SUMMARY OF PROFFESIONAL ACOMPLISHMENTS

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According to a formal requirement, I choose the project of an auditorium armchair of SELLA company as aspiring to fulfill the terms described in "*art. 16 ust. 2 Ustawy z dnia 14 marca 2003 roku o stopniach naukowych i tytule naukowym oraz o stopniach i tytule w zakresie sztuki*".

INTRODUCTION

It's been 30 years since I started work on my first fully professional design project. The concept of "design", today quite abused, was quite abstract for the masses. Even the word "model manufacture" has not reached the everyday language quickly, whereas my degree course was just called "Projecting industrial forms"

The first „form”, which had started my road of career, was my diploma project of a training bike. This project was developed in cooperation with local company - Romet, which was interested in introducing it into the market. I realised my degree in workshop of prof. Jacek Popek. The work started in 1986 and the master's defence took place on 15th of April, 1987. The project was received with appreciation and big interest of both the diploma commission and Romet company. It was exhibited in arts schools' best works show and presented in "Na Przełaj" magazine. The idea for my bike was also taken under a protection of a Patent Office, gaining the copyright certificate as trade dress.

Sadly, the time, when my thesis project was supposed to be introduced into the market, was not good for realizing the projects. Romet, as well as many other Polish companies , did not

cope with the political transformation, that took its toll in basically entire public company sector in late 80s. Material, currency and inflation difficulties, plus loans, which interest rates would tear down a prosperous company had my idea delayed into "better times".

Sadly, Romet did not survive until them.

The company was reactivated not so long ago, its trademark to be precise, which now is used to sell products from the Far East. They are assembled in Kowalewo Pomorskie and in Dębica, where the HQ of the company has its office. On its website you can see the history of the flagship models of Romet bikes, but there is not a single word about their origin in Bydgoszcz. By purchasing the trademark, you inherit the history and the legacy of the company, using it up to your private needs.

Another big example of old Polish companies - Eltra - has met a similar fate. The only difference was, that the fall of the firm was delayed, so that when the good times came, Eltra came in with high hopes and new products. I was lucky enough to take part in designing many of them

When I received my degree, I came straight to that company. Designing the music playing equipment is quite a ennobling sphere of design. So was it with me. As well as many other young people, I was interested in music, without which I can't imagine my existence today and the equipment itself was also in the very important area of my interest. And now, suddenly, I could become the part of this huge industry myself, creating the products' design in this prestigious market.

Those were the times, when Eltra was a part of Unitra union, which had many electrical industry companies under its control. For example, the members of this so-called holding were firms such as Kasprzak, Radmor, Fonica, Tonsil, Diora and and many, many more. Each of those producers was specialized in a different type of equipment. Cassette players were made by Warsaw's Kasprzak, speaker cabinets by Kalisz's Tonsil, and tower audio players were created in Dzierżoniów's Diora. Eltra's job was to make portable audio players.

After getting my degree, I came back to my hometown and started working with Bydgoszcz's Eltra. The company had its design unit, it was however used for current graphic works which were instruction manuals, radio receivers' ranges, silk - screen printing, and packaging design.

The company lacked an educated designer, who could prepare a fully professional model project of a new product. That's why during new releases, Eltra used outsourced projects of

designers such as Jerzy Trojanowski or Grzegorz Strzelewicz, who designed for many Unitra's companies.

I recall this time very well and with good memories, the time, then I could put my knowledge from Academy into the real deal. The clash of those two worlds, the academical and the practical, was sometimes quite a painful experience, and not always did it end with a compromise. However, that time made me learn an important skill of talking to people responsible for the project and bringing it into the market, listening to them, presenting my own concepts and putting it all together into an entity, that could be manufactured. Basically, I learned everything there. Both the prejudice and the will to fight for what I care about, but most importantly, how to put my academic knowledge into practical usage.I learned the technology, without which no designer can possibly create and realize his ideas. I learned about the materials, the way they're being made, the montage, the processing. Nothing, not even the best university, nor an internship or practice can teach you so precisely, as when you are putting your concepts into the production. The amount of combinations and possibilities makes you learn fast and efficient. It makes you more aware and mature designer.

The first radio receiver I designed as a full - time Eltra worker, was double - chambered stereo cassette player with detachable speakers - Edyta. I was given trust by letting me design a prestigious product. It wasn't a redesign, change of graphics or colors of an existing receiver, it was a completely new work.

The first difficulties usually started when choosing the version that was supposed to be manufactured. The more variants were presented, the more problems with the final decision arrived. In every group there are fans of conservative solutions, that support safer versions, and opposing them, the more open people, who don't fear the risk of releasing the modern looking product.

Many of the projects, interesting in terms of the form, were buried in the bosses' desks, who did not risk releasing innovative solutions into the market

At that time (late 80s), in every bigger company, there was R&D Unit, however, mainly those were only taking care of the technical develepment, not really getting into the visual design. Marketing Units were not present yet, as everything, that was produced was instantly sold whereas the only mean of contacting the world was sending a team of workers to conventions and bringing tons of folders and catalogs there. They showed the direction in which the company was heading into.

At that time, it was the only way to look into western design world. Today, with the Internet and multimedia libraries, it seems almost impossible, that the access to newest trends in design was so limited.

As a designer, I had the possibility of realizing many different interesting projects from various spheres of design. From tiny household equipment to huge carriages, buses, trams and crushers. It gave me many ways of completing the ideas from various subjects and taught me about many technologies and materials.

The possibility of working in such different scales, materials and technologies caused my imagination to work differently every time and adjust to different needs and requirements. This variety really helped me show off as a designer. It also gave me a fresh look, which is much needed in this profession so that I wouldn't get into a routine.

Every designer has his own "zone of work". „Zone” in which he he works most eagerly, in which he had already succeded and gained a lot of experience. For some it's electronics, automotive or furniture . Thanks to this "specialization", you can use your knowledge better and develop the project much faster. Designer, who develops a project for first time, has to spend more time to analyze the topic, learn the specification and the market. It requires much more stellar analysis, than the first option. Each of these has its ups and downs. The first solution, when developing the same errand again and again, we may become bored and our projects may become stale and boring. It's a common issue, not even the greatest designers can avoid it. Thus, it's much better for the designer to be into various industry types, even the most distant ones. That's why even huge companies and famous producers, who have their own R&D Units, often outsource the designers, so they can bring some fresh ideas in. So that new designers wouldn't feel any limitations. So that their projects wouldn't be marked with old habits and current trends.

You may have a question, do I, as a designer, have my favourite "zone"? The answer is no, luckily I probably don't have one. Each assignment, even the simplest, may be intriguing task, because not only product is crucial here, the customer and what he "sees" in the project is very important too. Even the most interesting projecting task may be broken by the customer, who lacks confidence, who dreamt to become the designer himself and use the employee as a tool to fulfill his goal.

That is why my small spice container projects for the Murplex company went so succesful. I basically had a free hand and my only restriction was the fabric's properties. Same thing happened with designing the lighting and ceiling for the new tram and train carriages, which I designed lately. My primary goal, besides flawless functionality, was the form, which role was to enhance and support the functionality itself.

Big downside of polish producers it that they often put the technology above everything else when developing a new product. Their own and available technology, to be precise. It is completely understandable, that the company uses what it possesses, but on the other hand, it is not really educational, restraints the company's development and its market outlet. I don't mean to buy new machines and expand your machine park without the economical reason, but to complement its abilities by cooperating with other factories, building a partnership together to create new products together and create something completely new by combining the machines together. An example of such cooperation, sadly failed, is my part in joint venture of two companies Plastpur and Bejot, which I will discuss in next chapter, when describing my work for the latter.

In my summary, I describe each of the companies a bit different. I use the plural, when I was teaming up with the constructor, technologist and the HQ, and singular, when I was going solo on the topic. Sometimes, I was given very specific directions, which I had to accomplish, whereas sometimes, I got nothing from the investor, besides a typical sentence: "*Create something new and original, something that nobody has yet!*".

Later, the life verified, that this way of work and such approach of the producers, who after finishing the project, were backing out from what they said and told me to come back to the beaten path, choosing something boring, super standard, another copy of a copy. Such policy was realized mainly at the early 90s, when the producers were bringing the products from the West and copied them without any concerns, not caring about the copyrights, that the original designers had.

It happened many times, that together with the constructor, we had to set the limits of the new project, adjust it to the production profile and its market and available technology, just asking the investor to agree for our criteria

SLICAN

Many years ago, I worked with the Bydgoszcz's company SLICAN, designing the switchboards, system phones, consoles and access control devices. In 2004 the company asked me to design a system phone with a CTS-200 console. This project became a topic of my doctoral thesis, specifically the process of introducing the product in China, which I described and will quote here. I come back to this project, because it was very important in the path of my career and had initiated the new one - didactic, which now I follow. The path I now follow, working and teaching the students in my Specialistic and General Design Workshop in Design Department at University of Technology and Life Sciences.

It was a breakthrough for me and a prestigious project for Silcan. It was supposed to be the first system phone designed and manufactured in Poland. Until then, such devices were imported from the West from companies such as CISCO, PANASONIC, LINKSYS, SIEMENS and NORTEL. When we started our work, I wasn't aware of the results and the amount of new experience I would gain from it.

Silcan does not have a R&D unit, Construction unit is all they got. New products are being constructed within "directions" of the top ICT companies. When designing the mentioned system phone, I had to give it a specific form and shape. My actions as a designer had to be supported with knowledge of newest trends and tendencies in that segment of industry. Meeting the goals set by the investor was also necessary. I was also taking care of the signage and the packaging of the device. We were creating new product, giving it style and character of the company. We also realized the marketing and strategic goals set by the producer.

The phone does not only have the exterior form - the OS and the "shape" of any informative printings is also crucial. In this matter, the general style, construction and the character of the phone is a result of cooperation between many complementing teams of designers, constructors and technologists.

Clarity and readability of the model and ease of the form were one of more important factors when choosing the final version. Constant technological development, new technical abilities and additional functions make the already complicated phone even more stuffed with various new features. Creating a clear and beautiful form from such a complicated and advanced device keeps getting harder and harder. Sadly, in the times of the global market, highly advanced tech keeps influencing the monotonous design.

In the case of the Silcan, the project goals of CTS 200 i CTS 300 clearly describe the "space", where the designer has to operate. When developing a project of a system phone, very important designer's task is to create the final product within the "borders" set by the producer. New technologies keep stimulating the industry, thus the development and modernization of the electronic components led to decreasing the size of final products. Newest electronics help the designer by giving him more freedom, easing the restraints of the projects and introducing the shapes, which he sees in his imagination and wants to bring out to the market.

The reason for introducing the system phone into the market, was the long - term plan of the company's development based on the other companies' products analysis. Local and foreign companies' best products are being constantly observed. However, based on these rules, the company would never become the leader of the market, introducing the new trends.

