Philips as pulse for the development of Eindhoven

The value of the Philips heritage around the Emmasingel for the future of Eindhoven

April 2022
Tim Raijmakers | 4651758

Delft University of Technology
AR2A011, Architectural History Thesis
Tutor: Marcel Teunissen

Figure 1. Areal picture of Eindhoven. (1930a).

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| Foreword

“When travelling to Eindhoven by train I see these high white factory buildings, with the name Philips, accompanying me to the city centre. Then at Eindhoven Central Station I step out of the station hall that just looks like the Philips’ radio. People still doubt which design came first the hall or the Philips radio. I walk further towards the city centre where the Lichttoren with the Philips name in blue is standing as a landmark leading you towards the inner-city of Eindhoven. This landmark is accompanied by more former factory buildings and offices, massive buildings showing the industrial heritage that used to be known in this city. Next to this all, brand-new buildings are visible, the Blob a futuristic design in the middle of this industrial architecture. This is Eindhoven, a city rich with memories of Philips.”

Tim Raijmakers
Delft, April 2022

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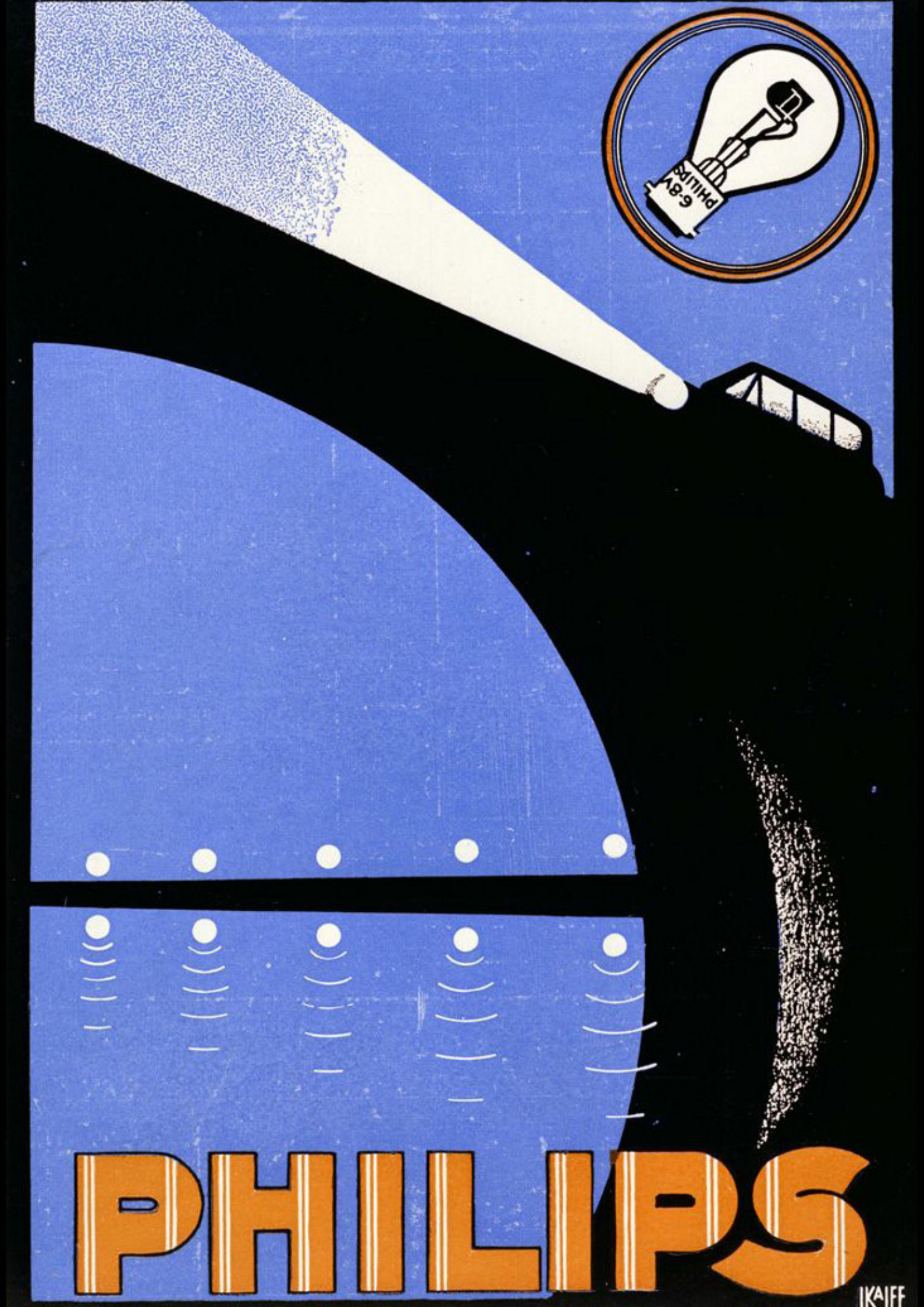
1 |

Introduction
The beginning

Figure 2. Advertisement for Philips Lightbulbs (n.d.).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1| Introduction

Eindhoven and Philips, two names that are inseparable from each other. Travelling by train to Eindhoven you are accompanied by the heritage of Philips next to the railway. Travelling by car to Eindhoven along the highway you pass the Medical Centre of Philips in the north and the High Tech Campus of Philips in the south. In the city white factory buildings with the Philips logo are prominently displayed in the city. In the prime of Philips around the 1930's it was a real industrial hub. This is the reason why residents of Eindhoven are still proud of the city (Onna, 2002). The city of Eindhoven is in a large extent formed by Philips. The buildings are designed from the company architecture of Philips. Architects employed by or under direct supervision of Philips' Technische Bedrijven (Philips Building Design and Plant Engineering Division). Optimal use of the production facilities was priority in the designs (Geevers, 2014). Because of the lack of space, the factories needed to be built higher and this gave the white towers the appearance of a 'world industry' (1908, p.134). The retiring of Philips from Eindhoven in 2001 can be seen as a pauperization of her identity, but as well a release. The architecture of Philips remains nowadays to the collective memory of the city (Doevendans, 2009). The architecture and city planning of Philips is still recognizable. The old production facilities are used nowadays for Brainport, creative and innovation city and reused for new functions as living, culture, recreation, and offices. But the brands Brainport and Design Capital will never win it from the trademark Philips. Eindhoven will always be able to use the name Philips for its reputation (Doevendans, 2009). The challenge for Eindhoven is to combine this tradition with the next phase of architecture. Eindhoven is an exceptional urban environment, an environment that has been made an exceptional city because of its knowledge and heritage (Onna, 2002).

In the outskirts of Eindhoven an abandoned textile factory was located. This building was bought in 1891 by Gerard Philips to start his production of light bulbs (Hoogstraten, 2005). This location was very useful because of the railway connections with different sales areas and the ground was inexpensive (Hoogstraten, 2005). The location and the first factory are still visible in the city of Eindhoven. In present days this is the Emmasingel, a street in the city centre. The industry had a hard time around the 1990's. Philips decided to divest a lot of industrial buildings. The complex called the Witte Dame (the White Lady), was on the list to be demolished. The city requested the state of national monument for the complex, with success (Onna, 2002). The municipality started for that time a unique and effective partnership with Philips for the reallocation of the complex. This partnership is later used for other buildings of Philips within the city. The Lichttoren (the Light Tower) this building next to the Witte Dame was the second building to be reallocated with such a partnership and later the area Strijp S started. The start of Philips next to the Emmasingel is where Eindhoven has grown from a village in a company town, and now a city. This is where the connection between Eindhoven and Philips is still visible. The area already underwent a transformation but soon another reallocation will take place. There is still Philips' heritage ready to be transformed. This combination of Philips' old factories, already undergone transformations, and the location in the middle of the city centre are making this area now and for the future interesting for Eindhoven to present themselves with the name Philips.

Eindhoven and Philips have a special bond together, their history is inseparable. For the city it is of great interest to know what the value of this bond can be for the creation of future projects in the city. This thesis will focus on the area where the history of Philips in Eindhoven all started. The Emmasingel is the core of the history between Philips and Eindhoven. The development around this area will be analysed from the first years of Philips till the present use in Eindhoven. There are a lot more buildings of Philips that are interesting to name in this thesis, but this would be a life's work. In this thesis the relevance of Philips for the city of

“The best of Philips will stay in Eindhoven.”
Frits Philips (as cited in Onna, 2002, p.15)

Eindhoven will be investigated. With better understanding of the quality Philips brought to Eindhoven this work can be used for future projects and to find out what the new identity of Eindhoven could be. It will start with a brief history of Eindhoven and the growth of Philips along the Emmasingel. Then the three main buildings along the Emmasingel will be analysed. Finally, the quality and value of Philips to the city will be explained, recommendations will be stated in the conclusion in what way the city of Eindhoven can present themselves with the name Philips.

