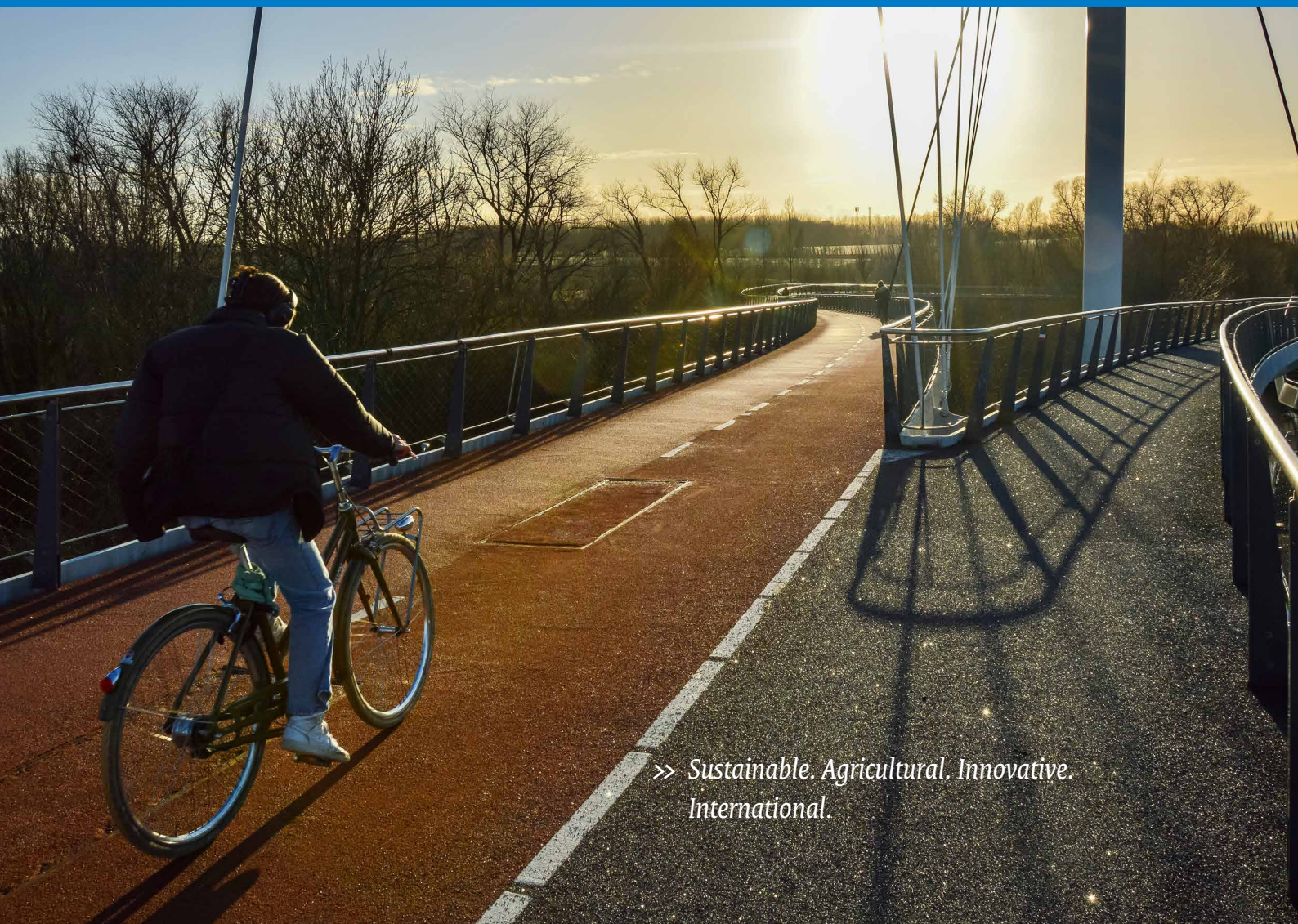




Netherlands Enterprise Agency

*Report*

# International Earning Potential Dutch Bicycle Sector



>> Sustainable. Agricultural. Innovative.  
International.

# Preface

The Netherlands is a cycling country in heart and soul. It is in our DNA. Bicycles are the foundation of the Dutch street scene. And for good reason! Cycling is healthy. It contributes to a liveable, sustainable and healthy environment. Not only in the Netherlands, but also abroad. Many countries look to the Netherlands when it comes to cycling. This success naturally translates to economic value as well. This report provides a picture of the economic size, the social impact and the international opportunities and activities of the Dutch bicycle sector.

Electric bicycles have given a new impulse to bicycle traffic. This is reflected in the growth figures. Internationally, too, the attention for cycling has increased considerably in recent years - with an extra boost by Covid-19. Worldwide, more and more is being invested in sustainable and healthy cities, with an important role for the bicycle. This offers opportunities for the Dutch bicycle sector.

I will mention a few feats of arms. In 2020, 13,000 people worked for 3,350 companies in the Netherlands on the production, sale or rental of bicycles. The total export value of these companies increased by 70% between 2015 and 2020, to 1.9 billion euros. In addition, many Dutch companies are internationally active in the development and integration of bike paths, parking facilities and other aspects that are part of a mature cycling culture. The success of the bicycle also influences urban design and the development of 'integrated mobility plans', in which sustainability and health are of prime importance.

In this way, the Dutch bicycle sector contributes to social benefits abroad that amount to more than one billion euros per year. If travellers also opt for a bicycle instead of a car outside the Netherlands, this additionally results in considerable Co2 reductions.

To further promote the Dutch success story outside our country, the government is working closely with companies and knowledge institutions. Together we tell the story of the bicycle. This report offers a clear overview of the opportunities and possibilities. Opportunities and possibilities with which we give space to knowledge and innovation in our own country and maintain our international role as a guiding country. As State Secretary for Infrastructure and Water Management, with a big heart for bicycles, I am of course very happy to seize these opportunities.

Vivianne Heijnen



# Summary

International attention for cycling has increased considerably in recent years. Worldwide, more and more is being invested in sustainable and healthy cities, with an important role for bicycles. This offers opportunities for the Dutch bicycle sector, which has a strong international reputation. The sector has great potential to help cities and countries internationally with social challenges and climate objectives.

Until now, there was not yet a good picture of the economic size, the social impact and the international opportunities and activities of the Dutch bicycle sector. All these elements have been mapped out in this report and make the international importance of the Dutch bicycle sector clear in the full breadth – both economically and socially. It also offers perspectives on how the international earning potential can be utilized.

## **The bicycle sector has a strong reputation and offers a total package of solutions**

The Dutch bicycle sector has a lot to offer internationally. Because the Netherlands is a genuine cycling country, the sector possesses a great deal of knowledge, experience and a diverse range of goods and services. The Netherlands is truly seen as a frontrunner. One of its strong features is the versatility of parties that together offer a total package of solutions: from production and sales, design and construction of infrastructure, development of new bicycle concepts to knowledge about the stimulation of bicycle use. In this report, this diversity of activity has been grouped into various market clusters (see figure 1). These include producers, sellers, lessors and design, engineering and consultancy firms, infrastructure builders and non-profit organizations and knowledge institutions.

## **Structural growth of the bicycle sector**

The size of the activities of bicycle manufacturers, sellers and renters is growing structurally. In 2020, 3,350 companies are active, employing a total of 13,000 FTE (full-time equivalent), a growth of 25% compared to 2015. The added value of these companies in 2020 was 1.1 billion euros, an increase of 50% compared to 2015. The total export value by these companies increased by 70% between 2015 and 2020, to 1.9 billion euros. The e-bike is a large factor in these growth figures.

Indirectly, the bicycle sector also contributes to activity in other sectors, such as public transport or sustainable city logistics. The bicycle is also an international entry point for companies that focus on urban design and integrated mobility plans. In this way, bicycles lead to growth in other Dutch sectors.

## **Bicycle sector creates substantial social value internationally**

In addition to economic value, the Dutch bicycle sector also creates broader social value internationally. The knowledge and experience from the Dutch cycling culture has a worldwide influence. For example, cycling contributes to a better climate and environment, improved health and a more attractive and safer living environment. It is estimated that the contribution of the Dutch bicycle sector to societal profits abroad is at least more than one billion euros per year. This contribution provides significant CO<sub>2</sub> savings if travellers opt for a bike ride instead of using a car or public transport. It also appears that bicycles are an important instrument for Dutch diplomatic relations.

## **Joint International Strategy**

In order to benefit from on international opportunities, various companies in the bicycle sector want to cooperate more closely, both with each other and with the government. Much is already happening in this area, for example through embassies. Discussions with the bicycle sector show a need for a sector-wide international positioning. This report presents building blocks for such a joint strategy. This means, among other things, that the Netherlands must maintain its position as a guiding country and that room for innovation and the role of knowledge institutions are essential.

