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Exposed or disguised? the hierarchy of form and function in case study analysis of recent industrial architecture in Lower Silesia

Introduction

The gradation of architectonic setting, i.e. formal hierarchy according to representative or utilitarian character of a space is quite common for all architecture. In the architecture of manufacturing plants and warehouses such hierarchy does not always exist. The whole build-up area of a site can be regarded as strictly utilitarian and receives most pragmatic standard form with no will to seek for Venustas (beauty), one of three factors constituting architectural work according to Vitruvius. What is more there are many reasons for locating large scale industrial buildings in bigger clusters. Most of new industrial premises in Poland are located in special economic zones. If deprived of any individual character and functional diversity they create insipid, inanimate zones – a backup alienated of urban context. In Poland it is quite unique to set in a master-plan and than enforce any challenging requirements as to the appearance of buildings in special economic zones. Local authorities searching to acquire investors who would provide employment to local communities tend to avoid discouraging obstacles. In some cases however enterprises themselves show the will to achieve some aesthetic value in their buildings. Only then an architect may strive for difficult to define but obvious to observe quality within specific constrains of industrial architecture.

The article presents typology of industrial layouts in terms of hierarchy of their form and function. The hierarchy in question is a gradation of external form of different functional parts and their exposed or disguised location on site in terms of visibility from the main road or the entrance zone. It is based on the analysis of selected recently built factories and warehouses in Lower Silesia. It encompasses layouts of new greenfield investments and expansions to existing factories.

The typology

The author distinguished six layout types in terms of exposing and disguising different functional parts of an industrial building.

type 1 – none of the functions formally exposed
The arrangement of buildings on site, the shape and proportions of each building, the disposition of window and door openings are all subordinated solely to functional requirements. Pure pragmatism of intentions behind the design is clearly legible. There is no compositional gradation of architectonic setting.

type 2 – individual office exposed - typical production hall disguised
Typical hall offered as a ready product in the back (an architect does not influence the form, detailing and finishing, he may choose colour) - exposed, highly individual interior and exterior office - social building tends to hide the hall behind, at least as seen from the entrance zone. Severe contrast in form, finishing material, detailing, no formal links between the two parts.

type 3 – dialogue between exposed office and modest hall
Both the production hall and the office/social building are included into architectural design. The hall is functional modest industrial architecture; few

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distinctive architectural features on its exterior. More individual but rarely extravagant front office/social building with echoes of industrial style (often the use of steel as a finishing material but different than the one used for the hall). Faint formal links between the two parts.

type 4 – formal symbiosis of different functions
Both functional parts: the hall and office-social building follow common aesthetic guidelines - together they create a visibly coherent whole. Office in front does not hide but rather supplements the production hall.

type 5 – all functions in a single cuboid
All functions are accommodated within a box-like building. Eternal legibility of different functions is blurred. Main entrance and the office function are in the most exposed location. The introduction of such a simple form is particularly demanding. It requires discipline in layout and facade design.

type 6 – production hall exposed – office part disguised, it is the production/storage hall that is the exposed, distinctive and dominating architectural element of the whole. Office part is in a less exposed location and designed in a more modest form.

Case studies

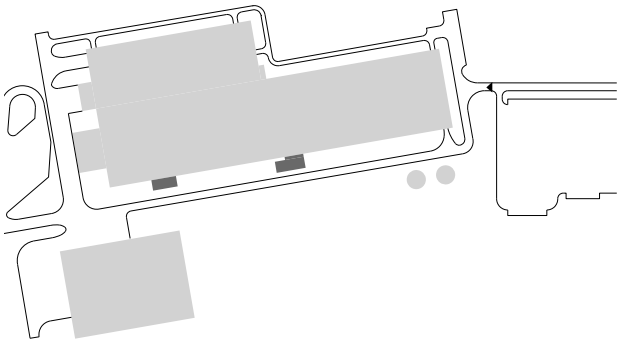

Fig. 1. Electrolux in Świdnica. Buildings layout on site (by M. Baborska-Narożny)

Il. 1 Electrolux w Świdnicy. Układ budynków na działce (rys. M. Baborska-Narożny)

Fig. 2. Electrolux in Świdnica. View from the main employees parking towards the factory entrance (photo: M. Baborska-Narożny)

