The concept of creative industries within the creative city and its implications on the quality of public space

Marta Pieczara

1Department of Architecture, Poznan University of Technology, ul. Nieszawska 13A, 61-021 Poznan, Poland
marta.pieczara@put.poznan.pl

Abstract. The goal of the presented paper is to investigate the potential positive influence that integrating the creative industries within the concept of the creative city can have on the quality of public spaces. The primary supposition is that the concerned idea can formulate an important part of the integrated urban renewal strategy, bringing a response to the declining attractiveness of city centres as well as to the growing outward migration of their inhabitants. Particularly, situating the creative industry plants within an urban context can be considered as an action that can potentially lead to the economic revival of the neglected neighbourhoods and, in consequence, can initiate their effective revitalisation process, leading to the urban landscape’s vital improvement. The concept of such a strategy constitutes of the substantive basis of the design task being commissioned to architecture students at the Poznań University of Technology within the framework of the regular training program. The exercise is to design a creative industry plant within an urban context and it has for its preliminary step to identify a district that requires modernisation. Then, by introducing the heterogeneity of both architecture and use, the students' projects aim to diversify the functional profile of the neighbourhood as well as to create new public spaces or to revitalise existing ones. Concentrated mainly on the agglomeration of Poznan, the presented paper resumes the outcome of the concerned academic projects and investigates the prospective influence of the concept of creative industries within the creative city on the quality of the urban space.

1. The idea of creative industries within the Creative City in the context of the urban centres in crisis

The persisting negative result of migration causes restraints for many cities, limiting their potential of development in both demographic and economic senses. Furthermore, by reducing their available budgets, such situation affects the maintenance of infrastructure and public areas, as well as the number and selection of cultural activities to be sponsored by the city, lowering the quality of life. Although the reasons for population outflow are complex, a set of factors related to the quality of urban space can nonetheless be distinguished. Namely, cities offer public areas of different quality. Besides precious monuments and representative spaces that are used to build the image of the city, the everyday life of its citizens is often led in a daunting background of unaesthetic and defective spaces, unmanaged plots and courtyards as well as inconvenient public transport solutions. Repairing the defects of the urban centres is a challenge for architects and planners, who can reach out for various strategies that were developed with an intention to improve the quality of urban space. One of such potential strategies is related to the concept of the creative city, [1] a complete vision of which...
will contain elements of five domains: environmental, socio-cultural, technological, economical and public policy. [2]

Being a response to the falling attractiveness of the urban centres and, at the same time, to the population outflow towards the suburban areas, the idea of the creative city is about adopting such a policy of the urban management [3, 4] that would result in attracting creative and innovative individuals, interested in engaging themselves in the cultural industry or in one of various branches of creative industries, involving the production of the material goods. In line with such a policy, the location of the creative industry plants within urban centres is supposed to lead to the economic revival of the neglected districts and, consequently, to their effective revitalisation [5]. Complementing the defective urban tissue with a new architecture, which improves an existing or defines a new public space, it does also promote creating new job opportunities, enriching the local offer of products and services. It is worth pointing out that the diversity of creative industry branches, giving as a result their varied forms and scales which will be discussed further below, provides them with a unique ability to be situated within highly urbanised areas, besides their obvious potential to obtain profits from the growing market. The characteristic spatial features related to creative industry plants decide on their potential to be used as a means of urban revitalisation through densification.

2. Creative industries and their characteristic features.

The concept of creative industries has been sponsored by recent transformations that have shaped the post-industrial market economy during a few last decades. Shifting from the mass production model in favour of the production and commerce of unique designs, ideas as well as short series of customised products, the concept of creative industries makes use of network structure, diversity, specialisation and outsourcing. Commercialising ideas and unique products, creative industries remain focused on conceiving, transmitting and materialising symbols and they refer to an individualised, personified client. [6]

Including numerous lucrative branches, like for example fashion, design or advertising, creative industries do also play an important culture-making role, containing publishing, music industry, entertainment, performing and visual arts, fine and heritage arts, handicrafts, restoration of works of art as well as architecture and interior design. [1, 7, 8] They can be nonetheless systematised into three essential groups according to their scale. Namely, they range from a small atelier or a concept store, run by one or a few persons, through the scale of a manufacture, employing several people having different competencies, up to the size of a medium factory, that gives employment to more than a hundred of people and uses professional, often highly advanced technologies. [6, 9] The diversity of branches that count into the sector of creative industries ensures their unparalleled ability to be fitted into different contextual frames, including dense urban centres. They do therefore facilitate the location of an enterprise in any place where potential labour is identified, allowing its future employees to work within their neighbourhood, saving their time and travelling costs. In consequence, creative industries can also constitute a powerful tool of social activation.