Silcan uses this strategy on purpose, based on the size of the company and its dominant markets. In Poland, it sells its products through a network of 40 dealers and almost 1000 services. More to add, it exports to countries such as Croatia, Lithuania, Bulgaria, Romania, Macedonia and Ukraine. Those are the countries of former Eastern Europe, where price still matters a lot, but not for the sake of quality. The producer has to keep both very high quality and standard, equal to products of such tycoons as CISCO, PANASONIC, LINKSYS, SIEMENS, NORTEL.

All these factors have the decisive impact on the "shape" of that product, I mean the functionality, technology, equipment and the shape itself. Silcan decided to go toe to toe with the leading companies in the means of both technique and the style. When it comes down to the system phones, top companies, which sell most in Poland are Panasonic and Cisco. Effective sale is a key condition of success here. Most important however, is the creation of a very good product.

Polish ICT market is relatively small in comparison to the global. That is why the companies in this sector focus more on the already tested product. Slican decided to introduce its own model of system phone. As the cost of the operation was quite high (12 injection forms), the company did not take the risk to start with the model with new, original style, differing from the standards and distinctive from the others. Work on the new tech, preparing the future-proof model would require quite significant budget which Silcan does not have. Wester companies generally speaking, spend 5 -10% of their income on R&D. Polish companies do not have that much of free money, but if they want to compete with the foreigners, they have to take that into account. EU's "Innovative Industry" program may come in handy here, as the companies may use Union's money when launching new and creative inventions. In the entire project, the cost of a design is very tiny in comparison with expenses made for R&D, producing and marketing.

Usually, the designer is someone from outside of the company, someone, who has to quickly and efficiently fit in his role and adjust to the pace of the company which hires him.
He has to cooperate with various people - constructors, electronic engineers, technologists etc.. They have to show their trust to the "new guy" as well. In Silcan it turned out perfectly. The work, despite fast pace and many technical difficulties, went practically without any conflicts. This is why we accomplished to design and bring out a product, that is on the market for many years and is still being manufactured.

MAKRUSZ

Makrusz is a company, which specializes in constructing and manufacturing all kinds of crushing devices and machines. They are mainly machines made for crushing high and medium hardness minerals (e.g. pebbles) and construction&road building recycling . Machines dedicated for terrain usage, where are small piles of rubble and brick. Due to their universalism, they are used in the selective domestic waste gathering points (PSZOK) in where the rubble and brick waste causes a lot of trouble due to high transportation costs.

Not only had Makrusz prepared the project of a new crusher, they also had a complete machine, waiting in the hall and ready to "wrap it up". It was a prototype of an innovative mobile self - loading crusher, which was donated by PARP with an amount of 2,1 mil PLN.

Makrusz was then looking for a way to "lock" the machine inside the attractive and functional form. I was asked to develop a project and a concept for a housing of a ready project. I started my work by preparing the photographic documentation of the machine and learning the basics of its construction.

The housing of the crusher, besides the stylistic direction, had to meet many constructional, technological and functional terms. All mechanisms of the crusher had to be secured in such way, so that in case of emergency, the interior was easily accessible, thus major part of the housing had to be decomposable in simple way to give an access to the necessary components.

I had prepared a few versions of the housing, differing with the shape, possibility of assembling and disassembling its elements. When consulting the team of constructors and engineers, we slowly reached optimal solutions when it comes down to access to specific components of the crusher.

In this project I tried to give most dynamic look to the machine, so that this static device would give the impression of being lighter, smaller and more mobile, so that the colors would accent

Based on the functionality analysis and concept works, four versions have emerged. My favourite was no 3, the HQ however, decided to go with no 4, which was the most traditional choice. Despite many discussions and conversations with the bosses, the company did not change its mind and went with no 4.

At the last stage of the development, the designer faces an issue of producer's choices. Usually, there is a specific number describing the amount of versions, that the designer has to prepare for customer. Often, there are 2 - 3 variants, differing with the style and character, so the customer can see various possibilities, that can be developed for a project. From

presented proposals, the customer chooses his preferred one. When the directions given are not clear, seem vague and unrealistic and basically are being set by the designer, what decides is pure aesthetics, which makes the choice very subjective.

While working in a bigger team, each of the members prepares his own concept, so that after first phase we have quite specified set of projects to choose from. Because it was developed by various designers, that set is quite diverse stylistically. While working on your own, you have to prepare much more, putting your own knowledge and experience in it.

Each of those versions is, of course, a fully complete piece, fulfilling all of the requirements, but at most of the times, we have more feelings for one of the options, and it is the one we want the customer to choose. When presenting our concepts to the customer, we focus on that one idea with a belief, that it is what he wants, it is what we prefer and has to be chosen and manufactured in the future.

It happens often, that the favored version just passes by customer's eyes unnoticed, wheras he focuses his attention on a different version. During the presentation we try to highlight our choice, but as the time goes by, we can see, that the customer doesn't share our excitement and picks completely different version, the one, we are not really attached to.

Sometimes, much worse things happen, when the chosen solution becomes some sort of a hybrid, consisting of "most interesting" pieces chosen by the customer from our projects. He believes, that if he chooses the pieces and builds his own project, he will create an ideal solution. It is not the truth, of course. Each project has its own harmony, proportions and logic, starting with composition and finishing with functionality. The customer, however, has no clue about it and starts "designing" his own version.

Our attempts to convince the investor about the rightfulness of our choice often fail and all we can do is accept it as it is. So it happened with the project of the crusher. My favourite, third version was quickly "dismissed" and the chosen one was the fourth, which also had such place in my personal ranking.

SELLA

Similar example of such weird investor's approach to the new product, was the first project of the auditorium chair, which I was developing for Sella in 2010. In the project, the investor wanted me to use components of the existing Audyt office chair, specifically the seat, the backrest and the armrest. The project has been made in a few versions, but the result was very unsatisfying. Despite fulfilling the investor's expectations and the preserving the

functionality, the project was bland, and its character was too similar to the mentioned office chair. What I created, was the another boring hybrid, which however was well developed functionally and was much cheaper than the seat built from scratch.

The savings, however, were not really big and the finishing result was really underwhelming. Despite utilizing interesting and innvovating frame construction solutions, the whole piece was not satisfying for anybody, neither for the customers, who did not show any interest in the "new" project.

Ulilizing the existing seat and backrest, taken from the office chair, for the seat with different destination, was a clear mistake. The investor, despite my suggestions, decided to start manufacturing and use existing materials. The bogus savings have won once again.

This sad experience and clash with the reality caused Sella to contact me again, after two years, to assign me a new project of an auditorium chair, this time however, giving me a free hand.

Nevertheless, the main stimulant for the investor, was the possibility to take part in research voucher, which could be cashed in with a cooperation with our University and Design Department. This opportunity caused launching the EU funds for the Sella to develop their new project from a scratch. The company was putting the minimal contribution in, just to launch the entire venture, the rest was funded thanks to participation in the program.

It happens very often, that small and medium - sized enterprises, in order to prosper, introduce next product and survive on the market, have to pawn a big part of their things, just to fund the entire process of the introducing new product . The design project is the cheapest part of this process, nonetheless, this much of a support is still very important and makes a big difference for the local businesses. Majority of the companies have already understood, that the design is what "sets" the product right on the market and makes it "indispensable" for the customer. The interior details, in the times of global market, are so unified, that the design plays the decisive role.

Inasmuch Sella did not need to use their own funds and spend them on the design phase, the project could actually start. And I mean to start with all the current design standards, where the projecting stars with setting the design briefs and cooperative work of all people taking part in the project, namely the designer, the constructor, the technologist and the investor. So we start from the scratch, different than the last time, where we had given specific elements to build our project from. We had preserved the functionality, but not the form or the logic back then.

So I started my new project from making models, from carving tiny "prototypes" in scale of 1:3, in which I "described" my constructional ideas. The project of an auditorium seat has many restrictions and normative restraints, which absolutely have to be fulfilled in order to allow the product to be placed in the auditoriums or audiences. Those restraints with an addition of the already set design briefs, have already been checked by me, when beginning the project, this I started my work from the models, which already were verified by these EU's norms: UNI EN 12727 and UNI EN 1730.

Three different versions were made, each one fulfilling the requirements in a different way. Third one was picked as the one to develop further, the one which was sort of a "collection" and a complement to the first and second version. Starting point for each of them was the form of a "leg" which was a pillar and a pedestal for the backrest and a seat. After picking the final version, we started developing it, now in more detailed manner. What I mean, was defining the way of lowering the seat and shelf system, which had to meet the "antipanic" system's terms i.e. to collapse quickly, when the user is standing up in order not to block the emergency exit in case of such.

In my entry project, I had proposed to depart from traditional, gravity - based way of collapsing the seat by putting a heavy metal block beneath it. It's a very easy way to fold the seat up. Its huge downside, however, was the large weight of the entire construction, which restricts the usage of several hundreds of seats in an auditorium or an audience, because it would put quite high load on the ceiling.

I proposed a system based on a spring, which would collapse the seat instanly after user getting up. It reduces the chair's weight by quite a high amount. All, that was left, was to construct and match the system to the size of the chair's leg. We also had to adjust the force of the spring, so that after the user stands up, it wouldn't cause too much of noise (the impact of plywood, of which the seat is made of, into a metal leg of chair). All those actions hve to happen fast, but not enough to cause excessive noise, which multiplied couple hundred times e.g. after a concert or a lecture, would be definitely harsh.

One of producer's requirements was to adapt the chairs for montaging in both flat and angled halls, both in an one-after-another setup and with an reallocation. The latter would require additional pillar behind the chair or introducing a special rail alongside all chairs which had writing desk mounted, so it would match a seat in front of it.

Mounting another accessories such as folder pockets, bag hangers, internet and electric sockets and hands-free systems.

The construction of the main pillar was made from welded steel sections, whereas its cover from cold-formed steel plate with a thickness of 2mm. Whole product would be painted with powder paint in a color chosen by a customer from a RAL catalogue.

Chair's measurements should allow a comfortable sitting and not harm our spine. It cannot be too tall or too short, it has to fit basically everybody. For a child and adult, for a tall man and a short man, for a slim and a fat person, so it has to be wide enough. All these requirements have to be met without any ability of adjusting the chair for user's individual needs. The chair had to be designed in such way, so that all those design briefs would be taken into account.

Additional obstacle was, that, according to the standards, the chair's depth couldn't exceed 45 cm. All those requirements caused us to build an actual full - sized model, so we could test it according to the standards and necessities. A prototype was made, on which we checked all our bullet points, starting with regulation and setting different options.

Another requirement was using the armrests. We had to take three ways of using it into account. The size of hall and amount of the chairs would be the decisive factor whether to use the armrests or not. Whenever the chairs would be set in a dense way, the armrest would not be included. In larger halls, we could include a shared armrest for two of the chairs. Third, and the most comfortable solution would be if every chair had its own set of armchairs, which makes this option least space-conserving.

I don't propose too big savings on the furniture's measurements, because it would mean much lesser comfort. In this case, however, it would be venue's owner choice of which chair to use. Here, the needs of the main user would be decisive, and the company, in this case Sella, has to take that into account and have every version available in its catalogue.

