INTEL TOWN IN LANGENWEDDINGEN

Hochschule Anhalt

Master of Architecture (DIA)

Thesis Studio

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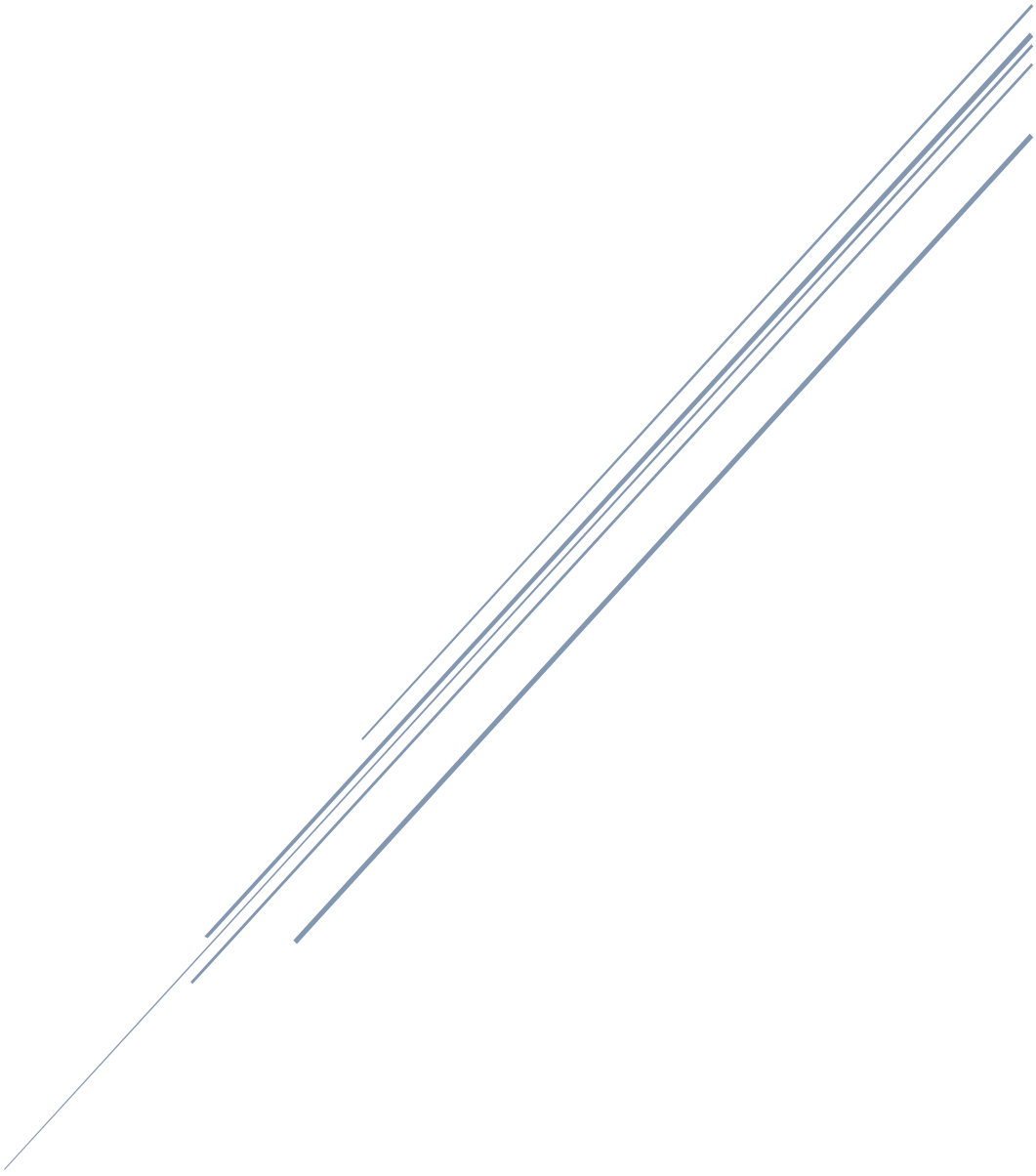


Contents

1.0

A B S T R A C T

In this book, the design process for a new residential town in Langenweddingen, Sachsen-Anhalt, Germany, specifically designed to accommodate Intel Company employees is thoroughly examined. With the foundation of Intel's new organization in Sülzetal, Langenweddingen arises as the best area for lodging its labor force. The town is close to the greenbelt, a vital environmental resource that extends to both Langenweddingen and Intel's site, and offers instant access to major highways connecting Leipzig, Magdeburg, Hannover, and Berlin.

The author embarked on a research journey that included visits to Langenweddingen as well as the surrounding cities of Leipzig, Dessau, Halle (Saale), and Magdeburg, drawing inspiration from contemporary architecture. The insight into the modern architectural movement's emphasis on functionality and organization within the context of site-specific circumstances by investigating museums, buildings, and site maps that showcase these styles.

The book outlines three main design strategies for the town based on these observations: first, creating a residential area specifically designed to accommodate Intel Company employees moving to Langenweddingen; besides, upgrading the general residing nature of Langenweddingen through the making of efficient roads, houses, administrations, parks, and yards; Lastly, locating the sitework close to this valuable resource promotes environmental sustainability and preserves the integrity of the greenbelt. By emphasizing the significance of preserving the greenbelt rather than sacrificing it for business expansion, this strategy sends a powerful message to businesses nearby.

This book will provide readers with insights into the design process for a new residential town based on contemporary architectural principles and Langenweddingen's distinctive site conditions. The exploration, investigation, and proposed systems introduced here add to the fields of design, metropolitan preparation, and manageable turn of events, while tending to the particular requirements and desires of Intel Organization and the local area of Langenweddingen.

2.0

DEFINITION

2.1. Garden cities

Following the Industrial Revolution, many European cities faced an unprecedented rise in the rate of population growth, intensified by the migration of people from rural areas to urban areas seeking better opportunities.

Although cities became more inviting, problems such as pollution and the growth of informal settlements also intensified. Meanwhile, the countryside provided proximity to nature and an abundance of natural resources, but it also suffered from isolation and a decrease in employment opportunities.

In light of these issues, in the late nineteenth century, the concept of garden cities was created. This model of urban planning was characterized by progressive ideals to solve the problems of rural flight and the resulting disorderly growth of urban areas. The garden city concept was based on the creation of a series of small cities that would combine the advantages of both environments.

Ebenezer Howard (1850-1928), who had been studying cities before the establishment of urbanism as an academic field, was one of the most influential people behind the garden city movement. Howard published To-morrow a Peaceful Path to Real Reform (1898), a book that was reprinted four years later as Garden Cities of Tomorrow (1902), for which he became widely known.

In addition to his publications, Howard also organized the Garden City Association in 1899 in England to promote the ideas of social justice, economic efficiency, beautification, health, and well-being in the context of city planning.

The Three Magnets Diagram, particularly emblematic in terms of summarizing the ideas of garden cities, is featured in the first pages of both versions of Garden Cities of Tomorrow. Each illustrated magnet represents a specific environment: the town, the country, and the town-country. The first two magnets list the positives and negatives of town life and country life, while the third magnet combines the advantages of both.

This third magnet contains such promising qualities of the garden city that it shifts the title to the center of the diagram, as opposed to the first two, suggesting a strong attraction between the question The people: where will they go? and the many advantages offered by this model of urban planning.

"At the beginning of the twentieth century, two great new inventions took form before our eyes: the aeroplane and the Garden City, both harbingers of a new age: the first gave man wings and the second promised him a better dwelling-place when he came down to earth." - Lewis Mumford (1946).

The idealized vision of the garden city contained specific utopian elements like small communities planned on a concentric pattern that would accommodate housing, industry, and agriculture, surrounded by greenbelts that would limit their growth. Many diagrams and maps illustrate clusters of several garden cities, which was an important aspect to ensure the effectiveness of the garden cities.

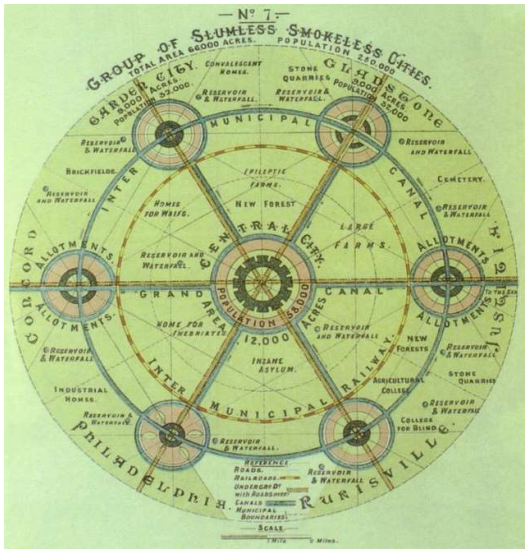
Cities like Letchworth, Welwyn, and Stockfeld in England, were built using

these ideas, but the concept was influential in other countries too, even outside Europe, with adaptations and reinterpretations according to different geographical and historical contexts.

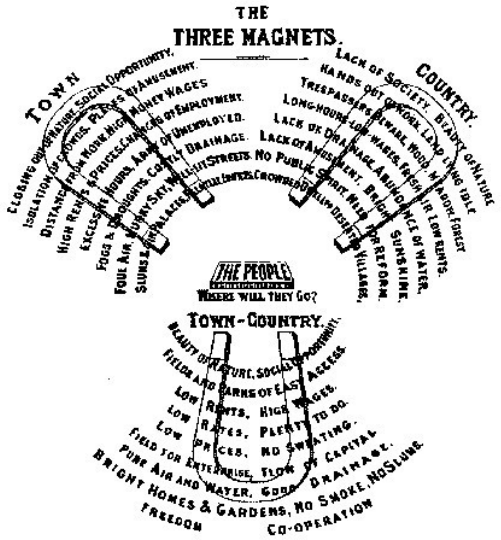
This concept is still frequently revisited to this day - albeit considerably different from the original idea - to propose urban planning solutions that attempt, at least in theory, greater integration between urban areas and green spaces.

But even considering this theoretical and conceptual gap between Howard's ideas and the more recent urban planning projects, the latter certainly highlights the importance of studying and understanding these concepts to this day.

Brønby Haveby, Denmark



Garden City Map by Howard



The Three Magnets Diagram, by Ebenezer Howard

2.2. Sustainability

Environmentally sustainable design is the philosophy of designing physical objects, the built environment, and services to comply with the principles of ecological sustainability and also aimed at improving the health and comfortability of occupants in a building. Sustainable design seeks to reduce negative impacts on the environment, the health and well-being of building occupants, thereby improving building performance. The basic objectives of sustainability are to reduce the consumption of non-renewable resources, minimize waste, and create healthy, productive environments.

2.1.1. Theory

The sustainable design intends to "eliminate negative environmental impact through skillful sensitive design". Manifestations of sustainable design require renewable resources and innovation to impact the environment minimally, and connect people with the natural environment.

“Human beings don't have a pollution problem; they have a design problem. If humans were to devise products, tools, furniture, homes, factories, and cities more intelligently from the start, they wouldn't even need to think in terms of waste, contamination, or scarcity. Good design would allow for abundance, endless reuse, and pleasure.” - The Upcycle by authors Michael Braungart and William McDonough, 2013.

Design-related decisions are happening everywhere daily, impacting “sustainable development” or provisioning for the needs of future generations of life on earth. Sustainability and design are intimately linked. Quite simply, our future is designed. The term “design” is here used to refer to practices applied to the making of products, services, as well as business and innovation strategies — all of which inform sustainability. Sustainability can be thought of as the property of continuance; that is, what is sustainable can be continued.

2.1.2. Sustainable design principles

While the practical application varies among disciplines, some common principles are as follows:

• Low-impact materials: choose non-toxic, sustainably produced, or recycled materials that require little energy to process

• Energy efficiency: use manufacturing processes and produce products that require less energy

• Emotionally durable design: reducing consumption and waste of resources by increasing the durability of relationships between people and products, through design

• Design for reuse and recycling: "Products, processes, and systems should be designed for performance in a commercial afterlife."

• Targeted durability, not immortality, should be a design goal.

• Material diversity in multicomponent products should be minimized to promote disassembly and value retention.

• Design impact measures for total carbon footprint and life-cycle assessment for any resource used are increasingly required and available.

• Sustainable design standards and project design guides are also increasingly available and are vigorously being developed by a wide array of private organizations and individuals. There is also a large body of new methods emerging from the rapid development of what has become known as 'sustainability science' promoted by a wide variety of educational and governmental institutions.

• Biomimicry: "redesigning industrial systems on biological lines ... enabling the constant reuse of materials in continuous closed cycles..."

• Service substitution: shifting the mode of consumption from personal ownership of products to provision of services that provide similar functions, e.g., from a private automobile to a carsharing service. Such a system promotes minimal resource use per unit of consumption.

• Renewable resource: materials should come from nearby, sustainably managed renewable sources that can be composted when their usefulness has been exhausted.

2.1.3. Economic Aspects

Discussed above, economics is another aspect of it environmental design that is crucial to most design decisions. It is obvious that most people consider the cost of any design before they consider the environmental impacts of it. Therefore, there is a growing nuance of pitching ideas and suggestions for environmentally sustainable design by highlighting the economical profits that they bring to us.

2.1.4. Sustainable architecture

Sustainable architecture is the design of sustainable buildings. Sustainable architecture attempts to reduce the collective environmental impacts during the production of building components, during the construction process, as well as during the lifecycle of the building. This design practice emphasizes efficiency of heating and cooling systems; alternative energy sources such as solar hot water, appropriate building siting, reused or recycled building materials; technology, ground source heat pumps, wind power; rainwater harvesting for gardening, washing and aquifer recharge; and on-site waste management such as green roofs that filter and control stormwater runoff. This requires close cooperation of the design team, the architects, the engineers, and the client at all project stages, from site selection, scheme formation, material selection and procurement, to project implementation.

2.1.5. Sustainable urban planning

Sustainable design of cities is the task of designing and planning the outline of cities such that they have a low carbon footprint, have better air quality, rely on more sustainable sources of energy, and have a healthy relationship with the environment. Sustainable urban planning involves many disciplines, including architecture, engineering, biology, environmental science, materials science, law, transportation, technology, economic development, accounting and finance, and government, among others. This kind of planning also develops innovative and practical approaches to land use and its impact on natural resources.

California Academy of Sciences San Francisco, California, is a sustainable building designed by Renzo Piano.

Sustainable building design

2.3. Modern Architecture

Modern architecture is a style of architecture that emerged in the early 20th century and is characterized by a focus on function and form. Unlike traditional architecture, which often incorporates ornate details and decoration, modern architecture emphasizes simplicity, clean lines, and a minimalist aesthetic.

One of the key features of modern architecture is the use of new building materials, such as concrete, steel, and glass. These materials allowed architects to create buildings with larger, open spaces and new forms that were not possible with traditional materials such as wood and stone.

Another important feature of modern architecture is the use of technology to enhance the function and efficiency of buildings. This includes the use of climate control systems, advanced lighting systems, and other technologies that improve energy efficiency and reduce the impact of buildings on the environment.

Modern architecture also often incorporates elements of nature into its designs, such as natural light and ventilation, as well as the use of landscaping and greenery to create a more sustainable and environmentally friendly environment.

The modernist movement in architecture was heavily influenced by the idea that architecture should be designed for the people who would inhabit it, rather than just for aesthetic purposes. This resulted in a focus on functionality and practicality, with designs that were meant to improve the quality of life for the people who used the buildings.

Some of the most well-known modernist architects include Le Corbusier, Walter Gropius, and Ludwig Mies van der Rohe. Their designs helped to shape the modern architecture movement and have influenced architects and designers around the world.

In recent years, modern architecture has continued to evolve, with new technologies and materials allowing architects to push the boundaries of what is possible. From skyscrapers to small homes, modern architecture continues to be a driving force in the world of design, with a focus on functionality, form, and sustainability.

Overall, modern architecture is a style of architecture that emphasizes simplicity, clean lines, and a minimalist aesthetic, while also incorporating new technologies and a focus on the people who will inhabit the buildings. Its influence can be seen around the world, from iconic skyscrapers to small homes and buildings designed for sustainability.

The Fagus Factory in Alfeld, designed by Walter Gropius and Adolf Meyer

The Bauhaus Dessau building, designed by Walter Gropius

Dessau-Törten Housing Estate, designed by Hannes Meyer

3.0

METHODOLOGY

3.1. Research Method

In this research, we have adopted a mixed-methods approach to investigate the feasibility of establishing a new town in Langenweddingen, Germany for new residents from Intel company. Our research design involved a combination of desk research and field research.

The desk research was focused on gathering information related to Intel headquarters, energy consumption, and financial systems. We conducted a comprehensive review of online articles and websites related to these topics to gain a deeper understanding of the relevant issues.

The field research, on the other hand, involved visiting Langenweddingen to gather data through observation and photography. We also studied the map of the region to gather further information about the area.

For the architectural design, we conducted a literature review to study modern architecture and the architects who worked on its ground such as Frank Lloyd Wright, Walter Gropius, Lazlo Moholy-Nagy, Hannes Meyer, Jan wills, and Bruno Taut. We analyzed their famous works to derive the points which lead us to a suitable design.

The data collected through desk research and field research were analyzed using content analysis techniques. We used this analysis to identify the key themes and issues related to establishing a new town in Langenweddingen.

The limitations of our research include the potential bias introduced by our reliance on online articles and websites. To address this issue, we attempted to ensure that the sources we used were reliable and authoritative. Additionally, our field research was limited to a single visit to Langenweddingen, which may have limited our understanding of the area.

Overall, our mixed-methods approach allowed us to gain a comprehensive understanding of the issues related to establishing a new town in Langenweddingen. By combining desk research, field research, and content analysis, we were able to identify key themes and issues and derive a suitable architectural design for the new town.

4.0

MODERN ARCHITECTURE

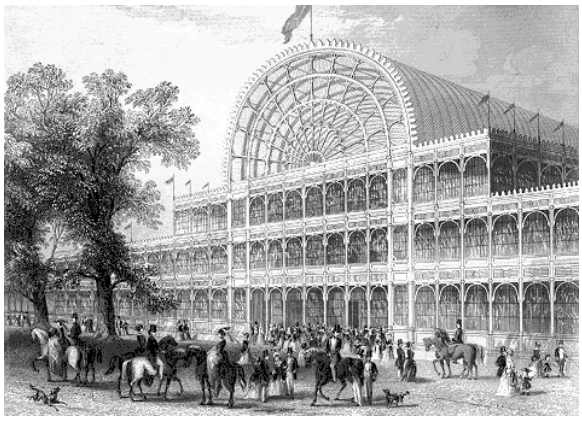
4.1. Origin

Modern architecture emerged at the end of the 19th century from revolutions in technology, engineering, and building materials, and from a desire to break away from historical architectural styles and to invent something that was purely functional and new.

The revolution in materials came first, with the use of cast iron, drywall, plate glass, and reinforced concrete, to build structures that were stronger, lighter, and taller. The cast plate glass process was invented in 1848, allowing the manufacture of very large windows. The Crystal Palace by Joseph Paxton at the Great Exhibition of 1851 was an early example of iron and plate glass construction, followed in 1864 by the first glass and metal curtain wall. These developments together led to the first steel-framed skyscraper, the ten-story Home Insurance Building in Chicago, built in 1884 by William Le Baron Jenney and based on the works of Viollet le Duc.

French industrialist François Coignet was the first to use iron-reinforced concrete, that is, concrete strengthened with iron bars, as a technique for constructing buildings. In 1853 Coagent built the first iron reinforced concrete structure, a four-story house in the suburbs of Paris.[5] A further important step forward was the invention of the safety elevator by Elisha Otis, first demonstrated at the New York Crystal Palace exposition in 1854, which made tall office and apartment buildings practical. Another important technology for the new architecture was electric light, which greatly reduced the inherent danger of fires caused by gas in the 19th century.

The debut of new materials and techniques inspired architects to break away from the neoclassical and eclectic models that dominated European and American architecture in the late 19th century, most notably eclecticism, Victorian and Edwardian architecture, and the Beaux-Arts architectural style. This break with the past was particularly urged by the architectural theorist and historian Eugène Viollet-le-Duc. In his 1872 book Entretiens sur L'Architecture, he urged: "use the means and knowledge given to us by our times, without the intervening traditions which are no longer viable today, and in that way, we can inaugurate a new architecture. For each function its material; for each material its form and its ornament." This book influenced a generation of architects, including Louis Sullivan, Victor Horta, Hector Guimard, and Antoni Gaudi.



