

One man's mission for a better resource recovery industry

Ejvind Pedersen, Denmark's award-winning entrepreneur, and sensor sorting technology and advanced magnetic separation specialist Steinert work together to make a reality of his idea of closed-loop production.

Ejvind Pedersen is a prominent figure in the global industry that supplies resources into the automotive sector, turning incineration bottom ash (IBA) into pure metal fractions that achieve primary raw material quality. Pedersen's father moved to Africa in the 1960s and he is convinced it is a decision that makes him what he is today. He says he has an ability to leave a safe environment like Denmark, take risks, and seek opportunities and experiences around the world. After returning from Africa, Pedersen joined a company in the resource industry that had factories in South America. For several years he was a technical manager at six plants in Venezuela, Bolivia, Columbia and Peru and built two aluminium smelters to process used beverage cans before he and his family re-settled in Denmark for the children's education.

DRIVEN BY A VISION, TAUGHT BY FAILURE

The young Pedersen was not proud of what the South American industries were doing to the

environment and its people. So he set out to find a high-end technology solution for better recovery of resources. His emphasis was on metal processing and reusability, to reduce its carbon footprint and the impact of hazardous waste. In 1989, he built a plant for melting cans in Denmark, investing EUR 8 million. Following the fall of the Berlin Wall, cheap metal overstocked the market and three years later he was bankrupt. 'I lost everything,' he says.

STARTING ANEW WITH JUST TWO

In 2002 Pedersen started from scratch to build the Danish company we know today, Scanmetals. He and Sue (his first employee and still in the company) started by handpicking non-ferrous metals in clean material to secure higher value. The 2008 financial crisis affected the company but this time his belief, persistence and determination pushed him onwards. 'Steinert was there to help when I needed a solution and they rented me their X-ray (XRT) sorting machine to produce clean aluminium products,' he explains. This was the start of a financial independence



The non-ferrous metal separator recovers zorba up to 0.5 mm grain size from the IBA. Zorba is a mixture of non-ferrous metals such as aluminium, copper, zinc and brass.



The X-ray transmission sorter (XRT) separates hard aluminium from soft.



giving him the opportunity to expand his ideas throughout Europe. Today, because of Pedersen's success, there are many different sorting plants upgrading IBA into primary resources.

IT'S ALL ABOUT THOSE FINE GRAINS

Six years ago, Pedersen says, no-one believed in the potential of small particles in IBA. 'We produce four truckloads of aluminium every day,' he points out. 'The resource hungry industry is waiting for it!' It is a priority for these industries not to source from primary mining because using high quality secondary raw materials enhances their sustainability report.

The biggest incinerator in Copenhagen produces about 240 000 tonnes of IBA per year. Approximately 20% of the waste that goes into an incinerator ends up as bottom ash. Within this, 2% is metal - pieces that range from 1-100 mm. Eddy current separation can lift the value in the IBA from 2% to 50-60%. This 50-60% of treated bottom ash is available on the market for around EUR 1 000 per tonne. 'This means we pay EUR 2 000 Euro for a tonne of metal. The small pieces are important to me,' says Pedersen.

ACCURATE SEPARATION AND SORTING TECHNOLOGY

Pedersen's focus is on aluminium and the high-end quality metals acquired from secondary smelters. He invests in technology to reduce and remove free heavy metals and aluminium alloys. The process starts with a non-ferrous metal separator for the recovery of zorba from the IBA material, followed by the induction sorting system to extract stainless steel. Steinert XSS T (X-ray transmission) produces very clean aluminium by screening out heavy metals and high-alloy aluminium. The sorter detects so accurately that it creates a product quality of 99.9% pure aluminium.

REDUCING DEPENDENCY ON PRIMARY METALS

The STEINERT KSS FLI XF (X-ray fluorescence) is a state-of-the-art solution for the separation of the heavy metals into copper, brass, zinc and precious metals. More than 97% purity of heavy metal products has been achieved. Customers such as aluminium smelters produce beverage cans from almost 100% of Scanmetals' output of that type of aluminium. The closed-loop approach is real. For 'virgin' beverage cans, pro-

Scanmetals ceo Ejvind Pedersen with his companion Tiger: 'Steinert was there to help when I needed a solution.'