Other than their varied scale, the creative industry plants shall also be characterised by a capacity to provide some ease of expansion, so as to facilitate their rapid adjustment to the market's changing requirements. Moreover, the individualised and intriguing architecture of these firms is not only meant to improve the attractiveness of the urban landscape, but it is also seen as a means of creating the company's recognisable symbol. It is likewise supposed to build the company's prestige and therefore bring advantages in the market competition. Some other spatial and functional features of creative industry plants are their functional changeability and multifunctionality, which ensure the synergy effect of cooperation between specialists in various creative domains. This and other spatial features of creative industries make them a potential tool of urban revitalisation through densification. [9]
3. Principles regarding the selection of an urban location.

The selection of a site where a creative industry plant could potentially be situated must result from a careful analysis of the existing urban context. There are three essential factors on which such a study should be founded. The first of them is related to the question of the urban landscape quality. Holding the social responsibility for the appearance of public spaces, architects and planners should consider any project as an opportunity to positively revise its composition, or to improve its quality, in other words. Owing to the extended range of forms that creative industry plants can potentially adopt, they can be shaped so as to fit into different contextual frames, proving hereby their capacity to fill the gaps within the urban tissue. For example, an haute couture atelier situated in a dense city centre or a large publishing plant in a suburban area are both creative industry plants, despite their different scale and character. The variety of scale, which results from varying needs of different enterprises, depending on their production profile, number of employees and space requirements, gives the creative industries a potential to be situated within urban centres as an element of urban renewal policy. Facilitating adjustment in terms of scale as well as nuisance limitation (e.g., transportation frequency), creative industries can actually contribute to individualise a neighbourhood's character, giving an impulse to its economic and social activation. Moreover, the intriguing architectural forms of creative industry firms, which are recommended from the point of view of the marketing, can be at the same time treated as the means to improve the overall aesthetic standard of the nearest area. The location of creative industries within urban centres proves their suitability so as to achieve the effect of the diversity fitted into the context, which helps to organise the public space and raise its aesthetic standard.

Secondly, it is necessary to study the social profile of the location area in order to identify the need for this type of investments. The analysis of the social context should justify the selected industry branch in terms of the labour availability and/or the adequate audience. In that context, the social need for a new creative investment can be defined as a considerable, higher than average unemployment rate. Implanting a creative industry enterprise in such an area can respond to the situation in two different ways. Either the available labour potential shall be recognised and estimated in order to attract an investor, or some programs sponsoring start-ups could be implemented so as to support people's own initiative of self-employment. Another important aspect with regard to the situation of a new creative investment is related to its potential culture-making role. If the selected industry branch has a culture-related functionality (e.g., a publishing house or a recording studio), the choice of its urban location can be additionally taking into consideration the proximity of the potential audience who would be interested in attending the events offered by the new development (e.g., the promotion of reading or concerts). Therefore, an attentive study of the social context is an obligatory step in the site selection process.

Finally, the third important factor which should influence the choice of creative industry type, as well as its location, is related to the strategy of market diversification. From the point of view of sustainability [5], it is important to perceive the full spectrum of possibilities that the creative industries provide and to diversify them within one area. It is rather evident that if several ateliers of one branch will open in a street, many of them will never have a chance to succeed. Moreover, if there is a crisis that touches this particular branch of industry, the whole neighbourhood would be severely affected. For this and other reasons, it is compulsory to study the area's investment typology, analysing existing enterprises' profile and location as well as available labour skills and adaptability. [10] Furthermore, the heterogeneity of creative firms carved in a district's urban landscape is essential in order to raise its rank within the whole agglomeration and can lead to the phenomenon of people identifying themselves with the place they live in, efficiently improving their perception of the area's attractiveness. As Jan Gehl has proven in his publications and projects, the richer the functional offer is, the livelier and the more satisfying the public space is [11].

4. Implementation projects
Included in the training program for architecture students at the Poznań University of Technology, the task to design a creative industry plant within an urban context is therefore characterised by three simultaneously approached objectives of a wider significance. They are related to the above-mentioned questions of urban revitalisation, social activation and functional diversification. In addition, the students are required to concentrate on the working conditions within the building they are designing.

