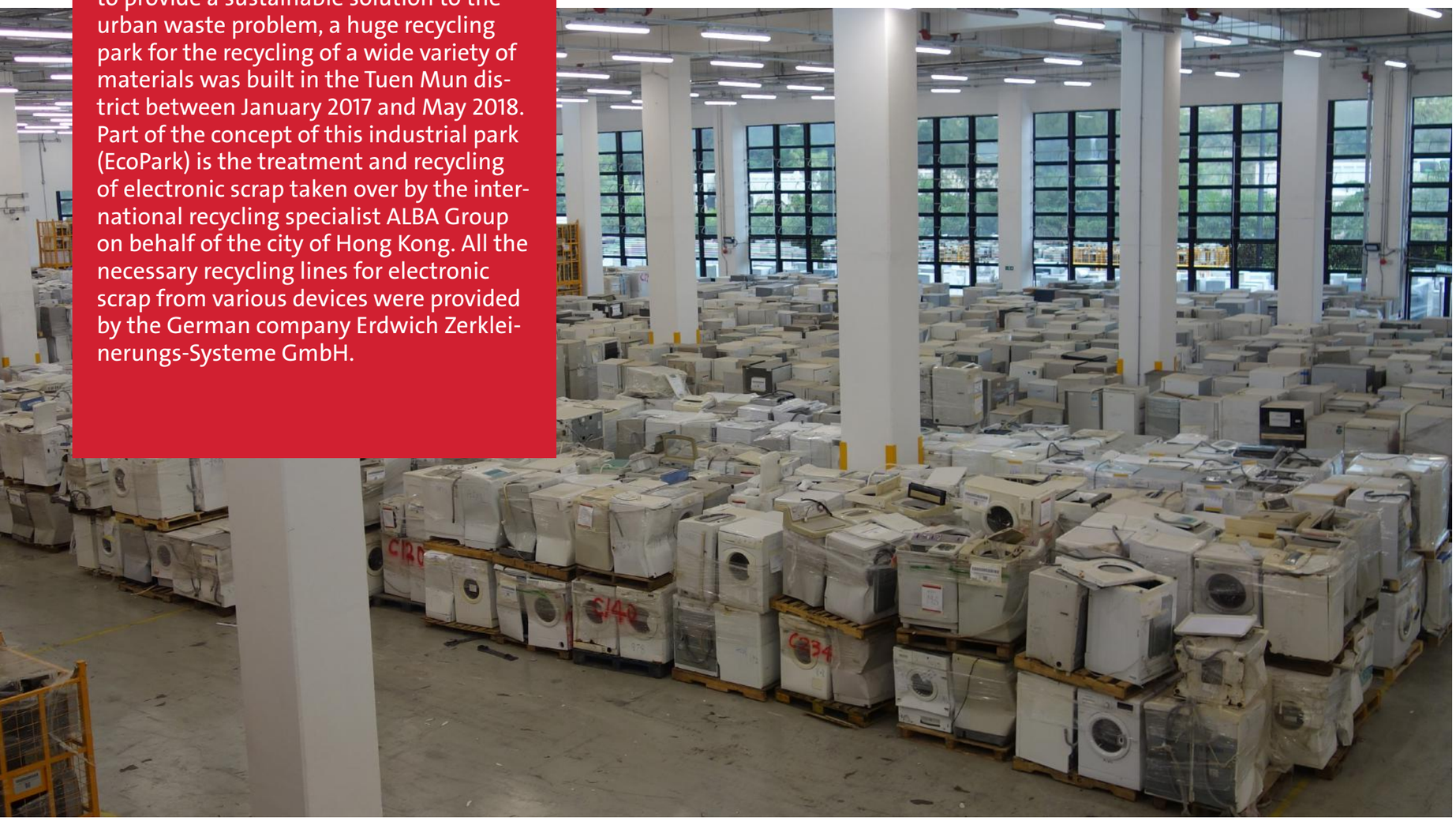
Hong Kong‘s e-scrap is completely processed using Erdwich plants.

According to a study, each inhabitant of Hong Kong generates an average of 21.7 kg of electronic waste per year, in addition to normal household waste. In order to provide a sustainable solution to the urban waste problem, a huge recycling park for the recycling of a wide variety of materials was built in the Tuen Mun district between January 2017 and May 2018. Part of the concept of this industrial park (EcoPark) is the treatment and recycling of electronic scrap taken over by the international recycling specialist ALBA Group on behalf of the city of Hong Kong. All the necessary recycling lines for electronic scrap from various devices were provided by the German company Erdwich Zerkleinerungs-Systeme GmbH.