However, the most important function, that I managed to add to the concept, despite it didn't exist in first design briefs, is the possibility of setting the angle of the backrest by the producer . It allows the producer to actually manufacture two versions of the chair. Change of settings can be done very easily, just by changing the mounting holes of the backrest.

Very important function of an auditorium chair is giving user the ability to take notes during the lecture or working on a laptop in ergonomic conditions. Majority of such chairs are designed in a way, that on the back of the backrest, there is a collapsible desk, so that a person behind us can use the desk mounted to our chair. However, in halls, where chairs are mounted in an arched pattern, it is not really possible. That's why additional pillars and rails are necessary.

In auditoriums and lecture rooms, chairs usually have no upholstering. Due to a large amount of people using those halls on a daily basis, there is a necessity of keeping them in the best condition. Chairs made of plywood are much better, because of easy maintenance. In my project, backrest and seating's exterior construction is made of beech plywood with 12 mm thickness.

However, for a seminar or conference participant, sitting on such chair for few hours, would be really uncomfortable, thus the upholstered chair is our solution. In my project, you could freely pick a thickness of a polyurethane foam depending on the hall's main purpose. Thinner foams can be used in halls, where users would spend smaller amount of time, same rule applies to thicker foams. In upholstered versions, we used a fabric with high attrition resistance, which is easy to remove stains from. On a special request, you can order a hydrophobic fabric.

With a starting point of an identical chair structure, by using the right upholster and setting the angle of backrest, we can easily define the function of a chair, from basic auditorium chair, to comfortable and pleasant cinema seat. This kind of function "setting" expands the producer's possibilities a lot, because when producing construction of one chair in with one machine setup, you can finish it in various ways to give in different usage and functionality.

Another important thing was the chair's general durabilty, as it is used in public space. It is a space, where various events happen - lectures, spectacles, concerts. This variety of users and actions is a reason, why the chairs have to be adequately well-made and their durability has to be much higher, than basic, domestic chair. There is an issue of the resistance to vandalism and many extreme situations, that may occur. We have to predict such actions and ways of breaking it apart, so we can counteract in properly by improving the chair's construction. It's really difficult, however, because some people's "imagination" sometimes goes beyond the best designers' minds.

While making the prototype, with constructors, we came to a conclusion, that we took too large margin on the endurance element and made many pieces too thick and wide, thus making our chair too heavy and less functional. And too expensive, of course.

Finished prototype helped us eliminate many imperfections, notice and remove mistakes, that we didn't predict in the projecting phase. These were mainly issues of wrong material choice, their thickness, measurements and floor mounting methods. Besides the chair itself, we had to test the montage precision in various surfaces, installation of the electric components, sockets and the final montage. It was another crucial task we faced, because the montage of couple hundreds of chairs in a hall is really time-consuming, thus following

the order of each phase of putting the chair together, its accurateness and precision, was very important for the manufacturer. It happens quite often, that the last phase of mounting the piece of furniture in a declared space is so important part of the entire process. Mounting the chairs next to each other ,with very limited space, is not an easy task, especially in the halls, where they are placed in an arch, where the place of montage has to be chosen very precisely and then mount it with proper accuracy, so the result is really successful.

We managed to fulfill all these precise requirements in the project, also meeting the producer's terms. We made a functional, tasteful and eligible product. A product, that earned very good reviews on a convention in Germany, thus receiving first orders from customers.

FORM-PLASTIC

I cooperate with Formplastic for a long time, designing gardening tools for them. These are many kinds of flowerpots, flower containers and stands, watering cans, fences, and many, many more. Now, I was asked to make a set of bits and pieces containers e.g. screws, nails, sewing equipment, jewelry and toys. „Bits and pieces", which can be put in three containers of various sizes.

Producer's requirements were, that the containers had to be collapsible and could be placed on each other, hence chutes in captivity and the tabs in the bottom.

I had prepared three draft versions and after talking to the producer, second and third was put together into one, and that was the producer's final choice. This version distincts itself among the others with its handle and closure, which has additional elements layered on, distincting coloristic-wise from the body of the container. Similar, coloristic-different element was also put into the handle. Moreover, the chosen project has different from traditional, division of the slots, which are arched. This form makes the container distinctive among the others with its different shape and colors. By using very "incisively" designed handle it creates another functionality and makes the container a breath of fresh air in the market . You can not only store, but also carry all kinds of stuff inside. Besides the container, it is a "suitcase".

First presented version was very minimalistic at its form, a cuboid with formed front panel and a handle. This version, very thrive, was the most neutral one and very classic in its form. Stripped from any details, with an exception of a thin belt at the handle, was not really looking like a container, more like an elegant packaging.

At first, four different sizes of the container were set to release. They had to be matched so that size of two smaller boxes was same as the big one. Thanks to that, we created a

modular system, so that after putting all containers together, which had a cuboid shape, the customer got one big container, two half-sized, four quarter-sized and eight smallest, being half-sized to the mentioned set of four. To sum up, there were fifteen of them. The biggest of 378 x 283 mm size, next one of 283 x 184 mm, the third of 186 x 139mm, and the last, smallest one of 139 x 90 mm.

As always, the economics made the producers limit the amount of the box sizes to three possible. The colorful covers for the closure elements were also removed from the final version. It reduced the introductory costs, but made the entire set very similar to already manufactured kits, due to depravation of the distinctive elements among the other, usually Chinese products.

Once more, the costs have decided about "simplifying" the project and reducing it functionality.

The producer often does not foresee the amount of funds that he would require to introduce new product, he just receives and chooses a fully decorated version with all "special features", which make the product classy and high-grade. After that, and after calculating the costs of new injection forms, it turns out, that the costs of introducing the full version are too high for the producer, so then the product gets stripped of some features and has only the crucial elements left, which makes it another lookalike and would not get spotted by the clients more often.

PLASTPUR

Plastpur specializes itself in polyurethane fabrics manufacturing for over 30 years. As a such company, it offers integral foam products, white foam products and constructional, elastic and gel polyurethans.

The company has its own technical support as well as the experience and knowledge to attempt producing unusual and advanced products, requiring high "culture" of technology. Integral polyurethane foams are the fabrics, which have densed surface, so-called the epidermis and the inside porous core. Thanks to that, they are and alternative for classic fabrics, such as wood, metal, thermoplastic and thermosetting fabrics, distincting themselves with their toughness and touch-friendly and hypoallergenic surface.

These technologies allow to create foams with electrostatic, antibacterial, and antifungal attributes.

Using IMC technology (In Mould Coating) allows the producer to achieve high quality surfaces in desired RAL colors.

Under the ERGOWORK brand, the company offers chairs, stools and lab or industrial

chairs. They are used in heavy, chemical and food industry, mechanical workshops, at the production lines, operating tables, in shops (cashier's places), design and construction offices, by the dentists, physicians, cosmetologists, barbers and in other branches of industry, which require multiple hours of working in a sitting position.

Due to the properties of sitting work, there are specific requirements about work environment. Chairs and stools have to fulfill both EHS regulations and precise requirements of chemical toughness, "clean room" sterility standards and anti-surge protection. These are concrete terms, that cannot be met by traditional office solutions or metal or wooden furniture.
Taking that under notice, the company contacted me to offer me to design a new industrial chair, a backseat and a seating, to be precise. The chair was meant to be stylistically different, than other Plastpur products, which were based off English and German works.
These were the templates, of which style was not really different than office solutions, only the surface and its patterns were different, so they could meet the terms.
In my projects I tried to treat the backseat and the seating as one. Glue them visually, and accent the elements, that make the work more comfortable and healthy. I tried to design the perforation, so that the "air-conditioning" and air exchange between the user and the chair would be most effective and when after many hours of working, the body would "breathe" well and would not "stick" to the chair in hot days.
After choosing the final version, the models were made, so that the project could be checked with much higher precision. During the tests, no mistakes were spotted and the final version was changed only slightly, adjusting some perforation angles.
The project was set to manufacture, thus creating spinning, high or low industrial chairs with anti-skidding seating and backseat made from soft polyurethane. Height change can be done by the pneumatic lifter. High versions have adjustable footstool. The base can be made from polyamide with glass fabric or chrome. High chair is available only on stands. Due to users' safety, they can be replaced for wheels only on chairs and stools. All of products can have their wheels swapped for stands. Chairs are also available with extra armrests.

All of the seats and backrests meet the terms confirmed by the certificate of National Institute of Hygiene. In case of special orders, the company produces chairs in three versions: antibacterial, antistatic and antifungal.

Plastpur also meet the terms of a norm no. MVSS 302, involving flammability of materials used inside of multitasking passenger vehicles, trucks, buses and toxicity and flammability of integral foam elements for IKEA company.

The producer works in cooperation with research units, where usability and durability of polyurethane elements are being tested. Other elements' safety is researched in specialized labs, if needed.

Not without a reason, mention I the complicated technology of Plastpur and high requirements and terms their products meet, on which the company worked for many years, building its brand and gaining customers' interest.

Plastpur, having as one of very few companies in Poland, the technology of polyurethane manufacturing on such a high level, decided to expand their market outlet and offered an agreement to Bejot company, which specializes in producing office and conference chairs.

Plastpur's high quality seats and backrests had to be complemented with metal constructions of Bejot and sold among the clients of both companies. It was very reasonable and intelligent move, as both companies were expanding their market outlet by quite a big amount by enriching their offer with new products. Products, that were not in their opponents' catalogue, because they lacked the technology which Plastpur and Bejot had together.

Thanks to very successful cooperation with Plastpur, the owner of the company proposed me as a designer of new chairs, which I had to prepare for the combined forces of those two companies.

ECOFLOW

Ecoflow company, which specializes in plastic manufacturing, attempting to expand its market offer, started talking to Korean injector producer. This cooperation would be based on selling LIENFA's products on Polish market through Ecoflow company. Polish company, being sales representant of the Korean company, would sell and repair LIENFA's products.
Korean products are very highly rated in terms of technology. Their constructional and functional pros advantages are, without a doubt, their biggest virtue. If we add it up to highly competitive price, much lower, than prices of such tycoons, as Engel or Battenfeld, they become a very saleable products. As much, as they caught up to, and even surpassed the top of global car tycoons, in the plastics manufacturing, they are still far behind. Design of those products is still far from the global standards.
Ecoflow, trying to expand the competitiveness of Korean producer on the Polish market, decided to improve visual aspect of its products by changing the colors and minor design works considering covering some bare fragments of the machine. On Ecoflow's demand, I designed a draft project of a new design of the injector machine, unifying its colors and

covering its „workspace” with cheap and simple technology of sheetbending.
Koreans reacted very positively on such proposition, however, the companies did not reach the compromise in many different (more important, than design) matters, and, sadly, the cooperation between them has not been confirmed.

BEJOT

Main assumption was to design a very elegant conference chair for hotels and various places, where such events would take place. Plastpur, supplying more industrial zones by that time, wanted to arise in the eyes of new group of clients, by selling much higher design grade products, in which, besides well-done functionality, design is also a very important part of marketing.

