



turning

E-WASTE INTO GOLD

During the 2010 Winter Olympic Games in Vancouver, champions were not just taking home gold, silver or bronze medals—they were also playing a role in reducing electronic waste. For the first time in Olympic history, each medal, more than 1000 of them, was made with a tiny bit of the more than 142 000 of e-waste that otherwise would have been sent to landfill. The medals were the first containing metal salvaged from televisions, circuit boards, computer monitors and electronic waste. The so-called ‘urban ore’ was supplied by Teck Resources Ltd, Canada’s largest base-metals producer, which provided the gold, silver and copper used to make the medals.

Historically, Olympic medals have been made from mined mineral deposits; this was the first time that recycled materials have been added to them. First-place winners get gold-plated medals that are 92.5 per cent silver. The second-place medals are also 92.5 per

cent silver, while the third-place bronze medals are mostly copper.

All the 2010 medals had some e-waste materials from Teck’s electronic recycling program located in Trail, British Columbia. Teck mixed gold, silver and copper from the program with metals mined from the ground.

The company said it could not provide the exact percentage of mined versus recycled material in the finished medals.

Each gold medal contained a little more than 1.5 per cent of e-waste materials, while each copper medal contained just over 1 per cent, and the silver medals contained only small pieces.

In addition to representing the athletes’ outstanding achievements, the 2010 Olympic medals gave new life to the precious metals recoverable from e-waste.

The e-waste came from old computer monitor glass, various computer parts and other surplus or discarded technologies.

Several different processing methods were used to extract the materials. First, the company shredded the equipment to separate out the various metals, glass and other usable parts. To remove the metals that could not be recovered by

the shredding process, the parts were fed into a furnace operating at a temperature greater than 1100 degrees Celsius.

The materials were then combined with other metals to create the medals. Each medal was hand-cropped, ensuring no two were alike, another first in Olympic history. The medals, designed by Canadian artist Corrine

Hunt, were also the first non-flat medals made for the Games, with a wavy form to represent the ocean and mountain snowdrifts, both characteristic of Vancouver’s environment. In addition to representing the athletes’ outstanding achievements, the 2010 Olympic medals gave new life to the precious metals recoverable from e-waste.²⁸

Questions

- 1 Why would the Olympics benefit from creating a strong environmental enterprise architecture?
- 2 How can the Olympics help support ethical e-waste initiatives?
- 3 Why would a sporting event like the Olympics be concerned with reducing its carbon footprint?
- 4 What could the Olympics do to help shed light on global environmental enterprise architecture issues?
- 5 How could Moore’s Law enable future Olympic medals to be made from more e-waste?