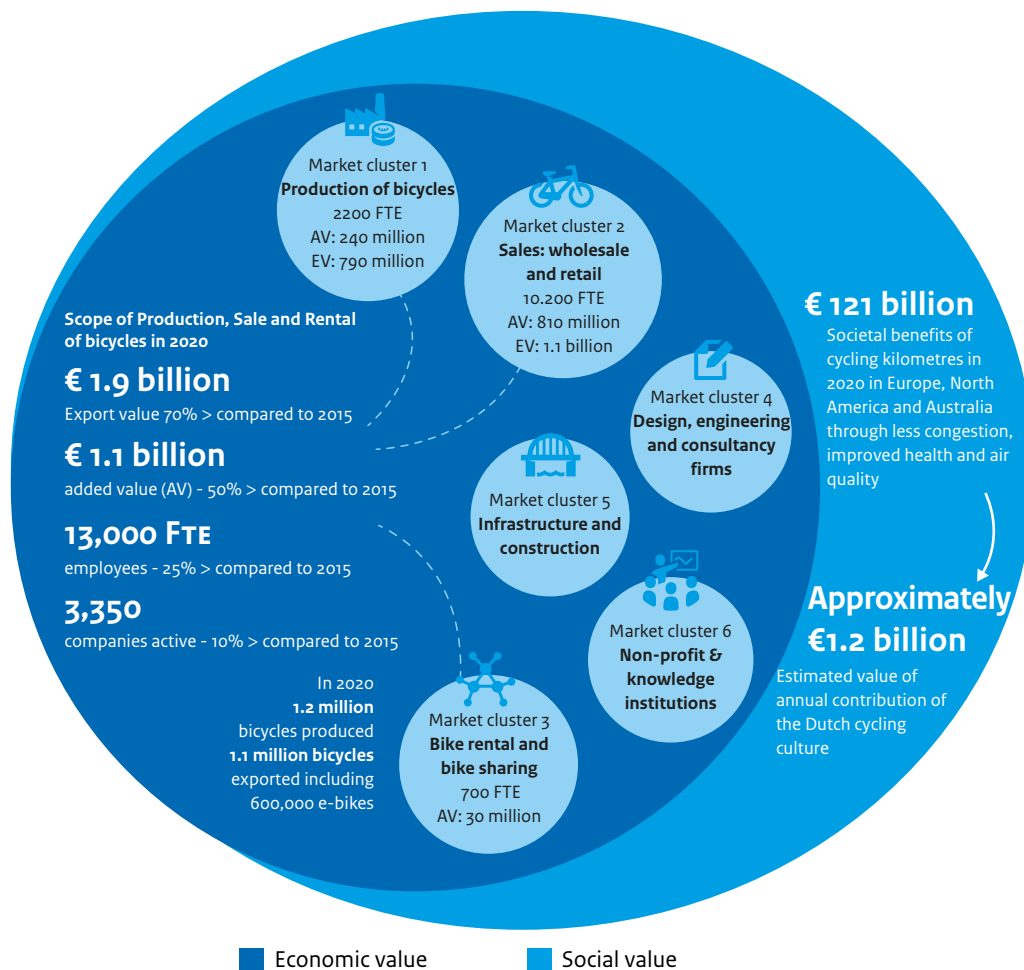


Figure 1 Scope and insight into the dutch bicycle sector

### About this report

This report has been drawn up on the basis of discussions with the bicycle sector and in collaboration with the Ministry of Infrastructure and Water Management (IenW), Statistics Netherlands (CBS), Decisio, Dutch Cycling Embassy (DCE), Netherlands Enterprise Agency (RVO) and TwynstraGudde.

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# 1 International potential of the Dutch bicycle sector

Internationally, The Netherlands is known as a cycling country. The Netherlands has a rich cycling culture: relatively speaking, there is no other country that cycles so much and has such an extensive cycling infrastructure (see box below). There is also a lot of activity and entrepreneurship around bicycles. The Dutch bicycle sector consists of many different parties that together offer a total package of solutions: from the production, sale and maintenance of bicycles, the design and construction of the necessary infrastructure, the development of new bicycle concepts to knowledge about the stimulation of bicycle use.

## **Cycling in the Netherlands: facts and figures**

- In 2020 there were 23.1 million bicycles in the Netherlands.
- Of these, 2.9 million are e-bikes. The number of e-bikes has increased sharply in recent years: between 2016 and 2020 the number of e-bikes more than doubled.
- In the Netherlands, in 2020, at the time of the corona pandemic, an average of 954 kilometres per person was covered by bicycle. This is a considerably lower figure than that of 2019, when an average of 1.098 kilometres was travelled per person.
- In 2020, the Netherlands will have more than 276,000 kilometres of bicycle paths (with double counting of two-way roads).

The ubiquity of bicycles as it is in the Netherlands is by no means self-evident. A visit to any other country immediately shows how unique the Dutch situation is. The Netherlands as a cycling country is therefore viewed with admiration from abroad, as this report will demonstrate. This excellent reputation offers opportunities for the Dutch bicycle sector. International attention for cycling has increased considerably in recent years. The realization that bicycles can contribute to broader social topics, such as sustainability, health, accessibility and safety, is on the rise internationally. The corona pandemic has made governments worldwide invest heavily in the encouragement of bicycle use with the aim of realizing clean and healthy cities. Cities such as Brussels, Berlin, Paris and New York have made large-scale investments in cycling infrastructure because cycling turned out to be the ideal 'one and a half meters of mobility'. In these cities, the popularity of cycling has increased sharply.

The bicycle itself also acts as a driving force for activity in other sectors. For example, the public transport bicycle in the Netherlands ensures more train use. At the same time, bicycles play an important role in making city logistics more sustainable. Bicycles have a broad social value because they operate at the intersection of various social tasks. For example, the bicycle is often an international entry point for Dutch companies and a catalyst for discussions about, for example, urban planning or sustainable urban mobility, with which it can create new economic opportunities.

The Dutch bicycle sector has great potential to help cities and countries internationally with social challenges and climate objectives. Recent research commissioned by the Ministry of Infrastructure and Water Management (IenW) shows that the United States, Germany, the United Kingdom, Sweden, Belgium and Luxembourg are the most promising countries for products, services and construction activities of the Dutch bicycle sector (Mobycon, 2021). Of course, opportunities are not limited to just these countries.

## 1.1 Economic and social value of the Dutch bicycle sector

Doing business internationally offers opportunities for the Dutch bicycle sector from both an economic and social point of view. The Dutch supply of services and goods that play a positive factor in cities and countries internationally also contributes to their economies. At the same time, bicycle projects abroad have a substantial social impact – with a positive influence on health, accessibility and climate, among other things. In this way, the bicycle sector creates value both economically and socially.

Until now, there was still no good view of the economic size, the social impact and the international opportunities and activities of the Dutch bicycle sector. All these elements of the Dutch bicycle sector have been mapped out in this report. This makes clear the international importance of the Dutch bicycle sector across the board. This report therefore focuses on the following questions:

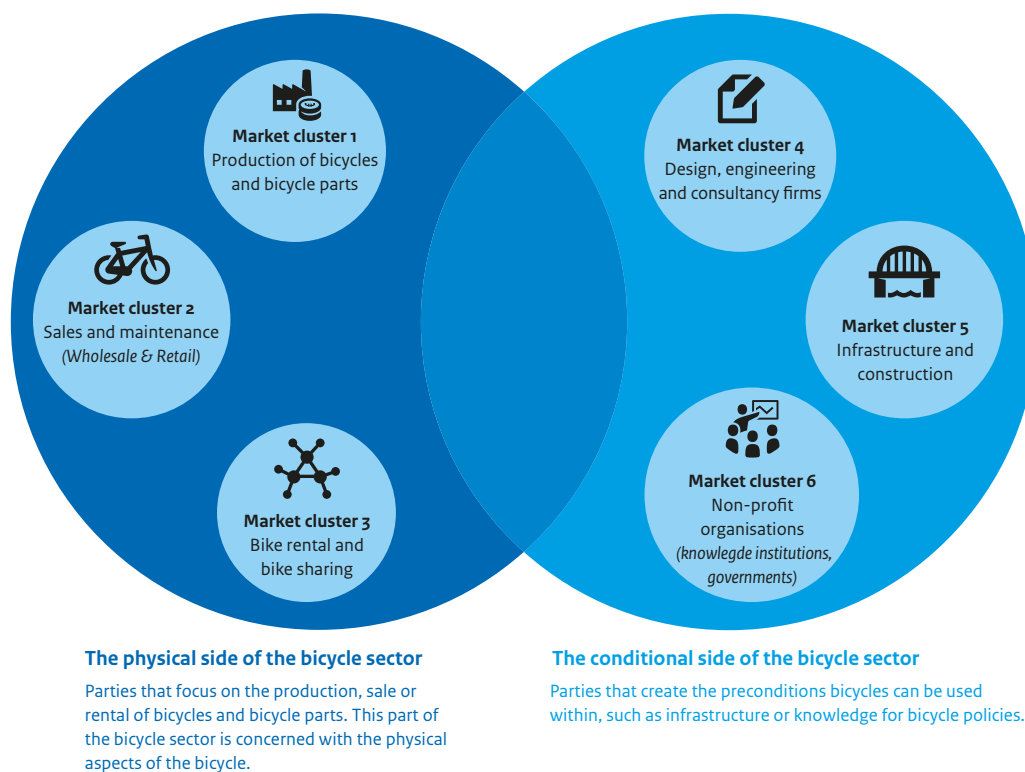
1. What is the size and economic earning potential of the Dutch bicycle sector?
2. What is the broad social value of the Dutch bicycle sector?
3. How can international opportunities for the Dutch bicycle sector be seized?

## 1.2 A broad bicycle sector

To answer the central questions, the Dutch bicycle sector is first mapped out. The bicycle sector is diverse and consists of different types of companies and organisations. In order to get a good picture of the size and potential of the sector, this report makes a distinction between six market clusters (see box). These market clusters (the bicycle sector) can roughly be divided into two different categories. The distinction is made here because it helps in further structuring the information and conclusions described in this report. On the one hand, there are the companies in market clusters 1 to 3 that focus on the 'vehicle side' of the bicycle sector. These are companies that produce, sell (and maintain) and rent bicycles. These parties therefore mainly focus on the bicycle as a physical product. On the other hand, there are the companies and institutions in market clusters 4 to 6 that focus on creating the necessary preconditions for the bicycle – for example designing or constructing infrastructure, providing services (such as urban planning, traffic modelling, consultancy) and the exchange of knowledge. See the box and figure 2 for an overview of the market clusters and this distinction.

### Market clusters in the Dutch bicycle sector

1. *Production of bicycles and parts* – parties in this cluster are involved in the development and production of bicycles and bicycle parts.
2. *Sales and maintenance* – parties in this cluster are involved in the sale and maintenance of bicycles. For this market cluster, CBS makes a distinction between parties that are active in Wholesale and Retail. Together, these parties form the Sales and Maintenance market cluster.
3. *Shared bicycle and bicycle rental* – parties in this cluster offer bicycles for temporary use.
4. *Design, engineering and consultancy firms* – parties in this cluster focus on engineering and consultancy services for bicycle-related projects. This may involve the design and integration of bicycle infrastructure, policy advice to stimulate bicycle use, urban design and architectural work.
5. *Infrastructure and construction* – the companies active in these clusters focus on the construction of cycling infrastructure such as cycle paths and bicycle sheds.
6. *Non-profit* – these parties are not for profit and mainly focus on sharing knowledge and connecting parties. This cluster contains the knowledge institutions and governments that play an important role in the bicycle sector.