Both companies set very precise design briefs. The norms were also set very strictly. The companies, which supplied Bejot with the parts were also pointed out as those, of which products we should use.
The way of bending pipes was also set (Ø18x2 mm) angled, by radius R36 mm.
Different ways of connecting the angled pipes were also allowed.
The project had to warrant usage of existing chair row connectors and in-between-row connectors (solution for chairs with two rear legs).
For chairs with U-shaped legs I could only use plastic trade connectors. In the project, I had to ensure a minimal distance of 20mm between the armrests of adjacent chairs or a chair and collapsed desk of adjacent chairs.
One of the bigger difficulties is to guarantee, that the chairs can be stacked both with armrests, without them and with collapsed desk. Of course, I had to take into account, that the correct amount of space has to be between them to avoid friction, and right rests, to ensure statics of the stacked chairs.
In order to reduce production costs, it was neccesary to use existing elements of desk with a rotating mechanism mounted on angled pipe Ø18. Only thing allowed was the new project of plywood desk.

The role division in the project assumed, that Bejot would produce metal elements of construction, whereas Plastpur would make the rest. The first element is a seat from foliated plywood of 5-6mm thickness glazed with polyurethane of 5-15mm thickness with uncovered ply on the bottom as a mounting surface (flat surface recommended).
The second element was the backrest, due to lack of space, formed from sheet metal 1,2-1,5mm, glazed with polyurethane of 5-15mm thickness.

Additional elements were the armrests made of foliated plywood 5-6mm of sheet metal 1,2-1,5mm glazed with polyurethane of 5-15mm thickness with uncovered ply on the bottom as a mounting surface.

After precising all of the marketing tasks and technical conditions of the project, I started designing first concepts and ideas. Three main variants were made plus an extra one, which due to square profile usage, was not really meeting the terms, but I decided to show it anyway.

During the first meeting at Bejot, the projects were given very positive opinions. Each of the sides also rated the projects basing on its technology and nothing surprising happened here as well. To sum up, Bejot and Plastpur agreed on the presented solutions. Especially Plastpur, which really agreed on the proposed backseats.

During the second meeting, when the decisions about the final version were about to be made, Bejot suddenly changed their design briefs and dropped the "order" on conference chairs, swapping it for cheap, simple chairs for canteens, schools, waiting rooms, clubhouses and other, similar public spaces. This time, only angled profiled chairs were considered.

It changed the project drastically and I basically had to start from a scratch. New context of the chairs, new users and new technology of preparing the metal profiles, caused, that first "frictions" between shareholders started to happen. Each of the companies, when entering this new, common project, wanted to expand their market outlet and clientele. After this unexpected Bejot's decision, changing the project and the clientele immeasurably, the other company did not share the happiness of this one-sided decision, because it wanted to gain a new clientele and not stay in the zone of products, that are cheap, popular and known amongst their current clients. There was an attempt to reach the compromise. We prepared new versions of projects, while bearing in mind the new requirements.

Projects were made, the reception was positive, the terms had been met and all we had to do was to wait for the constructional decision permit to launch the production.

Sadly, it turned out, that the companies not only did not reach the compromise about the outlet market, but also about the share rates for the production launch. Plastpur had to invest a lot of funds into seat and armrest injection forms, whereas Bejot could enter this project basically cost-free, which caused more friction. So the project never became a reality and my only "satisfaction" was when I saw a new conference chair, that Bejot had unveiled at Orgatec convention in Cologne, of which idea and design was basically same as one of my unfinished projects. Different technology, different style, but the idea remained the same ;)

POLANES

My cooperation with Polanes company started a couple years ago, from the classic graphic projects, which I designed for it. Those were the catalogues, calendars, advertising banners, convention booths and various other marketing and advertising related works. The last one was the project of the new logo and the graphics necessary to accompany it in the market.

When Polanes expanded their offer with milk "production" devices, my task was to design UI for various cow milking devices. Imported products had to be given Polish graphics and adjust them for usage in Polish conditions and for Polish farmers.
In my projects, I focused on maximum ease of use, clear and lucid presentation of all available functions. Among with engineers and IT specialists from Polanes, we observed polish agricultural market, its users and their needs.

Due to quite complicated structure of those devices and vast array of possibilities, it is very important to design graphics that will painlessly introduce farmers with new functionalities. Newest technologies speed up the market, causing quick changes of stock. Projects are created and introduced to the market in shorter and shorter time. User, the cattleman in this case, needs to learn about new products and functions, familiarizing himself with new and more complicated operating systems.

In the attached materials I present few example graphic designs which I prepared fo Polanes.

MEDINDUSTRIA

Medindustria is a Belarussian company, which produces all kinds of medical equipment necessary to perform all kinds of examinations, surgeries and treatments done in hospitals and doctor's surgeries.

For this company, I had to design a drip stand, precisely the "foot", which is most important part of it. Until that time, all of the feet were basically a copy of an office chair's leg. Each of them had five handles with mounted wheel. This construction caused huge problems when storing the stands. Those couldn't be folded tightly to conserve space.

In such traditional construction, its storage required too much space, whereas the functionality of the set was quite doubtful.

My role was to design and create simple and functional foot with such shape, that one could "enter" another and that storage multiple stands would be possibly the easiest and consumed least space.

I prepared three variants of stands, so that Medindustria's requirements would be met in every single point of my work.

Third variant was chosen. In my opinion, it was the best I prepared and designed. I fully agree with the investor's choice, as that version seems to me as the most interesting stylistically and most functionally effective as well. It's advantage over the others is, that it takes least amount of space when storing. In this case, storage of the stands is very economical in comparison to normal hospital space usage.

Additional advantage is, that this version requires four wheels instead of five.

That is how we save 20% of the price, while preserving the functionality and "static content" of the whole set.

After choosing final version, a simplified, functional and working model has been created, a few models to be precise, so that all functional and technical requirements could be checked.

Analysis and model tests confirmed my assumptions which I made while preparing the product, which is now being manufactured in Belarus. It will be an aluminum casting, so it is going to be very lightweight and thus easy to use in hospitals.

WISPLAST

It is a company from Gdynia, which specializes in manufacturing products made of plastics. For over 30 years it works in the market of commercial products and key markers. Company also does laser engravings i.e. laser marking the plastic products. It offers shopping cart fobs, locker room fobs, hotel fobs and key fobs on which it engraves logo, numbers and various inscriptions based on the customer's project.

Wisplast ordered a project of a key fob, which was made to be used in hotels, schools, offices, which is basically everywhere, where are many rooms with their own purpose, which has to be marked and stored with the keys at the receptions to be given to the workers or hotel guests.

The main goal was to make it easy to describe each key with an engraving or a replaceable piece of paper and hang it on typical shelves with hooks.

The company wanted to, besides its functionality, make it a new "quality" in its market.

I prepared four fob designs. It was supposed to be made of two elements i.e. the "base", which had a slot for the piece of paper and the cover, which could have the engraving.

The projects were approved and had very positive reception by the company ordering, but after an analysis of injection form costs, the investor decided to reduce the amount of details down to only one element. The costs of launching the production were decreased by almost 40%. The final form of the project suffered from it a lot and from an innovative product it became a traditional, non-distinctive fob. It was cheap, basic and did not really expand the offer of the producer. To sum up, nothing special happened, just another same key fob.

FAMOR

Since 2014 I take part in a research voucher of USTB, where with a team led by prof. Andrzej Tomporowski, I design passenger carriages of trains, trolleys and trams. The project is still a work in progress, we keep preparing optimal solutions for investors, which are Famor and, indirectly, Pesa too.

My role in the team was to besides preparing the project, research and introduce innovative solutions concerning ceiling of passenger carriages of trains and trams. In this project, I work on the ways of luggage storage and project of lighting for both the entire carriage and single, separated passenger seats.

Besides designing specific solutions, I also had to research the capabilities of new technologies, that could be used in this project, such as various hanging ceilings, LED lights, light panels, LCD screens etc..

Famor, who initiated the project, wanted to prepare a set of advertising material, which it could present to the local railroad tycoon - Pesa, and later take part in their various contracts as a subcontractor of rolling stock.

Famor throughout many years had been manufacturing equipment for the naval industry. I had a pleasure of preparing a few projects for that company before. I had been designing lighting sets, failure information systems, signal poles, bed lifesaver sets etc..

This industry have been in big economic decline in Poland for some time now, so the company decided to use their large assets and experience by changing their interests for the railroad business. Having decent machines, team of engineers and who did well in shipyard industry decided to turn for railroad industry. In one case, we equip the ship rooms - mess, cabins, machine-rooms, in other, carriages, compartments, trams etc.. As the structure was similar, it was natural choice to come about in the new market. Famor, as the company with the railroad experience not big enough, decided to cooperate with neighboring tycoon which is Bydgoszcz based Pesa.

Aside from pure manufacturing various products for Pesa, it was decided to encourage the company to cooperate with Famor by proposing own construction, technologic and design solutions.

They were supposed to be very innovative, both in technological, material and design sphere, by using new, fresh technologies, never used before.

My role was to prepare some variants of a project of so-called false ceiling and includint in them the newest trends and cutting-edge technology, that were not used in such railroad designs before.

In this project I worked on the mentioned carriages' design focusing of ceiling zone, beginning with the placement and design of the lighting and means of storing the luggage. I also research and analyze the influence of the lighting on the entire modern style of vehicles. I search for new materials and new possibilities that recently appeared in the quickly developing lighting technology, that could be used while designing the ceiling for the mentioned carriages.

This work is meant to introduce the capabilities of using various new technologies and materials to manage the ceiling zone, luggage zone and the lighting

OPTION 1

Design project of the first version of the false ceiling was designed in few versions, with the usage of newest possible technology, which is e.g. LED lights, stretched ceilings and LCD screens. Shelf layout stays the same, the versions differ in the way of lighting the ceiling and with the type of lamp and its shape. In the first option, the middle part of the ceiling have been designed as a free space, which can be managed in a free manner with various available technologies, which we choose to realize our concepts in this project.

Version 1

This is the simplest and the cheapest version. Entire false ceiling is made of powder coated sheet metal and PMMA plastic lighting, which is mounted on a frame and attached to the carriage's construction. These elements are modular, are divided and are connected on the line of the mounting of aluminum support "coming out" of luggage shelves and perpendicular to window line. Ventilation is based on oblong apertures cut in the metal plate and is expected in the lower plate of the ceiling, underneath the, also parallel to window line, line of LED lights.

As I mentioned, in this, simplest version's entire false ceiling is made of powder coated sheet metal, whereas the lighting is placed on the sides, as, perpendicular to the roof line, perspex

strips.
Luggage shelves are made of bent sheet, based on the mentioned support attached on one side to the side wall of the carriage, and on the other to the ceiling construction.
On the bottom outside part of the shelf there are another "strips" of lights mounted, made from milk plexiglass, aimed at the bottom and providing light for the passenger seats. In this version, the lighting exists only as strips of plexiglass, backlit from the bottom with any light source.