Il. 2 Electrolux w Świdnicy. Widok w kierunku fabryki z głównego parkingu dla pracowników (fot. M. Baborska-Narożny)

type 1 – none of the functions formally exposed
An example of such investment is a recent (2008) expansion of Electrolux plant in Świdnica subzone of Wałbrzych Special Economic Zone. Electrolux is an international appliance company who owns three plants in Lower Silesia. All of them were designed by PM Group Polska - international project and construction management company, with 1700 employees worldwide. The site in Świdnica is on the northern outskirts of the city. The hilly surrounding disguises the buildings located in a gentle syncline. The site can be reached from two opposite directions: the employees from the south and the deliveries from the north. Approaching from the city one passes by suburban blocks of flats and notices in the distance a light gray assembly of industrial volumes blending with the background of cloudy sky. The most visible from a distance is the brand logo exposed on a blind facade of the production hall. The size of the hall dominates over all other buildings. Both administration and social part adjoining the production hall face an internal street of the premiss's and are hidden for an off site observers. So are the separate entrances to these parts of which the administration entrance is visibly more representative with its double hight extended canopy. The most exposed location on site as seen from the direction of the city is used for subordinate functions: store-pits and waste container cano-

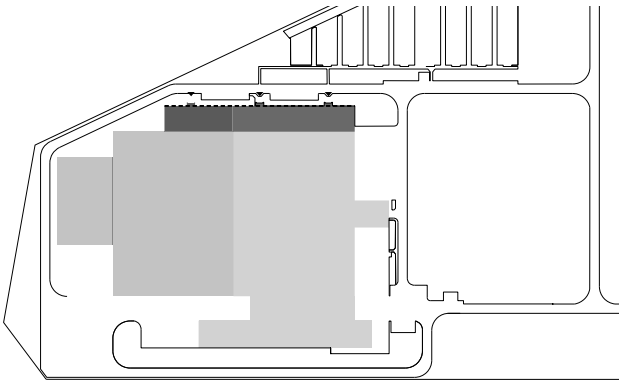

Fig.3. Bosch in Mirków. Buildings and communication layout on site (by M. Baborska-Narożny)

Il. 3 Bosch w Mirkowie. Układ budynków i dróg na działce (rys. M. Baborska-Narożny)

Fig.4. Bosch in Mirków. Entrance building with social and administration functions (photo M. Baborska-Narożny)

Il. 4. Bosch w Mirkowie. Widok na budynek wejściowy socjalno-administracyjny (fot. M. Baborska-Narożny)

py. Administration, social and technical parts are all finished with horizontally mounted sandwich panels. Production hall, warehouse and all the separate technical backup volumes on site are all covered with trapezoidal sheet steel vertically mounted. The difference in finishing material seems subordinate to the unifying factor of single colour use. The overall appearance of the factory is thus unified. The factory's close vicinity is also offered for industrial development as a part of the Special Economic Zone.

A rational unified architectonic setting for all the functional parts of the complex industrial building is characteristic for Rober Bosch plant in Mirków near Wrocław. The international Bosch Group is represented in Poland by four companies. One of them is Robert Bosch Sp. z o.o. who owns an almost 20 ha greenfield site in Mirków. The first stage of investment there was designed in 2002 by arch. Krzysztof Tetera form TKS architectural office. It was further extended in 2009 by the same architect. TKS has a vast experience in industrial architecture design. Bosch has developed its own architectural standards that all its plants over the world follow. The standards cover in detail various issues like modular system for construction and facades subdivisions based on a six meter unit, buildings' hight, company colours, the use of materials and detailing, the use of light, technological layout, shared building entrance and indoor spaces for both office and production employees. The construction technology used for external walls and floor slabs are different in administration-social part and production hall. These differences are not visible outside. The finishing material and window openings detailing is characteristic and unified all around the building. So is the attic hight (but in the technical superstructure over part of the hall). Only the two (three after extension) equivalent entrance doors receive different setting and thus become focal points in the 84m (132m) long entrance facade. Though windows disposition responds primarily to functional requirements the result is not random as it complies with legible structured guidelines of facade layout.