**Figure 2** Market clusters in the Dutch bicycle sector

### 1.3 Report structure

In order to map out the international earning potential of the Dutch bicycle sector, this report looks at both its economic and social value. These two ways in which the Dutch bicycle sector adds value are reflected in the various chapters of this report.

Chapter 2 addresses the first research question: what is the size and economic earning potential of the Dutch bicycle sector? To this end, the size of market clusters 1 to 3 is mapped out on the basis of economic indicators: employment, production value, added value and export value. These market clusters therefore form the so-called 'vehicle side' of the bicycle sector (see figure 2). Figures from Statistics Netherlands and BOVAG (the Dutch trade association of entrepreneurs in mobility) have been used for these companies to map out the trends over the long term. A distinction is made between the domestic and foreign earning potential.

The parties that focus on the 'conditional side' (market clusters 4 to 6) are also internationally active and thus contribute to the international growth of bicycle use. No figures are available specifically for bicycles for these market clusters. However, a number of economic indicators have been examined by Statistics Netherlands for parties from market cluster 4 that are known to carry out bicycle projects (section 4.4). These projects have a duration of one year and thus do not include multi-year trends.

Chapter 3 examines the second research question: what is the broad social value of the Dutch bicycle sector? To this end, the international contribution of the Dutch bicycle sector to tasks such as health, climate and sustainability, air and sound quality and safety is mapped out. This chapter is based on research by research agency Decisio (commissioned by DCE). The chapter shows the ways in which Dutch cycling culture is spreading internationally and what impact and diplomatic value this has. Specific attention is paid to the role of design, engineering and consultancy firms (market cluster 4) and non-profit organizations (market cluster 6). Finally, an estimate is made of the value of the contribution of Dutch cycling culture to the promotion of cycling worldwide.



Chapter 4 is an in-depth chapter and zooms in on the most important developments per market cluster. For market clusters 1 to 4, economic indicators provided by Statistics Netherlands are discussed – more extensively than in Chapter 2. In addition, market developments are explained, among other things, on the basis of recent figures on bicycle investments abroad and revenues from interviews and a broad work session with parties from the bicycle sector.

Finally, chapter 5 discusses the third research question: how can international opportunities for the Dutch bicycle sector be seized? This chapter describes some reflections on how the Dutch bicycle sector can profit optimally from its international earning potential. These insights are based on discussions with parties from within and from outside the bicycle sector.



## 2 Structural growth in the production, sale and rental of bicycles

This chapter addresses the first research question (what is the size and economic earning potential of the Dutch bicycle sector?) and describes the economic value of the 'vehicle side' of the Dutch bicycle sector. This concerns the activities of companies in market clusters 1, 2 and 3: Production of bicycles and parts, Sales and maintenance (which is subdivided into sub-clusters Wholesale and Retail), Shared bicycle and bicycle rental. Economic indicators of these market clusters are available at Statistics Netherlands, from which multi-year trends can be observed.<sup>1</sup>

The following economic indicators are presented in this chapter: employment, production value, added value and export value. Employment is expressed in full-time equivalents (FTE). This stands for direct employment in full working years. This also includes working years of employees engaged in non-international activities within the company. Production value is the value of all goods and services produced. Added value is what is left of the production value after deduction of intermediate costs, usually in the form of wages and profits. Export value is the value of goods or services delivered abroad. This may concern goods manufactured in the Netherlands, but also goods initially imported.<sup>2</sup>

### 2.1 A sharp increase in domestic production, sales and rental

This section examines the domestic earning potential of the 'vehicle side' of the bicycle sector (market clusters 1 to 3). The size of this part of the Dutch bicycle sector exhibits structural growth. The number of active companies in this part of the bicycle sector stands at 3,350 in 2020, an increase of 9% compared to 2015. The increase took place in all three market clusters, with the market cluster Production of bicycles and bicycle parts being the largest. There will be 33% more companies in this market cluster in 2020 than in 2015. Employment has also increased in recent years. The total number of FTEs employed in this part of the bicycle sector increased by 25% between 2015 and 2020, to 13,000 FTE.<sup>3</sup>

The growth of these three market clusters is also reflected in the growing added value, which increased by 50% between 2015 and 2020, eventually resulting in an added value of 1.1 billion euros in 2020. The production value also increased strongly in the same period, by 45%, to 2.6 billion euros. Figure 3 illustrates the production value, the added value and the number of FTEs together and clearly shows the increase in these economic indicators.

<sup>1</sup> <https://www.cbs.nl/nl-nl/maatwerk/2022/26/economische-indicatoren-fietsensector-2015-2020>.

<sup>2</sup> The economic indicators that Statistics Netherlands has mapped have already been finalized by Statistics Netherlands. For this reason, the percentage increases or decreases mentioned in this report have been rounded off to 5 percentage points. The main purpose of these percentages is to give an outline of the trend. It is an approximation of the exact increase or decrease of the economic indicator in question.

<sup>3</sup> This increase in active employees in the bicycle sector is also reflected at European level. In 2018, the number of employees active in Europe at manufacturers of bicycles and bicycle parts was 106,000. This concerns direct and indirect involvement (including suppliers of raw materials and necessary tools). This number is predicted to grow to 210,000 employees across Europe by 2025. These bicycle companies also invested more than 1 billion euros in 2018 (European Bicycle Manufacturers Association, 2018).

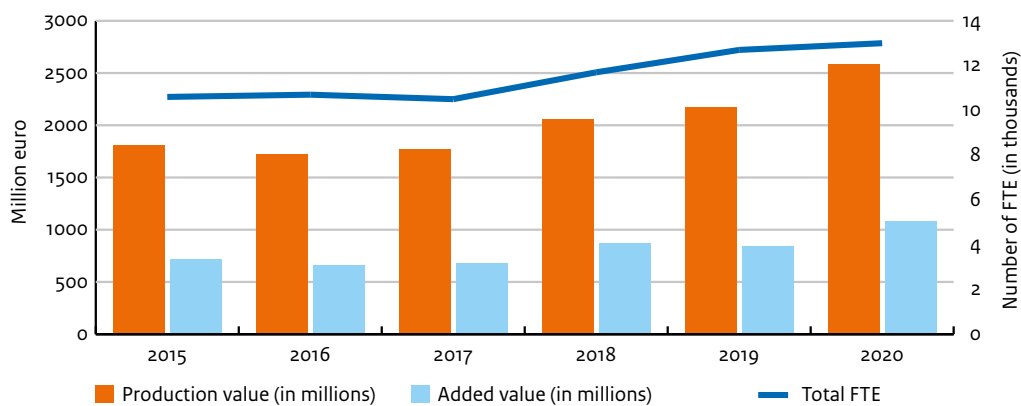


Figure 3 Development of economic indicators for the market clusters of production, sales and rental 2015-2020 (source: CBS, 2022)

## 2.2 Strong growth in the international earning potential of bicycle production and sales

For the same market clusters 1 to 3 (the 'vehicle side'), Statistics Netherlands looked at a number of economic indicators that provide a picture of the international earning potential: the export value of goods and services. These figures do not relate to the size of consultancy services in the market cluster 4 Consultancy and engineering firms. These companies were examined separately (see section 4.4) because it was not possible to calculate specifically the bicycle-related services of the consultancy and engineering firms.

### Exports of goods and services

Export of goods is defined by Statistics Netherlands as *the supply of goods by residents from the economic area of the Netherlands to other countries*.<sup>4</sup> This may concern goods that have been produced or manufactured in the Netherlands, but also goods initially imported (so-called 're-export'). Think of products that, for example, arrive in the port of Rotterdam and then immediately cross the border to other countries. Speed pedelecs and electric cargo bicycles are not bicycles according to the CBS definitions and therefore fall under the total export value, but not under the export value specifically of bicycles and bicycle parts. Cargo bicycles without an electric drive do fall within the CBS definition of a bicycle, and are therefore part of the export value of bicycles and bicycle parts. See, for example, figure 4, which shows both the total export value and the export value of bicycles and bicycle parts for the Production cluster.

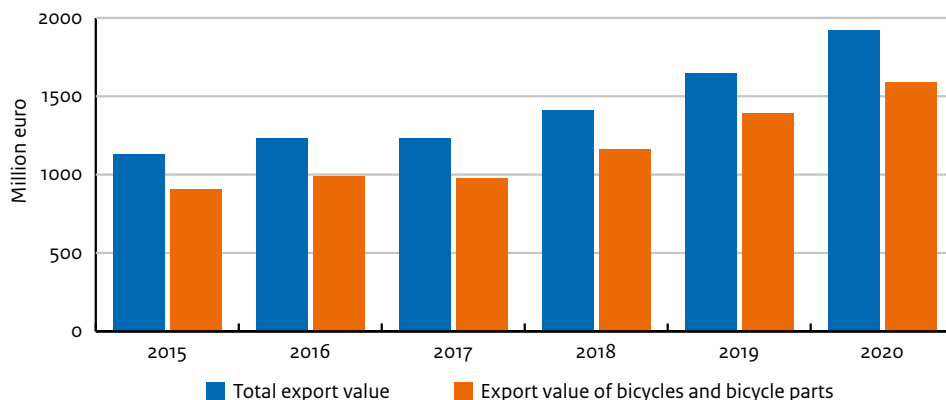
Export of services is defined by CBS as *the provision of services by residents abroad*.<sup>5</sup> In the context of the above-mentioned companies in the bicycle sector, this can be, for example, transport services, repairs, or the performance of work (advice and hiring) abroad.

The CBS figures show that the export of goods has grown considerably every year and is carried out by companies in the production and wholesale sector. Companies in the retail trade and bicycle rental/bicycle sharing do not export goods, but services. The total export value of all types of goods by these companies increased by 70% between 2015 and 2020 to 1.9 billion euros in 2020. This also includes goods that are not related to bicycles. Logically, the largest part of the goods exported by bicycle companies consists of bicycles and bicycle parts. The specific export value of this has also risen sharply in recent years: from 910 million

<sup>4</sup> <https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/uitvoer-van-goederen>.

<sup>5</sup> <https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/uitvoer-van-diensten>.

