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A DETAILED DESCRIPTION OF THE OBJECT OF THE CONTRACT

## **Exhibition for Children**

### **PART I — GENERAL PROVISIONS**

**General information concerning the intended use and location of the exhibition and the exhibition area as well as the description of the object of the contract.**

The Innovation Centre Mill of Knowledge is a self-government cultural institution founded by the government of the city of Toruń. It is located in the historical part of the so-called Richter Mills, dating back to the 1940's. The building consists of two parts – the former mill and grain elevators having 8 and 10 floors respectively, wherein the ICMK shall occupy 6 and 7 floors respectively.

The remaining two floors of the mill, in which the exhibitions are located, have been assigned to the needs of another institution. The Centre's location in historical buildings of Toruń determines the character of permanent exhibitions presented there: 'O obrotach' [On the Revolutions], 'Rzeka' [The River], 'Siła i energia' [Strength and Energy] and 'Idee człowieka' [Ideas], two of which, namely 'On the Revolutions' and 'The River' have already been installed.

Under the object of the contract the Contractor shall design, make and deliver a Children's exhibition consisting of 13 exhibits together with pictorial and text exhibition messages, install it in a display area in the Ordering Party's seat, and appropriately arrange the Exhibition space and the hall intended for the display of the exhibits. The exhibition is to be located on the fourth floor of the building.

## **1 Basic information**

### **1.1 Visitors**

The exhibition is addressed to individual persons and organised groups, in particular children aged 2-10 under supervision of parents, and will be available to other visitors.

Organised groups shall stay on the premises of Innovation Centre Mill of Knowledge only with their group leaders.

### **1.2 Topic of the Exhibition**

The main function of the Exhibition will be a creation of children-friendly space that provides an opportunity for fun and living an adventure. The exhibition shall have an educational role by an appropriate choice of themes for the stations, as well as an attractive method of conveying educational content. The exhibition will present the exhibits about nature, mathematics and logics, and whose purpose will be to develop the habit of scientific thinking, as well as stations that will develop manual and building skills in children together with psychomotor coordination and understanding of cause-and-effect progressions.

### **1.3 Characteristics of the Exhibition**

The Exhibition shall be interdisciplinary. The Exhibition shall comprise exhibits suitable for children aged 2-10. The spatial arrangement of the exhibition room and the corridor must be coherent in terms of thematic content and colour scheme. The space designated for the Exhibition shall comprise a room with the exhibition area of 97.56m<sup>2</sup> and a corridor of 46.27m<sup>2</sup>. The corridor is located next to the exhibition room connecting it with a children's Creative Studio and together comprises a passageway that ensures access to lifts, toilets and technical rooms. The project of spatial development of the exhibition area and the corridor must conform to legal norms of health and safety at work regulations (BHP) as well as fire protection regulations and take into account the passageway function of the corridor. The floor plan of the exhibition area together with the corridor constitutes Appendix 2 to this document.

### **1.4 Elements of the Exhibition**

#### **1.4.1 Stations**

The exhibition shall include 13 stations in a space that is appropriately arranged in terms of colour and style. The dominant exhibit of the Exhibition shall be a tree with a "small house" placed on it. The exhibition shall feature interactive hands-on stations, some of which will be additionally equipped with simple multimedia elements (light signals, sound recordings and slide projectors).

#### **1.4.2 Spatial Arrangement of the Exhibition**

The room and the corridor intended as the Exhibition area shall be arranged in a manner that is attractive to children (colours, shapes, designs). The arrangement should encompass

the walls, floor, ceiling, and the elements of small architecture, including areas of relaxation for visitors. The spatial arrangement should be colourful and conducive to spending leisure time at the Exhibition for children and their guardians. The designed stations and elements of small architecture should conform with the norms relevant for children's playing areas, whereas the materials used should have relevant safety certificates. The arrangement solutions used must allow for the specifics of the building (it is covered by the manufacturer's warranty) and be accepted by the Ordering Party.

### **1.4.3 Exhibition Messages**

Each station has to be accompanied by a pictorial and textual exhibition message.

The message shall include:

- name of the station in Polish and English;
- instructions for the Visitor to conduct an experiment (step by step) in pictures;
- a short interesting fact regarding a given exhibit in Polish and English;

The information included in the exhibition message must be clear and the graphic form should attract visitors to approach the station (coloured pictures, short texts). At the same time the descriptions must be prepared in a manner that will enable the Ordering Party (in the event of such an occurrence) to modify the description content. The descriptions must be prepared in Polish and English.

All station descriptions must be coherently blended into the overall style of the Exhibition. The Contractor may blend the descriptions in the station or its immediate surroundings. It should be ensured that the layout of free standing messages (if the Contractor suggests such a solution) does not pose threat to the security of the visitors (no sharp and projecting edges allowed; no possibility of tripping over, hitting against something, etc.)

### **1.5 A technical description of the building: Exhibition area 3.10 and corridor 3.09**

The building of Innovation Centre and the Toruń Technological Incubator is an adaptation of mills and grain elevators built in the 1940's. It consists of two parts having 8 and 10 floors with the height of 33.4 m and 40.35 m respectively, i.e. it is a tall building. The building consists of two functional parts which are used by two different Users – the Innovation Centre Mill of Knowledge and the Toruń Technological Incubator. The Centre is located on the 1<sup>st</sup> floor (partly) and on the floors from 2<sup>nd</sup> to 6<sup>th</sup> and partly on the 7<sup>th</sup> floor, whereas the Incubator's seat is on the 1<sup>st</sup> and 7<sup>th</sup> floors (partly), on the 8<sup>th</sup> floor and partly on the 9<sup>th</sup> floor. At present there is a multi-storey exhibition space in the Innovation Centre (in the former grain elevators) and popular science studios (in the part of a former grain mill).

The part used by the Centre is a seven-storey space consisting of mezzanines opening to a cone-shaped space defined by a plane parallel to the plane of movement of the Foucault's Pendulum. In the popular science studios zone there are didactic, experimental and workshop rooms. Mobility is ensured by two staircases and two lift systems with vestibules. The zone is also a passage place from the exhibition space to the studios zone. The building in its part over the ground is in the form of a rectangle with sides sized 29.6 m and 37.3 m. It is based on a reinforced frame structure and supported by reinforced pillars, rectangular in

cross-section and their cross-section dimensions varying on particular floors. On the level of ceilings between the pillars there are ceiling joists with a characteristic change (increase) in their height near the supports. The floor slab with the reinforcement is 12 cm thick (15 cm on the flat roof). The 15 cm thick roof plate is designed to shift the weight from the air-conditioning devices. On the roof plate, above a number of inlets, there is a space provided for a steel structure turret, where the Foucault's Pendulum is hung.