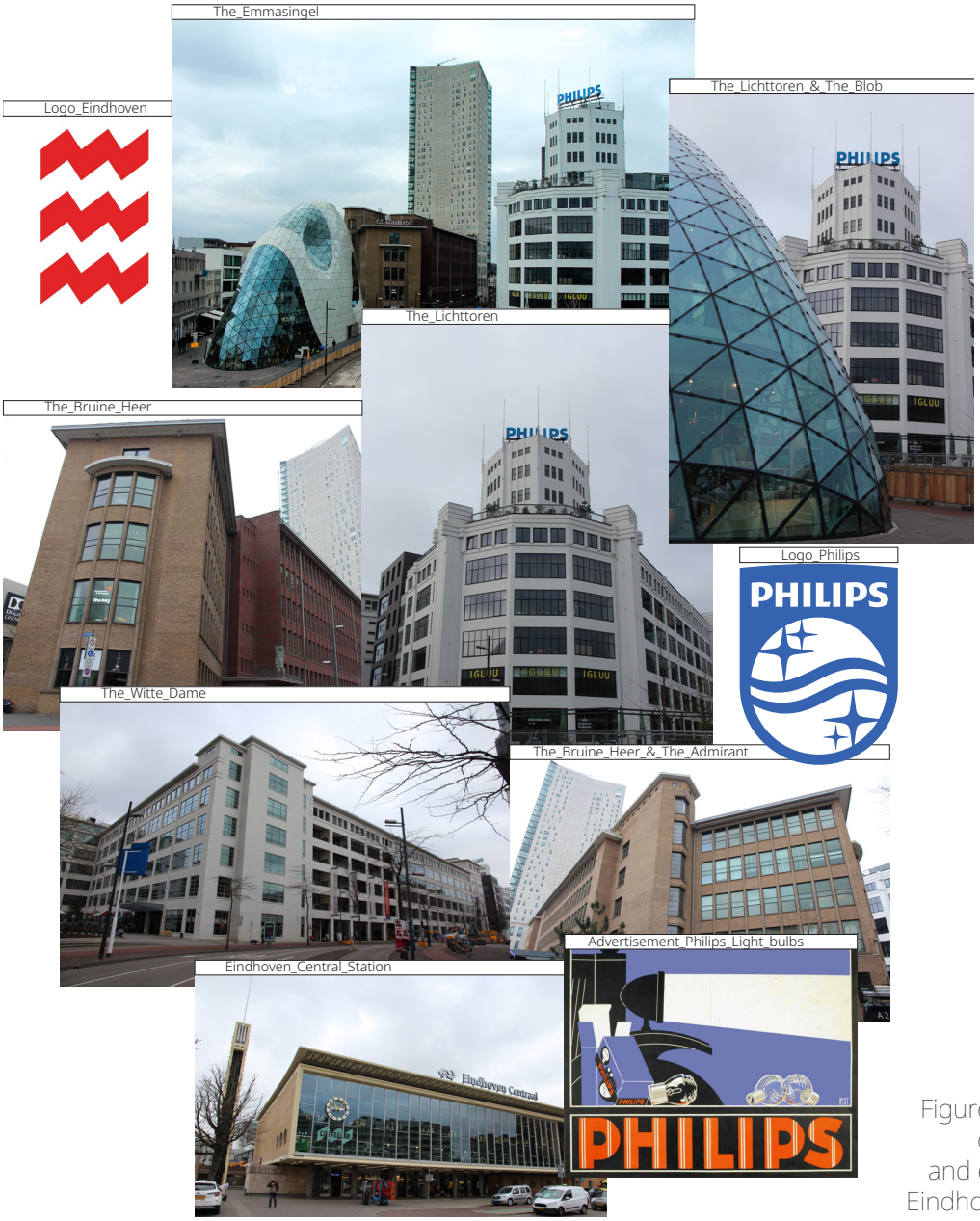
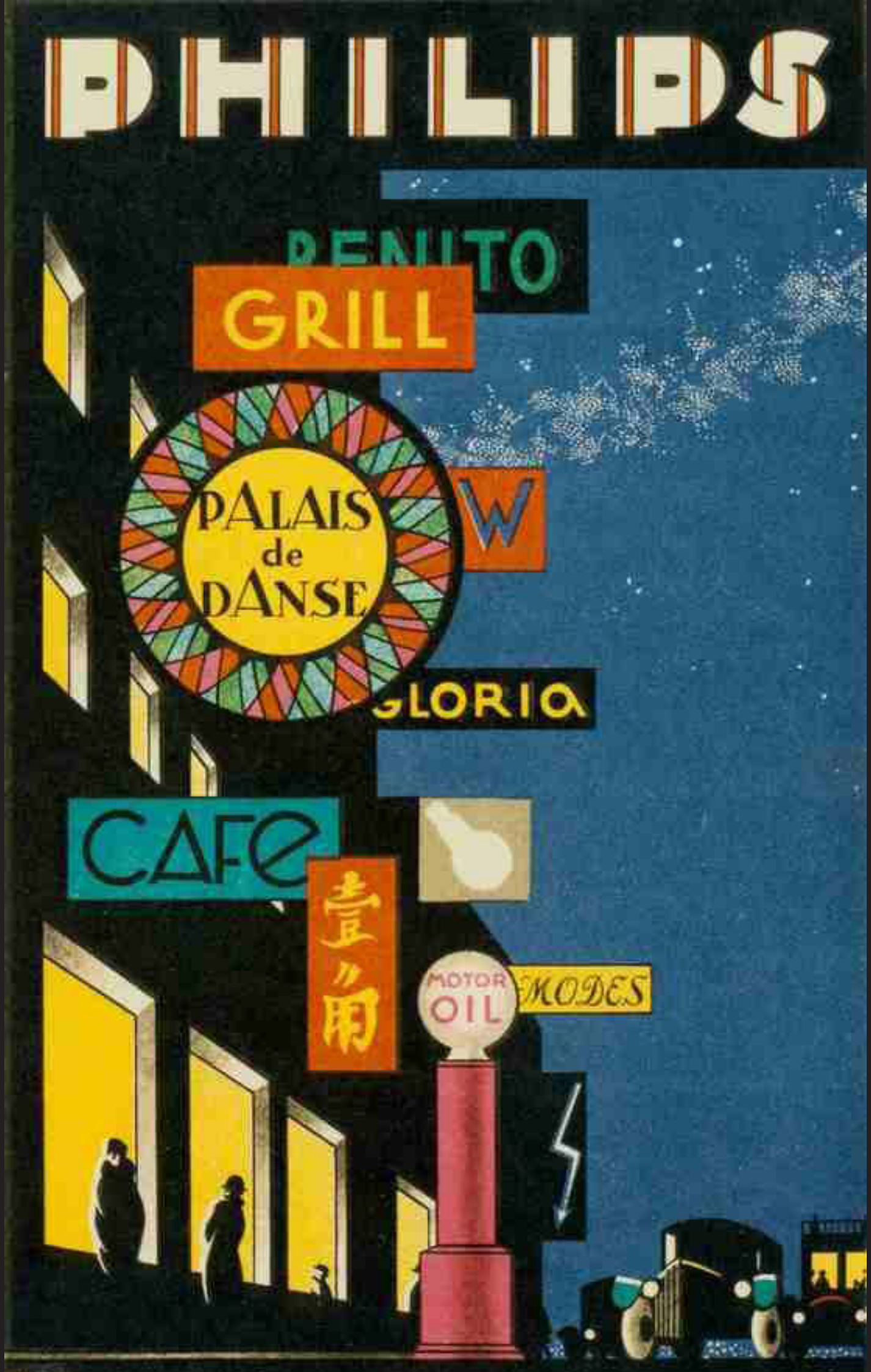


Figure 3. Collage of buildings and elements in Eindhoven (2022).

2|

History
Eindhoven and Philips

Figure 4. Advertisement for Philips Lightbulbs (n.d.).


PHILIPS
GRILL
PALAIS
de
DANSE
GLORIA
CAFE
壹ノ用
MOTOR
OIL
MODES

2|History Eindhoven and Philips

A small town situated in between the Dommel, Gender, Keerop, Laak, Run and Tongelreep. This is the Dommel-delta where Eindhoven started, in between calm rivers and crossing land roads. Situated on dry sand that gains nothing. Around the eleventh and twelfth century the settlement was created (Aussems & Horsten, 2021b). As some say, "in economical and traffic-geographical aspect a favourable hamlet." (Aussems & Horsten, 2021b, p. 8). This convenient location will make the city ideal for the role as centre for the southeast of Brabant. Before it can play this role centuries pass by with nothing significant happening.

This convenient location makes Eindhoven grow from a small village to Brainport Eindhoven. However up to the first factories open and Philips starts his venture on the outskirts of the town, Eindhoven is not more than a village. A concise overview will be given about the history and what made this town the city that is called the Lichtstad nowadays.

| Industrialisation

The invention of the steam engine in the 18th century means the start of the Industrial Revolution in England (2021). The industrialisation started between 1850-1900 in other countries in Europe. This is the beginning of a change in the production of products. The steam engine with gas and electricity means mass production for goods, devices, food and more. Factories were built everywhere in England and later the United States and the world, but mainly in Europe (2021). Farm workers became unemployed because machines replaced their work. In the cities there was work in the factories, resulting in everyone moving from the countryside to the urban environments. What follows is a rapid growth of the cities.

| Eindhoven before Philips (1891)

In 1812 the southeast of Brabant was mainly focused on the textile production. This was the same for Eindhoven. Other industries were hat factories, leather tanning, tobacco companies, and breweries. Most of the people worked at home and the factory was not common. In Eindhoven 1837 workmen laboured at home and 118 worked in a factory (Aussems & Horsten, 2021b). This will change suddenly in the 19th century.

| 15 May 1891

It is 15 May 1891, a mechanical engineer from Zaltbommel starts producing lightbulbs in an abandoned textile factory at the outskirts of Eindhoven (Aussems & Horsten, 2021b). This mechanical engineer is Gerard Philips who bought the old textile factory with financial support of his father Frederik Philips (Hoogstraten, 2005). The location was well chosen, because Eindhoven was connected to various sales areas by railway lines, the ground was inexpensive and most importantly the low wages (Aussems & Horsten, 2021a). The start of the company wasn't noticed in the beginning, but in only a few decades this firm will grow into a global corporation. As Aussems and Horsten show in their book, the Kamer van Koophandel (The Chambre of Commerce) did not see Philips grow into a global company, The Kamer van Koophandel mentioned in their annual report in 1891: "About the lightbulb factory is nothing special to be mentioned, because it is only in her beginning." (Kamer van Koophandel, 1891, p. 7). The annual report of 1892 is even

shorter: “In the lightbulb factory they work hard.” (Kamer van Koophandel, 1892, p.7) (Aussems & Horsten, 2021b, p.88). The start of Philips wasn’t much promising from the outside in that time. Because Gerard Philips wasn’t the first company to start producing lightbulbs. The production of lightbulbs wasn’t patented anymore, so everyone could start their own production. The process of creating lightbulbs was still experimental and complex so it took a while before the production became promising, but after a few years the factory was producing with success (Hoogstraten, 2005).

In 1895 Anton Philips is asked by his brother Gerard Philips to accompany him with the sale of the lightbulbs (Hoogstraten, 2005). First Anton is not much interested in going down to the small-town Eindhoven, but finally he is going to help his brother. What happens is that Anton seems to be very good in the sales and in short time he makes it to commercial director, in this way Gerard could focus on the improvements of the production. In 1892 the factory produces eleven thousand lamps and eight years later more than two million (Hoogstraten, 2005). When Anton joins the company in 1895 forty people are working there. Within five years, at the start of the 20th century four hundred people work in the company. To keep the company growing Philips needed to take action to accommodate this. Philips bought the land on the opposite of the factory at the river the Gender. The first expansions of the factory were already built in 1897. This terrain is where the later high-density factory complex in the inner-city will develop along the Emmasingel and the Mathildelaan. The first factory buildings are mere factory halls with shed roofs and office space. In between 1908-1910 the factory constructer Arend Beltman will built on this terrain the first, for that time immense, factory building with reinforced concrete of five storeys (2005). Five years after the construction of the first high-rise factory in the Emmasingel quarter the area of Strijp will already be put into operation.

| Philips’ Technische Bedrijven

To structure and design all the processes at Philips the organisation and way of working changed rapidly in the years 1900-1910. Scientific research is done for new products, the production process is mechanised, the lightbulb manufacturing goes fast, and the establishment of new sister companies to make Philips less dependent on suppliers. The construction of new buildings increased as well. This led to the founding of the department Philips’ Technische Bedrijven in 1907 (Hoogstraten, 2005). The department was responsible for the maintenance, installations, terrains, and new construction of buildings. Within this department the building agency oversaw new constructions. The engineer A.I.J. Broekert will be head of the agency. He started in 1899 to help Gerard Philips with the lightbulb production but is now responsible for the building management (Hoogstraten, 2005).

In 1919 the engineering firm TABROS is assigned to help the Philips’ Technische Bedrijven (Hoogstraten, 2005). With this allocation Philips had, as Dorine van Hoogstraten mentioned in her book about Roosenbug, “a diverse firm up to their decision instead of one civil engineer.” (Hoogstraten, 2005, p.160). In this way the existing building agency of Philips, with De Broekert as manager, was changed into the engineering firm of the department Philips’ Technische Bedrijven (Geevers,

1|History of Eindhoven and Philips

Figure 5. Eindhoven in 1585 (n.d.).