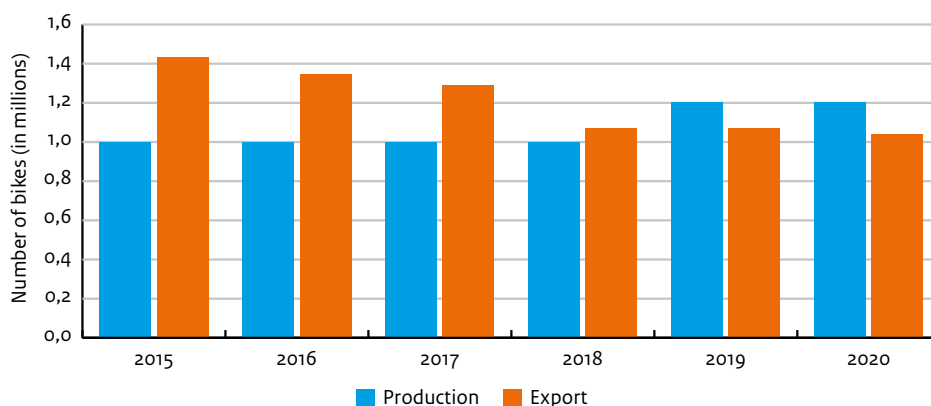
euros in 2015 to 1.6 billion in 2020. An increase of 75%.<sup>6</sup> Figure 4 shows the increase in the total export value and the export value of specific bicycle products.



**Figure 4** Export value of the companies in the market clusters Production and Wholesale (source: CBS, 2022)

Looking at the export value by all Dutch companies, the bicycle sector's share has grown strongly (by 50%) in recent years. In 2015, 0.38% of the total export value by Dutch companies was a product of a company in the production or wholesale cluster. In 2020 this was 0.56%.

BOVAG calculates that the number of bicycles produced in the Netherlands will be 1.2 million in 2020, a number that has steadily increased in recent years.<sup>7</sup> Exports exceed production in most years. This can be explained by the fact that the Netherlands is also a transit country for companies: for example, bicycles arrive in the port of Rotterdam and then cross the border to other countries. This is the so-called 're-export'. In 2020, the Netherlands exported more than 1 million bicycles to other countries – excluding e-bikes. In all recent years, the vast majority of bicycles exported go to EU countries. This is also the case for e-bikes. In 2020, 575,000 units were exported to EU countries and 27,000 outside the EU. Figure 5 shows the production and export of numbers of bicycles.



**Figure 5** Production and export of bicycles in the Netherlands (in millions) (source: BOVAG, 2021)

<sup>6</sup> Both the total export of goods and the export of bicycles and bicycle parts have been broken down by CBS into exports of Dutch product. This is the goods export minus the re-export (see box in section 2.2). For the export of all goods, the value of the export of Dutch product in 2020 will be € 930 million. For the export of bicycles and bicycle parts, the value of the export of Dutch product in 2020 is € 760 million.

<sup>7</sup> Mobiliteit in cijfers: Tweewielers (BOVAG, 2021).

### Export of services

Statistics Netherlands has investigated the export value of services in the bicycle sector by market clusters 1 to 3 (Production, Sales (wholesale and retail) and Rental/share bicycles). Statistics Netherlands figures show that the export of services is considerably smaller than the export of goods. In addition, the export of services has not increased in recent years, while this has happened with the export of goods. The CBS figures show that in 2019 the export value of services by the 'vehicle side' of the bicycle sector is 60 million euros. This is a comparable level to that in 2015. This therefore excludes the consultancy services of parties in market cluster 4 (Design, consultancy and engineering firms).



## 3 Social (export) value of Dutch cycling culture

The impact that the Netherlands can have as a cycling country goes further than just the concrete economic indicators from the previous chapter. This chapter addresses the second research question (What is the broad social value of the Dutch bicycle sector?). The broad social value is also part of the international earning potential. Dutch cycling culture has a much larger impact that is also of value to a foreign city or country, such as improvement of the environment, an attractive and safe living atmosphere and healthy residents.

These effects are less easy to capture in economic figures. The broad international social potential is mapped out in this report on the basis of the study by economic consultancy Decisio: *Societal and symbolic value of Dutch bicycle exports (2022)*. The export value of cycling is broadly defined herein and includes the “social value of the exemplary function of cycling country the Netherlands, the value of exporting cycling knowledge and the value of the Netherlands cycling country for the Dutch image and international relations”.

### 3.1 Three ways of international influence by Dutch cycling culture

Decisio has investigated the exemplary role of the Netherlands as a cycling country and shows how the Dutch cycling culture is spreading internationally. This is done in three ways:

First, this is done through informal influence. These are the personal experiences of people who visit the Netherlands as tourists and take this inspiration back to their home country to change things in their own street, city or country. The role of social media and films about the Dutch cycling experience, which are frequently shared internationally, also show how cities elsewhere can also become 'cycling cities'. The Dutch documentaries such as 'Why we cycle' and 'Together we cycle' are an important source of inspiration internationally, for example. The Dutch example shows the possibilities of the bicycle through informal expressions of this kind abroad. This helps to develop a vision of the future and creates clear expectations about what is possible.

The second way in which the Netherlands has an international influence as a cycling country is through formal knowledge transfer. For example, dozens of students and professionals come to the Netherlands every year to learn about the Netherlands as a cycling country. For this purpose, various professionals and knowledge institutions in the Netherlands organize excursions, study tours, workshops or (online) courses. Research shows that study tours for the many foreign delegations that come to the Netherlands are effective and have an influence on the home country of those delegations.<sup>8</sup> The focus here is not on the way in which a bicycle path is constructed, but rather on experiencing first-hand what a city can be like: with many people on the street, cycling safely, far fewer (parked) cars and more quality of life. There is also extensive knowledge exchange at international conferences.

Various Dutch non-profit organizations such as knowledge institutions and governments play an important role in this field (market cluster 6). Characteristic is that these parties are not commercially involved with the bicycle, but they do play an important role in seizing international opportunities for the Dutch bicycle sector by sharing knowledge and connecting parties.

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<sup>8</sup> Glaser (2021). From global ideas to local action: building capacity to reshape urban transport policy. Universiteit van Amsterdam.

### **Knowledge exchange by non-profit organizations**

First of all, the Dutch Cycling Embassy (DCE) plays an important role in drawing international attention to the Dutch bicycle sector and connecting parties. The DCE is a public-private network that aims to make cycling possible for everyone, and does this by making Dutch cycling knowledge widely available. For example, at the request of the Dutch Embassy in the Philippines, the DCE provided training courses in which it shared its knowledge of Dutch bicycle infrastructure with the Philippine parties involved. Ultimately, in 2021, the largest bicycle network (almost 500 kilometres) in the Philippines was completed.<sup>9</sup>

Dutch knowledge institutions also play an important role internationally. Dutch companies in the bicycle sector emphasize the importance of knowledge institutions. This includes researchers at Dutch universities and colleges who play a role in the international exchange of cycling knowledge through professional literature, conferences, organizing international summer schools and setting up large-scale online courses (so-called Massive Open Online Courses, MOOCs). In addition, there are also Dutch municipalities that receive international delegations and give them a tour or share knowledge and experiences at foreign conferences.

The third way in which Dutch cycling culture is disseminated is through concrete contributions from cycling professionals and companies to foreign cycling projects. This includes contributions to advice, design and implementation of bicycle projects abroad. For example, Dutch consultancy firms contributed to bicycle master plans all over the world such as in Austin, Mexico City, Guadalajara, Bucaramanga, Cartagena, Piedmont, Lombardy, Milan, Reykjavik, Ganges, Berlin, Tirana and Vietnam. Chapter 4 discusses these contributions from parties in the market clusters Design, Engineering and Consultancy and Infrastructure and Construction.

### **Diplomatic value**

In addition to the social value of the Dutch bicycle sector, the bicycle also has a diplomatic value. Decisio's research shows that the bicycle is an important instrument for Dutch diplomacy and image. The fact that the Dutch Prime Minister or members of the royal family are regularly seen cycling does not necessarily lead to more bicycle use or commercial opportunities, but it does contribute positively to the image of the Netherlands.

### **Promoting Dutch cycling culture more actively**

The Dutch cycling culture, knowledge and experience are considered inspiring and special abroad, while quite a lot of Dutch people do not consider the fact that the Dutch situation is truly unique in the world. Internationally, however, there is great appreciation for Dutch cycling knowledge and experience. International organisations, such as the World Bank, the European Union and the World Resource Institute, therefore believe that the Netherlands can promote this position much more because cycling holds the key to tackling climate problems and making cities more sustainable and pleasant. This creates an opportunity for the sector to more actively promote the Dutch cycling culture and thereby help other cities and countries to develop policies, infrastructure and culture for cycling.

## **3.2 International social value of Dutch cycling culture**

The exemplary role of the Netherlands as a cycling country has a global influence. Decisio (2022) has made an initial quantitative estimate: the value of the Netherlands' contribution to promoting cycling elsewhere in the world is estimated at around EUR 1.2 or 3.8 billion annually.

For this analysis, Decisio (2022) has estimated the social value of all bicycle kilometres in 2020 and of all extra bicycle kilometres between 2011-2020 in Europe, North America and Australia. The following was considered:

<sup>9</sup> <https://blogs.worldbank.org/transport/crisis-opportunity-how-philippines-built-500km-bike-lanes-less-year>.

- The social effects (due to less congestion, positive health effects, improved air quality, positive impact on public space and the climate) of all bicycle kilometres in Europe, North America and Australia in the year 2020. These are estimated at 121 billion euros. This figure is based on the external costs that would have been made if half of these bicycle kilometres had been covered by car and half by public transport in 2020.
- The social effects of the growth in the number of bicycle kilometres in countries in the above-mentioned parts of the world between 2011-2020. It is estimated that this growth will have increased to 38 billion euros in 2020.

Some of these social effects can be attributed to the Dutch cycling culture. The Dutch contribution to all bicycle kilometres in the selected countries is estimated by Decisio to be at least 1 percent. This one percent concerns an international social value of the Dutch contribution of more than 1.2 billion euros in 2020. Looking at the development of bicycle use in recent years, the contribution of the Netherlands is more higher than the estimated 10%. This would mean that the contribution made by the Netherlands to the growth of bicycle use between 2011-2020 represents an international social value of 3.8 billion euros in 2020.

