART OF EUROPE'S GREEN POWERPLANT

Built on Europe's largest natural gas reserve, the TopDutch region has powered economies across the region for decades. Now, we're splitting up with fossil fuels and instead investing in infrastructure, education and innovation for green energy.





By 2030, we'll see:

120GW

Offshore wind capacity in the North Sea

10 bn

USD investment into the TopDutch hydrogen cluster

21GW

Offshore wind capacity in the Netherlands

6,800km

Pipelines transporting hydrogen internationally from TopDutch

100PJ

Hydrogen produced in the TopDutch region





Energy production

The North Sea as Europe's biggest green power plant.

The Netherlands, together with 8 other European countries, have pledged to expand offshore wind capacity to 120GW by 2030, and 300GW by 2050, representing €800bn of investment.

In the Netherlands, this represents a target to raise our offshore wind capacity from 11GW (2023) to 21GW by 2030, reflecting about 75% of our current electricity consumption.

The TopDutch region as a leading green powerhouse, and our coastline as a key energy port.

There are approximately 2,500 MWs of wind projects currently operational in the Northern Netherlands. And we're scaling-up fast. We will generate 12.2 TWh of on-shore wind and solar power by 2030. In addition to the existing 600 MW production capacity in wind parks off the TopDutch coast, we have plans for another three sites totalling 4,700 MW.





Energy storage

With over half of the Dutch energy supply and one third of the European energy supply coming from the North Sea in a matter of years, our location presents large-scale energy storage and hydrogen production and storage potential on TopDutch's extensive coastline.

The natural business location for a new hydrogen economy

Our inherent natural resources, and existing energy infrastructure, skills and knowledge made us the natural choice for Europe's first Hydrogen Valley. With the HEAVENN large-scale demo cluster now in full swing, we will continue to lead Europe's hydrogen economy with 100PJ p.a. by fulfilling a \$10 billion joint investment agenda by 2030.

An energizing environment for battery technology

Our open and connected knowledge networks facilitate breakthrough advancements from fundamental science to market. We are accelerating innovation in 6 key competencies across the battery technology value chain: 1) Battery concepts: materials and cell designs; 2) Equipment for cells, modules and packs; 3) Electric mobility: heavy duty and flying; 4) Stationary storage: grid stability; 5) Safety and data security; 6) Circular batteries: re-use, second use and recycling.

Powering key system transitions

Green Chemistry

Our Green Chemistry ecosystem, Chemport Europe, will be the first fossil-free and carbon dioxide-negative chemical cluster. It consists of three integrated chemical clusters where entrepreneurs, government and knowledge institutions collaborate in Chemport Europe with the shared ambition: Changing the nature of chemistry.

Digitalization

Our digital innovation cluster is making the New Energy System smarter with AI. The AI Hub Northern Netherlands aims to make the TopDutch region a testing ground for concrete applications of Artificial Intelligence. They are building a roadmap for AI in the energy transition By bringing knowledge gaps and TopDutch AI knowledge institutions together we will accelerate the energy transition through efficiency gains and smarter energy systems.

Mobility

We have one of the most developed green mobility markets, leading in ZEV policy, innovation and production. The Netherlands' mobility target is to sell only zero-emission vehicles by 2030 (BEVs or FCEVs) and have 3,000 heavy-duty FCEVs on the road in the Netherlands by 2025. TopDutch are producing several new energy vehicles, including the cult-classic EV three-wheeler Carver, and we host Europe's first ever hydrogen truck plant.

“

We have room in this area, to grow and to live. We have the right education centers and companies that are motivated to do the energy transition, but also government who is really stimulating it. So, come and join us!”