Crystal Palace, 1851. The first buildings casts plate glass windows supported by a cast-iron frame

The first house built of reinforced concrete. By François Coignet, Saint-Denis near Paris, 1853

The Home Insurance Building in Chicago, by William Le Baron Jenney (1884)

4.2. Early modernism in Europe

At the end of the 19th century, a few architects began to challenge the traditional Beaux Arts and Neoclassical styles that dominated architecture in Europe and the United States. The Glasgow School of Art (1896–99) designed by Charles Rennie Mackintosh, had a façade dominated by large vertical bays of windows. The Art Nouveau style was launched in the 1890s by Victor Horta in Belgium and Hector Guimard in France; it introduced new styles of decoration, based on vegetal and floral forms. In Barcelona, Antonio Gaudi conceived architecture as a form of sculpture; the façade of the Casa Battlo in Barcelona (1904–1907) had no straight lines; it was encrusted with colorful mosaics of stone and ceramic tiles.

Architects also began to experiment with new materials and techniques, which gave them greater freedom to create new forms. In 1903–1904 in Paris Auguste Perret and Henri Sauvage began to use reinforced concrete, previously only used for industrial structures, to build apartment buildings. Reinforced concrete, which could be molded into any shape, and which could create enormous spaces without the need of supporting pillars, replaced stone and brick as the primary material for modernist architects. The first concrete apartment buildings by Perret and Sauvage were covered with ceramic tiles, but in 1905 Perret built the first concrete parking garage on 51 rue de Ponthieu in Paris; here the concrete was left bare, and the space between the concrete was filled with glass windows. Henri Sauvage added another construction innovation in an apartment building on Rue Vavin in Paris (1912–1914); the reinforced concrete building was in steps, with each floor set back from the floor below, creating a series of terraces. Between 1910 and 1913, Auguste Perret built the Théâtre des Champs-Élysées, a masterpiece of reinforced concrete construction, with Art Deco sculptural bas-reliefs on the facade by Antoine Bourdelle. Because of the concrete construction, no columns blocked the spectator's view of the stage.

Otto Wagner, in Vienna, was another pioneer of the new style. In his book Moderne Architektur (1895) he had called for a more rationalist style of architecture, based on "modern life".[15] He designed a stylized ornamental metro station at Karlsplatz in Vienna (1888–89), then an ornamental Art Nouveau residence, Majolika House (1898), before moving to a much more geometric and simplified style, without ornament, in the Austrian Postal Savings Bank (1904–1906). Wagner declared his intention to express the function of the building in its exterior. The reinforced concrete exterior was covered with plaques of marble attached with bolts of polished aluminum. The interior was purely functional and spare, a large open space of steel, glass, and concrete where the only decoration was the structure itself.

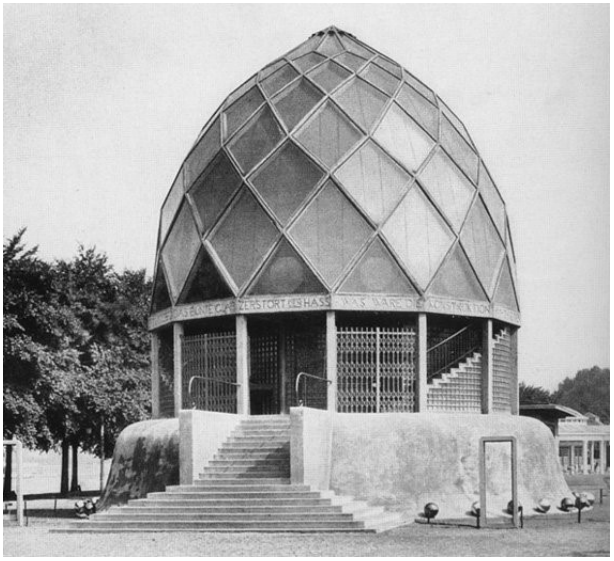
The Viennese architect Adolf Loos also began removing any ornament from his buildings. His Steiner House, in Vienna (1910), was an example of what he called rationalist architecture; it had a simple stucco rectangular facade with square windows and no ornament. The fame of the new movement, which became known as the Vienna Secession spread beyond

Austria. Josef Hoffmann, a student of Wagner, constructed a landmark of early modernist architecture, the Palais Stoclet, in Brussels, in 1906–1911. This residence, built of brick covered with Norwegian marble, was composed of geometric blocks, wings, and a tower. A large pool in front of the house reflected its cubic forms. The interior was decorated with paintings by Gustav Klimt and other artists, and the architect even designed clothing for the family to match the architecture.

In Germany, a modernist industrial movement, Deutscher Werkbund (German Work Federation) had been created in Munich in 1907 by Hermann Muthesius, a prominent architectural commentator. Its goal was to bring together designers and industrialists, to turn out well-designed, high-quality products, and in the process to invent a new type of architecture. The organization originally included twelve architects and twelve business firms, but quickly expanded. The architects include Peter Behrens, Theodor Fischer (who served as its first president), Josef Hoffmann and Richard Riemerschmid. In 1909 Behrens designed one of the earliest and most influential industrial buildings in the modernist style, the AEG turbine factory, a functional monument of steel and concrete. In 1911–1913, Adolf Meyer and Walter Gropius, who had both worked for Behrens, built another revolutionary industrial plant, the Fagus Factory in Alfeld an der Laine, a building without ornament where every construction element was on display. The Werkbund organized a major exposition of modernist design in Cologne just a few weeks before the outbreak of the First World War in August 1914. For the 1914 Cologne exhibition, Bruno Taut built a revolutionary glass pavilion.

Austrian Postal Savings Bank in Vienna by Otto Wagner (1904–1906)

The AEG Turbine factory by Peter Behrens (1909)



The Glass Pavilion in Cologne by German architect Bruno Taut (1914)

4.3. Early American modernism

Frank Lloyd Wright was a highly original and independent American architect who refused to be categorized in any one architectural movement. Like Le Corbusier and Ludwig Mies van der Rohe, he had no formal architectural training. In 1887–93 he worked in the Chicago office of Louis Sullivan, who pioneered the first tall steel-frame office buildings in Chicago, and who famously stated "form follows function". Wright set out to break all the traditional rules. He was particularly famous for his Prairie Houses, including the Winslow House in River Forest, Illinois (1893–94); Arthur Heurtley House (1902) and Robie House (1909); sprawling, geometric residences without decoration, with strong horizontal lines which seemed to grow out of the earth, and which echoed the wide flat spaces of the American prairie. His Larkin Building (1904–1906) in Buffalo, New York, Unity Temple (1905) in Oak Park, Illinois and Unity Temple had highly original forms and no connection with historical precedents.

4.3.1. Early skyscrapers

At the end of the 19th century, the first skyscrapers began to appear in the United States. They were a response to the shortage of land and high cost of real estate in the center of the fast-growing American cities, and the availability of new technologies, including fireproof steel frames and improvements in the safety elevator invented by Elisha Otis in 1852. The first steel-framed "skyscraper", The Home Insurance Building in Chicago, was ten stories high. It was designed by William Le Baron Jenney in 1883, and was briefly the tallest building in the world. Louis Sullivan built another monumental new structure, the Carson, Pirie, Scott and Company Building, in the heart of Chicago in 1904–06. While these buildings were revolutionary in their steel frames and height, their decoration was borrowed from Neo-Renaissance, Neo-Gothic and Beaux-Arts architecture. The Woolworth Building, designed by Cass Gilbert, was completed in 1912, and was the tallest building in the world until the completion of the Chrysler Building in 1929. The structure was purely modern, but its exterior was decorated with Neo-Gothic ornament, complete with decorative buttresses, arches and spires, which caused it to be nicknamed the "Cathedral of Commerce".

Prudential Guaranty Building designed by Louis Sullivan in Buffalo, New York, 1896

The Flatiron Building in New York City, 1903

4.4. Bauhaus union

In Germany, two important modernist movements appeared after the first World War, The Bauhaus was a school founded Weimar in 1919 under the direction of Walter Gropius. Gropius was the son of the official state architect of Berlin, who studied before the war with Peter Behrens, and designed the modernist Fagus turbine factory. The Bauhaus was a fusion of the prewar Academy of Arts and the school of technology. In 1926 it was transferred from Weimar to Dessau; Gropius designed the new school and student dormitories in the new, purely functional modernist style he was encouraging. The school brought together modernists in all fields; the faculty included the modernist painters Vasily Kandinsky, Joseph Albers and Paul Klee, and the designer Marcel Breuer.

Gropius became an important theorist of modernism, writing The Idea and Construction in 1923. He was an advocate of standardization in architecture, and the mass construction of rationally designed apartment blocks for factory workers. In 1928 he was commissioned by the Siemens company to build apartment for workers in the suburbs of Berlin, and in 1929 he proposed the construction of clusters of slender eight- to ten-story high-rise apartment towers for workers.

While Gropius was active at the Bauhaus, Ludwig Mies van der Rohe led the modernist architectural movement in Berlin. Inspired by the De Stijl movement in the Netherlands, he built clusters of concrete summer houses and proposed a project for a glass office tower. He became the vice president of the German Werkbund, and became the head of the Bauhaus from 1930 to 1933. proposing a wide variety of modernist plans for urban reconstruction. His most famous modernist work was the German pavilion for the 1929 international exposition in Barcelona. It was a work of pure modernism, with glass and concrete walls and clean, horizontal lines. Though it was only a temporary structure, and was torn down in 1930, it became, along with Le Corbusier's Villa Savoye, one of the best-known landmarks of modernist architecture. A reconstructed version now stands on the original site in Barcelona.

Gropius left Germany and went to England, then to the United States, where he and Marcel Breuer both joined the faculty of the Harvard Graduate School of Design, and became the teachers of a generation of American postwar architects. In 1937 Mies van der Rohe also moved to the United States; he became one of the most famous designers of postwar American skyscrapers.

4.5. Modernism movement

By the late 1920s, modernism had become an important movement in Europe. Architecture, which previously had been predominantly national, began to become international. The architects traveled, met each other, and shared ideas. Several modernists, including Le Corbusier, had participated in the competition for the headquarters of the League of Nations in 1927. In the same year, the German Werkbund organized an architectural exposition at the Weissenhof Estate Stuttgart. Seventeen leading modernist architects in Europe were invited to design twenty-one houses; Le Corbusier, and Ludwig Mies van der Rohe played a major part. In 1927 Le Corbusier, Pierre Chareau, and others proposed the foundation of an international conference to establish the basis for a common style. The first meeting of the Congrès Internationaux d'Architecture Moderne or International Congresses of Modern Architects (CIAM), was held in a chateau on Lake Leman in Switzerland 26–28 June 1928. Those attending included Le Corbusier, Robert Mallet-Stevens, Auguste Perret, Pierre Chareau and Tony Garnier from France; Victor Bourgeois from Belgium; Walter Gropius, Erich Mendelsohn, Ernst May and Ludwig Mies van der Rohe from Germany; Josef Frank from Austria; Mart Stam and Gerrit Rietveld from the Netherlands, and Adolf Loos from Czechoslovakia. A delegation of Soviet architects was invited to attend, but they were unable to obtain visas. Later members included Josep Lluís Sert of Spain and Alvar Aalto of Finland. No one attended from the United States. A second meeting was organized in 1930 in Brussels by Victor Bourgeois on the topic "Rational methods for groups of habitations". A third meeting, on "The functional city", was scheduled for Moscow in 1932, but was cancelled at the last minute. Instead, the delegates held their meeting on a cruise ship traveling between Marseille and Athens. On board, they together drafted a text on how modern cities should be organized. The text, called The Athens Charter, after considerable editing by Corbusier and others, was finally published in 1957 and became an influential text for city planners in the 1950s and 1960s. The group met once more in Paris in 1937 to discuss public housing and was scheduled to meet in the United States in 1939, but the meeting was cancelled because of the war. The legacy of the CIAM was a roughly common style and doctrine which helped define modern architecture in Europe and the United States after World War II.

The Bauhaus Dessau building, designed by Walter Gropius, 1926

ADGB Trade Union School by Hannes Meyer and Hans Wittwer, 1930

The Weissenhof Estate in Stuttgart, built by the German Werkbund, 1927

4.6. Postwar modernism in the U.S

The International Style of architecture had appeared in Europe, particularly in the Bauhaus movement, in the late 1920s. In 1932 it was recognized and given a name at an Exhibition at the Museum of Modern Art in New York City organized by architect Philip Johnson and architectural critic Henry-Russell Hitchcock, between 1937 and 1941, following the rise Hitler and the Nazis in Germany, most of the leaders of the German Bauhaus movement found a new home in the United States, and played an important part in the development of American modern architecture.

4.6.1. Frank Lloyd Wright

He had been present at the beginning of American modernism, and though he refused to accept that he belonged to any movement, continued to play a leading role almost to its end. One of his most original late projects was the campus of Florida Southern College in Lakeland, Florida, begun in 1941 and completed in 1943. He designed nine new buildings in a style that he described as "The Child of the Sun". He wrote that he wanted the campus to "grow out of the ground and into the light, a child of the sun".

He completed several notable projects in the 1940s, including the Johnson Wax Headquarters and the Price Tower in Bartlesville, Oklahoma, 1956. The building is unusual that it is supported by its central core of four elevator shafts; the rest of the building is cantilevered to this core, like the branches of a tree. Wright originally planned the structure for an apartment building in New York City. That project was cancelled because of the Great Depression, and he adapted the design for an oil pipeline and equipment company in Oklahoma. He wrote that in New York City his building would have been lost in a forest of tall buildings, but that in Oklahoma it stood alone. The design is asymmetrical; each side is different.

In 1943 he was commissioned by the art collector Solomon R. Guggenheim to design a museum for his collection of modern art. His design was entirely original; a bowl-shaped building with a spiral ramp inside that led museum visitors on an upward tour of the art of the 20th century. Work began in 1946 but it was not completed until 1959, the year that he died.

The Pfeiffer Chapel at Florida Southern College, by Frank Lloyd Wright, 1941–1958

The Price Tower in Bartlesville, by Frank Lloyd Wright, Oklahoma, 1956

Solomon Guggenheim Museum, by Frank Lloyd Wright, 1946–1959

4.6.2. Walter Gropius

The founder of the Bauhaus, moved to England in 1934 and spent three years there before being invited to the United States by Walter Hudnut of the Harvard Graduate School of Design; Gropius became the head of the architecture faculty. Marcel Breuer, who had worked with him at the Bauhaus, joined him and opened an office in Cambridge. The fame of Gropius and Breuer attracted many students, who themselves became famous architects, including Ieoh Ming Pei and Philip Johnson. They did not receive an important commission until 1941, when they designed housing for workers in Kensington, Pennsylvania, near Pittsburgh., In 1945 Gropius and Breuer associated with a group of younger architects under the name TAC (The Architects Collaborative). Their notable works included the building of the Harvard Graduate School of Design, the U.S. Embassy in Athens 1956–57, and the headquarters of Pan American Airways in New York, 1958–63.

Story Hall of the Harvard Law School by Walter Gropius

The Stillman House Litchfield, Connecticut, by Marcel Breuer, 1950

The PanAm building, by Walter Gropius, New York, 1958-1963

4.7. Postwar modernism in Europe

In France, Le Corbusier remained the most prominent architect, though he built few buildings there. His most prominent late work was the convent of Sainte Marie de La Tourette in Evreaux-sur-l'Arbresle. The Convent, built of raw concrete, was austere and without ornament, inspired by the medieval monasteries he had visited on his first trip to Italy.

In Britain, the major figures in modernism included Wells Coates (1895–1958), FRS Yorke (1906–1962), James Stirling (1926–1992) and Denys Lasdun (1914–2001). Lasdun's best-known work is the Royal National Theatre (1967–1976) on the south bank of the Thames. Its raw concrete and blockish form offended British traditionalists; Charles III, King of the U.K compared it with a nuclear power station.

In Belgium, a major figure was Charles Vandenhove (born in 1927) who constructed an important series of buildings for the University Hospital Center in Liège. His later work ventured into colorful rethinking of historical styles, such as Palladian architecture.

In Finland, the most influential architect was Alvar Aalto, who adapted his version of modernism to the Nordic landscape, light, and materials, particularly the use of wood. After World War II, he taught architecture in the United States. In Denmark, Arne Jacobsen was the best-known of the modernists, who designed furniture as well as carefully proportioned buildings.

In Italy, the most prominent modernist was Gio Ponti, who worked often with the structural engineer Pier Luigi Nervi, a specialist in reinforced concrete. Nervi

created concrete beams of exceptional length, twenty-five meters, which allowed greater flexibility in forms and greater heights. Their best-known design was the Pirelli Building in Milan (1958–1960), which for decades was the tallest building in Italy.

The most famous Spanish modernist was the Catalan architect Josep Lluis Sert, who worked with great success in Spain, France, and the United States. In his early career, he worked for a time under Le Corbusier, and designed the Spanish pavilion for the 1937 Paris Exposition. His notable later work included the Fondation Maeght in Saint-Paul-de-Provence, France, 1964, and the Harvard Science Center in Cambridge, Massachusetts. He served as Dean of Architecture at the Harvard School of Design.

Notable German modernists included Johannes Krahn, who played an important part in rebuilding German cities after World War II, and built several important museums and churches, notably St. Martin, Idstein, which artfully combined stone masonry, concrete, and glass. Leading Austrian architects of the style included Gustav Peichl, whose later works included the Art and Exhibition Center of the German Federal Republic in Bonn, Germany, 1989.

Sainte Marie de La Tourette in France, by Le Corbusier and Iannis Xenakis, 1956–1960

Royal National Theatre in London, by Denys Lasdun, 1967–1976

University Hospital Center in Liège, Belgium by Charles Vandenhove, 1962–82

The Fondation Maeght by Josep Lluis Sert, 1959–1964

Church of St. Martin, designed by Johannes Krahn, Idstein Germany, 1965

The Pirelli Tower in Milan, by Gio Ponti and Pier Luigi Nervi, 1958–60

5.0

CASE STUDIES

5.1. Walter Gropius

Walter Gropius (1883-1969) was a German architect and founder of the Bauhaus School, who, along with Ludwig Mies van der Rohe, Le Corbusier and Oscar Niemeyer, is widely regarded as one of the pioneering masters of modern architecture. Gropius was founder of the Bauhaus and one of the most influential architects of the 20th century. Walter Gropius, like his father and his great-uncle Martin Gropius before him, became an architect. Gropius could not draw, and was dependent on collaborators and partner-interpreters throughout his career. In school he hired an assistant to complete his homework for him. In 1908 Gropius found employment with the firm of Peter Behrens, one of the first members of the utilitarian school. His fellow employees at this time included Ludwig Mies Vander Rohe, Le Corbusier, Dietrich Marcks. One of the most influential architects of the twentieth century, German-born Gropius founded the world-renowned Bauhaus school in Weimar, Germany, in 1919. He is credited with bringing the International Style of architecture to the United States and for promulgating Modernist design principles. Gropius's Modern designs make no reference to regional or local architectural influences. Uniting new social demands with advanced technological possibilities, he radically simplified building design. Building forms were basic and usually built of glass, steel, and concrete with minimal ornamentation.

The Bauhaus had a major impact on art and architecture trends in Western Europe, the United States, Canada and Israel. One of the most important

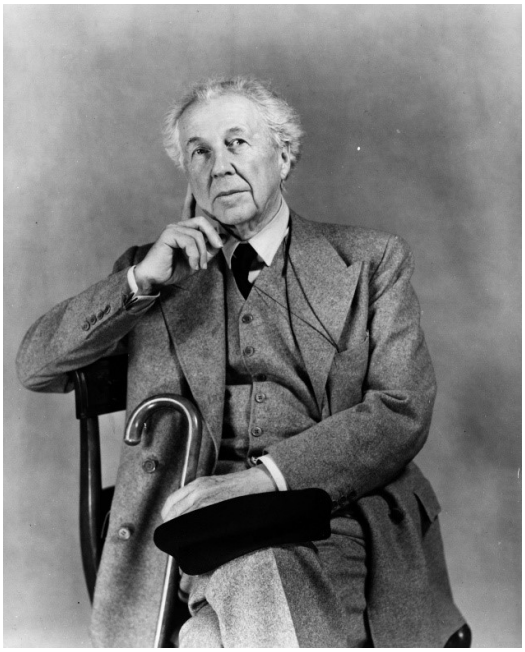
contributions of the Bauhaus are in the field of modern furniture design.

5.1.1. Staatliches Bauhaus

Commonly known simply as Bauhaus, was a school in Germany that combined crafts and the fine arts, and was famous for the approach to design that it publicized and taught. It operated from 1919 to 1933. At that time the German term Bauhaus literally "house of construction", stood for "School of Building". Walter Gropius is the founder of the Bauhaus School, along with Ludwig Mies van der Rohe, Le Corbusier and Oscar Niemeyer, is widely regarded as one of the pioneering masters of modern architecture.