The staging of this investment is an interesting case of predominance of time factor over compositional prerequisites in economy driven industrial architecture. The oblong shape of the plot is irregular. Its short north side is exposed to the busy state road Nr 8. As most halls are rectangular the architect allocated the parking lot in the irregular eastern part to allow maximum future expansion of the hall volume to the south. The employee on site entry was designed from the north with a view on most exposed hall facade with generous glazing within eye level. The entrance facade with the same architectural detailing is next to the parking so it turns towards east. The extension presumed to expand towards the south in result covered the north already developed part of the plot shutting off the external views from the hall and redirecting the entry to the south of the plot. The reason was an unexpectedly time consuming procedure of relocating an underground gas pipe crossing the site. In result it is the blind wall of the logistics hall that is exposed towards the neighboring road.

type 2 - individual office exposed - typical production hall disguised

So called "typical" or "system" steel halls are supplied by numerous mostly international enterprises, ex. Atlas Ward, Frisomat, Astron, Llentab, Remco, Hupro, Polonex, Borga, Budberg and many others. Their popularity reflects entrepreneurs expectations: reduction of design cost - the cost of hall design is included into the price of steel structure, fast on site building process, experience in design solutions resulting in extended guarantee for the product. The service offered usually covers the design and construction of steel structure and external envelope of the hall. The design is often specified without an architect, between the investor and contractor. An architect is than commissioned coordination of all disciplines needed to equip the hall with installations and also the design of social and administrative part of the building. Highly individual architectonic setting is sometimes given only to this exposed part of the building.

Such was the design process of Forma factory in Świdnica Subzone of Wałbrzych Special Economic Zone and Sto distribution Center in Wrocław.

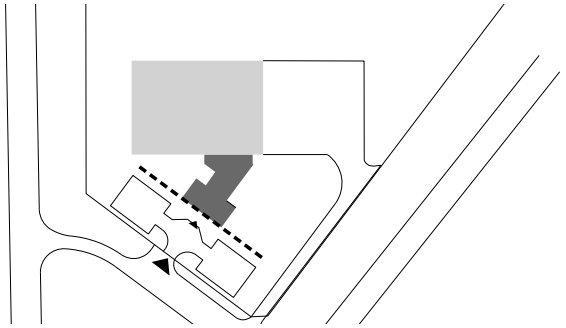

Fig. 5. Forma in Świdnica. Site plan (by M. Baborska-Narożny)

Il. 5. Forma w Świdnicy. Plan zagospodarowania teren (rys. M. Baborska-Narożny)

Fig. 6. Forma in Świdnica. Administration building with main entrance (photo M. Baborska-Narożny)

Il. 6. Forma w Świdnicy. Budynek administracyjny z wejściem głównym (fot. M. Baborska-Narożny)

Fig. 7. Forma in Świdnica. View towards production hall and entrance office building from the main road (photo M. Baborska-Narożny)

Il. 7. Forma w Świdnicy. Widok na halę produkcyjna i wejściowy budynek administracyjny od strony drogi głównej (fot. M. Baborska-Narożny)

Forma factory in the Świdnica subzone of Wałbrzych Special Economic Zone was designed by S+M architectural office in 2008 and than built in 2009. The leading architect was Paweł Spychała. The site is at the edge of a currently developing industrial cluster next to a street junction. It's only c.a. 1 km away from the historic center of Świdnica but the view towards it is obscured by neighbouring blocks of flats. This is the only manufacturing plant of the Polish-Danish company specialising in production of composite and granite tops. The hall was built within Atlas Ward building system without design participation of the architect. The architect was commissioned the coordination of design of required installations and joint between the typical hall and individually shaped social-administrative building. The Danish co-owner of Forma expected quality representative architecture for this part of the building. He also expected individual entrance zone interiors and shared functions for administration and production employees. Concept design included double hight sky lit lobby, recreation roof terrace and spacious cafeteria with an exit to recreation area outside. Only the terrace was given up in later design stages. The will to achieve impressive entrance form led to towering the office functions in a two story building. Such decision was purely compositional and not pragmatical as the building's footprint was not limited by the plot size and what's more the additional floorspace on the first floor is excess so far. In result a person approaching the entrance does not see the production hall. To strengthen the effect a 2,2 m high concrete wall continues the line of the main facade at its both ends. As the size of the disguised hall is in fact larger than the exposed office building the illusion does not work all around the building – when approaching the plot by the main neighbouring road the hall is the only visible structure.

