

LEARN ABOUT THE
PROJECT:



BRAVE

A cardiac regenerative medicine European initiative

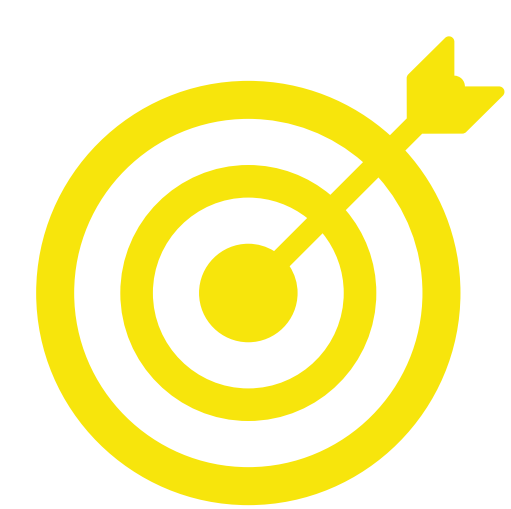


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Title of the project:

“ Computational biomechanics and bioengineering 3D printing to develop a personalized regenerative biological ventricular assist device to provide lasting functional support to damaged hearts ”





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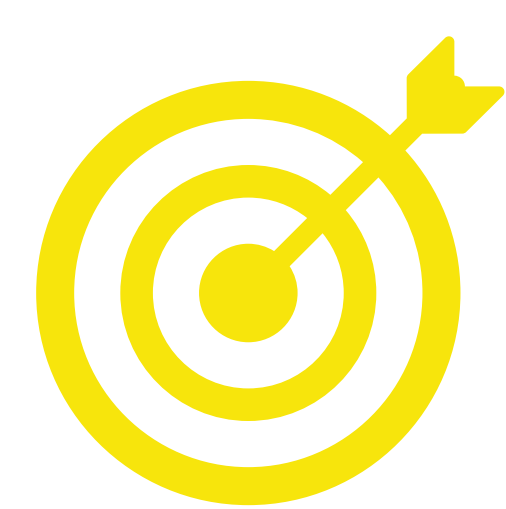


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Objective:

Ischemic heart disease is Europe's top cause of death. The EU-funded **BRAV3** project aims to revolutionize regenerative medicine by developing a lasting biological device (BioVAD) that supports a damaged heart.

BRAVE combines cell reprogramming, biomaterials, and 3D printing with myocardial physiology insights. By engineering regenerative tissues using stem cells and advanced computational models, BRAV3 seeks to enhance heart development knowledge and push novel medical technologies towards clinical application.



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Main Expected Results:

✓ Key results include **engineering human-sized cardiac tissue** that mimics myocardial properties, using hiPSC technology to create aligned, vascularized cardiac cells, and maturing these constructs in specialized bioreactors. ➔

Through preclinical trials in porcine models, **BRAV3** will validate BioVAD's safety and efficacy as a one-time regenerative treatment for ischemic heart disease. This work is anticipated **to reduce healthcare burdens**, enhance patient outcomes, and advance the EU's leadership in **regenerative medicine and bioengineering**.



European
Commission



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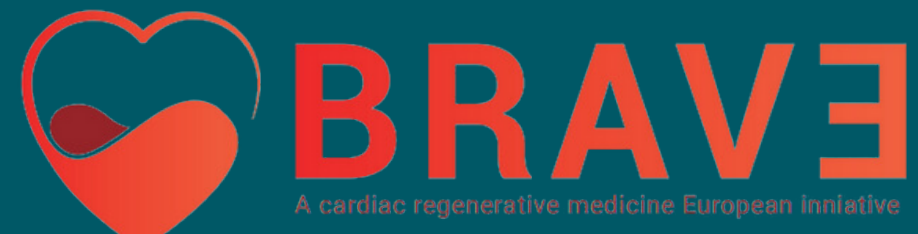
This project is funded by
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- ✓ Start date: 2020.01.01
- ✓ End date: 2025.06.30 (extended) →
- ✓ Duration: 60 months



Coordinated by

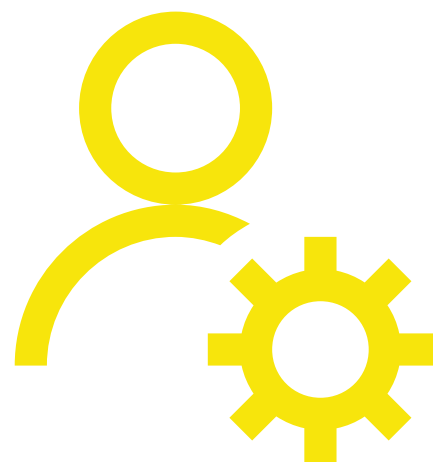
6 countries

16 partners



BY PNO GROUP





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Role of PNO Portugal:

Leaders of Exploitation and Commercialisation activities



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