

1 RFG's Concepts of Building Rationalisation and the 2 Development of Modern Housing in Wrocław during 3 the 1920s 4

5 *In response to the post-World War I housing crisis, the Weimar Republic*
6 *established the State Research Society (Reichsforschungsgesellschaft für*
7 *Wirtschaftlichkeit im Bau- und Wohnungswesen, RFG) in 1926. In*
8 *collaboration with Bauhaus and Werkbund circles, the organisation*
9 *developed principles for modern, affordable, and functional housing.*
10 *Although the organisation operated only until 1931, its guidelines on spatial*
11 *rationalisation and healthy living conditions transformed German*
12 *architecture during this period. This study hypothesises that the RFG's ideas*
13 *significantly influenced the development of Wrocław's local housing market*
14 *in the late 1920s. To evaluate this hypothesis, the study examines key housing*
15 *estates in Wrocław. The analysis considers urban layouts, apartment sizes,*
16 *and interior functionality. The findings aim to demonstrate that post-war*
17 *developments in Wrocław constitute a significant example of the successful*
18 *practical implementation of modernist principles.*

19
20 **Keywords:** modernism, Weimar Republic, rationalisation, Wrocław,
21 interwar estates
22
23

24 Introduction 25

26 The extensive socio-political changes that occurred across Europe following
27 the First World War presented the newly established Weimar Republic with
28 challenges of exceptional scale. Weakened by the war effort, encumbered by
29 reparations, and contending with hyperinflation in the immediate post-war
30 period, the emerging German state experienced a severe housing crisis that
31 disproportionately impacted the most vulnerable socio-economic groups.¹

32 After the military defeat and territorial losses, Germany's industrial output
33 and economic production declined to approximately half of their pre-war levels.
34 In 1918, the Reich, whose national budget had been 4 billion marks before the
35 war, accumulated a total debt of 150 billion marks.² Excessive spending strained
36 the state budget, resulting in a deficit. The government responded by printing
37 more currency to pay debts, collapsing the mark's value. This rapid increase in
38 the money supply, without gold or tangible output, fuelled inflation and pushed
39 the economy back to barter. After military defeat and territorial losses, industrial
40 output halved. By 1918, the Reich's 4-billion-mark pre-war budget faced a 150-
41 billion-mark debt. The financial burden worsened the deficit; printing more
42 currency devalued the mark and accelerated inflation, increasing money velocity

¹In accordance with the provisions of the Treaty of Versailles: Articles 231 and 232,
<https://sip.lex.pl/akty-prawne/dzu-dziennik-ustaw/traktat-pokoju-miedzy-mocarstwami-sprzymierzonymi-i-skojarzonymi-i-16877123>, date of access: 15.07.2026

²Nerdinger W (2023) Architektur in Deutschland im 20. Jahrhundert. Geschichte, Gesellschaft, Funktionen, München: C.H. Beck, 162.

1 until the economy shifted back to barter.³ These conditions led to industrial
 2 paralysis and a sharp rise in unemployment. By the summer of 1923,
 3 approximately five million people were unemployed, heightening the risk of
 4 social unrest. Widespread poverty, hunger, and disease were prevalent.⁴
 5 However, the housing problem in Germany had arisen before the war. As Albert
 6 Gut, Munich's director of city planning, observed: "Above all, it was unforeseen,
 7 massive technological progress that fundamentally transformed the economic
 8 life of all civilised nations, including Germany. The associated transformation
 9 of Germany from an agrarian to an industrial nation ultimately led to the
 10 crowding of vast masses of people into cities" (...) "When Germans left their
 11 lands to seek new homes in the cities as factory workers, they did not find them."⁵

12 The influx of people from territories lost after World War I, especially from
 13 the eastern borderlands, worsened the housing shortage and made it a key
 14 political issue. Additionally, the return of nearly ten million German soldiers
 15 required careful organisation during post-war demobilisation.⁶

16 The housing shortage in the Weimar Republic reached the scale of a social
 17 crisis. Estimates indicated that 500,000 to 800,000 housing units were missing
 18 across Germany after the war, rising to over one million by early 1921. Official
 19 figures from the Reich Ministry of Labour placed the shortage at 600,000 units
 20 in 1925–1926, a figure also adopted by the German Association of Cities.
 21 However, Albert Gut considered these calculations to be very conservative.
 22 Other experts, including City Councillor Fuchs of Breslau and Dr Leyers of
 23 Dresden, estimated the shortage at 1 to 1.2 million units.⁷ Wilhelm Lübbert and
 24 a memorandum from the Reich Minister of Labour, Dr Brauns, suggested that at
 25 least 300,000 units needed to be built annually to eliminate the deficit within a
 26 decade.⁸ Despite challenging economic conditions, authorities prioritised
 27 providing citizens with adequate living conditions. Several initiatives were
 28 introduced to improve public living standards and rationalise housing
 29 construction. Among the most significant was the establishment in 1926 of the
 30 Reich Research Society for Efficiency in Construction and Housing
 31 (Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und
 32 Wohnungswesen – RFG). The RFG's primary mission was to research cost-
 33 effective construction processes, develop model urban planning and housing
 34 solutions, and support the construction of experimental housing estates to test
 35 new technologies, materials, and apartment layouts.

³Schröter HG, Schröter V, Lambrecht L (1977) Die wirtschaftliche Entwicklung. In D Ruckhaberle, C Zieseke and G Erken (eds), *Weimarer Republik*. Berlin (West): Elefant Press, 170–172.

⁴*Ibidem*: 170–173.

⁵Gut A (1928), *Der Wohnungsbau in Deutschland nach dem Weltkrieg*, München: Bruckmann, 20–22.

⁶Schröter HG, Schröter V, Lambrecht L (1977): 170–171.

⁷Gut A (1928): 26–27.

⁸Fleckner S (1993) *Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen: 1927 - 1931; Entwicklung und Scheitern*. Aachen: Hochschulschrift, Technische Hochschule, Dissertation, 14–15.

The construction of new housing estates during this period not only alleviated the crisis but also produced projects that became benchmarks for modern mass housing.

Literature Review

Interwar housing estates in Wrocław have not yet been the subject of a comprehensive monograph or a complete catalogue. Consequently, the distinctive characteristics of this pre-war architecture remain underexplored in scholarly literature.

Wanda Kononowicz, Jerzy Ilkosz, Claudia Quiring, Wolfgang Voigt, Peter Cachola Schmal, and Eckhard Herrel have examined Wrocław's interwar urban development, including the competition for the city's expansion.⁹

While publications by Wanda Kononowicz¹⁰, Beate Störckuhl¹¹, Jadwiga Urbanik, and Jerzy Ilkosz¹² have addressed selected Wrocław housing estates, these studies offer only limited analysis of the activities of major housing cooperatives and building societies, such as the Wrocław Housing Association (Siedlungsgesellschaft Breslau Aktien-Gesellschaft), the "Own Home" – Eichborngarten Housing Cooperative (Siedlungsgenossenschaft Eigenheim Eichborngarten G.m.b.H.), and the Silesian Homestead – Provincial Housing Support Society (Schlesische Heimstätte, provinzielle Wohnungsfürsorgegesellschaft m.b.H.).

Jadwiga Urbanik¹³ has analysed the Werkbund's activities in relation to the WuWA housing exhibition and the associated experimental housing estate. Scholarly research has also examined selected architects active in Wrocław

⁹Quiring C, Voigt W, Schmal P C, Herrel E (eds.) (2011), *Ernst May 1886-1970*, München: Prestel Verlag.

¹⁰Kononowicz W (1991) Z problemów urbanistyki dwudziestolecia międzywojennego. Osiedle ogrodowe Sępólno we Wrocławiu. *Roczniki Sztuki Śląskiej* 15: 60-91; Kononowicz W (1995) Pierwszy plan generalny Wrocławia (1924) i początki kompleksowego projektowania urbanistycznego. In J Rozpędowski (ed), 301-338. *Architektura Wrocławia, vol 2, Urbanistyka do roku 1945*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej; Kononowicz W (2012). Aspekty komfortu i luksusu w osiedlach mieszkaniowych lat 20. XX wieku na przykładzie Wrocławia i Łodzi. In J Dobesz, A Gryglewska M Rudnicka- Bogusz (eds.), 259-270, *Nie tylko trony: księga jubileuszowa ofiarowana profesorowi Ernestowi Niemczykowi*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej; Kononowicz W (1995) Ewolucja osiedla mieszkaniowego we Wrocławiu okresu Republiki Weimarskiej - Księża Małe. In J Rozpędowski (ed.), 445-478. *Architektura Wrocławia, vol. 2, Urbanistyka do roku 1945*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej.

¹¹Störckuhl B (2011) Ernst May und Schlesische Heimstätte. In C Quiring, W Voigt, P Cachola Schmal and E Herrel (eds), *Ernst May 1886–1970*. München-London-New York: Prestel, 33–49; Störckuhl B (2018) Modernizm na Śląsku 1900–1939. *Architektura i polityka*. (Modernism in Silesia 1900– 1939. Architecture and Politics.) Wrocław: Muzeum Architektury.

¹²Urbanik J, Ilkosz J (2026) The Issue of Wrocław's Expansion Following the First World War, and Urban Planning Concepts and Housing Estates of the Interwar Period. *Athens Journal of History*, 12(3).

¹³Urbanik J (2019) 1929 WUWA 2029. The Werkbund Exhibition in Wrocław. Wrocław: Muzeum Architektury.

during the interwar period, including Adolf Rading¹⁴, Ernst May¹⁵, Theo Effenberger¹⁶, and Heinrich Lauterbach¹⁷.

A monograph by Sigurd Fleckner¹⁸ is dedicated to the activities of the RFG. Winfried Nerdinger¹⁹ has examined this topic within a broader context, and Jadwiga Urbanik²⁰ has also contributed to the scholarship. Further information on other interwar housing estates in Germany can be found in publications by Winfried Nerdinger²¹ and Vittorio Lampugnani²².

This study uses established architectural history methods, such as archival research and literature review. It analyses projects in Wrocław in the context of RFG activities in Germany, clarifies the roles of municipal authorities and architects, and highlights the historical and artistic importance of the housing complexes. Wrocław is positioned as a unique site within the urban planning landscape of interwar Germany. The article examines the influence of RFG ideas on residential housing development in Wrocław during the Weimar Republic. The analysis covers several of the city's largest housing estates and complexes constructed during this period, including Księża Małe (Tschansch), WUWA (the "Wohnung und Werkraum" — "Living and Workspace" — exhibition), Pilczyce (Pilsnitz), Szczepin (Westend), and the estate on Bolesława Krzywoustego Street (Hundsfelder Straße). These developments are analysed in relation to RFG activities and the challenges Wrocław faced due to limited land for urban expansion. The city responded to these constraints, in part, by initiating a strategic competition for an expansion plan. A central objective of the study is to highlight the social dimension of these transformations, which remains highly relevant today.

¹⁴Ilkosz J and Störckuhl B (eds) (2019) Adolf Rading in Breslau. Neues Bauen in der Weimarer Republik, Schriften des Bundesinstituts für Kultur und Geschichte der Deutschen im östlichen Europa, Band 72. Berlin-Boston: De Gruyter.

¹⁵Quiring C, Voigt W, Schmal P C, Herrelo E (eds.) (2011), Ernst May 1886-1970, München: Prestel Verlag.

¹⁶Nielsen C (1999), Theo Effenberger 1882-1968. Architekt in Breslau und Berlin, Frankfurt a. M. München, New York: Egelsbach.

¹⁷Ilkosz J (eds) (2020) Heinrich Lauterbach. Architekt wrocławskiego modernizmu. Wrocław: Muzeum Architektury we Wrocławiu.