In relation to the urban revitalisation task, the preliminary goal is to identify an area concerned by both social and economic problems as well as by a need to improve its urban landscape. Concentrated on the agglomeration of Poznań, the introductory urban analysis, carried out by the students, leads to the identification of an appropriate location as well as of a precise branch of creative industry, which would ensure a right building's sale adjustment and, at the same time, offer an interesting, heterogeneous employment profile addressed to the local population. Subsequently, by means of introducing the diversity in both architectural and functional senses, the students' projects aim at revising the existing public spaces or at defining new ones. At the same time, the task of social activation is approached by means of introducing multifunctionality and enriching job opportunities available at the local market, which also helps to reduce the transportation between living and working spaces.

The creative city should aim to stimulate the creativity among its citizens [12]. This aspect of the projects is furthermore supposed to sensitive students to the social responsibility of an architect. Another important aspect to concentrate on while designing a building to contain a creative industry branch is the workplace. In order to support the right level of employee performance, the students are asked to analyse both physical and mental requirements that characterise different work stages and, consequently, provide a suitable and inspiring environment for the actions occurring in the space [13].

5. Adopted design methods and their influence on the urban form.

Based on the projects that have been elaborated by the students in the last four years within the frame of the presented training module, the following paper aims to resume their results with a particular regard to the potential implications of the notion of the creative city on the urban form and the quality of its landscape. Representing in each case an individual response to the theoretical foundations of the subject, the conceptual projects of buildings for creative industries allow identifying some general outlines concerning the effectiveness of selected design method in relation to the targeted task of urban revitalisation through densification of the urban form. A classification of the concerned academic projects accordingly to the design principles adopted by their authors has allowed, in the result, to distinguish five generalised methods that were recurrently adopted with regard to the theoretical foundations of the design task and contributed particularly to their implementation.

5.1. Architecture as a three-dimensional facsimile of the product.

The first design approach recalls the notion of Gesamtkunstwerk (total work of art) and requires great consistency in application. As it is inspired by one of the most important commitments that the architecture designed for creative industry plants is supposed to fulfil, that is to represent and to broadcast the identity of a given industry branch, the method derives inspiration from the characteristic features of its final product. This inspiration, however, can work in varied manners. Firstly, the design task can be preceded by a study of the selected industry. The product's manufacturing process, besides being important in order to estimate space requirements and functional layout of the designed building, can also deliver many interesting ideas with regard to the formalisation of the architectural concept. The characteristic features of the product, the shape of its elements as well as its assemblage method can all potentially become a pattern on which
the building's form is modelled. In its total version, an inspiration of that type can influence the building's architectural design from the heart to the skin, from the concept to the finishing detail.

Giving in the effect sculptural forms, the method is associated with an extremely powerful intervention into the city's fabric. The projects that result from the application of this method tend to dominate over the existing urban landscape and most often become its new important landmarks, organising the surrounding urban space [14]. For some certainly controversial as they cause a powerful change to the established landscape, they represent, however, a significant trend in creative industry architecture design.

![Figure 1. Film Studio](image)

The described design method has been applied, among others, by the authors of the film studio project situated in Starołęka, Poznań (figure 1). The concept of the architectural form derives from the shape of a film roll, enclosed within a cassette. The curved line of the roll’s end, which normally sticks out from the film box, was transformed by the students into the composition principle that organises the site management plan. Explicitly figurative in its foundations, the concept was nonetheless translated into an utterly contemporary architectural language, in which the aesthetic principles remain compatible with the selection of finishing materials (glass and steel).

The proposed film studio design also contains miscellaneous indoor public spaces, including a cinema and a restaurant, creating a new, lively public space within the area, which is missing at the moment. Moreover, the new amenity is connected to the green, recreational infrastructure that follows the Warta River corridor, providing convenient access for the cyclists.

5.2. Use of artefacts
Derived from the same commitment of creative industry architecture to express the enterprise's profile and to advertise its products, however very different when it comes to its basic principles, is the second design approach where the final product does not evidently influence the building's form, but it plays the role of an exhibit and is displayed on the building. [9] Other than that, the building could easily contain another branch of the creative industry. The advantage of using this particular method is its capacity to ensure the design's functional changeability. Owing to this feature, a building vacated by one company can be easily adapted to host another branch of the creative industry. Facilitating reuse of buildings, the discussed design method contributes to the environment protection.