In this savings version built only with sheet metal and plexiglass, the ceiling structure can be varied by painting, putting together surfaces from different color sets - colorful or monochromatic, and the matter structure (gloss or matte). Additionally, the powder coated sufaces are very durable against rust, have attractive look and are very long-lasting.

Version 2

In this version of false ceiling, only its side is made of powder coated sheet metal. Main, middle piece of the ceiling is designed as a hanging stretched ceiling backlit with LED diodes. The rest of the lighting elements made of plexiglass strips can stay the same or be removed, especially plates from the top piece of the ceiling. It depends on how strong lighting will we put in the main ceiling piece, beneath the tense membrane. Will it be only decorative or its power will be enough to illuminate the entire carriage.

Stretched ceilings, backlit by the specific foil - translucent membrane, used in this version, can light with all its surface. Usage of the monochromatic or multicolor RGB LED stripes allows to achieve an even-lit structure of any color and shape or enhanced with any engraving, that can be printed on the surface of the membrane.

Backlighting the hanging ceilings with LED tapes is one of the most popular and interesting ways to arrange the light. Hanging ceilings, besides the attractive look, give many technical abilities, such as concealment of cables and air vents. Usually there is also lighting mounted in the ceilings - more and more often LEDs play this role - the tapes as light of niches and bulbs as pointed lighting.

Hanging ceilings create invisible space, in which wiring can be led in infinite ways possible. It can be used to arrange the ceiling, having different options to choose from, starting with basic fluorescent lamps, cathodes, fluorescent tubes, glass neon lights, floodlights and finishing with LED tapes and diodes. It gives almost endless potential and possibilities of space arrangement of the carriage.

Not only can size, shape, levels and the lighting of the ceiling be operated but also its color,

direction and intensity. It can be put on tapes or on spot. Light can have constant color and intensity, but also can be changed with the needs of its user. Well matched and designed lighting brings the new quality into the space of a carriage. It optically enlarges or minifies, sets the right mood, emphasizes chosen zones and covers any different. It becomes a dynamic and "mobile" element of interior design.

By using LED RGB lights, stretched ceiling can change its color. By using wireless remote, train's staff can choose any color of the light e.g. white, yellow, blue or red, dusk and lighten single colors or turn on automatic functions e.g. free color change.

Version 3

In this version, only a part of the false ceiling is made of powder coated sheet metal. Main part of the ceiling was designed as hanging with solvent-printed graphic element and backlit with LEDs. The rest of the elements, made of PMMA plexiglass stripes, stayed the same.
Solvent printing, used here, is made for printing vinyl surfaces, which are PCV-coated polyester materials . Solvent printing provides high color intensity and possibility of multicolor print.

Solvent-printed elements are: frontlight, blockout, mesh, clingfilm, satin paper. Full color allows to place pictures and graphics, also gives unlimited possibilities when designing ceiling surface.

Wide array of banner formats allows the designer for adjusting its size to specific ceiling, which is a key importance in a train carriage.

Version 4

In this version of false ceiling, the main part of the ceiling was designed as a LCD screen with LED diodes. Large indoor screens can have lesser brightness, than those, that are used outdoor. They do not require specific weather resistance and are mounted mainly on the trusses. Offered screens have dedicated SCEO® software. It allows for easy configuration and quick on-screen content management. The handling of the device is being done via PC with Internet connection, thus enabling the access from any place in the world.

Version 5

In this version, as in Version 1, entire false ceiling is made of powder coated sheet metal and PMMA plastic lighting. Another element of lighting are extra elements located in the main ceiling plate. Sheet has some shapes cut, which are covered from the inside with plexiglass and are passing the LED light, which is mounted behind a milk plate made of PMMA.
The shape of notch can be basically any. In my project I suggested triangular and

semicircular notches, which are placed perfectly between the supports so that they fit in the mounted module.

Version 6

We can also easily connect the presented versions and make the ceiling and lighting e.g. from plexiglass plates, where the entire composition and ceiling would be made of PMMA plates. In another, design the niche as a backlit stretch ceiling by using graphic ideas from other versions e.g. banners.

It can also be done as savings version and prepare the project without use of aluminum supports and using powder coated sheets and lighting plexiglass stripes throughout the entire carriage. I assume, that aesthetics of such solution would not be appreciated and accepted by the investors.

OPTION 2

Design project of the second option was made in three versions. Luggage shelf layout in every option stays the same, they differ in way of illuminating the ceiling, used lighting and its shape.

Version 1

False ceiling of this version is made of powder coated sheet, PMMA plexi lighting elements and aditional plexiglass plates which are mounted on a frame and attached to carriage's construction. In this solution, the supports are not decorative and exposed, they are hidden beneath the sheet instead and only serve construction and montage duties. In this option, it's the PMMA plate, which serves as the decorative element. Big surface of shiny plexiglass makes an interesting opposition for matte surface of metal sheets.

Version 2

Again, false ceiling is made of powder coated sheet, plus we have PMMA plexi lighting elements, however this time, there are no extra plexiglass decorative plates, which are mounted on the bottom of the luggage shelf.

In presented third version, the elements of lighting are no more one long slat, that goes through the entire carriage, they are divided into smaller, modular fragments instead.

OPTION 3

Design project of the third option of false ceiling was done in one version. Again, the elements are modular and are divided with metal support. In this case, the support became an elements, that only divides the luggage space, not touching the ceiling part, which is

unified this time.

In this option, there are two main plexiglass surfaces on the ceiling, unlike second option, where there is only one.

Luggage shelves are made of bended sheet metal, attached to the mentioned support, which is mounted on one side, to the shelf, and on the other, to the ceiling construction. On the outside, bottom part of the shelf, there are more lighting "stripes" mounted, made of milk plexiglass, aimed downwards and illuminating the passenger seats.

OPTION 4

Fourth option of the project has been done in two versions. In the first, similar to the previous, there are two main surfaces of the backlit plexiglass, whereas the luggage shelves are made of sheet metal mounted to the support. This time, the support is attached from one side, to the top edge of the shelf, and to the ceiling's highest point. Different versions of fourth option differ with the shape, size and way the support is mounted. On the outside, bottom part of the shelf, there are more lighting "stripes" mounted, made of milk plexiglass, aimed downwards and illuminating the passenger seats.

In the second version of the fourth option, there is an additional decorative element, which is an extra strip of glossy plexiglass, placed between two strips of LED lamps. Again, the elements are modular but this time are divided with not one, but two metal supports. Supports, which have changed their shape since the previous version. They became shorter, thinner, and now are mounted with its top edge in the lower point of the ceiling. They also have, as I mentioned, smaller gauge, than the first version.

TRAM

The next step of our research program, was the city fleet part, trams, to be exact. Here, as same as with trains, I was designing false celing with the illumination.

OPTION 1

Design project of the first option was designed in two versions, with an usage of cutting-edge technology, which are e.g. LED light sources.

This option distinct itself with the trapezoid element, which emerges from the middle of the ceiling, that has mounted lights on itself. On trapezoid's sides, there are vents shaped like thin stripes formed into two triangles.

Similar layout of two triangles, "approaching" each other, have the lamps located on the bottom surface of the trapezoid. False ceiling's construction is a correctly profiled and gimped trapezoid-shaped strip of sheet metal with carved light apertures.

Support and rail layout stays the same in every version, they differ in the way the ceiling is illuminated and type of used lighting and its shape.

In first version, there are carved holes in the sheet, they are covered with milk plexiglass and pass the light from LED striped mounted behind the PMMA plate. Ventilation in this version happens through the apertures carved in the sheet and is expected on the angled side of the block, that emerges from the ceiling, parallel to the carriage windows.
In second version, the false ceiling is again made from powder coated sheet metal and PMMA lighting elements, this time however, they have different form i.e. lengthened triangles placed against each other.
The entity of the block is mounted on a frame and attached to the carriage's construction. Those elements are certainly modular, what allows for replacing and usage of lighting version chosen by the customer, which defines the style and atmosphere of the carriage interior.

OPTION 2

Design project of the second option was, again, designed in two versions. Layout of rails, windows and entire tram functionality in every version stays the same. They differ in the way the ceiling is illuminated and type of used lighting and its shape..
Entity of the light panel is filled with narrow PMMA strips, widening from the middle. Such layout of lighting strips creates sort of raster and a layout of repetitive and interfusing forms.
In the first version, narrowing into the middle PMMA strips are used as a decorative element. Big surfaces of glossy plexiglass make an interesting contrast for the matte surface of the powder coated sheets. Those apertures change their width, based on the middle of the panel, same as main lamp line.

In the second version, expanding PMMA belts are reduced in their middle part, exposing the metal part of the ceiling and putting it in the foreground.

OPTION 3

Style and design of the third false ceiling option was designed in one version. The ceiling form was designed, so that plexiglass shape can be modified and replaced, depending on the customer's needs. The proportions in this option have been reversed, so that plexiglass dominates over the metal elements.

This is the current progress state of the mentioned research project for Famor. As I mentioned in the beginning of the chapter, projects and their options are still work in progress. We keep analyzing the versions, their usability, functionality and technical capabilities of the project participants.

I'm glad, that after many years of standstill, Famor is coming back into the market. Many years had to pass, many things had to change, so that the situation would normalize. Famor was basically going bust, selling part of its property, most of the halls and their office center. However, after cleaning up their situation, with new forces, the company started new chapter of its story. It didn't matter, that Famor's products were reliable, simple to use and cheap, if their look was more matching Sołdek, the first Polish ship built after the war, than the modern naval unit. Age of polish shipyards is over, the age of selling the entire stock for the Russians was over too. Western customer, who was looking at the Famor's products, was not interested, despite their obvious advantages.

Same thing happened to Bydgoszcz based PESA, which, yet known as ZNTK, was also on the edge of bankruptcy in the 90s and only a brave decision to launch a project of first Polish trolley saved the company. The idea was a bullseye. Designers of Gdańsk were invited to work on the project. First project of a bus was designed and prepared. Huge orders from local governments had arrived, as they were obligated to provide transportation in their areas.

Company, now known as PESA gathered pace and keeps developing itself. Thanks to the wise decision turned its fate from the insolvency. By putting their money on innovation, cutting-edge technology and design, it succeeded excellently, becoming not only Polish, but also an European tycoon.

New orders from Italian, German, Ukrainian, Belarussian and many other railroad companies caused the company to hire designers, constructors, technologists and specialists from other fields, who can provide its all quality requirements for the products they put in the worldwide markets. Nowadays, PESA having its own design unit, became largest local employer, when it comes to this branch. Many of our students have internships out there, and the best of them, are later hired as regular employees.

MALTEX

Last year, in March, Maltex company approached our faculty with a question whether are we interested in designing a set of four innovative products for baby care as a research project funded by PARP. It was about a bathing seat, movable chair with a tray, chamber pot and a bathtub with a profiled seat.

After agreeing on the details of this common project, we prepared an agenda of the venture. After five months of waiting, we finally got the approval for starting the design work. To prepare a full project of those four products with additional models and engineering

documentation we had.. less than three months! This is how "rightfully" is divided the time for preparing the product, where reading through few sheets of paper takes five months, whereas for the "rest", not even three.