¹⁸Fleckner S (1993) Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen: 1927 - 1931; Entwicklung und Scheitern. Aachen: Hochschulschrift, Technische Hochschule, Dissertation.

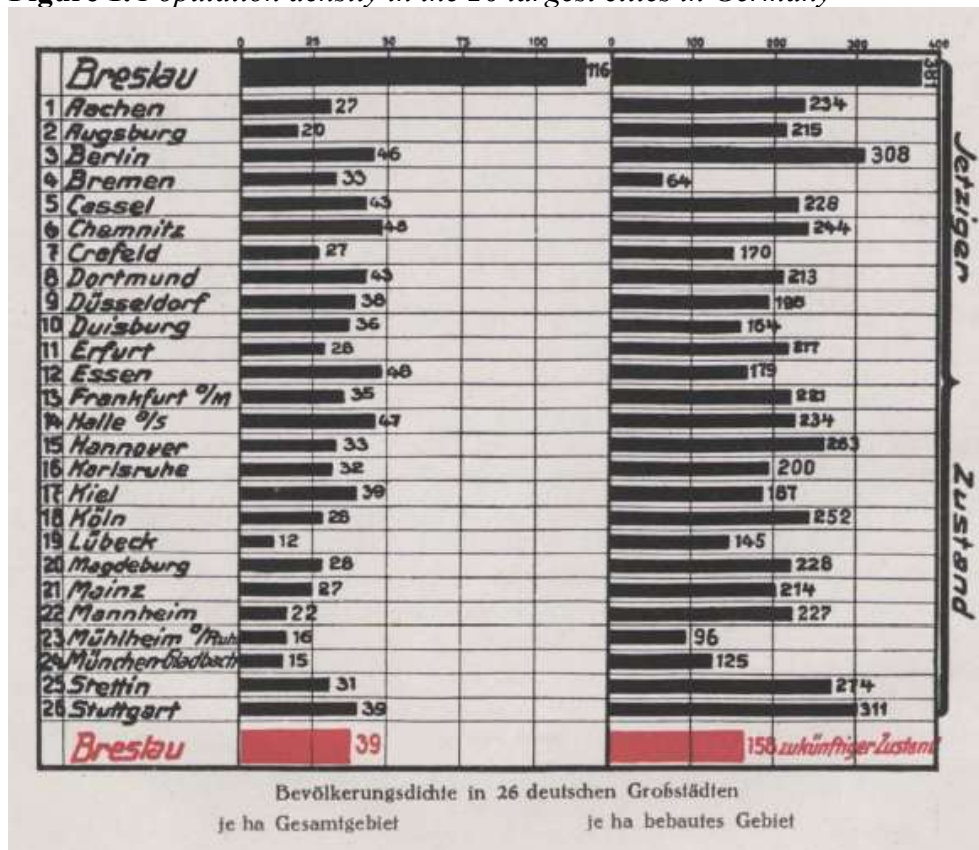
¹⁹Nerdinger W (2023) Architektur in Deutschland im 20. Jahrhundert. Geschichte, Gesellschaft, Funktionen, München: C.H. Beck.

²⁰Urbanik J (2022), Towarzystwo badawcze RFG i ergonomia w niemieckiej architekturze okresu międzywojennego. In MJ Sołtysik, M Stępa (eds.), 242-253. Architektura przemysłowa, portowa i miejska XX wieku. Gdynia, Gdańsk: Urząd Miasta Gdyni, Wydział Architektury Politechniki Gdańskiej; Urbanik J, Naworska E (2022) RFG and the beginnings of modern living In Proceedings of 17th International Docomomo Conference - Modern Design: Social Commitment & Quality of Life (València, Spain, 6-9 September 2022). València: Docomomo International, 55-62.

²¹Nerdinger W (2023) Architektur in Deutschland im 20. Jahrhundert. Geschichte, Gesellschaft, Funktionen, München: C.H. Beck.

²²Lampugnani V M (2011), Die Stadt im 20. Jahrhundert, Berlin: Verlag Klaus Wagenbach.

1 **Figure 1.** *Population density in the 26 largest cities in Germany*



Source: Fuchs M, Behrendt F (eds) (1925) Die Stadt Breslau und die Eingemeindung ihres Erweiterungsgebietes. Denkschrift des Magistrats. Breslau: Magistrat Breslau, 17.

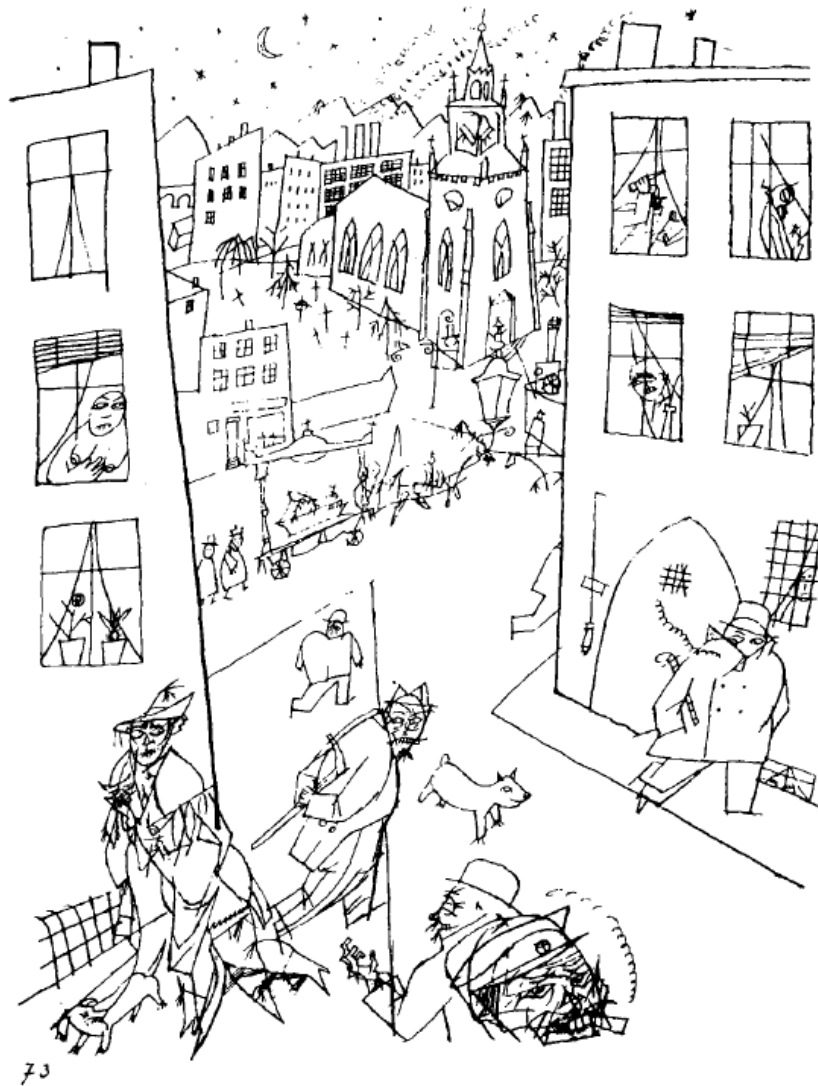
The post-war crisis and the first attempts at reconstruction

The Weimar Republic's history comprises three periods: post-war destabilisation (1918–1923), economic stabilisation (1924–1929), and the crisis period (1930–1933) that led to the NSDAP's rise to power. Despite hardship after WWI, reforms began. To fund reparations and debt repayment, and to establish a social, law-based state, Finance Minister Matthias Erzberger introduced sweeping reforms in 1919. By 1920, the Erzberger Reform created a centralised tax system, with over 80% of revenue going to the Reich's central budget—an increase of 900%.²³ This reform was a milestone, laying the foundation for the rights and social programs in the Weimar Constitution. Article 151 stated economic regulation should promote justice and dignity for all, with subsequent articles supporting land use, property expropriation, and community benefit, and emphasising housing and cooperatives to address the social housing crisis.²⁴

²³Nerdinger W (2023): 162-163.

²⁴Weimar Constitution, 1919.

- 1 **Figure 2** *The drama of the poorest social classes was presented in George*
2 *Grosz's works*



3
4 Source: Grosz G (1916) Suburb (Vorstadt). New York: The Museum of Modern Art. Available
5 at: moma.org

6
7 To meet constitutional goals, the state heavily intervened in the economy
8 and society through decrees and laws, continuing wartime interventionism. The
9 Housing Construction Support Act of 1921 allocated 1.5 billion marks in
10 housing subsidies nationwide. Later, the 'Reich Act on the Levy for Supporting
11 Housing Construction' of June 26, 1921, introduced the "rent tax",²⁵ forming the

²⁵The 1924 real estate interest income tax aimed to counter hyperinflation by taxing profits from properties with reduced debt due to currency depreciation. Revenue supported the Berlin Housing Welfare Society (WFG), financing social housing projects that met strict quality

main source of housing finance in the Weimar Republic, with about 800 million Reichsmarks allocated annually. This enabled the construction of 1.89 million buildings by 1931. From 1925 to 1930, housing construction made up 62% of public investment, marking a shift toward state-supported housing for those in need.²⁶

The "Golden Twenties"

A significant shift in the Weimar Republic's economic policy occurred with the currency reform of November 15, 1923, known as the "Rentenmark miracle." The Rentenmark was subsequently replaced by the Reichsmark in 1924. The adoption of the Charles Gates Dawes Plan in August 1924 aligned reparation payments with the Reich's actual capacity.²⁷ These reforms, described as a "resurrection bell for the construction industry," led the construction sector to employ approximately 15% of the total workforce between 1925 and 1930.²⁸ Credit served as the primary driver of growth during the Republic's brief "Golden Years,"²⁹ with total loan volume reaching \$27 billion by August 1930.³⁰ This credit-driven economic expansion facilitated reductions in unemployment, shorter working hours, wage increases, and the initiation of extensive social programs, even as voter sentiment shifted toward conservative political groups. The broad powers granted to the Reich by the 1919 Constitution prompted the development of a plan to establish a unified Ministry of Construction, modelled on the Prussian system and integrating architecture with urban planning. The Reich Construction Administration (Reichsbauverwaltung), established on October 1, 1919, was placed under the Ministry of the Treasury. It was tasked with designing, executing, and supervising above-ground and underground construction projects for the army, navy, government ministries, the Reichstag, and the customs and tax administration. After the dissolution of the Ministry of the Treasury in 1923, the administration was transferred to the Ministry of Finance as an independent division. From June 1930, it operated as the Reich

standards to prevent overcrowding and enhance urban planning. See more: Lampugnani V. M. (2011), *Die Stadt im 20. Jahrhundert*, Berlin: Verlag Klaus Wagenbach.

²⁶Nerdinger W (2023): 165.

²⁷The Dawes Plan of 1924 sought to address the economic and reparations crisis in post-World War I Germany by adjusting annual war-related payments to reflect the nation's actual financial capacity. The plan included the reorganization of the German central bank and facilitated substantial foreign loans, primarily from the United States, which contributed to the stabilization of the mark and promoted industrial recovery. See more: Kotłowski T (2004) *Historia Republiki Weimarskiej*, Poznań, Wydawnictwo Poznańskie, 162-163.

²⁸Nerdinger W (2023): 166-167.

²⁹The Weimar Republic's prosperity from 1924 until the Great Depression is known as the "Golden Twenties" („goldene Zwanziger Jahre”). Tadeusz Kotłowski states that while this term captures the explosion of German culture and the elites' lifestyle, it poorly reflects Germany's internal issues—particularly in agriculture, the labor market, and the living standards of the poor. The social decline during inflation also affected the middle classes, including petty bourgeoisie, parts of the intelligentsia, and peasantry. See more: - Kotłowski T (2004)

³⁰Kotłowski T (2004): 163.

