

## ‘Total artificial heart’: European Union set to approve temporary replacement hearts that are working, in 19-patient study

To help people awaiting a transplant, French company Carmat has developed a “total artificial heart” — a device to replace the whole heart until a donor can be found.

Similar in shape to a human heart and weighing 4 kilograms, it is powered by two battery packs that provide around four hours of charge before the device needs to be connected to a mains power supply.

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“It works like a human heart so if the patient walks, the blood flow increases and if the patient is at rest, the blood flow is stable and low,” Carmat CEO Stéphane Piat tells CNN Business.

The parts in contact with the patient’s blood are made from material [that’s compatible with the human body](#), to reduce the risk of adverse reactions. Once surgically implanted, the device requires no maintenance, says Piat.

Nineteen patients have so far received the device in trials and in December, the company [received a CE marking](#), allowing Carmat to sell the product in the European Union. Last month, it received authorization to [start a feasibility study](#) to gain approval from the US Food and Drug Administration.

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By the end of the year, Piat aims for Carmat to have made 20 hearts, which will be sold to hospitals for over €160,000 each (\$190,000).

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