

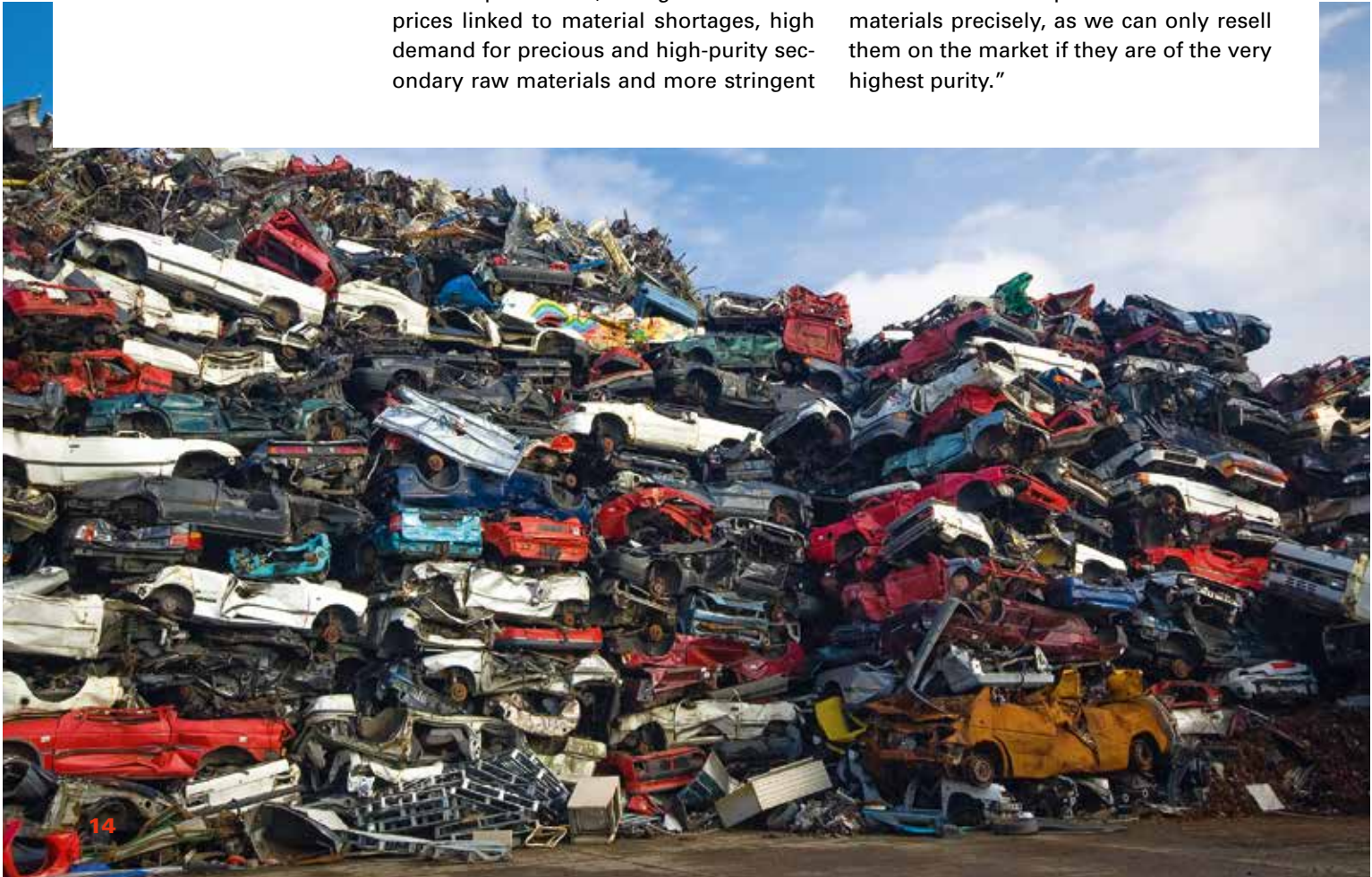
Sorting

## Recycling in its purest form

Sorting is a growth market. **Recycling companies are increasingly relying on x-ray technology** to sort valuable materials from those of lesser value efficiently. Above all, sensor-based sorting systems help to separate metals and plastics precisely.

The recycling industry is booming, and not just because of the growing mountains of waste produced by our consumer society. There are many other reasons why recycling has become a growth market, including greater environmental awareness, the productive use of resources, energy-saving and resource-efficient production, rising raw material prices linked to material shortages, high demand for precious and high-purity secondary raw materials and more stringent

official guidelines and environmental protection regulations. The recycling industry stands at the very start of the value chain. "Our goal is to sort the wheat from the chaff, or in our case the valuable materials from those of lesser value," says Hansueli Bühlmann, co-owner of Bühlmann Recycling AG in Switzerland alongside Martin Ritschard. "It is important that we sort materials precisely, as we can only resell them on the market if they are of the very highest purity."





In addition to stationary devices, Bühlmann uses portable x-ray machines in his work. When purchasing recycling materials, for example, these enable him quickly to check whether the metal alloy content corresponds to the information from the seller – and to decide whether the materials are worth buying.

#### Using x-ray technology to sort metals and plastics...

Bühlmann relies on innovative and efficient systems to automate sorting processes at his recycling centers in French-speaking Switzerland. “For us, the throughput is all-important,” he reveals. High-tech systems using different sensor-based technologies are playing an important role in the sustainable and responsible handling of resources. This applies especially to a range of metals – for example, heavy metals and aluminum need to be sorted even more accurately when processing domestic waste, electrical waste or scrapped cars. Thanks to x-ray technology, different alloys such as copper, iron, zinc, stainless steel, brass and aluminum can be detected more precisely.

Bühlmann emphasizes the potential of x-ray technology in the sorting business. He is currently looking into purchasing a new system that will help to analyze and sort a variety of plastic types, and will be deployed wherever infrared technology reaches its limitations. “Being able to identify and sort several plastic types in one run – not just one type – is important,” explains Bühlmann. Different x-ray detectors, each of which can be set to detect a specific material composition, make this possible.

#### ...and for mining precious stones

Mining is another area of application where x-ray technology is used. In fact,

x-rays can answer the industry’s biggest question with absolute certainty: Is it worth crushing a rock into smaller pieces to find the precious metal or precious stones inside?

It goes without saying that the sorting systems used in recycling centers and mines are subjected to tough environmental conditions – particularly dirt and dust. Despite this, to achieve the required levels of quality and efficiency they have to work perfectly, without any downtimes and at high capacity. It is thus critical that the materials and components are reliable, durable and maintenance-free – and that applies in particular to the x-ray sources. The machines also have to be easy to operate. “These qualities allow us to achieve rapid, reliable output – which is the defining factor in the recycling industry,” emphasizes Bühlmann.

**Whether for sorting plastic and iron or preliminary sorting in mining – x-ray technology has great potential in the sorting market.**

#### More about Bühlmann Recycling

Bühlmann Recycling AG and its subsidiary mht recycling are among the most innovative recycling companies in Switzerland. Under the ownership of Hansueli Bühlmann and Martin Ritschard, the family-run company has continually invested in machinery and infrastructure over the past few years. As a result, the company now has one of the most innovative and state-of-the-art systems anywhere in Switzerland; and in turn, the company is making a name for itself on the international stage. Foundries from all over the world are placing their trust in Bühlmann Recycling AG as producers of a wide range of secondary raw materials.