Construction Directorate (Reichsbaudirektion).³¹ On November 3, 1925, new building regulations for Berlin came into effect, replacing the six previous building codes that had governed construction within the city limits.

An amendment to the “Building Act”, first enacted in Berlin and later adopted nationwide, banned rear-wing residential buildings, “rental barracks” (Mietkaserne), and basements as living spaces.³² Munich's City Planning Director, Albert Gut, described these dwellings' conditions: “The air and lighting in these massive tenements—dubbed *rental barracks* (Mietkaserne)—were terrible; they created a generation deprived of nature and a concept of *home*—or never knew it.”³³ The Berlin Municipal Planning Office drafted the new code with the building inspectorate, aligning it with the 1919 model building code issued by the Minister of Public Welfare, which regulated density, setbacks, heights, and zoning.³⁴

The Rational Reform of Everyday Life

During periods of crisis, efforts to alleviate social pressures prioritised the rational reform of all aspects of life. American scientific management methods, developed by Frederick W. Taylor and advanced by Frank B. Gilbreth's research on optimising human movement, played a central role in this process. World War I provided the most significant impetus for rationalisation and mass standardisation, as efficient logistics became essential for armies numbering in the millions. The establishment of the Standardisation Commission of German Industry on December 22, 1917, which included a subcommittee on construction, and the subsequent creation of the Central Standardisation Agency in 1918, institutionalised these efforts. Architect Fritz Schumacher noted that “the war transformed the masses into a human machine and accelerated the trend toward mechanisation and rationalisation”.³⁵ Rationalisation was widely promoted as a solution to social crises and became a pervasive slogan. The primary objectives were full employment and mass production, which were expected to stimulate mass consumption and foster a new mass culture.³⁶

The concept of rationalisation gradually permeated all areas of social life, notably architecture and urban planning. Architects, adhering to rational principles, reduced room sizes to minimise costs and organised residents' daily routines according to strict economic criteria. Housing estates were designed as factory-like processes intended to maximise efficiency. This approach produced a rigid architectural functionalism, positioning architects as educators and social engineers. To gain public acceptance, architects aestheticised austere designs

³¹Nerding W (2023): 168.

³²Kononowicz W (1997) Wrocław – Kierunki rozwoju urbanistycznego w okresie międzywojennym, Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej, 7.

³³Gut A (1928): 21-22.

³⁴Die Neue Bauordnung für die Stadt Berlin. *Deutsche Bauzeitung*, 60(33), 65-70, 1926.

³⁵Nerding W (2023): 226-228.

³⁶Ibidem.

1 devoid of historical ornamentation and promoted economically streamlined,
2 “Taylorized” spaces as symbols of a new era.³⁷

4 *Early Reforms in Construction Practices*

6 Martin Wagner, then urban planner for Schöneberg (a district of Berlin),
7 was the first to advocate for construction reform based on the principles of
8 Frederick Taylor and Frank Gilbreth in his 1918 work, *Neue Bauwirtschaft: Ein*
9 *Beitrag zur Verbilligung der Baukosten im Wohnungsbau* (New Construction
10 Industry: A Contribution to Reducing Housing Construction Costs). Initially,
11 these rationalisation concepts attracted little attention within the construction
12 industry; significant interest did not develop until the introduction of the Dawes
13 Plan in 1924. On March 24, 1924, Wagner co-founded DEWOG (Deutsche
14 Wohnungsfürsorge AG), an organisation through which free trade unions and
15 construction firms sought to jointly reform the housing market. DEWOG, in
16 collaboration with architects such as Walter Gropius and Ernst May, coordinated
17 the construction of cooperative housing estates throughout the Reich and the
18 provisioning of these estates by consumer cooperatives. Implementation was
19 delegated to subsidiaries, including the Berlin-based GEHAG (Gemeinnützige
20 Heimstätten-, Spar- und Bau-Aktiengesellschaft), which Wagner led until
21 1926.³⁸ However, few rationalisation methods were applied in the first major
22 project, the Hufeisensiedlung estate in Berlin-Britz, begun in 1925. This limited
23 application was primarily due to resistance from trade unions, which feared that
24 mechanisation would undermine the status of skilled artisans and lead to job
25 losses. Consequently, in April 1925, DEWOG declined to finance an
26 experimental house for standardised building designs, prompting Wagner,
27 Gropius, and May to pursue independent initiatives.³⁹

29 *A New Way of Life and the Emergence of the "New Man"*

31 Rationalisation through typification and standardisation resulted in the
32 homogenization of forms and a reduction in individual expression. This process
33 was increasingly justified by a new anthropological concept: the figure of the
34 "New Man." This model, characterised by clarity of thought and organisational
35 discipline, was associated with rationalised, functionalist interiors. These
36 environments eliminated elements deemed non-modern or inconsistent with a
37 simple, hygienic aesthetic. Consequently, architects developed an abstract,
38 idealised user archetype tailored to the requirements of the new architecture.⁴⁰

³⁷Fleckner S, (1931): 226-228.

³⁸Schäche W (ed) (1999): 25–29.

³⁹Upon his appointment as Berlin's city councillor for construction, Wagner commissioned the development of a housing estate in Berlin-Lichtenberg (now known as the Splanemann estate) utilizing innovative panel construction technology. In Dessau-Törten, Walter Gropius oversaw the creation of an experimental housing estate, while Ernst May led the construction office in Frankfurt am Main.

⁴⁰Urbanik J. “Towarzystwo badawcze RFG i ergonomia w niemieckiej architekturze okresu międzywojennego.” (The RFG Research Society and Ergonomics in German Architecture in the

Activities of the State Research Society for Efficiency in Construction and Housing (RFG)

The Origins of the RFG

The state increasingly supported the rationalisation of construction to reduce housing costs. On March 25, 1926, the Reichstag approved 200 million Reichsmarks (RM) for the Reich Ministry of Labour to develop small housing units. As a result, on June 16 of that same year, the Reichsrat—at the initiative of DDP (German Democratic Party) MP Marie-Elisabeth Lüders—established a special committee (Reichstypenausschuss). This committee was allocated RM10 million from the aforementioned fund to build 1,000 experimental homes. Committee members, including Ernst May and Walter Gropius, distributed the funds, enabling them to secure financing for their own housing projects in Frankfurt and Dessau. These efforts were complemented by legislation that entered into force in early June 1927 and aimed to reduce costs and improve construction quality. The Reichstag committee was then transformed into a new association. On June 29, 1927, the State Research Society for Efficiency in Construction and Housing (RFG – Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen) was established. The organisation played a significant role in the ongoing transformation of housing and settlement structures by conducting and funding research into rational building practices.⁴¹

Objectives of the Society

The RFG aimed to conduct systematic scientific studies on the standardisation of components (so-called Typisierung) and to unify regulations regarding work contracts. By consolidating public and cooperative orders, the RFG sought to compel the fragmented construction market—dominated by small firms (accounting for 90% of the sector)—to adopt modern industrial standards. In this way, the RFG became a pioneering institution combining science, technology, and social policy in the service of national modernisation.⁴²

The RFG operated under the supervision of the Ministry of Labour (Reichsarbeitsministerium). The organisation's headquarters were located in Berlin. Its membership comprised architects, politicians, scientists, and representatives of the non-profit housing sector. Notable members included Walter Gropius, Ernst May, Bruno Taut, Max Taut, Martin Wagner, Marie-Elisabeth Lüders (a politician and women's rights activist), Ludwig Landmann

Interwar Period.) In *Architektura przemysłowa, portowa i miejska XX wieku*, edited by M. J. Sołtysik, and M. Stępa, 242-253. Gdynia, Gdańsk: Urząd Miasta Gdyni, Wydział Architektury Politechniki Gdańskiej, 2022.

⁴¹Ibidem.

⁴²Fleckner S (1993): 22.

(Mayor of Frankfurt am Main), and Hans Peter Riepert (a building official in Frankfurt am Main). By April 1928, the RFG had approximately 400 members.⁴³

The Society focused on internal apartment layouts, floor areas, new materials and technologies to reduce construction costs, and proper orientation to the cardinal points to ensure rational sunlight exposure and healthy living conditions. RFG research established optimal apartment sizes for specific family sizes: 45 m², 57 m², and 70 m².⁴⁴ Its guidelines also specified other dimensions, such as the size of individual rooms and the floor area allocated per bed.⁴⁵ The Society carried out its work through fifteen specialised committees, covering the entire investment cycle from model apartment layouts to the post-occupancy evaluation of housing estates built under the organisation's auspices.⁴⁶

RFG-sponsored housing estates

The first estate to come under RFG sponsorship was the Törten estate in Dessau. Other experimental estates supported and later evaluated by the RFG included the Am Weißenhof estate in Stuttgart (part of the "Die Wohnung" exhibition), completed in 1927; the Werkbund had decided to build this project as early as 1925. In addition to sponsorship, the RFG provided financial backing for the development. The significance of the Weißenhof estate in Stuttgart lay not merely in its pioneering, experimental nature.⁴⁷ The exceptional diversity of

⁴³Urbanik J (2022)

⁴⁴Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

⁴⁵Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

⁴⁶Commission 1: Land development, road construction, housing contributions (Geländeerschliessung, Strassenbau, Anliegerbeiträge). Commission 2: Economic and technical advantages or deficiencies in existing housing estates and buildings (Wirtschaftliche und technische Vorzüge oder Mängel vorhandener Siedlungen und Wohnungsbauten). Commission 3: Construction methods, building materials, building elements (Bauweisen, Baustoffe, Bauteile). Commission 4: Size, form and types of apartments and houses (Wohnungsgrößen, Wohnformen, Wohnungs- und Haustypen). Commission 5: Heating and ventilation (Heizung und Lüftung). Commission 6: Kitchens and household (Küchen und Hauswirtschaft). Commission 7: Internal installations in the building (Installationen im Hause). Commission 8: Work preparation, business management, forms (Arbeitsvorbereitung, wirtschaftliche Betriebsführung, Vordrucke). Commission 9: Construction machinery, construction and craft equipment (Baumaschinen, Bau- und Handwerksgeräte). Commission 10A: Psychotechnics, working time studies (Psychotechnik, Arbeitszeitstudien). Commission 10B: Procedures for scientific research and evaluation of building materials and construction methods (Wissenschaftliche Prüfverfahren und Auswertungen von Baustoffen und Bauweisen). Commission 11: Commission for Economic Affairs in Construction and Housing (Ausschuss für volkswirtschaftliche Fragen im Bau- und Wohnungswesen). Commission 12: Residential development in the countryside (Wohnungsbauten auf dem Lande). Commission 13: Acts, regulations (Gesetze, Verordnungen). Commission 14: Miscellaneous: publications, exhibitions, lectures, conferences, participation in the work of other associations, etc. (Verschiedenes: Veröffentlichungen, Ausstellungen, Vorträge, Tagungen, Beteiligungen an Arbeiten anderer Verbände usw.). Commission 15: Examination and evaluation (Prüfung und Auswertung).

⁴⁷Cramer J, Gutschow N, Bauausstellungen. Eine Architekturgeschichte des 20. Jahrhunderts. Stuttgart: Kohlhammer, 1984, 116-119.

the concepts presented proved crucial: the majority of the estate's 33 houses showcased new housing forms as a "reflection of new forms of living."⁴⁸

Figure 3. *RFG also researched building materials and improved construction processes. Pictured: Pioneering solutions on a construction site in Dessau*



Bild 195 Turmdrehkran bei der Arbeit.
(Versuchsgruppe am Nordweg Gruppe 13 u. 14.)

Source: Bericht über die Versuchssiedlung in Dessau, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 7, 1929, 107.

For the competition launched in June 1928 to design the Dammerstock estate near Karlsruhe, the RFG—which was financing the project—imposed a strict condition: it sought a linear layout with a north-south orientation. The plan called for 750 apartments, built using only three standardised types.⁴⁹

The linear housing layout system (Zeilenbauweise) met the primary requirements for residential development by ensuring that all residents had unrestricted access to light, air, and greenery.

