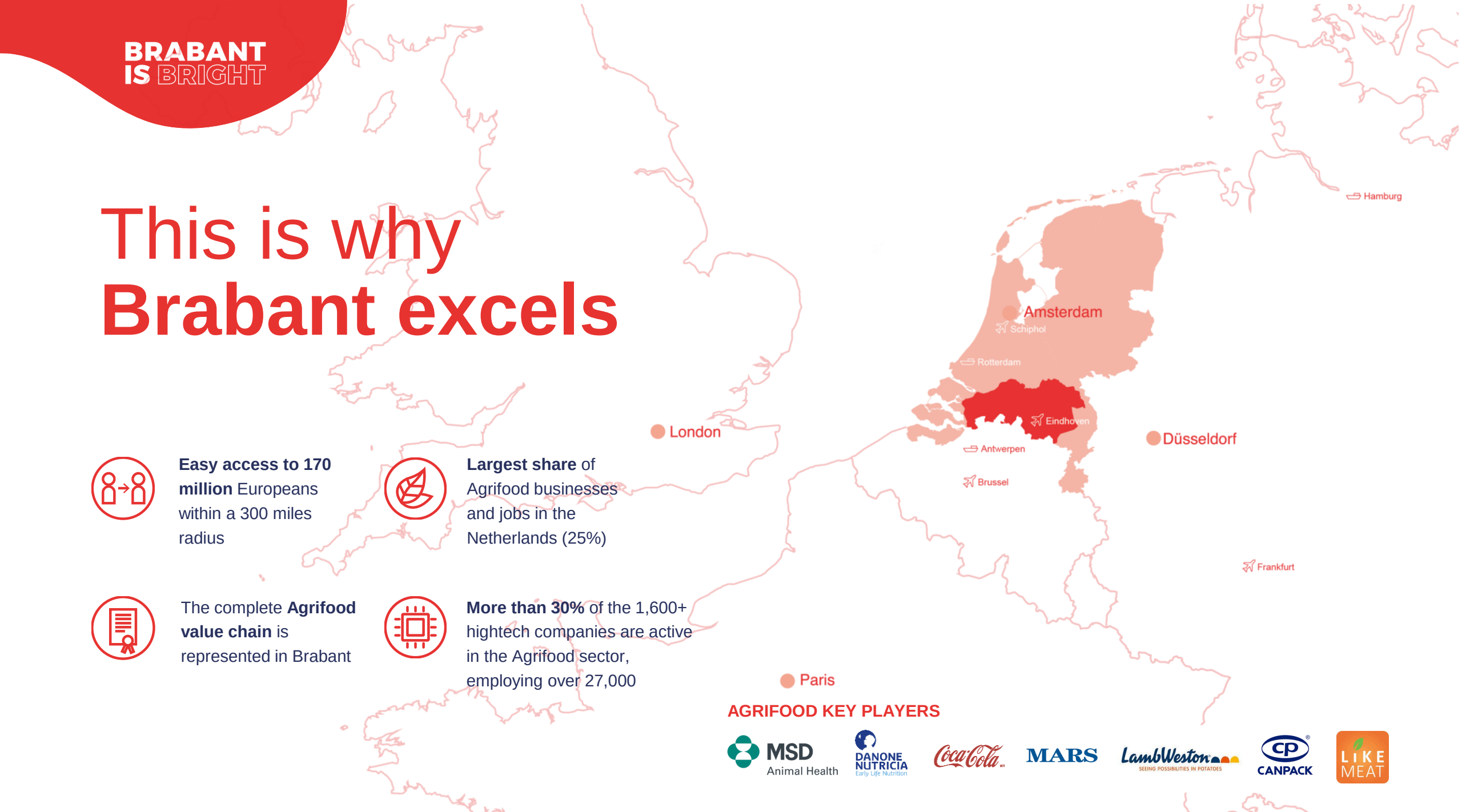
Agrifood in Brabant

VERSION 1.0

BRABANT IS BRIGHT

This is why **Brabant excels**



Easy access to 170 million Europeans within a 300 miles radius

Largest share of Agrifood businesses and jobs in the Netherlands (25%)

The complete **Agrifood value chain** is represented in Brabant

More than 30% of the 1,600+ hightech companies are active in the Agrifood sector, employing over 27,000

AGRIFOOD KEY PLAYERS

MSD Animal Health · DANONE NUTRICIA Early Life Nutrition · Coca-Cola · MARS · LambWeston SEEING POSSIBILITIES IN POTATOES · CP CANPACK · LIKE MEAT

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Cluster size Agrifood

KEY FACTS

13,912
companies

15.7%
of the total Agrifood sector in the Netherlands

12%
growth of the sector from 2014-2018

7.3%
growth of total Agrifood sector in The Netherlands

#1 province in production value
in the Netherlands

16.3 billion euros
in 2017

JOBS

34.3%
in the food processing industry

33.5%
in the primary sector (plants & livestock)