BAUHAU

5.2. Frank Lloyd Wright



Frank Lloyd Wright was a renowned American architect who left an indelible mark on the field of architecture. Born on June 8, 1867, in Richland Center, Wisconsin, Wright's career spanned over seven decades and encompassed a wide range of architectural projects. He is widely regarded as one of the pioneers of modern architecture, with his innovative designs and philosophies revolutionizing the way buildings were conceived and constructed.

Wright's architectural style was characterized by his belief in organic architecture, a design approach that sought to integrate structures harmoniously with their natural surroundings. His designs often incorporated elements such as large windows, cantilevered roofs, and horizontal lines, which aimed to create a seamless connection between the built environment and the natural world.

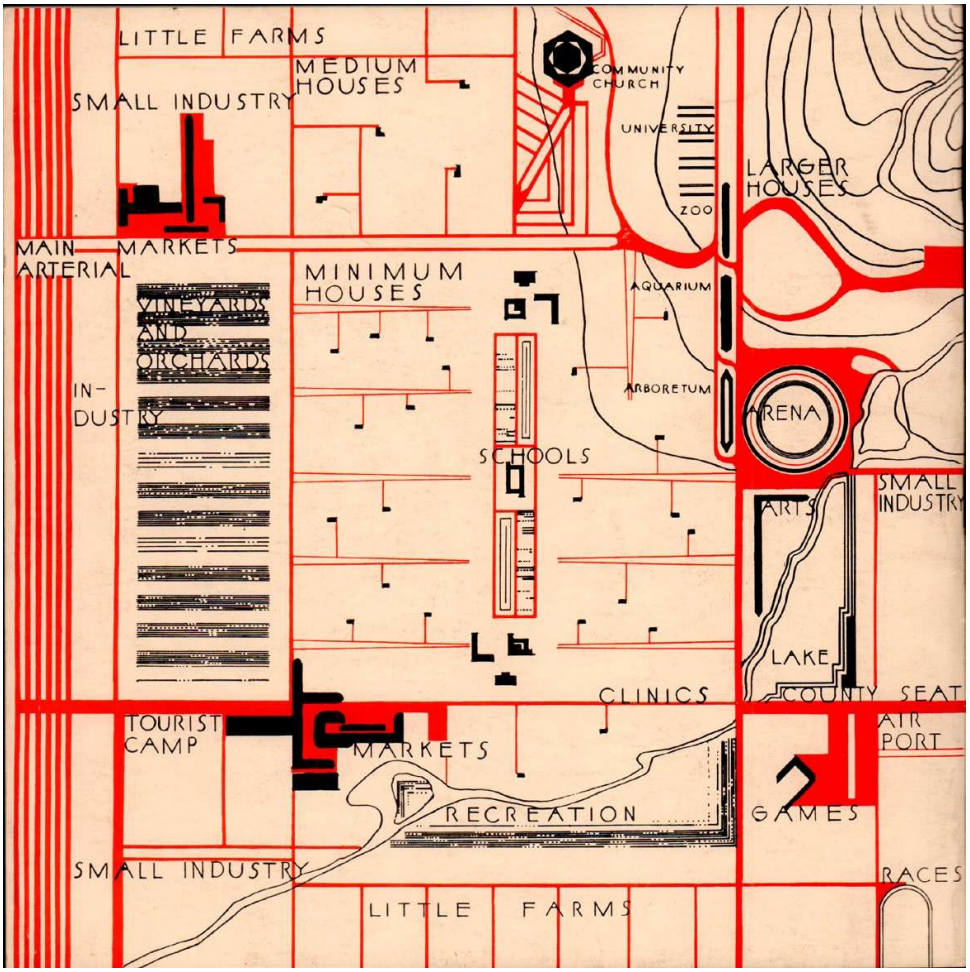
Among his many famous works, one that stands out is Broadacre City. Proposed by Wright in the 1930s, Broadacre City was a visionary concept that reimagined urban planning. It was an ambitious attempt to create a decentralized, self-sufficient community that celebrated individual freedom and embraced the automobile. Broadacre City envisioned a landscape of low-density, sprawling developments with each family owning an acre of land. It featured a network of roads, green spaces, and diverse architectural styles, reflecting Wright's idea of a democratic society where each individual could shape their own environment.

5.2.1. Broadacre city

Broadacre City was an urban or suburban development concept proposed by Frank Lloyd Wright throughout most of his lifetime. He presented the idea in his book The Disappearing City in 1932. A few years later he unveiled a very detailed twelve-by-twelve-foot scale model representing a hypothetical four-square-mile community. The model was crafted by the student interns who worked for him at Taliesin, and financed by Edgar Kaufmann. It was initially displayed at an Industrial Arts Exposition in the Forum at the Rockefeller Center starting on April 15, 1935. After the New York exposition, Kaufmann arranged to have the model displayed in Pittsburgh at an exposition titled "New Homes for Old", sponsored by the Federal Housing Administration. The exposition opened on June 18 on the 11th floor of Kaufmann's store. Wright went on to refine the concept in later books and in articles until his death in 1959.Many of the building models in the concept were completely new designs by Wright, while others were refinements of older ones, some of which had rarely been seen.

Broadacre City was the antithesis of a city and the apotheosis of the newly born suburbia, shaped through Wright's particular vision. It was both a planning statement and a socio-political scheme, inspired by Henry George, by which each U.S. family would be given a one-acre plot of land from the federal lands' reserves, and a Wright-conceived community would be built anew from this. In a sense it was the exact opposite of transit-oriented development. There is a train station and a few office and apartment buildings in Broadacre City, but the apartment dwellers are expected to be a small minority. All-important transport is done by automobile, and the pedestrian can exist safely only within the confines of the one-acre plots where most of the population dwells.

In his book Urban Planning Theory since 1945, Nigel Taylor considers the planning methodology of this type of city to be Blueprint planning, which came under heavy criticism in the late 1950s by many critics such as Jane Jacobs, in her book The Death and Life of Great American Cities.


LITTLE FARMS
MEDIUM HOUSES
SMALL INDUSTRY
COMMUNITY CHURCH
UNIVERSITY
LARGER HOUSES
ZOO
MAIN ARTERIAL
MARKETS
MINIMUM HOUSES
AQUARIUM
VINEYARDS AND ORCHARDS
IN-DUSTRY
ARBORETUM
ARENA
SCHOOLS
SMALL INDUSTRY
ARTS
LAKE
CLINICS
COUNTY SEAT
TOURIST CAMP
MARKETS
AIR PORT
RECREATION
GAMES
SMALL INDUSTRY
RACES
LITTLE FARMS

5.3. László Moholy-Nagy

László Moholy-Nagy was a prominent Hungarian artist, designer, and architect who played a pivotal role in the development of modernist design and the integration of technology and art. Born on July 20, 1895, in Hungary, Moholy-Nagy's architectural career emerged during the early 1920s when he became a professor at the Bauhaus school in Weimar, Germany.Moholy-Nagy's architectural vision was characterized by his emphasis on functionality, experimentation, and the integration of new materials and technologies.

One of Moholy-Nagy's notable architectural works was the Törten-Dessau project. It was a visionary design proposal created in collaboration with his colleague, Walter Gropius, for a comprehensive housing development in the city of Dessau, Germany. The project aimed to address the pressing housing needs of the time by incorporating modern industrial techniques and mass production methods. Törten-Dessau featured modular housing units that could be flexibly combined to create various configurations, accommodating the diverse needs of its inhabitants. The design prioritized open spaces, ample natural light, and communal areas to foster a sense of community and enhance the overall quality of life. Although the Törten-Dessau project was never realized due to financial constraints and the political climate, it remains an important testament to Moholy-Nagy's forward-thinking ideas and his belief in architecture's potential to shape a more functional and egalitarian society.

5.3.1. Törten-Dessau

During the Weimar Republic there was a significant shortage of affordable housing. Public efforts had to provide a remedy, with the aim of creating apartments that let in light, air and sun and were affordable for a large section of the population. This is how the settlement of Törten came about on behalf of the city of Dessau and within the framework of the Reich Homestead Law. The settlement was conceived by the Bauhaus as a solution for inexpensive mass housing construction.

The terraced housing estate designed by Walter Gropius and built in three phases comprised 314 terraced houses with living areas of 57 to 75 square-meters. All houses had kitchen gardens with an area of 350 to 400 square-meters for self-sufficiency by growing vegetables and keeping small animals.

5.3.1.1 Industrial manufacturing

The houses were built in different variants. As part of a test program, the Reich Research Society for Economic Efficiency in Building and Housing wanted to find out how residential buildings could be produced rationally. The suitability of new building materials and industrial products should also be tested. The construction site was organized like an industrial cycle line. Specialized work brigades built several houses at the same time in one construction phase. Components such as B. Rapid beams made of concrete, which were transported with a small train and moved with cranes.

5.3.1.2. Inexpensive solutions

The bright cubes were mirrored to form semi-detached houses and groups of four to twelve units. The facades were divided by vertical and horizontal ribbon windows. The construction of the houses was subject to the need to build inexpensively. Load-bearing walls are made of prefabricated slag concrete hollow bodies, the ceilings were made of reinforced concrete beams. Light colors were used for the interior. The Bauhaus also offered furniture for the facility, but no buyers found it.

5.3.1.3. historical substance

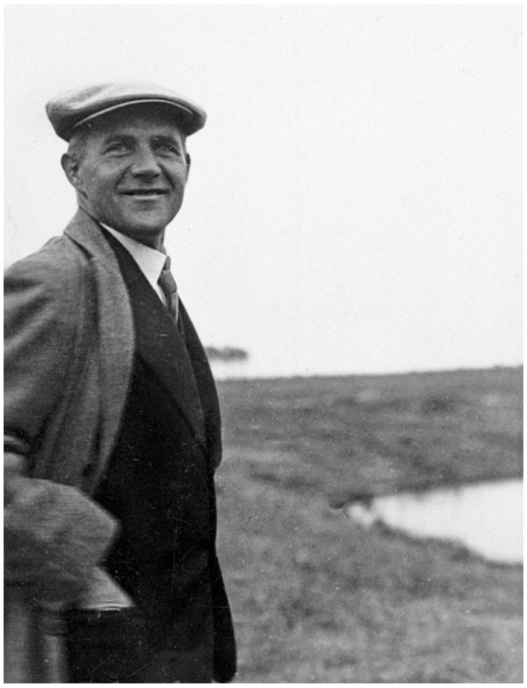
The fact that little of the original uniformity of the settlement can be felt today is due to construction and planning deficiencies that were eliminated by the owners and residents. Only the rows of windows that were too high were changed according to a uniform plan. The house at Mittelring 92 was the first to be restored true to the original in 1992. Today it is used by the Moses Mendelssohn Society and can be visited just like the house at Kleinring 5. Since 1994, a preservation and design statute has ensured that structural measures are in harmony with the historical substance.

5.4. Hannes Meyer

Hannes Meyer was a Swiss architect and educator who played a significant role in the modernist movement. Born on November 18, 1889, in Switzerland, Meyer initially trained as a civil engineer before turning his focus to architecture. He is best known for his association with the Bauhaus, a renowned German art school, where he served as its second director from 1928 to 1930. Meyer believed that architecture should be socially and economically responsible, and he emphasized the importance of functional design and efficient construction methods.

One of Meyer's notable architectural works is Freidorf, a housing project located in Muttenz, Switzerland. Completed in 1926, Freidorf embodied Meyer's vision of affordable, cooperative housing for the working class. The development consisted of terraced houses arranged in clusters, with communal facilities such as gardens, playgrounds, and shared spaces. Meyer incorporated innovative construction techniques and standardized elements to reduce costs while maintaining high-quality living conditions. Freidorf served as a model for future social housing projects and highlighted Meyer's commitment to architecture as a tool for social progress.

Another notable work of Meyer is Lomark De Becerra, a housing complex in Mexico City. Designed in collaboration with fellow architect Alberto Alvarado, the project was completed in 1957. Lomark De Becerra showcased Meyer's belief in functional design and the integration of natural surroundings. The complex



featured innovative solutions such as elevated pathways connecting the residential units, green spaces, and the preservation of existing trees. Meyer's design prioritized the well-being of residents and promoted a sense of community within the urban environment.

5.4.1. Freidorf, Switzerland

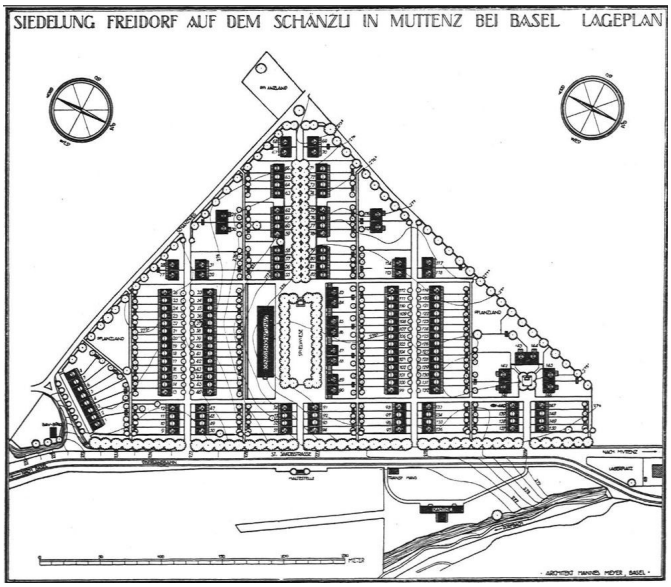
Freidorf was donated in 1921 by the Association of Swiss Consumer Associations (VSK) as a model project of a full cooperative with a cost sharing of 8 million Swiss francs, in which the procurement of living space and life in the village community was designed according to cooperative principles. Each member of the cooperative took on a share certificate of 100 francs. Around 600 residents who worked at the consumer association lived in the settlement.

The settlement was designed and built by the later Bauhaus architect Hannes Meyer (1889-1954), and it was built between 1919 and 1921 in the cooperative model based on the garden city model. Meyer himself described Freidorf as half monastery and institution, half garden city and Jura village. The development plans were presented in 1919 at a special exhibition of the Zurich Museum of Decorative Arts (which also included a catalogue) together with those of the Geneva Garden city "Piccard, Pictet Co." by Hans Schmidt et al. shown.

The building site surrounded by a wall on all sides above a ridge (Schänzli) on the outskirts of Muttenz on St. Jakobs-Strasse is approximately triangular in shape, according to Meyer the symbolic ideal form of the "first Swiss full cooperative" (1919–1921). The architect Rudolf Christ (1895-1975) is said to have been instrumental in determining the settlement plan.

150 terraced houses are arranged in a grid around a central village square, each with small front gardens and kitchen gardens at the back. The entire settlement is heavily greened by rows of trees. In the center of the village there is a square, also shaded by trees, which is intended as a playground and is decorated with a fountain and an obelisk monument. The so-called cooperative house, built in 1922-1924, borders on this and originally served as a restaurant, shop, school, meeting place and seminar. At the beginning of 1921, a tram line was opened from Basel to Muttenz, which runs directly past Freidorf, so that the transport connections were also good.

In Swiss garden art of the 20th century, the Freidorf represents a high point in the development of what is known as the residential garden style, which, in contrast to the contemporary style of the architectural garden, placed function above strict orientation to formal design principles. Having one's own private garden should no longer be a privilege of the wealthy bourgeoisie, but a continuation of the outdoor living space and open to changing activities in terms of design (similar to the concepts of Harry Maasz in Germany).


SIEDELUNG FREIDORF AUF DEM SCHANZLI IN MUTTENZ BEI BASEL LAGEPLAN

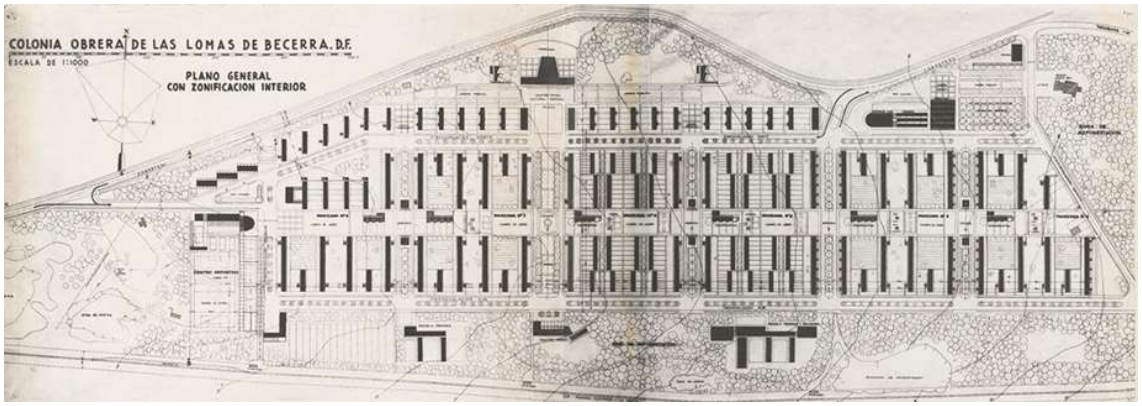
5.4.2. Lomas de Becerra

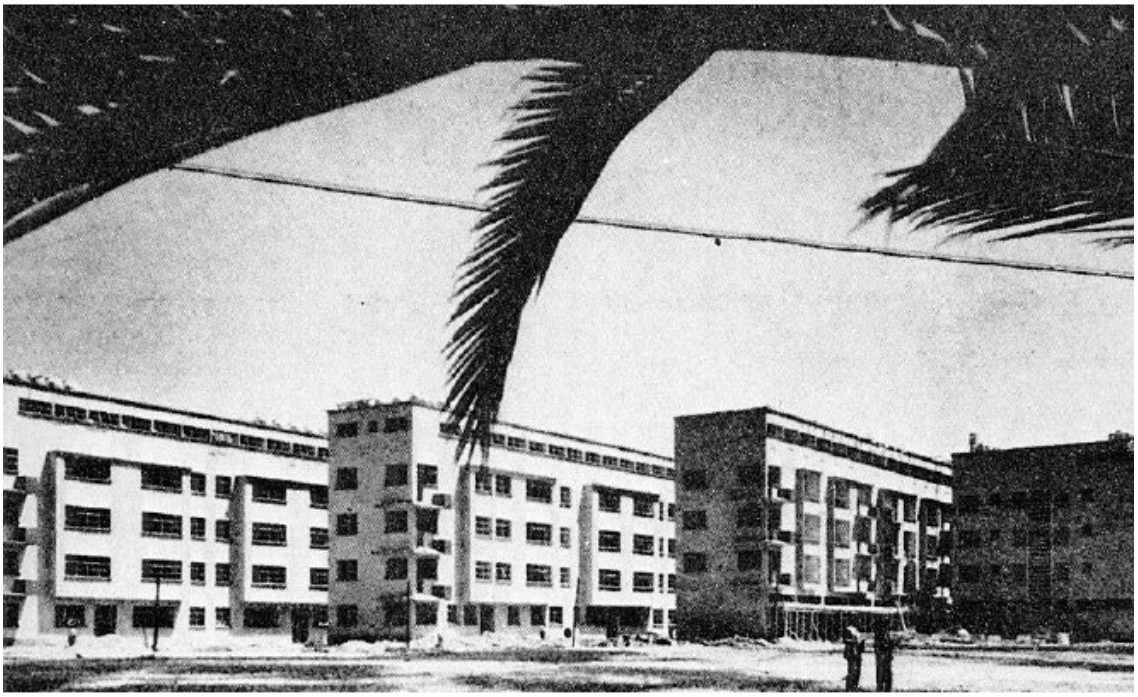
Lomas de Becerra is a residential neighborhood located in the southwestern part of Mexico City, Mexico. It is part of the larger borough of Álvaro Obregón, which is known for its vibrant cultural scene and historical significance. Lomas de Becerra, in particular, offers a unique blend of urban convenience and natural beauty.

The neighborhood is characterized by its hilly terrain and lush greenery, providing a tranquil environment for its residents. It features a mix of residential properties, including single-family houses, condominiums, and apartment complexes. The architectural styles range from modern designs to traditional Mexican influences.

Lomas de Becerra benefits from its strategic location, offering easy access to various amenities and services. Residents can find shopping centers, restaurants, schools, and healthcare facilities within a short distance. Additionally, the neighborhood is well-connected to other parts of Mexico City through major roads and public transportation systems, making it convenient for commuting and exploring the city.