In the central place of the space there is a 27.71 m<sup>2</sup> hole in the ceiling, surrounded by banisters made of laminated glass with a handrail at the height of 1.10m, protecting the zone in which the Foucault's Pendulum is exhibited.

The building is adjacent to the International Youth Meeting Centre. There are three entrances to the building. The main entrance to the Innovation Centre on the northern side, the main entrance to the Technological Incubator on the eastern side and the Innovation Centre's emergency entrance/exit on the western side.

On the ground floor in front of the main entrance sized 180 x 200 cm there are four gates: two turnstile gates and two swing ones. There is no option of disassembling the gates for the period of installation of the exhibition.

Ironworks of the internal doors leading to the exhibition space are made of aluminium profiles (colour RAL 9003), filled with a translucent glass.

The room 3.10 with an area of 97.56 m<sup>2</sup> (appendix: architectural plan no TAWR 04 and section no TAWP 01. Grey coin-grip rubber flooring. In the room there are two reinforced pillars, the measurements of which are respectively: 795/805/795/805, and 780/595/780/595. Proprietary suspended ceilings made of plates with perforated core made of mineral fibre and a coating of acoustic fleece (thickness of the plates – 19 mm).

In room 3.10, there are located:

- 20 fluorescent lamps (powered from the TC 3.1 switchboard)
- 8 in-built socket lamps, opal glass lamp shade (powered by TC 3.1)
- 17 TCK 230 V sockets (powered from the TCK 3.1 switchboard)
- 1 splash-proof socket located next to water valves
- 2 60cmX60cm heaters below the windows
- 2 50cmX60cm heaters on the southern wall
- 2 ceiling air inlet vents
- 2 ceiling ventilation exhausts
- maximum room height: 2,94m
- 1 2291X1412 window
- 1 2278X1409 window
- coin-grip rubber flooring

The Contractor undertakes to ensure that the Ordering Party shall not lose the guarantee of the general contractor of construction works or the Contractor undertakes to ensure guarantees for the executed works connected with damage of construction works already carried out, for the period not shorter than the guarantee given by the general contractor. All costs connected with such a change shall be borne by the Contractor.

Furthermore, the building provides for the following installations, systems and devices:

- \* fire alarm system;

- \* voice alarm system;
- \* BMS automatic ventilation and building management system;
- \* telecommunication installation of intrusion detection system signalling
- \* IDS, access control;
- \* KD, CCTV surveillance television;
- \* installation of a structural network (computers, telephones and network equipment and of a switchboard).

The building has a mechanical intake and exhaust ventilation with air-conditioning of the rooms. The core of the system will be the three roof air handling units and one suspended air handling unit in the attic, directing the outside air to proper rooms. The installation of ventilation of the whole exhibition space has been designed as an installation with a laminar flow, with the use of skirting displacement flow diffusers. Such a system is aimed at eliminating the influence of ventilation air movement on the exhibits' work.

Furthermore the building provides for LED emergency lighting of small intensity.

### **1.6 Types of Exhibits**

The Ordering Party provides for installation of hands-on types of stations at the exhibition. Hands-on stations require the involvement of the user to achieve the desired effect. The main purpose of these stations is to stimulate the visitors' thought and creative processes, prompting to physical activity and developing coordination.

### **1.7 Interactivity Types of the Exhibits**

All the stations of the exhibition shall be interactive. The stations which meet this requirement shall be considered as such if they represent at least two of the following types of interactivity:

- Manual: station requiring the work of hands;
- Motor: station requiring the movement of the whole body and motor coordination;
- Sensory: station requiring the use of senses (e.g. sight, touch, smell, etc.);
- Intellectual: interaction using the visitors' knowledge.

## **2 Description of the object of the contract;**

### **2.1 Designs**

**2.1.1** Creating graphic and working designs of the Exhibition elements and delivering them to the Ordering Party, in particular:

**2.1.1.1** Creating graphic and working designs of the particular stands in the Exhibition in electronic and paper format, and delivering them to the Ordering Party.

**2.1.1.2** Creating graphic designs of space arrangement of the entire Exhibition in electronic and paper format, and delivering them to the Ordering Party.

- 2.1.1.3** Creating a preliminary graphic draft of the exhibition messages which shall include: the graphic symbol of the entire Exhibition, name of the stand in Polish and English, pictorial manual of how an experiment should be performed and interesting facts in Polish and English, in electronic and paper form.
- 2.1.2** Creating and delivering updated visualisations of the stations together with the exhibition messages and of the whole Exhibition, presenting the Exhibition from each side, during the day and in artificial lighting, on the basis of designs mentioned in clauses **2.1.1.1**, **2.1.1.2** and **2.1.1.3**, after their final acceptance by the Ordering Party:
  - 2.1.2.1** In electronic form, with parameters which enable to make printouts sized 0.7 m x 0.5 m without deterioration in their quality. The prepared files must have appropriate parameters which provide a readable and proper image. The required parameters are: CMYK colours, resolution of at least 300 dpi on the 1:1 scale, files saved in the „tif” format on the 1:1 scale,
  - 2.1.2.2** In the form of an imprint on a PCV board sized 0.7 m x 0.5 m for 3 visualisations chosen by the Ordering Party among the electronic visualisations delivered by the Contractor,
- 2.1.3** Submitting to the Ordering Party a cost estimate including the prices of the Exhibition’s elements mentioned in clause 1.4. and all the other costs necessary to execute the object of the contract (after the final acceptance of the designs by the Ordering Party) in electronic and paper format.
- 2.1.4** Providing the Ordering Party with the information concerning the yearly cost of the Exhibition’s operating in electronic and paper format.
- 2.1.5** Providing the Ordering Party with a list of all spare elements meant for all stands, together with their number in electronic and paper format.

## **2.2 Manufacture, Delivery and Installation of the Exhibition’s Elements**

- 2.2.1.** Creating exhibition messages for all the stations, which shall include:
  - a.** name of the station in Polish and English,
  - b.** pictorial instructions for the performance of the experiment,
  - c.** interesting facts in Polish and English.
- 2.2.2** Providing the Ordering Party with the content of exhibition messages including the elements required in clause 2.2.1 in order to obtain their acceptance and make necessary changes on the basis of the Ordering Party’s observations made in writing.
- 2.2.3** Manufacturing of all the Exhibition’s elements according to the designs accepted by the Ordering Party and mentioned in clause 2.1.
- 2.2.4** Testing of all the Exhibition’s elements in the presence of the Ordering Party’s representatives and making necessary changes on the basis of the test’s results.
- 2.2.5** Delivering all the Exhibition’s elements to the Ordering Party’s seat, i.e. the stands, exhibition messages and space design.

