

TWO VERY SPECIAL CUSTOMERS

ANDRITZ received an unusual request: The world famous Schönbrunn Zoo in Vienna needed help to grate and process raw bamboo into refined flour for its giant pandas Yuan Yuan and Yang Yang. ANDRITZ, of course, accepted the challenge.



ANDRITZ thrives on the unusual at its R&D plants. At end of 2019, the Vienna Zoo contacted the Technology Department of the Paper, Fiber and Recycling Division about a very special project involving giant pandas. The request got the R&D team really excited; the task was to process 500 kg of bamboo into flour, which is the main ingredient used in the pandas' steamed "bamboo bread". The bread supplements the raw bamboo diet of 20-year old male giant panda Yuan Yuan and female Yang

Yang. The roughly refined flour is particularly important for female pandas when they are rearing their young.

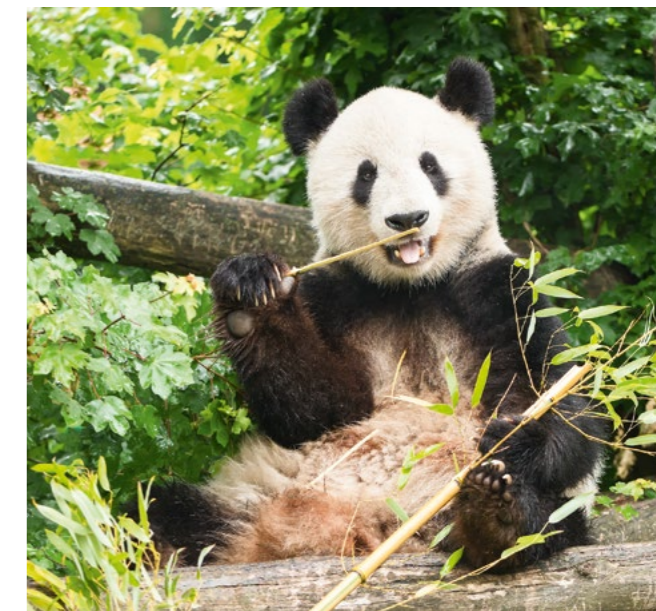
The Schönbrunn Zoo is said to be the oldest zoo in the world and has been named as Europe's best zoo five times in a row. It is also part of a UNESCO World Cultural heritage site as it is set in the grounds of the imperial summer residence of Schönbrunn Palace. The pandas are the most popular residents of the zoo and Schönbrunn is one of the

very few zoos in the world fortunate enough to be entrusted with a pair of pandas from the People's Republic of China. Yang Yang was already world famous, being the first panda in captivity to raise twin cubs without human intervention in 2016. These popular, famous, and well-revered animals at the zoo command a very high status, and that includes their diet.

Before contacting ANDRITZ, the zoo was grating and refining bamboo using a small,



Giant pandas Yuan Yuan and Yang Yang in Vienna Zoo, Tiergarten Schönbrunn



special device, which proved to be unable to handle the capacity demanded by the pandas. Giant pandas tend to eat a lot of the food they like, and the zoo was having trouble keeping up with the demand. The zoo urgently needed a solution. After the initial contact in January 2020, the zoo sent ANDRITZ 500 kg of pre-shredded bamboo. The shredded bamboo was sent to the Stock Preparation Pilot Plant in Graz where it was successfully processed using a CompaDis disperser. There was enough shredded bamboo to make one year's supply of flour, which was then transported back to the zoo where it was frozen.

Dispersing is typically used in recycled fiber processes in order to detach the ink particles from fibers and disintegrate dirt particles and stickies below the visibility limit. With different fillings a disperser can also be used to refine almost all kind of fibrous materials, such as bamboo.

Laura Liukkonen, ANDRITZ Director of the pilot plant says, "In this case, the pre-shredded material was refined with a CompaDis disperser between the edges of the "tooth type" fillings. Since refining bamboo was a novel process for the Stock Preparation Pilot Plant, the

first task was to find the right process parameters to reach the targeted quality. After dispersing, the green flour was fed into big bags and sent to Vienna Zoo. Due to the nutritional end use, it was our highest priority to avoid any contact with other materials."

