LOCAL MICROFACTORIES TO REVALUE ELECTRONIC WASTE

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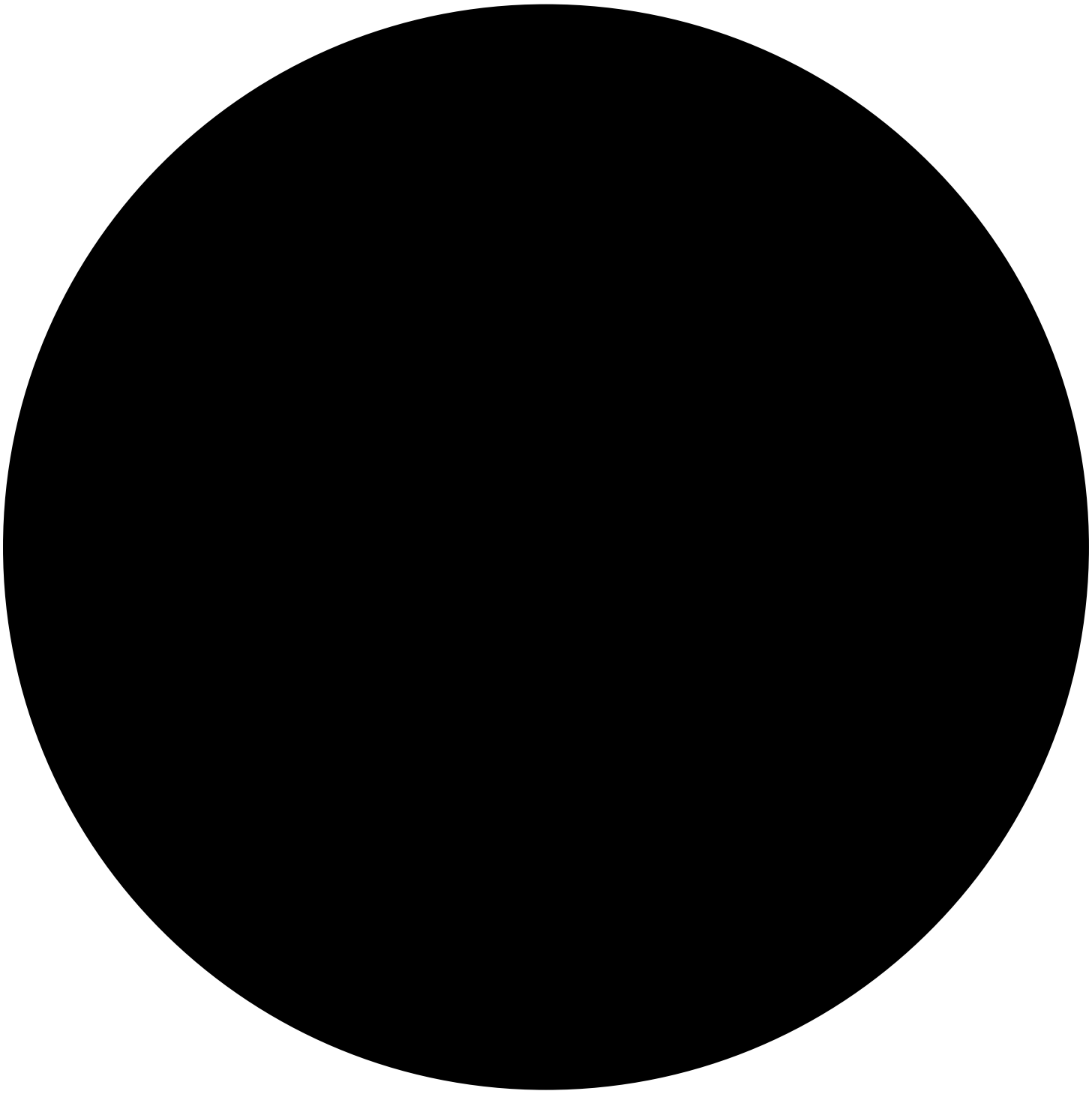

We constantly change smartpho

nes. On average, each person launches a mobile every 11 months. And the phones and tablets we throw away are a mine of multiple valuable materials. Given the enormous volume of electronic waste that we generate, the scientist Veena Sahajwalla, an expert in the Science of the University of New South Wales (Australia), proposes the creation of decentralized microfactories for recycling and reusing materials, small and efficient enough that they can be established in every city and commonwealth of the planet.

In 2014, about 42 million tons of e-waste were generated worldwide, and the United Nations Environment Program estimates an annual growth of around 3-5%. Currently, most of this volume is sent for macro-scale processing to places like Guiyu in China, the e-waste capital of the world and, not coincidentally, one of the most polluted spots on the planet. This is because there has not yet been a way to efficiently and economically extract and separate the small, intermixed pieces of material that are in each device. Sahajwalla's vision, which he has shared with *BBC Future* , he wants to provide a solution with a new micro-recycling paradigm, since the micro-scale is needed, for example, "when facing alignments of copper, zinc and nickel".

Sahajwalla's proposed micro-factories would use pre-automated drones and micro-furnaces with selective temperatures to select and extract valuable resources. Micro-furnaces would even solve the extraction of rare oxides – rare because of the difficulty of refining them, not because of their lack of abundance -; in electronic waste they are usually combined with iron, which up to now represents an almost insurmountable challenge for recycling.

In addition to avoiding the transport of waste throughout the world, with the consumption of energy it consumes, Sahajwalla sees in local micro-factories a boost to local and decentralized manufacturing, and therefore, to the creation of work at a global level. local. Microfactories would not only enable the creation of small-scale industries that use the output of materials obtained, but would also give existing SMEs an innovative solution.

There are no comments yet.