After learning about the market and talking to sales reps from Russia, France, Belarus, Czech Republic, Latvia, Ireland, Ukraine, Hungary, among others, who both cold sell and distribute Maltex's products, the company decided to enrich their offer with more products of new functionality and design, which would expand the production profile.
First and most needed was the bathing seat. This product is always in demand of clients, and the company did not have it in its offer.
Second product, which would work well in Maltex's offer was the bathtub with ergonomic shape, which increases the safety during the bath, has antifriction handles for the parent with an additional cap with soap and shampoo dispenser.
Next products are the chamber pot and the feeding chair. The latter would be designed having smaller size in mind. Easy to store at home, appropriate for holidays - collapsible and taking small amount of space in the car trunk.

Colors that Matlex prefers and that gather customers' interest are: grey with white, intense pink, turquoise, and yellow with green. I gained this info from Maltex's bosses at the beginning of the cooperation with this company. It was a starting point for further talks that were aimed to precise the topics and prepare their production in the nearest future.

When starting the project, after learning about the specifics of the order and Maltex's offer, one of my main tenet was the systemic construction, which stands for usage modular parts to provide highest amount of possibilities with least elements needed. Elements, that can be used in every of the designed products. Besides company's savings on making the injection forms, the customer saves his money too.
Starting point for my project was to reduce the amount of forms from eight to six. I mostly achieved my goal, however, reaching a compromise between me - the designer and the producer and constructor was not always that easy. There were many points of "disagreement" - finances, technology, style. Usually we managed to find a common opinion, so that the project's value wouldn't suffer from it.

The highest amount of doubts appeared when choosing a final version of the bathing seat. The differences were the biggest. One of main criteria which each side was rising, were the ways of keeping the child safe during the bath and influence of that criteria on the style of

product. But the most controversial issue about this product was choosing the final version.

When designing the bathing seat, I tried to use my experience as a designer and experiences and opinions od people, who use such products on a daily basis. As always, before the start of my work, I learned in every source I have, about that kind of product line. There are various forms made for bathing children and only some of them have defined, and in my opinion, not very functional placement of mentioned safeties. Some of them have no safeties, just being a lift for the child's buttocks.

Best example on my opinion about children safety is a product of „Safe tots" company. It specializes in manufacturing products, which take care about children safety very rigorously. It is a product described as very ergonomic and safe, in which my proposed rule is used.

Maltex, however, decided to go with the flow, and not risk introducing such a different option. Company's main argument was, that it was their first product in this branch and they couldn't afford a risk of customers "rejecting" it. When introducing next product, already selling "accepted" work, which fits in the conformist market, you can afford a new, different product.

This kind of thinking, very strict, when it comes to the requirements, made me change the already accepted styling of entire set and create a product, which fits the character of the existing seats perfectly. In this case, Maltex did not want to reach any compromise - the seat basically had to be a copy of existing ones.

And now, here comes a statement, that the "order" of introductions may decide about the final products and their innovations. If company already has some products in that branch, it accepts introducing fresh and modern works. However, if it is its first work, and first product entering the market, the risk of failure is being minimized by introducing a product, that perfectly blends in the others . Practically, it is impossible to distinct it. In this case, the risk of a financial flop is smaller, however the amount of purchases will not be big too, unless you reduce the price to a minimum payoff. There is always a risk, that when introducing a product which delves off the beaten track, the customers will not accept the new features, which differ from their habits. Despite the product will be interesting, it may be too soon for such novelties. It may turn out, that the project steps into the future too bravely, creating and setting new borders, somewhat "forcing" us to take a different look on our current actions and trends. However, "unreal", new and creative works will help us "unlock" the needs of future users and potential users, therefore expanding human imagination.

After coosing initial final versions, among with constructors and technologists, we made project and constructional-technologic requirement analysis based on 3D-printed details, which are a part of the system.

Based on model research we did, various suggestions and conclusions appeared. They let us answer some questions we put before and included in final analysis. The goal of the research was to eliminate any mistakes and errors, which could appear during project work on final versions. After analyzing all those conditions, construction documentation was made, later then it was sent to the toolroom to make required injection forms according to that file.
There were many problems, but I am not going to discuss them all, I will just mention the biggest ones.
First issue, which we tackled during the analysis, was a question about hardened borders of the designed articles. My suggestion was to not expose the reinforcements on the exterior and design the borders so that they do not disturb the entire form of a chamber pot and the rest of the set. It definitely influenced the aesthetics of designed products and unified their character. It distinct the product among the others, which reinforce the construction and inflexibility of the products from the external side, unlike this case, where it's internal.

Another important question was the placement of the four angled cases with leg latches.
We decided, that it would be rational to attach the legs not in angled manner, but perpendicularly to the floor. It would prevent the possibility of the legs breaking apart and would balance the child's weight better.
It would also easen the production of the injection firm, as the side slides would not be required, what reduced the cost and sped up the release date. This was the first our "economic-techologic" approach to the "base" of the chamber pot, which were its legs.

The changes we made in the project, as well as new visualizations, did not satisfy me, neither any of the team members. As the time passed, despite technological eases and lower costs, we dropped the idea of "straightening" the legs beyond the chamber pot. Maltex decided to bet on the innovation, despite all these difficulties, and to introduce a different product, which would create a new quality among such works. The company already has two "traditional" chamber pots in its offer, so it can let itself introduce a different version, which may not gather as many customers, than the previous ones. It is however, mindful decision and risk taken, which may not pay off so quickly, but in the long run it may give larger income, than releasing another, similar chamber pot, which will only be a background, blending with a ton of similar solutions, which are already being sold.

The next issue was a question of whether and where would be placed the handle to remove the cap, and whether it could be placed in fixed position with the latches. During the tests a movable container was chosen. It turned out to be most comfortable and most "logical" in terms of functionality and ergonomics.

Thanks to the model availability, we also could analyze less design-based issues, the more technologic-oriented such as whether to use support from the interior of the details in the stapling aspect, or make another detail connecting the tray with the body by the latches.
To provide maximum safety and stability of use, we also declared the square of the chair's body support on the tray, which we set for 55 cm. Tray's height we declared and matched to a typical table, which is around 70-72 cm.

Next part of our set was the baby bath. It doesn't, however, take part in the system, but serves as a supplement of Maltex's offer, stylistically coherent with the other products.
Only thing left was to determine whether the bath would be designed as a monolith and the handle parts would be distinct with accented fracturing to provide higher safety and whether the handles would be additional elements made in a different form. We did two documentation versions and the final choice was the investor's. The bath was the last work prepared for Maltex as a research program funded by PARP.

Entire process of designing products for Maltex was for me, and other people participating, an another experience, which verified our opinions. It made us realize, how different may be approach to the project and how different may it be finished. Not always meeting all the expectations. An abilty of making right choices both at the producer and designer sides, its risk and responsibility are the points, that stood out in this project.

ROGO

I would like to dedicate this chapter to short description of my "personal" design work. When talking about "personal" and putting it in the quotes, I mean projects done for myself and only for my exclusive use - without an order or an investor.

Here, I don't present all of my ideas, as not all of them had been completed, and some of them are just variations, thoughts, that are still going around and did not manage to materialize yet. I noticed, that the longer I work as a designer, the more I need a "free" designing possibility, designing only, when you have the idea, thought, concept you want to realize. Usually, a designer is someone, who realizes someone else's needs. Maybe not ideas, that are already materialized in a specified firm, but more like ideas for a product which you can sell. Our role is to materialize it, give it its "face".
Job of a designer mainly requires imagination, an imagination with which we can freely move in space and use it to define our ideas. To do it mindfully, we need "means", so that we can define our ideas, which stands for presenting it in an explicit form.
One of my main idea transferring tools is drawing. Sketching for me, as an old school design

representative, is a base tool of transferring ideas. Next one is modeling, which is a creation a spatial form using various means and resources. Another tool, which "closes" the project visually is photography, which defines the product in a very straightforward way, showing its precise look, presenting its form and character. That last "tool" I had used and still use for my graphics and advertising work, as aside from making a new product, I often design its wrapping and take care of the entire advertising part.

Now, when computers became a standard tool, when the modeling software became more popular and accessible, new, amazing possibility came into play, letting us "dress" our ideas in a very real form. So real, it is unreal :)

I use these possibilities for many years now, but sometimes, I come back to the "manual" modeling, photography and preparing the project in the "old-fashioned" way, because, intuitively, I feel, that I will just do it better, quicker and faster will I test that idea in action.

That is how my „Triangle box" i „ChairArmchair" chairs were made, which were not made in programs or 3D technology, but as 1:3 scaled models, photographed and placed on a board. Second project, in which I present chair with various transformation options, allows me to verify my ideas on an already done model, test my thinking and check its functionality.

Most of the projects are chairs, armchairs and sofas. This is the market segment I am planning to take on now. My concept for these pieces of furniture is an idea to cut their sides with a plotter in a "flat" way, connecting them with backrest and the seat. Cut from the plywood, PVC plates and attach to diferent kinds of seats. One time, it would be inflexible connection, on the another, a regulated and movable one.

Another example of the "personal" project are the clocks. These are closest in form to the fireplace watches. That was the starting point, when I began designing them. With their style, they relate to this kind of timepieces. However, they have much more modern and simpler form. I designed them in a dozen or so versions, which differ in a wood type, color of varnish and wax. Wooden parts are put together from 40mm thick boards, cut and carved in the top part. On the front, there is a perpendicularly angled plexiglass, which serves as glass and a foot, on which the clock stands on.

Sanding, giving the wood its color, waxing and polishing, are the activities, that every time become some sort of a surprise, there is always a different effect, we achieve a different version.

As I mentioned, projects presented here, are only a part of those, that are most "finished". I hope, that the best of them is still ahead of me :)

TEACHING

In 2007, I was asked if I am interested in sharing my designer's experience and picking up a job of a lecturer at newly created subject at University of Technology and Life Sciences in Bydgoszcz. At the Mechanical Engineering Faculty began the work on opening Design, such close to me. Those were not "industrial forms", but classic design, with its all "luggage" of the experience, which covered it throughout the last couple dozen of years.

I happily agreed to the proposition. Keeping in touch with young people, people, who want to study this profession, this difficult, yet creative craft, was really motivating me to gain new skills of sharing my knowledge and experiences to others. I've been learning this for the first years of my teaching career and I still do, hoping that the way I do it gives the young people a solid base and good starting point for their independent career. In attached iconographic materials, I present my students' work, both semester and degree. From the attached photos and visualizations, you can see, that the profile of my workshops is very wide. I don't insist on a specific direction, I'd like more to show my students various tasks to solve, in which they can test themselves, and gain many important skills and abilities, which can be used in future education and their career life.

We work on many topics, so that throughout the entire course, the student will "get through" various problems from different design spheres.

For all my career life, I was a designer, I designed, as I mentioned before, "almost everything". I was a total practitioner, someone, who learns his job by designing things. It gave me a lot of material to share it now.