This particular design method has proven to be an interesting option for industries manufacturing lighting fixtures, like in the presented example of the lamp factory (figure 2). The lighting fixtures, which are the product of the selected industry, are nonetheless more than only artefacts used to adorn the building’s surfaces. They constitute its most distinguished architectural detail and define
the building’s individual character. Selected to exemplify the method, the project of the lamp factory in Franowo, Poznań, consists of several building units, arranged in a strict orthogonal order. Its simple and minimal architectural style forms a harmonious background for the cubic gallery unit, which has a modular truss structure and is overhang above the access road. The cubic forms an intriguing exposition pavilion, which can be observed from various points within the area, forming a new landmark and organizing suburban context of the selected location, thus contributing to the improvement of its attractiveness as perceived by the uses.

Figure 2. Lamp Factory [16]

5.3. Facade approach
Another important approach towards the design of creative industry plants aims to provide a convenient space for the technology to be contained within the building and to subsequently wrap it with the fabrics of an individualised facade. In its turn, the facade tells the story of what is happening inside by means of its structure, materials selection and detailing. Innovative facade design animates the street frontage and so contributes to the urban landscape improvement. [9]

Figure 3. Loudspeakers Manufacture [17]

The façade oriented design method can be illustrated by the example of the loudspeakers manufacture (figure 3) situated in one of Poznań’s historical neighbourhoods, Wilda. Located at a corner that links two very different street frontages, one being modern and another being historical, the building’s volume and height adjust to the contextual frame. The new architecture also follows the geometry of adjacent roofs, assuring its fit to the existing urban form. The resulting simple floor plans adapt easily to the selected function, while the building’s facade is intended to express its uncommon destination. The facade design is inspired by the graphic expression of music equalizer's screen, which is translated into the composition of the facade bearing elements as well as the windows proportions, divisions and differentiated illumination.
Some other ideas that correspond to the concerned design approach are, for example, using origami-inspired cladding as the facade detailing of a paperwork manufacture building or, another example, using textiles on the facades of a fashion house. As can be assumed from the above examples, creative industries represent a rich source of inspiration for the facade design and finishing, which make this approach a very interesting option for the architects. Moreover, the facade-focused design method highlights the role of the building’s facade design in achieving the effect of the diversity fitted into the context, which has a positive bearing on the perception of the public space by its users.

5.4. Adjustment method

The fourth design method of urban creative industry buildings departs from a context-sensitive approach, aiming at the urban landscape's improvement in the first place. Besides the basic principles of volume and height adjustment, this attitude is characterised by a thorough research of such finishing materials that will make the building's facade most sympathetic to the environment. This goal is usually achieved by adjusting the nature, the colour and the tonality of finishing materials to the existing context. At the same time, however, the materials selection shall respond to the need of representing the building's function as well as allow the use of modern technological solutions [9].

The notion of contextual adjustment of a new building finds its wide application in city centres as well as in its historical neighbourhoods. The respect for the adjacent historical architecture, which is sometimes of an outstanding quality, does not have to represent a constraint to the designer. On the contrary, it often brings inspiration and defines first design guidelines. This process can be exemplified by a project of the recycled furniture workshop, the author of which found inspiration both in the urban morphology of the selected location as well as in the typically used materials and detailing. The project is located in an old slaughterhouse complex and its building type is a contemporary reinterpretation of the typical, historically grounded form of the industrial nave (figure 4). Selected materials, which are recycled brick, corroded metal sheets and aged wood, refer both to the recycling as a concept and as an integral part of a lifestyle, diffusing its philosophic principles, as well as to the recently established character of the location, which has been transformed into a flea market and furniture renovation base.

![Figure 4. Recycled Furniture Workshop [18]](image)

Another way in which the notion of adopting new development to the existing context can operate is founded over the architectural analysis of the adjacent facades. This method equally finds its frequent application within urban centres and in historical districts, where the composition of neighbouring dwellings’ facades represents a rich source of inspiration regarding the proportions and the divisions of the newly proposed architecture. Among other examples, this design approach has been used by the author of the fashion house situated in one of the historical neighbourhoods of Poznań, called Wilda. Referring to the composition principles of the adjacent dwellings, the student has elaborated the virtual grid, on which the facade of the fashion house building was modelled. Despite being a result of compositional analysis of historical architecture, the newly designed facade is
characterized by a contemporary style, modern materials solutions as well as minimalist architectural detail (figure 5).