One notable attraction in Lomas de Becerra is the Parque Ecológico de la Ciénega, a local ecological park. The Park provides recreational opportunities for residents, such as walking trails, picnic areas, and a small lake. It serves as a green oasis within the urban landscape, allowing people to connect with nature and enjoy outdoor activities.


COLONIA OBRERA DE LAS LOMAS DE BECERRA. D.F.
ESCALA DE 1:1000
PLANO GENERAL
CON ZONIFICACION INTERIOR



5.5. Jan Wils

As a leading representative of the Amsterdam School, he was one of the best-known Dutch architects until the 1920s, but his work after the Second World War remained largely unappreciated. Once famous, he was downright spurned in later life.

For decades he was primarily perceived as a founding member of the avant-garde artists' association de Stijl, where he was overshadowed by better-known members such as Theo van Doesburg and Piet Mondrian. He was often referred to as a "pre-war architect" and his architectural merits have been reduced to a few early works.

Even if after the Second World War he was not able to build on his pre-war successes as the architect of the Olympic Stadium in Amsterdam, his oeuvre is increasingly appreciated posthumously. With his architecture, which is deeply influenced by the style of the American Frank Lloyd Wright, such as the Papaverhof residential complex in The Hague, the Amsterdam "City" cinema, the office building of the Centrale Onderlinge insurance company in The Hague, as well as his intensive journalistic activities, he is considered a link between HP Berlage and his own style development as well as functionalismwith a clear influence on contemporary architecture.

After World War II, Wils also received commissions from the United States and overseas, such as from Curaçao; in the Netherlands he devoted himself largely to housing for the middle class. Nevertheless, even in retrospect, the Olympic Stadium is considered his undisputed main work.

5.5.1. Olympic village, Amsterdam

The Olympic Village in Amsterdam, also known as the Olympic Village 1928 (Olympisch Dorp), was an integral part of the 1928 Summer Olympics held in Amsterdam, Netherlands. It was designed by architect Jan Wils and aimed to provide accommodation for the participating athletes during the games. Here's some information about the Olympic Village:

5.5.1.1. Design and Concept

Jan Wils designed the Olympic Village as a self-contained complex that could accommodate the athletes and provide them with all the necessary facilities. The village consisted of several residential buildings, dining halls, recreational spaces, medical facilities, and administrative buildings. Wils' design for the Olympic Village incorporated modernist principles, including clean lines, functional layouts, and an emphasis on open spaces.

5.5.1.2. Location

The Olympic Village was located in the Amsterdam-Zuid neighborhood, adjacent to the Olympic Stadium. The proximity of the village to the stadium allowed easy access for the athletes to participate in the events.

5.5.1.3. Legacy

The Olympic Village served as a pioneering example of providing purpose-built accommodation for athletes during an Olympic Games. After the Olympics, the residential buildings in the village were repurposed for housing, contributing to the urban development of Amsterdam.


Google

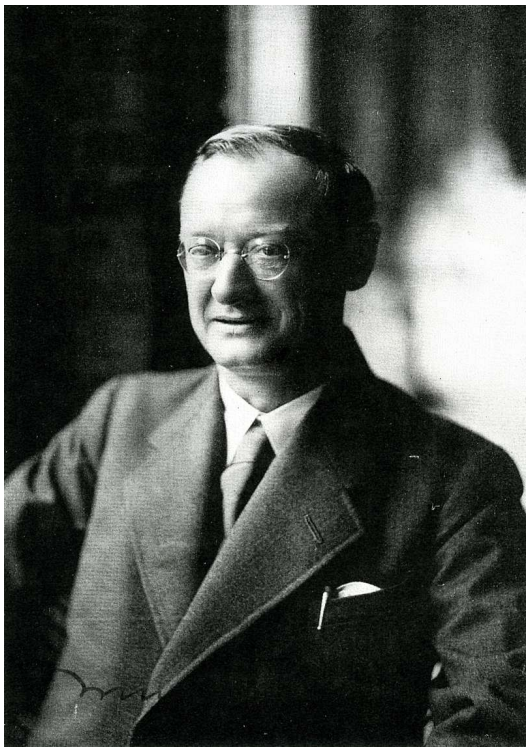
5.6. Bruno Taut

Bruno Taut, a German architect and urban planner, played a significant role in the development of modern architecture during the early 20th century. His innovative designs, characterized by expressive forms, vibrant colors, and a profound connection to nature, have left an indelible mark on the architectural landscape.

He studied architecture at the Technical University of Charlottenburg in Berlin and graduated in 1903. Taut's formative years were influenced by the ideas of the Arts and Crafts movement and his exposure to the works of influential architects such as Peter Behrens and Otto Wagner.

Bruno Taut's architectural style evolved over time, reflecting his engagement with various movements and ideas. He was associated with the German Expressionist movement, which aimed to evoke emotions through architectural forms. Taut's designs emphasized the use of color, light, and geometry to create expressive and symbolic buildings that had a profound impact on their surroundings.

Following his time in Germany, Bruno Taut emigrated to Japan in 1933, where he continued his architectural work and lectured on modern architecture. He had a significant influence on Japanese architecture and urban planning during his time there. Taut's legacy lies in his innovative designs, his advocacy for social housing, and his exploration of the relationship between architecture and nature.



5.6.1. Glass Pavilion

One of Taut's early notable projects was the Glass Pavilion (Glaspavillon) for the 1914 Cologne Werkbund Exhibition. The pavilion showcased Taut's vision for transparent and lightweight structures. Its crystalline glass walls and colorful interior highlighted the potential of glass as a material for architecture.

5.6.2. Hufeisensiedlung

Designed in collaboration with Martin Wagner, the Hufeisensiedlung (Horseshoe Estate) in Berlin exemplifies Taut's commitment to social housing and urban planning. Completed in 1933, the estate comprised horseshoe-shaped apartment buildings arranged in a manner that maximized sunlight and green spaces. It is recognized as a UNESCO World Heritage Site today.

5.6.3. Waldsiedlung

Waldsiedlung, also known as the Onkel-Toms-Hütte estate, located in Berlin-Zehlendorf, showcases Taut's integration of architecture with nature. Completed in the 1920s, the estate emphasized the use of colors and natural surroundings to create a harmonious living environment. Its unique design and social housing concept have made it a renowned example of early 20th-century housing.

5.6.4. Waldsiedlung, Berlin

Nestled amidst the verdant landscapes of Berlin lies Waldsiedlung, a remarkable housing estate that stands as a testament to the visionary architect Bruno Taut. Built in the 1920s, Waldsiedlung showcases Taut's innovative approach to architecture and his commitment to creating affordable, functional, and aesthetically pleasing housing solutions. Let us delve into the architectural marvels of Waldsiedlung and explore the remarkable contributions of Bruno Taut.

5.6.4.1. Concept and Design

Bruno Taut, a prominent figure of the German Expressionist movement, believed that architecture should harmonize with nature and improve the lives of its inhabitants. With Waldsiedlung, Taut sought to create a peaceful community immersed in greenery, providing an escape from the fast-paced urban environment. His design philosophy revolved around the idea of Gesamtkunstwerk, the integration of architecture, landscaping, and social considerations.

5.6.4.2. Integration with Nature

Waldsiedlung's unique feature is its seamless integration with the surrounding natural environment. Taut utilized the sloping terrain and existing trees to create a cohesive relationship between the buildings and the landscape. By preserving trees and incorporating green spaces, he aimed to improve the residents' quality of life and foster a sense of tranquility and harmony.

5.6.4.3. Colorful Expression

One of the most striking aspects of Waldsiedlung is its vibrant color palette. Taut believed that colors could uplift the human spirit and enhance the living experience. He adorned the facades of the buildings with bold hues, using a technique he termed "polychromy." Each building boasted a different color scheme, creating a lively and distinctive visual identity for the estate.

5.6.4.4. Affordable and Functional

Waldsiedlung was designed as a social housing project, emphasizing affordability and functionality without compromising aesthetics. Taut employed efficient floor plans and modular designs to optimize space utilization and ensure cost-effective construction. The estate comprised different types of housing units, ranging from apartments to single-family houses, catering to various needs and family sizes.

5.6.4.5. Social Spaces

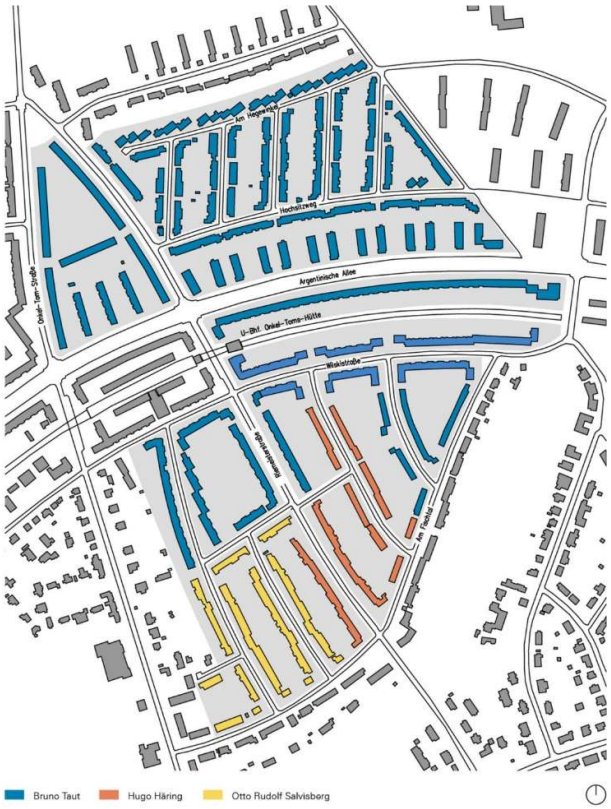
Taut recognized the importance of communal spaces in fostering a strong sense of community. Within Waldsiedlung, he incorporated amenities such as a community center, a school, and a kindergarten. These shared spaces provided opportunities for social interaction, cultural activities, and education, promoting a cohesive and inclusive neighborhood.

5.6.4.6. Preservation and Recognition

Over the years, Waldsiedlung has undergone renovations and restorations to preserve its architectural integrity. The estate gained recognition as a UNESCO World Heritage Site in 2008, acknowledging its cultural and historical significance as an outstanding example of early 20th-century housing design.

Waldsiedlung in Berlin stands as a living testament to Bruno Taut's architectural vision and his commitment to creating harmonious, affordable, and functional housing solutions. Through its integration with nature, vibrant color schemes, and emphasis on community spaces, Waldsiedlung continues to inspire architects and urban planners to create sustainable, people-centric living environments.

Waldsiedlung Zehlendorf – Onkel Toms Hütte, by Bruno Taut, 1926-1931



6.0

INTEL & LANGENWEDDINGEN

6.1. Intel

Intel purchased their first piece of property on a 26-acre pear orchard in Santa Clara, California in 1970. Santa Clara is home to Intel's headquarters and the flagship for Intel's Museum. Today, more than 13,500 employees across California design, develop, and support semiconductor products that help to secure, power and connect billions of devices and the infrastructure of the smart, connected world-from the cloud to the network to the edge and everything in between. These innovations are key to making the world safer, help builds healthy and vibrant communities and increases productivity.

6.1.1. Economic

The economic growth of target market is fairly positive, in the semiconductor's industry case; the target market is the electronics industry. Industry growth is very promising and, coupled with exchange rates being relatively stable, promises a wealth of opportunities for those who are already established in this industry. With the increased pace in the change in technology spurred by more need for higher and more advanced technology, the demand for the semiconductor industry is stronger than ever. This presented a whole avenue of possibility for Intel to develop their products at a rate which will keep up with the demands of the market.

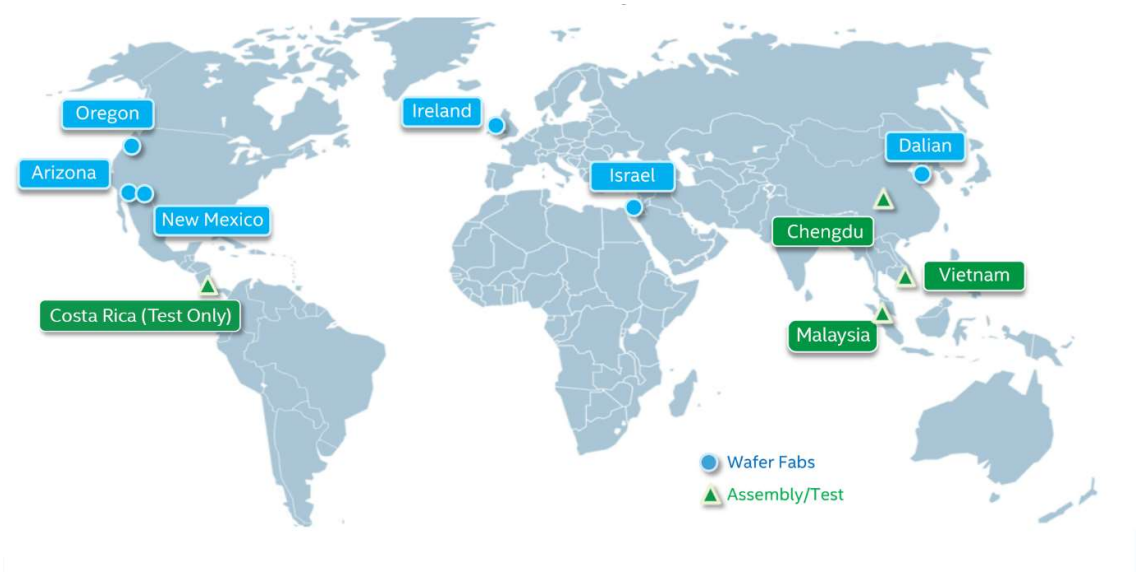
Social Even income distribution among target market is observed in this industry and main consumers are large companies. As the nature of the industry in which Intel is involved in is a very dynamic nature where change and innovation are everyday words, there exists the need to constantly be sensitive to the change in market demands and preferences, as it is the key to maintaining market leadership in this type of industry.

6.1.2. Technology

A very fast technological transfer and a very fast rate of technological obsolescence is a characteristic of the industry. A unique aspect of the semiconductor industry is that prices for products tend to decrease over time This phenomenal increase in industry productivity is the driving force that has made semiconductor electronics the technology of choice for all control and computing applications.

There are two reasons why the cost of this technology consistently drops: first, the broad applicability of semiconductor devices leads to a phenomenally elastic market, so that decreases in cost are more than balanced by increases in the total unit demand. The total market continues to grow in dollars despite the fact that the products are falling rapidly in price. Second, because of the unique nature of the technology, by making things smaller the speed of the circuits increases power consumption drops, system reliability increases significantly, and, most importantly, the cost of the electronic system drops. By making things smaller, development density is increased. More function can be built on a given area, causing the price of electronic functions to be cheaper and cheaper.

Intel headquarters facilities in Santa Clara, California



Map of Fabs and assembly or test sites

6.1.3. Sustainable - Green IT

Symantec and Intel promote and provide the use of energy efficient hardware, software, services, and best practices that reduce environmental impact by enabling IT to run more efficiently, conserve power, and cut energy costs:

6.1.3.1. Analysis of macro environment

A political, economic, social and technological (PEST) analysis would show how the external environment of the Intel firm has managed to affect the developments.

In the semiconductor industry, competition regulation is low and corporate and individual taxes are major considerations. Further, due to the increasing internalization of semiconductor firms, they are being subject to international trade regulations and consumer protection has also become a major consideration. This has further affected the potential entrants to the industry, and has led to Intel focusing on having their research and development on environmental management to protect their consumers.

6.1.3.2. Energy

D2P4 Santa Clara Data Center is a world-class data center that is home to one of the world's super computers called the D2P4 and is responsible for much of Intel's data processing capacity. D2P4 saved over 16 million gallons per year of water by using outside air free cooling for over 90% of the time. This same Data Center has a Power Use Effectiveness of more than 1.07 which is far better than the industry standard of 1.7. It saves over 41% energy costs and over 207 million gallons a year vs an average data center of the same size.

D2P3 Data Center where typical data centers require the use of both a mechanical chiller and cooling towers, this data center only relies on the latter resulting in a WUE (water usage efficiency) of 85 liters to 4m MW energy. It additionally only uses recycled water instead of fresh water creating an even more sustainable solution. The fuel cells on Mission Campus are used to provide a clean, reliable, and constant power to crucial systems like the data center. They are a green alternative to using gas-powered generators by emitting only water and C02 in the production of energy.

Solar panels on the rooftop SC9 help reduce our reliance on fossil fuels and reduce our production of greenhouse gases.

6.1.3.3. Water

Intel's mission campus uses a smart chiller that lowers electricity consumption by evaluating cooling needs required by the data center and office space and adjusts energy demand accordingly. This smart system is approximately 40% more efficient than standard chillers.

The Mission campus redesigned its landscaping with water conservation in mind. As part of our strategy to conserve water in 2017, we replaced grassy lawns with drought tolerant plants and shrubs. According to the Alliance for Water Efficiency, xeriscape landscapes use up to two thirds less water than conventional landscapes, which makes this precious resource more available for other uses.

6.1.3.4. Waste

By mix use recycling Intel have recycling receptacles throughout the campus to encourage employees to recycle. Intel global recycling rate is over 80%.

Intel manages all E-Waste on-site by reviewing and abiding by third party vendors' disposal requirements to ensure of proper disposal. E-waste is then shipped to a North American facility where it can be recycled and repurposed for other applications.

According to the EPA 50% of Intel food waste ends up in the landfill. Intel encourages employees to dispose of food waste into compost collection bins situated throughout the campus. The food waste is then sent to a composting facility rather than landfilled.

Intel also helps to minimize the carbon footprint by installing solar trash compactors throughout their campus.

Map of energy use and recycling centers in Intel company, Santa Clara

Solar Panel Water Heater

Solar Trash Compactors

fuel cells on Mission Campus

6.2. Sülzetal

The municipality of Sülzetal was founded as the first unified municipality in Saxony-Anhalt on April 1, 2001 after approval by the regional council of Magdeburg. Before it was founded, referendums were held in the seven formerly independent municipalities of Altenweddingen, Bahrendorf/Stemmern, Dodendorf, Langenweddingen, Osterweddingen, Schwaneberg and Sülldorf.

Today the municipality consists of eight equal districts. In each district, a local council was elected to represent the interests of the respective district.

The name of the community is given by the river "Sülze". The Sülze has some source streams that flow together above Sülldorf. On its way, the brawn receives a few more tributaries, so that the brawn drains a considerable area, which roughly corresponds to the territory of the municipality.

Due to its location in the middle of the Magdeburg Börde, the municipality is characterized by agriculture to this day, grain, potatoes and sugar beet are the main crops.

Due to the good infrastructure - the A14 and the federal highways 71 and 81 touch and cross the community directly, the state capital Magdeburg is right in front of the door - a large economic growth has been recorded in recent years. Thousands of jobs have been created here by the

settlement of companies in the logistics sector, mechanical engineering and food production - and this development is continuing.

Of course, the creation of jobs also means a large increase in the population. In the individual districts, large areas of private homes were created, which brought many young families with children to the community, so that the occupancy of the day-care center is secured for the time being.

6.3. Langenweddingen

In 937 the place was donated to the Moritz monastery by Otto I. From 1563 it belonged to the office of Hadmersleben. In addition to the widely ramified "de Weddinge" family, two knights and 15 farmers were also resident in the town in 1363. In 1467 the lords of Wellen were also richly wealthy in Großweddingen. Later, they expanded their possessions in the town on lease formerly Wellische". These were also tax-free because they belonged to a manor. The history of the village should give an unusually rich picture, and it should not be forgotten that since the 13th century development was geared towards urban conditions.

We find no less than three churches further in the Middle Ages, the Georgskirche, now the village church, the Stephanskirche until the 12th century and that of the village of Schleningen. The St. George's Church was rebuilt in 1703, including the western transept (around 1200). In 1563 it is already the only church in town. The 3 towns of Weddingen, Kreipe and Schleningen, which were originally separate towns, have merged into Langenweddingen.

In 1563, Langenweddingen was the largest village in the Magdeburg region. At that time, it had 104 landlords. The fate of the place during the Thirty Years' War was very varied. The church books have only given information about this since 1640, when the worst was over. So, in 1641 the inhabitants preferred to go to Wanzleben and Magdeburg to be on the safe side. In 1684 the town had 108 landlords and 10 deserted farmsteads.

On May 5th, 1809, Major Schill camped on the Anger in Langenweddingen after the battle near Dodendorf. A hundred years later, on June 6, 1909, the Schill monument was inaugurated on the fairground. In 1807, during the French occupation, Langenweddingen became the district town of the Elbe department of the district of Magdeburg. In 1840, the town had 1,454 inhabitants with 175 houses, 15 farmsteads, 48 cottagers, 80 cottagers and 131 residents.