Decisio calculates the climate gain of the growth of cycling abroad. This climate gain applies when people use a bicycle instead of the car (50%) or public transport (50%). Decisio notes that the climate benefits of the growth in cycling in Europe, North America and Australia between 2000 and 2020 contribute to an annual reduction of CO<sub>2</sub> emissions with a value of at least 550 million euros. A share of 1 to 10 percent of this corresponds to an annually recurring contribution of 5.5 to 55 million euros, which, in a conservative estimate by Decisio, comes from the Netherlands.



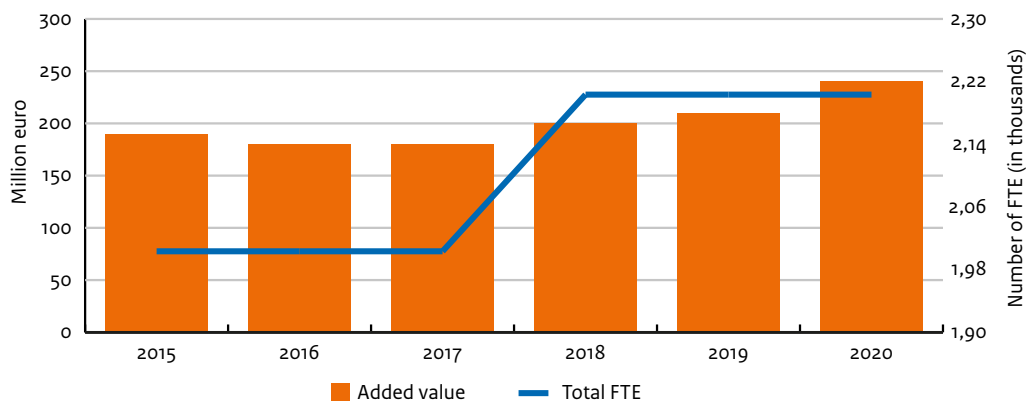


## 4 In-depth per market cluster

This chapter zooms in on the most important developments per market cluster in the Netherlands. For the Production, Sales (subdivided into Wholesale and Retail) and Rental (Section 4.1 to 4.3) clusters, CBS and BOVAG figures are used in this chapter, supplemented with information obtained from parties in the bicycle sector, through both a broad work session as well as various interviews. The sections on the Design, Consultancy and Engineering Firms and Infrastructure and Construction clusters (sections 4.4 and 4.5) are based on previous studies, the interviews and the broad work session.

### 4.1 Production of bicycles and parts

The Production market cluster consists of parties involved in the development and production of bicycles and parts. A total of 2,200 FTEs were employed in this market cluster in 2020, which is comparable to the Wholesale sub-cluster. The number of FTEs active in production has increased by 10% since 2015. This also includes working years of employees engaged in non-international activities within the company. The added value of this market cluster increased from 190 million euros in 2015 to 240 million euros in 2020 – an increase of 25%. Both economic indicators are shown in Figure 6.



**Figure 6** Development of economic indicators in market cluster Production (source: CBS, 2022)

As indicated earlier, the Production market cluster is logically responsible for a large part of the 'vehicle side' of the bicycle sector. Looking at the export value of all goods through this market cluster, an increase can be seen to a value of 790 million euros in 2020 – almost a doubling compared to 2015. This also concerns goods that are not related to the bicycle. Only looking at bicycles and bicycle parts exported by companies in this market cluster, an increase can also be seen. The export value of this has almost doubled since 2015, to 660 million euros in 2020. The graph in figure 5 shows these increases.

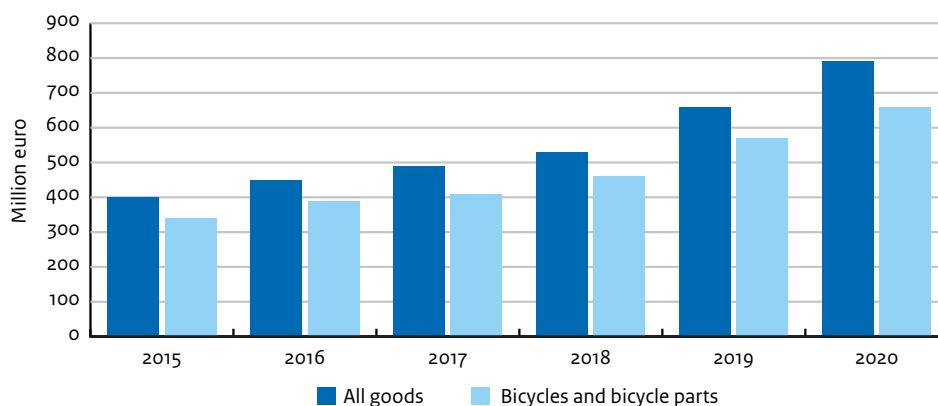


Figure 7 Export value market cluster Production (source: CBS, 2022)

### Dutch bicycle parties have a strong global market position

The global bicycle market is fragmented. Of the three largest contenders in the world, two are of Dutch origin. Pon Holding is now the world's largest bicycle manufacturer.<sup>10</sup> Pon has traditionally been active in car sales, as a dealer for Volkswagen, Audi, SEAT and ŠKODA, among others. About ten years ago, the company decided that it no longer wanted to be dependent on cars alone and focused on bicycles, among other things. In the bicycle market, the company has brands such as Gazelle, Cervélo, Urban Arrow, Union, FOCUS, Santa Cruz, Kalkhoff, Cannondale, Schwinn and CALOI. In addition, it also owns Swapfiets, the subscription bicycle, which is active in various countries.<sup>11</sup> Pon delivered more than 710,000 bicycles around the world in 2021. More than 200,000 people have a subscription to Swapfiets. Number two is Taiwanese Giant. Number three is Accell Group. At the beginning of 2022, it was announced that Accell Group will be acquired for 1.6 billion euros by an American investment company. The company, which is Dutch by origin, is known for brands such as Batavus, Sparta, Haibike, Koga, Ghost, Winora, Lapierre and the cargo bike manufacturer Babboe.

In addition to these large parties, there are also smaller Dutch bicycle manufacturers with international success, such as VanMoof. This company was founded in 2009 in Amsterdam and makes city and electric bicycles. The company launched a new speed pedelec at the end of 2021, 10,000 of which had been reserved within three months. A third of these reservations came from Germany, followed by the United States and the Netherlands.

### From car to bicycle company

The popularity of the bicycle is reflected in the market strategies of Dutch companies. In the Dutch bicycle sector, there are several companies that were originally active in the car market and are now also entering the bicycle market. These car companies provide an important role for the (electric) bicycle in urban mobility needs and are expanding their offer with bicycle sales and bicycle services. By focusing on bicycles in addition to cars, they provide a more complete range of mobility. Consider the previously given example of Pon Holding that took over Gazelle in 2012. The company now has a broad portfolio of companies that offer mobility services. More recently, Louwman also entered the bicycle market. In 2021, this importer of car brands such as Toyota and Suzuki took an interest in Fietsvoordeelshop.nl, which sells bicycles both online and in physical stores. And Broekhuis Groep, one of the largest car dealers in the Netherlands, took over the bicycle specialist Kroone Liefding at the beginning of 2022.

<sup>10</sup> <https://www.parool.nl/amsterdam/amsterdams-pon-wordt-s-werelds-grootste-fietsfabrikant~bd664912/>.

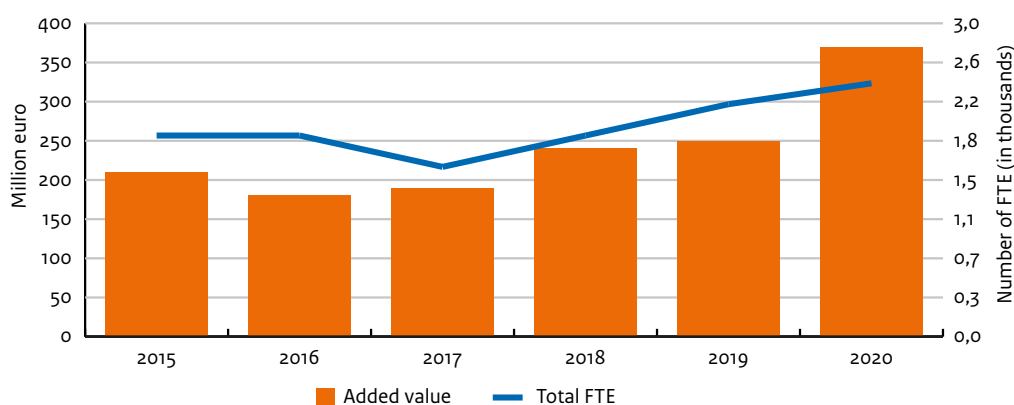
<sup>11</sup> <https://pon.com/activiteiten/bikes/?cn-reloaded=1>.

## 4.2 Sales and maintenance

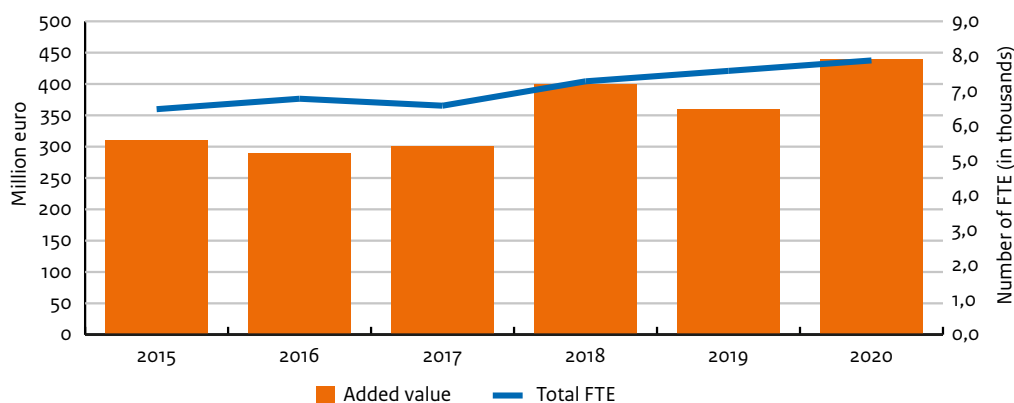
The Sales and Maintenance market cluster consists of parties that focus on the sale of bicycles and bicycle parts and their maintenance. A distinction is made here between Wholesalers and Retailers. A total of 10,200 FTE will be employed in this market cluster in 2020: 2,400 FTE in wholesale and 7,800 in retail. Between 2015 and 2020, the number of FTEs in the wholesale sector increased by 26% and in the retail sector by 22%. See figures 6 and 7 where this is shown.