Eight recycling lines form the core of the new recycling plant



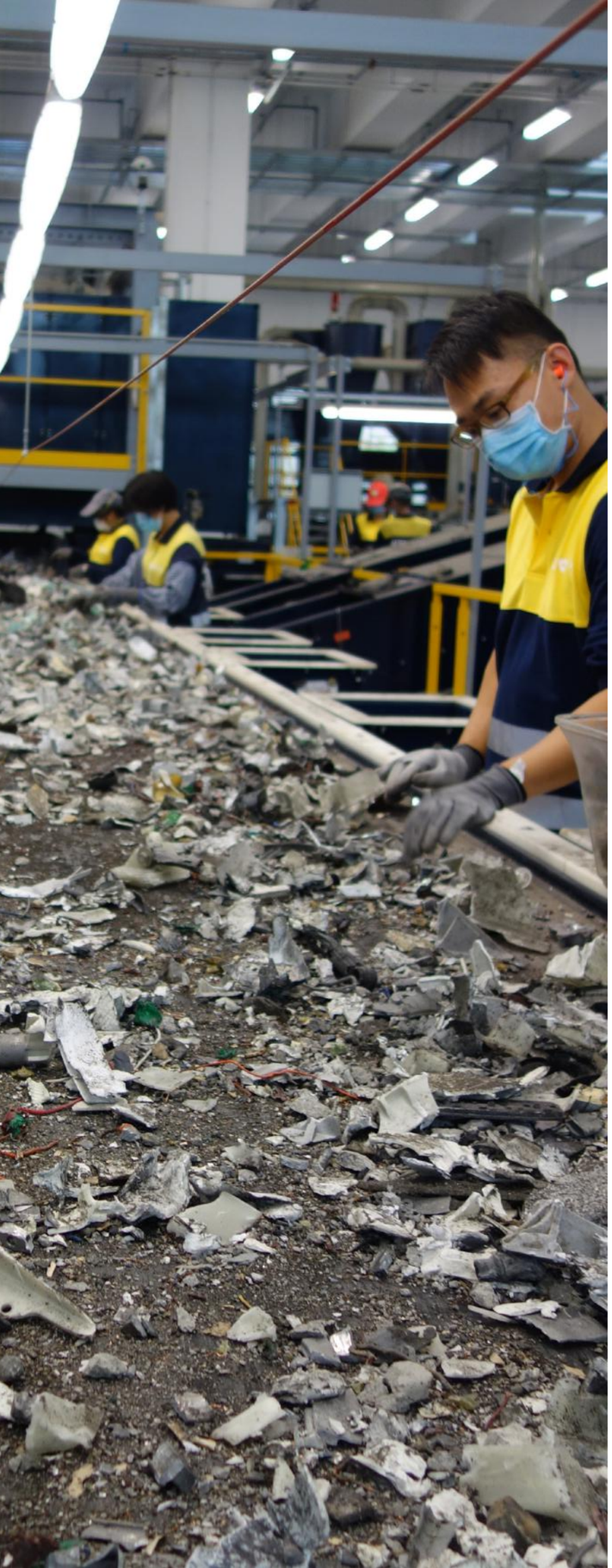
These were shipped to Hong Kong in 76 40-foot containers with a total weight of approx. 800 tons in three deliveries. Within 12 months, the entire plant technology was set up, step for step, put into operation and the personnel trained on site. The largest order in the history of the recycling specialists Erdwich was thus completed and, following a successful trial phase, the plant was able to go into normal operation.

Around 60,000 tonnes of electrical and electronic scrap are produced each year in the Hong Kong special administrative zone with its population of 7.3 million. This includes appliances which contain contaminants and toxic substances such as mercury or CFCs, but at the same time contain valuable raw materials. In these times of scarcity of raw materials and increasing environmental pollution, China also has to break new ground. The EcoPark in Tuen Mun will here play a pioneering role in the region with the help of state-of-the-art facilities operated in accordance with the latest legal regulations and will serve as a model for other Asian conurbations.

In addition, a visitor centre was set up to give interested residents and tourists the opportunity to find out about recycling technology and view the plants during live productional operation. Erdwich, an experienced expert in the field of plant construction for shredding technology, was commissioned by the ALBA Group to supply and install all processing lines for this major project. Divided into three consignments, the eight recycling lines in the 76 containers embarked on the 18,544 km sea voyage to Hong Kong, where up to 24 Erdwich employees were present to receive and assemble the systems.

Challenging conditions on site due to assembly being carried out during construction of the hall

„The biggest challenge during the installation of the plants was that we had to set up our machines while the construction work on the halls was still in progress,“ reports Harald Erdwich, Managing Director of Erdwich Zerkleinerungs-Systeme GmbH. Further obstacles were caused by the complicated bureaucratic process on the construction site, whereby each individual work step was monitored and checked by local authorities. Special certificates were required for some assembly work and the Erdwich team was trained on site by the site management. „This was a demand on our time that we had to take into account in our scheduling,“ adds Erdwich.



Adaptation of the shredder technology

to the task at hand

„Since LCD screens and tube TVs, various types of refrigerators and air conditioners, washing machines and general e-waste are in the waste mix, we had to apply various technologies to meet all the requirements," Erdwich continues. By means of two lines using robot technology specially designed for recycling LCD monitors, each was able to dispose of up to 60 devices an hour. Erdwich also supplied two lines for tube monitors in which the screens are processed using sawing technology.

A total of three lines with a respective throughput of 40 units per hour are used in the area of air-conditioning and cooling unit recycling. The recycling line for electronic scrap, such as washing machines or tumble dryers, vacuum cleaners and toasters, shreds around 5 tons of material per hour at full capacity.

The special feature of the overall system is that the material flows can be routed in such a way that further separation and preparation steps can be optionally switched in. This results in increased grade purity and material quality, which can result in higher added value.

„In the end, we were able to complete all parts of the plant by the agreed deadline, put them into operation step by step after approval by the authorities and hand them over to the plant operator. We are very proud that, as a medium-sized company, we were able to handle such a large and complex order thanks to the commitment of our experienced team," Erdwich concluded.

ERDWICH
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Erdwich Zerkleinerungs-Systeme GmbH

Erdwich Zerkleinerungs-Systeme GmbH was founded by Johann Erdwich sen. in 1972 as a machine and metal construction company. Currently there are 40 employees. The company's three core businesses for machine and plant engineering are divided into the areas of reprocessing and recycling of reusable materials, destruction of hazardous waste of all kinds and shredding of waste for volume reduction. In the segment of recycling plants for refrigeration devices, Erdwich GmbH is one of the top 3 companies in the world.