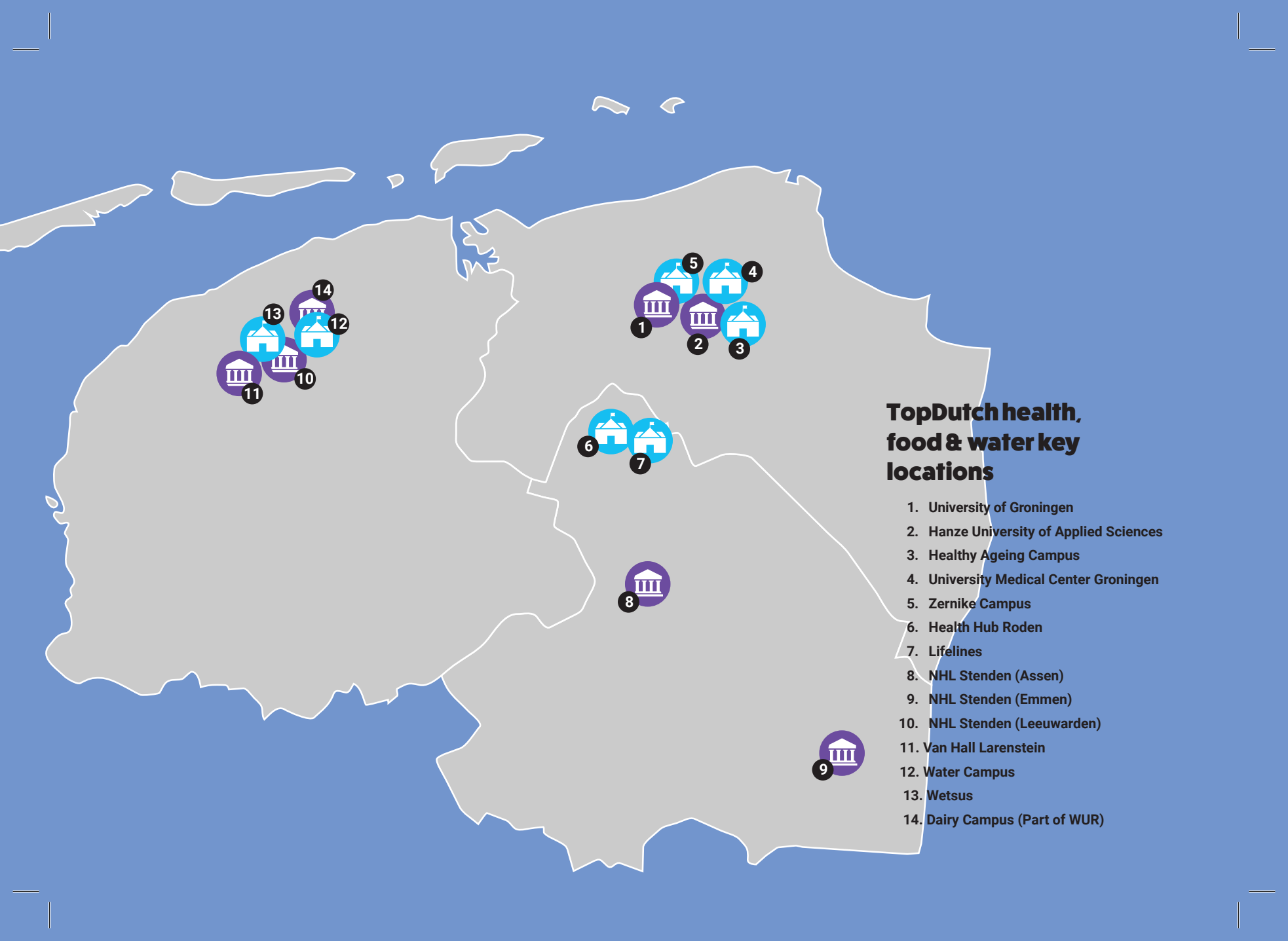
Rob Castien

**Resato Hydrogen
Technology**



HEALTHY AGEING AND WATERTECH CAPITALS OF EUROPE

In the TopDutch region, healthy ageing is in our DNA. Our longstanding expertise in life sciences & health, WaterTech and AgriFood now allows us to naturally lead the transition in the global food, water and health systems.