The total added value of the market cluster (wholesale and retail together) was 55% higher in 2020 than it was in 2015, namely 810 million euros. The share of the retail trade is larger than the wholesale trade. The added value of bicycle wholesale in 2020 is 370 million euros (75% more than in 2015). The added value of retail trade will be 440 million euros in 2020 (40% more than in 2015). In short: this market cluster has grown enormously in recent years – both wholesale and retail. 2020 was a good year for this cluster and therefore responsible for a large part of the increase. The added value rose sharply in the first year of the corona pandemic – probably because people started cycling more during this time.

The added value and the FTE are illustrated opposite each other in the attached graph for both wholesale and retail trade.



**Figure 8** Development of economic indicators in wholesale (source: CBS, 2022)



**Figure 9** Development of economic indicators in retail (source: CBS, 2022)

According to CBS, the Wholesale sub-cluster, together with the Production market cluster, is the largest cluster responsible for the export of goods. If we look at the export value of all goods (including non-bicycle goods that the company sells) by wholesalers, it is clear that this has increased in recent years to a value of 1.1 billion euros – over one and a half times the value of 2015. The same applies to the export value of bicycle goods in particular through this market cluster: this has increased by 65% in that period, to 930 million euros in 2020. Figure 10 demonstrates this growth.

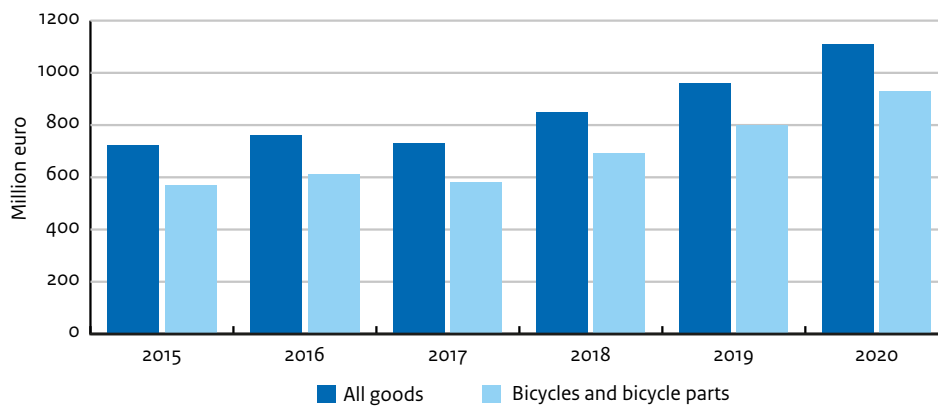


Figure 10 Export value market cluster Wholesale (source: CBS, 2022)

### Increasing bicycle sales by e-bikes and speed pedelecs

According to BOVAG, the number of new bicycles sold in the Netherlands rose to 1.1 million in 2020 (9% increase compared to the previous year). A major factor in this is the advance of the e-bike, which now accounts for more than half of the number of new bicycles sold (547,000 in 2020). This number is increasing annually and by 29% between 2019 and 2020. This increase in e-bike sales is accompanied by a decrease in sales of city bicycles. This decreased last year in the Netherlands by 14%.

With these sales figures, the Netherlands will be the sixth largest country in Europe in 2020 in terms of sales of new bicycles (including e-bikes). Germany tops the list with over 5 million new bicycles sold, followed by Great Britain (2.9 million), France (2.7 million), Italy (2 million) and Spain (1.6 million). In each of those countries, bicycle sales rose (significantly) between 2019 and 2020, with Spain as the biggest riser: 24% more bicycle sales in 2020 than the year before. The sale of bicycles is therefore also increasing sharply in other countries. This could possibly have been greater because many suppliers of bicycles and bicycle parts have had difficulty meeting demand due to the corona pandemic. Possibly, the growth is even greater than these figures show.

In addition to e-bikes, the faster speed pedelecs are also on the rise. Speed pedelecs are electric bicycles that provide pedal assistance up to 45 kilometres per hour. In 2021 there will be about 27,000 speed pedelecs in the Netherlands. That is an increase of 19.5% compared to 2019. Their sales are also growing: 4,701 speed pedelecs were sold in 2020, an increase of 16.7% compared to the previous year.

## 4.3 Shared bikes and bike rental

The Shared Bicycles and Bicycle Rental market cluster consists of parties that offer users temporary access to a bicycle for a fee. The public transport bicycle is not included in this cluster, see box for more information.

In this market cluster, the number of FTEs has almost quadrupled in recent years, to 700 FTEs in 2020. This is an enormous increase, in line with the trend in the mobility system in which shared bicycles and bicycle rental are increasingly visible. The number of companies has also increased: from 120 in 2015 to 140 in 2020. The added value of this market cluster has tripled in recent years. In 2015, 2016 and 2017 this was still 10 million euros annually, while in 2020 it was 30 million euros.

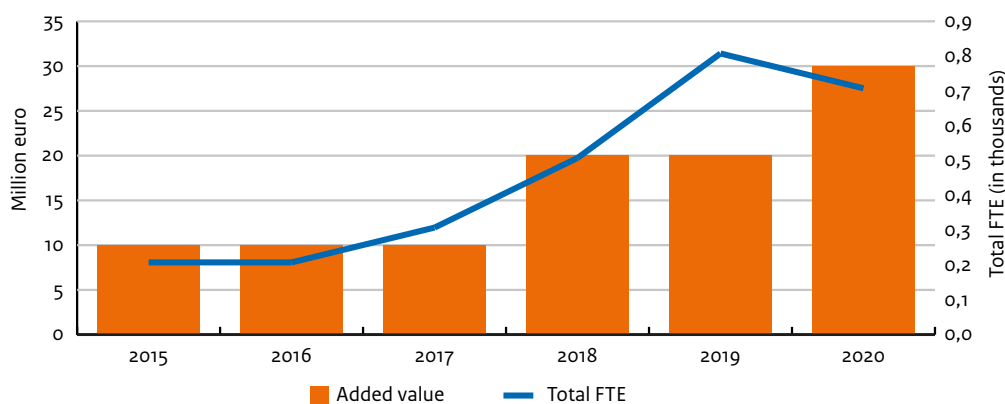


Figure 11 Export value market cluster Bicycle rental and bicycle sharing (source: CBS, 2022)

### Different sharing bike models and many newcomers

The bicycle rental and bicycle sharing market in the Netherlands is diverse and consists of different types of companies. A distinction can be made between different types of business models. There are, for example, the traditional bicycle rental companies that focus on tourists or the commonly used public transport bicycle (see box). In recent years, many newcomers have also entered the market with innovative sharing concepts. The combination of smart locks, GPS technology and smartphone apps make it possible as a user to locate a bicycle in your vicinity, open it for use and park it somewhere after a ride. The user does not necessarily have to return this bicycle to the place of issue after use. There are companies that apply this model to the rental of shared bicycles and/or scooters. These are companies like Donkey Republic, Bondi, Check, GoSharing, Tier, Bird and Felyx.

Another relevant development in this market cluster is the emergence of lease or subscription models for bicycles. For a fixed monthly fee, users always have a working (electric) bicycle. The user therefore does not have to carry out maintenance on the bicycle for that amount. The largest player in this market is Swapfiets, a company that was founded in 2016 by students and has since been acquired by Pon. Swapfiets now has more than 200,000 users and is active in cities in the Netherlands, Germany, Belgium, Denmark, France and Italy.

In addition to bicycles and electric scooters, it is also possible to share or rent electric cargo bikes. For example, Baqme and Cargoroo give its users access to electric cargo bikes via a smartphone app. These cargo bikes are scattered around neighbourhoods in Dutch cities. Cargoroo is known to expand its range to include Belgium, Germany and the United Kingdom. The company Dockr offers companies the opportunity to rent or lease electric (cargo) cargo bikes, for example to transport orders. There are therefore many different developments that touch on 'the bicycle' as a modality, but also stretch the definition of that modality.

In order to anticipate the increasing range of new mobility concepts and to guarantee their safety, the Ministry of Infrastructure and Water Management is developing a policy framework for Light Electric Vehicles (LEVs). The purpose of this is to “ensure that LEVs that have been approved are technically safe and are used safely in traffic. The framework offers more clarity to consumers, manufacturers and road authorities. For example, consumers know which LEVs they may or may not use on the road, manufacturers know which technical requirements the vehicle must meet and it becomes clear to road authorities which vehicles will be driving on their road network”.<sup>12</sup>

<sup>12</sup> Kamerbrief ‘Kader Lichte Elektrische Voertuigen’, d.d. 13 juli 2021 – Minister Van Nieuwenhuizen (IenW).

### **The public transport bicycle in the spotlight**

The public transport bicycle (in Dutch: OV-fiets) is the most widely used shared bicycle system in the Netherlands (established in 2003). The system is owned by the Dutch Railways (NS) and offers bicycles at train, bus and metro stations, P+R locations and a number of urban locations in Amsterdam, Utrecht and Rotterdam. NS currently offers 21,700 public transport bicycles, spread over almost 300 rental locations. In the past year, public transport bicycles proved particularly popular at smaller stations. OV-fiets has grown strongly in the years before the pandemic. From 2015 to 2019, public transport bicycle use increased from 1.9 million to 5.3 million journeys per year. Due to the corona crisis, the use of the public transport bicycle in 2020 has fallen to 3 million rides for the first time since its foundation (in 2003). Compared to 2019, this is a decrease of 40%.<sup>13</sup>

The OV-fiets has few comparable concepts abroad. What makes it unique is that the concept is clearly linked to public transport points and thus makes a combination of bicycle-train transport. With OV-fiets it is easy for travellers to combine a train ride with a bicycle trip to cover the so-called 'first and last mile' by bicycle. The public transport bicycle therefore ensures that the train is used more often. For example, the (public transport) bicycle is a catalyst for public transport.