141%
job growth in prepared meals and snacks since 2014

81,160
jobs

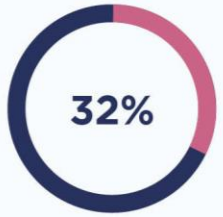
17.3%
of the total Agrifood sector in the Netherlands

5,370
jobs in the largest primary sector (dairy farming)

30%
of the 1,600+ hightech companies are active in the Agrifood sector (27,000 jobs)

BRABANT PATENT SHARE IN THE NETHERLANDS

Animal health



Meat processing

Source: In-depth Analysis Agrifood, 2020 (commissioned by BOM)

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100 years of agrifood innovation

HISTORY

100 years in the making. The growth of three remarkable Brabant business families in the past century exemplifies and characterises how the region developed to attain its current strong position and open approach to working and partnerships. In 1891, Frederik Philips built a modest light bulb factory in Eindhoven. Saal van Zwanenberg founded a slaughterhouse for export in 1887 in Oss. Wim Hendrix started off selling chickens in Boxmeer in 1916. Today, these companies are still leading the way, with crossovers between the domains of Life Sciences & Health and High Tech Systems & Materials.

TODAY

As opposed to many other regions in the Netherlands and beyond, Brabant has a unique opportunity to provide many of the solutions to the challenges echoed by national and international studies. Aside from being a leading Agrifood region, Brabant is also the leading High Tech Systems & Materials (HTSM) region in the Netherlands, and in fact is one of the global leaders in this respect. New solutions are developed in areas such as imaging, monitoring and guided surgery; big data and smart algorithms in animal husbandry; vision and sensor technology for monitoring welfare; needle-free, intradermal vaccination devices.

CANPACK
Coca-Cola
DANONE NUTRICIA
LambWeston
SEEING POSSIBILITIES IN POTATOES
HENDRIX GENETICS
MARS
bodec
nutreco
MSD Animal Health
pascal PROCESSING
LIKE MEAT
VDL

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Because of this heritage
Brabant particularly excels in:

Alternative proteins, both animal and plant-based, from vegetarian butchers, insect breeders and protein breweries

Agri-tech as the ideal crossover of strong knowledge in agri-cultural farming and the hightech sector around Eindhoven

Food-tech, component manu-facturing and machine building in a strong and innovative food processing cluster

Animal health cluster holds the majority of patents filed in the Netherlands by Brabant companies

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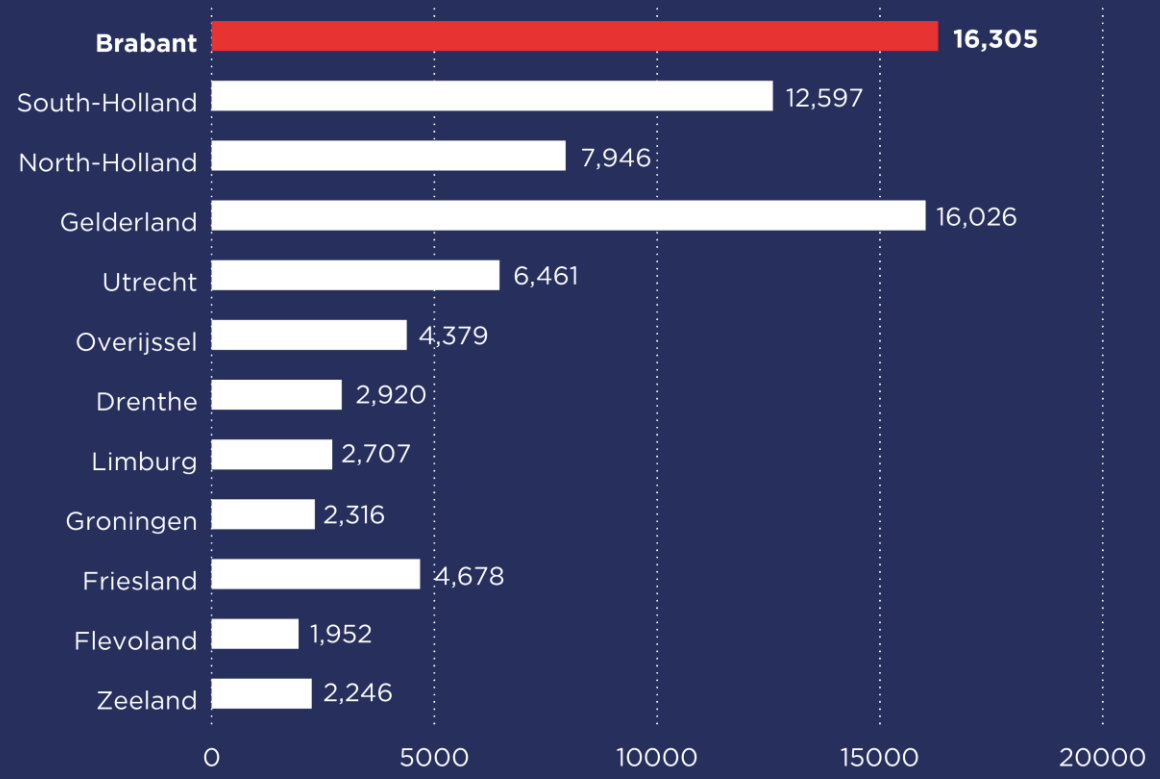
PRODUCTION VALUE TOP SECTOR AGRIFOOD (WHOLESALE NOT INCLUDED) BY PROVINCE