Each student is an individual case. You can't lie to yourself however, that all of them are hotheads, who can't imagine their life without design. Some of them will just change their profession after graduating, not feeling the need to realize themselves in the job. Part of them, even if finds a job in their profession, does not have enough talent, patience and skill to become a really good designer, they become decent (more or less) artisans, who work in advertising agencies, serving in graphics and advertisement matter.

But there is a group of people, who have the strength to fight for their position in the profession, to find fulfillment, to make their dreams come true and study in every way possible.

Those people are, who take part in various competitions, fight for internships, scholarships, practices, those, who are not afraid of the challenge and are hungry not only for success, but also, for curious "cases" to design. They find huge and true joy and satisfaction in creating something, finding a "way". Satisfaction, which I have too, by co-working with them.

After graduating, young design adept usually needs 2-3 years to become a fully conscious designer, to mindfully use the technologic-material support he has. He has to learn the ropes of technology, which keeps going on and gives us new possibilities all the time. Above all, the designer has to find his best way of communication with the engineering-technical team. Has to learn the hard task of expressing his opinion and ideas, also has to let himself convince for the objective requirements, which engineers and technologists make.

Lately, there is a lot of fuss about Design Thinking, as a perfect "way" of designing. In our university, there also has been created a DT unit, which gathered large donations for their actions. Suddenly, it turned out, that from what seemed to be a part of a design process, a new, independent "value" can be created, a new entity. Our students' actions also had been involved, using their potential and creativity.

Yet, I cannot see anything innovative or new in this method. Moreover, I don't see a new, better way to design things. It is just focusing all of the energy on the first part of the design process, instead its outcome and final result.

DT focuses on making brainstorms, asking around the users, observing potential customers and writing down all the ideas on the yellow, sticky papers.

Without a doubt, this entire creating part in this way, is very crucial. However, making it another area of actions is, in my opinion, a mistake, as it is just a part of the entire design process, and not a separate entity. An entity, which was turned into a individual value.

And now, here comes a question - what happened before DT? Weren't excellent projects made? Was the designers' creativity lesser? Couldn't the projects be perfectly thoughtful? Projects that are functional, ergonomic and are using newest technologies? Projects, that delve into the future, set new standards, are exploratory or even revolutionary?

For people from outside (even those from our university), those actions seem like a innovative approach to design, new and cutting-edge way of realizing projects. Thanks to the skillful marketing "game", DT fans turned it into a decent "business" and a possibility of manipulation. Manipulation, which picks from the entire projecting phase the most "pleasurable" parts, which are discussions and making as many ideas possible. Using this way is not, of course, a mistake, but making it a recipe for a project, the only one possible, is an error. There are many "cool" ideas created and their makers think, that they are great designers. We focus on the most eye-catching phase of the work, creating various visions, and not really worrying about their execution, and making the constructors, engineers and technologists only needed to realize them. It turns out, that anyone can design and Design Thinker is someone "better" than normal designer. Design Thinker is someone, who creates whereas designer just executes the ideas of the Creator.

Our gasp with this piece of design, which DT wants to be, made the designing "easier" and more accessible for the people from the outside. The rest of the design stayed at its place and nobody tries to tear the technology, ergonomics, construction away from it. They are just too difficult, they are as integral and inseparable part of the entire design as... drawer's pencil.

This is, what I'm trying to instill into my students. They have to see the whole, not only the small parts. Design is a whole entire process of creating a product. The designer has to have open mind, an imagination, so that he can get his inspiration from another sources, sometimes from very distant worlds, so that he can create unique and timeless things. But also, he has to prepare and design them, so that can be realized, so that they could be manufactured using available technology and sold in enough numbers, so that the product and the entire investment pays off. So that the elusive thought could become an executed idea in a form of a ready product, and not just a text on a yellow piece of paper.

To achieve this goal, with help of friendly companies, we organize all kinds of project workshops, practices and ventures, that are meant to introduce our sudents to many types of technology, manufacturing processes, new materials and everything involving introducing the product into the production.

Near the end of the last year, we started cooperation with Toruń-based company called OptiGuard, for which, senior year students were designing various security projects. The company specializes in electronic anti-theft systems for shops. We designed various forms of presenting the products with an ability of using them on different surfaces. They are used to present phones, tablets, laptops and other electronic stuff, like cameras, shavers, hairdryer, hair straighteners etc..

My students also took part in designing projects for companies such as: LOFTDecora, Stark, FADO and many more.

Lately, with a help of Impuls company, we executed series of design workshops. Workshops, which were a complex venture, of which goal was, to introduce the students to newest technology the company has. Students also learned about methods of carving details in plastics and metal, also, they studied technologies allowing for creation of thermoplastic forms for all kinds of casings, methods of isolating them, and issue of graphics and their placing on a finished product.

We also learned about available techniques of prototyping, making models, which later become an experimentation "field", on which, later construction and functionality trials are being performed.

During one of workshops, students met one of our graduates, who had been working in Impuls for past two years. He spent his first seven months in a prototyping hall, where he thoroughly studied the construction of these products. This specific „schooling” and precise technologic study caused our designer to become more mindful designer, designer, who was fully aware of the area, he can use in his projects and his company's possibilities, as soon, as he become a part of a design unit.

For many years, our university has been cooperating with many local and nationwide companies, among others, Pesa, who is a national railroad producing leader. Pesa, in its R&D, hires more than 250 engineers, where majority of them are our graduates.

The company is working in cooperation with many science units, local and foreign. However, a special place is for our university, with which Pesa keeps tightening the contact and cooperation. Milestone, was the opening in 2014, a large structure research lab, used to test vehicles' endurance.

It was an inauguration of a research project done as a part of INNOTECH program. The equipment was bought thanks to that INNOTECH program, supported by National R&D Center. In the newly created lab, we research, test our constructions as well as constructions of our friendly companies, among others, Famor and Pesa. During a month or two, we simulate more than 30 years of usage, checking each element of the construction, its behavior and durability. This research show the weaknesses of the project as well as its details', allowing us to remove them and prevent from appearing in the future. During the conducted research, the parts of equipment have to withstand endurance and pressure tests, that resemble the influence of various forces during all thirty years of vehicle's life. Lifting elements and interior equipment also needs to be tested.

Yet this cooperation gives much more advantages, than just a possibility of verification of the newest construction solutions. Teaching aspect is also very important, as in this lab, students gain practical knowledge as well.
We begin our work from simple research on structure of the used elements and materials. Then, our students, can test durability of materials and constructions used in automotive and aerospace industry. University does not want to leave the cooperation at this state, of course. Soon we launch admissions for the new specialization, on which, students will learn more subjects useful, when working in Pesa, Famor or Solbus, and the knowledge will be shared with them by engineers and constructors from many companies of Bydgoszcz. Each year, Pesa hires large group of students from our faculty i.e. Faculty of Mechanical Engineering. Many of the employees, including the management, are graduates of our university.

By executing curriculum of Design Department of University of Technology and Life Sciences in Bydgoszcz, we prepare the student to work in a broadly defined job of a designer. Nevertheless, to make this education viable and prepared the student well, we need to delve into the future, be ahead of the market's needs and plan this perspective well.

That is why main idea behind my workshop is not only to take care of aesthetics, but also to search for best functional, constructional and material solutions possible, adjusted to the investor and customer's needs. Customer both global and local, whose needs are thoroughly analyzed and consulted with regional employer and entrepreneur unions. Internship and practice system in our local companies, as well as precise cooperation with local business, lets transfer gained theoretical knowledge onto practical skills, essential for this job. It also allows for adjusting our curriculum to market's needs and its quick adjustment based on economic and technological changes.

While trying to reach best local market's appeasement and comprehensively prepared design graduates, I decided, that in the immediate future, I should expand my teaching with new spheres of education. Those directions origin evenly from our industrial region's traditions, its long-term conditions, its specifics, and from rapidly developing new branches and types of industry, which keeps opening new companies and factories in our voivodeship.

Besides business entities, important element, stimulating our expanding direction is cooperation with City Hall of Bydgoszcz and actions tied to satisfying the needs of rapidly developing city.

Bydgoszcz always had big fair tradition, but currently, the possibilities of organizing fairs and events have been raised even more, thanks to buidling of Convention Center in Myślęcinek . This center, will be organizing many local and international fairs and conventions for upcoming years. To make their offers be fully complex and professionally presented, booths and interesting exhibition places will be essential. There will be a large interest in well-prepared and educated designers, who will be able to prepare interesting and innovative projects on a highest level, for international companies. More than once, very demanding clients, which will be interested in world-class work.

This specialty will expand our students' professional designing skills by the public usage objects and convention areas. It will allow the graduate to learn the entire design process - beginning with an idea, then documentation, learning newest convention systems. It will prepare our students for analyze this branch of market, its correct estimate, what will allow our graduates to start a career in a indoor decoration and its consulting sector. It will allow for designing expositions in open and closed spaces, art exhibitions, museum exhibitions, commercial exhibition zones and various other exhibitions in shops and malls. From start to the end, whey will learn about the process of creating an exhibition model, by learning rules of perspective, mockup construction and computer-based space arrangement. They will gain

the knowledge and skills allowing to execute an exhibition project on their own or in a team. They will learn to design the arrangement of the space and various events of differing scale - from small, intimate, to large - outdoor. The graduate will also be ready to work in cultural institutions and various educational facilities and for a work concerning interior space shaping with various functions. In this teaching, we would emphasise on teaching students the projecting technique, which allows for creative space shaping and picking up assignments concerning various exposition design, as well as broadly defined area of visual communication.

Another necessity, very connected to the current design, is an ability of handling all kinds of plotters, laser, carving, cutting, that are used to modify clingfilm, cardboard, plywood, paperboard, metals and plastics, like plexiglass, PVC etc..

Our students, during the course, gain the ability of creating and modeling various spatial forms in modeling programs, widely known as 3D. These skills are very important and essential for a designer, especially today, on such demanding market. I believe, that to this pool of skills, without a doubt, we could add an ability of an execution, which is transferring your projects from a PC to CNC machines and various other milling machines, 2D-engraving and 3D-printing, which is an thorough study of Rapid Prototyping. Those technologies are a part of the new branch of technology, which uses additive manufacturing. Their street name is 3D-printer. They allow us to create models very quickly, from basic visual, to fully functional prototype. We can also make short production series, thanks to them. After projecting phase, we can immediately make a visually ready product, which, as I said earlier, saves us a lot of time.

Rapid Prototyping is developing very dynamically also in Poland. It is observed, that there is a lack of the specialists of those devices here, not only concerning the handling, but the modeling their own projects.

Important issue, which could also adjust our Department to the employers' needs, is preparing the students to create professional forms, various wrappings and containers with their entire printing covered - for projects concerning paper or cardboard - for printeries, and in case of polyethylenes - for companies concerning plastics.

Very large amount of polygraphist companies and printeries - much larger, than in other regions, would successfully hire our graduates, giving them employment and worksite.

Also thanks to high quantity of plastics manufacturing companies, our graduates could have many possibilities to come true, in wrapping sphere, as well as in various domestic equipment.

