

# Dissolvable smartwatch

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How do we stop waste piling up?

Electronic waste is difficult to recycle so small electronics are not often recycled. To reduce this waste scientists made a transient nanocomposite circuit board for the watch. The nanocomposite consists of zinc nanoparticles with silver nanowires, which improves the device's electrical properties. This nanocomposite is printed onto a water-soluble polymer, polyvinyl alcohol. The printed circuit boards are enclosed in a soluble 3D-printed case. Any components that are not dissolvable, for example the screen and transistors, can be collected and recycled after the rest of the watch has disintegrated.

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1. Give an advantage of the dissolvable smart watch.
2. Describe the stages of a life-cycle assessment (LCA) for a product.
3. Compare the LCA between a normal smart watch and a dissolvable version.