Source: CBS/Monitor Topsectoren, 2017

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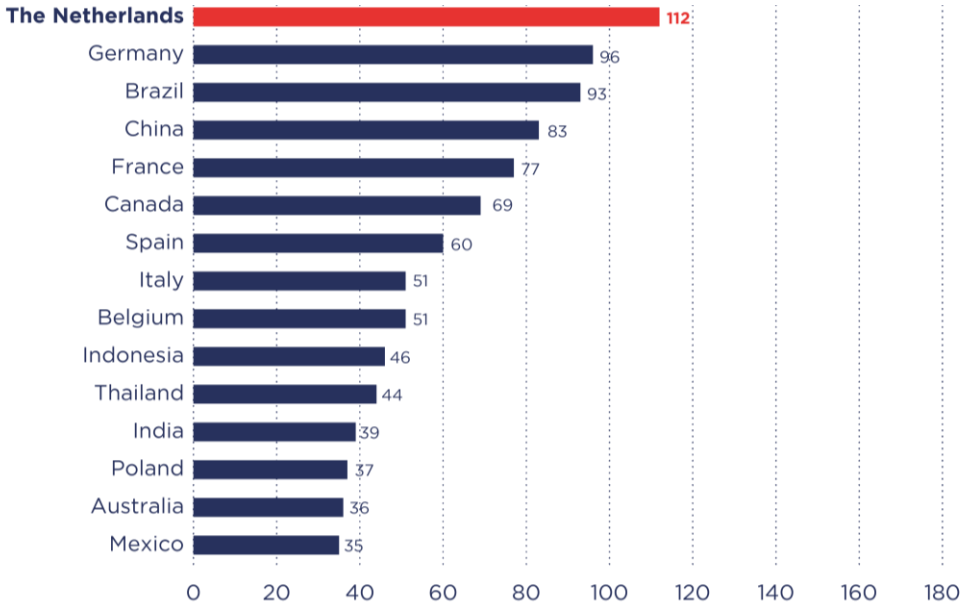
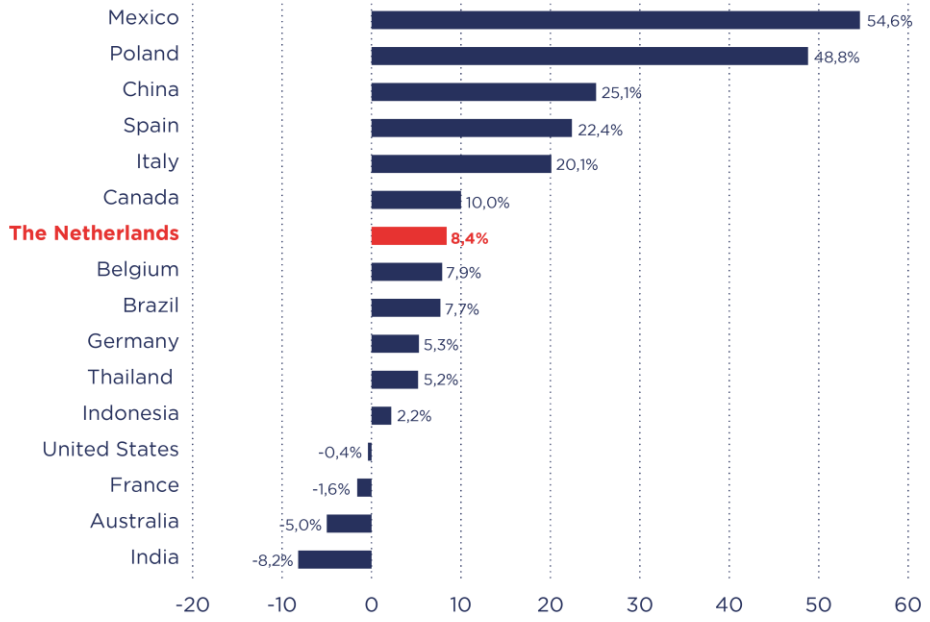
Impressive **export figures**

TOP 15 COUNTRIES WORLDWIDE FOR AGRICULTURAL PRODUCT EXPORTS PER YEAR, 2018 (IN BILLIONS OF DOLLARS)



RISE IN EXPORT VALUE OF AGRICULTURAL PRODUCTS, FOR THE TOP 15 COUNTRIES, 2012-2018



Source: WTO, adapted by Fanion Onderzoek & Advies

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Milestones **foreign investment**

1950

MSD
(Merck) Animal Health in Boxmeer (1,500 employees) is an all-encompassing animal health development and manufacturing facility. It is also the largest animal vaccine plant in the world.