A subsequent competition announced by the RFG in 1928 focused on designing a housing estate in Berlin-Haselhorst.⁵⁰ The project brief called for the construction of 4,000 apartments and reiterated the requirement for a linear layout, so RFG researchers also precisely defined the apartments' structures and floor areas.

In total, 1,650,000 apartments were built in the Weimar Republic between 1919 and 1928.⁵¹ Their quantity and quality made them a model for much of Europe.

⁴⁸Nerdinger W (2023): 238.

⁴⁹Walter Gropius won the competition and invited nine German architects, including Otto Haesler, Wilhelm Riphon, Caspar Maria Grod, Franz Roeckle, Wilhelm Lochstampfer, Rößler, Hans Detlev Rösiger, Walter Merz, and Alfred Fischer.

⁵⁰Walter Gropius and Stephan Fischer won first prize, but disagreements among Gropius, RFG, and Gewobag led to dividing the 45-hectare site into sections with different architects. Participants included Fred Forbat, Paul Mebes, Paul Emmerich, Otto Bartning, Erich Bohne, Peter Jürgensen, Alfred Gellhorn, and Ernst and Günther Paulus.

⁵¹Kononowicz W (1995) Ewolucja osiedla mieszkaniowego we Wrocławiu okresu Republiki Weimarskiej - Księżę Małe. In J Rozpędowski (ed.), 453, *Architektura Wrocławia*, vol 2, *Urbanistyka do roku 1945*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej.

Special Reports – Guidelines for Small Apartments

The RFG published special reports, starting with one on small apartment floor plans, initiated by the Reich Minister of Labour. In a December 12, 1927 decree, he urged a scientific study, noting the Reich Research Association had extensive related material. He believed analysing and publishing this would dispel misconceptions and support small, affordable apartments. A committee was soon formed, work began in early 1928, and the material was published by April 1928.⁵²

In addition to sample plans, the committee prepared architectural guidelines and recommendations, primarily criticising oversized units with high maintenance costs that led to overcrowding as extra families moved in. Larger apartments were only feasible with rationalised building methods or municipal rent subsidies. RFG researchers proposed two small apartment designs: one for singles or couples, with a living room, kitchenette, bedroom, and bathroom or laundry; the other for families, with an extra child's room. It was recommended that key functions like cooking, dining, living, sleeping, and cleaning be spatially separated, with bedrooms accessible only from the living room to avoid costly corridors. The toilet should be separate from the bathroom, but they can be combined to reduce costs. Bathrooms or laundry rooms should be spacious to prevent washing in the kitchen. The minimum living area was set at 12 m², and proper bedroom ventilation was stressed.

Furniture dimensions were to be scaled to the apartment's size. Corridors were to be compact yet provide space for storing clothing or even a bicycle. The building structure itself was to be as simple as possible. To rationalise floor plans, all 36 illustrated examples featured a building depth of less than 10.50 meters. Ceiling heights were set as follows: basement 2.20 m, ground floor 2.80 m, and upper floor 2.80 m. The choice of roof remained open, with both flat and pitched roofs permitted.⁵³ In total, the publication presented the following apartment designs: a floor plan for a single-family house; 6 apartment layouts of varying sizes, with single-unit access per stair landing; 23 layouts of varying sizes and configurations, with two units per landing (2- and 3-room apartments); 3 layouts of varying sizes and configurations, with three units per landing (2- and 3-room apartments); and floor plans for gallery-access apartments (3-room).

The second issue of the special RFG series focused on kitchens.⁵⁴ Subsequent issues focused on housing estates developed under the organisation's auspices, including Haselhorst in Berlin⁵⁵, Praunheim in Frankfurt

⁵²Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

⁵³Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

⁵⁴Die Küche der Klein- und Mittelwohnung, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 2, 1928.

⁵⁵Reichswettbewerb zur Erlangung von Vorentwürfen für die Aufteilung und Bebauung des Geländes der Forschungssiedlung in Spandau-Haselhorst, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 3, 1929.

1 am Main⁵⁶, the Arnulfstraße estate in Munich⁵⁷, Weißenhof in Stuttgart⁵⁸, and
2 Törten in Dessau⁵⁹. Issue No. 8 (comprising two parts) focused on farmsteads.⁶⁰
3 The final special issue dealt with affordable, high-quality housing.⁶¹

4 The RFG's activities also influenced the design of many German housing
5 estates not under the Society's direct supervision. These projects often involved
6 architects who either endorsed the RFG's guidelines or were themselves
7 members of the research organisation and felt committed to implementing its
8 program.⁶²
9
10

⁵⁶*Bericht über die Versuchssiedlung in Frankfurt a.M.-Praunheim*, Sonderheft 4, 1929

⁵⁷*Bericht über die Versuchssiedlung in München*, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 5, 1929.

⁵⁸*Bericht über die Siedlung in Stuttgart am Weissenhof*, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 6, 1929.

⁵⁹*Bericht über die Versuchssiedlung in Dessau*, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 7, 1929.

⁶⁰*Kleinbauerngehöfte*, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 8I 1930, *Ausbaugehöfte* Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 8II, 1931.

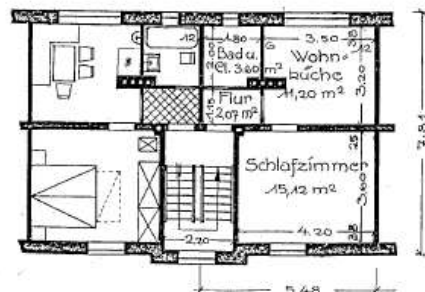
⁶¹*Die billige, gute Wohnung*, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 9, 1930.

⁶²Urbanik J (2022).

1 **Figure 4.** *Development of a sample apartment plan in the RFG special magazine*Reichsforschungsgesellschaft
für Wirtschaftlichkeit im Bau-
und Wohnungswesen e. V.**Blatt 8****Geschoß-Wohnungen**

28,41 qm	Nutzfläche je Wohnung
Zwei	»räumige Wohnung
Drei	»bettige Wohnung
7,01 m	Haustiefe

2 Wohnungen in jedem Geschoß



Obergeschoß-Grundriß

	Zweigeschossig	Dreigeschossig
Umbauter Raum je Wohnung	157,44 cbm	143,36 cbm
Bebaute Fläche je Wohnung	19,20 qm	12,80 qm
Auf 1 qm Nutzfläche entfallen an umbautem Raum	5,54 cbm	5,04 cbm
Die Raumeinheit erfordert an umbautem Raum	78,72 cbm	71,68 cbm

Source: Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

Wrocław Facing the Post-War Housing Crisis

Wrocław, a city located in Germany's eastern borderlands, grappled with immense housing problems in the years immediately following World War I. It

was one of the most populous cities in the Weimar Republic.⁶³ Anyone travelling across Germany from west to east—roughly along the Bremen–Wrocław line—would observe that, generally speaking, the quality of housing conditions declined the further east one went.⁶⁴ As of June 30, 1925, Wrocław had a population of approximately 575,000. Compared to the 1910 census, the population had increased by 60,000. This growth rate exceeded the average population figure for 23 major Prussian cities by 7.4%. These figures stood in stark contrast to the city's limited land area, which spanned a mere 4,920 hectares. The population density relative to the city's built-up area—381 inhabitants per hectare—was also alarming.⁶⁵ The over-intensive use of building land was driven, among other factors, by high land prices.⁶⁶

Both the quantity and quality of housing were inadequate. Municipal calculations in 1916 revealed that over 76,000 residents lived in cramped dwellings that failed to meet basic sanitary standards⁶⁷; by 1926, that figure had risen to at least 130,000.⁶⁸ In the same year:

- 15% of all dwellings consisted of a single heated room but lacked a kitchen,
- 30% comprised a single heated room with a kitchen,
- 28% consisted of two heated rooms with a kitchen,
- 21.4% had three to four rooms,
- and only 5.6% had five or more rooms.⁶⁹

Thus, the prevalence of small *Existenzminimum*-type dwellings further exacerbated overcrowding.⁷⁰

Wrocław also held the unenviable top spot for the highest rates of infant mortality and tuberculosis.⁷¹ This made relocating residents from substandard housing to homes that met hygiene standards urgent.

Resettlements from lost territories exacerbated the housing problem; Wrocław had to take in as many as 6,000 refugees.⁷²

⁶³Kononowicz W (1995) Ewolucja osiedla mieszkaniowego...

⁶⁴*Siedlung und Stadtplanung in Schlesien, I. Breslau, 1. Stadtplanung, 2. Wohnung und Siedlung* (1926). Magistrat der Hauptstadt Breslau (ed), Breslau, 23.

⁶⁵*Ibidem*: 23-25.

⁶⁶Fuchs M, Behrendt F (eds) (1925) *Die Stadt Breslau und die Eingemeindung ihres Erweiterungsgebietes*. Denkschrift des Magistrats. Breslau: Magistrat Breslau.

⁶⁷In accordance with housing regulations, it was established that each adult resident should have 8 square meters of living space- Kononowicz W (1995) *Pierwszy plan generalny Wrocławia...* 302.

⁶⁸*Siedlung und Stadtplanung in Schlesien, I. Breslau, 1. Stadtplanung, 2. Wohnung und Siedlung* (1926). Magistrat der Hauptstadt Breslau (ed), Breslau, 23-25.

⁶⁹*Ibidem*: 23-24.

⁷⁰Fuchs M, Behrendt F (eds) (1925), 23-25.

⁷¹*Siedlung und Stadtplanung in Schlesien, I. Breslau, 1. Stadtplanung, 2. Wohnung und Siedlung* (1926). Magistrat der Hauptstadt Breslau (ed), Breslau, 23.

⁷²*Ibidem*, 24.

1 **Figure 5.** *The spatial development plan for the extended area of Wrocław,*
 2 *developed by the City Development Office*



3
 4 Source: Fuchs M, Behrendt F (eds) (1925) *Die Stadt Breslau und die Eingemeindung ihres*
 5 *Erweiterungsgebietes*. Denkschrift des Magistrats. Breslau: Magistrat Breslau, 17.

6
 7 Another issue was the lack of land for new residential construction,
 8 stemming from a dispute between the Wrocław city council and district
 9 authorities over jurisdictions.⁷³ This conflict blocked city expansion until 1928,
 10 when legislation by the Berlin government enlarged Wrocław's territory by about
 11 12,000 hectares, enabling further development. However, the economic crisis
 12 and World War II halted growth.⁷⁴ The city's area expanded from 4,961 to
 13 17,465 hectares, with its elongated shape highlighting a "lifeline" transport axis
 14 along the river and railway.⁷⁵ The boundary expansion allowed new housing
 15 estates, such as Księża Małe and Pilczyce, and the implementation of RFG
 16 guidelines.

17 The dispute led to innovative urban planning ideas in Wrocław, covering
 18 residential architecture and housing estate design. These included Max Berg and
 19 Ernst May's vision of Wrocław with satellite towns and Adolf Rading's concept

⁷³Ilkosz J (2025) *Gdyby. Niezrealizowane wizje nowoczesnego Wrocławia w latach 1910-1939*. Wrocław: Muzeum Architektury we Wrocławiu: 25-77.

⁷⁴Urbanik J, Ilkosz J (2026) *The Issue of Wrocław's Expansion Following the First World War, and Urban Planning Concepts and Housing Estates of the Interwar Period*. Athens Journal of History, 12(3), 234.