"EXTRAORDINARY COLLABORATION"

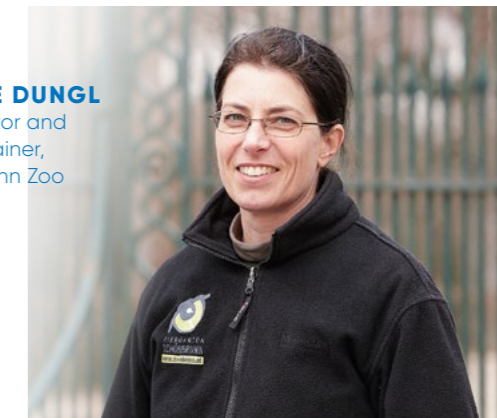
Clearly delighted with the results, Zoo Curator and Animal Trainer Dr. Eveline Dungal says, "The willingness of the ANDRITZ team to accept the challenge of our bamboo grating problem was a



From left to right: Dr. Eveline Dungal, Zoo Curator and Animal Trainer; Laura Hinterndorfer, Animal Keeper; Kiva Prinsloo, Animal Keeper; and Denis Jozic, Process and Technology, ANDRITZ Paper, Fiber and Recycling Division

"The way ANDRITZ dealt with this unusual and out-of-the-ordinary order was exceptionally kind and professional."

EVELINE DUNGL
Zoo Curator and Animal Trainer,
Schönbrunn Zoo





At the Stock Preparation Pilot Plant in Graz, papermakers have the possibility to test their ideas on a pilot scale and simulate paper mill conditions – regardless of whether a certain single piece of equipment or a complete line in different setups is being tested.



great relief for the whole panda team at the Vienna Zoo. The way ANDRITZ dealt with this unusual and out-of-the-ordinary order was exceptionally kind and professional."

Denis Jozic, Process and Technology, ANDRITZ Paper, Fiber and Recycling Division, says, "It is a pleasure having the Vienna Zoo among our customers. I hope that this extraordinary collaboration will continue for many years to come."

FULL-LINE CAPABILITIES FOR TESTING

The Stock Preparation Pilot Plant in Graz was the perfect place in which to find the much-needed solution for the pandas' dietary requirements. As part of its everyday existence, the plant tests and processes all types of raw material to fulfill the needs of customers, including the very special ones like the giant pandas. The mindset at the plant is very much based on the one of trial and error, enabling customers to take the opportunity to experiment

with potential raw materials, while allowing their mills to do what they do best: run at maximum uptime and efficiency.

The pilot plant has the full range of equipment for customer trials and experiments for process R&D, and is flexible enough to accommodate single machine testing or complete process lines. It is able to process both virgin and recycled fibers and has the ability to collaborate with experts from around the world including other technical centers, located in Foshan, China and Springfield, USA.



"Although we have experience with all kinds of fibers, producing food for giant pandas was something new for us. The whole pilot plant team is proud of this project."

LAURA LIUKKONEN
Director of Stock Preparation Pilot Plant, ANDRITZ Paper, Fiber and Recycling Division



View video footage of this report in our augmented reality App!

FOR FURTHER INFORMATION SEE PAGE 3



The shredded bamboo was sent to the Stock Preparation Pilot Plant in Graz where it was successfully processed using a CompaDis disperser.

Liukkonen says, "This is a very special place here in Graz where new raw materials or process configurations can be tested in a risk-free environment prior to investment commitment. Customers can see the benefits of a new concept themselves in realistic process conditions before taking the decision.

"Although we have experience with all kinds of fibers, producing food for giant pandas was something new for us. The whole pilot plant team is very proud of this project."

MORE INFO
andritz.com/sp-pilotplant



Arrival of pre-shredded bamboo

AVAILABLE EQUIPMENT IN OUR PILOT PLANT

PULPING

- Batch-type FibreSolve Pulper
- FibreFlow Drum

SCREENING

- Different types of screens of the ModuScreen series for coarse, fine, and headbox screening as well as fractionation

DEINKING / FLOTATION

- SelectaFlot flotation

REMOVAL OF HEAVY PARTICLES AND DIRT SPECS

- Various cleaner types

DEWATERING

- Pulp screw press
- Vertical Screw Thickener (VST)
- Disc filter with various filter segment designs (including bagless filter)

ATMOSPHERIC AND PRESSURIZED DISPERSING

- CompaDis disperser

DEFLAKING

- DeFlaker

REFINING (LOW / MEDIUM CONSISTENCY)

- TwinFlo disc refiner
- Papillon refiner with cylindrical refining zone

ASH REMOVAL

- RotoWash

HIGH-CONSISTENCY BLEACHING COMPONENTS

EFFLUENT / REJECT TREATMENT

- Mobile sludge dewatering unit
- RejectCompactor

AGITATION

- TurboMix agitator

AS WELL AS:

- Pumps
- Automation system and equipment
- Twin-wire sheet drying line for pulp drying trials