Last issue, letting us target the city's needs better, will be shaping the qualifications, that are essential to realize and satisfy our agglomeration. Taught project workshop will give, besides

possibility of creating equipment, furniture and other objects from our surroundings, also give an ability to create small architectonic functions or entire city spaces. It will create a designer, that will move around cityscape freely, preparing visual design for companies, shops, offices as well as their advertisement in cityscape, tying it into a harmonic entity with building's elevation and entire architectonical context. Designer, who will create and shape the people-friendly, craft their surroundings, playgrounds, courtyards and bus stops. Designer of the mentioned exhibitions, booths, and fairs, which is commercial architectonical space.

Students will gain abilities of fast movement around complex space contexts, will learn to use the small architecture's language, visual information, entire aesthetics sphere of the city, so messy in many places, but now in the spotlight not only of the local governments, but also national (The Landscape Bill).

They will gain the ability to search and use the place's advantages, which will let revive it, change its function and generate new values, and in future - new workplaces. All of this can be achieved too, as a research and placemaking programs, which begin their career in Poland.

It will also allow to learn about the history, aesthetics's tradition in comparison with modern trends and technologies.

Ultimately, the students will realize city-based design tasks, tied to the local tradition and displaying values characteristic for our city, e.g. designing around the water, for the water (waterfront).

They will move around chosen cityscapes, for which they will prepare interdisciplinary analysis, aiming for learning the specific problematic, expectations' articulation and finally, designing specified project issues, concerning couple of topics, e.g. urbanism, architecture, design, antique knowledge, visual art.

We want to put the design work into real conditions, which is a law context, as well as branch requirements and execution capabilities, which will let students learn the practical aspects of the job.

Our goal would be to practically connect our students' gained skills with the City's needs. By keeping in touch with the Town Hall, especially with the City's Artist, Civic Antique Conservator, City's Aesthetics Council, we would like to enable the students to make the city's orders come true, of which best ones, would not only be rewarded, but also, manufactured in real life.

Educational activities and its practical execution, come forward against not only increasingly displayed need to tidy up the city's aesthetics (e.g. President's initiative of Landscape Preservation Bill), but also, can make canvas to initiate such hyped cooperation of local business with the university, based on the new tranche of EU's funds.

The array of skills, the graduate would gain, would range from design, architecture, interior

architecture, space shaping, exhibitions, advertising, photography, packaging, marketing and visual communication.

The graduate, after getting his degree, will be entitled and prepared to design model manufacturing, interiors, exhibitions, fairs, creating inhabitants' nearest space, their relax and leisure, as well as entire advertising infrastructure.

Wide spectrum of topics, that build up our curriculum in addition with gained practice, will give the students possibility of fluent pick up of the career job in chosen companies, or continuing the career on their own, in personal design offices.

THE BENCH

...is yet another common venture and exhibition, organized by Design Department of our University and the City of Bydgoszcz. The BWA Gallery's exhibition, was displaying students' projects of city benches designed not only for the residents, but also, for a growing group of tourists, visiting our city. Those were the students' work from my workshop, preapred for the competition announced by the Promotion Department of the Bydgoszcz Town Hall, which competition I was directing for its entire course of action - from the moment of creation of first projects, until the final manufacturing part.

Main project's assumption was to create interesting and unique spatial forms, made for leisure, relaxing and residents' meetings. Places, that integrate, encourage talks, but also give a little bit of a rest and isolate us from the everyday hustle and bustle, at the same time creating an interesting addition for our surroundings.

Those actions are among others, a result of signed last year Intention Letter, between the Design Department of our University and President of Bydgoszcz.

Cooperation of the university with the city in a form of a competition initiated by the Promotion Department and continued by the City's Artist, showed, that the city's needs can be beautifully connected to open and creative students' work, so that the elaborated piece, will serve us all.

As a result, we received a lot of intriguing ideas form the designers, not only benches, but entire spaces and leisure complexes, places unique and extraordinary, which color our city, our surroundings. They spice up the surroundings, in which we live and exist everyday. They create very individual, expressive places, so much needed for our city, to give it some character, give it that essential warmness, that makes our lives more pleasant.

On the exhibition, we could see simple and clear projects in terms of form, but also very complex and stylistically rich ideas, accenting their presence in the space. You could see proposals, that beautifully blend in with the surroundings, as well as those, which contrast with it, dominating and creating new quality of it, changing it and defining from scratch.

Second year Design student, Agata Bryk, won the competition, in her work, she related to old infrastructure of the Bydgoszcz's canal, in creative way inspiring herself with past years' technology. A beautiful and simple project was made, combining tradition with modernity. An idea fascinating everyone with its sculpting structure and expressiveness of the form.

Second place was awarded to Anna Cichosz, also second year Design student. Here, we have a project, that differently than usually, treats the contact between the users, by placing them against each other, giving more straightforward form of contact, than traditional bench. Very universal idea was made, matching not only cityscapes, but also all kinds of parks, courtyards, and green belts.

Next award was given to another second year Design student - Ewa Grzelczak. Her project enraptures with its scale and unusual use and transferring architectonic forms into small architecture, which in this project becomes a very original and innovative value.

Commendations were given to: Justyna Walczak of third Design year, Martin Tarasiński and Maria Dalecka of second Design year and Monika Pulikowska of third Interior Architecture year.

The jury of the competition, which was working by the President of Bydgoszcz, Civil City's Aesthetics Council led by prof. Dariusz Markowski did not encounter any problems, when choosing winners among so many interesting ideas and concepts. Many of the presented projects, despite not getting an award, have excellently fulfilled the Organizer's expectations and have serious chances to manufacture and locate them in the space of Bydgoszcz's streets, parks and alleys.
We recently made first two benches of award winners, which are placed on the Wyspa Młyńska and near Opera Nova. Thanks to the help of sponsors we created first and second place winners' benches. We truly hope, that the finished propositions will permanently blend in the cityscape, beginning new tradition of decorating our city with unique forms of small architecture.

EXHIBITIONS

Artistic and design actions of each of us, are firmly tied to various forms of presenting our achievements and creations, no matter if is "clean art" or design work. Designers, whether architects, graphic designers or designers, do not have as many options, as other creators, but more and more often, many art galleries and exhibition halls open themselves on the applied art, which draws and convinces many viewers with its level, finesse and beauty.

I will begin with most prestigious place for a designer in which can he present himself, which is an edifice of Industrial Design Institute in Warsaw. I had a pleasure of presenting my work there at "Sztuka Projektowania" exhibitions and also, exhibitions summing up the "Dobry Wzór" competitions, which award I was given three times, for my projects and introductions.

Besides, my works were presented on "Teraz Polska" award winners' exhibitions, which award I was given four times for products in which designing I took part.

Moreover in Poland, I was showing my projects in "A" Gallery in Toruń, where I presented my projects on the ROGO Studio's exhibition, in Bielsko Biała on a Projekt Arting exhibition, in Innovation Gallery located in our university and in BWA Civic Gallery in Bydgoszcz.

Besides mentioned here local shows, I presented my work at, among others, Neste Forma exhibition in Finland, in Sakai in Japan and at the "Kuchnia i kultura stołu" Maggi Edition in Germany.

For four years, together with the entire team of Design Department, we organize Festival Synteza Sztuk. On the festival, we present representants of various artistic disciplines - music, painting, sculpture, graphics and project arts - architecture and design. The idea behind it is "transfer of thoughts of artistic unity and intellectual as well as emotional spaces with preservation of various art disciplines' autonomy ".This motto, invented by festival's main originator, prof. Wojciech Hora, the Headmaster of the University of Fine Arts in Poznań and the co-creator of our degree course motivates us every year when organizing the Festival.
Each year, the festival hosts events in few places at the same time, confirming its main idea - artistic variety synthesis.
In 2014 we opened three exhibitions:
In BWA Civic Gallery, "clean art" of invited artists was shown. There were graphics, painting, sculpture, as well as installations.
In NEXT Gallery, pure design was shown - manufactures as well as projects. The authors were the designers - lecturers of the Design Department and invited artists outside of University.
Design graduates' diploma works, were presented in a gallery of Drukarnia Fashion House. As a part of "Synteza", we also prepared arrangements of empty showcases of shops, filling them with designer content, which were the projects of our students. This is how Design Department began its efforts for bringing back its attractiveness to Długa street, one of most beautiful streets in our city.

With the idea of our Festival, we also moved outside the borders of our country. 6th July 2014, in Polish House in Vilnius we opened another large exhibition of artists related to

Design Department. On the exhibition, I presented around a dozen of my chair and armchair projects.

In past and current year, as well as in years before that, as a part of the Festival, we organized many exhibitions presenting our designers' achievements. I had a pleasure of presenting my newest works in Kantorek Gallery and BWA Civic Gallery.

Last year's edition of our Festival, traditionally opened at BWA in Bydgoszcz, ended in September with an exhibition in City Museum in Khmelnytskyi in Ukraine. There, we presented our and our students' works alongside project of students and professors of Design Department of National University in Khmelnytskyi.

This year, we were hosting our Ukrainian friends during May's edition of the Festival, where alongside us, they presented their paintings, photography and designs.

As always, we presented our works in various art and design types as well as newest degree works of our graduates. Besides the diplomas, on the exhibition we could see another students' designs, prepared by the Design students for the City of Bydgoszcz. Projects, which similarly to diploma works, show, how many other fantastic things can be done for our city and how well do the young designers handle it.

PHOTOGRAPHY

While working for so many years as a designer, while taking part in various ventures, projects and research vouchers, where pressure of time, success and result determines our all actions, I found in myself a growing need of finding a private space. Work in a peaceful, lone and free environment. Subordination of my choices only to my own intuition and knowledge. This enclave, in which, I move freely, is photography, exactly.

DECADE, with this time lapse describing word, I entitled my exhibition, which sums up last 10 years of my fascination with photography. This exhibition was presented in the beginning of last year in BWA Civic Gallery in Bydgoszcz.

Selected photos from that time duration, are notes from travels, hikes and spontaneous shots taken suddenly and live. Pieces of life, normal people, typical situations and places. This discovery, observation and picking up the small reality fragments from the world surrounding me. This short flash creates pictures, which I want and desire to present and share my feelings that are made when watching and saving it.

Photography is my language, my speech, expression of emotions and a mean of communication. I don't write words, I don't put sentences together, just take note of the moment, I show it and keep it on photography. I capture places where I've been, people, which I saw, save everything that intrigued and astonished me. In terms of form, as well as

the situation. There is no calculation in me, nor a need of adjusting to a defined direction and style. Intuition and honesty is only thing, that lead me. Those assets allow me to keep the shot simple and clear, remove the details. I don't have to color or beautify anything, I just "cut" the useless pieces away, to keep the essence, the entity, that captivated me and awoken my interest.

Presented works are the fragments of the notes of last ten years of my work. It is my "non occupational" part, but the one, where I am truly one on one with a part of "excised" world, and freely, without anyone's influence, I can create this world.