**2.2.6** Installation, start-up and integration of all the Exhibition's elements, i.e. the exhibition stations, space design, exhibition messages, [are] according to the designs referred to in clause 2.1

**2.3 Delivery of spare parts, post-completion documentation and training of the staff.**

**2.3.1** Delivery of spare parts which can be used for repairs (referred to in clause 2.3.4.) made during the warranty period by trained employees of the Ordering Party.

**2.3.2** Delivery of all consumables for the particular elements of the Exhibition for the first six months of its presentation, beginning from the day on which it would be received by the Ordering Party, the Innovation Centre Mill of Knowledge.

**2.3.3** Providing the Ordering Party with the content and graphics of the exhibition messages on an electronic carrier: a CD, DVD or USB memory in electronic form allowing for their free modification.

**2.3.4** Creating documentation of the Exhibition and delivering it to Ordering Party. The documentation should include at least the following information (post-completion documentation):

- a. a list of Exhibition's elements (stations and elements of the design)
- b. names of the stations,
- c. purposes of the stations,
- d. graphic and working design of the Exhibition and its particular elements
- e. a detailed manner of functioning of particular stations,
- f. a detailed description of phenomena presented on the particular stations,
- g. number of people who can use one station at the same time
- h. detailed information concerning the media and consumables necessary for a proper functioning of the stations,
- i. a list of repairs which can be made during the warranty period without prejudice to the warranty conditions by the employees of the Innovation Centre Mill of Knowledge, trained by the Ordering Party.

**2.3.5** Creating an operating manual, rules of control, service and maintenance of particular elements of the Exhibition in Polish, in paper and electronic format, as well as the warranty cards and delivering them to the Ordering Party.

**2.3.6** Submitting the results of tests referred to in clause 2.2.4 to the Ordering Party.

**2.3.7** Transfer of software licence and copyrights to the photos, graphics, drawings, fragments of source texts, films and animations as well as other software and creations used in all the elements of the Exhibition, to the Ordering Party.

**2.3.8** Submitting a declaration of the object of contract's conformity with the applicable regulations and standards to the Ordering Party; the elements of the Exhibition and of the design have to meet the European safety standards and have proper declarations of conformity, shown by the CE marking, or declarations which are equivalent to them. The exhibition must conform with the norms for children's play areas and obtain authorization from a relevant certification body.

**2.3.9** Transfer of copyrights to the object of the contract to the Ordering Party under the terms and conditions defined in the contract.

**2.3.10** Training of the Innovation Centre Mill of Knowledge employees in the scope of management, inspection, maintenance and servicing of the Exhibition's elements made by the Contractor to the extent enabling the workers to make repairs (referred to in clause 2.3.4), also during the warranty period. A training session for a group of maximum 20 people shall be conducted at the Ordering Party's seat, in Polish or English. The duration of the training shall be suggested by the Ordering Party in the schedule.

## **2.4 Characteristics of the stations**

The Ordering Party has prepared a list of 13 hands-on stations (Table 1).

No	Name of exhibits	Theme, suggested placement
1	Tree house	room
2	Hymenopteral insects	room
3	Life in a beehive	room
4	Food chain	room
5	Angling competition	room
6	Show me where you live	room
7	Racetrack	room
8	Brain-twisters	Room or corridor
9	Labyrinths	room
10	Tunnels	room
11	Balance beams	room
12	Launcher	room
13	I already know how	corridor

## **3. Requirements concerning the object of the contract**

### **3.1 Requirements concerning the arrangement of the exhibition and the space around it**

The Ordering Party requires that the design concept suggested by the Contractor be consistently applied in the whole exhibition space, meet the character of the stations' descriptions, additional elements of the spatial arrangement and the suggested symbol of the Exhibition. Colours and designs used should be selected in a manner that is attractive to children – the main recipients of the exhibition. The design elements used should be typical for children's designs and suggest to the recipients that the Exhibition is a place of fun and



education. The design concept ought not to hinder children from using the stations or interfere with the exhibits' functionality. While designing the colours of the Exhibition it should be borne in mind that the exhibits and arrangement elements placed in the corridor will be adjacent to the children's Creative Studio, where the dominant colours shall be blue and orange.

Moreover, the Ordering Party requires that the arrangement of the Exhibition, including colour scheme:

- Be consistent, with the colours used consistently for the whole design;
- Not be monotonous or too glaring;
- Has no aggressive themes;
- Includes themes connected with the subject scope of a given zone;

The design of the Exhibition should also include the walls and surfaces not used as stations. The arrangement of walls and surfaces not used should include e.g. graphics, photos, texts blended into walls or elements of small architecture, substantively enriching the exhibition. Additionally, the arrangement of the exhibition should include short texts and riddles thematically related to the station, which will enable the parents, children's guardians and guides to play the role of guides for children in the exhibition area.

The Ordering Party requires that the name and the suggested symbol of the Exhibition be blended in its overall design.

### **3.1.1 Requirements regarding additional elements of the spatial arrangement**

The Ordering Party suggests a layout of the stations – Appendix no 1. The Ordering Party allows for other solutions for spatial arrangements of the Exhibition suggested by the Contractor and taking into account the adjacent Creative Studio.

In the spatial arrangement of the exhibition there should be two places of relaxation – one within the corridor area, the other in the exhibition room in the form of seats of non-standard shapes suited to the design and colour scheme of the entire Exhibition. The Ordering Party suggests hanging leisure seats, which will relate thematically to the Exhibition (e.g. a wasps' nest), under the ceiling. The additional elements of the design must not be clustered in one place, instead, they must be evenly spread out across the entire exhibition area.

### **3.2 Requirements concerning the contents of the exhibition and the descriptions of the stations**

**3.2.1** All stations must have exhibition messages which should be blended in with the stations, or be placed on racks, special stands or built into the design elements near the stations. The exhibition messages must be placed in such a way as to be seen by visitors. The Ordering Party allows for a possibility of changing the content of the messages in the later period of its activity, which is why they have to be made in such a way so that their

replacement or modification does not interfere with the stands. The Ordering Party also requires that the contractor hands over the exhibition messages in electronic format allowing for the modification of the content. The entirety of the exhibition messages must be presented in an orderly manner.

**3.2.2** The content of the interesting facts included in the exhibition messages, as well as the short texts and riddles placed around the Exhibition should bear reference to the facts of science and nature. They must not include explanations of phenomena which are contradictory to the environmental knowledge. Fairy tale, quasi-scientific content or content violating moral norms must not be introduced to the exhibition's content.