1962

MARS
has its chocolate factory with a 1,500-strong workforce in Veghel, the largest chocolate factory on the planet.

2000

COCA-COLA
invested €90 million 2016 in its Dongen bottling plant, which manufactures 85% of all Coca-Cola products sold in the Netherlands. Dongen is now the pilot plant for its €250 billion investment in sustainability.

2017

CAN-PACK
invested some €120 million in a new packaging plant (aluminium cans) in Helmond, and it is still growing.

2019

DANONE/NUTRICIA
opened its largest manufacturing plant in the world two years ago in Haps, Brabant, employing 450 people in this state-of-the-art infant nutrition production plant.

2020

LAMBWESTON/MEIJER
Established a Finance and Shared Services Center in Breda after having spent €100 million enlarging its Bergen op Zoom manu-facturing plant (potato chips) in 2016.

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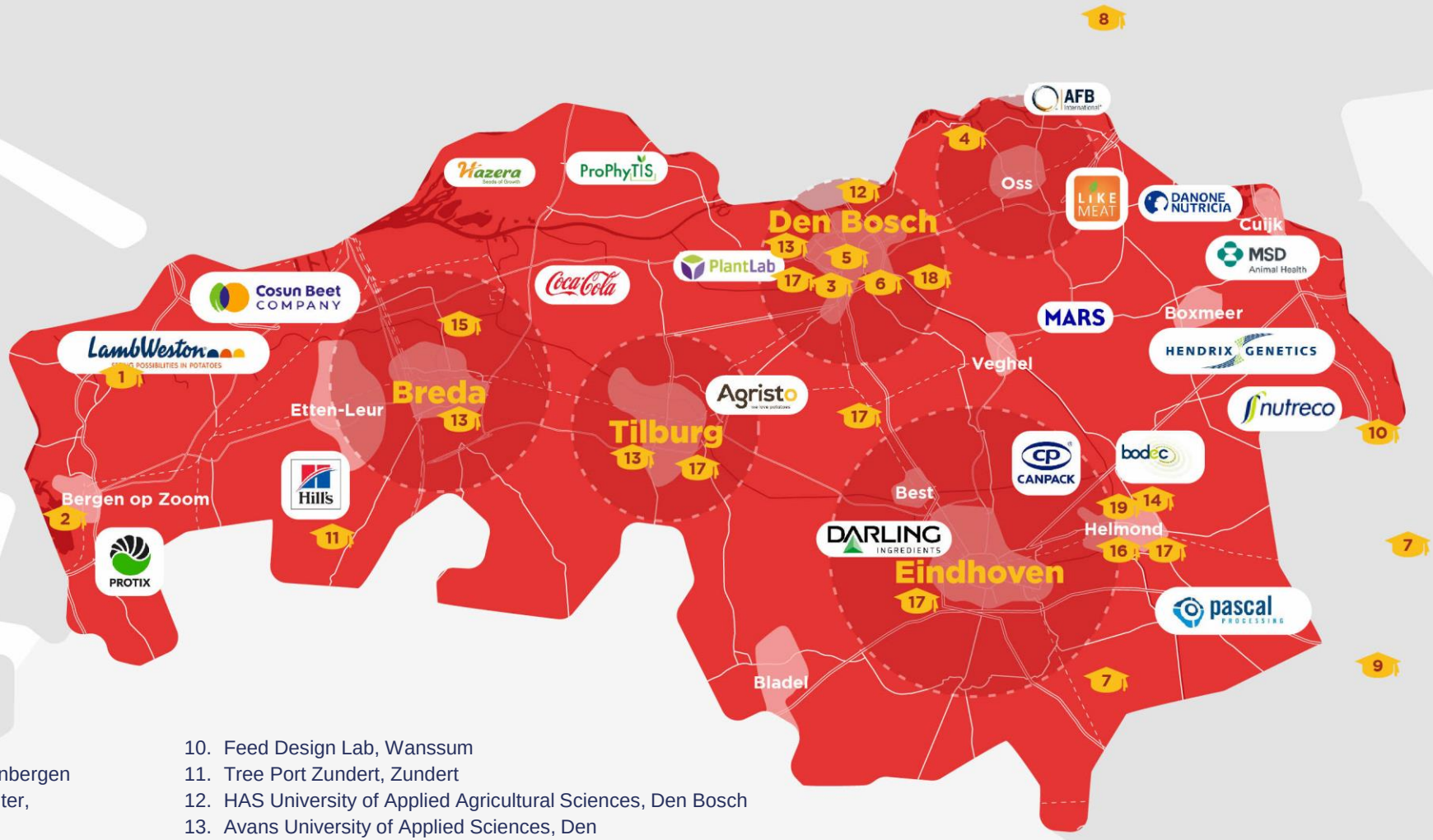
Agrifood footprint