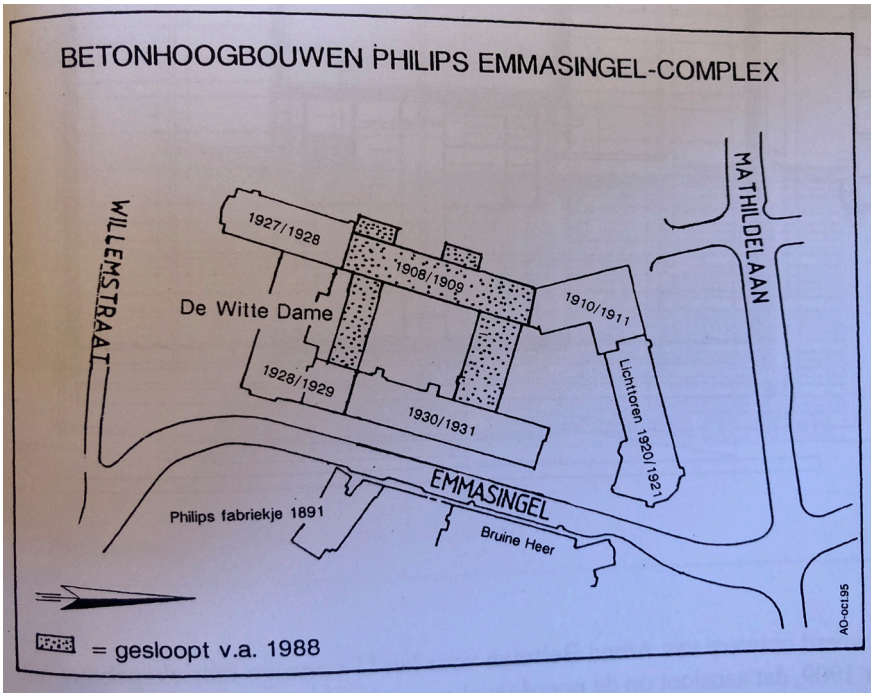


Figure 6. Philips Emmasingel-complex, first constructions. (Van der Hoeve & Kamphuis, 2000).

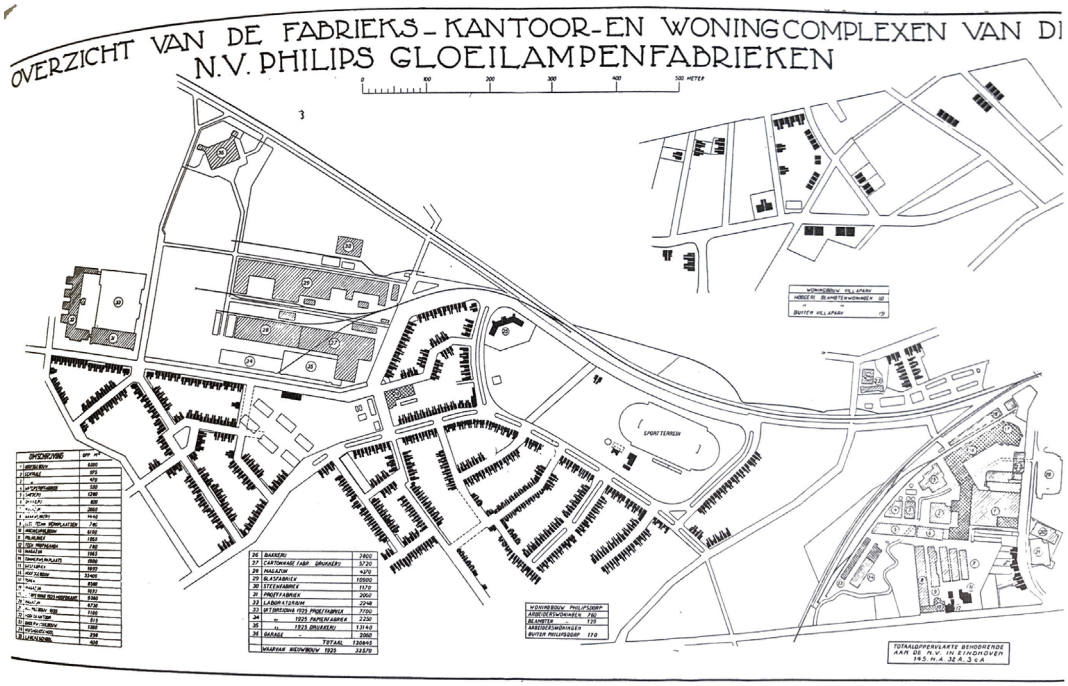


Figure 7. Planning of all factory, office and dwelling buildings of Philips. (Van der Hoeve & Kamphuis, 2000).

2|History of Eindhoven and Philips

2014). Scheffer and Roosenburg were together head of TABROS. Hereby they went together to Eindhoven at the moment Philips needed a design of a building. An extension of the earlier realized factory of Beltman was needed. The design of the extension needed to match the future function. This building will later be known as the Lichttoren. The design of the Lichttoren brought Roosenburg into the focus to design more buildings for Philips. Roosenburg leaves TABROS in 1921 and takes Philips with him as client (Hoogstraten, 2005). Roosenburg designs many buildings for Philips, including the Lichttoren and the Bruine Heer (the Brown Gentleman) (later named the Admirant). Next to the designs he makes he as well gives informal advice to the Philips' Technische Bedrijven. L.C. Kalff who was for a long time as an architect involved with the Philips' Technische Bedrijven, saw that the design of the Lichttoren gave the department "much deeper insight" into architecture (as cited in Hoogstraten, 2005, p.163). This is how the Witte Dame a later complex was realized by the department itself. All these buildings were realised in the Emmasingelcomplex. Kalff wrote about the Emmasingelcomplex: "the high-rise buildings, which follow each other in 1928-1930 in rapid pace ... It is the sober business, but pure form of these blocks which are standing out so much." (As cited in Hoogstraten, 2005, p.163). After the Second World War Roosenburg coordinates the reconstruction of his buildings that were bombed. Most of the buildings were rebuilt as more sober versions than the original designs (Hoogstraten, 2005).

Roosenburg's buildings were stylish and functional, and in the urban fabric of Eindhoven sometimes monumental manifested. In this way he gave the company that was dominant in the Eindhoven of the twentieth century, on social, economic and community level, an architectural and urban form on different scales. Roosenburg was invited to the designs of specific buildings which had a more representative function. The department of Technische Bedrijven did the more universal factory buildings on their own. The relation between Roosenburg and Philips wasn't exclusive. As Dorine van Hoogstraten said it was more a 'gentleman's agreement' this was done with respect for each other expertise (Hoogstraten, 2005, p. 176). The management of the department, the engineers De Broekert, Bouten and later Broekers, were respected fellow professionals and clients. Roosenburg wasn't an exclusive architect for Philips, his role was as well to advise and inspire engineers in the department. He showed his touch for aesthetics, for representative, functional buildings with an optimal use of space and efficient use of construction techniques. In this way Roosenburg's name has been linked inseparable to Philips and Eindhoven (Hoogstraten, 2005).

The Architecture of the Philips company was designed with a representative style and quality and furthermore with a social and cultural value to his employees. In this way Philips wanted to create an environment in which everyone would feel comfortable to work in. As Frits Philips said: "A beautiful environment often stimulates work." (As cited in Hoogstraten, 2005, p. 172). This was the aim of the Philips management task as well as the department Technische Bedrijven. Engineer J.R. Bouten said once "Both cleanliness and a well-cared appearance have an educating stimulation to the people who work in the environment; an influence that works directly on the quality of the product, but at last the whole

population will benefit from." (As cited in Hoogstraten, 2005, p.158). This way of working within the corporate has been the standard for a long time in the twentieth century for Philips as an employer and firm. For Philips the architecture of the buildings of the company has always been of great importance and will characterize the company for a long time. Nowadays this well-cared architecture is still recognizable within the city of Eindhoven.

| Eindhoven company town

At the first of March 1894 Eindhoven counts 2.694 employees, of which 33 work in the metal industry (among others Philips) (Aussems & Horsten, 2021). The first 25 years Philips is growing slowly. In 1916 there work 3.600 people. At that moment Philips is the largest employer in Eindhoven. With the production of the radio Philips grew rapidly. On the 31st of October 1927, 10.000 employees were working at the firm. Two years later in 1929 they reached already 20.000 employees (Aussems & Horsten, 2021). In this year the ten biggest companies in Eindhoven exclusive Philips have together 4.100 employees. The growth of Philips meant it had almost fully built the second terrain Strijp S.

The consequence of the growth of Philips was that the population number of Eindhoven increased quickly. In 1920 the city grows with the annexation of the surrounding villages to 45.624 citizens. In 1934 it grows to 100.000 citizens (Aussems & Horsten, 2021). During the twenties the contrast already becomes visible between the old, provincial town and the change with the factories and activities of Philips which are gathered in a highly urban enclave. At this time Philips is not only working on producing electronics, but they created facilities as well, because in 1891 there were not many facilities available in Eindhoven. The firm wanted to keep growing and for this they needed enough equipped personnel, on every scale. People needed to feel comfortable and at home in Eindhoven. In this way Philips created a company town of Eindhoven for its staff. Facilities they create were about, housing, healthcare, education, sport, and culture. Philips kept the mindset of a company town till the 1960s and later when it eventually stopped.

| Philips leaves

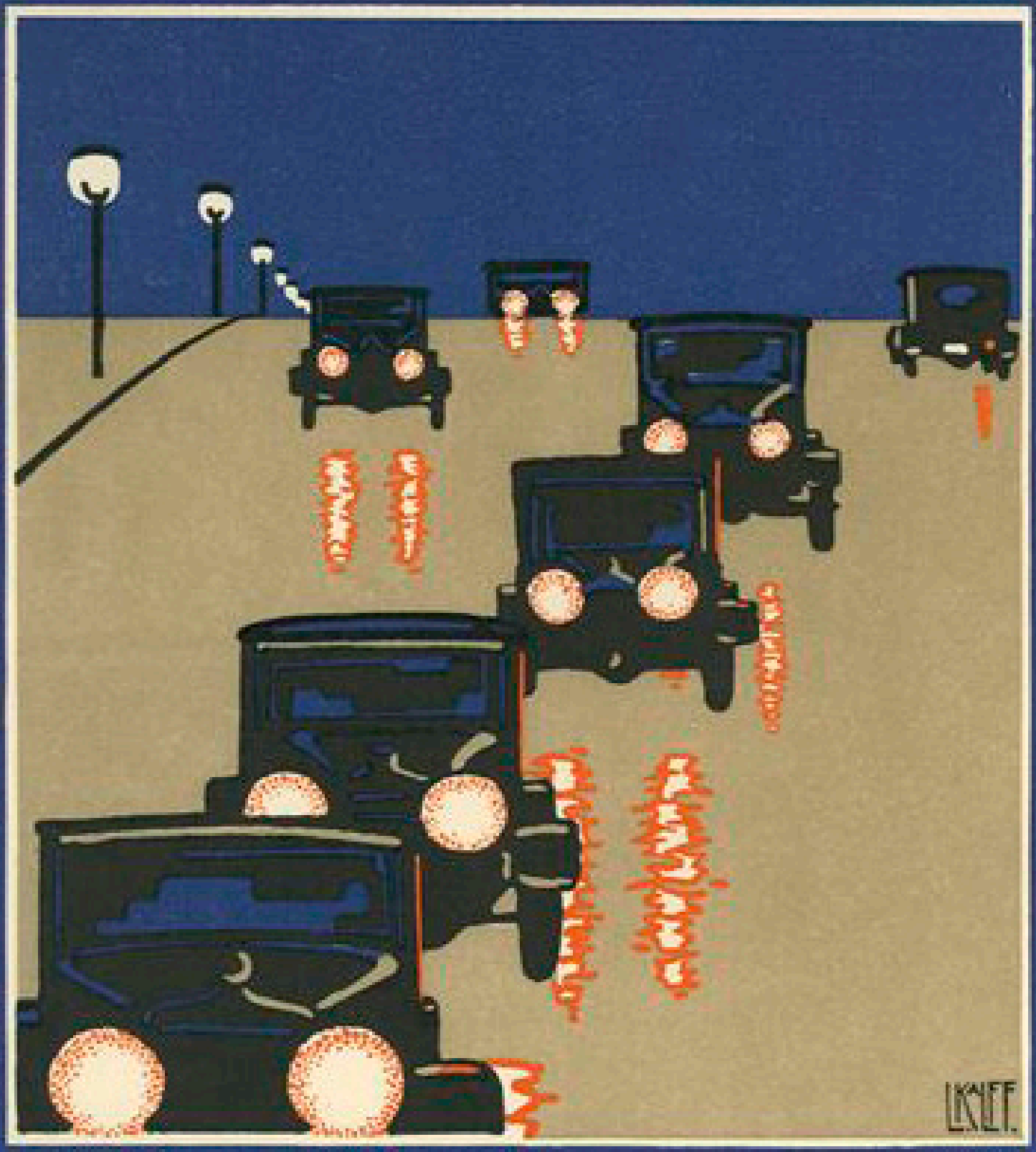
In 1998 Philips makes a decision that a lot of people see as the end of Philips and Eindhoven. The company decides to move its headquarters to Amsterdam. A long time the city of Eindhoven was expected to fall into decline, not only economically, but as well on psychological and urban scale the city was left behind. The economical backward was best visual when the light in the Philips factories and most of all in the Lichttoren did not burn anymore. Fortunately, Eindhoven is not a city as those other industrial cities Detroit, Liverpool, and the Ruhr area. Instead, the leave of Philips did something good to the city, "it can be seen as a relief." As Doevendans mentioned in his book the Ontphilipste stad (Doevendans, 2009, p.8). The leave of Philips made space for new companies. ASML as the most important employer now. But not to forget companies as NXP, Signify, Lightyear, and all the other SME companies the city is rich. Eindhoven needs to find another ambition, separate from the company town Philips created, but with the history of Philips as valuable tradition (Doevendans, 2009).