**3.2.3** Selection of content of the interesting facts and riddles has to be suited to the perceptive capacity of the exhibition's chief audience, namely children aged 2-10, yet without overlooking the basic knowledge. The pictorial instructions should be clear and readable, and the short texts and riddles must be written in a comprehensive way, with the use of understandable vocabulary.

**3.2.4** All the textual information found at the exhibition has to be accessible for visitors in two languages: Polish and English.

### **3.3 Requirements concerning the elements of the Exhibition**

General requirements concerning all elements of the Exhibition:

- All elements of the Exhibition being the object of this contract ought to be unique, created particularly for the Innovation Centre Mill of Knowledge;
- Elements of the Exhibition have to be resistant to visitors' actions, both the ones compliant and non-compliant with the pictorial instructions;
- Elements of the Exhibition have to operate smoothly despite their daily multiple mass use;
- they must be easy to clean during weekly maintenance works, especially in the event of having been scribbled on with a marker, ballpoint pen, paint, etc.;

### **3.4 Educational requirements**

**3.4.1** Elements of the Exhibition have to be designed in such a way as to allow people with various kinds of disabilities to access it as fully as possible, with respect to the accessible display area.

**3.4.2** Elements of the Exhibition should be suited to children aged 2-10 of different intellectual, manual or mobility abilities.

### **3.5 Technical and operating conditions**

It is assumed that the Innovation Centre Mill of Knowledge can be visited daily by about 900 people, about 100 per each floor, which means that in the space intended for the Exhibition

there may be present up to 50 people at a time. The information above is to be taken into consideration when planning the Exhibition in terms of technical and operating conditions.

**3.5.1** The contents of the Exhibition have to meet the EU standards concerning lights and lighting, also with regard to the workplace. The lighting sources ought not to dazzle the visitors or put their eyesight at risk. In order to allow for a more complete reception of the Exhibition's contents and in view of the partial lack of natural lighting of the exhibition space, individual lighting of the Exhibition's elements ought to be considered. The lighting is to expose the most important elements of the Exhibition, yet it cannot hinder the usage of the stands.

**3.5.2** Elements of the Exhibition have to be made in such a way so that staying in the exhibition's space will not expose the children and other visitors to danger and so that the elements can be used safely also by the untrained persons and without the help of the organiser. On account of its nature, the Exhibition should conform to the safety requirements of children's playing areas.

**3.5.3** It is necessary to ensure unobstructed passageways between the Exhibition's elements, which ought to be accessible also for the disabled moving on wheelchairs. The distance between exhibits should conform to the requirements of health and safety at work regulations (BHP) as well as fire protection regulations (PPOŻ) for public utility building.

**3.5.4** The materials used for making the Exhibition's elements must have safety approvals and meet European standards for objects of the kind, must be wear-resistant, washable and easy to maintain. The materials and technical solutions used for making the Exhibition's elements, as well as possible operating materials ought to be ecological and energy efficient.

**3.5.5** Maintenance of the Exhibition's elements ought to be possible to be carried out by the Ordering Party with no external help.

**3.5.6** All doors, cabinets and small doors fitted as parts of the Exhibition's elements, protecting the equipment installed inside, made for the management or servicing of the Exhibition's elements ought to be equipped with locks and keys. The Contractor shall hand over the keys, together with a spare set, to the Ordering Party

**3.5.7** Operation of the Exhibition (all its elements at the same time) has to meet the standards concerning the level of noise in workplaces and public utility places.

**3.5.8** It is necessary to provide for the production of spare parts which can be used for repairs (referred to in clause 2.3.4) made during the warranty period by trained workers of the Ordering Party, for each element of the Exhibition.

**3.5.9** It is necessary to provide for the protection of consumables for a six months' activity of the Innovation Centre Mill of Knowledge, for each element of the Exhibition which requires it.

**3.5.10** The Ordering Party requires that all the movable elements of stands or arrangements have magnetic stripes, protecting them against theft.

**3.5.11** The Ordering Party requires that all the exhibits and their elements be well suited for the youngest recipients. Elements that can be swallowed or absorbed in any other manner must not be used.

**3.5.12** The Ordering Party undertakes to deliver and install masking covers for electrical cables, which will run across the floor towards the nearest electric socket.

**3.5.13** The dimensions included in the present specification are mostly given in the following configuration: length x depth x height.

## PART II - EXHIBITS SPECIFICATION

<b>1</b>	<b>Tree house</b>
<b>Suggested location</b>	On the left side by the window – no. 1 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Central exhibit, dominant in the exhibition room, in the form of a tree with a "house" placed inside it.
<b>Size of the station</b>	The size needs to be adjusted to the possibilities of the exhibition space, safety requirements for playgrounds, as well as enable free movement of as many people as possible with regard to safety requirements. The exhibit should make maximum use of the available space between the wall and the half-column. Min. dimensions 4m x 2.9m x 2.6m.
<b>Elements</b>	<p>The station consists of:</p> <ul style="list-style-type: none"> <li>• a construction in the form of a tree,</li> <li>• steps with a banister made from anti-skid material compliant with the safety requirements for playgrounds. The steps should be broad enough as to enable entry for adults and allow passing of two people;</li> <li>• a landing in the form of a tree house placed at the height of approx. 1 metre above the floor; the wall of the tree house should have a window supplied with a permanent closing mechanism (e.g. shutters, roller blind, etc.) enabling its easy and multiple opening and closing; the window should be small in order to prevent children from leaning out;</li> <li>• the house is to provide certain equipment mounted to its wall, such as glasses, binoculars, placed at different heights, which will enable looking at photographs from four places on Earth in various depictions, giving the impression of viewing the same scenery from various angles, at different times of the day and in varying weather conditions (min. 9 photographs of each location). Locations: a tree house nearby a Polish forest and three other locations proposed by the Contractor and enabling presentation of various natural environments that will be interesting to children. These may include e.g. a tree house on the savannah in Africa; on a Polynesian island or in the Amazon jungle. The device for displaying photographs is to provide a button enabling scrolling. Devices placed outside the reach of small children are to be provided with podiums. Besides landscapes, the photographs are to depict animals and plants characteristic of a given area. The devices for photograph viewing are to be equipped with headphones, attractive to children in terms of their form and colour, 4 pieces,</li> </ul>