⁷⁵Kononowicz W (1995) *Pierwszy plan generalny Wrocławia (1924) i początki kompleksowego projektowania urbanistycznego*. In J Rozpędowski (ed), 335. *Architektura Wrocławia*, vol 2, *Urbanistyka do roku 1945*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej.

of linking the city's growth to Silesia's economy.⁷⁶ The city was seen as a unique European hub showcasing new housing solutions. Theoretical guidelines and standardisation analyses from the RFG's labs quickly moved from academia to practical urban planning in Germany. Despite challenges like overcrowding and housing shortages, Wrocław became a key testing ground, supported by spatial reforms and new building rules in 1926.

"Living and Workplace" – The WUWA Experimental Housing Estate

The 1929 "Living and Workplace" exhibition (WUWA)⁷⁷ was an experimental housing estate initiated by the Silesian Werkbund branch, established in 1925 at Heinrich Lauterbach's urging. It aimed to showcase innovative, affordable small housing units amid a social crisis. The estate was designed by architects from Wrocław, including Theo Effenberger, Moritz Hadda, and others, with its program coordinated with the RFG. Central to the experiment was the desire for homes with ample sun, air, space, and modern amenities, as co-creator Paul Häusler stated.⁷⁸ Adolf Rading and Lauterbach planned the estate, which comprised a multi-family housing area and a single-family zone. The project included both minimal housing forms and detached homes over 150 m², influencing residential architecture with its focus on functional, well-equipped homes.

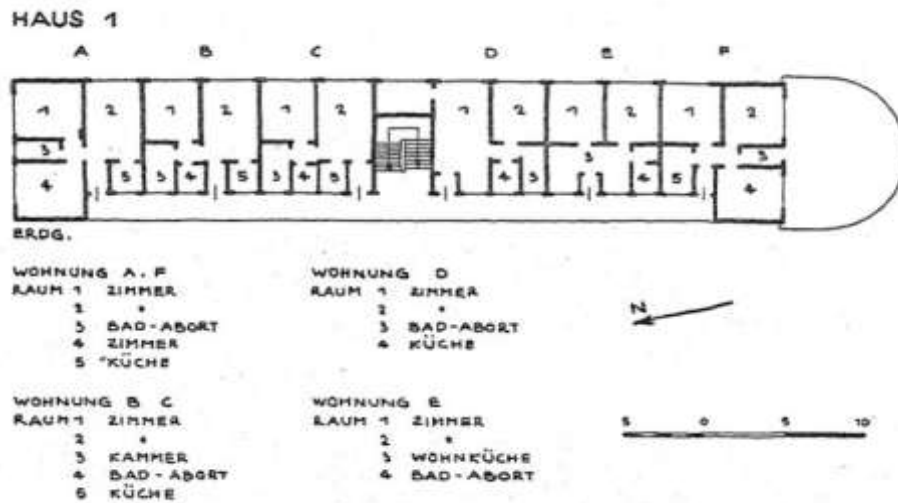
⁷⁶Ilkosz J (2025) Gdyby. Niezrealizowane wizje nowoczesnego Wrocławia w latach 1910-1939. Wrocław: Muzeum Architektury we Wrocławiu: 25-77.

⁷⁷The exhibition commenced on June 15, 1929. The project comprised two components: an exposition situated on the exhibition grounds and a newly constructed model housing estate. The experimental residential estate was established within an area delineated by the present-day streets of Zygmunta Wróblewskiego, Tramwajowa, Edwarda Dembowskiego, Zielonego Dębu, and Mikołaja Kopernika (previously Grüneicher Weg, Üchtritzweg, Zimpeler Straße, Zur Grünen Eiche, and Finkenweg). See more: Urbanik J (2019) 1929 WUWA 2029. The Werkbund Exhibition in Wrocław. Wrocław: Muzeum Architektury.

⁷⁸Urbanik J (2016): 121.

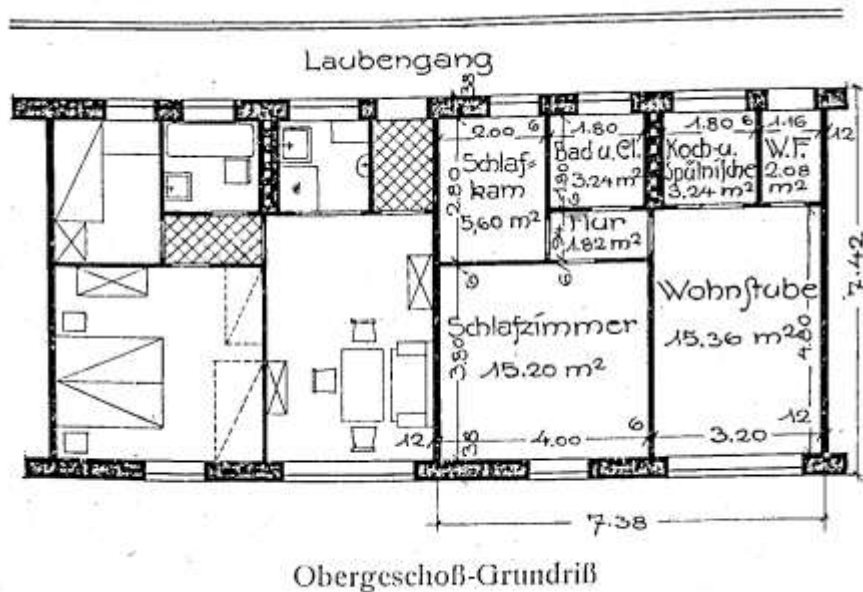
1 small towns.⁸¹ The main concern was the high cost of galleries. The apartments,
 2 around 46 m², resembled those in Wrocław (See Figure 7 and 8).⁸²

3
 4 **Figure 7.** *Albert Kempter and Paul Heim's house plan*



5
 6 Source: Werkbund Ausstellung Wohnung und Werkraum. Breslau 1929 15. Juni bis 15.
 7 September. Ausstellungs-Führer, Breslau, 1929, 73.

8
 9 **Figure 8.** *Sample building plan developed by RFG for gallery-access houses*



10
 11 Source: Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im
 12 Bau- und Wohnungswesen, Sonderheft 1, 1928.

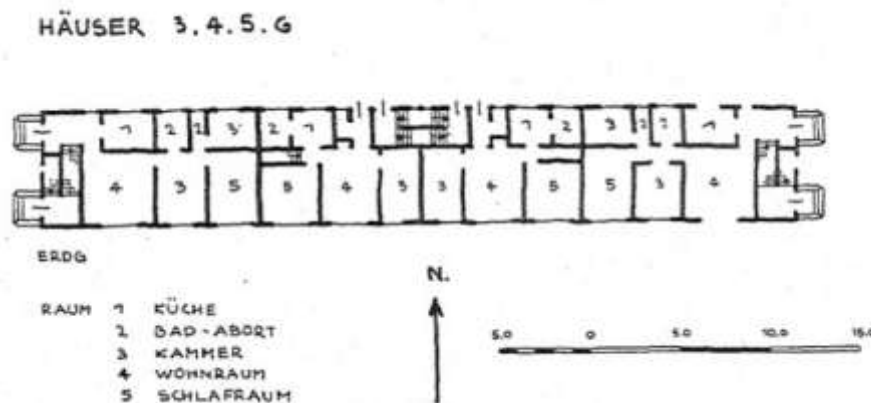
⁸¹Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

⁸²Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, Sonderheft 1, 1928.

Multi-staircase eight-family house

Gustav Wolf's building housed eight apartments: four on the ground floor and four on the first floor. Each apartment had its own separate entrance, staircase, and cellar. All living areas and bedrooms faced south, while kitchens and bathrooms faced north. Interestingly, the building was only 6.6 meters wide. The apartments adhered to the RFG-recommended floor areas (two 70 m² units for six beds, two 60 m² units for five beds, and four 45 m² units for four beds). Locating the bathroom directly next to the kitchen resulted in significant savings by allowing their plumbing systems to be combined. The small kitchens—measuring just 4.8 square meters and featuring custom-built cabinetry—also demonstrated high economic efficiency.⁸³

Figure 9. Gustav Wolf's house plans



Source: Werkbund Ausstellung Wohnung und Werkraum. Breslau 1929 15. Juni bis 15. September. Ausstellungs-Führer, Breslau, 1929, 76.

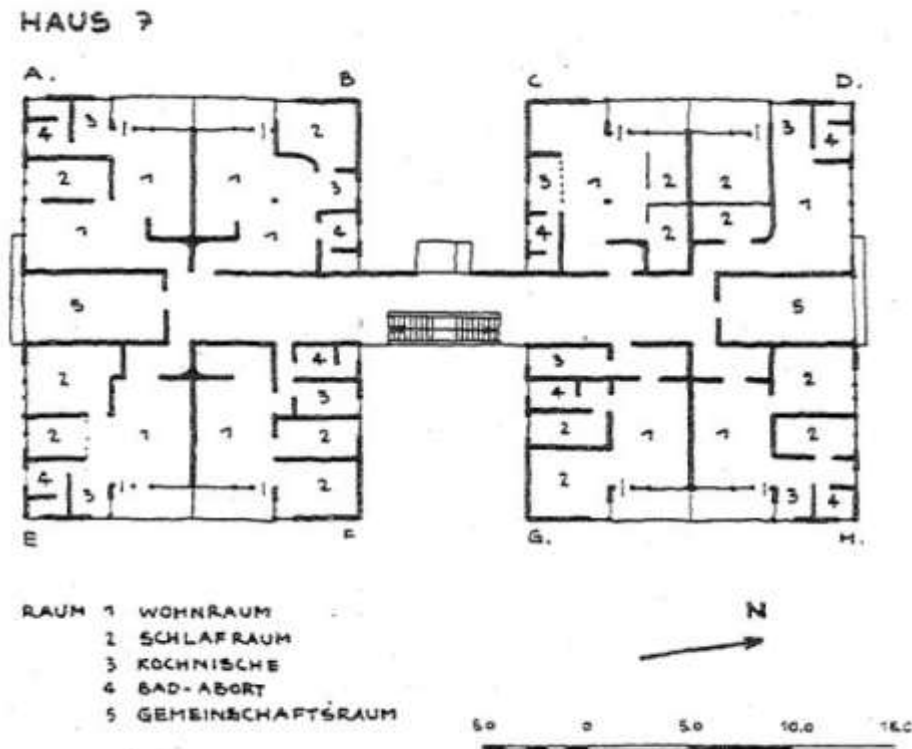
Multi-story communal housing

Adolf Rading's building offered an interesting example. Each identical upper floor housed eight distinct apartments, each measuring 57 m². The apartment sizes aligned perfectly with RFG guidelines. The building also incorporated numerous communal spaces, such as shops, a laundry room, and utility areas. The ground floor housed workshops, reading rooms, and social spaces, while the top floor featured an artist's studio and a terrace.⁸⁴

⁸³Urbanik J, *WUWA 1929–2019. The Werkbund Exhibition in Wrocław*. Wrocław: Museum of Architecture, 305-306.

⁸⁴Hryncewicz-Lamber G, Urbanik J (2019) Trudne dziedzictwo- ochrona budynków zaprojektowanych przez Adolfa Radinga we Wrocławiu. In: Adolf Rading. Nieznane oblicze wrocławskiej awangardy, 185-193, Wrocław: Muzeum Architektury we Wrocławiu.