3|

Emmasingel quarter
Philips in Eindhoven

Figure 9. Advertisement for Philips Lightbulbs (n.d.).

PHILIPS



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3|Emmasingel quarter

| Philips and architecture

After the start of Philips in 1891 the company is growing rapidly. To keep the production going the company bought land on the other side of the Emmasingel. And in 1896 the first building of the nowadays called Emmasingel quarter will be constructed (Aussems & Horsten, 2021a). Within a few years new factory halls are built, the first three storey reinforced concrete building in 1909 and in 1911 a multiple-storey high-rise factory. The high-rise and massive buildings change the whole urban planning of Eindhoven from a Middle Ages urban landscape, intricate and wall by wall to a modern spacious layout (Aussems & Horsten, 2021a).

When Philips crossed the Emmasingel to expand the production, the whole terrain along the Gender and past it was all bought rapidly. In 1898 the whole terrain is expanded as far as the railway line. Municipality architect Louis Kooken designed building after building for the company. The production personnel increased between 1908-1911 from 400 to 2000 (Aussems & van Horsten, 2021a). To accommodate this growth there was a lot of building activity around the Emmasingel complex. Existing factories were expanded and adjoining factory lots were purchased. Any further expansion could only be done by building skyward (Onna, 2002, p.134). On the outskirts of Eindhoven in between the single-family dwellings the large-scale factories were constructed. The Lichttoren was an alien element, it was typical for the difference in pace and future vision of the municipality Eindhoven and Philips (Bosma, 1993). For the whole Emmasingel complex an urban planning vision is never made. Along the south of the terrain there were most of the offices and these flanked the streets, other objects were probably randomly placed in the area (Rijksdienst voor het Cultureel Erfgoed, 2021a). The concrete multi-storey buildings along the Emmasingel and the corner with the Emmasingel and Mathildelaan are defining for the whole complex. Their scale, detailing, and position dominate the further small-scale urban environment (Rijksdienst voor het Cultureel Erfgoed, 2021a). According to the Department of National Heritage the complex is of value because of the sober, but impressive styling of the buildings. Thereby the complex has a cultural-historical value, because of its social economic development of the industry and the realisation of the Philips factories (Rijksdienst voor het Cultureel Erfgoed, 2021a).

In 1930 the constructer Arend Beltman, about the Philips factories: “Good housing breeds work ethic; to build factories economically is to promote performance; to build factories hygienically is to promote work ethic.” (As cited in Van der Hoeve & Kamphuis, 2000, p. 14)

| The three main buildings

The Emmasingel complex is the first industrial site of Philips and the area where the first high-rise factories in Eindhoven and one of the first reinforced concrete buildings in the Netherlands are built. The first multi-storey factory building is realised by the constructer Beltman at which the Lichttoren from Roosenburg is added. After the completion across the Emmasingel will arise the new Company’s Headquarters, the Bruine Heer. And a few years later next to the Lichttoren, the Witte Dame will be constructed. The latter is designed by observing the designs of the former two buildings. These three buildings were the first massive buildings of Philips and the start of the company becoming world leader in electronics.

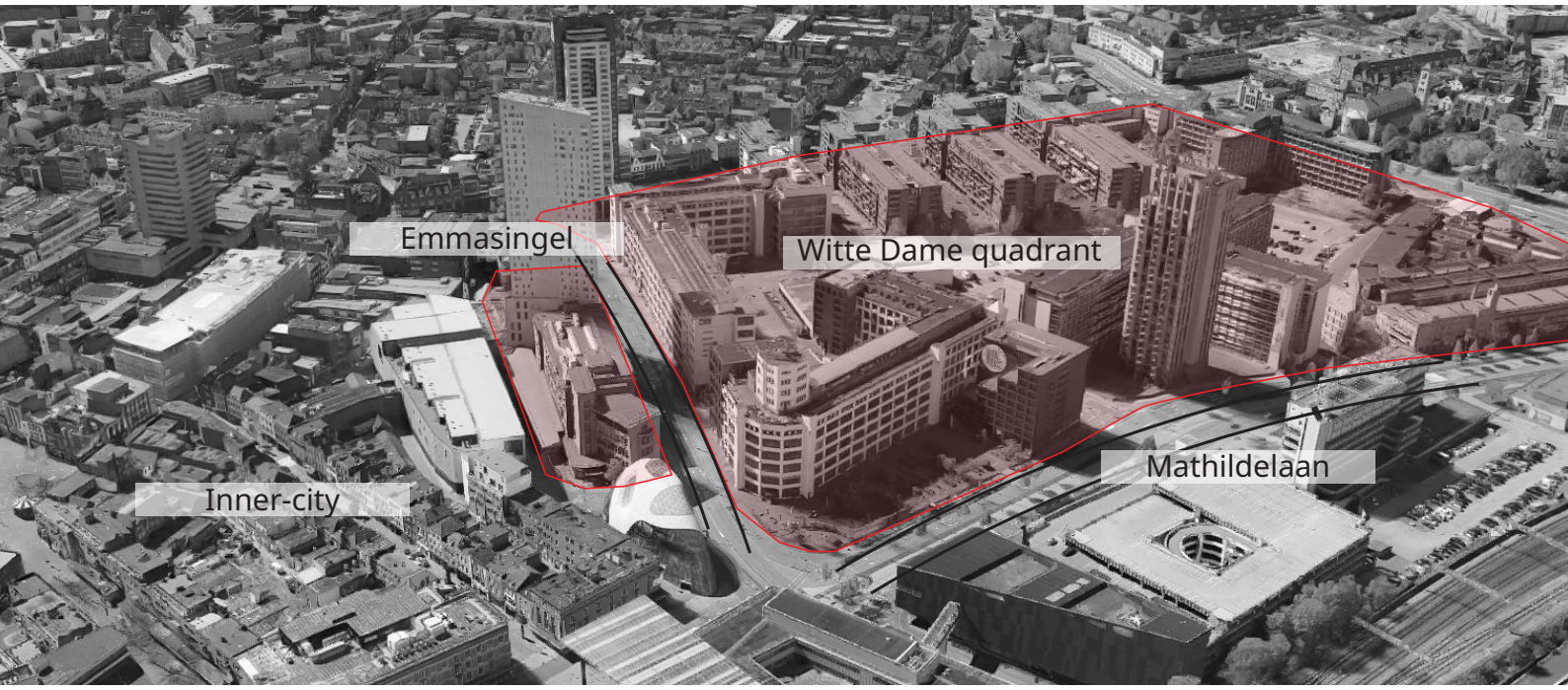
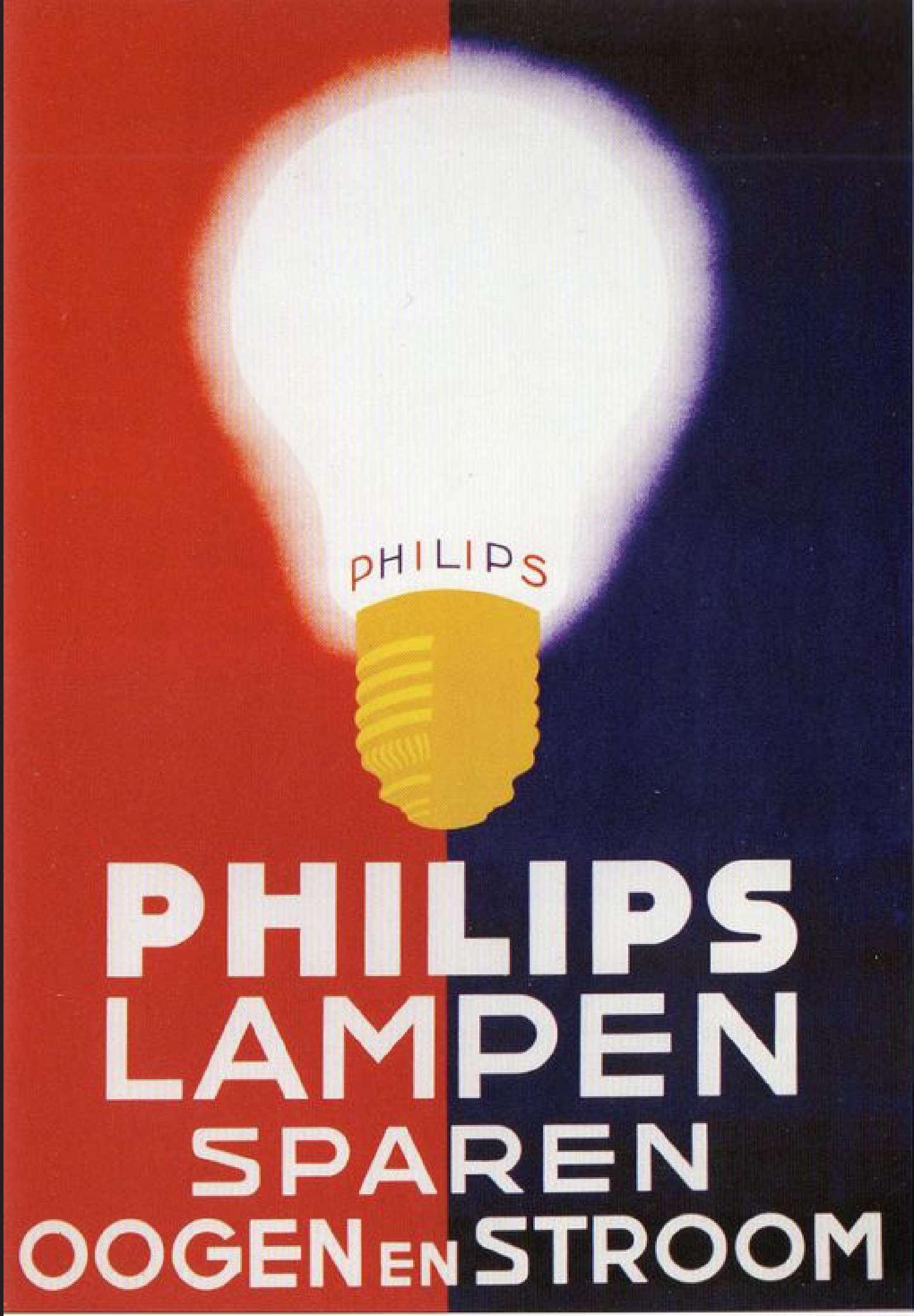


Figure 11. Emmasingel complex. (2022).