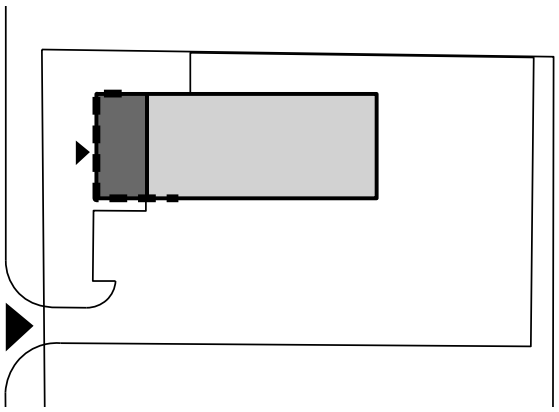

Fig. 8. Labor in Bielany Wrocławskie. Site plan (by M. Baborska-Narożny)

Il. 8. Labor w Bielanach Wrocławskich. Plan zagospodarowania terenu (rys. M. Baborska-Narożny)

Fig. 9. Labor in Bielany Wrocławskie. Exposed towards the adjacent road entrance building comprising social and administration functions(photo M. Baborska-Narożny)

Il. 9. Labor w Bielanach Wrocławskich. Eksponowany od strony drogi budynek administracyjno socjalny głównym (fot. M. Baborska-Narożny)

The Sto distribution center in Wrocław was designed by Prace Projektowe Vetter Danuta in 2003. The hall was built according to the Frisomat building system. And the scope of responsibility of the architect was the same as with Forma plant.

type 3 – dialogue between exposed office nad modest hall

Labor is a small Polish company specialising in conveyor belt service. Its workshop located at the edge of Bielany Wrocławskie is very well exposed to the national road 8 in the direction to Wrocław. It is the first building in the village. It's 55 m long side elevation is visible from a long distance. The building was designed in 2008 by Wojciech Jarząbek from A+R architectural office. Simple rectangle plan ca. 20x55 m is divided into two parts separated by a firewall: workshop hall and a two storey office-social building. Each of them received a different architectural setting that emphasises hierarchy of functions. The office-social part facing the adjacent national road is a complex composition in terms of colour, shape and the precisely planed layout of alucobond cladding. It's attic hight is slightly higher in the claret section. In the grey part its the same as the hall's attic. The hall is a monochrome metal clad cuboid punctured with steady rhythm of gates and a window strip. The change of setting on the elevations doesn't line up with the change in plan. On the exposed south elevation the "office setting" stretches a few meters onto the hall part, and on less exposed north elevation the "hall setting" stretches over the social part on the first floor. The entrances for administration and workshop employees are separate, and legibly hierarchical. White collars entrance is located right by the parking and sheltered by cantilevered conference room. The blue collars must go round the building to get to their more modest but also sheltered entrance. Here too, like in the Forma plant, the administration building has some excess floorspace but as it was deliberately dedicated for rent it has a separate entrance and social backup.

A modest exterior and quality interiors both in administration and manufacturing hall characterise the Wezi tec plant in Legnica subzone of Legnicka Special Economic Zone. It was designed in 2003 by Krzysztof Tetera, the leading architect from TKS architectural office. TKS specialises in industrial design. Wezi tec Sp. z o.o. is a German owned family enterprise. It is a daughter company of Weber Gmbh who specialises in plastics processing. The owner was very much involved in design process and interested in quality architecture and solutions enhancing work environment throughout the building. Two storey administration and single storey social volume form together the front building exposed ahead of the hall, as seen from the adjacent road and the entrance zone. It is distinguished through parts with full hight glazing, different cladding (alucobond on the front building

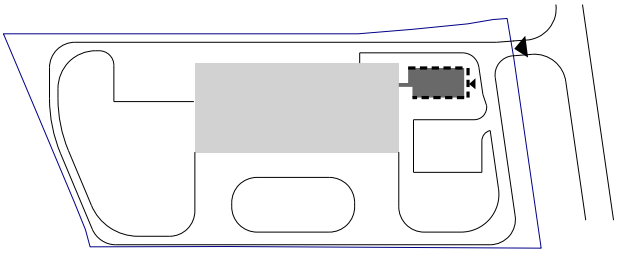

Fig. 10. Adeo in Złotoryja. Site plan(by M. Baborska-Narożny)

Il. 10. Adeo w Złotoryi. Plan zagospodarowania terenuu (by M. Baborska-Narożny)

Fig. 11. Adeo in Złotoryja. View towards the administration buildings(photo M. Baborska-Narożny)