OV-fiets deliberately chooses not to link the bicycle to a smartphone app, as most private bicycle-sharing systems function today. NS is, however, working on a new generation of public transport bicycles and on a 'smart lock', in which the user can open the 'smart lock' of the bicycle with an OV chip card. Thousands of keys are lost every year, impacting availability. Thanks to this smart lock, there is no longer a need for a key and no physical key issue, which makes it easier for OV-fiets to scale up. In addition to the smart lock, there will soon be experiments with the electric public transport bicycle. This increases the range around NS stations, which may attract new users.

The Dutch bicycle-train combination is attracting a lot of international attention. NS itself states that it has no ambitions to offer the services internationally. However, NS believes it is important to share knowledge about shared bicycles and bicycle parking – this also happens internationally. For example, the OV-fiets is regularly discussed at conferences, the international Velocity fair is visited every year and often makes an appearance in international studies. On top of that, many international delegations, for example those of Deutsche Bahn or foreign 'bicycle mayors' come to the Netherlands to witness this phenomenon.

## **4.4 Design, engineering and consultancy firms**

The design, engineering and consultancy firms market cluster consists of parties that focus on design, engineering and consultancy services for bicycle-related projects. Statistics Netherlands has determined the total added value and export value of agencies known to carry out international assignments in the field of bicycles.<sup>14</sup> The labour volume at these companies with international bicycle activities is 11 thousand FTE. The total added value of these agencies in 2019 was just under 1.2 billion euros. The value of the export of services was 300 million euros. Please note: this concerns the total export value and export of services from these companies, including services that are not related to bicycle projects. While exports for the 'vehicle side' of the bicycle sector largely consist of goods exports, services make up the largest share of exports for this cluster.

### **International cycling activities of design, engineering and consultancy firms**

Dutch design, engineering and consultancy firms have extensive experience abroad. And more and more companies are active in distributing cycling knowledge abroad. These companies contribute to the international earning potential through advice, design and implementation of bicycle projects abroad. See the box for an overview of various contributions.

<sup>13</sup> <https://www.treinreiziger.nl/gebruik-ov-fiets-daalt-voor-het-eerst-in-de-geschiedenis-met-40/>.

<sup>14</sup> This concerns a list of 75 parties drawn up by DCE, IenW and RVO. For these parties, only figures from 2019 are available, and therefore no multi-year trends.

The market for these companies is mostly B2G (business-to-government): parties in this cluster have public clients. To do business internationally, companies often seek strategic cooperation with local partners or set up local offices or branches. It is important for these parties to have knowledge of the local context and culture: How are things done here? How do tenders and regulations work in this context and what is allowed and what is not?

A survey by Decisio (2022) among bicycle professionals shows that the main reason for involving Dutch professionals in foreign bicycle projects is to reduce the local knowledge gap and to prevent the risk of errors in design assignments. Decisio sees that consultancy firms with specific cycling knowledge make less of an impact than is possible. This is because in new cycling cities the emphasis is on the technical side of cycling infrastructure, while Dutch knowledge about cycling policy becomes important at a later stage. Another threshold is that at present there are sufficient attractive assignments for these parties in the Netherlands. This means that as of yet the need for Dutch consultants to recruit and take on foreign jobs is limited.

The bicycle also helps Dutch companies to reach foreign customers. Today, bicycles are often part of an urban development project or an integrated urban mobility plan. For example, Dutch cycling expertise can result in larger international design, engineering or consultancy projects for Dutch companies.

#### **Dutch direct contributions to bicycle projects abroad**

Decisio (2022) has mapped out concrete contributions of Dutch design, engineering and consultancy firms to international bicycle projects:

**Bicycle projects:** Dutch design, engineering and consultancy firms designed specific bicycle projects around the world (Lima, Alberta, Ottawa, Manila, Perth, Canmore, Los Angeles, Cambridge). Witteveen+Bos, for example, has been working on a 35-kilometre fast cycle route in Bogota. Royal HaskoningDHV has in turn been selected to write the Beijing bicycle vision and to create a concept for a bicycle highway in Beijing. APPM, Goudappel, Moby-con and Decisio, among others, have set up subsidiaries in other countries in recent years, specifically aimed at cycling and sustainable mobility.

**Bicycle master plans:** Dutch agencies contributed to bicycle master plans around the world, of which the following places were mentioned in the survey: Austin, Mexico City, Guadalajara, Bucaramanga, Cartagena, Piedmont, Lombardy, Milan, Reykjavik, Ganges, Berlin, Tirana and Vietnam. For example, Decisio recently contributed to the Milan bicycle plan, which consists of 750 kilometres of new bicycle paths and has recently been approved by the municipality. The city of Reykjavik was assisted by Mobycon during the development of the 2021-2025 Bicycle Plan.

**Area development:** Dutch offices have contributed to area development with a central location for bicycles and pedestrians. Witteveen+Bos, for example, helped the Singapore government with the planning and design of the bicycle network in the Ang Mo Kio district. The aim of the project is to create a bicycle network in Ang Mo Kio that makes safe and comfortable cycling possible for the 175,000 inhabitants of this Singaporean district, thereby serving as an example for the rest of Singapore.

## 4.5 Infrastructure and construction

In the Infrastructure and construction market cluster, companies focus on constructing and building bicycle infrastructure such as bicycle paths and bicycle sheds. In the Netherlands, this concerns contractors that can build bicycle infrastructure (such as BAM) or more specific companies that specialize in the construction of bicycle sheds (such as Falco). The companies in this market cluster are strongly related to the design, consultancy and engineering firms (market cluster 4). For the implementation of bicycle-related infrastructure and construction activity abroad – such as bicycle paths or bicycle tunnels – Dutch offices often work together with local parties and contractors.

Because no information is available on economic or social indicators for this market cluster, this cluster is less well understood at the moment. It is clear that, given the increasing popularity of bicycles abroad, the international demand for infrastructure will also increase. Table 1 shows that public investment in cycling infrastructure is increasing in the five most promising markets for the Dutch bicycle sector

**Table 1** Overview of recent international investments in cycling infrastructure<sup>15</sup>

Country	Relevant information/investments in infrastructure and construction
<b>United States</b>	<ul style="list-style-type: none"> <li>At the end of 2021, the US Congress set aside \$1,200 billion for infrastructure investment. Investments in cycling infrastructure fall under the <i>Transportation Alternatives Program (TAP)</i>, whose budget has been increased to 7.2 billion over the next five years. Most of this will be for investments in cycling infrastructure. Between 2014 and 2020, at least 85% of the TAP budget was for investments in active mobility (cycling and walking).</li> </ul>
<b>Sweden</b>	<ul style="list-style-type: none"> <li>The <i>Swedish Transport Administration (STA)</i> has invested € 160 million in bicycle networks in 2020.</li> <li>The STA has announced that it will build 640 kilometres of bicycle route, thereby creating the sixth official national bicycle route. This route will circulate around Lake Vänern.</li> </ul>
<b>Germany</b>	<ul style="list-style-type: none"> <li>Use of bicycles is increasing enormously in Germany: from 40.8 billion bicycle kilometres travelled annually (2015-2017) to 47 billion kilometres annually in 2030. Expenditure on the operation and maintenance of bicycle facilities will therefore also increase until 2030. The federal government provides financial support to the federal states and municipalities to realize bicycle traffic networks and bicycle parking facilities. In total, investments are planned of € 1.45 billion in the years 2020 to 2023.</li> <li>Investments in German cycling infrastructure are growing every year: in 2017 this was still € 417 million per year. This will be € 605 million per year from 2025, and € 660 million per year from 2030.</li> </ul>
<b>United Kingdom</b>	<ul style="list-style-type: none"> <li>Active mobility is strongly encouraged in the United Kingdom. The budget available for bicycles in the <i>Gear Change program</i> has been increased from £500 million to £2 billion (converted approximately € 2.4 billion as of April 2022).</li> <li>Several cycling programs have been developed in London. One of these is the <i>Cycle Superhighway programme</i>, which aims to better connect the city centre with the suburbs through of bicycle highways. The aim is to build a total of 450 kilometres of bicycle highway before 2024. Part of this goal has already been completed.</li> </ul>
<b>Belgium</b>	<ul style="list-style-type: none"> <li>In Flanders, budgets for cycling infrastructure have risen sharply in recent years: from approximately € 90 million in 2015 to 335 million in 2021. In Wallonia, the <i>Plan Wallonie Cyclable</i> (expected: end of April 2022) has an annual budget of € 75. An appeal has also been made for a corona recovery fund of € 25 million for bicycle highways.</li> <li>In Brussels, the planned annual bicycle budget has been increased from € 15 million to € 30 million. In addition, a budget of € 55 million has been requested from a corona recovery fund for bicycle infrastructure. There will also be a Master Plan for Bicycle Parking.</li> <li>Parking facilities at stations will also increase significantly in Belgium. The Belgian railways currently have approximately 100,000 bicycle parking spaces at the stations. By 2025, the number of bicycle places should have increased by about 50,000.</li> </ul>

<sup>15</sup> Sources:

- Fiets en Fietsinfrastructuur: Kansen in België- Nederlandse ambassade in België (2021)  
 Marktverkenning fietsinfrastructuur Duitsland – Mobycon, i.o.v. Netherlands Business Support Office Stuttgart (2021)  
 UK Cycle Consultancy Opportunities, update November 2020 – Lordonabike (2020)  
 Overzicht van COVID-19 maatregelen op de fiets – Dutch Cycling Embassy (2021)  
 The case for funding bike infrastructure – VOX.com (2021), <https://www.vox.com/22671552/bike-infrastructure-funding>  
 Sweden's newest national cycle path will revolve around the country's largest lake – Europe Cities (2022), <https://europe-cities.com/2022/01/24/swedens-newest-national-cycle-path-will-revolve-around-the-countrys-largest-lake/>  
 Bicycle boom in the country - but Swedish bicycle policy gets criticism - Tellreport (2020), <https://www.tellerreport.com/news/2020-10-25-bicycle-boom-in-the-country---but-swedish-bicycle-policy-gets-criticism.Hyr4-2MuD.html>



## 5 Utilizing the International Earning Potential

This concluding chapter contains ideas about how the Dutch bicycle sector can fully utilize its international earning potential. It concerns increasing both the economic and the broad social value that the Netherlands has internationally. The insights are based on discussions with companies from the bicycle sector and with parties from outside this sector (see appendix for an overview of the parties consulted) and addresses the third research question (How can international opportunities for the Dutch bicycle sector be seized?).

