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## PROJECT MANAGER

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**FOLLOW NEOLIVER TO SEE HOW WE ARE DELIVERING A DISRUPTIVE, LIFE-SAVING ALTERNATIVE TO DONOR ORGAN SHORTAGES**



**AUTOMATED GENERATION OF DENSE, FUNCTIONAL AND PERFUSABLE BIOPRINTED LIVER CONSTRUCTS FOR TRANSPLANTATION**

## PROJECT FACTS:

Start date: **01/01/2025**

End date: **31/12/2028**

Duration: **48 months**

EU budget: **7.9M€**

Call: **HORIZON-HLTH-2024-TOOL-11**

Topic: **HORIZON-HLTH-2024-TOOL-11-02**

Project number: **101191649**

**HORIZON Research and Innovation Actions**  
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Keywords:

**Tissue engineering, Organoids, Spheroids, Vasculature, Upscaling, GMP conform conditions, Manufacturing, LIFT bioprinting, Transplantation, Pre-clinical model, HTA**



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## PROJECT OVERVIEW

Despite remarkable advancements in organ transplantation, the shortage of transplantable organs remains critical.

Each year, 25% of patients with end-stage liver disease on the donor waiting list tragically pass away, highlighting the urgent need for alternatives to organ donations.

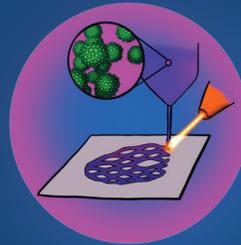
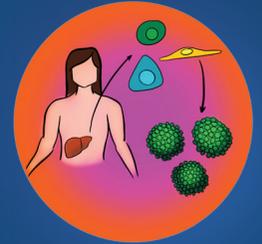
Bioprinting offers a groundbreaking solution, enabling the creation of organs from scratch. However, this technology faces significant technical, biological, and procedural challenges.

**NEOLIVER** project aims to overcome these hurdles by developing large, dense, and vascularized bioprinted liver constructs that are fully functional and suitable for transplantation.

## REVOLUTIONIZING LIVER TRANSPLANTATION WITH BIOPRINTING

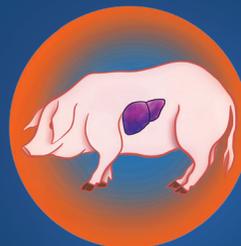
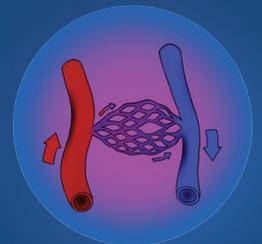
## NEOLIVER APPROACH

Generate millions of multicellular spheroids from patient-derived organoids.



Bioprint spheroids using laser-induced forward transfer (LIFT) to create vascularized liver constructs.

Integrate functional blood vessels to engineer the first autologous liver ready for transplantation.



Validate safety and efficacy in immune-deficient pigs as a preclinical model.

Develop a clinical validation plan, scaling strategy and a health technology assessment for first-in-human trials.