Education or Knowledge Institutes

1. Agrifood Cluster Nieuw Prinsenland, Steenbergen
2. Green Chemistry Campus Innovation Center, Bergen op Zoom
3. Insectlab, Den Bosch
4. Pivot Park, Oss
5. JADS, Den Bosch
6. Food & Fresh Lab, Den Bosch
7. Swine innovation Center, Sterksel
8. Wageningen University, Wageningen
9. Greenport Venlo, Venlo
10. Feed Design Lab, Wanssum
11. Tree Port Zundert, Zundert
12. HAS University of Applied Agricultural Sciences, Den Bosch
13. Avans University of Applied Sciences, Den Bosch/Breda/Tilburg
14. Food Tech Park Brainport, Helmond
15. Centre of Expertise Biobased Economy (CoE BBE), Breda
16. Food connection Point, Helmond
17. Helicon, Tilburg/Boxtel/Den Bosch/Eindhoven/Helmond
18. Agrifood Plaza, Den Bosch
19. Food & Technology Park Brainport, Helmond

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Integrated value chain core

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Integrated value chain functions

Selection of companies

RESEARCH & DEVELOPMENT

- PlantLab
- HENDRIX GENETICS
- bodec
- signify
- Cosun innovation center

QUALITY CONTROL & PRODUCT APPROVAL

- pascal PROCESSING
- HGA Garden Nature's Choice
- VLAMINGS

MANUFACTURING

- LambWeston SEEING POSSIBILITIES IN POTATOES
- Coca-Cola
- LIKE MEAT
- MARS
- DANONE NUTRICIA Early Life Nutrition

SALES & MARKETING

- HARIBO
- JUMBO
- Sligro
- Mondelēz International

LOGISTICS

- PANALPINA
- RHENUS LOGISTICS
- DB SCHENKER
- XPOLogistics
- Vos Logistics

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Integrated value chain support

Selection of companies

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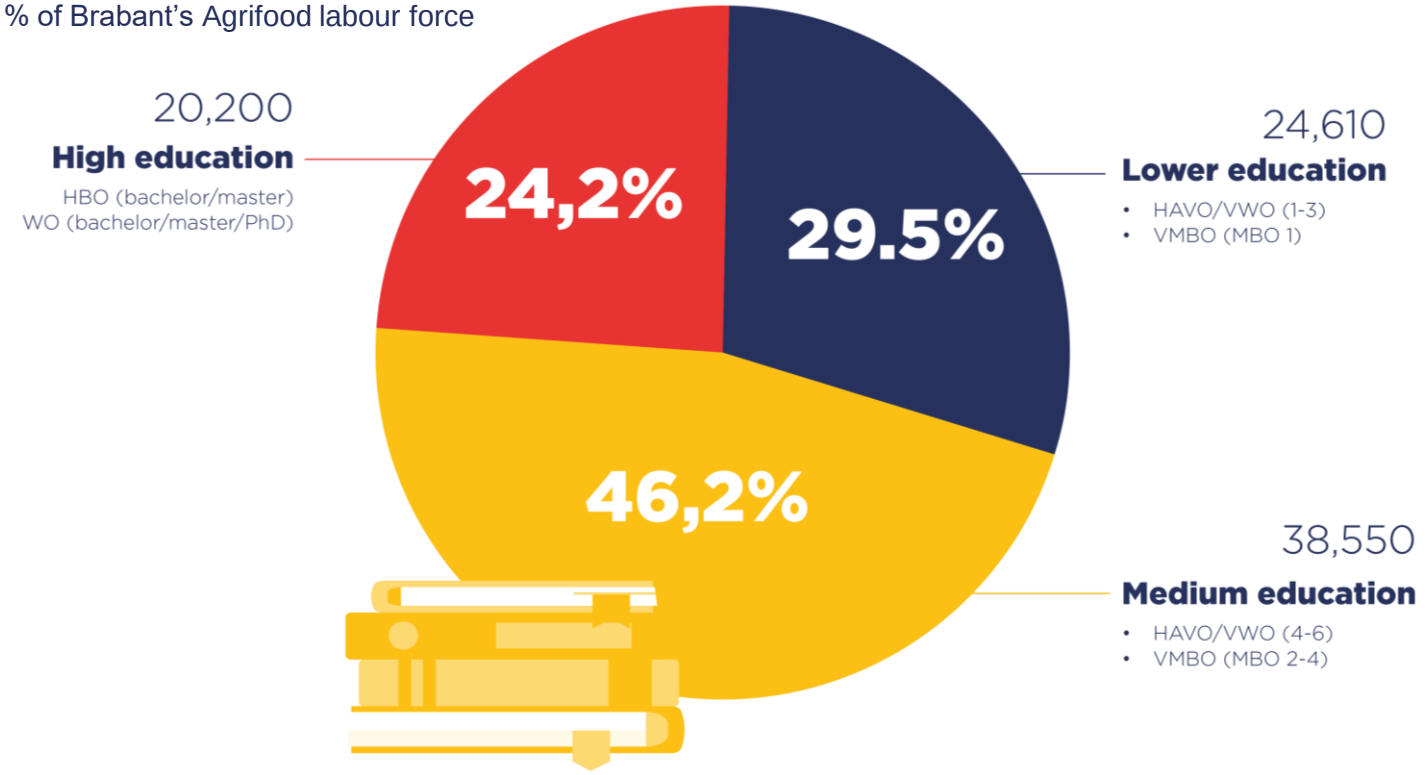
Highly educated **workforce**

