PANGAEA REUNITED

ABOVE
The "ice floes" of the Arctic connect the North American and Eurasian areas of the zoo.

ARTEFACTORY

FRENCH DESIGNERS RE-CREATE THE WORLD IN A RUSSIAN ZOO.

BY SUSANNE KENNEDY

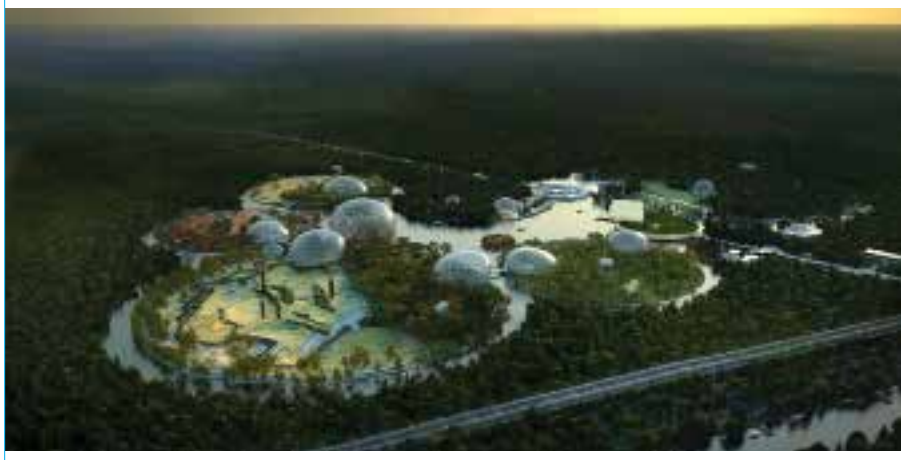
The Leningrad Zoo, built in 1865, is squeezed in the center of Saint Petersburg, Russia. "It is now very old and in bad shape," says Andras Jambor, a landscape architect with TN Plus, a design firm based in Paris. "Animal conditions are poor, and there is no room for expansion."

TN Plus partnered with the French architecture firm Beckmann N'Thépé in 2010 on an entry for an international design competition to reimagine the zoo. Part of that reimagining meant moving the zoo to the city's suburbs. Their winning design for what will now be known as the Saint Petersburg Zoological Park, for which Jambor is the project leader, has the new zoo spread over about a third of a 300-hectare (740-acre) wetland site. (A Russian firm, Intarsia, has subsequently taken charge of the architectural work and construction phase). The remaining two-thirds will be set aside as a natural buffer zone for a neighboring nature reserve and a public park for people who live in high-rise apartments nearby.

The Saint Petersburg area's landscape is largely birch forest and marshland. Unlike many parts of the world, wetland development laws are more flexible in Russia, partly because this kind of topography tends to be more the norm rather than the exception. Even so, there are a number of protected areas in the region, and the ever-changing water conditions, which include frequent flooding, were a significant challenge for the design team. "The zoo has a closed water system, so it does not get mixed up with these zones, particularly the one closest to the Finnish Bay," says Jambor, "and obviously not all botanical varieties will thrive in such conditions."

Rather than battle the water, the team chose to use it to their advantage and struck upon the idea of creating an artificial archipelago that will float on a series of lakes. "From that idea, it was a logical progression to think of the supercontinent Pangaea as an underpinning structural concept," says Jambor.

The team of landscape architects, zoo experts, zoologists, and botanists reasoned that, by showing how the separation of the continents has influenced the diversification of living species, it is easier to understand the value of today's biodiversity.



Thus each island—representing Southeast Asia, Africa, Australia, South America, North America, or Eurasia, millions of years ago—is populated with its own indigenous plants and animals (or as close as possible, allowing for climatic conditions).