Il. 11. Adeo w Złotoryi. Widok na budynek administracyjny (fot. M. Baborska-Narożny)

and corrugated plates on the hall) and lower attic hight from the manufacturing hall. There are however legible formal links between the two: simple rectangular forms, grey shades of the metal cladding, proportions and colour accents of window-strips. Both the front building and the hall are equipped with atria. One atrium creates visual link between the lobby, administration and the production. The other is located inside the production hall. It admits daylight and functions as outside recreation area for production employees. Special care was given to daylight distribution in the hall. A shed roof with north inclined glazing admits into the hall dispersed daylight without glare. There are also additional windows at eye level allowing external views. A separate entrance with hierarchical setting usually suggesting hierarchy of blue and white collars seems to be misleading in this plant, as other architectural features prove their equal status. Both parts of the building were extended in 2007. The extended part of the hall is equipped with dome skylights instead of a shed roof. The extension was also designed by Krzysztof Tetera.

A layered formal relation of manufacture and administration building characterises Adeo Screen plant with headquarters in Złotoryja subzone of Legnicka Special Economic Zone. The Italian owned company manufactures projection screens. It was designed in 2006 by Ozone architectural office. The elongated rectangular greenfield site is by a local road facing to the north the outskirts of the town in a distance of c.a kilometer. The whole premise is well exposed so far as the neighboring plots are still not built up. The privileged location by the road, next to on site entry is reserved for offices. The architecture sets undoubted hierarchy of functions. Social and technical backup is included into the main hall. The social part is deprived of windows. Seen from the car park its architecture is purely rational and modest with no visual reference to the office building. Vertically mounted metal sandwich panels and glazed employee entrance door with metal canopy constitute the façade. The administration is a separate three storey volume with more complex and lavish design: generously glazed double hight lobby, cantilevered conference room on the first floor, double facade of steel mesh screening covered walkway. In between the two buildings there is an external staircase and a glazed link on ground level. The hall and administration cuboid differ in hight, finishing materials, detailing, opaqueness, colours applied. When observed from the south however the contrast moderates. The front building's south facade less is complex in terms of finishing: its opaque parts are covered with corrugated steel only. The manufacturing hall on the contrary becomes more elaborate: sandwich metal panels coexist with vertical strips of corrugated steel and glazing. A unifying factor of same materials setts a formal dialog between the exposed administration building and withdrawn hall.

type 4 – formal symbiosis of different functions

All three plants illustrating formal symbiosis of different functions are Italian greenfield investments located in Jelcz Laskowice Subzone of Wałbrzych Special Economic

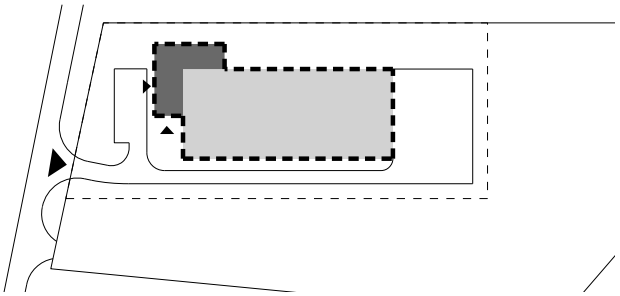

Fig. 12. Cri-val in Jelcz Laskowice. Site plan (by M. Baborska-Narożny)

Il. 12. Cri-val w Jelczu Laskowicach. Plan zagospodarowania terenu (rys. M. Baborska-Narożny)

Fig. 13. Cri-val in Jelcz Laskowice. A smooth blend of administration-social building with production hall (photo M. Baborska-Narożny)

Il. 13. Cri-val w Jelczu Laskowicach. Płynne przejście pomiędzy budynkiem administracyjno socjalnym a halą produkcyjną (fot. M. Baborska-Narożny)

Conclusions

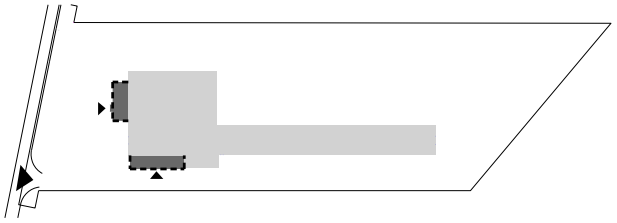

Fig. 14. EPP in Jelcz Laskowice. Site plan (by M. Baborska-Narożny)