NUMBER OF JOBS BY EDUCATION LEVEL IN AGRIFOOD

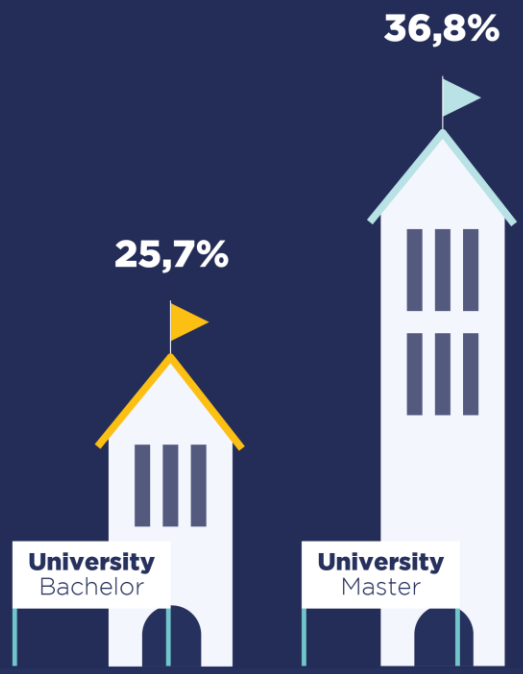
% of Brabant's Agrifood labour force



Source: DUO, 2020. Adapted by fanion onderzoek & advies

NUMBER OF GRADUATES IN AGRIFOOD

% GROWTH SINCE 2014



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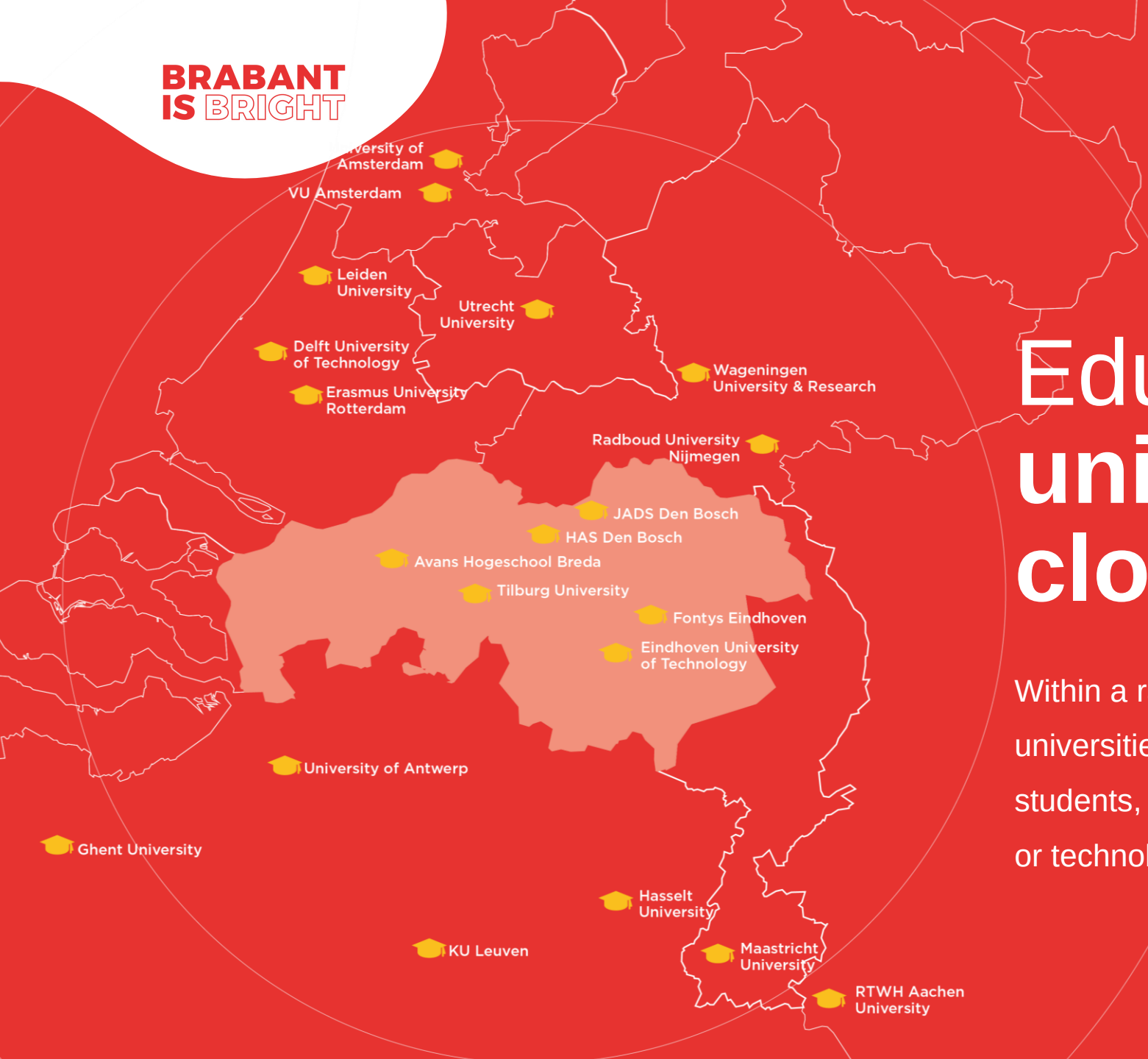