Until the 19th century, Langenweddingen was characterized by agriculture and two chicory kilns, one kiln and a sugar factory were in operation as related industries. There were 5 windmills and watermills, the Meiersche, the Mittel-, the Kirchen-, the Plat- and the Amtsmühle. A biscuit factory was created from the old lime works on the Osterberge, and after 1945 a canning factory. Many of the former farms are still preserved today as witnesses of the past. Its size and furnishings show the wealth of the peasants from the 19th century to the middle of the 20th century.

Thanks to its favorable location in relation to the state capital, Langenweddingen has the prerequisites to develop into a modern residential area. New housing estates and a commercial area have contributed to this. The quarries between Langenweddingen and Sülldorf invite nature lovers to take a hike. In the middle of the merger of the municipalities on April 1st, 2001, Langenweddingen is a district of the new unified municipality of Sülzetal.

Town hall of the municipality of Sülzetal in the district of Osterweddingen

Town Hall of Langenweddingen

6.3.1. Location

Langenweddingen is a vibrant municipality located in the state of Sachsen-Anhalt, Germany. Situated in a strategic location, Langenweddingen enjoys excellent connectivity to various major cities in the region, thanks to its proximity to well-developed motorway networks.

6.3.1.1. Location in Sachsen-Anhalt

Langenweddingen is nestled within the picturesque region of Sachsen-Anhalt, which is known for its rich cultural heritage, natural landscapes, and thriving industries. The municipality is situated in the central part of Sachsen-Anhalt, making it an ideal location for residents, businesses, and visitors alike.

6.3.1.2. Access to Other Cities

Langenweddingen benefits from its convenient access to motorways that connect it to several prominent cities in the region. The municipality is primarily connected through the following motorways:

6.3.1.2.1. A14 Autobahn

Langenweddingen is easily accessible via the A14 Autobahn, which connects it to major cities such as Magdeburg, Halle (Saale), and Leipzig. The A14 serves as a crucial transportation artery, facilitating efficient travel and trade between Langenweddingen and these significant urban centers.

6.3.1.2.2. A2 Autobahn

Another important motorway in close proximity to Langenweddingen is the A2 Autobahn. This well-connected highway provides convenient access to cities such as Braunschweig, Hannover, and Berlin.

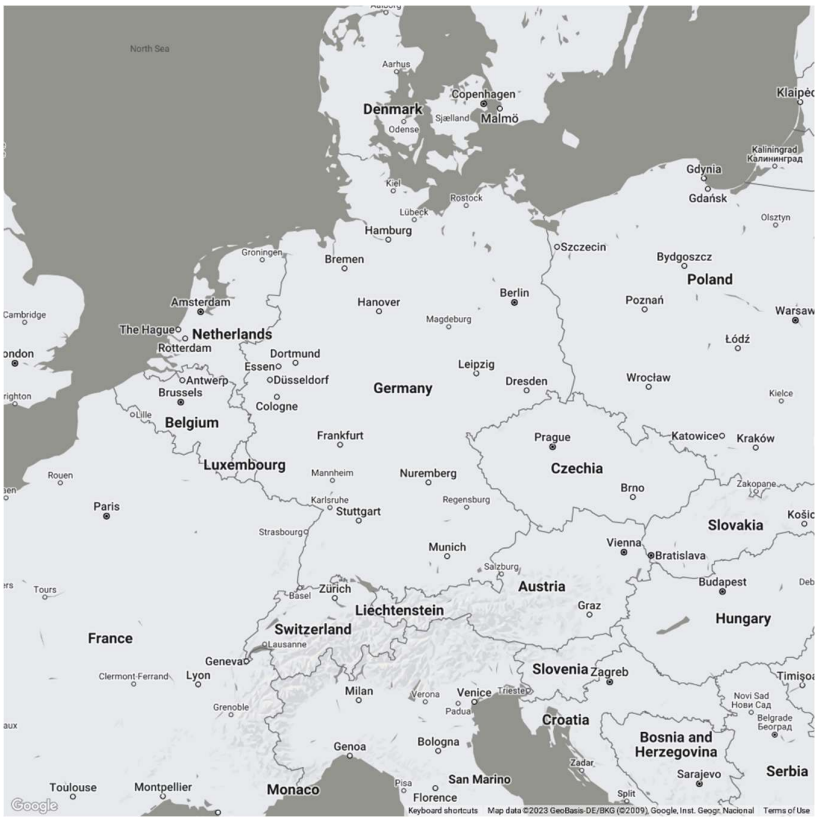
The A2 enables seamless travel and transport links, enhancing Langenweddingen's connectivity and accessibility to key economic and cultural hubs.

6.3.1.2.3. A9 Autobahn:

The A9 Autobahn, while slightly farther from Langenweddingen, still offers valuable connectivity to cities such as Leipzig, Nuremberg, and Munich. Although requiring a longer journey, the A9 provides an alternate route for travelers and businesses seeking access to southern destinations.

Benefiting from its strategic location, Langenweddingen enjoys the advantages of being within reasonable driving distances to these major cities. This accessibility not only fosters economic opportunities but also facilitates cultural exchanges, tourism, and collaboration among neighboring communities.

The location of Langenweddingen within Sachsen-Anhalt, Germany, offers numerous advantages. Its central positioning in the state, coupled with its proximity to major motorways, provides convenient access to neighboring cities, fostering regional connectivity and facilitating economic growth. Whether for business or leisure, Langenweddingen's strategic location makes it an attractive destination and a well-connected hub within the region of Sachsen-Anhalt.


North Sea
Aarhus
Copenhagen
Denmark
Odense
Sjælland
Malmö
Kaliningrad
Калининград
Gdynia
Gdańsk
Kiel
Rostock
Lübeck
Hamburg
Olsztyn
Groningen
Bremen
Szczecin
Bydgoszcz
Poland
Amsterdam
Hanover
Berlin
Poznań
Warsaw
Cambridge
The Hague
Netherlands
Rotterdam
Magdeburg
Łódź
Dortmund
Essen
Leipzig
Antwerp
Düsseldorf
Germany
Dresden
Wrocław
Brussels
Cologne
Kielce
Lille
Belgium
Frankfurt
Prague
Katowice
Kraków
Luxembourg
Mannheim
Nuremberg
Czechia
Rouen
Brno
Zakopane
Paris
Karlsruhe
Stuttgart
Regensburg
Košic
Strasbourg
Slovakia
Munich
Vienna
Bratislava
Salzburg
Budapest
Tours
Basel
Zurich
Austria
Liechtenstein
Graz
Hungary
Switzerland
France
Lausanne
Geneva
Clermont-Ferrand
Lyon
Slovenia
Zagreb
Milan
Verona
Venice
Trieste
Padua
Grenoble
Novi Sad
Нови Сад
Belgrade
Београд
Croatia
Genoa
Bologna
Bosnia and
Herzegovina
Zadar
Sarajevo
Serbia
Toulouse
Montpellier
Monaco
Pisa
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Florence
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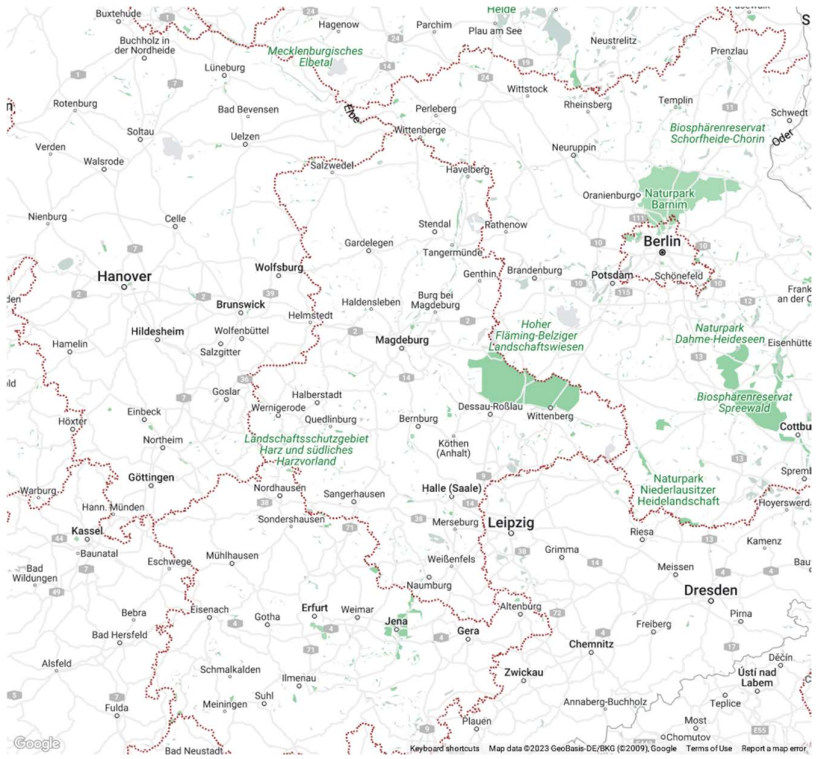
Buxtehude
Hagenow
Parchim
Plau am See
Neustrelitz
Prenzlau
Buchholz in
der Nordheide
Mecklenburgisches
Elbetal
Lüneburg
Wittstock
Rotenburg
Bad Bevensen
Perleberg
Rheinsberg
Templin
Soltau
Uelzen
Wittenberge
Biosphärenreservat
Schorfheide-Chorin
Verden
Walsrode
Neuruppin
Salzwedel
Havelberg
Oranienburg
Naturpark
Barnim
Nienburg
Celle
Stendal
Rathenow
Gardelegen
Berlin
Tangermünde
Hanover
Wolfsburg
Genthin
Brandenburg
Potsdam
Schönefeld
Brunswick
Haldensleben
Burg bei
Magdeburg
Helmstedt
Hoher
Fläming-Belziger
Landschaftswiesen
Naturpark
Dahme-Heideseen
Hildesheim
Wolfenbüttel
Hamelin
Salzgitter
Magdeburg
Biosphärenreservat
Spreewald
Goslar
Halberstadt
Einbeck
Wernigerode
Dessau-Roßlau
Wittenberg
Höxter
Quedlinburg
Bernburg
Northeim
Landschaftsschutzgebiet
Harz und südliches
Harzvorland
Köthen
(Anhalt)
Göttingen
Nordhausen
Halle (Saale)
Naturpark
Niederlausitzer
Heidelandschaft
Warburg
Sangerhausen
Hann. Münden
Sondershausen
Merseburg
Leipzig
Riesa
Kassel
Grimma
Baunatal
Eschwege
Mühlhausen
Weißenfels
Meissen
Bad
Wildungen
Naumburg
Dresden
Eisenach
Erfurt
Weimar
Altenburg
Bebra
Gotha
Jena
Gera
Freiberg
Bad Hersfeld
Chemnitz
Alsfeld
Schmalkalden
Zwickau
Ilmenau
Suhl
Annaberg-Buchholz
Fulda
Meiningen
Teplice
Most
Plauen
Chomutov
Bad Neustadt
Google
Keyboard shortcuts
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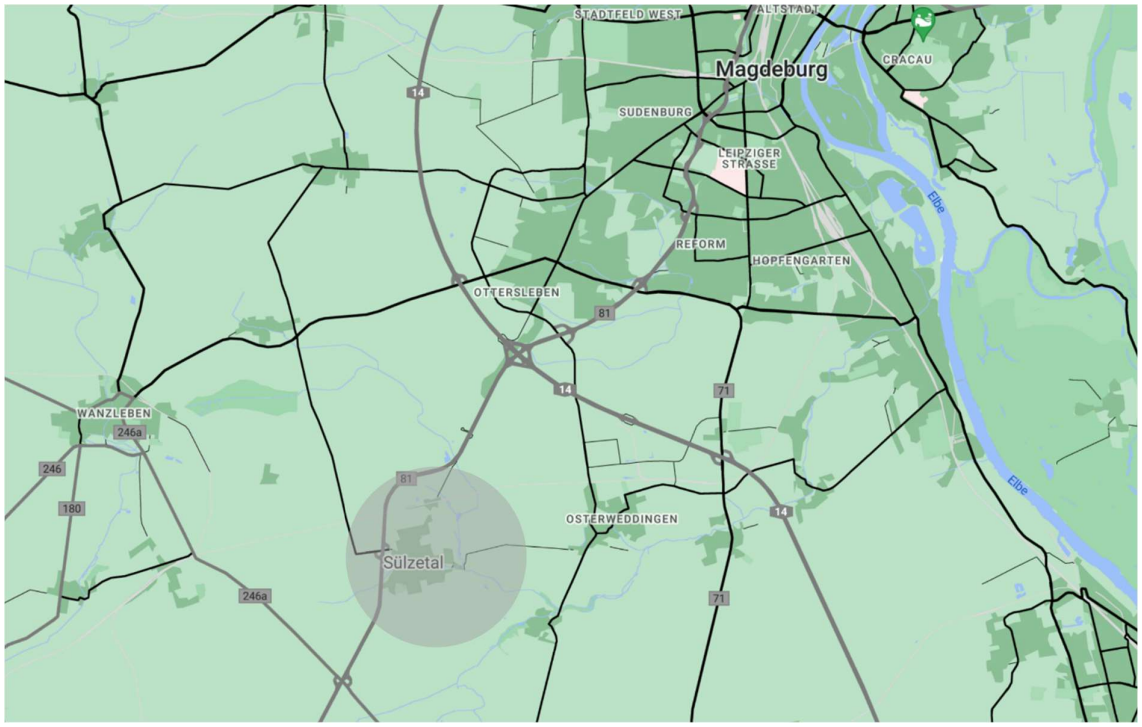

STADTFELD WEST
ALTSTADT
Magdeburg
CRACAU
SUDENBURG
LEIPZIGER STRASSE
Elbe
REFORM
HOPFENGARTEN
OTTERSLEBEN
81
14
71
WANZLEBEN
246a
246
180
81
OSTERWEDDINGEN
14
Sülzetal
246a
71
Elbe

6.3.2. Environment

Langenweddingen is a picturesque municipality in Germany that boasts a beautiful natural environment and a commitment to preserving its green spaces. Surrounded by stunning landscapes and characterized by its sustainable practices, Langenweddingen is a haven for those seeking harmony with nature.

6.3.2.1. Lush Green Spaces

One of the defining features of Langenweddingen is its abundance of lush green spaces. The municipality is home to expansive parks, well-maintained gardens, and tree-lined avenues, offering residents and visitors ample opportunities to connect with nature. These green spaces not only enhance the visual appeal of the area but also contribute to a healthier and more sustainable living environment.

6.3.2.2. Ecological Preservation

Langenweddingen places great emphasis on ecological preservation. The municipality actively promotes initiatives to protect its natural resources, wildlife habitats, and biodiversity. Through responsible land management practices and conservation efforts, Langenweddingen aims to maintain a balanced ecosystem and preserve its natural heritage for future generations.

6.3.2.3. Gardens and Allotments

The municipality's commitment to greenery extends to community involvement as well. Langenweddingen encourages community gardens and allotments, providing spaces for residents to cultivate their own produce, flowers, and herbs. These shared green areas foster a sense of community, promote sustainable food practices, and enhance the overall well-being of the residents.

6.3.2.4. Walking and Cycling Paths

Langenweddingen recognizes the importance of sustainable transportation options and has developed an extensive network of walking and cycling paths. These paths not only encourage physical activity and a healthier lifestyle but also allow residents and visitors to explore the natural beauty of the surrounding areas. Walking and cycling through Langenweddingen's green corridors provide a serene and rejuvenating experience.

6.3.2.5. Environmental Initiatives

The municipality actively supports environmental initiatives that promote sustainability and reduce carbon footprint. These initiatives may include recycling programs, energy-efficient infrastructure, renewable energy sources, and public awareness campaigns. Langenweddingen stands as a shining example of a municipality that embraces its natural environment and prioritizes greenery. With its lush green spaces, commitment to ecological preservation, community gardens, and sustainable initiatives, Langenweddingen offers a harmonious balance between urban living and the beauty of nature. The municipality's dedication to its environment ensures a healthier, more vibrant, and sustainable future for all who call Langenweddingen home.


Freibad

6.3.3. Objectives of the land use plans

With this vision in mind, the municipality has outlined plans to convert approximately 526 hectares of agricultural land into industrial and commercial space.

6.3.3.1 Proposed Change of Land Use

The municipality recognizes the need to attract new businesses, generate employment opportunities, and bolster economic development in the area. To achieve these goals, the proposal aims to repurpose agricultural land for industrial and commercial purposes. This change in land use holds the potential to bring numerous benefits, such as increased job opportunities, infrastructure development, and revenue generation for the municipality.

6.3.3.2. Development of a Plan

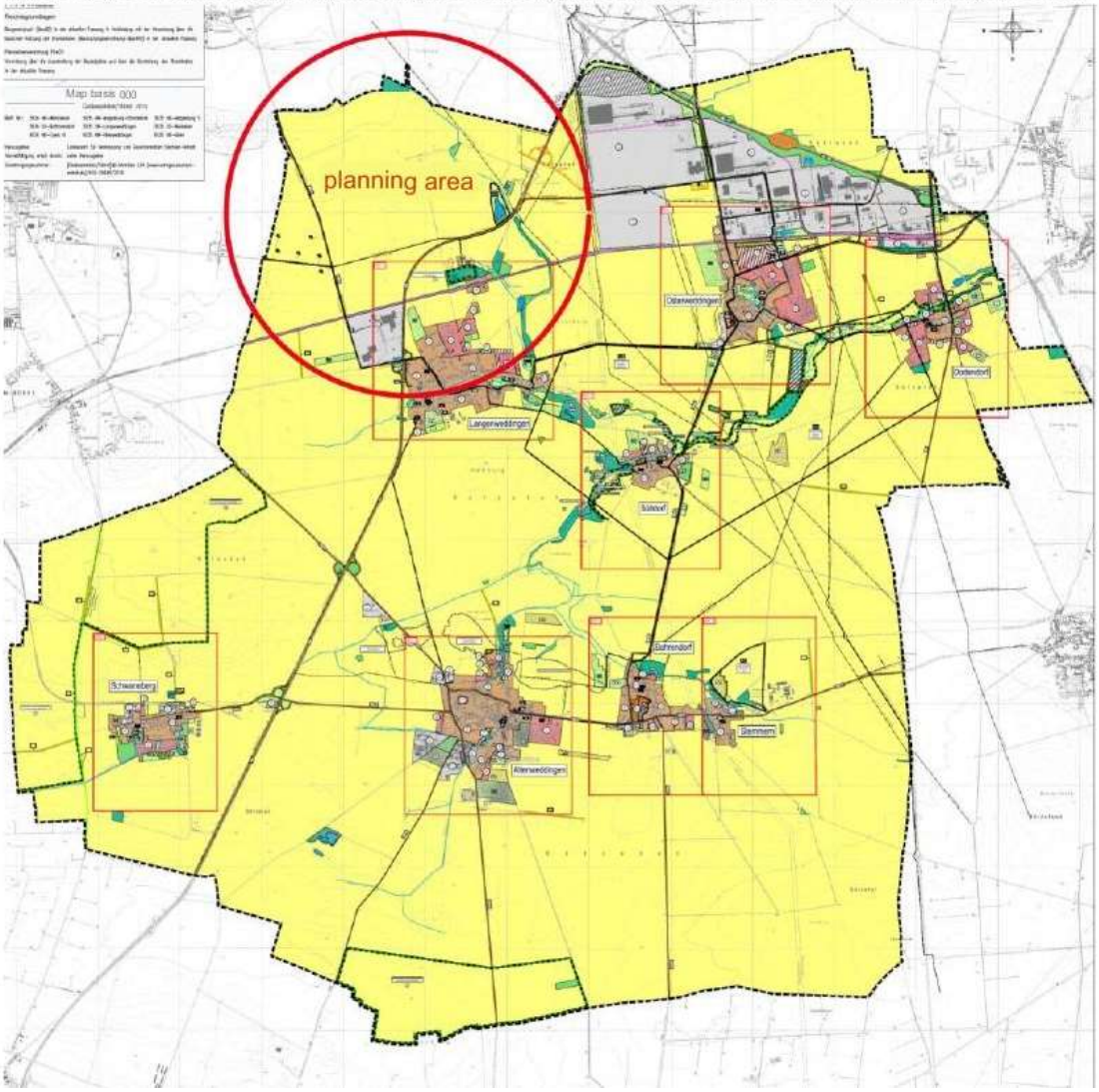
To facilitate the proposed change, Langenweddingen Municipality is embarking on the development of a comprehensive plan. This process involves close collaboration with various stakeholders, including local government authorities, urban planners, environmental experts, and community members. Their involvement ensures that the development plan is inclusive, balanced, and aligned with the municipality's long-term vision.