Il. 12. Cri-val w Jelczu Laskowicach. Plan zagospodarowania terenu (rys. M. Baborska-Narożny)

Fig. 15. EPP in Jelcz Laskowice. Production hall with adjacent separate functional parts: administration ans social (photo M. Baborska-Narożny)

Il. 15. EPP w Jelczu Laskowicach. Hala produkcyjna z przległymi odrębnymi częściami: administracyjną i socjalną (fot. M. Baborska-Narożny)

Zone. The analyzed plants are c.a. 3 km away from the center of town. Cri-val and Epp plants, both designed by Paweł Mikołajczak and Arkadiusz Sumisławski from S+M architectural office are located on neighbouring sites. Italmetal plant designed by Ozone is c.a. 150m north of EPP.

Cri-val was designed in 2005. The Italian owned company manufactures metal parts for home appliances. All functions are distributed in a one storey building. As in most industrial plants the body of the production hall outweighs the volume of the administration and social building. The smaller building located in most exposed part of the plot is less than half the hight and only a fraction of floorspace of the hall. This disproportion is disguised by smart design. There is no formal distinction of blocks housing different functions. Instead they blend. The plinth of the hall reaches the hight of the attic of administration/social building. Both are rendered in white plaster. The upper planes of hall walls are anthracite grey sandwich panels. The colour and material contrast of the two levels becomes the main visible feature and thus the lower one becomes united: the front building turns to be a part of a strip continued around the hall.

EPP plant designed and constructed in 2006 specialises in injection moulding of plastic materials for home appliances. The Polish branch belongs to the Italian company Europlastica Group. The site in Jelcz Laskowice is an elongated trapezoid adjacent to a local road with its short western edge. The most exposed location on site adjoining the hall's western facades is devoted to administration. Almost as well exposed is the social building by the hall's southern wall. Each of the two functions is housed in separate but very similar double storey volume. They are both framed with the bulk of the hall. One storey technical backup is hidden by the social building. Southern naves of steel hall are 170 m long. The two northern ones are 49 m long and are planned to be extended. The design of the factory is based on deliberate contrast of size, colour, shape of window openings and finishing materials. External walls of the dominating volume of 10 m high hall are vertically mounted green sandwich panels. The two smaller volumes are finished with anthracite grey horizontally mounted trapezoidal sheet the ground floor level and plaster white on the upper floor. The only visible unifying feature are rounded vertical edges of each cuboid.

Italmetal was designed in 2003 and began production in 2004. In 2006 its manufacture hall was further extended by the same architectural office. The company is a part of Italian family owned Girardini Group s.rl. Its main scope of activity is metal processing for automotive and

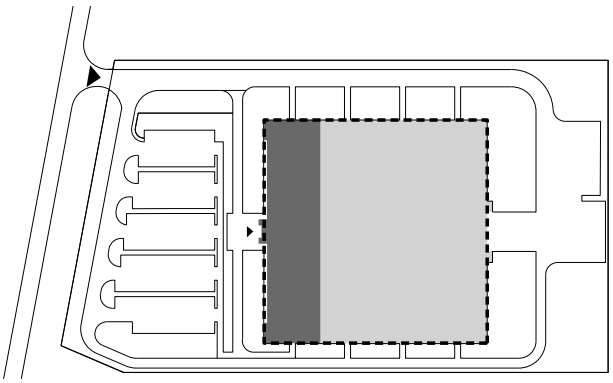

Fig. 16. Eto-magnetic in Wrocław. Site plan (by M. Baborska-Narożny)

Il. 16. Eto-magnetic we Wrocławiu. Plan zagospodarowania terenu (rys. M. Baborska-Narożny)

Fig. 17. Eto-magnetic in Wrocław. The entrance facade (photo M. Baborska-Narożny)

Il. Ryc. 17. Eto-magnetic we Wrocławiu. Elewacja frontowa (fot. M. Baborska-Narożny)

household branch producers. The well exposed almost square Italmetal site is adjacent to local roads junction. The building is surrounded by other industrial halls. All functions are housed in two volumes of the similar attic hight. Near the corner there is a three storey high administration, social and technical building with exposed external steel staircase. This vertical communication element is treated as a sculpture. Enclosed into a steel frame reaching the attic level, covered with polycarbonate canopy, partly shaded by Luxalon metal panels, equipped with wooden railings it signifies the importance of the upper floors. Indeed the administration is located on piano nobile. Ground floor is reserved for social and technical backup with entrances on opposite facades. Finishing materials used are: curtain glazing and plaster in the front building, horizontally mounted metal sandwich panels and polycarbonate panels in the hall, and metal cladding and Luxalon panels in both parts. Prevailing colours are different shades of grey and orange. All of these combine to result in a layered composition of two volumes with mutual references of color and material use.