Steinert KSS with XRF (X-ray fluorescence) sorts copper, brass, zinc and precious metals by distinguishing between the different elements.

ducers have to take pure, new aluminium from mines. Pedersen's customers are so satisfied with the quality of resources recovered by Scanmetals' that they do not need to buy primary aluminium from the mines. It is a real win-win situation because the buyer also improves their sustainability rates. Recovered aluminium can be recycled up to 10 times without losing quality.

'AS RELIABLE AND EFFICIENT AS A GERMAN CAR'

Scanmetals is comfortable in the knowledge it can source all of its magnetic and sensor sorting solutions from one partner. That includes the non-ferrous metal separators, induction sorting, XRT and XRF – essentially making life easier and allowing for more time to be spent productively on new recovery ideas. 'Put it this way,' Pedersen says, 'There is no doubt that German cars are the best in the world. That is a fact. I would put Steinert on the same platform: as efficient as a

German Audi; as reliable as a German Volkswagen.' He adds: 'my production people trust them. The machines are easy to handle and all the technical components are easy to understand and use.'

QUALITY AND TIMING ARE KEY

Scanmetals' focus on market and demand underpins the company's success. Not only is material quality key to success but also the delivery of the resources, the 'just in time' element. This makes reliable machinery a crucial factor for material recovery success. When the company supplies aluminium to smelters, delivering 'just in time' to brands such as BMW, Scanmetals has to deliver on time too. Pedersen has tailored his business in accordance to his customer's needs and market demands. Downtime is critical. 'If we are late, another supplier will be preferred. But we have very little downtime. The service department at STEINERT is highly educated and helps us right away.'

PRESTIGIOUS ENTREPRENEUR OF THE YEAR AWARD WINNER

At its awards ceremony in 2018, Ernst & Young gave Pedersen the Innovation prize for his contribution to the industry through impressive business growth rates, innovative strength and social commitment. During his acceptance speech, Pedersen took another chance. He asked if anyone present



would invest in a new idea of his to create jobs while saving resources. 'I learned from mistakes. I made a business that is so strong and a new idea that has a real future. I always had challenges, I always had possibilities and I succeeded. That gave me confidence.' Asked what is special about his prize, he says: 'Being recognised for my work. I felt I achieved something in life. They saw the ideas I have and that I can make them come true. That is also what the prize means: "Being an entrepreneur".'

HATS OFF TO EJVIND

One week after the ceremony, Pedersen's offer succeeded again. The family behind Lego called and came on board. They trusted in his ideas and plan to invest in the expansion of his next projects in Europe

- so that materials continue to stay in the loop. Throughout his life experiences, the entrepreneur has also managed to learn seven different languages and has embraced the wider world and its culture. These challenges, attributes and achievements contribute to the exceptional person he is today. Steinert takes its hat off to this winning entrepreneur and looks forward to continuing to work alongside him and his new ideas in the future.

LAST BUT NOT LEAST...

Scanmetals can build and put a new plant into operation within a year of the environmental permits being granted. They will operate the new plant themselves either as a joint venture or in cooperation. Contact Ejvind Pedersen for further information: ep@scanmetals.com.

A SORTING AND SEPARATION TECHNOLOGY INNOVATOR

Steinert can look back on a 130-year history. Founded in 1889 in Cologne, Germany this family-owned company is one of the world's leaders in sensor sorting and magnetic separation in the mining, scrap and waste recycling industries. With 300 employees, Steinert generates an annual turnover of around EUR 100 million. In addition to 50 sales partnerships and joint ventures around the globe, the company has subsidiaries in Germany, Australia, the USA and Brazil.



The 'EY Entrepreneur Of The Year' is one of the most prestigious awards for corporate excellence worldwide. The programme takes place in 60 countries and connects the best entrepreneurs around the world.

Other companies neglect the fine grain size. For Scanmetals that is a bonus.