3.1 |

Emmasingel quarter
The Lichttoren

Figure 12. Advertisement for Philips Lightbulbs (n.d.).


PHILIPS
PHILIPS
LAMPEN
SPAREN
OOGEN EN STROOM

3.1| The Lichttoren (ED)

To keep up with the production new factory buildings were needed to be constructed. Across the Emmasingel several low buildings were already built, and the constructer Beltman got the assignment to realize a new factory. Between 1909-1911 he designed the first massive factory building of seven storeys for Philips. This factory was the first large-scale – 2000m2 – multiple storey factory constructed out of reinforced concrete (Onna, 2002). Several years after the completion an extension was needed. This extension became the Lichttoren.

| Architecture

The engineering Firm TABROS was asked to fulfil this task. At the corner of the Emmasingel and the Mathildelaan a new tower would arise. Roosenburg created at the end of 1919 the first sketches for an extension with the possibility to continue the production during construction (Van der Hoeven & Stenvert, 2005). The design is an early example of the new Functionalism. It was an extension of the concrete building of Beltman, with an elongated building section. This form made a flexible inside space possible, with big windows to allow enough daylight. The function and design come together in the 48 metres high tower with seven corners (Van der Hoeve & Stenvert, 2005). In this tower Philips would take endurance tests of lightbulbs what meant that there would always be light burning. The building situated on the corner of the Emmasingel and the axis with the Boschdijk formed a point of recognition from the factory site Strijp and the train to Den Bosch. As Onna stated this created a real 'jewel' for the city of Eindhoven. The Lichttoren gained Philips a 'flagship' and Eindhoven a 'landmark' (Onna, 2002, p.108).

| Technical analyses

The building had a column structure, creating an undivided production space. In this way different layouts where possible to be made. The grid used is of 1,80 metres, this is in construction an easy-to-use measurement. This same grid was used for the building of Beltman and is used for the design of the Bruine Heer (Van der Hoeve & Kamphuis, 2000). Probably this same grid is used in the later designed Witte Dame as well. For the building with the Lichttoren the construction is with beams from the centre core to the load-bearing concrete walls of the hexagonal core, see the picture on the right. According to Van der Hoeve and Kamphuis in their value assessment of the Lichttoren this construction is one of "the most beautiful hidden parts of the building" (Van der Hoeve & Kamphuis, 2000, p.11). The concrete façade contains steel window frames. The colour of the façade became lighter over the time, because for choosing the right colour they looked at it just before painting. The first façade colours were beige, because the sun could have faded it, they painted it with a lighter colour every year (Van der Hoeve & Stenvert, 2005). Until the final version of the façade, which is today white. An extra addition to recognise the building is done with an illuminated sign with the text 'Philips Gloeilampen' on top of the north façade around 1958. With the 100 years anniversary of Philips in 1991 the sign is replaced with the text 'Philips Lighting' (Van der Hoeve & Kamphuis, 2000). The building is a good example of an aesthetic and architectonic high-quality design. The building has strong details with a combination of a functional main form and expressionistic forms. In this way a modern looking building has been created.

| Transformation

The Lichttoren dating from 1921 has been built in the predecessor of modernism and new Functionalism Style and was for a long time the test factory for lightbulbs. Later it has been transformed into the headquarters of the Philips Light Division. Finally, the operations of the corporate changed and made Philips decide to close the Lichttoren. The building did not meet the current standard and a renovation would cost millions, money the management board did not want to pay. As

“The Lichttoren became the icon of Philips-Eindhoven.”
Dorine van Hoogstraten. (Hoogstraten, 2005, p.160)

Figure 13. View on the Lichttoren from the north. (Van der Waal, 2021).

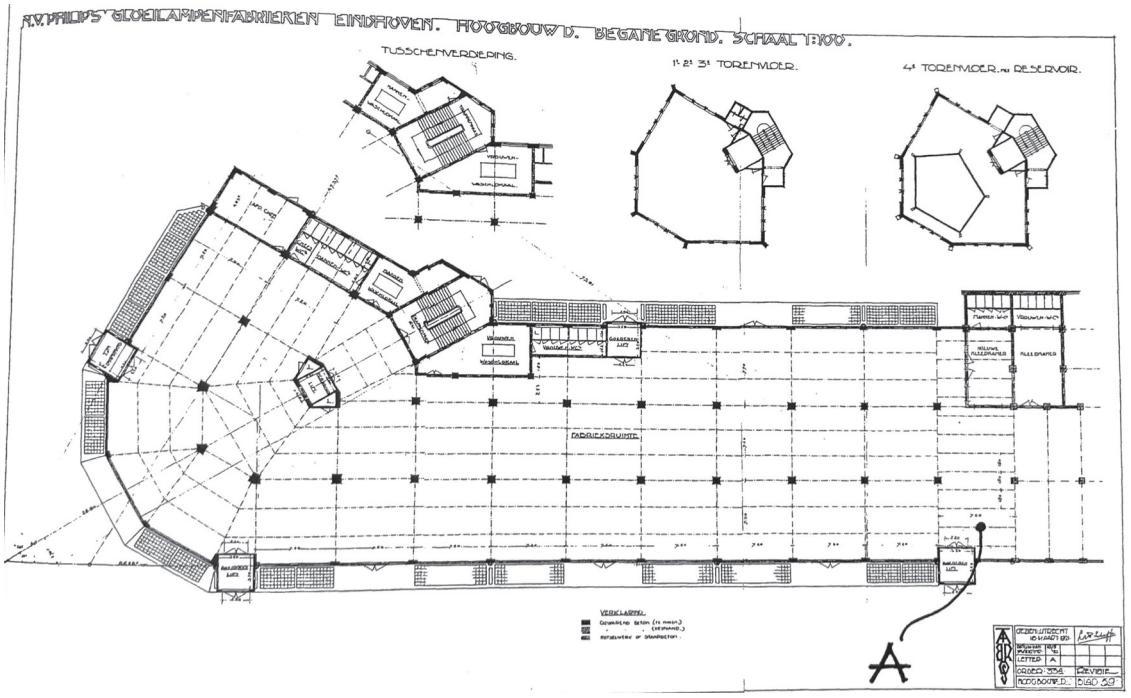


Figure 14. Floorplan Lichttoren. (Van der Hoeve & Kamphuis, 2000).

3.1| The Lichttoren (ED)

Aussems and Horsten explained in their book, for a lot of people the Lichttoren is more than whatever other building in Eindhoven: a model for the 'symbiotic relation' between city, municipality, and company (Aussems & Horsten, 2021a,). Even Frits Philips, former head of the company made his opinion clear: "It is the heart of the Philips. With the sale you step tens of thousands of people on their souls." (Aussems & Horsten, 2021a, p.797). Fortunately, the municipality and Philips were convinced that the historic character of the tower needed to be kept. As Van der Hoeve & Kamphuis stated in their report, the value of the building is in the mass and structure that needs to be preserved. Along with the construction, concrete structure in the facades and the combination with concrete-steel windows (Van der Hoeve & Kamphuis, 2002). The transformation took a long time, as mentioned in the Volkskrant in 1999, most importantly the base of the transformation was that the "The Lichttoren must preserve its appearance." (1999). To transform the whole building, it has been stripped to the shell and the wooden foundation piles are repaired. Plans were to make offices inside the building, but eventually it is today a mix-use of functions with apartments, offices, hotel, and shops. The Lichttoren has been kept with the appearance it always had, even the characteristic light burning in the upper floors is still visible. The Lichttoren is expanded with a new construction, but the original building will be standing out. The difference in colour is extreme, with the old factory white tint and the new construction with dark masonry (De Waal, 2021). The tower of the Lichttoren became the symbol of Philips industrial power and municipal pride and in this way, it fascinated on-lookers than, and still does today.

| Urban site in the city

When the lower buildings around the Lichttoren disappeared, the urban value of the building became noticeable. Van der Hoeve and Kamphuis analysed that situated at the corner of the Emmasingel and Mathildelaan the building with the highly detailed façade with the known corner solutions and the tower on top looks like it was designed from the beginning to stand in a free space (Van der Hoeve & Kamphuis, 2002). Furthermore, the tower is clearly situated on the axis with the factories at the complex Strijp to create in this way a connection between both industrial sites of Philips. The Lichttoren when realised in 1920 was a symbol for the company and the municipality. The building with its six floors and 48 meters high tower was part of the new skyline of Eindhoven. Following the Catharinakerk it was the highest building of the city in 1920 (De Waal, 2021). Creating in this way a building to stand out and overshadowing the inner-city of Eindhoven almost literally. The function of the building combined with its design was perfectly chosen. Day and night there was light burning whereas the colour could vary (De Waal, 2021). The building's upper floors were realised for the testing of lightbulbs. Creating an ever-glowing light over the city of Eindhoven. Probably this is where the city Eindhoven received the name Lichtstad (Light city) from. With this white look, still recognizable today it stands in contrast with the dark small houses in the city centre. It clearly must have been from the day of the construction, but still today have a big impression on people that pass-by Eindhoven.

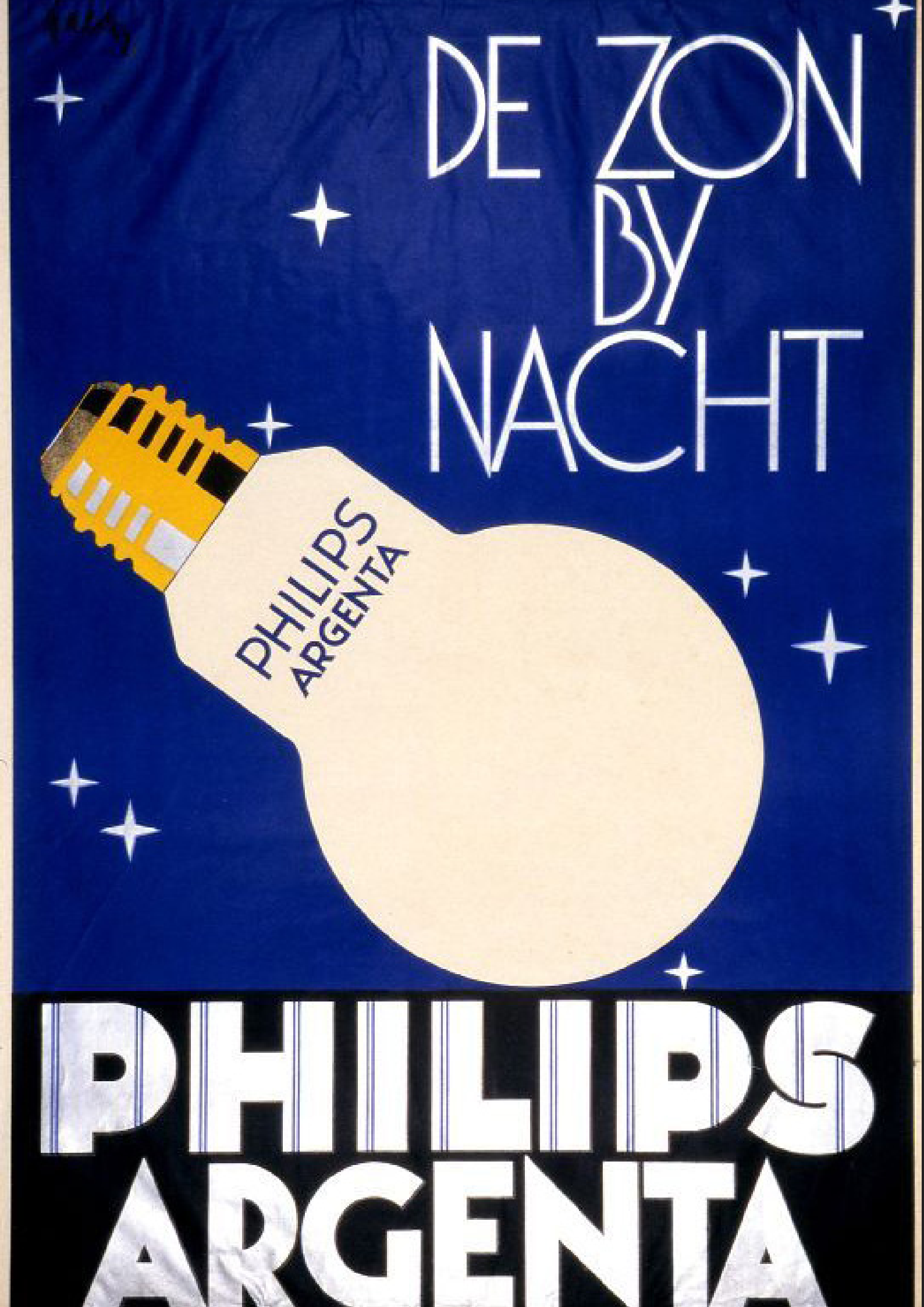
Figure 15. View on the Lichttoren, the Bruine Heer, and the Witte Dame. (De Waal, 2021)