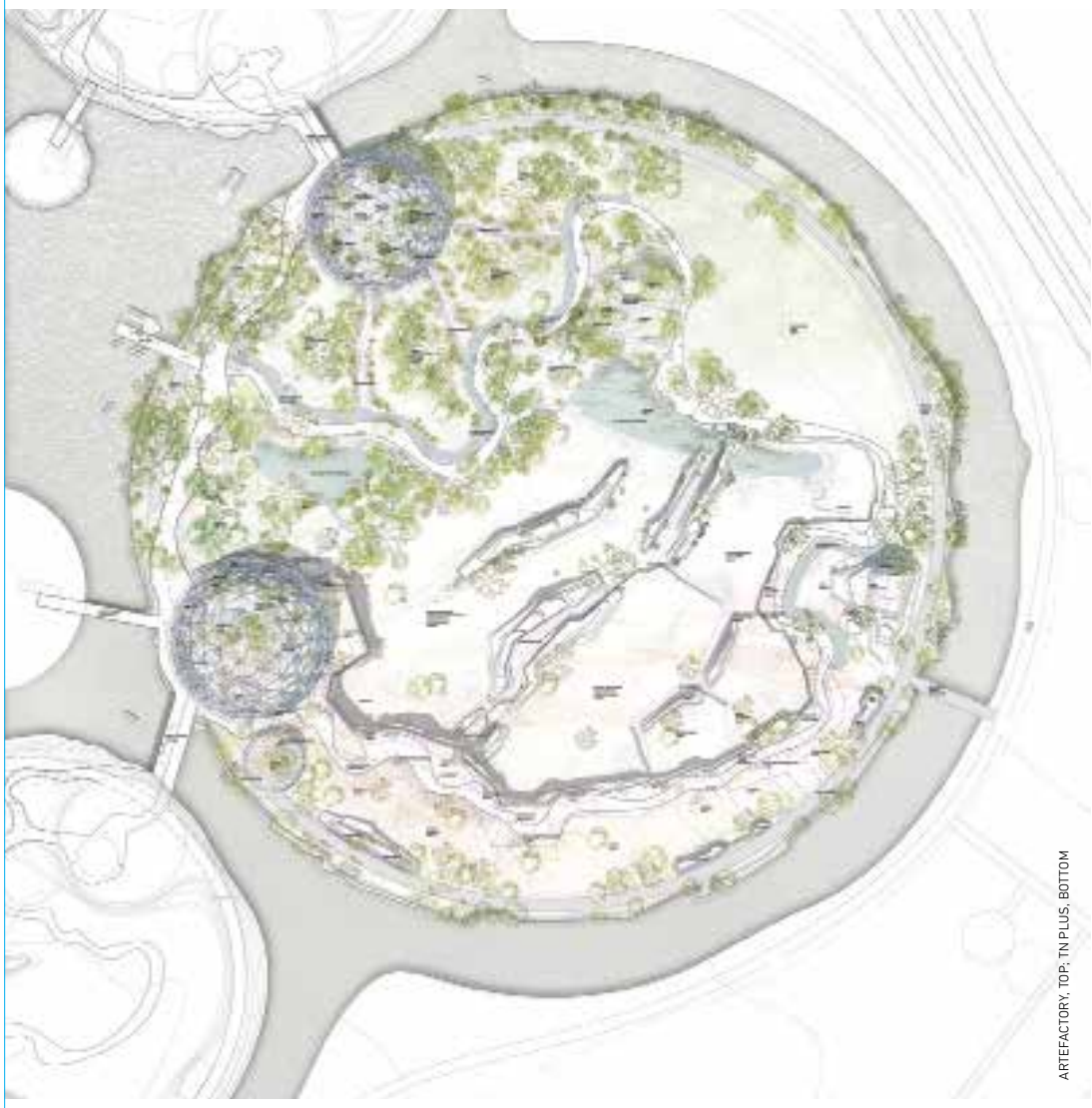
In Saint Petersburg winters, temperatures descend into the negative 20s, so botanical varieties must be chosen carefully. "When conjuring Africa, for example, we chose winter-resistant plants that recall the tropics by the shape of their leaves, the structure of their branches, or the scent of their flowers," Jambor says. "And wherever possible, we aimed for botanical veracity, using the same genus as the plant being mimicked. Other varieties must be housed in greenhouses through winter."

There can be up to two to three meters of snow in the wintertime in Saint Petersburg, which requires innovative fencing and circuit solutions: Outdoor fencing had to be much higher while remaining discreet for the comfort of both the animals and the visitors, and a well-designed winter circuit, including several large greenhouses sheltering the tropical animals, and outdoor exhibits with winter-hardy animal and botanical species were incorporated into the design.

The new zoo will contain 479 different animal species and be open year-round, with about three million visitors a year expected.

"I would say that while the scale of the project was very challenging, we soon realized that the methods are the same," Jambor says. "It was actually the water and climate that tested us, but I believe we ultimately made these factors work for rather than against us." ●

BUILT ON A WETLAND, THE ZOO WAS CONCEIVED AS A GROUP OF ISLANDS TO WORK WITH THE WATERLOGGED SITE.



ARTEFACTORY, TOP; TN PLUS, BOTTOM