TopDutch health, food & water key locations

1. University of Groningen
2. Hanze University of Applied Sciences
3. Healthy Ageing Campus
4. University Medical Center Groningen
5. Zernike Campus
6. Health Hub Roden
7. Lifelines
8. NHL Stenden (Assen)
9. NHL Stenden (Emmen)
10. NHL Stenden (Leeuwarden)
11. Van Hall Larenstein
12. Water Campus
13. Wetsus
14. Dairy Campus (Part of WUR)



Europe's reference region for healthy ageing

Life Sciences & Health

With a decades-long focus on healthy ageing and prevention, TopDutch is recognized as a four-star reference region for Active and Healthy Ageing by the European Commission. Thanks to our network of breakthrough fundamental and applied researchers, innovative businesses from start-ups to multinationals, and cooperative government and civil society, we are leading Europe's transition to sustainable healthcare.

We are the BioAnalysis Capital of Europe, with the largest BioAnalytical capacity and diversity in Europe. Our open ecosystem of research institutions, bio- and databanks, innovation labs and business networks create the infrastructure within which groundbreaking CROs can easily settle and thrive.





A complete chain of sustainable WaterTech innovation

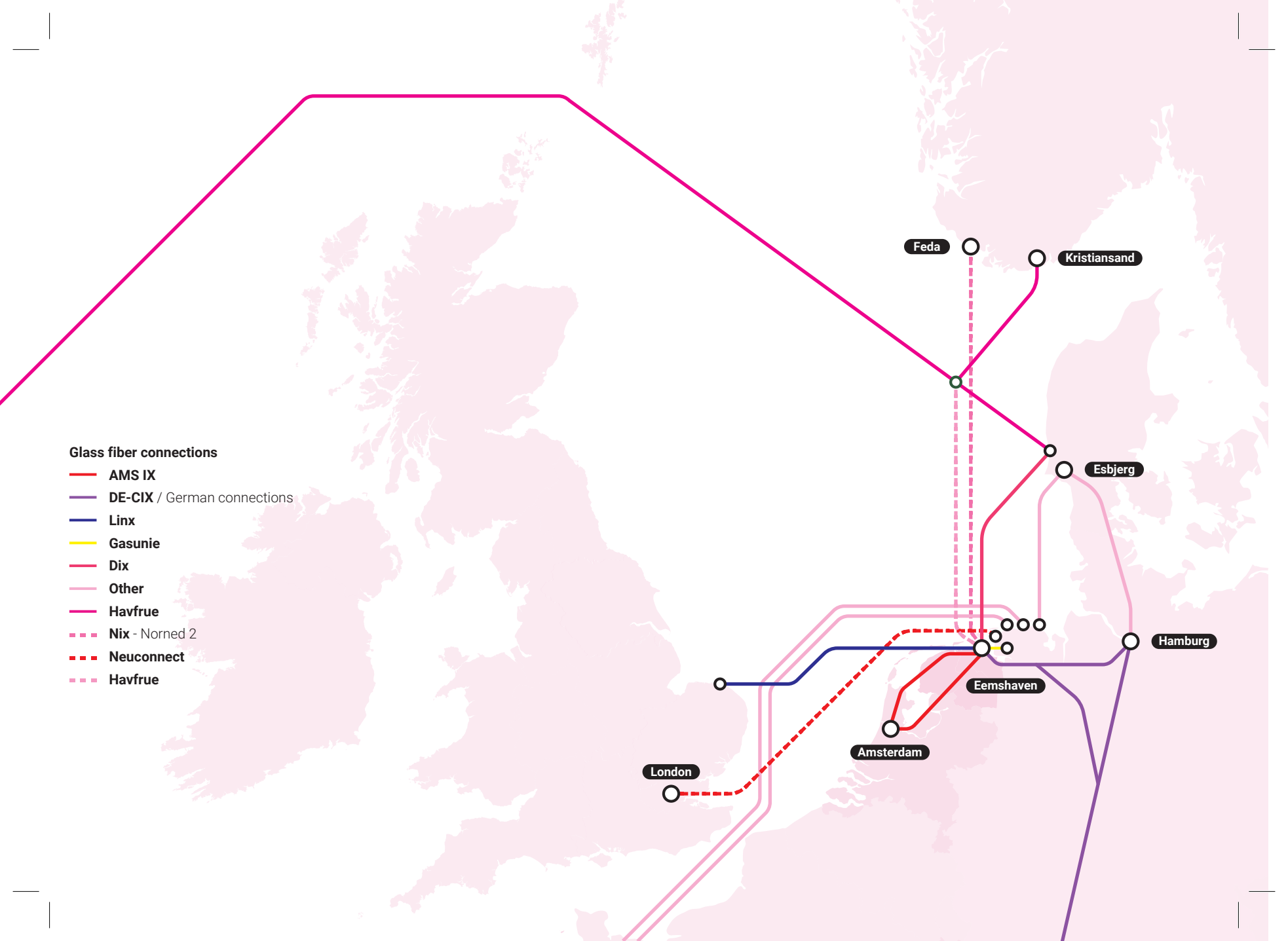
The city of Leeuwarden is globally recognized as the the WaterTech Capital of Europe. It is home to the WaterCampus, which drives innovation for WaterTech in the Netherlands, Europe and beyond. WaterCampus is home to five education/ training institutes (including Wetsus) and 25 companies, including CES award-winning Hydraloop systems. The WaterTech Capital of Europe is also well-connected: It has direct connections to 21 European universities and research institutes in Wetsus, to 200 companies connected in the Water Alliance and to 5 global hubs in the Global WaterTech Hub Alliance.

