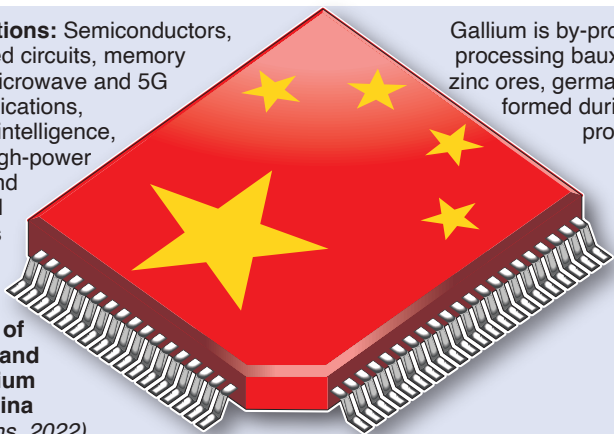


# China restricts high-tech metals

China is clamping down on exports of two silicon alternatives – gallium and germanium – from August. China is the world's largest source of the two rare metals

**Applications:** Semiconductors, integrated circuits, memory chips, microwave and 5G communications, artificial intelligence, radar, high-power lasers and chemical catalysts

Gallium is by-product of processing bauxite and zinc ores, germanium is formed during zinc production



**Imports of gallium and germanium from China**  
(\$ millions, 2022)

0 50 100 150 200