Figure 16. View on the Lichttoren and the Bruine Heer in the front, after the Sinterklaas bombardement. (Le Pair, n.d.).

3.2|

Emmasingel quarter
The Bruine Heer

Figure 17. Advertisement for Philips Lightbulbs (n.d.).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NACHT
PHILIPS
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PHILIPS
ARGENTA

3.2| The Bruine Heer (EM)

"The construction cannot be postponed any longer, if it does not want to harm the smooth running of the firm." (As cited in Hoogstraten, 2005, p.166). This was said by the board of commissioners in February 1925. It was time for the company to build a new headquarters, something that was postponed for a long time. Roosenburg realised a few years earlier the Lichttoren for Philips and in this way, they trusted him with this bigger project. In the new company's headquarters, the management board, financial department, and commercial department would establish. The first drawings were made at the end of 1925. The construction of the building went fast, the staff already moved in at the end of 1927 (Hoogstraten, 2005).

| Architecture

The building that would become Philips' Corporate Headquarters was designed by Roosenburg. The corporate asked him specifically to design without any luxury, simple, but in good styles (Hoogstraten, 2005). For the design Roosenburg was influenced by the American architect Frank Lloyd Wright. The entrance hall emphasizing the natural qualities of materials and the mezzanine inspired by the Larkin Factory Building in Buffalo, New York (Hoogstraten, 2005 & Onna, 2002).

| Technical analyses

The building is constructed with a steel skeleton, with a reinforced concrete basement and outer walls with masonry. The steel skeleton made the construction of the building in a short period possible (Hoogstraten, 2005). The floors had a flexible structure, what made different layouts possible when change was needed. For the grid, the same measurement of 1,80 metres was used as in the Lichttoren (Van der Hoeve & Kamphuis, 2000). The building consisted of a light court in the centre of the building. Great open spaces were created on both sides of the mezzanine. On the other two sides of the building there were the stairwell and service rooms. For that time the interior was innovative for its layout as well its use of materials (Hoogstraten, 2005). The façade has a strict rhythm with vertical windows and small masonry strips in between. The façade is a lot different than the white colour of the former built Lichttoren. The façade is of dark-reddish brown masonry still visible on the west façade of the building (Onna, 2002). The result was a building with a monumentality because of its simplicity, created by using the mass and proportions of only the whole building (Hoogstraten, 2005). Six stained glass windows were added for the stairwells. In these windows 32 scenery are visualized which represent the 'desire for light' (Hoogstraten, 2005). The combination of the sober monumentality with this expressive architectonic element makes this building unique in its kind (Rijksdienst voor het Cultureel Erfgoed, 2021c).

| Transformation

Philips kept on growing rapidly, for this reason a year after construction there was already a shortage in space. Therefore, the top floor was restructured. In 1938, several years later an extension will be added, making the floorspace bigger with sixty percent (Hoogstraten, 2005). The extension was realised in collaboration between Roosenburg and Philips' Technische Bedrijven. Again, a steel construction was used, but the architecture was more sober than the original headquarters and without a light court. The façade had the

“The construction cannot be postponed any longer, if it does not want to harm the smooth running of the firm.”
Philips board of commissioners (As cited in Hoogstraten, 2005, p.166).

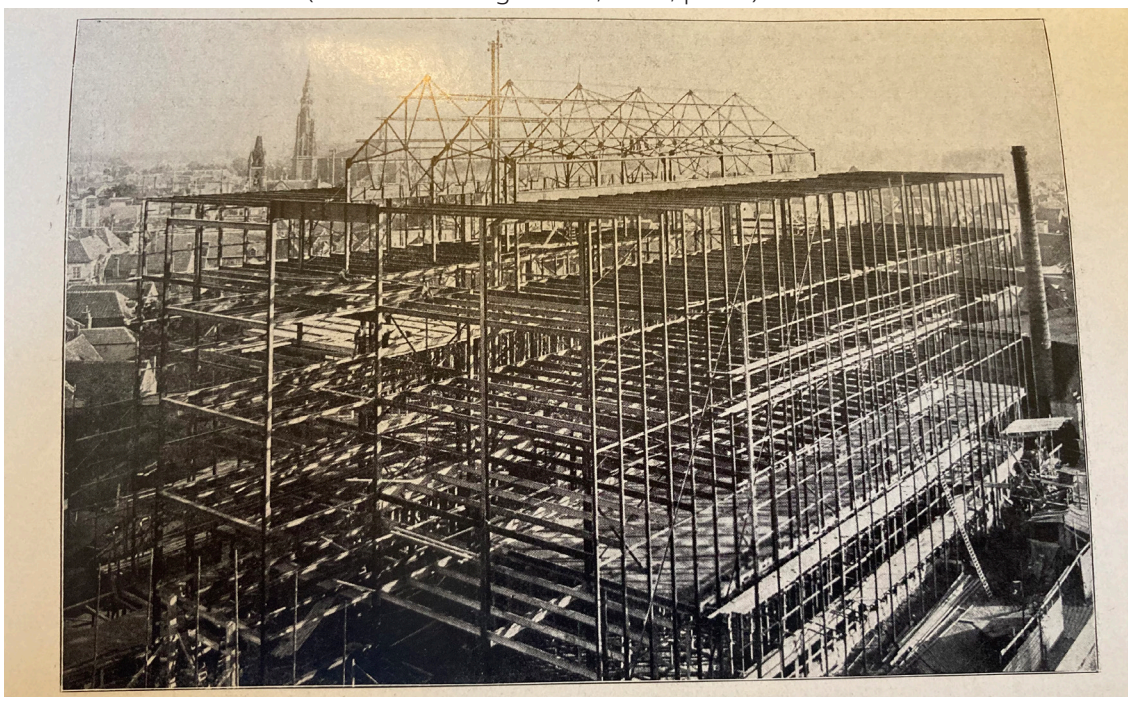


Figure 18. Construction of steel skeleton of the Bruine Heer. (Van Genderen. n.d.).

Figure 20. Philips Headquarters. (Van der Waal, 2021).

3.2| The Bruine Heer (EM)

same rhythm with windows and ribs as the original headquarters (Hoogstraten, 2005). The headquarters was listed in 2002, but the extension was of less value and is demolished during the transformation of the whole complex (Rijksdienst voor het Cultureel Erfgoed, 2021c).

December 6, 1942, the first big bombardment – also known as the Sinterklaas bombardment – done by the English air force, with as target the Philips factories, completely destroyed the Philips' Headquarters (Aussems & Horsten, 2021a). The only part that was left was the west façade at the Emmasingel (Hoogstraten, 2005). After this, the city will be bombed another two times, but not as devastating to the office building. In 1947 Roosenburg designed another smaller version of his original building retaining as much as possible of the previous structure. Therefore, the west façade still has the dark reddish-brown coloured brick, and the east façade now has golden-brown masonry (Onna, 2002). The design had instead of a light court an extension on the head of the building. Great shortage in office space meant that the rebuilding had to go fast (Hoogstraten, 2005). Until 1963 the building will be used as Philips' Corporate Headquarters before they move to another building (Onna, 2002).

Philips sold the building in 1978, but some departments used it until 1988. In 1996 the building would be redeveloped (Hoogstraten, 2005). In 2010 the last transformation phase around the Bruine Heer has been finished. The older building is renovated from the inside. Where the older stairwell with the stained-glass windows is preserved. Next to the Bruine Heer a high-rise is realised, both buildings are connected via an entrance on the first floor and a walkway in between the first five floors. To make the connection between the original headquarters and the tower the first five storeys have a façade with a rougher texture. The function of the building is still an office with different companies on each floor and the new constructed tower consists of apartments. The name has changed to 'The Admirant', but for a lot of citizens of Eindhoven it will be known as 'The Bruine Heer'.

| Urban site in the city

As can be seen on the picture on the right, the realization of the Bruine Heer was of great contrast with the rest of the buildings in the inner-city of Eindhoven. After the realization of the 48-meter high Lichttoren, which already was a symbolic high-rise in the city, Philips planned to construct another building, but across the Emmasingel. The National Department of Cultural Heritage stated that in this way the office building was working as a pendant to the factory complex across the street (Rijksdienst voor het Cultureel Erfgoed, 2021c). The Bruine Heer was a massive office building that was in great contrast with the narrow streets and three floors high buildings in the city centre. The realisation of the corporate headquarters on this location could have been done randomly, because there was space, and a bigger office building was needed. The later extension of the building at the front made the building lean more towards the Emmasingel and the Lichttoren. In this way the connection between the Lichttoren and the Bruine Heer is made more visible.