In the TopDutch region, our AgriFood ecosystem is growing a healthy future

As a small, densely populated country, the Dutch were driven to optimize their agricultural yield, whilst still being committed to sustainable agriculture. Realizing unparalleled yields and becoming the world's second largest exporter of food, it may well be the Dutch who will guide the world on how to feed the 10-11 billion people that will inhabit planet Earth by 2040. Gaining a global leadership position in agriculture because of their strong focus on input, in the Netherlands we are now expanding our expert position and impact by maximizing value from output, creating the food, bio-based and circular value chains of the future.

EUROPE'S DIGITAL TEST GROUND

Leading in education, research and development for digital innovation, the TopDutch region is quickly becoming one of the smartest regions in the world. Our research centers work with global tech giants such as Google, Facebook, IBM, and also SME business partners to support business operations in the region, and our tech scene has laid the foundations for some of the world's most exciting tech start-ups and scale-ups.



Digitalizing key system transitions

Clean Tech

Our green chemistry and energy ecosystems are leading the sustainable transitions with CleanTech. Our expertise in Big Data optimize biotechnical, chemical and energy-intensive processes. Cross-linked with our energy industry, we use big data to make our energy-intensive processes more efficient and develop new energy technologies, applications and processes together with the New Energy Coalition and AI Hub Northern Netherlands.

Health Tech

Cross-linked with our life sciences & health industry, we have set up big data labs such as dHealthLab and DASH (data science in health) for developing and testing smarter health care and healthy ageing solutions. TopDutch's e-health cluster is leveraging our region's expertise in big data, AI, and sensor technology to create applications that improve patient experience, outcomes and efficiency.

Industry 5.0

With a technologically-ready workforce and ambitious businesses, our key industries are digitalizing at warp speed. Fueled by EDIH Northern Netherlands, we are Europe's leading testing ground for autonomous systems.

“

When we brought up Groningen we had an opportunity to start day one powered by 100% renewable energy. In this case wind. The talented workforce, the favorable economics, all of these came into play...”