### **Dutch bicycle sector as international guide country**

The Netherlands has a rich cycling culture from which a unique cycling ecosystem of companies and organizations has emerged. This ecosystem is diverse and innovative, with major international players, as well as emerging innovative companies. What is seen as unique and strong by the parties involved is that the Dutch bicycle sector offers a total package of solutions: from knowledge about urban planning, to the construction of infrastructure, to the production and sale of bicycles, to knowledge and innovative concepts. The bicycle itself is also often part of broader themes and societal challenges, with which it functions as a catalyst for activity in sectors, such as large urban development or mobility projects. The Netherlands' strong reputation and bicycle expertise helps Dutch companies to enter these fields abroad. The bicycle sector therefore offers solutions for the entire chain and makes an impact on the rest of the world with various products, services and knowledge. The parties interviewed (also from the other sectors) agree that this gives the Netherlands a strong international reputation as a cycling country and that it therefore also makes a significant social impact internationally (for example on CO<sub>2</sub> savings). However, despite a strong international reputation, companies also see a challenge in capitalizing on the earning potential. There are many more opportunities to seize internationally, both economically and socially, especially after the increase in international attention for cycling and the investments made in cycling infrastructure.

### **Working together helps to capitalize on international opportunities**

The bicycle sector can grow internationally if the business community, government and knowledge institutions work well together, according to various parties from the sector. Local authorities abroad are an important partner for the Dutch bicycle sector. For example, because parties have them as a partner or client, to obtain information about the opportunities and challenges of doing business, or to gather the right contacts. The Dutch government plays an important role in this by building bridges between the Dutch business community and local authorities. This is done, for example, by the embassies and Netherlands Business Support Offices (NBSOs) that are located abroad. They play an essential role as a local representative. Parties from the bicycle sector indicate that it works well if a Dutch company is introduced by the government, because this inspires confidence. The Dutch government also regularly acts internationally at conferences or trade missions as an 'independent connector' and ambassador for Dutch bicycle companies. Governments in the Netherlands can also help to establish these contacts. For example, when Dutch governments receive foreign governments, they can introduce Dutch companies.

In addition to governments, knowledge institutions also play an important role. Activities of knowledge institutions in the Netherlands (such as research, online courses, summer schools or workshops) attract foreign parties to the Netherlands. Thanks to their expertise and independent role, they increase the awareness of Dutch cycling knowledge and stimulate foreign interest, while simultaneously creating a relevant network.

### **Local presence through strategic partners or offices is essential for doing business internationally**

Companies in the bicycle sector already are very much internationally active. It helps have a foothold in the local market. This can be achieved through strategic partnerships and international offices, in which local contacts share their knowledge about the setting, culture and regulations. This knowledge is essential to capitalize on international opportunities.

### **Need to strengthen international cooperation as a broad sector**

The bicycle sector consists of various market clusters and different types of companies: from bicycle manufacturers to infrastructure builders to consultants. These companies see opportunities to strengthen mutual cooperation in order to become stronger internationally. They also understand the importance of mutual cooperation and express the need for a structural dialogue between different businesses. At this time, there is less cooperation than potentially possible. More intensive cooperation can ensure that international opportunities are better utilized. For example, consultancy and engineering firms may currently compete against each other in foreign tenders, instead of working together. In this case, collaboration can increase chances of success. More intensive cooperation can also help to highlight internationally the entire supply chain that the Netherlands has. Collaboration is possible on many different topics, for example, by offering bicycle stimulation/behavioural approach in addition to the design cycle paths. Consulting and engineering firms can, for example, remove barriers in cities, opening up a sales market for bicycle manufacturers or sellers. Greater cooperation can also be achieved through more frequent joint international efforts, for example at trade fairs or trade missions.

*"Companies fish in the same pond and compete on too small a piece. But the pond needs to be bigger. This can be done by intensifying cooperation."*

*Interview Business Trade Officer regional government*



### Need for a joint positioning towards foreign countries

In order to better capitalize on international opportunities as a bicycle sector, there is a need for a joint positioning and vision for abroad. The parties indicate that a shared story can help to secure concrete assignments abroad. Companies see that a joint positioning – from the broad bicycle sector – towards other countries can be marketed internationally in much more prominent way. The Dutch Cycling Embassy already plays an important role in this. The core element of such a proposition is that the Dutch bicycle sector has everything necessary to help cities and countries worldwide to combat social challenges and climate objectives.

Despite the fundamental differences, various parties from the bicycle sector refer to the Dutch water sector. This sector has a figurehead and with its integrated approach presents a clear proposition to other countries (see box). Important preconditions for a joint positioning is that it must relate to all types of companies in the bicycle sector. Also, this story has to fit in different international contexts and cultures, as it has to be told in different countries. It must clearly link up with broader international themes such as smart cities, health and climate. In this way, a joint positioning can be widely supported and widely applicable (see box for examples from other sectors).

#### **The water envoy as an international figurehead for the Dutch water sector**

The Netherlands has had a water envoy since 2015. The main task of the Dutch Water Envoy is economic diplomacy. The water envoy (Henk Ovink) was appointed by the Ministers of Infrastructure and Water Management, Foreign Affairs and Economic Affairs and Climate. In this position, the water envoy travels around the world to strengthen the leading role of the Netherlands in tackling water challenges and issues. The envoy is a figurehead of the water sector and in that role maintains good relations with foreign governments, international organisations, knowledge institutions, umbrella organizations, the business community and social institutions.

In the current times of climate change, water management is a crucial issue. The Netherlands has achieved a great deal of experience and knowledge in this area, which gives the Netherlands an important international position. Henk Ovink emphasizes that the Netherlands is an international leader with its "integrated approach to water scarcity, safety and quality". According to Ovink, this position obliges the country to continue to invest and innovate, both domestically and abroad.<sup>16</sup>

#### **International propositions from the energy and agricultural sector**

The Dutch government helps companies from various sectors to arrive at an international proposition. This makes it clear to other countries what the Netherlands has to offer and why cooperation with this sector is a good idea.

An example of this is Wind & Water Works (see: <https://windandwaterworks.nl/>), an interactive knowledge platform for offshore wind energy, that is used by the Dutch sector to profile itself internationally. The Dutch sector links its expertise to the global sustainability challenge. The message is that Dutch companies can tackle this task like no other. It is easy to make new contacts via this 'matchmaking' platform. Wind & Water Works is an initiative of the RVO as part of the International Clean Energy Partnership and was established in collaboration with industry organizations in the offshore wind and maritime sectors. Another example comes from the agricultural industry. NL Branding has drawn up a joint proposition for this sector (see: <https://farmingthefuture.nl/>). This international campaign shows the innovative strength of Dutch agriculture, flower and fish farming. This is a collaboration between private and public parties and knowledge institutions.

<sup>16</sup> <https://nos.nl/artikel/2024271-eerste-nederlandse-watergezant-benoemd>.

### **Strong position of the Netherlands as a guiding country maintained through research and innovation**

The Netherlands has a strong international reputation as a cycling country. But according to various parties in the bicycle sector, the position of the Netherlands as a guide country is not self-evident. The Netherlands is in danger of being overtaken in some areas. Reference is made to law of the handicap of a head start or that policy sometimes works against innovation.

*“At the moment, the policy is restrictive for bicycle innovations. On the Dutch side, there is no room for innovation: new ideas such as software developments are anxiously received. We need to change that, so that we can become a testing ground again. Otherwise we will be overrun.”*

*Participant of the work session bicycle sector*

In order to maintain its leading position, the Netherlands must (be able to) remain innovative in its own country. This can be done by creating sufficient space in our own country for technical and policy-related bicycle innovations. The Netherlands as a testing ground for bicycle innovation can contribute to international opportunities. Various parties indicate that the Netherlands can profile itself strongly internationally if it also gets bicycle innovations to work in practice in its own country or if it creates space to experiment for this. Experimenting and showing the proof of concept are important for this. This is a strong tool that the Danish bicycle sector, for example, frequently uses and which helps to make their bicycle sector recognized internationally.

### **Recognizing the role of knowledge institutions in the internationalization of the Dutch bicycle sector**

Knowledge institutions play an important role in the international positioning of the Dutch bicycle sector by transferring knowledge through education and research. For example, Dutch knowledge institutes train international cycling professionals to spread the Dutch cycling culture internationally (see box in section 3.1 for more examples). Collaboration between governments, knowledge institutes and companies is of great importance to further expand the existing knowledge.

The role of knowledge institutions in the internationalization task can be better thought out. In contrast to companies in the bicycle sector, there is no revenue model for knowledge institutions. There are also still opportunities: at the moment there is no recognized institute in the Netherlands that trains cycling professionals with a specific knowledge standard or philosophy. The parties indicate that this can help to standardize Dutch knowledge.



# 6 Appendix

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## Contributions of involved parties

This report has been produced with contributions from various parties. The figures from chapter 2 and chapter 4 have been provided by Statistics Netherlands. Chapter 3 on social value is based on research by Decisio, commissioned by DCE. Chapter 5 is based on interviews and work sessions by TwynstraGudde. TwynstraGudde has brought all these elements together in this report, provided all texts and prepared the graphs and figures, under the guidance of a support group. This guidance group consisted of: CBS, Decisio, Dutch Cycling Embassy, the Ministry of Infrastructure and Water Management and the Netherlands Enterprise Agency.

In the period December 2021 and March 2022, interviews were held with the following parties:

- European Cycling Federation
- Gazelle
- Gemeente Utrecht
- International Clean Energy Partnership (RVO)
- Ministerie van Buitenlandse Zaken
- NL Branding
- OV-fiets
- PBLQ
- PON
- Regionale Ontwikkelmaatschappij Utrecht

Attendees at the broad work session (organized on February 14, 2022) with the bicycle sector were:

- APPM
- Arcadis
- Arup
- Cargoroo
- Humankind
- Falco
- Folkersma
- Goudappel Coffeng
- Ministerie van Infrastructuur en Waterstaat

- Mobycon
- Rijksdienst voor Ondernemend Nederland
- RAI
- Royal Haskoning DHV
- Soigneur Agency
- Sweco
- Technische Universiteit Delft
- Technolution
- Universiteit van Amsterdam
- Urban Arrow
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