1 **Figure 10.** *Adolf Rading's house plan*



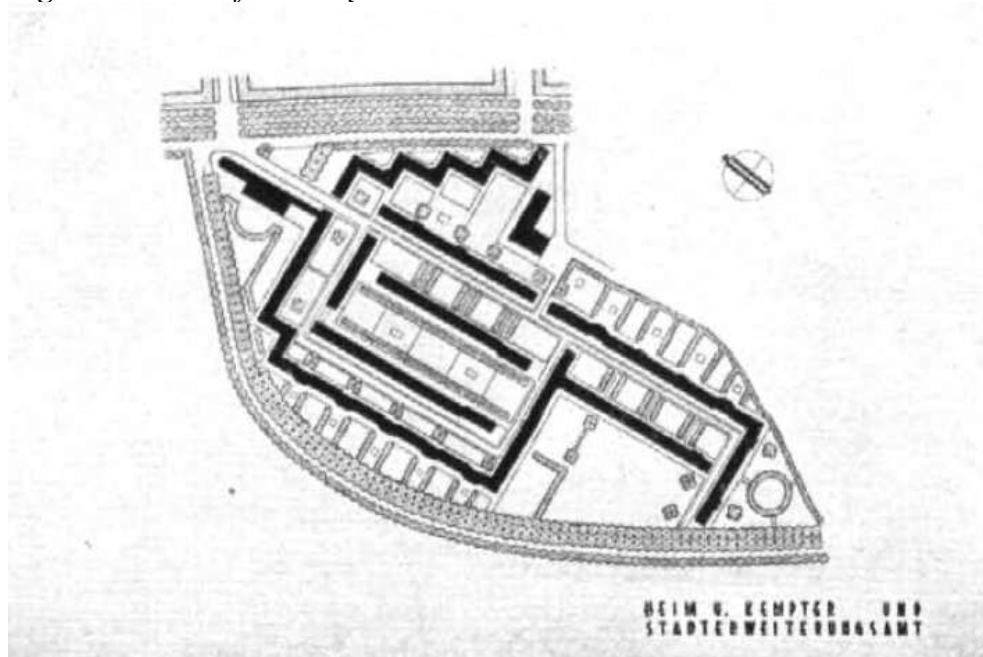
2
3 Source: Werkbund Ausstellung Wohnung und Werkraum. Breslau 1929 15. Juni bis 15.
4 September. Ausstellungs-Führer, Breslau, 1929, 79.

7 **Księża Małe and the Concept of the “Social Minimum”**

8
9 Księża Małe serves as an example of a housing estate that, although not
10 directly supervised by the RFG, effectively implemented the organisation's
11 standards. The estate embodied the RFG's core principles and served as a testing
12 ground for the group's functional apartment layouts. The estate was constructed
13 on land incorporated into Wrocław in 1928.⁸⁵

⁸⁵The boundaries of the estate are defined by Opolska (Oppelnerstraße) to the southwest, Przemysłowa (Industriestraße) to the west, and Tarnogórska (Tarnowitzerstraße) and Górnośląska (Laurah Straße) to the southeast.

1 **Figure 11.** *Plan of the Księża Małe estate*



2
3 Source: Knipping H (1930) Siedlung Breslau – Tschansch. Zentralblatt der Bauverwaltung, 50,
4 462.
5

6 In the same year, Fritz Behrendt and Heinrich Knipping of the City
7 Development Office designed the estate, which spanned approximately 12
8 hectares and included 765 apartments intended to accommodate around 3,000
9 residents. Paul Heim and Albert Kempter, Hans Thomas, Rudolf Sack, and
10 Gustav Wolf served as the lead architects for the individual buildings. The
11 cooperative Siedlungs-Gesellschaft Breslau A.-G. acted as the developer for the
12 Księża Małe estate, built between 1928 and 1929, was designed with simplicity
13 and clarity. The three-story, flat-roofed buildings formed long rows in an L-
14 shape at the ends of internal streets, with east- and west-facing windows. Instead
15 of private gardens, public green spaces and playgrounds were created for
16 recreation, with the front green areas planted with fine trees serving an official
17 role. Behind the buildings, areas for sports and utilities, like fields, playgrounds,
18 and laundry areas, were designated. Buildings covered only 16.1% of the site,
19 supporting residents' quality of life per the 1926 Wrocław Building Code.⁸⁶ Each
20 apartment was required to have a balcony, with bedrooms facing east or south
21 for sunlight. Although four architects contributed, the estate's architecture
22 remains uniform, with similar floor plans, but subtle facade differences through
23 bay windows, arcades, and varied window, balcony, and loggia arrangements.
24
25

⁸⁶Kononowicz W (1995) Ewolucja osiedla mieszkaniowego...445-478.

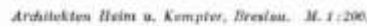
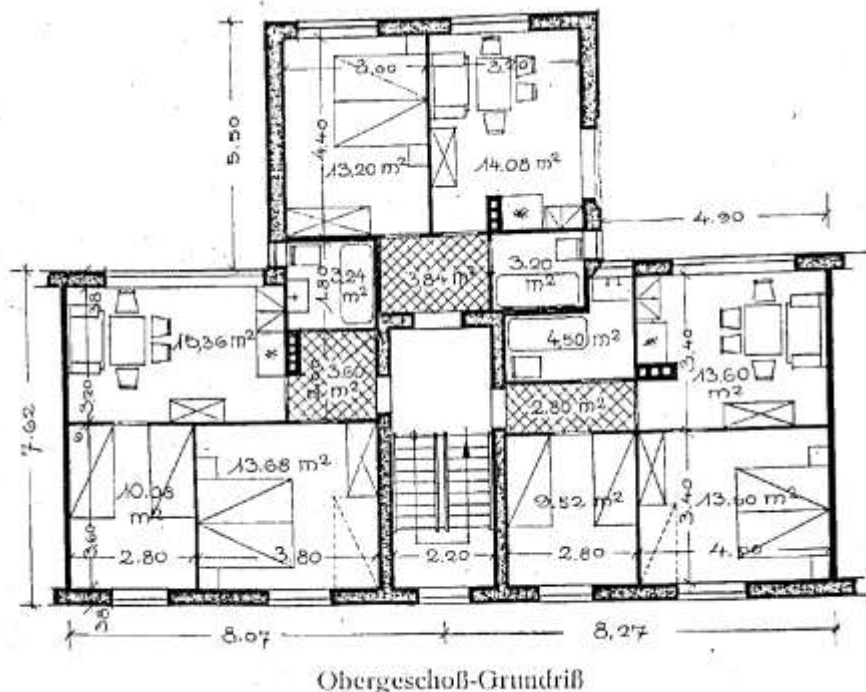


Figure 13. Sample building plan developed by RFG with three apartments accessible from the staircase.



24

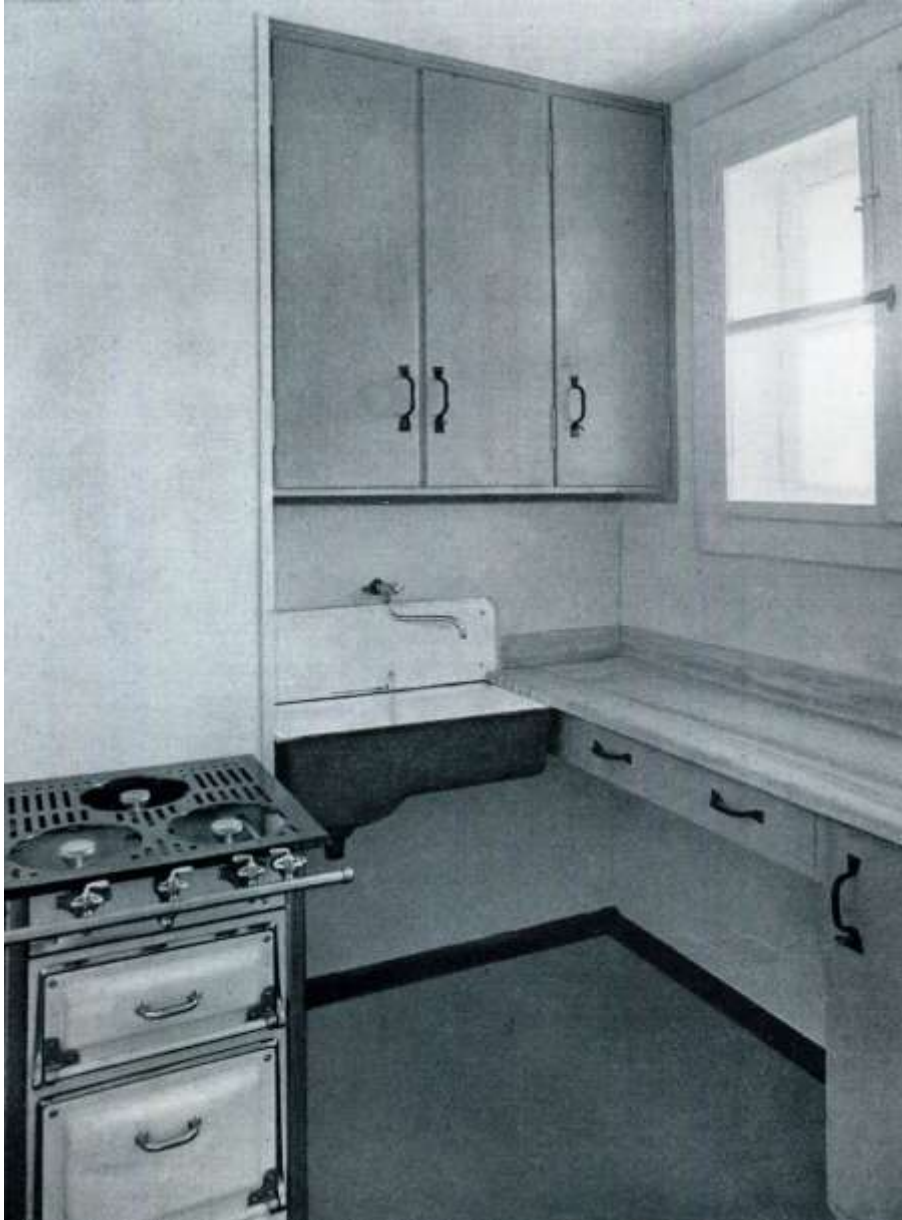
1 Księże Małe was a housing estate built under the "social minimum" program
 2 aimed at helping the most economically disadvantaged families. Its design was
 3 influenced by low costs, low rents, and a high level of standardisation, with only
 4 three apartment types (about 46, 57, and 70 m²) meeting RFG standards. Most
 5 units had only a small toilet, with full bathrooms in the largest apartments.⁸⁷ The
 6 layout featured a "living kitchen" accessing a loggia, a small hallway, and a
 7 central laundry near the bathhouse, replacing traditional attic storage.

8 The smallest apartments consisted of a hallway, a living kitchen, a main
 9 room, a storage room (or additional small room), and a toilet. The largest units
 10 were distinguished by a separate kitchen and bathroom, as well as a balcony in
 11 place of a loggia, setting them apart from the smaller variants. In other
 12 apartments, the living kitchen was connected to a loggia or balcony intended for
 13 utility purposes. According to RFG guidelines, apartments were classified based
 14 on usable area per bed, ranging from 9 to 18 m², with 12 m² as the most common
 15 standard. All apartments featured a dedicated hallway niche or a separate space
 16 for storage or a walk-in closet. Kitchenettes in smaller apartments were fully
 17 standardised, with standard fixtures including a three-burner gas stove, a double-
 18 bowl sink with a swivel faucet, a pantry, and the necessary dish cabinets. A high
 19 window was specifically positioned to provide adequate task lighting for the
 20 cooking area. The floor-to-ceiling height in all apartments was 2.80 meters,
 21 measured from the top edge of the beams to the bottom edge. The housing estate
 22 was presented as an exemplary Wrocław project at the 2nd CIAM Congress in
 23 Frankfurt am Main.⁸⁸

⁸⁷A modern heating complex in the estate's eastern section included a bathhouse, mechanical laundry, and amenities like bathtubs, showers, a therapeutic bath, and a hair salon. It embodied modernist ideals of self-sufficiency and improved living standards. See more: Knipping H (1930) Siedlung Breslau – Tschansch. Zentralblatt der Bauverwaltung, 50, 461–467.

⁸⁸Kononowicz W (1995) Ewolucja osiedla mieszkaniowego...445-478,.