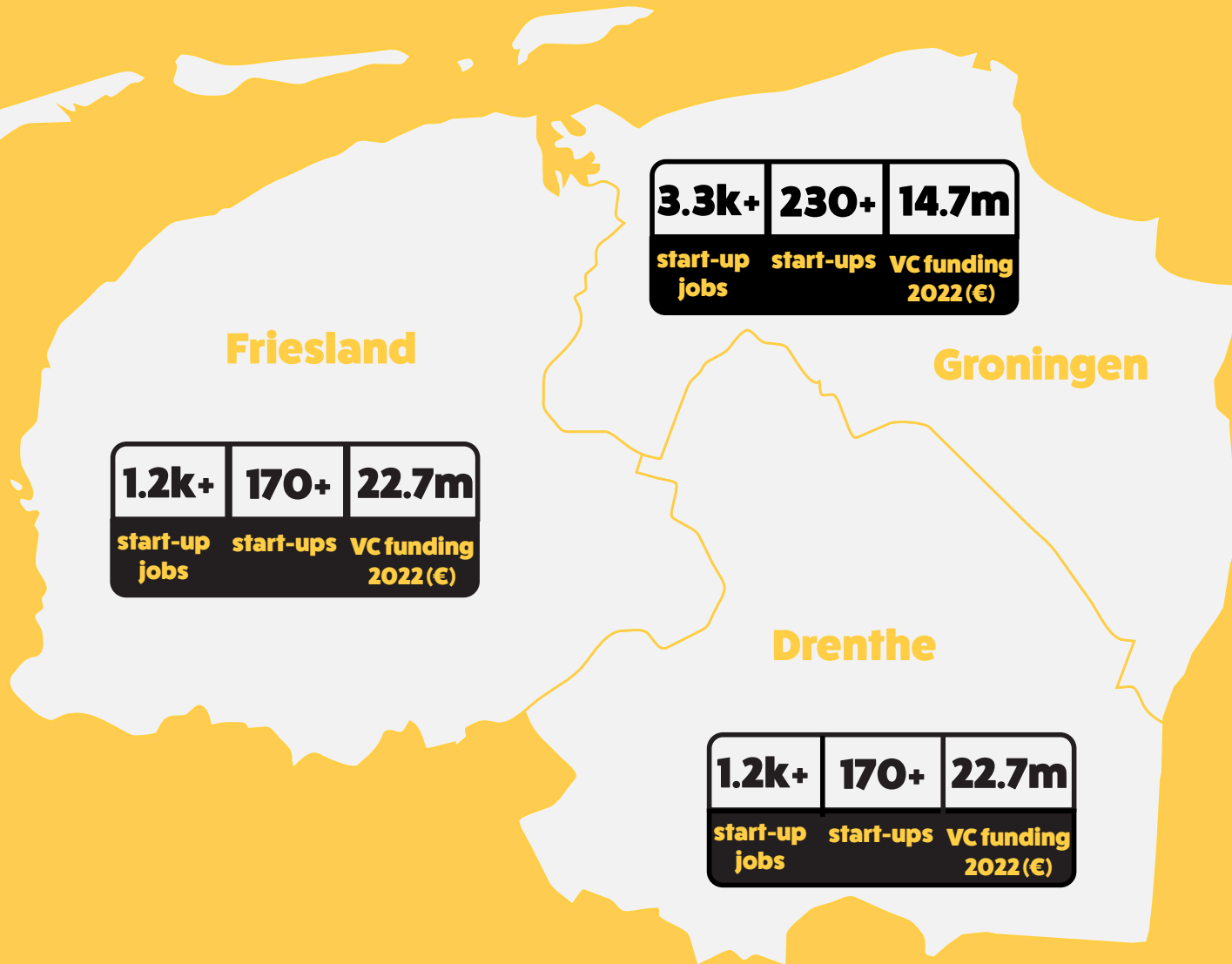
Jim Miller

Google



FASTEST GROWING START-UP ECOSYSTEM

The tight-knit business community and collaborative culture of the Northern Netherlands makes fertile ground for innovative start-ups across a wide range of industries. Well-established firms are always willing to give the youngsters a hand, and the communities of start-up ecosystems, accelerators and shared facilities makes the sharing of knowledge and skills all that easier.





TopDutch tech start-up Alyx

The TopDutch region is a hotspot for impactful new start-ups. Our province of Groningen has the fastest growing start-up ecosystem in the country, growing by an average of over 12% per annum for each year since 2018, equating to over 1,200 new start-up jobs within 4 years. Our provinces of Drenthe and Friesland are also powerful catalysts, with Frisian start-ups raising €22.7M in VC funding in 2022 and Drenthe employing over 600 people across 40 start-ups.