Figure 5. Fashion House [19]

5.5. Organic approach with urban analysis as its basic tool

Related to the previous one, the last of five identified design methods shares some of its principles with the parametric and organic approaches, treating the city as a living organism. Focused on achieving an optimal adjustment of a new architectural intervention to the existing reality of the urban form, the method uses urban analysis as its essential tool. In the result, an attentive study of urban morphology provides the designer with a set of parameters to which the architectural form being elaborated will refer. In the frame of this method, the particular emphasis is placed on defining new public or semi-public spaces organically fitted into the existing urban form. The latter of the five discussed design methods is particularly interesting from the point of view of urban morphology as it allows the architect to demonstrate a creative approach towards the existing context. An illustrative example of its application can be observed in the project of the Design Courtyard in Poznań (figure 6). In this case, the proposed building form found its beginnings in an in-depth analysis of the existing urban typology as well as in the relevant conditions and constraints. The small width of the street, as well as the resulting problem of the insolation of its opposite frontage, has inspired the students to develop the concept of a reversed city quarter. Accordingly to this idea, its court has been opened to the street, creating a new semi-public space, which remains integrated with the proposed new building hosting different branches of the design industry. On the other side, the site’s back perimeter has been entirely closed by the building’s body that stretches along the existing windowless walls of neighbouring dwellings. Moreover, the building’s front wing, which is advanced towards the street, is characterised by a limited height in order to avoid excessive shading of its interior as well as to minimise the narrowing effect.
Useful in terms of identifying the guidelines for an integrated architectural intervention into the existing urban form, urban analysis precedes conceptualisation of the building’s volume and form in numerous other designs for creative industry plants. For example, such a study made for a narrow and elongated plot closing a city block in Poznań has proven the significance of the locally settled architectural type of dwellings as well as its characteristic features, such as standard roof pitch, scale and proportions of facades forming the street frontage (figure 7). The spatial guidelines obtained as a result of the urban analysis led to the division of the proposed building’s front elevation into three parts, the proportions of which comply with the characteristics of locally grounded front-gable dwelling type. The adapted spatial typology and the consequent vertical divisions result in a jagged roofline of the building that is designed to host an eyewear manufacturing company. At the same time, the innovative character of the enterprise is reflected by the use of modern materials and technology solutions. Moreover, the design approach does also include the results of the view analysis, which have influenced both the location and the shape of openings, creating a series interiors distinguished by the panoramic views of the city.

Aiming to densify the urban form by filling the degraded and undeveloped sites within the city, the design method based on urban analysis intended as a source of parametric guidelines to be used for modelling the architectural form of new investments, does not only promote improvement of the urban landscape, but it also assists the search of previously unnoticed areas which have the potential to be
transformed into unique public spaces. An example of such an intervention is the project of the Creative House (figure 8) situated under the Gdański Bridge in Warsaw. For structural reasons, the designed building was not actually suspended under the bridge, its architectural form, however, was significantly influenced by such a concept. The inspiration resulted in a decision to apply a support system consisting of many columns characterised by a small cross section instead of one pair of massive pillars. Spanned between the two groups of poles, the elongated building’s volume is defined by its two predominant features: the wavy form of slabs, which imitates the effect of the rippling river, and a dense lattice structure, modelled after one of Warsaw’s pre-war bridges and used on the building’s elevations. In the case of the discussed project, conclusions drawn by the student from accomplished analysis of the existing context do not only enrich the architectural design in local references, influencing its aesthetic quality, but they do also connect it with the quest for new public spaces that could effectively and plastically blend into the established urban form.

Figure 8. Creative House [22]

6. Conclusions
The strategy of urban revitalisation by densification of the urban form with new workplace functions. As it can be observed from exemplary applications of the discussed design methods used for defining the architecture of creative industry plants, their goal exceeds creating an intriguing, new form that could become a showcase of a given company. What may seem less evident at the first glance, these methods can equally serve the common good, providing guidelines for a thoughtful design of new buildings intended to complement the existing urban form of a city, both with regard to their volume and selected function. Filling the gaps identified within the urban structure with new workplace buildings, selected and designed in agreement with the discussed guidelines and also providing new public and semi-public spaces, contributes to the densification of the city and increases the efficiency of the land use. Moreover, adding new workplace spaces within the urban centre increases diversification of the available functional profile, which should have a positive effect on the district’s attractiveness as perceived by the users of the public space.