	<p>allowing listening to sounds of the said locations (birds signing, sounds made by animals typical of a given locations, sounds accompanying the presented weather phenomena);</p> <ul style="list-style-type: none"> <li>• four compartments with exchangeable stamps in the form of fruit and vegetables characteristic of the above locations, easy to open and use for children; the compartments are to be situated in different places in the tree house and be easy to find and play with;</li> <li>• one compartment encompassing work sheets on which the stamps are to be printed; the compartment should be marked as to enable immediate access;</li> <li>• stamps in the shape of fruit and vegetables characteristic of the above-mentioned places on Earth, specially designed for use during the Exhibition. Each stamp must be large enough as to make it impossible to collect. Each stamp is to be provided with a place for the application of an anti-theft security bar. Each location is to be provided with 5 stamps so that the visitors could every time discover a different set;</li> <li>• The Contractor is to propose a place for a treasure chest comprising elements related to the various places on Earth presented in the tree house. The elements are to be attractive to children, large, easy to clean and maintain hygiene;</li> <li>• To the extent technically feasible, the Contractor shall ensure attractive arrangement of the space below the house.</li> </ul>
<b>Use</b>	<p>Children walk up the steps to reach the landing located at the height of approx. 1 m. The tree house should provide room to the number of children defined in the safety regulations. Children find compartments with various fruit and vegetables. The fruit and vegetables turn out to be stamps. An additional attraction consists in the possibility of taking sheets with stamps printed on it home. The second place of activity is the one with mechanical photograph projectors with headphones, enabling listening to the sounds from different places of the Earth. They are to encourage children to use their imagination and dreams related to travelling and provide a subject for playing. The construction encompasses a window enabling looking at another part of the exhibition space. An element linking all the locations is a treasure chest integrated into the exhibit arrangement and situated next to the house. In the chest children will find props-treasures related to the presented places on Earth (these may include props enabling dressing up – e.g. a skirt made from grass, a pirate's hat, etc., or props from natural world, such as a feather or shell). The Contractor shall propose at least 20 props, 5 per each place on Earth or climatic zone in which a given place is located.</p>
<b>General Requirements of</b>	<p>The tree house should be constructed in compliance with safety</p>

<p><b>the Ordering Party</b></p>	<p>requirements for playgrounds. The elements included in the house should be made from fire restricting materials, compliant with the protection requirements. Passages below and next to the house should comply with fire protection requirements. Any gaps in the house construction should be covered and made unavailable to children. Any loose elements should enable their marking with anti-theft security bars supplied by the Ordering Party.</p>
<p><b>Specific requirements regarding space arrangement around the station</b></p>	<p>The exhibit is the dominant one, nonetheless it should not overwhelm the remaining exhibits with its construction and colour. External colours may match the colour of the tree. The shape and form of the tree house should encourage visitors to enter.</p>

<b>2</b>	<b>Hymenopteral insects</b>
<b>Suggested location</b>	At the entrance, on the left side – no. 2 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Visitors become familiarised with the life of hymenopteral insects and their role in the nature.
<b>Size of the station</b>	Panels should cover the entire lateral spaces of the column;
<b>Elements</b>	<ul style="list-style-type: none"> <li>• panel with buttons and large illuminated photographs of hymenopteral insects, i.e. bees, wasps, bumble bees, hornets;</li> <li>• the buttons should be visible, however they should not distract from the main educational aim i.e. becoming familiarised with hymenopteral insects,</li> <li>• photographs of hymenopteral insects should be realistic, not in a cartoon style. Moreover, they should not be seen at a "zero position" and become illuminated only after pressing a button. Insect photographs should be incorporated into a scenery in which they live, e.g. meadows. The Contractor should provide at least three illuminated photographs of each insect incorporated into the scenery in various positions (e.g. a bee sipping the nectar, flying, entering a hive);</li> <li>• one of the photos of each insect is to be provided with an inscription;</li> <li>• speakers enabling broadcasting of a voice message after the button is pressed, stating the name of the insect and providing an interesting piece of information concerning the insect in Polish and English (first in Polish, then in English).</li> </ul>
<b>Use</b>	Children approach the station, press the first button causing illumination of a photograph with the name of one of the hymenopteral insects, e.g. a bee. The speaker coupled with the button switches on and provides the insect's name with an interesting fact. Children press another button in order to illuminate a photograph of another insect. The speaker provides its name and an interesting fact about it.
<b>General Requirements of the Ordering Party</b>	The panel should be constructed in compliance with safety requirements for playgrounds. The buttons provided in the panel should be placed at a height appropriate for visitors aged between 2-10 years.
<b>Specific requirements regarding space arrangement around the station</b>	The arrangement of the station should relate in particular to the station Life in a beehive.



<b>3</b>	<b>Life in a beehive</b>
<b>Suggested location</b>	At the entrance, on the left side – no. 3 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Visitors will become acquainted with the life of bees and the construction of a beehive
<b>Size of the station</b>	Minimum dimensions: Beehive 0.6m x 0.6m x 0.8m. Puzzle: the length of an edge of a single cubic element min. 15 cm; elements are to be placed on a surface with min. dimensions of 1m x 1m located on the wall near the beehive.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• a beehive model from which the visitors may pull up at least 2 honeycombs made from plastic; within the structure of honeycombs and in the cells various functions of bees in accordance with the hierarchy worked out in a beehive is to be presented. Visitors should have the opportunity to compare sizes and appearance of the queen, drones and worker bees.</li> <li>• cubic elements with shapes referring to the cells of a honeycomb should be made from, for instance, a foam material or plywood; the elements may be combined on a panel placed on the wall thus producing the structure of a honeycomb. Prints showing worker bees should be provided on the surfaces of elements. The number of elements should enable filling of the available surface of the panel.</li> </ul>
<b>Use</b>	Visitors approach a beehive model, look at it, notice that it is possible to pull out two honeycombs (one on each side). They have a visible structure of a honeycomb and provide images of the queen, worker bees, drones, larvae (e.g. in the form of stickers placed in selected cells of the honeycomb). Another physical activity consists in forming a honeycomb from the provided foam elements. Children have the possibility of creating a construction made by worker bees.
<b>General Requirements of the Ordering Party</b>	The beehive should be constructed in compliance with safety requirements for playgrounds. The puzzle should be placed at a height appropriate for visitors aged between 2-10 years. Any loose elements should enable their marking with anti-theft security bars supplied by the Ordering Party.
<b>Specific requirements regarding space arrangement around the station</b>	The arrangement should account for the actual internal structure of a beehive, its external appearance, as well as the structure of a honeycomb.