This growth is supported by our tight-knit communities of start-ups, scale-ups and established firms, who can connect, collaborate, and knowledge-share via our dedicated innovation institutions; Founded in Groningen, Founded in Friesland and Ik Ben Drents Ondernemer. They are dedicated to supporting more high-quality start-ups from pre-seed to scale-up via four pillars of development:

- 1. Access to talent** – stimulating the development of a diverse and entrepreneurial pool of talent across a variety of walks of life (e.g. students, researchers, experienced workers, medics etc.) and supporting their start-up ambitions.
- 2. Access to technology** – closing the gap between (new) technologies and new business solutions.
- 3. Access to market** – facilitating access to the market for start-ups by organizing regional public and private launching customer initiatives, networking opportunities and (international) missions.
- 4. Access to capital** – creating an optimal investment climate in the TopDutch region so that start-ups and scale-ups throughout every life stage have easier access to the best financing, subsidies, schemes, financiers and investor-readiness training.

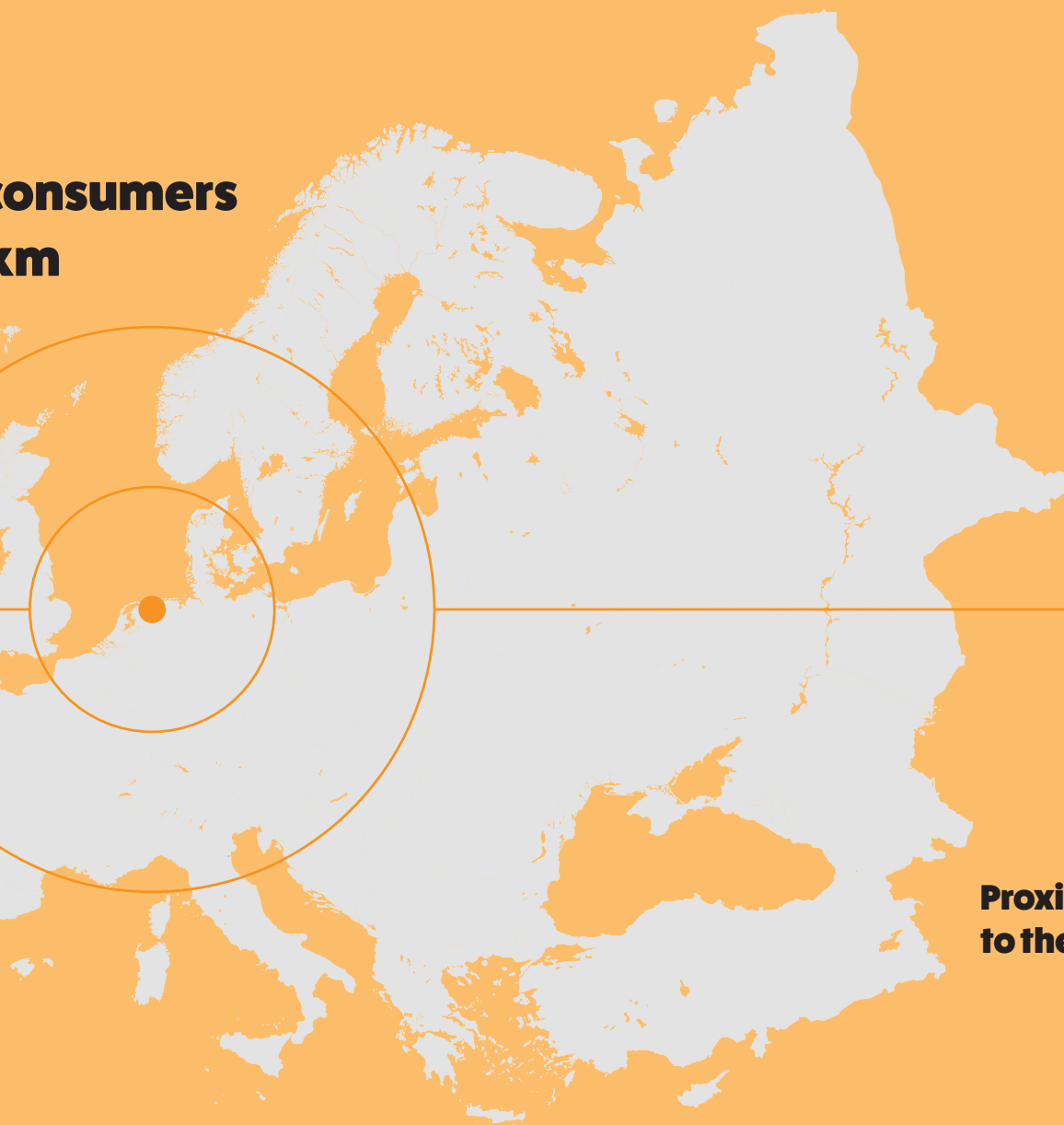
BEST CONNECTED GATEWAY TO EUROPE

A greenfield location in DHL's best connected country from where you can access 170 million European customers through a dense network of waterways, highways and railways, all for a relatively competitive cost? No, you're not asking too much. Connect with the world from the Top Dutch region.

**170 million consumers
within 500 km**



**consumers
km**



**244 million consumers
within 1,000 km**

**Proximity of European demand
to the TopDutch region**

An aerial photograph of a large ship lock, likely the IJmuiden Ship Lock in the Netherlands. A long, dark-colored cargo ship is moving through the lock. Several smaller boats are also visible in the water. The lock is flanked by concrete walls and has a road bridge crossing over it. The surrounding area includes grassy fields and some buildings.

Digital infrastructure

The TopDutch region enjoys outstanding high speed internet.

