

Architectural Facade Systems
CEME Division

Case Study Orientarium



CASE STUDY

ORIENTARIUM (ZOO)

Project name:
Orientarium at the ZOO Łódź

Type:
Public building

Location:
Łódź, Poland

Investor:
Miejski Ogród Zoologiczny
w Łodzi Sp. z o.o.

Architect:
Szlachcic Architekci Sp.z o.o.

Start of the construction: 2018
End of the construction: 2022

Product:
Karrier KT K-Roc® + bamboo lamelas

Colour:
Karrier KT K-Roc® R9005 (black), embossed surface

Façade Area:
10 000 m²



Project Highlights:

The Orientarium ZOO Łódź is a modern complex presenting the fauna and flora of Southeast Asia. The facility is the size of almost 10 football fields (7 hectares, of which 2 hectares are indoors). Here you can see Europe's largest enclosure for Indian elephants and a 26-meter underwater tunnel for visitors, leading through the "center" of a huge aquarium inhabited by sharks. The facility also includes pavilions, aviaries and aquariums for up to 50 different species. In the space of the Orientarium, sightseeing routes and places of rest interpenetrate, and some of the catwalks also "get out" far behind bars or windows. Some of the pavilions are equipped with green roofs, others will be covered with plants; into objects rainwater tanks were incorporated for watering them. The Orientarium in Łódź is a project of the Szlachcic Architekci Sp. z o.o. studio, led by Dorota Szlachcic, which was awarded at the International Property Awards gala, which took place on February 2, 2023 in London. The zoo was appreciated in two categories: Leisure Architecture and Public Service Architecture. The Orientarium ZOO Łódź was appreciated not only for its architecture, but also for its pro-ecological solutions, e.g. those related to energy saving.



The Challenge:

The black façades of the exhibition pavilions, covered with compressed bamboo wood, were to be a natural background for the animals and blend in with the greenery of the zoo, which is located in the Piłsudski Park in Łódź. The pillars of the arcade of the entrance pavilion to the ZOO were to create the beginning of a colorful story - where we enter a bamboo forest with hidden cash registers, a lobby, teaching rooms and a restaurant. In addition, the architects designing the façade of the Orientarium in Łódź were looking for an ideal solution for installing bamboo elements directly on the façade without the need to build a complicated steel structure and without generating thermal bridges. Decorative elements such as bamboo lamelas were installed in different directions, and in addition, the Karrier KT K-Roc® system allowed to avoid thermal bridges that were present in the original design concept.

The Result:

On the black panels, surveyors marked the fixing points, almost invisible from ground level. Thanks to this, bamboo lamelas (beams) they create a beautiful parametric texture without any substructure.



Product Information:

Karrier KT K-Roc® is a modern architectural facade system with a K-Roc® mineral wool core, based on a sandwich panel specially designed and certified to transfer loads from the external facade cladding. A wide range of external cladding from leading manufacturers can be attached to Karrier panels. Karrier system allows you to build a weatherproof building envelope in a much shorter time compared to other alternative systems.

- Karrier can successfully replace traditional external wall and/or ventilated facade.
- Karrier system is about speed and simplicity. Can be installed in all weather conditions.
- Can be installed vertically and horizontally.
- System has excellent thermal and sound insulation properties as well as fire performance.
- Karrier system can be installed with almost any type of external cladding solution available on the market including: prefabricated aluminium cassettes Dri-Design, HPL, ACM, Fibercement, Ceramic or expanded Mesh.



Interview:

Interview with Architect: *Dorota Szlachcic, CEO Szlachcic Architekci Sp.z o.o.*

1. What vision, idea was behind the design of the building Orientarium in Łódź? What was your inspiration during working on this project?

DS: Our first biological project and the greatest inspiration was the Africarium in Wrocław, where it all began. Immersive spaces where visitors lose the boundaries between the real and recreated world of water and desert ecosystems. Preparations for the Orientarium project began with an analysis of the surroundings - the building was to be erected in the middle of the zoo, surrounded by Piłsudski Park, in the place of old trees. Hundreds of tree trunks also form the background for the enclosures and pavilions of the Orientarium. The parametric façade made of bamboo lamelas was to be a complement and a kind of biotope.