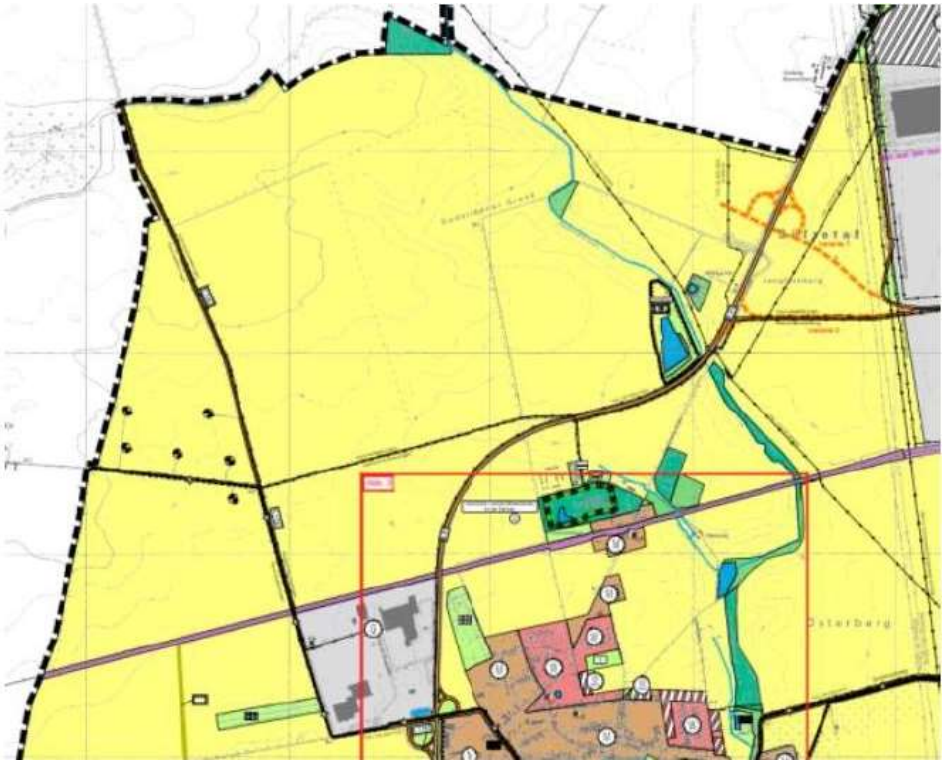
6.3.3.3. Environmental Report

As part of the development plan, an environmental report will play a crucial role. This report will assess the potential environmental impacts associated with the conversion of agricultural land into industrial and commercial space. It will carefully examine factors such as air quality, noise pollution, water resources, and biodiversity. By conducting a thorough analysis, the municipality aims to mitigate any adverse effects on the environment and ensure sustainable development.

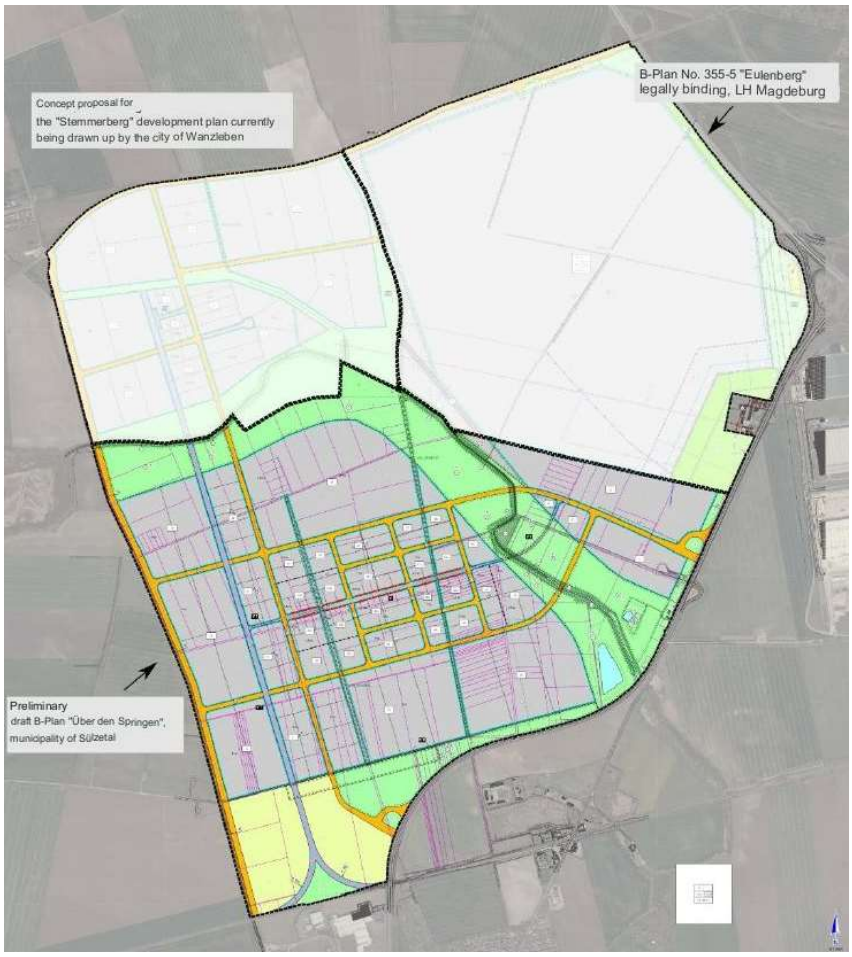
Land use plan of the unified municipality of Sülzetal

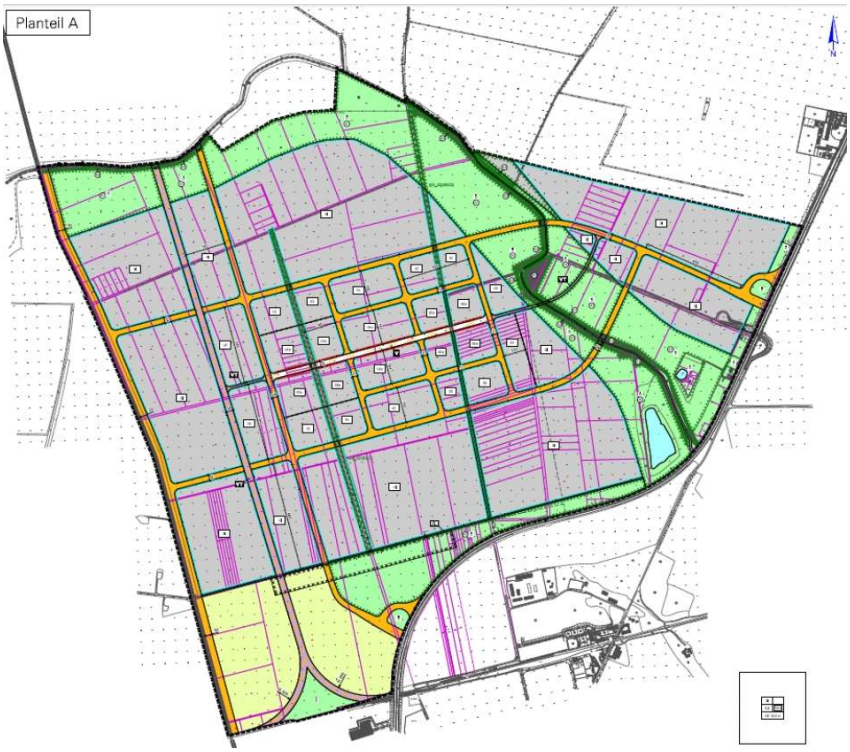
with the villages of Altenweddingen, Langenweddingen, Osterweddingen, Dodendorf, Bahrendorf, Stemmern, Schwaneberg and Sülldorf





The representations in the F-plan do not match the planning goals of the B-plan. According to the building code, a development plan must be developed from the land use plan. § 8 (2) BauGB (development requirement).


Concept proposal for
the "Stemmerberg" development plan currently being drawn up by the city of Wanzleben
B-Plan No. 355-5 "Eulenberg" legally binding, LH Magdeburg
Preliminary
draft B-Plan "Über den Springen",
municipality of Sülzetal


Planteil A

Langenweddingen Municipality's future development plans include the conversion of agricultural land into industrial and commercial space. By engaging in a thoughtful and rigorous planning process, including the preparation of an environmental report and other necessary reports, the municipality aims to foster sustainable and responsible development. The proposed change holds the potential to boost the local economy, create employment opportunities, and enhance the overall quality of life for the community. With a balanced approach and consideration for potential challenges, Langenweddingen is paving the way for a prosperous future.

7.0

SITE ANALYSIS

7.1. Macro Analysis

7.1.1. Location and context

Langenweddingen is a picturesque town located in the Sachsen Anhalt region of Germany. Situated approximately 20 kilometers southwest of Magdeburg, the state capital, Langenweddingen enjoys a strategic position within the region. It is well-connected to major cities and transportation networks, making it an attractive location for residential development.

Nestled amidst the scenic landscape of Sachsen Anhalt, Langenweddingen benefits from the natural beauty and tranquility of the surrounding area. The town is bordered by lush green fields and gentle rolling hills, creating a serene backdrop for its built environment.

Langenweddingen's immediate neighborhood comprises a mix of residential, commercial, and industrial areas. To the north lies a residential district characterized by single-family homes and small-scale apartment buildings. This predominantly residential neighborhood provides a peaceful and family-friendly environment.

The town is well-served by a range of amenities, including schools, healthcare facilities, and recreational spaces. A local marketplace, situated in the heart of Langenweddingen, offers a variety of shops, cafes, and community gathering spaces. Additionally, the presence of nearby parks and open spaces enhances the quality of life for residents, providing opportunities for leisure and outdoor activities.

Langenweddingen benefits from excellent transportation links. The town is located in close proximity to the A14 Autobahn, a major highway connecting it to regional and national road networks. This ensures convenient access to neighboring towns and cities, as well as the broader transportation infrastructure of Germany.

The region's rich history is evident in Langenweddingen's architectural fabric. The town boasts several well-preserved historic buildings, reflecting the legacy of its past. Notable landmarks include the St. Mary's Church, a Gothic-style structure dating back to the 13th century, and the Langenweddingen Manor House, a magnificent example of Renaissance architecture.

Understanding the location and context of Langenweddingen is crucial for the development of housing projects within the town. The unique blend of natural beauty, favorable connectivity, and historical significance creates an ideal setting for creating residential spaces that harmonize with the existing fabric while meeting the needs of its residents.

Langenweddingen railway station

NP-Markt, Langenweddingen, Sülzetal

Drugstore, Langenweddingen

7.1.2. Climate and Environment

Langenweddingen experiences a temperate continental climate, influenced by its inland location. The town enjoys distinct seasons throughout the year, with moderate temperature variations.

Summers in Langenweddingen are generally warm and pleasant. Average temperatures range from 20 to 25 degrees Celsius (68 to 77 degrees Fahrenheit), with occasional heatwaves pushing temperatures higher. The longer daylight hours during the summer season create an inviting environment for outdoor activities and social gatherings.

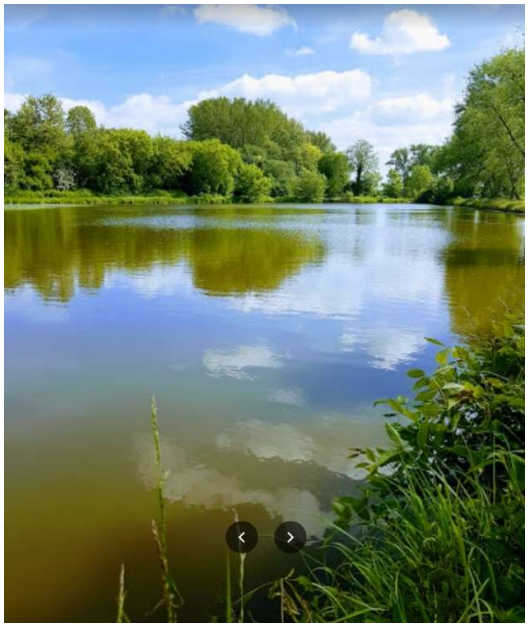
Winters in Langenweddingen can be cold, with average temperatures ranging from -2 to 4 degrees Celsius (28 to 39 degrees Fahrenheit). Snowfall is not uncommon during this season, transforming the town into a picturesque winter wonderland. The colder months provide opportunities for winter sports and festivities, enhancing the community's quality of life.

Langenweddingen experiences a moderate amount of precipitation throughout the year. The wettest months are typically July and August, while the drier periods occur in winter. It is important to consider rainfall patterns and drainage systems when planning housing projects to ensure proper water management and prevent flooding or waterlogging issues.

The natural environment surrounding Langenweddingen is characterized by a mix of agricultural land, meadows, and pockets of forested areas. These natural features contribute to the town's aesthetic appeal and ecological diversity. Preservation and integration of these natural elements into housing projects can enhance the residents' connection to nature and promote sustainable design principles.

The topography of Langenweddingen is relatively flat, with gentle undulations in certain areas. This makes the town easily navigable on foot or by bicycle, supporting a pedestrian-friendly environment. The presence of nearby rivers and water bodies, such as the Bode River, adds to the scenic beauty and offers potential opportunities for recreational activities and waterfront development.

Considering the climate and environmental factors in Langenweddingen is crucial for designing housing projects that respond effectively to the local conditions. Incorporating energy-efficient features, such as proper insulation and orientation, can help optimize thermal comfort throughout the year. Additionally, integrating green spaces and sustainable landscaping practices can contribute to the overall well-being of the residents and foster a healthier living environment.



7.1.3. Demographics and Social Analysis

Langenweddingen is a vibrant community with a diverse demographic composition. The town has a population of approximately two thousand, which has remained relatively stable in recent years. Understanding the demographic characteristics is crucial for developing housing projects that cater to the needs and aspirations of the residents.

The age distribution in Langenweddingen reflects a balanced mix of different age groups. The town is home to a significant number of young families, with a growing number of children and adolescents. This highlights the importance of providing housing options that accommodate the needs of families, such as larger living spaces and proximity to educational institutions and recreational facilities.

In terms of socio-economic characteristics, Langenweddingen exhibits a blend of middle-class households and a smaller proportion of higher-income individuals. The town's proximity to larger urban centers, such as Magdeburg, attracts residents seeking a suburban lifestyle while maintaining access to employment opportunities and amenities. Understanding the socio-economic profile of the community aids in designing housing that aligns with their financial capacities and lifestyle preferences.

Langenweddingen fosters a strong sense of community and social cohesion. The residents actively engage in various cultural and social activities, contributing to a vibrant local scene. The town hosts regular festivals, art exhibitions, and community events that bring people together and create a sense of belonging. Designing housing projects that incorporate communal spaces and promote social interaction can further enhance the community spirit within Langenweddingen.

The presence of educational institutions, including primary and secondary schools, plays a vital role in shaping the social fabric of Langenweddingen. These institutions serve as centers for learning and social interaction, fostering the development of children and youth. The proximity of housing projects to schools can be an essential consideration to facilitate the convenience and safety of families.

Langenweddingen benefits from various recreational and leisure spaces, including parks, playgrounds, and sports facilities. These amenities promote an active and healthy lifestyle for residents of all ages. Incorporating green spaces and recreational areas within housing projects can contribute to the well-being of the community and encourage social interaction and physical activity.

Understanding the demographics and social dynamics of Langenweddingen is vital for designing housing projects that cater to the specific needs and aspirations of its residents. By considering factors such as family-friendly amenities, affordability, and opportunities for social interaction, architects and urban planners can contribute to creating a sustainable and inclusive living environment for the diverse population of Langenweddingen.

7.1.4. Infrastructure and Transportation

Langenweddingen benefits from a well-developed infrastructure that supports the needs of its residents. The town is connected to major transportation networks, facilitating convenient access to neighboring towns and cities.

The road network in and around Langenweddingen is well-maintained and efficiently connects the town to other areas. The A14 Autobahn, a major highway, passes near the town, providing easy access to regional and national road networks. This connectivity enables residents to commute to nearby urban centers, such as Magdeburg, for employment, education, and recreational purposes.

Public transportation options in Langenweddingen are primarily provided by bus services. The town is served by regular bus routes that connect it to neighboring towns and villages, as well as the regional transport system. Reliable and accessible public transportation plays a crucial role in ensuring connectivity and mobility for residents, particularly those without private vehicles.

Langenweddingen boasts adequate utility services, including electricity, water, and sanitation infrastructure. The provision of reliable and efficient utility services is essential for the functionality and livability of housing projects. Additionally, high-speed internet connectivity is widely available, supporting the growing demand for digital connectivity and smart home technologies.

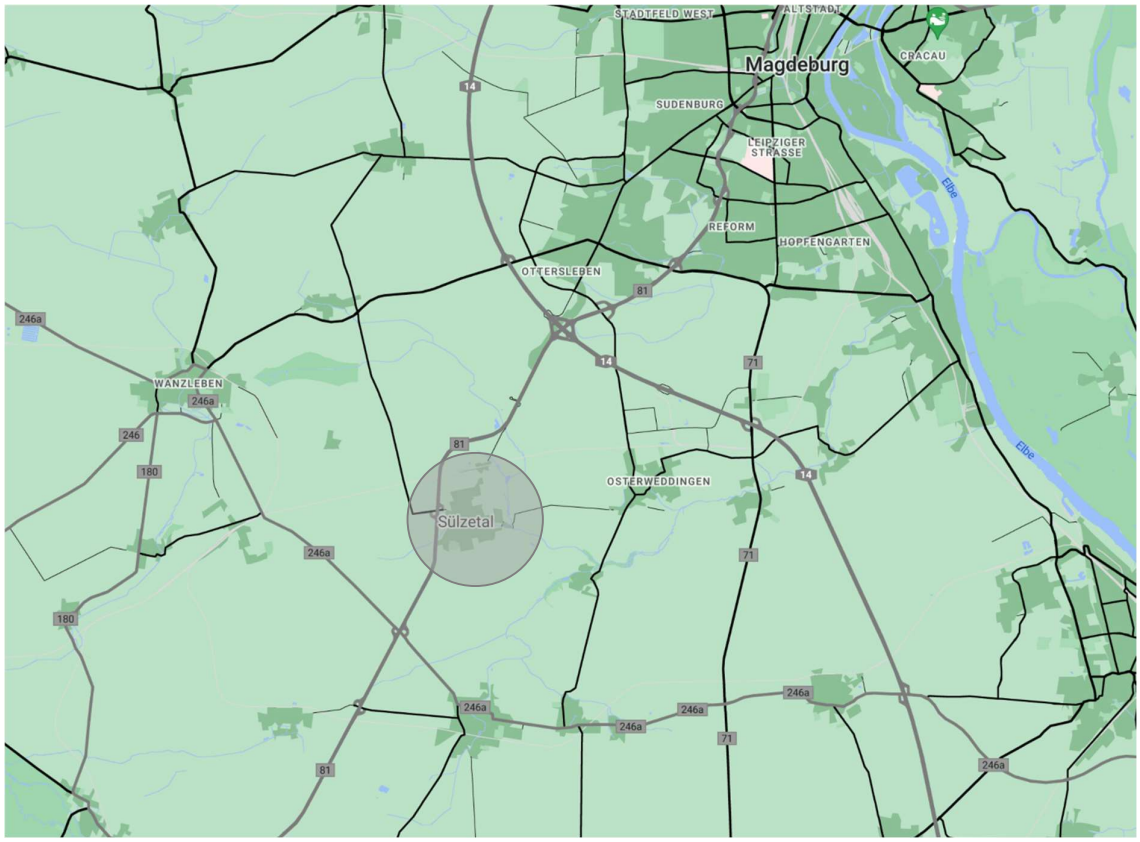
When planning housing projects in Langenweddingen, it is crucial to consider the existing infrastructure and its capacity to accommodate additional demand. Assessing the road network's capacity, public transportation accessibility, and utility services can help identify any potential constraints or areas for improvement.

It is also essential to stay informed about any planned or ongoing transportation and infrastructure projects in the area. Future developments, such as new road constructions, expansion of public transportation services, or infrastructure upgrades, can have a significant impact on the accessibility and convenience of the housing projects.

Sustainability and eco-friendly transportation options are gaining importance in urban planning. Promoting and integrating sustainable transportation modes, such as cycling infrastructure and pedestrian-friendly pathways, can encourage residents to adopt greener alternatives, reduce reliance on private vehicles, and enhance the overall livability of Langenweddingen.