<b>4</b>	<b>Food chain</b>
<b>Suggested location</b>	At the wall of the half column between the windows – no. 4 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Becoming familiarised with the food chain on selected examples and understanding its meaning in the nature
<b>Size of the station</b>	Minimum dimensions of each of the two chains: width 0.3m x height 1.2m, sizes of removable elements: diameter or length of the edges min. 10 cm
<b>Elements</b>	<ul style="list-style-type: none"> <li>the exhibit will comprise two parts: the first should relate to the food chain, with honeybee being its main element having the main function consisting in pollinating flowers; the second part should be related to a food chain with wasp playing a significant part in it, with the main function consisting in pest neutralisation;</li> <li>each of the chains should consist of elements (e.g. rings with a printed image) in the form of connected parts of a chain: the first chain should include the following elements: 1. a bee flying out of a beehive, 2. a bee pollinating a clover flower, 3. a cow eating the clover, 4. image showing the process of milking of a cow, 5. a child drinking a glass of milk; the second chain: 1. a wasp flying out of a nest in a tree, 2. a wasp eating a pest on a fruit tree while collecting nectar, 3. fruiting, 4. a ripe fruit, 5. a child eating the fruit;</li> <li>The elements of the chain should be removable to enable a child to arrange it independently into a cause-and-effect structure. Proper and improper arrangement of the chain should be appropriately signalled (e.g. proper order should result in switching on a green light. If a child provides incorrect chain arrangement, a red light should switch on). The elements are to be placed in containers below a given food chain in such a manner as to make them easily accessible to children.</li> </ul>
<b>Use</b>	Children approach the station, select one of the two chains. They position selected elements in the empty places in the chain.
<b>General Requirements of the Ordering Party</b>	The exhibit should be placed at a height suitable for visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds. Any loose elements should enable their marking with anti-theft security bars supplied by the Ordering Party.
<b>Specific requirements regarding space arrangement around the station</b>	Two additional elements – two wasp nests – are to be placed between the exhibit "Food chain" and "Tree house", for example, by hanging them on a tree branch. The elements should be located at a height enabling visitors to touch and conduct careful visual inspection. One of the nests should enable seeing its cross-section.

<b>5</b>	<b>Angling competition</b>
<b>Suggested location</b>	On the left side by the window – no. 5 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Children will have the possibility to learn about freshwater fish occurring in Poland as well as develop their psychomotor skills.
<b>Size of the station</b>	Diameter of the pond min. 1.5 m, min. height of the pond shore 0.5 m, the diameter of the island should enable placement of proper arrangement element (plants growing on lake shores) and sensors.
<b>Station elements</b>	<ul style="list-style-type: none"> <li>• "pond" located on a slowly rotating plinth, arranged in such a manner as to produce an impression of being filled with water. In the central part of the pond there is an "island" with plants typical of lake shores. The arrangement of the space around the pond (wall) should depict natural environment characteristic of areas adjacent to a lake, pond. The pond should provide four angling stations for the users;</li> <li>• 4 fishing rods permanently placed on stands mounted to the floor near the rotating plinth and properly secured to prevent children from hurting themselves. Movement of the fishing rods should be limited: up – down. The rods should be equipped with an electromagnet enabling catching fish – toys. The magnet should be activated by, for instance, pressing a button placed on the handle of a fishing rod. Releasing the button should interrupt current flow in the circuit and result in "releasing" the fish;</li> <li>• toys with the appearance of different types of fish living in lakes (e.g. perch), as well as fish for which the lake does not constitute natural habitat (e.g. flounder) with integrated magnets. The fish should be equipped with markers to be registered while pulling it up with a fishing rod, enabling their distinction as lake or other type of fish.</li> <li>• we suggest that the marker microreaders are placed opposite the angling stations and fixed to, e.g. sweet rush stems. The readers register the fish code after it is caught by a child. The placement of the reader should be clear to a child so that he/she will know at what height the fish is to be lifted in order for it to be registered. It is possible to place the readers at a particular height and have them marked in a way that will be clear to children; we suggest to fix at the top of the stems lights imitating reed mace, for instance, the reed mace will be lit green when a child catches a lake fish and red when it catches marine fish,,</li> <li>• speaker playing fanfare for the competition winner coupled with the fish counting system;</li> <li>• the pictorial provided with the exhibit should distinguish lake and other fish from the pond to enable proper fulfilment of the task.</li> </ul>
<b>Use</b>	<p>The station should allow simultaneous use by 4 children, including one in a wheelchair.</p> <p>It is possible to hold a competition involving catching the defined number of</p>

	<p>proper fish (the Ordering Party proposes that it is three fish). Children's task will be to catch fish from the slowly rotating pond with the use of magnetic fishing rods placed in a rack. Catching lake fish will be registered by the counting system. Fish which do not live in a lake will not be counted. The first child to catch the defined number of fish (three) will be rewarded by switching of a green light placed on a sweet rush stem and fanfare.</p>
<p><b>General Requirements of the Ordering Party</b></p>	<p>The Ordering Party requires supply of spare elements (fish). Any loose elements should enable their marking with anti-theft security bars supplied by the Ordering Party. The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds.</p>
<p><b>Specific requirements regarding space arrangement around the station</b></p>	<p>One of the angling stations should be adjusted for use of people in a wheelchair (space enabling approaching the station in a wheelchair).</p>

<b>6</b>	<b>Show me where you live</b>
<b>Suggested location</b>	In two locations in the room – no. 6 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature
<b>Educational aim</b>	Children become familiarised with homes – places or structures in which various animals live.
<b>Size of the station</b>	Each structure with the dimensions allowing entry to children aged between 2 and 5, and older children to have a look inside them.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• it is required that at least four different homes of forest animals are provided in the room, e.g. a fox hole, rabbit hole, mole hole with a mound enabling children to look out from it, a snail's home;</li> <li>• the homes and elements inside them, such as the lining, should be made from materials which are user-friendly and easy to clean;</li> <li>• the design and colours of the homes should be joyful and encourage to play, pictures of animals living in particular places should be provided on them.</li> </ul>
<b>Use</b>	Children touch animal homes, look from the outside and enter them.
<b>General Requirements of the Ordering Party</b>	The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds.
<b>Specific requirements regarding space arrangement around the station</b>	Animal homes should be located in such places of the Exhibition as not to be obstacles for moving around also for people in wheelchairs.

<b>7</b>	<b>Racetrack</b>
<b>Suggested location</b>	By the window opposite the entrance – no. 7 on the site plan (appendix no. 1)
<b>Subject matter</b>	Mechanics, technique
<b>Educational aim</b>	Children have the possibility to test how the final speed of a vehicle moving down a sloping track depends on its mass, construction and number of components, etc.
<b>Size of the station</b>	Minimum track dimensions: lgth. 2.5m x width 0.5m x hgt. 1.3m Vehicle dimensions adjusted to the width of the track lanes.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• models of cars, trucks and trailers which may be connected to them, including models of identical sizes and differing in weight. The models should meet safety standards for toys admissible for 2-year-old children and have an attractive design for children. The Contractor shall ensure at least 20 different vehicle models and 10 spare models. Each model should provide room for an anti-theft security bar supplied by the Ordering Party;</li> <li>• a curved track with at least three lanes separated from one another;</li> <li>• a mechanic or electronic device placed on the track, initiating vehicle movement, as well as gates for speed measurement; at the end of the track there should be a display showing final speed values obtained by each vehicle and a ranking of vehicles which reached the finish line (from 1 to 3);</li> <li>• podiums for smaller children at the start position;</li> <li>• a hung container for vehicle models located under the track at its highest point and available from both sides.</li> </ul>
<b>Use</b>	Children approach the station, place the vehicles in the starting positions on the lanes, release the start mechanism and watch the movement of vehicles. Children have the possibility to test the movement of different vehicles with trailers and without them and conduct a competition among at least three vehicles.
<b>General Requirements of the Ordering Party</b>	It is required that at least 10 spare pieces are delivered. The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds. Any loose elements should enable their marking with anti-theft security bars supplied by the Ordering Party.

