



World Multidisciplinary Civil Engineering - Architecture - Urban Planning Symposium



30 August-3 September, 2021 - Prague (Czech Republic)

INDUSTRIAL SPACE IN BYDGOSZCZ

Dr. Eng. Architect Piotr Brzeziński

University of Science and Technology in Bydgoszcz, Faculty of Civil and Environmental Engineering and Architecture, Al. prof. S. Kaliskiego 7, Bydgoszcz, Poland

Introduction

Industrial objects most often represent simple architectural forms, focused on utilitarian and economic aspects, they are an exemplification of a figure, which in architectural theory is often considered as a reduction to a spatial "packaging", a coating that closes technology. Apparently, the design task, especially the architect's task, is focused on finding a pragmatic "package" that takes into account the needs of technology. Industrial facilities rarely compete for space with public utilities. If they expose a face different from the ascetic architectural form, they usually do it one-dimensionally, transmitting the corporate image (often reduced only to the logo placed on the facade) in a blunt manner, without nuances.

In this study, four different scales of interactions of industrial processes were analysed there, i.e.:

- linking industrial space with the neighbourhood, with an urbanized habitat (city, district, zone),
- relations regarding land development (inside an industrial space),
- relations within the architectural complex (dependencies between buildings),
- the content of the architectural object (intra-object processes).

Quality assessment matrix of industrial impacts processes in BPPT

Quality assessment matrix of industrial impacts processes in BPPT



The scale of industrial processes influence	General assumptions	BPPT
The connection of industrial space with the surrounding	Location arrangements – the industrial enclave	+
	Communication service	+
	(road parameters, entries and departures)	
	infrastructural service (location of devices in the field –	+/-
	e.g. fire water tanks, reduction nodes, high voltage	
	station)	
	Local plan arrangements	+/-
	Spatial context	+/-
Processes in space development	Assurance of technical support zones (deliveries,	+/-
	receipts, fire protection)	
	Service area (entry zone, car parks)	+/-
	Exposition of industrial buildings	+/-
	Marketing impact	+/-
The connection between the components of the industrial complex	Relations between elements (buildings, other	+/-*
	structures)	
	Providing safe distances	+*
	Providing control accesses	+*
Object technology and the consequences of its inclusion in architecture	The possibility of interconnection of technological lines	+*
	The possibility of providing generational replacement	+*
	The quality of the work environment	+*
Symbols: + – Fulfilled		
+ – Fulfilled, with necessary corrections		
- – Not fulfilled		
* – Dependent on internal operations of the workplace		

Conclusions

Despite the industrial facilities, their function defines the form, attention should also be paid to the connection of its technology with the architectural image of the object. The connection of various technological zones (with specific requirements) with each other has a significant impact on the architecture of industrial facilities, regardless of their location. Assuming that the responsibility for the interconnection of technological lines is a task for a project team that recognizes the optimal technological requirements and realizes them, at the same time, shaping the humanistic aspect of space with the expression of industrial architecture. Mutual functional connections of internal zones are possible when defining the proper application program, which includes both guidelines regarding the technological process and functional dependencies of the other components of the project. It should be added that the industrial facilities should additionally be "flexible", that is, if necessary, e.g. changing the production line or expanding the plant, have adaptation possibilities. The range of possible transformations should be taken into account already during the design phase. Selection of the right solutions for each stage becomes an integral part of the author's work.





Planika Office building in BPPT

The matrix, which compares general assumptions from the impacts of industrial processes and their application to the BPPT zone, is a subjective assessment of the possibilities, potentials and needs of the selected area. Proper shaping of the habitat for industrial areas is largely dependent on local government activities. Land-use processes depend on both design activities and are linked to activities shaping the common space of an industrial park. The last two components of the scale of industrial processes impact depend largely on the activities of project teams.

The proposed matrix for assessing the quality of interactions of industrial processes is a method of orderly analysis of the environment, which is considered to be burdensome, cannot be discounted, but still must provide the maximum possible spatial comfort. The introduction of even simple but focused on the humanities and technological aspects, evaluation of industrial areas, on the one hand, gives information about zone deficiencies, the need to repair or correct, but on the other hand, gives accentuates non-economic factors having a significant impact on the economic sphere of industrial zones operation, their attractiveness and durability.

Industrial buildings are specific challenges for both designers and local authorities, whose task is to create a space adapted to this function. The BPPT meets these expectations with some reservations. By introducing the correction of the local plan's provisions and paying more attention to the identification of the internal space of the industrial park, it is possible to obtain an area of greater investment attractiveness, so much needed for this region.

While fulfilling the assumptions of finding the right solutions of the technological process, functional connections for individual user groups, defining and also designing characteristic, as for this type of objects, proper land development becomes easier when designing the industrial facilities.

Acknowledgment "This article/material has been supported by the Polish National Agency for Academic Exchange under Grant No. PPI/APM/2019/1/00003".