The notion of the creative industries within the creative city can, therefore, become one of the essential tools supporting the efficient revitalisation of the city’s degraded areas both by improving the quality of offered spaces as well as by attracting creative and innovative people, whose energy can potentially contribute to activate the local society and to attract new citizens.

However, as examined, through students works presented above, both the emplacement and the design of the urban creative enterprises need to be subjected to a number of rules. Firstly, the selection of both the location and the technology has to be preceded by a multidimensional, interdisciplinary analysis. Then, the new development needs to respect the district's characteristic spatial features, the most important of which are the building scale, the height and the proportions. In this matter, a great advantage of choosing a creative industry as the investment's profile is the fact that
creative enterprises can adopt different forms and sizes and, therefore, adjust to the environment more easily than many other functions, including large housing complexes. Conform to the principles of sustainable development, the locating small to medium-sized creative enterprises within an urban centre can potentially become a strategy for social activation and for urban landscape improvement.

References
[1] C. Landry, The Creative City: A toolkit for urban innovators, Earthscan, London 2000.
[2] W. Steward and S. Kuska, Developing and Sustaining Creative Cities: A Sustainability Tool for Designers, Planners and Public Administrators, Sustainable City and Creativity: Promoting Creative Urban Initiatives, Naples, 24-26 September 2008.
[3] M. Carta, Creative City. Dynamics, Innovations, Actions, List, Barcelona 2008.
[4] T. Flew, The Creative Industries. Culture and Policy, SAGE Publications, London 2012.
[5] L. Fusco Girard, T. Baycan and P. Nijkamp, Sustainable City and Creativity: Promoting Creative Urban Initiatives, Ashgate Publishing, Farnham UK 2011.
[6] M. Pieczara, Design Methods for Creative Industry Buildings, in: GSTF JET Vol4, No1, Journal of Engineering Technology (JET), Print ISSN: 2251-3701, E-periodical: 2251-371X, pp. 18-23, 2016.
[7] J. Cherbo and M. Wyszomirski, The Public Life of the Arts in America, Rutgers University Press, New Brunswick, NJ 2000.
[8] M. Smoleń, Cultural industries. Impact on the urban development, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków, 2003 (in Polish).
[9] M. Pieczara, The concept of creative industries in a creative city and its impact on the urban form, in: Development in urbanized, endangered and difficult areas, Architektura 6, Wydawnictwo Politechniki Świętokrzyskiej, Faculty of Architecture and Civil Engineering, Kielce University of Technology, ISBN 978-83-65719-23-2, pp. 72-79, 2017 (in Polish).
[10] M.J. Webber, Location of Manufacturing Activity in Cities, Urban Geography, Volume 3, Issue 3, 1982.
[11] Gehl J., Life between buildings. Using Public Space, trans. Koch J., Island Press, London 2011.
[12] D. Yencken, The Creative City, Meanjin, Vol. 47, No. 4, pp. 597-608, Summer 1988.
[13] J. Drury, Factories. Planning, Design and Modernisation, The Architectural Press, London 1981.
[14] R. Venturi, D. Scott Brown and S. Izenour, Learning from Las Vegas: The forgotten symbolism of architectural form, Revised edition, The MIT Press, Cambridge MA 1977.
[15] A. Pocion and P. Jankowski, Film Studio, Faculty of Architecture, Poznan University of Technology, PUT, Poznan 2017.
[16] B. Sieracka and B. Stanek, Lamp Factory, Faculty of Architecture, Poznan University of Technology, PUT, 2017.
[17] A. Parchimowicz, Loudspeakers Manufacture, Faculty of Architecture, Poznan University of Technology, PUT, 2018.
[18] A. Kubicka, Recycled Furniture Workshop, Faculty of Architecture, Poznan University of Technology, PUT, 2015.
[19] A. Orłowska, Fashion House, Faculty of Architecture, Poznan University of Technology, PUT, 2018.
[20] F. Zielinski, Design Courtyard, Faculty of Architecture, Poznan University of Technology, PUT, 2016.
[21] A. Proniak, Eyewear Manufacture, Faculty of Architecture, Poznan University of Technology, PUT, 2016.
[22] B. Michels, Creative House, Faculty of Architecture, Poznan University of Technology, PUT, Warsaw 2016.