<b>8</b>	<b>Brain-twisters</b>
<b>Suggested location</b>	Near the column in the centre of the exhibition room – no. 8 on the site plan (appendix no. 1)
<b>Subject matter</b>	Nature, technique, logic, mathematics
<b>Educational aim</b>	Developing psychomotor coordination, mathematical and logical skills and enhancing knowledge on selected nature-related topics
<b>Size of the station</b>	Min. diameter of the table including the column standing in the middle – 2 m; min. dimension of the edge of an element of a brain-twister, riddle or puzzles – 3 cm.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• a round table around the central column of the exhibition room;</li> <li>• around the table there should be seats adjusted to visitors' age, enabling 6 children to play at the same time;</li> <li>• logical and mathematical problems and nature-related riddles, e.g. in the form of puzzles adjusted to various ages between 2 and 10 years;</li> <li>• The Ordering Party requires that the brain-twisters, riddles and puzzles are made from durable materials and friendly for children, e.g. wood, safe plastic materials and with colours matching other elements of the exhibition;</li> <li>• The Contractor shall propose at least 12 different types of brain-twisters, riddles and puzzles.</li> <li>• the brain-twisters, riddles and puzzles should be non-standard and performed specially for the needs of the Exhibition, they should also meet the safety requirements for toys admissible to 2-year-old children.</li> </ul>
<b>Use</b>	Children approach the available brain-twister, riddle or puzzles placed on the round table. Once they manage to solve one brain-twister they move on to the next available one.
<b>General Requirements of the Ordering Party</b>	Brain-twisters, riddles and puzzles are to keep children busy for a longer moment, gathering them around the round table. It is important that the elements characterise by a varying level of difficulty in order not to cause irritation and discouragement in children, and at the same time stimulate to engage in a creative task. The elements are to exercise logical thinking and psychomotor skills in children aged between 2-10 years. Any loose elements should provide room for their marking with anti-theft security bars supplied by the Ordering Party.
<b>Specific requirements regarding space arrangement around the station</b>	One of the stations at the table should be adjusted for use of people in wheelchairs (a space enabling approaching the station in a wheelchair).

<b>9</b>	<b>Labyrinths</b>
<b>Suggested location</b>	Free space at the wall in the room or in the hall suggested by the Contractor
<b>Subject matter</b>	Psychomotion
<b>Educational aim</b>	Users practice concentration and visual-motor coordination
<b>Size of the station</b>	Labyrinths should take up the space at the wall with minimum dimensions of 1.5 m x 0.3 m x 1 m.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• both labyrinths are composed of round rods twisted multiple times and rings placed on the handles. One of the labyrinths, higher and more complicated, is dedicated to older and taller children; the other labyrinth - simpler and lower is dedicated to younger children;</li> <li>• rods in both labyrinths are twisted in different directions creating various shapes of different heights,</li> <li>• rings in both labyrinths are located on handles made from plastic, dirt-resistant material, easy to grasp also for small children;</li> <li>• start and finish positions are clearly marked;</li> <li>• contact between the ring and the rod triggers off an acoustic signal.</li> </ul>
<b>Use</b>	<p>Children approach the station, grasp the ring and move it on the twisted rod avoiding their contact for the sake of practising visual-motor coordination and response time. Contact between the ring and the rod results in switching on of an acoustic signal.</p> <p><b>The Contractor shall propose a safe technical solution allowing to obtain the above effect.</b></p>
<b>General Requirements of the Ordering Party</b>	Two labyrinths of different sizes and diversified level of difficulty are required. The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds.
<b>Specific requirements regarding space arrangement around the station</b>	One of the stations should be adjusted for use of people in wheelchairs (space enabling approaching the station in a wheelchair).



<b>10</b>	<b>Tunnels</b>
<b>Suggested location</b>	On one of the walls. To the right side from the entrance, by the window; next to the balance beam exhibit – no. 10 on the site plan (appendix no. 1)
<b>Subject matter</b>	Technique, design, spatial thinking
<b>Functionality</b>	Developing logical thinking in children in order to achieve intended results.
<b>Size of the station</b>	Exhibit fixed to the wall: min. dimensions of the panel: lgth. 1.6 m x hgt. 1.7 m, min. diameter of the ball 5 cm
<b>Elements</b>	<ul style="list-style-type: none"> <li>• A metal wall 1.6 m long and 1.7 m high;</li> <li>• Plastic pipes without holes with magnetic fixing elements: at least 50 pieces;</li> <li>• Plastic pipes with holes, straight, with magnetic fixing elements: at least 50 pieces;</li> <li>• Semi-circular plastic pipes without holes with magnetic fixing elements: at least 40 pieces;</li> <li>• Pipes-splitters to perform forking of the tunnel;</li> <li>• Peschel pipes, easy to twist, with magnetic fixing elements: at least 40 pieces;</li> <li>• Balls: at least 35 pieces;</li> <li>• Containers for balls and pipes: 2 pieces.</li> </ul>
<b>Use</b>	Children approach the metal wall, take out pipes of different shapes from the container and combine them into tunnels on the wall in order to enable movement of a ball from one place to another. Next, they test their "transporting device" with the use of a ball.
<b>General Requirements of the Ordering Party</b>	<p>Pipes should be made from durable material, be colourful and occur in shapes enabling creation of diversified and attractively looking tunnels with a diameter adjusted to the size of the ball to allow its uninterrupted movement through the tunnel. Magnetic elements should be integrated with the surfaces of the pipes in such a manner as to prevent their removal.</p> <p>Any loose elements should provide room to enable their marking with anti-theft security bars supplied by the Ordering Party.</p>
<b>Specific requirements regarding space arrangement around the station</b>	The station should be adjusted for use of people in wheelchairs (space enabling approaching the station in a wheelchair).