2. Did the investor/owners have any specific expectations, that influenced the final design?

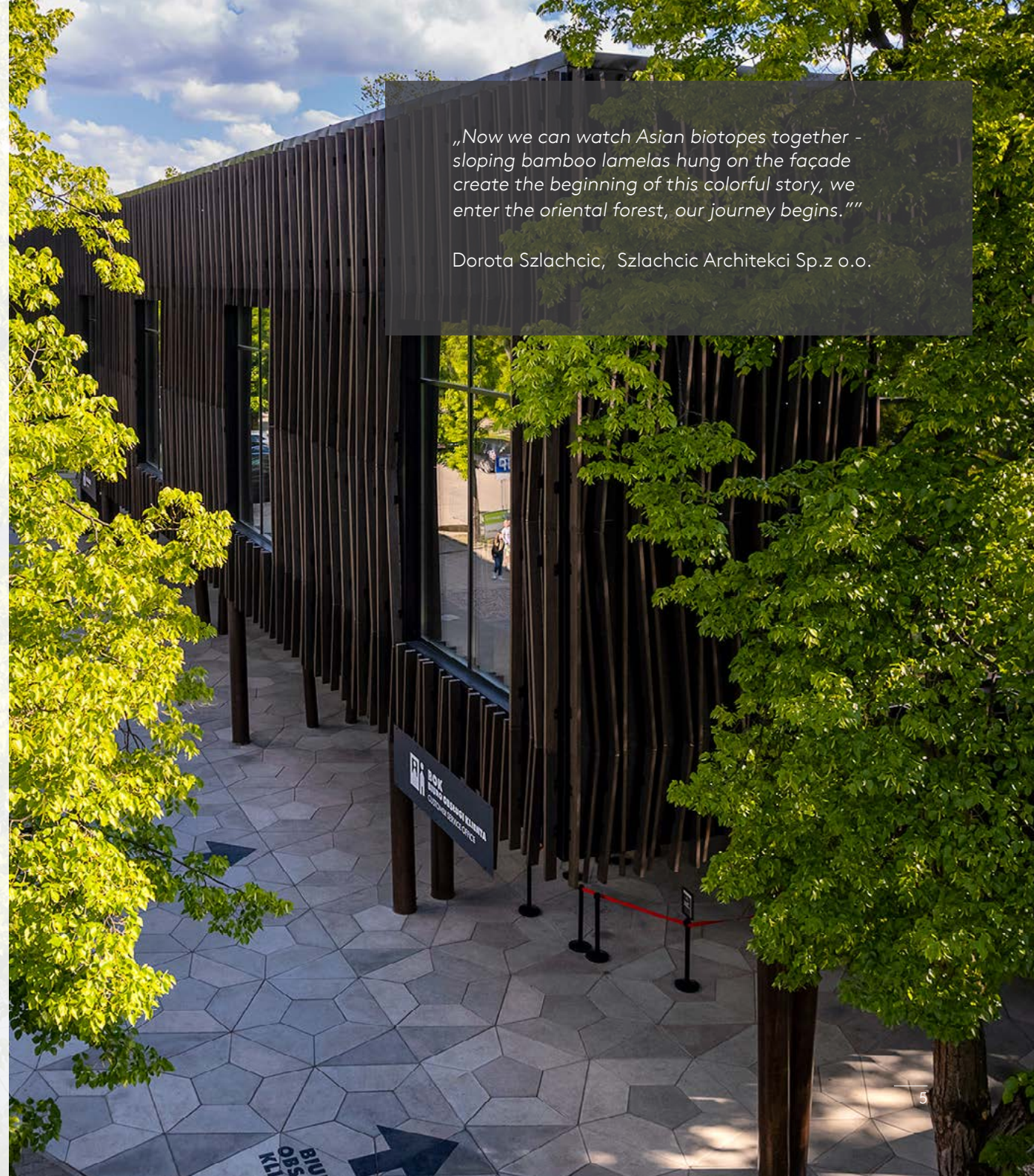
DS: Investor - Municipal Zoological Garden in Łódź Sp. z o. o. - expected a project that would fit into the surroundings, designed economically and with respect for the habits and needs of endangered species, for which the Orientarium was to become a home, enabling visitors to have close contact with the underwater world, the surviving nature.