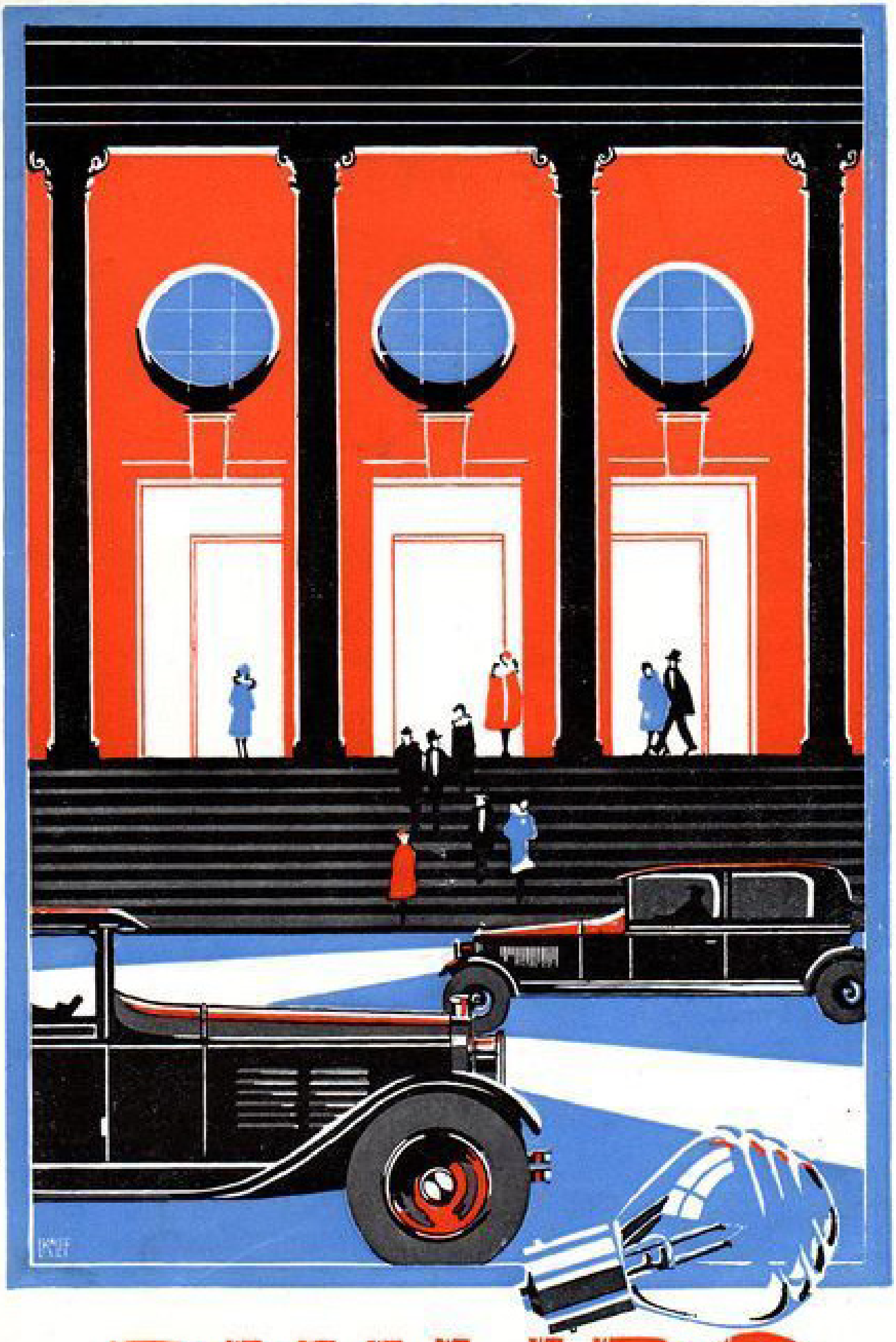
Figure 21. The Bruine Heer after transformation. (2022).

Figure 22. Areal picture of Eindhoven, visual the difference between the Philips factories and the inner-city. (1930).

3.3|

Emmasingel quarter
The Witte Dame

Figure 23. Advertisement for Philips Lightbulbs (n.d.).



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3.3| The Witte Dame (EE, EF, EG, EH, EE)

The Witte Dame is the mark of the upcoming industrial city Eindhoven. The Witte Dame as former Philips complex in the heart of the city centre became empty in 1980 and Philips wanted to demolish it. Fortunately, citizens of Eindhoven, led by the artist Bert Hermens prevented this from happening (Aussems & Horsten, 2021a). Jan de Waal mentioned on Eindhovenfotos that Bert Hermens was the person who named the building in 1992 'The Witte Dame', because of its white painted facade (2021). For the group preventing the demolishing of the historic building it was: "Typical for the identity of Eindhoven." (Aussems & Horsten, 2021a, p.796). The complex consists of three building blocks next to each other, built in the years 1927-1930. The complex is designed by corporate architect J.R. Bouten, what makes that the building has great similarities with the Philips' radio factories, at Strijp and the Lichttoren. Which is understandable because Bouten was supervising the Philips' Technische Bedrijven, and they had a lot of inspiration from the Lichttoren of Roosenburg (Onna, 2002). As said, in an interview, by the architect responsible for the transformation of the Witte Dame: "You cannot see the Witte Dame as a building standing on its own, you will always need to include the Lichttoren: the two belong to each other." (Vogel, 2017). The realisation and transformation of the Witte Dame cannot be seen separate from the development of the Lichttoren. This is as well explainable in the way Philips worked, their intentions were to create a degree of uniformity in its factory architecture, in the Netherlands as well as abroad (Onna, 2002).

| Architecture

The Witte Dame was one of the first factory buildings designed by Philips own design team. As explained before in Chapter 1 the Philips' Technische Bedrijven got a lot of inspiration by the realisation of the Lichttoren of Roosenburg. In this way the department made a difference in two kinds of buildings: the factories, which needed to be universal functioning, and the representative buildings, with a specific function. The Philips' Technische Bedrijven were responsible for the universal factory buildings and for the more specific buildings an extern architecture firm was invited (Hoogstraten, 2005). The Witte Dame shows the capability of the department Philips' Technische Bedrijven and the way it learned over the years, for designing factory buildings.

| Technical analyses

Great similarities can be seen between the thirty-meter-high Witte Dame and other Philips' factories. The factory is created with an emphasis on the horizontal structure, because of the idea that the production process starts at the top and goes down to the ground floor, therefore a strong horizontal section is visible (Vogel, 2017). The building has a heavy concrete construction, with big windows in combination with steel window frames (Rijksdienst voor het Cultureel Erfgoed, 2021b). These windows let a lot of daylight inside the building. The open structure makes the lay-out a flexible open space. Until 1953 the facades where grey and after this the facades where painted white (Onna, 2002). Consequently, the building will be later known as the Witte Dame.

"As if a protective blanket would be removed from the town centre." Grijpink. (Grijpink, 1995).

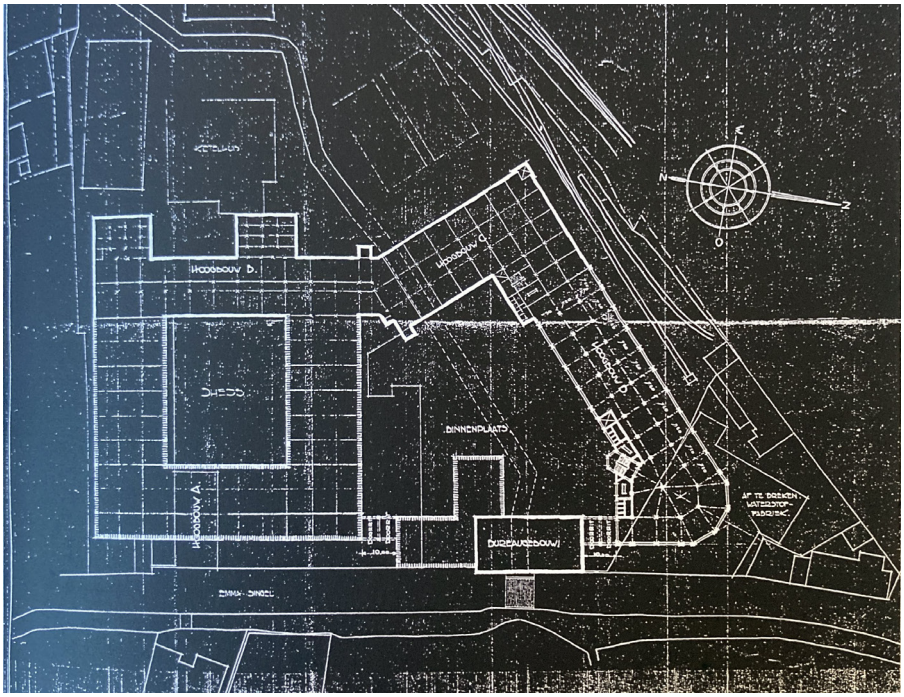


Figure 24. Blueprint of the Lichttoren with the Witte Dame. (Van der Hoeve & Kamphuis, 2000).

Figure 25. Witte Dame in comparison with the small dwellings. (n.d.).

3.3| The Witte Dame (EE, EF, EG, EH, EE)

| Transformation

The production process inside the Witte Dame consisted first of the production for lightbulbs, later this changed to the production of radios. In 1980 Philips decided to demolish the building and in 1988 one part in the middle of the building was already demolished (Aussems & Horsten, 2021b). The rest was prevented from demolishment and transformed into a centre for design, culture, knowledge and technology, recreation, and commerce for the city of Eindhoven. As Paumen mentioned in the NRC: Everything under the keyword 'innovation' (1997). Architect Bert Dirrix made a design which he explained to be 'cleaning' the whole building. Keeping the value of the rectangular windows and the white façade (Vogel, 2017). To create a connection between the city centre and the square and Philips Stadium behind the building one real intervention was needed, a break-through the middle of the building.

| Urban site in the city

The realisation of the Witte Dame will have been observed in 1927 as another immense building for the citizens of Eindhoven. The next phase of the industry promoted by Philips, with high-rise factories. The building situated along the Emmasingel is situated just efficiently, without noticing the landscape around it. Thereby, the Witte Dame can be seen as an extension of the Lichttoren. The architecture is similar, and the location was probably just useful space to be constructed. When the plan came to redevelop the Witte Dame the value to its city became much clearer. People wanted to protect the building and it would create a certain amount of floorspace for another function. The choice for a design centre in the middle of the city, with the history of Philips as inspiration for innovation. This was a step in the direction of Eindhoven becoming Design Capital or Brainport by using the heritage of Philips. In this way the building creates a value to the city again. The transformation of the building is done as well on an urban scale by connecting the industrial site behind the building with the inner city via a break-through in the building (Vogel, 2017). In this way the once enclosed industrial site of Philips is opened for the public to visit, giving a large public domain back to the city.