Education – **universities closeby**

Within a radius of 150 km around Brabant, there are 22 universities in three countries: a total of 605,340 students, 255,680 of which in the field of nature, health or technology.

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Quality Research Institutes

Eindhoven University of Technology

Eindhoven University of Technology offers academic education that is driven by fundamental and applied research. The TU/e Campus is in the centre of one of the most powerful technology hubs in the world: Brainport Eindhoven.

TU/e Eindhoven University of Technology in numbers

NATIONALITIES
90

DISTINGUISHING LABORATORIES
14

STUDENTS
12,000

RESEARCH DEPARTMENTS
10

KNOWLEDGE WORKERS
5,000

STRATEGIC RESEARCH AREAS
10

OBJECTIVES

- Combining ntifscieic curiosity with a hands-on mentality.
- Fundamental knowledge enables design of solutions for the highly complex problems of today and tomorrow.

APPLICATION AREAS

- Smart farming
- Smart foods
- Food sustainability

KEY CHARACTERISTICS

- Spirit of collaboration: the university fosters an open culture where everyone feels free to exchange ideas and take initiatives.

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

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Quality Research Institutes

HAS University of Applied Sciences

HAS University distinguishes itself in the Agrifood educational sector because of its focus on working together with farmers and food industry to effectively implement new knowledge and technologies in Agrifood business operations.

HAS Hogeschool

STAFF MEMBERS
450

STUDENTS
3,000

PARTICIPANTS IN PROFESSIONAL COURSES
300

EXPERTISE AND RESEARCH CENTRES
15

HAS currently has 15 expertise and research centres, and its Sustainable Protein Sources, Precision Livestock Farming and Protein Transition in Food ERCs are all active in fields of great current relevance.

1. Design Methods in Food
2. Future Food Systems
3. Food and Health
4. Green Health
5. Healthy Farming
6. Innovative Bio-Monitoring
7. Innovative Entrepreneurship in Rural Areas
8. Location Intelligence
9. New Business Models for Agriculture and Food Transition
10. New Cultivation Systems
11. Plant-Soil Health
12. Sustainable Protein Sources
13. Precision Livestock Farming
14. Protein Transition in Food
15. Sustainable Production

OBJECTIVES

HAS University is truly an enterprising, outward-focused university with a comprehensive educational programme in agribusiness, food and the environment. As a result, 70% of HAS graduates are employed within two months of graduating.

FACILITIES

- Insect Lab
- BrightBox Venlo

KEY CHARACTERISTICS

HAS University knowledge transfer
HAS' knowledge transfer is consequently another important source of interns for local companies, thanks to their understanding of innovation in Agrifood production and processing. HAS has initiated a number of programmes to support companies in themes such as food, green areas, agribusiness, animal and the environment.

has hogeschool

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Source

State-of-the-art facilities

Food Tech Brainport

Food Tech Brainport is an eco-system offering food grade test facilities, production locations, networks, and access to research and educationalinstitutes for food processing companies and technology providers.

OBJECTIVES

1. Accelerates innovation for food processing companies time to market, lower investment and reduce risk;
2. Brings technology to the market (TRL 6-8 to 9) with technology providers and research institutes;
3. Develops professionals being able to implement innovative technology to the marketplace.

FACILITIES

- Food-grade field lab

KEY CHARACTERISTICS

- High Pressure Pascalization (HPP)
- Radio Magnetic Freezing (RMF)
- Pulse Electric Field (PEF)
- Agitated Thin film Dryer (ATFD)
- Membranes
- Spraydrying
- Vacuum drum drying

APPLICATION AREAS

- Mild separation
- Mild preservation
- Total use – no waste; Utilising all the raw materials derived from a product
- Smart food processing; Cobots, vision, sensoring, AI etc.

FOODTECHBRAINPORT

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State-of-the-art facilities

Food Park Veghel

Food Park Veghel is the ultimate location for the practical application of the concepts developed in Eindhoven and Wageningen.