3. What made you use the Kingspan Karrier KT K-Roc® system in this project? What was the reason for this choice?

DS: Moso Bamboo lamelas (beams) of pressed bambus were to be attached to the facade insulated with mineral wool in thousands of places on the facade without generating thermal bridges. This was made possible by the Karrier KT K-Roc® system - self-supporting steel panels with a mineral wool core. On the black panels, the surveyors marked the fixing points, almost invisible from the ground level. This allows the bamboo lamelas to create a beautiful parametric texture without any substructure.

„Now we can watch Asian biotopes together - sloping bamboo lamelas hung on the façade create the beginning of this colorful story, we enter the oriental forest, our journey begins.”

Dorota Szlachcic, Szlachcic Architekci Sp.z o.o.

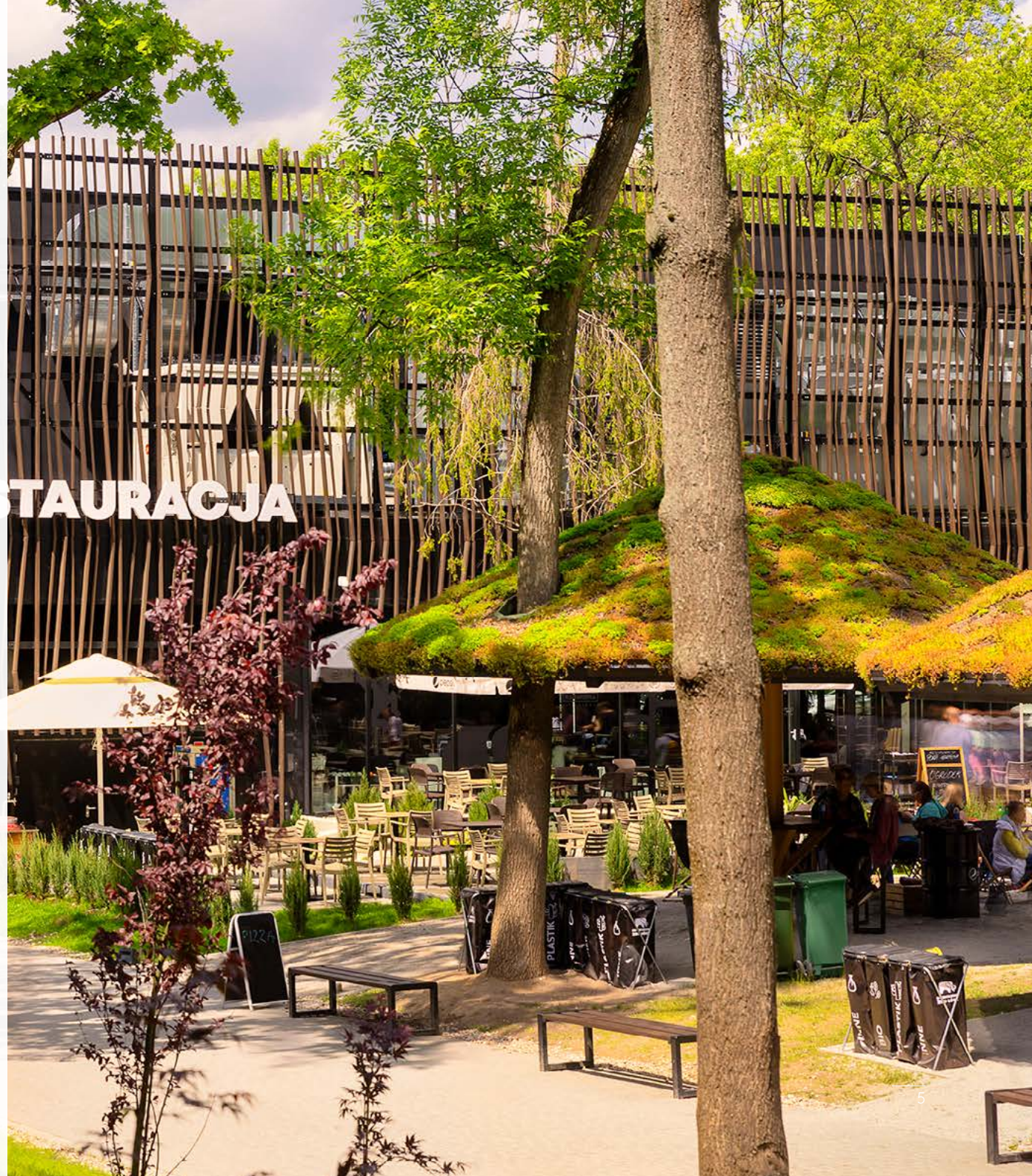