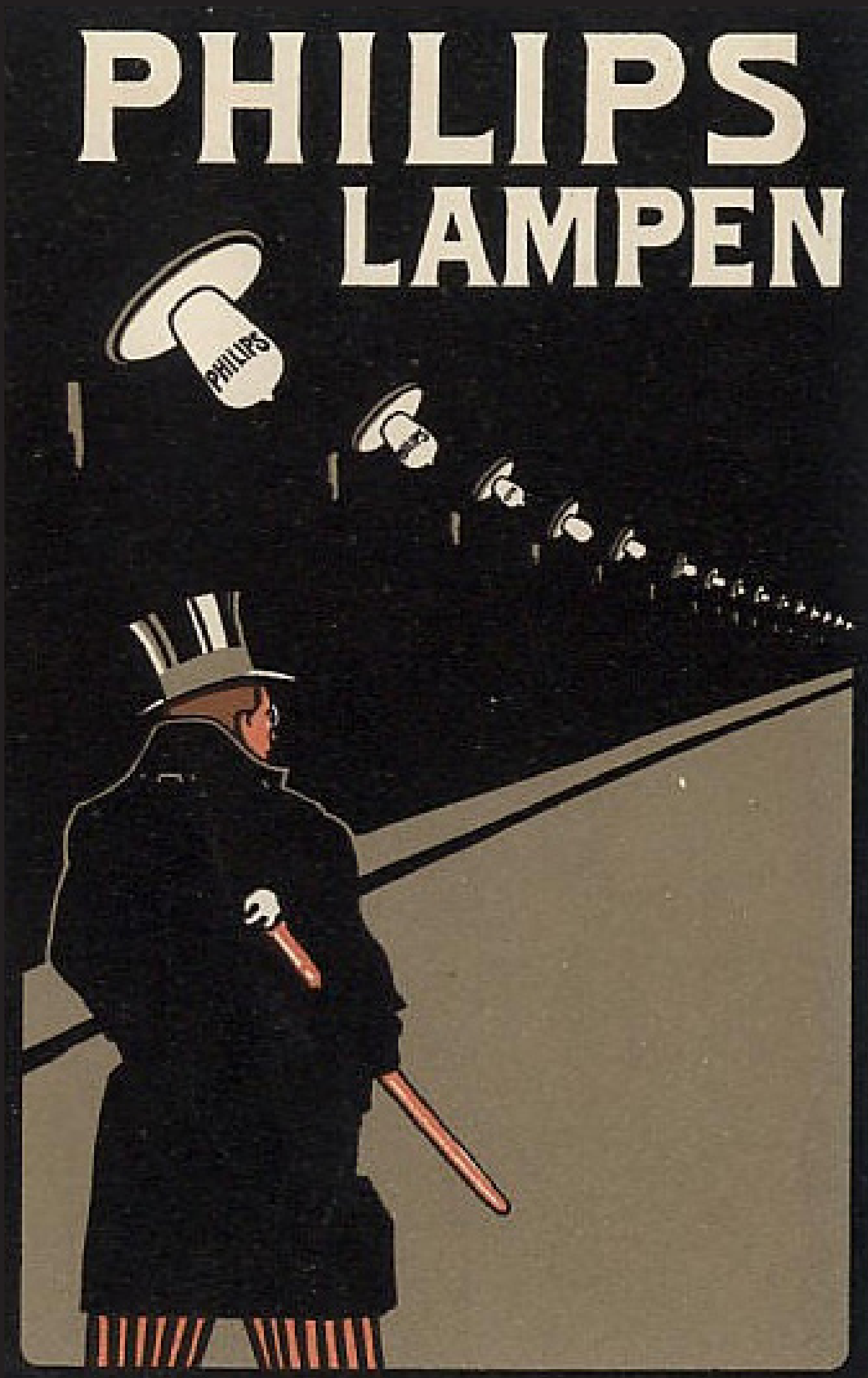
Figure 26. Break-through in the Witte Dame. (Raijmakers, 2022).

Figure 27. The Witte Dame after transformation. (Raijmakers, 2022).

4|

Connecting factor
The Emmasingel

Figure 28. Advertisement for Philips Lightbulbs (n.d.).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4| Emmasingel as connecting factor between Eindhoven and Philips

| Birth of a connetion

Eindhoven began as a small village, situated on high ground in an otherwise low-lying area, much of its wetlands formed by the narrow rivers. The location was the perfect spot for a railway junction around 1860 and this in turn drew more industry to the area (Onna, 2002). The city Eindhoven is as a metropolis relatively young. It was incorporated in 1232 and the city grew insignificant for centuries (Onna, 2002). The first industries in the early 1800s made the first significant increase in its population. With the settlement of Philips in 1891 the city grew in less than 150 years as the fifth biggest city of the Netherlands and to the second revenue region of The Corporate Netherlands (Aussems & Horsten, 2021a).

The railways made the location of Eindhoven convenient for companies and Philips grew to one of the biggest electronic firms in the world. Philips meant a lot to Eindhoven, without Philips there wouldn't be the Eindhoven of today, but without the location of Eindhoven, there wouldn't be a Philips to grow. The relation between the city and the company did not always go very well, but it was made into a success. Philips made of Eindhoven a company town as could be seen from the special bonding between urban planning, architecture, economic and social symptoms (Geevers, 2014). Philips had in this way a lot of impact to the city. Philips created with its department Philips' Technische Bedrijven and other architects as Roosenburg, high quality architecture that is still used today. When Philips left the city, it was expected that it needed to devaluate its appearance, but instead it provided a new, strong identity. Philips created a rich soil for other companies to prosper and still Eindhoven can identify itself with using the name Philips but needs to find new ambitions to innovate for the future.

| Transformations

The three buildings, the Lichttoren, the Bruine Heer, and the Witte Dame are of architectural, urban, and historical value to Philips and the city Eindhoven. For the citizens of Eindhoven, the realisation of this industry and the construction of these impressive complexes, which changed the skyline excessively, must have made an impact. These three buildings show the growth of the company, the empathy for its employees and the greatness of the company in comparison to the city Eindhoven which was not able to step by with the fast growth. Today these buildings are left behind in a rough way, with other functions in it. The decay of the old industry of Philips is still visible on a large scale, but the buildings have made way for other purposes (2015). The Emmasingel is this first transformed location and the physical identity of Eindhoven with Philips.

The Lichttoren became the symbol of Philips and the city of Eindhoven. The tower facing the railway station, with its broad-shouldered storeys underneath, and its highly detailed façade demands a place in this city, or is it the city of this tower? The building stands out and this is emphasized by the blue lighted logo of Philips making the forever connection with the company. The Lichttoren is a monument for the city as it changed the skyline when it was the first high building after the church and it made his position in the city clear, until today and probably in the future.

The office building, the Bruine Heer, was in the period of construction a giant in comparison with narrow streets of the inner-city. The corporate's headquarters was a physical image of Philips at that time, a company that was able to be put in the same line with Ford, Renault, AEG, and Mercedes-Benz. Still, it kept to its core and made the building only monumental by using its mass, and strong forms. Fitting in the down-to-earth vision of the city Eindhoven.

"The literal appearance of the tower made it the label of Philips and Eindhoven." Van der hoeve. (Van der Hoeve & Kamphuis, 2000, p.1).

The Witte Dame is maybe the most important building showing the value of the Philips heritage for the citizens of Eindhoven. The building was the fourth high-rise to be constructed within the city and still must have made its impact. This building was of such great mass and length, and with its architecture following the uniform style of Philips. This building was protected by the citizens of Eindhoven to prevent it from demolishing and showed in this way the bond between the citizens of Eindhoven and Philips.

| Urban value to the environment

The growth of industrial cities was in the 19th century most of all a private thing. The first 25 years of Philips it was almost all private planning (Aussems & Horsten, 2021b). In this way the factories were dominating the urban fabric. Philips made the difference in scale, mass, and height, between the fine-mesh grid of the inner city and the large-scale grid of the Philips factories. These non-residential buildings were the cathedrals of the nineteenth century. Today these factories make the history of these locations physically visual. As the former director of Philips, Frits Philips said, "these properties are not anymore 'no trespassing zones' within the city, it can be really integrated into the city property with a new function" (as cited in Onna, 2002, p. 7). What Philips said is the future for the city Eindhoven, Philips left heritage and valuable buildings behind at the Emmasingel, creating an urban landscape unique within the Netherlands and possible to reuse.

Nowadays new buildings are constructed around the former Philips buildings. The Blob with a futuristic volume making a contrast between old and new, but still respecting the visual sight on the Lichttoren and the Bruine Heer. With its size almost trying to dominate the scene, but still respecting the older architecture. Furthermore, the high-rise towers the Admirant and the Regent are present with a more sober architecture on the background. So are all buildings created in a later phase, respecting the modernistic buildings of Philips and their history.

| Future vision

Today Eindhoven is the centre of the most highly industrialised area in the Netherlands, with the greatest concentration of research and development in the country (Onna, 2002). This all started with the settlement of Philips, but as well with the steps Eindhoven made when Philips left the city centre. The Witte Dame has been transformed into a design centre, where the history of the building and the innovation history of Philips come together. This is one of the first steps of Eindhoven becoming Design Capital or Brainport, using the heritage of Philips to create a new identity for the city.

When Philips left the city, it looked like they didn't want to leave anything behind of 'The golden age Philips' (Aussems & Horsten, 2021b). Philips is just completely withdrawn to the Philips Medical Systems in the north and the High Tech Campus in the south. But to keep the presence of Philips alive in the city it can be done by showing the Philips logos on the most prominent buildings still visible, as the Lichttoren, the Bruine Heer, and the Witte Dame. The industrial character of the modernistic buildings of Philips are still impressive and creating awe to every visitor and citizen of Eindhoven. As Geevers mentioned, the special quality of Philips is visible within the collection of icons they created over time (Geevers, 2014). Within a new redevelopment strategy using heritage, history, architecture, and innovation the city can create a new character of Eindhoven using its industrial past. Using the Emmasingel as the centre for this new character of the city, to strengthen the name of Eindhoven: "A city developed with the heritage of Philips."

The city of Eindhoven is rich in history for the combination with Philips. Without Philips this city would have never become what it is today. But Philips left this city and Eindhoven needs to find other ways to position themselves.

4| Emmasingel as connecting factor between Eindhoven and Philips

It must keep using the name Lichtstad and the billboards of Philips as reminders of its rich industrial past. But as well create a new future, a new identity, a city of innovation, a city with ambition, and this can be created using the heritage Philips left behind. Show the rich industrial history by presenting the old industrial factories and the representative buildings of famous architects. Create new buildings connecting the old with the new as done at the Emmasingel with the break-through in The Witte Dame, making new connections in the city centre, and by constructing new buildings as the Blob in front of the Bruine Heer. Organise more events with the reminder of Philips innovative approach, as the Dutch Design Week, Glow, and maybe soon the Formula-E. Grow companies as ASML, NXP, Signify, and Lightyear and show the quality the city has today. Eindhoven is a city that has risen from the ashes Philips left behind. This is visible in the productivity and architecture in the city today. For Eindhoven it is not wrong to show that much has been created with the start of Philips, because it is the history and architecture of the city that is of importance. Eindhoven is a small city on the map of Europe, but a big city in history, architecture, and innovation. Philips, it all started 133 years ago at the Emmasingel, and it has never left this place.

Anton Coolen was a novelist and described the difference of the upcoming industry of Philips with the provincial town Eindhoven:

"De hoge betonplaten van den fabrieksbouw en de vele verdiepingen hoge, bakstenen kantoorgebouwen, die in de binnenstad zijn gelegen, overschaduwen de straten als wolkenkrabbers van Fifth Avenue, - maar het zijn kleine, Eindhovense straten met een winkelke zus en een herbergske zo, - het klein koffiehuis, waar vroeger de landelijke tram stopte voor de buiten aan een latje uitgestoken rode machinistenvlag. (...) 's Avonds en den gehele nacht door is er dat baken van den Philips-Lichttoren en links en rechts zijn eindeloze rijen van lichtogen uit de raamvierkanten van deze gebouwen en gloeit het neonlichtschrift in zijn kleuren tegen de nachtelijke hemel. Maar vlakbij stroomt en murmelt de donkere Dommel en vangt het bevend schijnsel op eener lantaarn, die staat aan den muurhoek van echte nest-stadsgeveltjes, waarachter de voetstap klinkt van den kleinsteedsen, laten straatganger."
(As cited in Aussems & Horsten, 2021b, p. 119).

"The modernistic buildings of Philips are still forcing for respect." (2015, p.196)

Figure 29. All different names for Eindhoven. (Raijmakers, 2022)

5 | Afterword

Going back from Delft to Eindhoven there has always been this feeling of home coming. It feels like home when seeing these blue letters with PHILIPS on the first buildings along the railway. This is the city Eindhoven. This connection between Philips and Eindhoven will forever be made, not only by me, but by seven hundred thousand people more from this same region. The rich history with Philips much stay shown wherever you are in Eindhoven and used for the new ambitions of the city. Eindhoven was Philips and Philips was Eindhoven. Philips was the pulse of development for Eindhoven to become the city of today. Eindhoven is a city, one of a kind.

Tim Raijmakers
Delft, April 2022

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Figure 30. Areal picture of Eindhoven. (1930b).

Philips

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Eindhoven