<b>11</b>	<b>Balance beams</b>
<b>Suggested location</b>	On the wall by the window, to the right from the entrance, next to the Tunnels exhibit – no. 11 on the site plan (appendix no. 1)
<b>Subject matter</b>	Technique, design
<b>Educational aim</b>	Developing logical thinking in children in order to achieve intended results.
<b>Size of the station</b>	Minimum lgth. 1.2m x hgt. 1.7m
<b>Elements</b>	<ul style="list-style-type: none"> <li>• Balance beams serving as scales, performed from wood or another durable material, mounted to the wall at different heights, at least 6 pieces;</li> <li>• bags filled with safe material, serving as weights, with diversified mass, in joyful colours, with the same colours used for the weights of equivalent mass. The masses of the bags should be selected in such a way so that a bag with a greater mass could be balanced by using several bags of a lower mass (e.g. 1 bag with the mass of 1 kg may be balanced with 4 bags with the mass of 0.25 kg each, etc.). It is required that at least 25 bags are provided. The bags must not be too heavy, however there must be a visible difference between the masses of bags of a different colour. The bags must be made from durable material resistant to tearing;</li> <li>• Containers for the bags, hung up or placed on the floor.</li> </ul>
<b>Use</b>	At the station the children may compare masses of the bags with the use of hands, and next test by experiment whether they are right. Moreover, they may try to balance several selected bags.
<b>General Requirements of the Ordering Party</b>	Due to their similar character, the station should be located near the Tunnels station. Any loose elements should provide room to enable their marking with anti-theft security bars supplied by the Ordering Party (e.g. by placing them inside the bags). It is required that 1 spare set of bags is supplied.
<b>Specific requirements regarding space arrangement around the station</b>	The station should be adjusted for use of people in wheelchairs (space enabling approaching the station in a wheelchair).

<b>12</b>	<b>Launcher</b>
<b>Suggested location</b>	At the wall, to the right next to the entrance – no. 12 on the site plan (appendix no. 1)
<b>Subject matter</b>	Logic, understanding of relationships
<b>Educational aim</b>	Developing logical thinking, understanding cause-and-effect relationships
<b>Size of the station</b>	Min: exhibit inscribed into a quadratic prism with the dimensions of min. 1m x 1m x 1.9 m, with one of the walls adjacent to a wall of the room, pipe diameter min. 8cm.
<b>Elements</b>	<ul style="list-style-type: none"> <li>• the exhibit is composed of a system of four or less or more twisted, interlacing, colourful and transparent pipes. The air at an increased pressure is pumped into the pipes at the same time; each of the pipes has an inlet and outlet; it is aimed that tissues are blown out of the pipes at different speeds (e.g. by applying pipes of different lengths to provide various routes for the tissues);</li> <li>• the pipes are made from transparent plastic material.</li> <li>• shut-off valves should be provided between the pipes allowing directing tissues onto a different track;</li> <li>• the pipe system should be reinforced with a steel construction, in such a manner as to resemble the shape of a quadratic prism;</li> <li>• four inlets should be provided at the height of ca. 0.9 m allowing placement of colourful tissues;</li> <li>• the inlets should be provided in the upper part of the exhibit so that children could observe tissues being tossed out under pressure towards the ceiling and to the front of the exhibit;</li> <li>• the device producing compressed air should be placed under the pipe system in the base construction, one of the walls of the construction may be transparent in order to demonstrate the principle of operation of the station;</li> <li>• tissues made from thin fabric in different colours, at least 100 pieces;</li> <li>• a container for storing tissues mounted to the base construction of the exhibit.</li> </ul>
<b>Use</b>	Children approach the exhibit, pick up a tissue from the container and place it in one of the inlets. Next, they wait a moment, observing tissue's movement inside a colourful pipe. After the moment the tissue is tossed out from the pipe system. A child places the tissue again into another inlet, changes its trajectory in the pipe system with the use of the valve, the tissue is blown out through another outlet than during the first time.
<b>General Requirements of the Ordering Party</b>	The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds.
<b>Specific requirements</b>	The station should be adjusted for use of people in wheelchairs (space enabling

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**regarding space  
arrangement around the  
station**

approaching the station in a wheelchair).

<b>13</b>	<b>I already know how</b>
<b>Suggested location</b>	In the corridor by the wall, to the right side from the entrance
<b>Subject matter</b>	Psychomotion
<b>Educational aim</b>	The user has the possibility to practice the technique of shoe lacing, braiding, buttoning up and zipping as well as performing simple stitches.
<b>Size of the station</b>	The station should take up the space at the wall with the following minimum dimensions: lgth. 2.20 m x dpth. 0.3 m x hgt.1.1m
<b>Elements</b>	<p>The main panel with the following elements serving to practise 5 manual skills useful in everyday life:</p> <ul style="list-style-type: none"> <li>• a large model of a shoe with permanent shoestring; min. dimensions of the shoe: 0.5 m x 0.25 m x 0.15 m together with a picture instruction of shoe lacing placed above;</li> <li>• a station with a strand of thin colourful strings for practising braiding of different types of plaits together with a picture instruction placed above it;</li> <li>• two pieces of stiff and durable fabric with two parts of a zip-fastener for practising zipping, the length of the zipper min. 0.7 m, the size of the teeth should be much larger than those usually provided in clothes but at the same time make it easy to use;</li> <li>• two pieces of stiff and durable fabric: one with buttons sewn onto it with min. diameter of 3 cm, the other with properly finished button holes for practising buttoning up clothes supplied with buttons;</li> <li>• a piece of stiff and durable fabric with properly finished holes and a large, blunt-ended plastic "needle" (10 cm) fixed to the panel with a permanently attached "thread" – a coloured thin string, for practising simple stitches. A picture instruction for operating with the needle should be provided above the station.</li> </ul>
<b>Use</b>	Children approach the station, familiarise themselves with its particular elements and practise simple skills useful in everyday life.
<b>General Requirements of the Ordering Party</b>	The exhibit should be provided with joyful colours with its elements being attractive to children in order to encourage them to play, the fabrics used for particular elements should be durable but at the same time nice to touch and dirt-resistant (impregnated fabrics and strings). The Contractor shall ensure 2 spare parts for each skill (except the shoe model) and, additionally, 5 spare "needles". The Ordering Party requires that the height of the station is adjusted to visitors aged between 2-10 years and constructed in compliance with safety requirements for playgrounds.
<b>Specific requirements regarding space arrangement around the station</b>	The colours of the exhibit should be attractive and consistent with the remaining part of the exhibition space and the arrangement of the communication route. The station should be adjusted for use of people in wheelchairs (space enabling approaching the station in a wheelchair).

**An integral part of the document is constituted by:**

- 1) Appendix no. 1 (suggested arrangement of the Exhibition)**
- 2) Appendix no. 2 (the projections of the building).**