This is largely thanks to having Dataport Eemshaven in our midst, which hosts a landing station for a worldwide undersea fiber optic network, a dark fiber connection with the Hamburg Internet Exchange, a hub for broadband connectivity, direct peering and interconnection.



Physical infrastructure

Road

Uncongested, well maintained highways connect the TopDutch region with the rest of the Netherlands and Germany.

Rail

The TopDutch region has direct rail connections to Amsterdam Schiphol Airport, the Port of Rotterdam and to the Euroterminal rail terminal (business park border crossing with Germany), Groningen Railport and Friesland Rail Terminal.

Waterways

The Port of Rotterdam, Europe's largest seaport, is easily accessible from the TopDutch region. And because we're situated on the Netherlands' North Sea coast, we're home to three more of our country's biggest seaports: Eemshaven, Delfzijl and Harlingen. We also have a main inland port in Meppel which directly connects to Amsterdam and Rotterdam.

Air travel

Amsterdam Schiphol Airport, one of Europe's biggest business hubs, is only a couple of hours from the TopDutch region. We also have our own regional airport: The international Groningen Eelde Airport.

NEXT STOP: THE WORLD

TopDutch is a campaign commissioned by the Provinces of Friesland, Groningen and Drenthe. By using TopDutch as the international economic brand for initiatives and networks, we support Northern ambitions and the Northern business ecosystem. We do this by representing the region as one voice and with one message...

...Help us spread that message.

TopDutch offers our local partners a regional branding toolkit, filled with brochures, logos, presentations and more, free to show off to your international contacts. Because we believe that the best way to predict the future is to create it together.

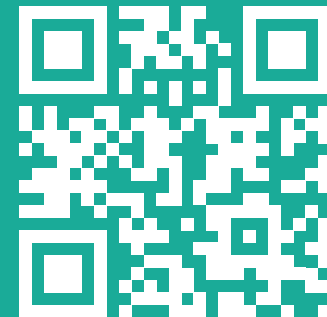


Discover what TopDutch offers you in our toolkit:



JOIN TOPDUTCH

**Want to find out more about how the
TopDutch region is naturally leading the
transition, or view the digital platform?
Head over to our website
www.topdutch.com**



The TopDutch collective:

Economic region



Executive partners



Regional partners



Knowledge partners



TOPDUTCH.COM

Naturally leading the transition