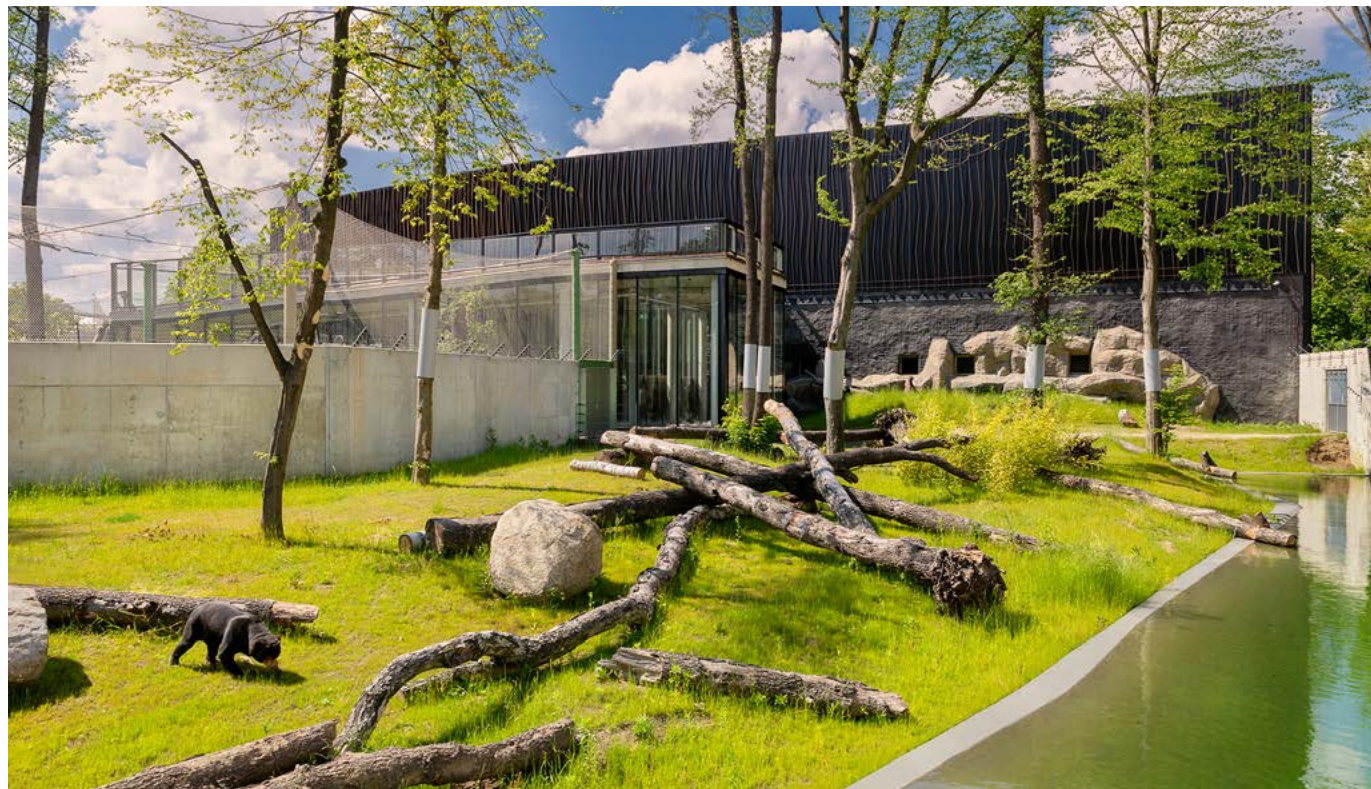
Interview c.d:

4. How has the Karrier KT K-Roc® system helped you materialize the vision and idea behind this project into a viable, completed investment?

DS: Kingspan designers together with architects made Individual Technical Documentation with dozens of technical details solving all difficult places in the building. We have received all the necessary certificates of non-combustibility and fastenings preventing it from falling off during a fire. Kingspan cooperated with my studio Szlachcic Architekci and the contractor Mosty Łódź, at every stage of design and construction. Now we can watch Asian biotopes together - sloping bamboo lamelas hung on the façade create the beginning of this colorful story, we enter the oriental forest, our journey begins.

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