1 **Figure 14.** *An example kitchen built in the Księżę Małe housing estate*



Source:

2
3 <https://polska-org.pl/6424325,foto.html?idEntity=533919>, access: 12.08.2026.
4
5

6 **The Pilczyce Housing Estate**

7
8 The Pilczyce housing estate was Wrocław's main response to the housing
9 crisis, built on land incorporated in 1928. It was envisioned as a prominent Neues
10 Bauen project using rational standards by the RFG, designed by Paul Heim and
11 Albert Kempter. Siedlungsgesellschaft Breslau A.G. and other cooperatives
12 mainly purchased the land. Political upheaval after the 1929 crisis affected the
13 estate's final form, with houses built to the original plan on only three streets:
14 Górnica, Szklarska, and Hutnicza. The 1929 plan covered 32 hectares for 1,600

1 small apartments, comparable to Berlin developments such as Bruno Taut's
2 "Carl Legien" estate.⁸⁹

3 Rows of two- and three-story multi-family houses were arranged along a
4 slightly skewed north-south axis, oriented toward the one-o'clock position. A
5 broad strip designated for retail and services was located centrally along an east-
6 west axis. Several plan variations were developed in subsequent months. One
7 modification likely involved the inclusion of four blocks for the Deutsches Heim
8 cooperative, which were ultimately constructed by the Schlesische Heimstätte
9 cooperative. These buildings followed a U-shaped layout, featuring a spacious
10 open courtyard with recreational greenery and a playground. The complex
11 comprised three blocks aligned on an east-west axis and a fourth block, oriented
12 perpendicular to them, completing the arrangement on the eastern side. Shared
13 staircases provided access to the upper floors. Apartments, each measuring 40-
14 50 m², were located on every level. Corner blocks anchored the development
15 along Szklarska Street; they extended beyond the main building line and rose
16 half a story higher than the others, with shops on their ground floors.

⁸⁹Störckuhl B (1999) Verfertete Moderne - vergessene Moderne: Die Breslauer Siedlung Pilsnitz (Pilczyce) 1930-1939. In *Berichte und Forschungen: Jahrbuch des Bundesinstituts für ostdeutsche Kultur und Geschichte*, Band 7. München: Oldenbourg, 139–152.

- 1 **Figure 15** Fritz Behrendt, Heinrich Knipping, Paul Heim, Albert Kempter,
2 *Pilzcyce Housing Estate Design, 1929*

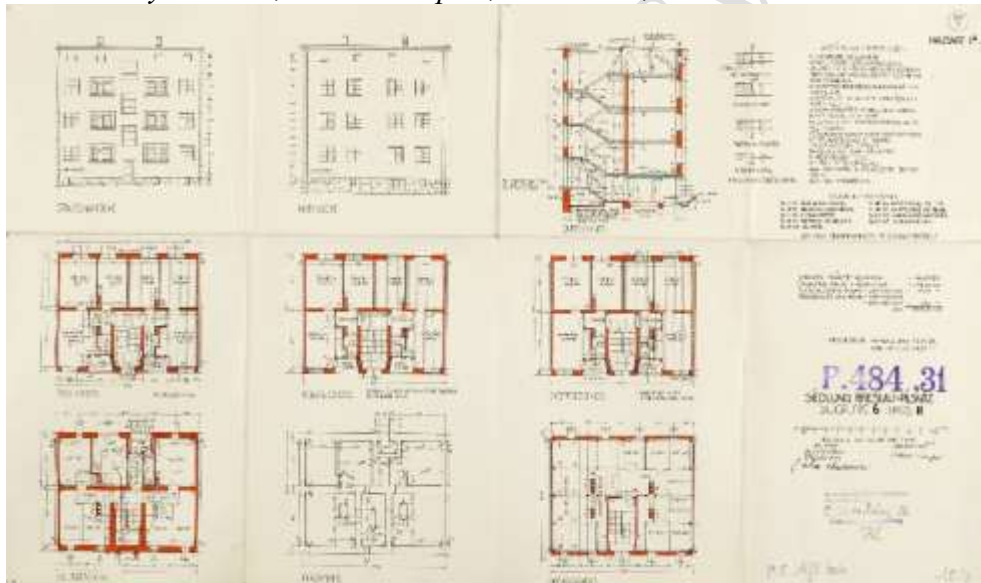


- 3
4 Source: Museum of Architecture in Wrocław.
5

The architects organised the three-story buildings on Górnica Street (formerly Richthofenstraße) into *Baugruppen* (building groups), introducing six distinct building types. Each staircase served two or three apartments. Apartment sizes ranged from 35 to 45 m², except in the Type VII building, where units exceeded 72 m². The influence of RFG-promoted layouts is evident in these designs. The largest apartments had a separate bathroom, while smaller units had only a toilet and a washing area⁹⁰; bathing facilities were located in the basements. Depending on the apartment type, kitchens were either designed as eat-in spaces or placed in separate rooms. Some layouts featured loggias facing the gardens.

A total of 98 residential buildings, comprising 666 apartments, were constructed along Górnica Street (Richthofenstraße). Construction was halted in 1933, after which the plan was revised. The remainder of the estate was completed using traditional, high-roofed structures that reflected the architectural ideology of the Third Reich.⁹¹

Figure 16. Example plan of a type 1A house at Górnica Street (*Baugruppe 6*) in the Pilczyce estate, Albert Kempter, Paul Heim, 1930



Source: Muzeum of Architecture in Wrocław

Bolesława Krzywoustego Street Housing Estate

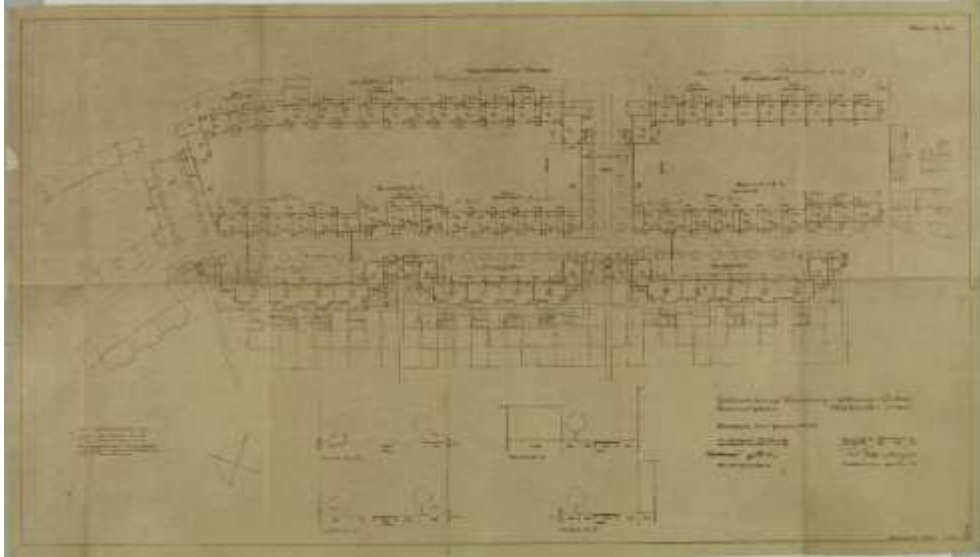
Concurrent with preparations for the Wrocław Werkbund exhibition (WUWA), plans were developed for a significant housing estate in Wrocław,

⁹⁰Ibidem

⁹¹Kononowicz W (2012). Aspekty komfortu i luksusu w osiedlach mieszkaniowych lat 20. XX wieku na przykładzie Wrocławia i Łodzi. In J Dobesz, A Gryglewska M Rudnicka- Bogusz (eds.), 259-270, Nie tylko trony: księga jubileuszowa ofiarowana profesorowi Ernestowi Niemczykowski. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej.

1 situated near Bolesława Krzywoustego and Grudziądzka Streets (formerly
2 Hundsfelder Straße).⁹²

3
4 **Figure 17** Theo Effenberger, Hans Thomas, *Plan of Bolesława Krzywoustego*
5 *Street Housing Estate Design, 1928*



6
7 Source: Museum of Architecture in Wrocław.
8

9 Initial urban planning concepts proposed a monumental development
10 spanning 38 hectares; however, only a small portion was ultimately constructed.
11 The buildings were organised in three parallel rows, with their height gradually
12 decreasing toward the south to accommodate the terrain's natural slope. By 1930,
13 seven residential blocks accommodating approximately 3,000 residents were
14 completed. Theo Effenberger and Hans Thomas designed the estate.

15 The project followed the *Neues Bauen* style and RFG guidelines. Traditional
16 perimeter blocks were replaced by linear buildings with north-south windows.
17 The flat roofs featured simple facades, standardised types, and rhythmic window
18 patterns, avoiding unnecessary ornamentation. Unlike the Księżę Małe estate,
19 Bolesława Krzywoustego Street apartments offered higher living standards, with
20 units ranging from 40 to 60 m², each with a private bathroom and a kitchen or
21 niche.

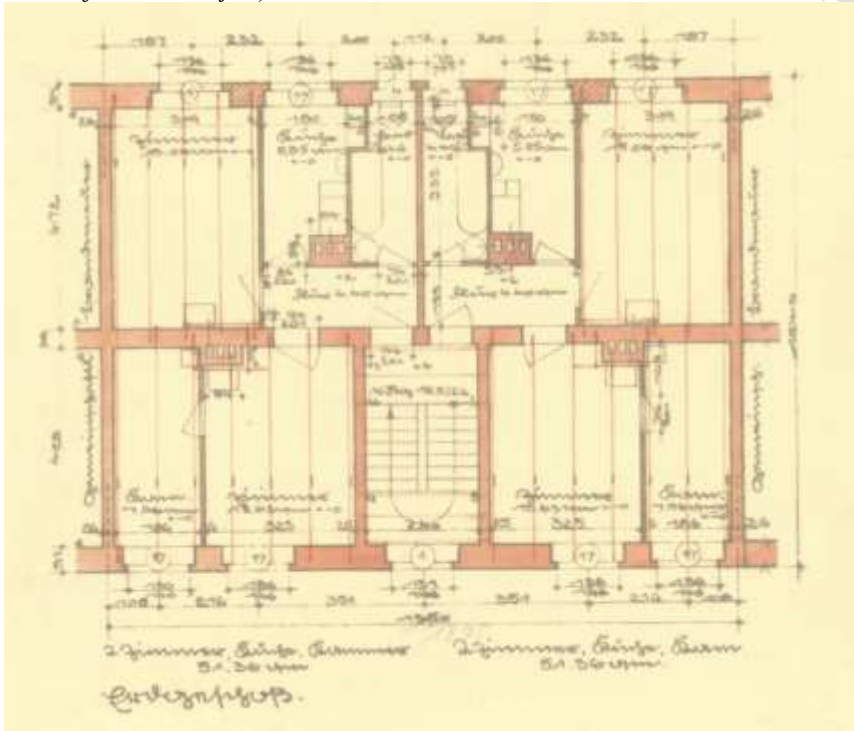
22 Theo Effenberger designed various apartment layouts accessible from the
23 stairwell. Type II and VI buildings had two apartments per landing, arranged
24 symmetrically. Type II apartments (49.35 m²) included an eat-in kitchen, two
25 bedrooms (one with balcony access), a bathroom, and a hallway. Type VI offered
26 three rooms but lacked a kitchen and balcony. Type I had two asymmetrical
27 units: a larger three-room (60.97 m²) with an open kitchen and living area,
28 bathroom, and balcony; and a smaller (41.30 m²) with a single room, eat-in
29 kitchen, and bathroom. Type IIA combined a three-room apartment with a
30 balcony (51.60 m²) and a smaller two-room unit (43.25 m²). Two housing

⁹²Nielsen C (1999), Theo Effenberger 1882-1968. Architekt in Breslau und Berlin, Frankfurt a. M. München, New York: Egelsbach, 120.

variants for two-story blocks by Hans Thomas in the south included three two-room apartments accessible from the stairwell: two symmetrical units (50.17 m²) facing north, and one south-facing (50.66 m²). The site's slope required semi-basements, approved for apartments.⁹³ The second variant featured U-shaped buildings with three-room units, separate kitchens and bathrooms, and semi-basements. Hans Thomas's buildings lacked balconies; residents had direct access to private gardens and green spaces.