By considering the existing infrastructure and transportation systems, as well as potential future developments, architects and urban planners can design housing projects that are well-connected, accessible, and aligned with the needs of the residents while promoting sustainable mobility options.


Langenweddingen


STADTFELD WEST
ALTSTADT
Magdeburg
CRACAU
SUDENBURG
LEIPZIGER STRASSE
Elbe
REFORM
HOPFENGARTEN
OTTERSLEBEN
WANZLEBEN
OSTERWEDDINGEN
Sülzetal
14
81
71
246a
246
180

7.2. Micro Analysis

7.2.1. Site-specific Analysis

Langenweddingen is a town with unique characteristics that should be carefully considered in the site-specific analysis for the housing project. By thoroughly examining the following aspects, we can create a design that is tailored to Langenweddingen's context and addresses the specific needs of the community.

7.2.1.1. Topography

Langenweddingen is situated on relatively flat terrain, with gentle undulations in certain areas. The topography provides opportunities for creative site planning, incorporating varied elevations and utilizing natural land contours to enhance the visual appeal and functionality of the housing project. It also allows for ease of accessibility and promotes a pedestrian-friendly environment.

7.2.1.2. Vegetation and Natural Elements

Langenweddingen boasts a mix of agricultural land, meadows, and pockets of forested areas. Preserving and integrating these natural elements into the housing project can enhance the residents' connection to nature, promote biodiversity, and contribute to a visually pleasing environment. Careful consideration should be given to protect mature trees and incorporate green spaces that complement the existing landscape

7.2.1.3. Solar and Wind Patterns

Langenweddingen experiences a temperate continental climate, which should inform the design's response to solar orientation and wind patterns.

Maximizing solar exposure through strategic building placement, orientation, and the use of shading devices can

optimize energy efficiency and thermal comfort. Similarly, designing openings to capture prevailing winds can facilitate natural ventilation and contribute to a healthy and comfortable indoor environment.

7.2.1.4. Access and Connectivity

Langenweddingen benefits from good access and connectivity. The town is well-connected to major transportation networks, including the nearby A14 Autobahn, which provides convenient access to regional and national road networks. Proximity to public transportation routes ensures residents have easy access to neighboring towns and cities. The site's location should be assessed to ensure convenient access to public transportation and essential amenities, fostering a well-connected community.

7.2.1.5. Surrounding Land Uses

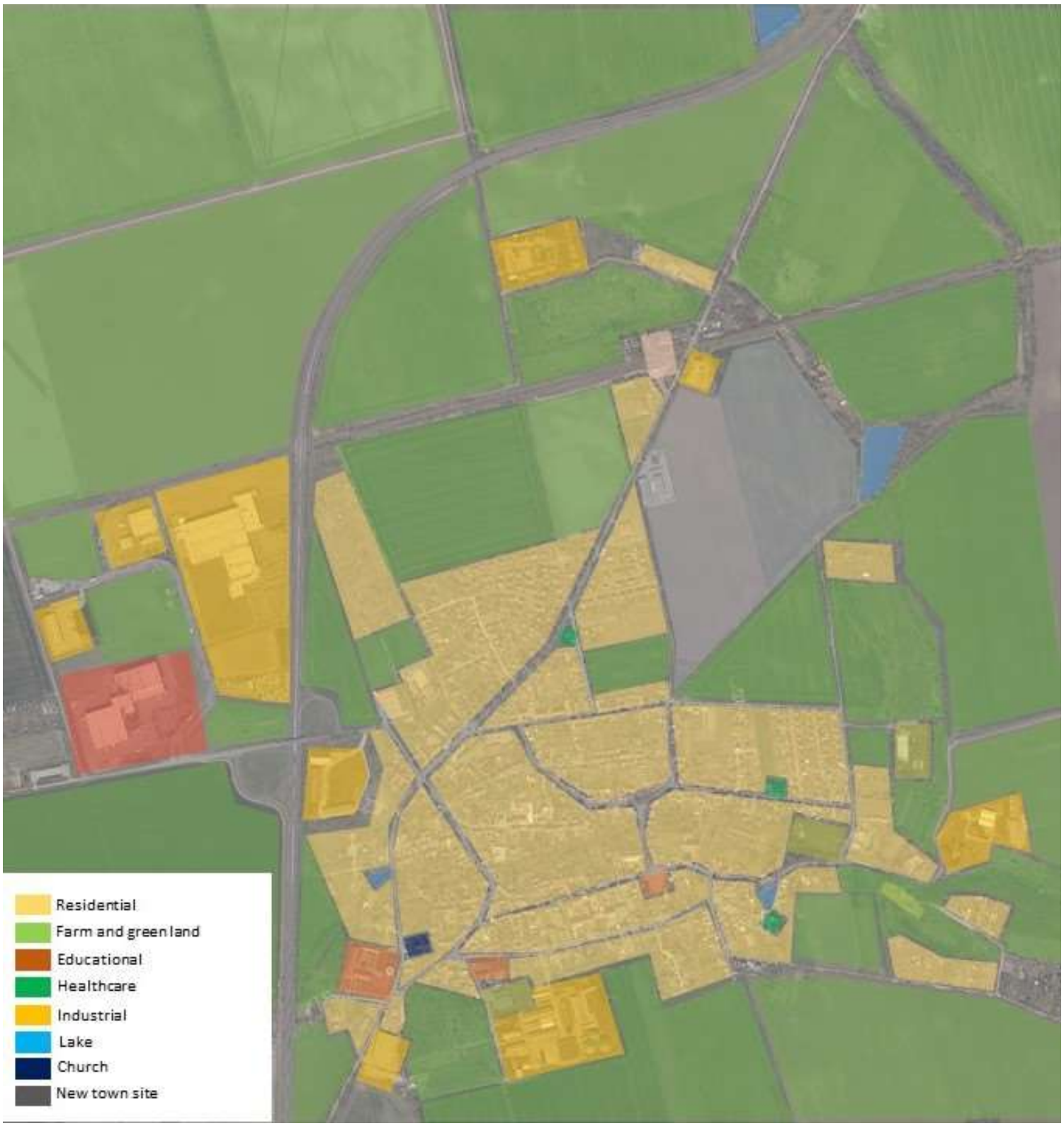
Analyzing the surrounding land uses will help determine how the housing project can fit seamlessly into the existing fabric of Langenweddingen. Understanding neighboring residential, commercial, and industrial areas will influence the design decisions and enable the project to integrate harmoniously with the surrounding context. Considerations such as privacy, noise mitigation, and the creation of a vibrant community atmosphere should be addressed through thoughtful design solutions.

7.2.1.6. Regulatory Framework

Compliance with the regulatory framework and zoning requirements specific to Langenweddingen is crucial. Familiarizing oneself with local building codes, planning regulations, and sustainability standards will ensure the project meets all necessary criteria. Understanding any site-specific restrictions or opportunities will influence the design decisions and ensure a smooth approval process.


Seerennengraben
Seerennengraben
Halberstädter Str.
Halberstädter Str.
Am Hohendodeleber Weg
An d. Springe
Über d. Dingelstelle
Holzweg
Lindenweg
Buchenweg
Am Birkenweg
Halberstädter Str.
Roter Weg
Robert-Koch-Straße
Wanzleben
Halberstädter Str.
Wolfschartstraße
Feldstraße
Hohe Str.
Steintor
Am Prödel
Langenweddinger Weg
Sülzetal
Sülze
Sülze
Lange Str.
Lange Str.
Lange Str.
Sülze
Kirchhof
Bauernwand
Talwiese
Halberstädter Str.
Sülze


Wanzlebener Weg
Sülzetal
Salzstellen
bei Sülldorf
SÜLLDORF


Residential
Farm and green land
Educational
Healthcare
Industrial
Lake
Church
New town site

8.0

P R O G R A M

8.1. Strategies for Designing

8.1.1. Preservation of Green-Lands and Trees: One of the primary strategies for the design of Langenweddingen is the preservation of its green-lands and trees. By extending the town's territory up to the green-belt, we aim to create a buffer zone that safeguards the natural environment from encroachment. It is crucial to ensure that neighboring industries do not surpass this boundary, thus protecting the ecological balance and preserving the town's aesthetic appeal. This strategy aligns with the town's rich cultural heritage and promotes a sustainable and environmentally conscious approach to urban development.

8.1.2. Development of Residential and Urban Services: Langenweddingen is envisioned as a vibrant residential town, attracting individuals who migrate to the area for work and a high quality of living. To cater to this growing population, the design incorporates the provision of essential urban services. These services encompass a range of amenities, such as educational institutions, healthcare facilities, recreational spaces, and commercial areas, which enhance the overall livability of the town. By offering a well-planned and self-contained community, Langenweddingen aims to provide a desirable environment for both current and future residents.

8.1.3. Meeting Housing Demands of the Intel Company: With the upcoming establishment of Intel's new factory in nearby Sülzetal, Langenweddingen

anticipates an influx of population. This presents an opportunity for the town to meet the housing needs of individuals associated with the company. The design of the new town takes into account this anticipated demand and focuses on providing suitable housing options that accommodate the diverse requirements of the Intel workforce. By offering a range of housing types, from apartments to family homes, Langenweddingen aims to attract and support the growing population associated with the Intel company.

These strategies collectively contribute to the sustainable and well-planned development of Langenweddingen. By prioritizing the preservation of green-lands, providing essential urban services, and addressing the housing demands of new industries and residents, the design aims to create a thriving and environmentally conscious residential town that fosters a high quality of life.

8.2. SWOT analysis

8.2.1. Strengths: These are the internal factors or characteristics of Langenweddingen that give it an advantage over other areas or contribute positively to housing. Some possible strengths for Langenweddingen could be:

- Proximity to major cities like Magdeburg, providing access to employment opportunities and amenities.
- Rich cultural heritage and historical significance.
- Availability of natural resources or scenic landscapes.
- Well-established infrastructure and transportation systems.
- Strong sense of community and social cohesion.
- Presence of local industries or economic activities.

8.2.2. Weaknesses: These are the internal factors that place Langenweddingen at a disadvantage or present challenges in the housing context. Some potential weaknesses for Langenweddingen could include:

- Limited employment opportunities within the immediate vicinity.
- Aging or deteriorating housing stock.
- Lack of diverse housing options to meet the needs of different demographics.
- Insufficient amenities or services within the town.
- Limited public transportation options.
- Brain drains or outmigration of young professionals seeking opportunities elsewhere.

8.2.3. Opportunities

These are the external factors or potential advantages that Langenweddingen can capitalize on to improve its housing situation. Some opportunities for Langenweddingen could include:

- Revitalization or redevelopment of vacant or underutilized properties.
- Implementation of sustainable and energy-efficient housing practices.
- Collaboration with neighboring towns or cities for regional housing initiatives.
- Attracting investment and funding for housing projects.
- Promotion of tourism and cultural events to boost local economy.
- Support for small businesses and entrepreneurship within the town.

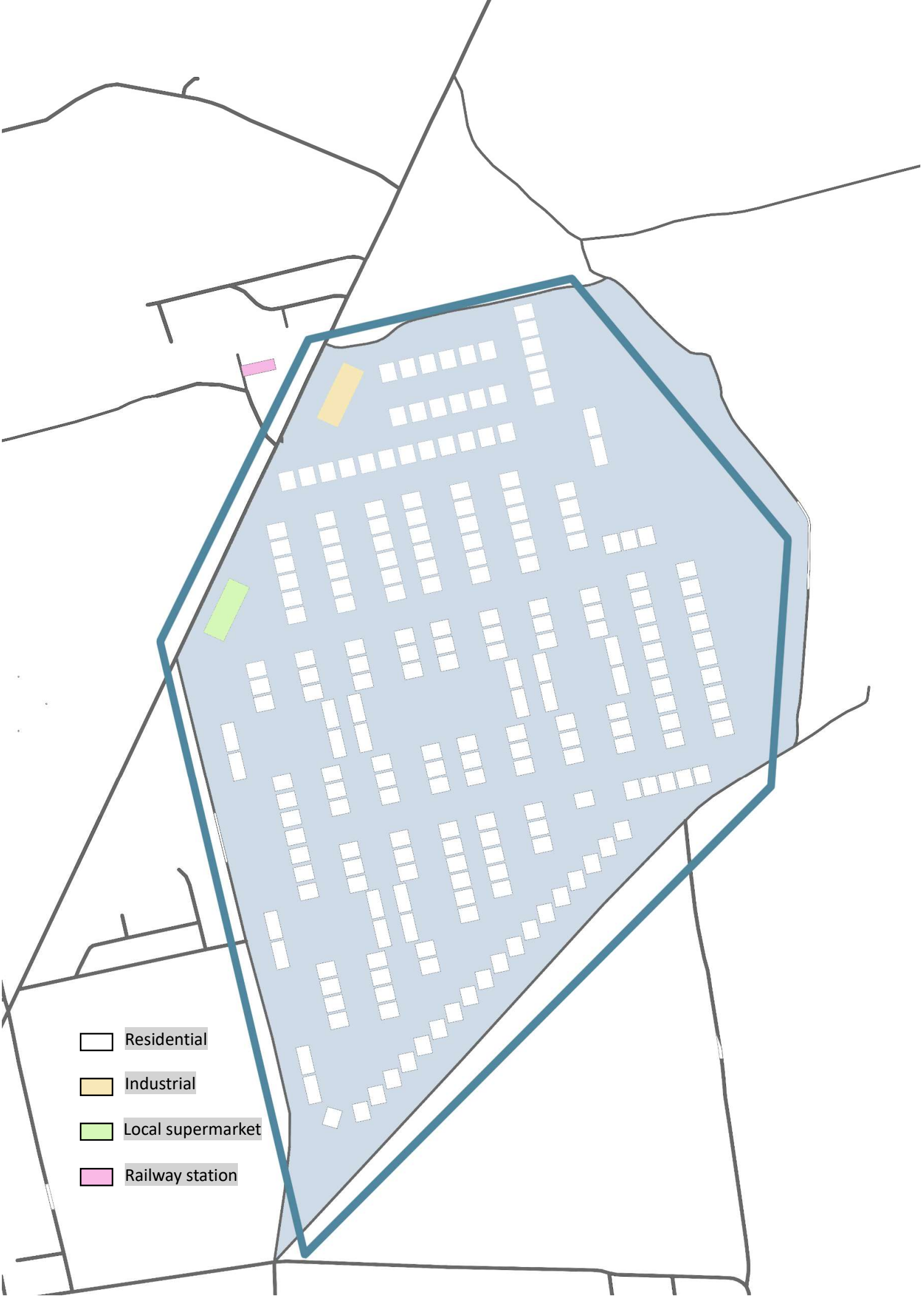
8.2.4. Threats

These are the external factors or challenges that could negatively impact housing in Langenweddingen. Some potential threats could be:

- Population declines and an aging demographic.
- Economic downturn or lack of job opportunities in the region.
- Changing government policies or regulations affecting housing.
- Competition from neighboring areas attracting residents and investment.
- Environmental risks or natural disasters.
- Lack of affordable housing options.

9.0

MASTERPLAN


Residential
Industrial
Local supermarket
Railway station

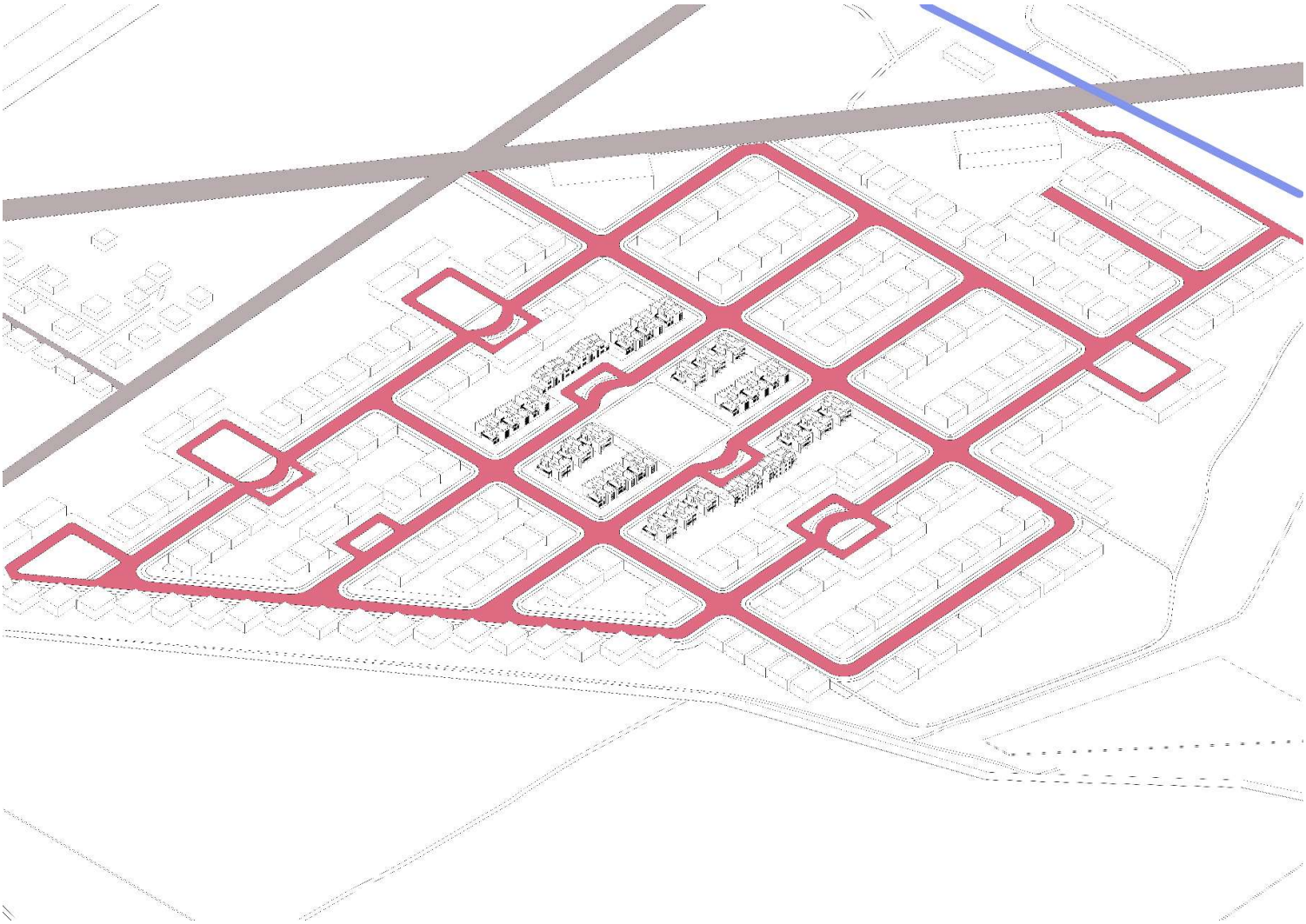
9.1. Streets

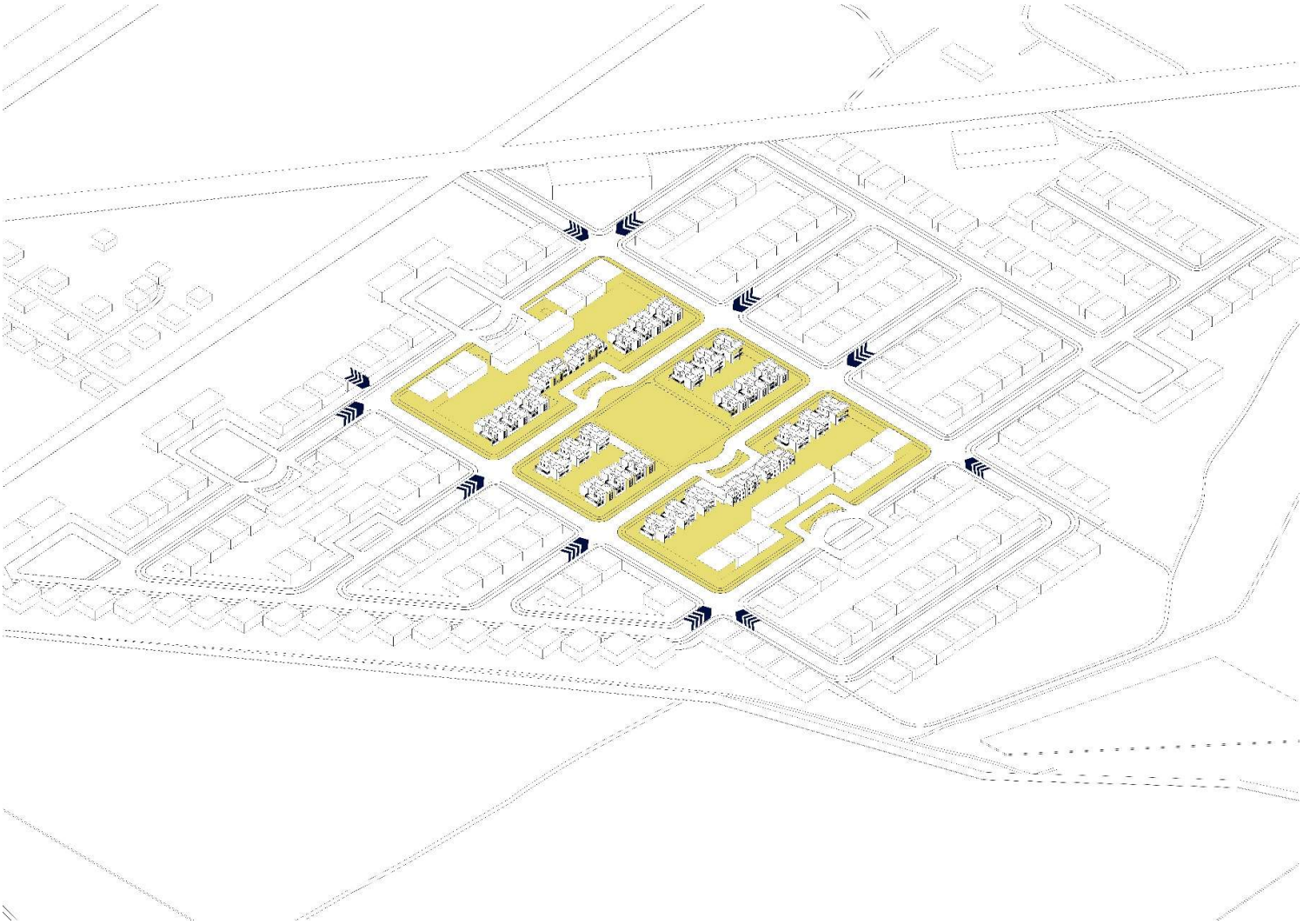
The site plan is a crucial element in the design of any architectural project, as it serves as a map that orchestrates the organization of streets and access to buildings. The site plan not only lays out the physical arrangement of structures, but it also ensures that every building within the development has convenient and efficient access to one another and to the main street network.