Food Park Veghel in numbers

HECTARES OF BUSINESS PARK NEXT TO THE A50
30 ha

TOTAL FOOTPRINT
45,470 acres

BUSINESS PARKS
1,375 acres

TUE/YEAR TRANSSHIPMENT
80,000

- Inhabitants: **80,000**
- Businesses & entrepeneurs: **7,000**
- **€27 billion** total economic turnover | employing **45,000** people
- **€11 billion** in food industry | employing **11,500** people

OBJECTIVES

Food and feed is in the dna of Meierijstad, which is the home of Food Park Veghel. Therefore, the logistic facilities at Food Park Veghel are all aiming to serve that dna of food and feed to the fullest.
Expected growth of more than 10% in labour force in the next 5 years.

APPLICATION AREAS

- Food logistics

KEY CHARACTERISTICS

Its great accessibility by road and water (A50, N279, Zuid-Willems Canal, inland barge terminal) and ideal location between Brainport Eindhoven and Food Valley in Wageningen, makes Food Park Veghel the ultimate logistics hotspot for the practical application of agrifood concepts developed in Eindhoven and Wageningen.

LEADING COMPANIES

Mars, FrieslandCampina, Jumbo, Sligro, Vanderlande, Nutrifeed, Agrifirm, Kuhne Nagel

foodpark | Veghel

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State-of-the-art facilities

The Green Protein Excellence Center (GPEC)

The Green Protein Excellence Center (GPEC) is an open innovation centre founded by Royal Cosun, HAS University of Applied Sciences in Den Bosch and the innovation-focused SME, The Protein Brewery, focusing on the development of alternative (vegetable) proteins.

OBJECTIVES

To focus on the development of alternative (vegetable) proteins and shape it as an innovation cluster around large-scale circular processes and systems in the arable farming and horticultural value chains.

KEY CHARACTERISTICS

GPEC (together with a number of core partners) plays the role of driver/catalyst for this innovation cluster. HAS Den Bosch and The Protein Brewery are participants and the core project partners in conjunction with Cosun. The setup allows for partnerships with any other company and institutions in this regard.

FACILITIES

Inicio facility is a location specifically designed to house small-scale manufacturing activities and pilot factories. The cosun innovation center houses a range of laboratories (analysis, product development, microbiology and non-food labs), a fully-equipped sensory research space, twelve meeting rooms and an indoor test factory.

APPLICATION AREAS

- Plant-based ingredients and foodstuffs;
- Green biobased applications and energy;
- Animal-free proteins.

GPEC

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State-of-the-art facilities

De Jamfabriek (‘The Jam Factory’) is the place to be for innovation, partnerships and support in the world of food.

OBJECTIVES

This dynamic location in Den Bosch offers a great mix of startups, scaleups and fully-formed companies in the food and food-related sectors.

KEY CHARACTERISTICS

- Food innovation
- Funding opportunities
- Growth coaching

FACILITIES

A workplace in De Jamfabriek is more than just accommodation, it is a place where companies are part of a dynamic community environment. Support is available for new and innovative companies to, for example, achieve growth objectives, while a range of funding options are also on the table.

APPLICATION AREAS

- Food innovation

Jamfabriek®

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Business Park Nieuw Prinsenland in numbers

FOOTPRINT OF GREENHOUSE SITES
261 ha

MAXIMUM CONSTRUCTION HEIGHT
>40m[1]

FOOTPRINT OF BUSINESS PARK
50 ha

State-of-the-art facilities

Business Park Nieuw Prinsenland

Business Park Nieuw Prinsenland is located in the heart of North-Western Europe. It is right next to the A4, the new north-south connection between the international ports of Rotterdam and Antwerp. Accessi-bility is further enhanced by direct connection to the main waterways of Western Europe.

OBJECTIVES

Nieuw Prinsenland is an industrial estate owned by Royal Cosun (Cosun Beet Company) dedicated specifically to cutting-edge companies active in or associated with the AgriFood industry, the biobased economy, value added logistics, services and research and development. The site is located right next to a related park that is dedicated to greenhouse horticulture.

KEY CHARACTERISTICS

- Agrifood
- Biobased economy
- Value addes logistics
- Services and R&D

APPLICATION AREAS

- Food production
- Food logistics
- Food innovation

NIEUW PRINSENLAND

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Prominent players in Brabant

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Key location benefits Agrifood

16%
Of total companies in the Netherlands

250 million consumers
within 1,000 kilometers (600 miles)

170 million consumers
within 500 kilometers (300 miles)

12%
Agrifood sector growth

20%
Of production value of the Netherlands

17%
Of total jobs in the Netherlands

1.000 KM / 600 MILES

500 KM / 300 MILES

Amsterdam
Berlin
London
Düsseldorf
Paris
Milan

- **Easy access to 170 million** Europeans within a 300 miles radius
- **Majority of patents** in animal health in the Netherlands filed by Brabant companies
- **Largest share** of Agrifood businesses and jobs in the Netherlands
- **More than 30%** of the 1,600+ hightech companies are active in the Agrifood sector, employing over 27,000

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Priority niches

ALTERNATIVE PROTEINS
both animal and plant-based

FOOD-TECH
component manufacturing and machine building

AGRI-TECH
crossover of agricultural farming and hightech

ANIMAL HEALTH
between biopharma Oss and hightech Eindhoven

BRABANT
IS BRIGHT