The Great Depression permanently halted the estate's expansion in 1932, marking the end of Neues Bauen architectural development in Wrocław.

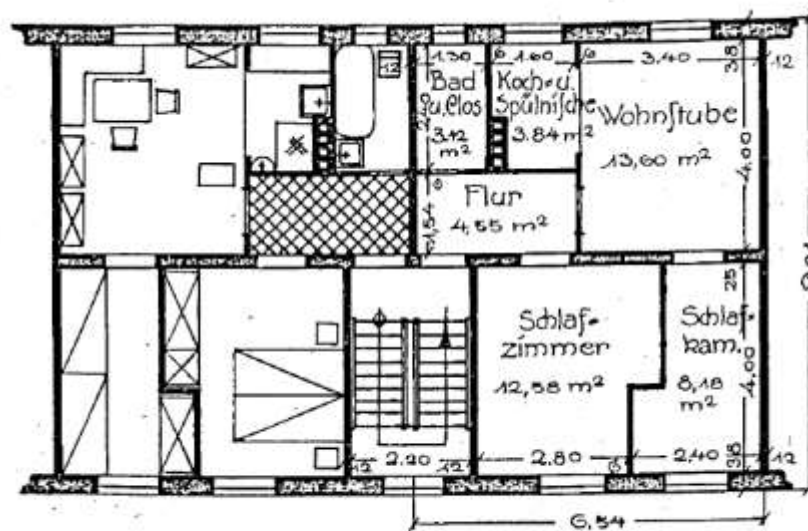
Figure 18 *Repeatable floor plan for a type VI building (based on the example of the building at ul. Grudziądzka 120, Theodor Effnberger, housing estate at Hundsfelder Straße.)*



Source: State Archives in Wrocław.

⁹³Zabłocka-Kos A (1998) 536. Osiedle przy ul. Bolesława Krzywoustego / Grudziądzkiej. In Harasimowicz J (ed), Atlas Architektury Wrocławia, Tom II. Wrocław: Wydawnictwo Dolnośląskie, 145–147.

- 1 **Figure 19** Sample building plan developed by RFG with two apartments
 2 accessible from the staircase



Obergeschoß-Grundriß

- 3
 4 Source: Kleinstwohnungs-grundrisse, Reichsforschungsgesellschaft für Wirtschaftlichkeit im
 5 Bau- und Wohnungswesen, Sonderheft 1, 1928.

6 7 8 **The Westend Housing Estate** 9

10 Alongside large housing estates, smaller complexes were built and earlier
 11 projects were completed. The Westend estate (1924–1933), in the city's west, is
 12 notable.⁹⁴ Designed by Theo Effenberger, its rational perimeter block layout
 13 marked a step forward from typical dense urban blocks. The estate focused on
 14 spaciousness, cut rear wings, and highlighted public spaces and greenery. Its
 15 long construction led to architectural variation. Noteworthy are the 1928 projects
 16 by Effenberger and Lauterbach.

17 Effenberger designed two blocks in the northern estate, creating an
 18 exemplary *Wohnhof*.⁹⁵ He used flexible solutions blending linear housing with
 19 traditional perimeter development, adapting to irregular plots. A clear street
 20 hierarchy emerged: internal lanes lined with three-story buildings with gable or

⁹⁴The Westend housing estate was located in the western part of the city, in an area bounded by the following streets: Zachodnia (Westend Straße), Lubińska (Lübener Straße), Ścinawska (Steinauer Straße), and Żagańska (Saganer Straße).

⁹⁵The *Wohnhof* is a modernized 19th-century urban block, combining traditional perimeter layouts with modern standards. It features a building block without rear wings, often with high roofs, shielding the interior from street traffic. At its center is a shared courtyard with greenery and play areas, offering residents, especially children, a safe outdoor space with good sunlight and open areas. See more: Kononowicz W (2006) Między tradycją a nowoczesnością. Przyczynek do rozwoju racjonalnych form budownictwa mieszkaniowego we Wrocławiu w latach 1874–1930. Architectus, 1(19), 19.

1 hipped roofs matched the existing urban fabric, while outer streets served as
 2 buffers with four- and five-story flat-roofed corner buildings. Facades faced both
 3 street and courtyard with balconies to maximise light. Apartments, mostly two
 4 per stairwell (three in corner buildings), ranged from one to three rooms, about
 5 40-90 m², all with private bathrooms. Layout, orientation, and features like
 6 central heating, natural light, and green courtyards reflected the period's urban
 7 hygiene standards, denoting luxury.⁹⁶

8
 9 **Figure 20** *Szczepin, the Westend housing estate. Courtyard within the block*
 10 *surrounded by the following streets: Górską, Głońska, Słubicka, Żagańska., Theo*
 11 *Effenbergger, 1928*



12
 13 Source: Heinrich Klette photography, <https://polska-org.pl/7605802,foto.html?idEntity=519717>,
 14 access: 11.08.2026,
 15

16 Heinrich Lauterbach's project adapted architectural form to an irregular city
 17 block, influenced by the RFG program's functional layout and space
 18 optimisation.⁹⁷ The block had 21 stairwells, around 150 apartments, mostly two-
 19 or three-room units, with living rooms facing sunlight and loggias.⁹⁸ Utility areas
 20 were typically in less lit sections, except on Słubicka Street, where living rooms
 21 faced east. Lauterbach proposed lower, two-storey buildings with gable roofs
 22 along Głońska and Słubicka, while the rest had three stories, flat roofs, and front

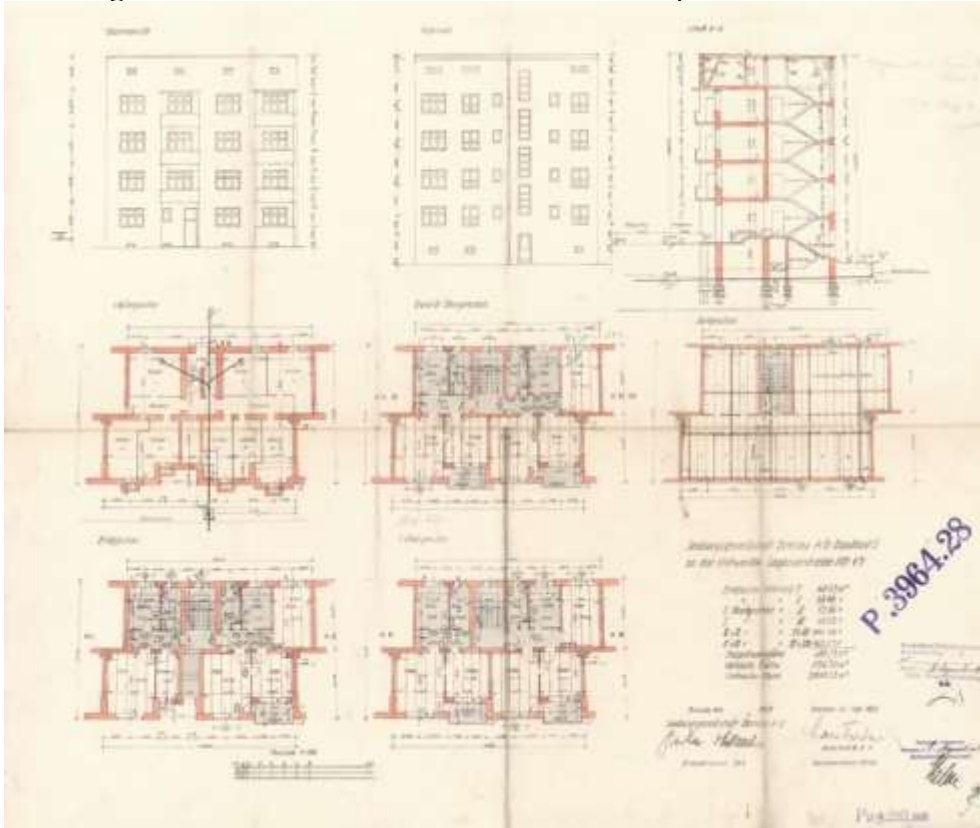
⁹⁶Nielsen C (1999): 111-113.

⁹⁷In 1930, he developed model apartment plans for RFG's Special Issue: *Die billige, gute Wohnung*, *Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen*, Sonderheft 9, 1930.

⁹⁸Steingraber C I, Heinrich Lauterbach (1893-1973) *Życie i twórczość*. In In Ilkosz J (ed), Heinrich Lauterbach. *Architekt wrocławskiego modernizmu*. Wrocław: Muzeum Architektury we Wrocławiu, 43.

gardens. The design featured modular street front layouts, with the most prominent being the corner of Ślubicka and Zgorzelecka streets.⁹⁹

Figure 21. *Heinrich Lauterbach, design for the Szczepin housing estate, module at 13 Żagańska Street, elevations, cross-section and plans, 1928*



Source: Museum of Architecture in Wrocław.

The End of RFG's Operations

The RFG dissolved on June 5, 1931, after the 1929 economic crisis impacted operations. It only partially met social expectations; its bureaucratic leadership was disconnected from market realities, with technical experts limited to advisory roles. Internal conflicts, often over roof shapes, hampered standard development. Small and medium workshops saw RFG's mass production focus as a threat, and the building materials sector viewed it as a power struggle, not collaboration.¹⁰⁰

⁹⁹Pikulska D D (2020) Osiedle Szczepin Westend. In Ilkosz J (ed), Heinrich Lauterbach. Architekt wrocławskiego modernizmu. Wrocław: Muzeum Architektury we Wrocławiu, 432–433; Quiring C (2020) Z prądem i pod prąd. Osiedla Heinricha Lauterbacha z lat dwudziestych i trzydziestych we Wrocławiu. In Ilkosz J (ed), Heinrich Lauterbach. Architekt wrocławskiego modernizmu. Wrocław: Muzeum Architektury we Wrocławiu, 275–277.

¹⁰⁰Fleckner S (1993): 102-105.

Technical defects appeared in pilot projects like Dessau-Törten. Flawed calculations and abandoning the risky Berlin-Haselhorst project deprived RFG of its main benefit: cost savings, causing it to lose its rationale. Rising political radicalisation eroded support: the Right saw it as too "socialist," construction officials as too "theoretical," and the Ministry of Labour as damaging. Despite only five years, RFG's guidelines changed residential architecture and influenced urban planning into the post-war era.¹⁰¹ The international recognition of Weimar housing estates reflects their innovation and lasting quality, as shown by UNESCO World Heritage status and the European Heritage Label, which confirm their role in shaping a European architectural identity.

Summary

The residential developments constructed in Wrocław between the late 1920s and early 1930s constitute a significant chapter in the history of the European avant-garde. Estates such as WUWA, Księżę Małe, Pilczyce, Westend, and the development on Bolesława Krzywoustego Street shared a common objective: to provide residents with hygiene, sunlight, and space. Following guidelines from the Berlin-based research association RFG, architects abandoned traditional perimeter block layouts in favour of linear arrangements along a north-south axis. Interior spaces were designed as ergonomic units (40–70 m²), and public green spaces were prioritised. The Wrocław projects of 1928–1933 demonstrate that functional residential architecture was grounded in a deep concern for human well-being and social cohesion. These estates show that rationalising construction did not require reducing urban quality; instead, they provided a lasting source of inspiration for contemporary urban design.

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¹⁰¹Ibidem

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