By carefully considering the site plan, architects strive to create a harmonious and interconnected environment. Streets are strategically designed to facilitate easy movement, allowing for smooth traffic flow and minimizing congestion. Efficient road networks, pedestrian walkways, and bike lanes are integrated into the site plan to encourage connectivity, accessibility, and promote a sense of community.

The main street, often the backbone of the development, is particularly emphasized in the site plan. It is designed to be a fast and convenient route, providing direct access to important amenities, public spaces, and commercial areas. The placement and configuration of buildings are carefully considered to maximize visibility, enhance wayfinding, and create an inviting atmosphere.

In essence, the site plan serves as a blueprint for how buildings and streets interact within a development. It takes into account considerations such as traffic patterns, pedestrian safety, parking requirements, and public transportation access.





9.2. Greenery line

To foster a sense of inclusivity, community engagement, and recreational opportunities, the site plan incorporates a carefully designed line of greenery, parks, and courtyards at the heart of the architectural project. This central area serves as a vibrant gathering place where all members of the town can equally access and enjoy its amenities.

The inclusion of green spaces within the site plan ensures that nature remains an integral part of the architectural project. Lush trees, shrubs, and plants not only enhance the visual appeal but also provide a much-needed respite from the hustle and bustle of urban life. These green pockets invite individuals to relax, unwind, and connect with nature in the midst of the built environment.

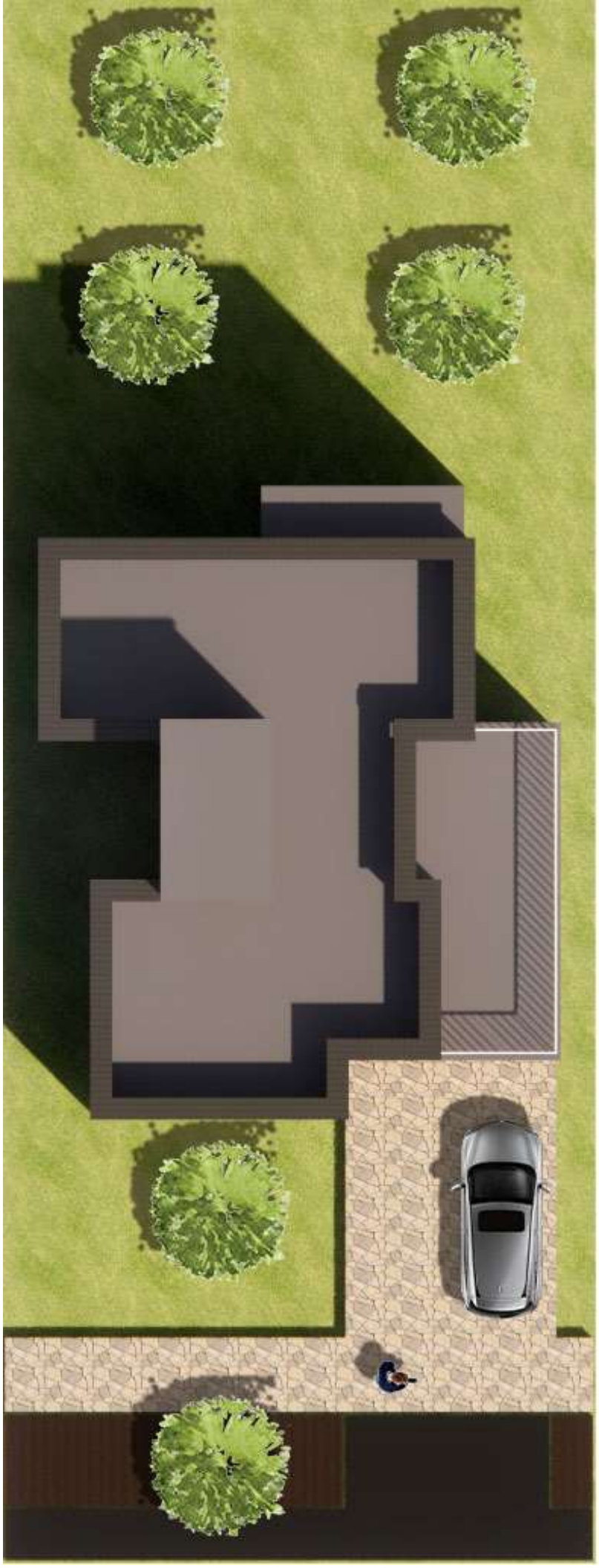
Parks, strategically placed along the central line of greenery, offer expansive open areas where people can come together, socialize, and engage in various recreational activities. These spaces are carefully designed to accommodate a range of interests and age groups, catering to the diverse needs of the community. Whether it's a game of soccer, a picnic with friends and family, or a leisurely stroll, the parks provide an inviting setting for leisure and play.

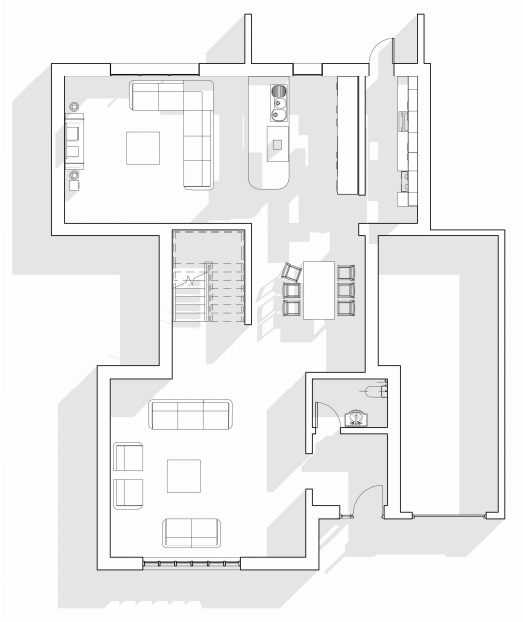
Adjacent to the parks, courtyards create intimate spaces that encourage interaction and connection. These cozy nooks, dotted throughout the site plan, provide places for neighbors to visit each other, share conversations, and strengthen community bonds. Additionally, children have dedicated playgrounds within the courtyards, offering a safe and enjoyable environment for them to spend their time, explore their imagination, and engage in physical activities.

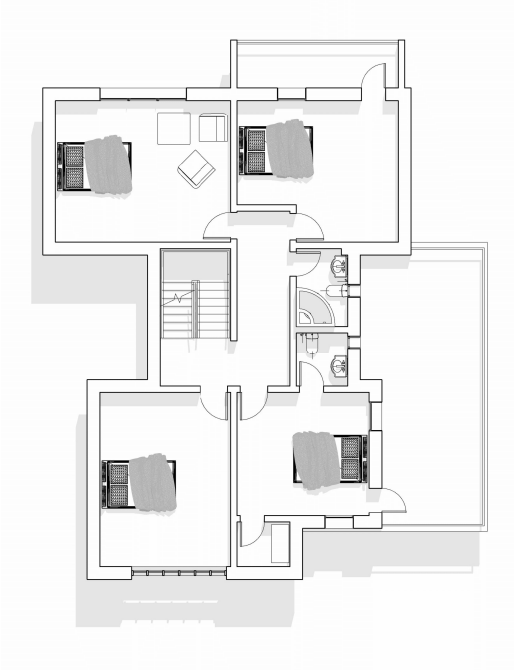
By integrating a line of greenery, parks, and courtyards into the site plan, the architectural project aims to create a vibrant and inclusive space where individuals of all ages can come together, socialize, and enjoy a variety of recreational opportunities. This deliberate design fosters a sense of community, promotes active lifestyles, and ensures that every member of the town has equal access to an inviting and enriching environment.

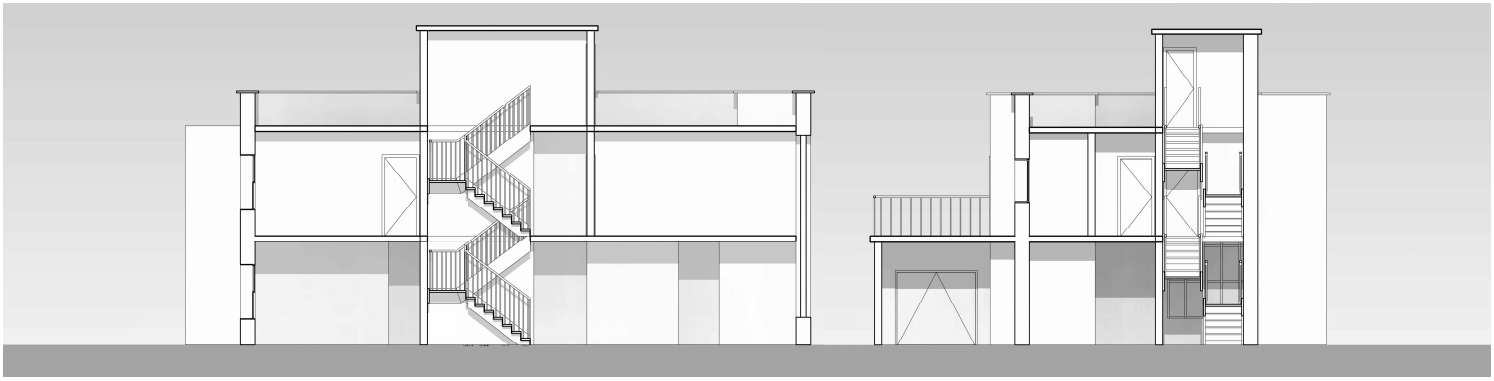
10.0

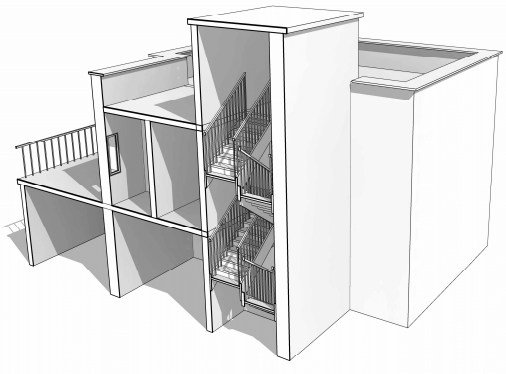
B U I L D I N G S

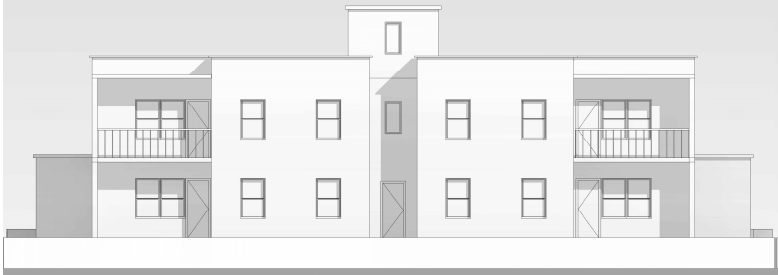


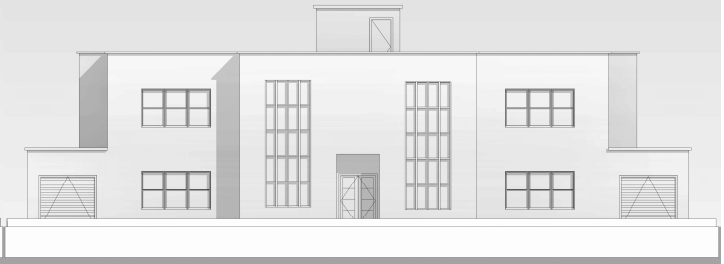


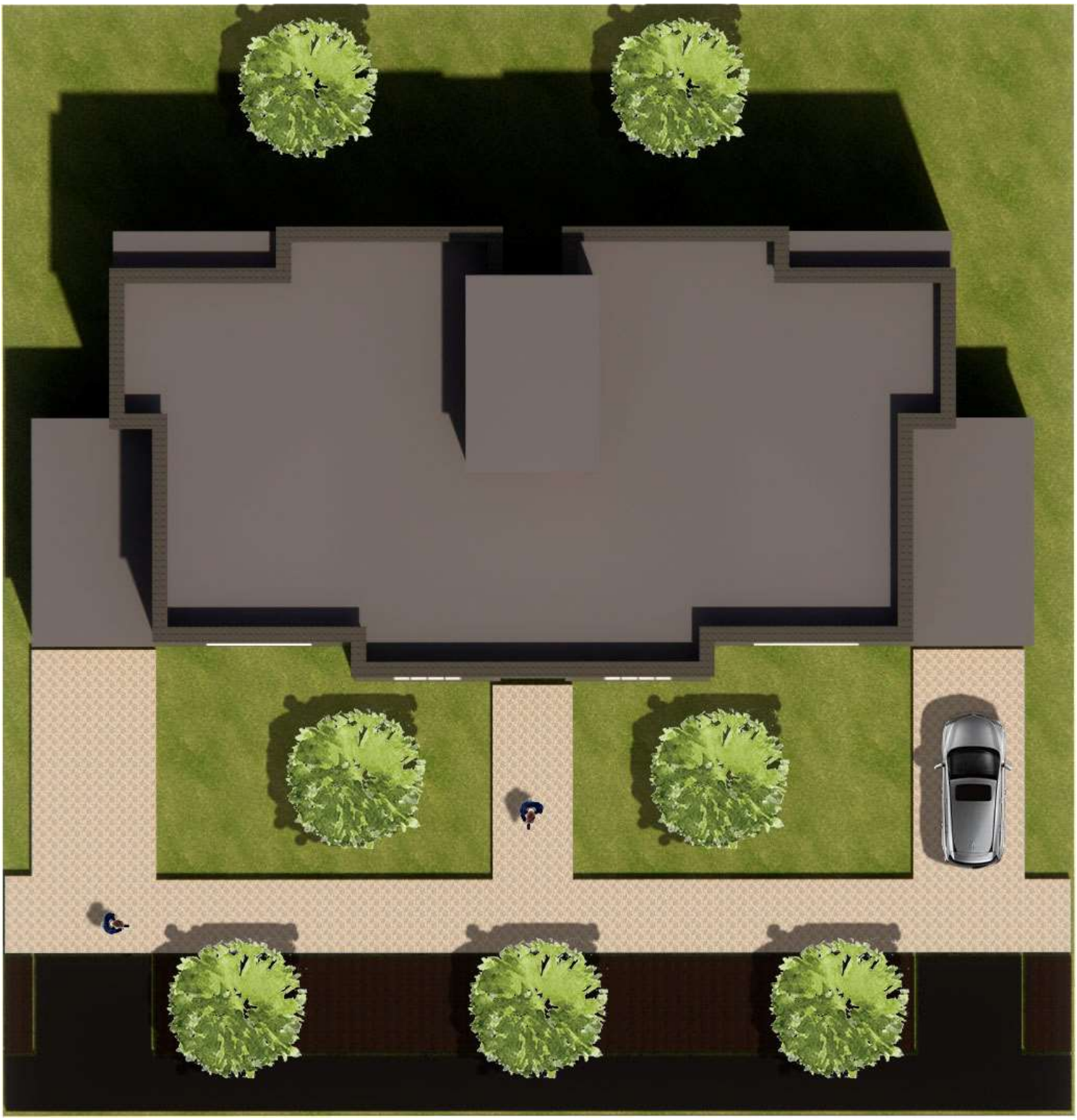


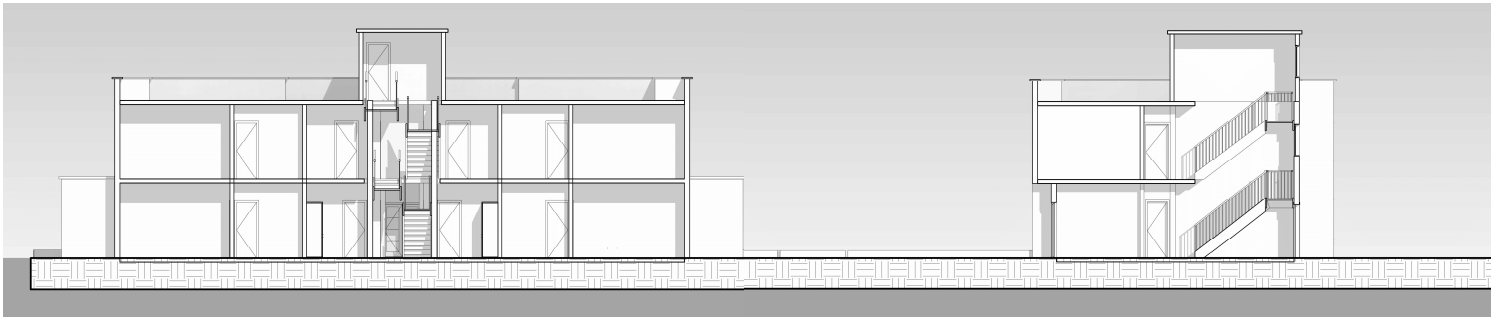


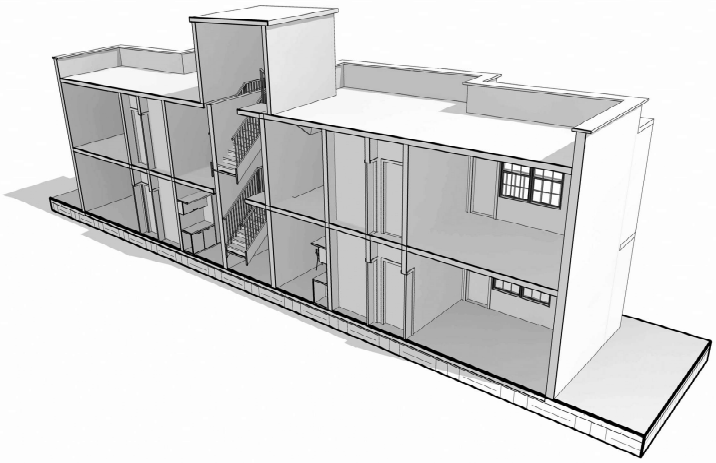


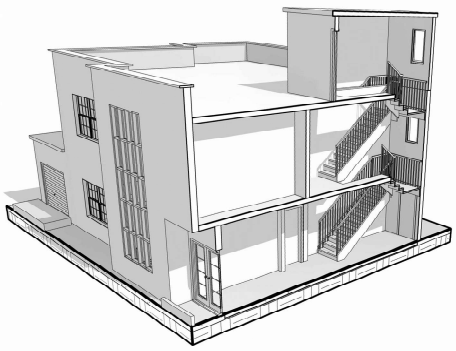












11.0

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