type 5 – all functions in a single cuboid

All functions enclosed in a monumental cuboid form – such is the Eto Magnetic plant in Wrocław subzone of Wałbrzych Special Economic Zone. It was designed in 2006 by Krzysztof Tetera from TKS architectural office in collaboration with German AIP Consulting Gmbh at concept design stage. Eto magnetic Sp. z o.o. is a division of German based international manufacturer of electromagnetic components for vehicle and industry. It is a part of Eto Gruppe. Its factories in Germany show emphasis placed on achieving quality individual architecture. The site in Wrocław is within currently developing industrial cluster right next to housing developments and the boundary of the city. A master plan for the cluster was based on the winning entry by A+R architectural office to an urban competition. Among others the master plan indicated car park location, the prevailing facade material, building hight and built-up area borderlines, the requirement of planting trees. The site's location is privileged within the cluster as it is adjacent to the north to a planned public recreation area. Eto Magnetic plant won the first prize in "Beautiful Wrocław" competition for the best industrial building delivered in 2007. Its uniqueness among other plants built in Poland derives from out of the ordinary interpretation of mandatory fire protection standards. The prevailing interpretation regards administration part as a fire zone separate from the production – storage. That enforces the placement of fire wall in between the two parts. It restricts the mutual contact and most often leads to external visual allocation of administration building. In Eto Magnetic plant all functions constitute one fire zone. The social – administration – workshop double storey section is inserted as a separate structure into the main volume of steal hall. In between this insert and generously glazed front façade there is a double hight communication space and lobby. All adjacent functions are fully glazed with openable windows. The main entrance is on the symmetry axis of the front facade. The external appearance of ca. 90×90×11m cuboid is monumental and coherent: unified colour, finishing material, subdivisions, precise detailing characterises all façades. Mirror symmetry is the eminent design guideline of clear functional layout in plan and façade design. The location of border between production and social-administration zone is blurred as seen from the outside. The symmetrical back façade with delivery docks echoes the shape of front glazing through slight recoil of metal cladding. Its symmetrical disposition proves there was no intention to disguise this section of the building. The adjacent plots are not built-up jet and so the Eto Magnetic plant is well exposed from distant views and different directions. Although building permits are already handed for new factories around there is a new road planned paralel to the existing one at the back of the plot. Thus the back of the building will be as exposed as its front.

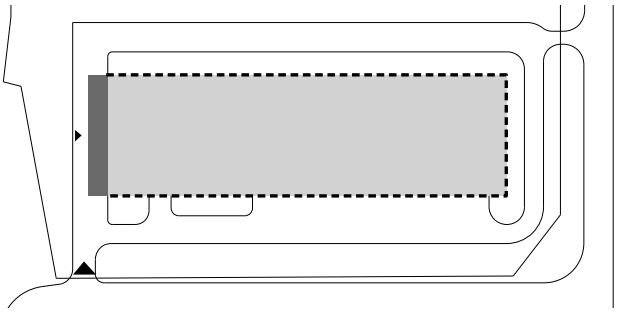

Fig. 18. IMP Comfort in Świdnica. Site plan (by M. Baborska-Narożny)

Il. Ryc. 18. IMP Comfort w Świdnicy. Plan zagospodarowania terenu (rys. M. Baborska-Narożny)

Fig. 19. IMP Comfort in Świdnica. Production hall seen from the main road (photo M. Baborska-Narożny)

Il. 19. IMP Comfort w Świdnicy. Hala produkcyjna – widok od drogi głównej (fot. M. Baborska-Narożny)

type 6 – production hall exposed – office part disguised

IMP Comfort plant in Świdnica subzone of Wałbrzych Special Economic Zone is a rare example of layout were production hall with technical backup is exposed and the office part is disguised from the view of a main road passer by. The plant manufactures textiles implementing innovative sustainable production processes. It was designed by Piotr Lewicki and Kazimierz Łatak from Lewicki Łatak architectural office in 2006. The site is within the urban area of Świdnica in a currently developing industrial cluster c.a. 1 km away from the Peace Church inscribed into the Unesco List of World Heritage Sites. Making the best of the attractive view towards the Świdnica old town was the decisive factor in

functional disposition of the building on site. IMP Comfort belongs to Italian Industrie Maurizio Peruzzo company. Peruzzo Group owns also Betonex in Bielsko Biała - manufacturer of prefabricated concrete buildings. The construction of IMP Comfort, textile plant in Świdnica, was a chance for Betonex to gain reference building presenting the scope of products offered. The building is a cuboid 55×190×10m with lower additions at southern and northern facades. Its frame structure, external walls, roof slab and floors in two storey social – administration – laboratory building are made of precast concrete. External walls are smooth precast panels insulated with EPS foam – modular and repetitious. Never the less the concrete building's appearance is far from dull and ponderous. Its concrete surface is covered with strips of vivid colours arranged in miscellaneous sequence. The configuration was elaborated in collaboration with graphic designer Konrad Glos. The colour scheme applied perfectly disguises the repetitive pulse of equal size panels and window openings. Only the administration and social part of the building is monochrome, with "rinse stone" finish of the concrete panels. In result the entrance part is the least lively. It is however obscured from a random observer. The rectangular plot is next to street junction with its short side adjacent to the main road and long side adjoining a blind alley. The investor preferred to see the skyline of Świdnica old town from the office part instead of the traffic on the main road. The main entrance is thus located in the backmost part of the plot with main entry and parking next to the blind alley.

Roman Kluska once a very successful Polish businessman claims that utmost pragmatism is the most beautiful thing in real business [Tygodnik]. That idea is shared by most industrial building investors. Strong market of typical catalogue industrial halls seems to prove it. On the other hand some successful architects like Livio Vacchini and Luigi Snocci define architecture as a useless thing that emerges only if boundaries of trivial usefulness are crossed [Vacchini]. Architecture as a whole but in particular industrial architecture embodies the tension between economic guidelines and an aesthetic drive to escape the utmost pragmatism. The brief, the budget and legal requirements are starting points in establishing order, deliberate composition, individual form and detailing. The presented typology distinguishes six different design strategies in terms of exposing and disguising certain functional parts. There are significant differences in the snumber of buildings that could be ascribed to each of them.

Economical guidelines only exceptionally allow the dominating halls design to be more complex than the necessary minimum. In most cases the halls appearance is industrial common and more complex design (if it exists at all) concentrates on smaller administration. Thus type 1 and 2 cover most of constructed buildings. Type 3 and 4 requires exceeding the threshold of minimum design effort put into architectural setting of the hall, and thus is less common. In Polish industrial architecture economically based allocation of form and function is reinforced by the dominating interpretation of mandatory fire safety rules as it distinguishes administration as a separate fire zone. In result there are very few type 5 buildings in Poland. An interesting fact is that most of these are exceptional quality architecture (eg. Eto Magnetic in Wrocław by Tetera Industrial Design, Fraba in Słubice by BeL, Ostervig near Warsaw by APA Kuryłowicz). Type 6 is rare both in Polish and world architecture and usually is a result of a spatial context sensitive design (ex. IMP Comfort in Świdnica by Lewicki Łatak, Erco P3 in Ludenscheid by Schneider+Schmacher, Trevision in Groshoflein by Querkraft).

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Eksponowane czy ukryte? Hierarchia formy i funkcji w najnowszych realizacjach architektury przemysłowej Dolnego Śląska

Artykuł prezentuje typologię założeń przemysłowych pod kątem hierarchii ich formy i funkcji. Omawiana hierarchia wyraża się w różnicowaniu formy zewnętrznej odmiennych funkcjonalnie części budynku oraz ich eksponowanej lub ukrytej lokalizacji na działce, z punktu widzenia przylegających dróg i strefy wejściowej. Typologia bazuje na analizie wybranych, ostatnio wybudowanych na Dolnym Śląsku fabryk i magazynów. Obejmuje ona układy powstające na terenach dotąd niezabudowanych, jak też rozbudowy zespołów istniejących.

Key words: industrial architecture, industrial architecture typology

Słowa kluczowe: architektura przemysłowa, typologia architektury przemysłowej