One year of TENTACLE: advancing the path toward regenerative therapies for colorectal diseases

One year after its launch, the EU-funded TENTACLE project marks an important milestone in its mission to develop a new, minimally invasive approach to the **treatment of colorectal diseases** through **in situ 4D bioprinting**.

Over the past 12 months, the consortium has laid solid scientific, technical, and collaborative foundations, moving from concept to coordinated action across disciplines. Key activities have focused on **establishing shared methodologies, aligning technological development strategies, and strengthening collaboration** between **clinicians, engineers, and researchers**.

During this **first year**, the project has taken **early steps toward the practical implementation of its technological vision**. Initial internal development activities have explored the integration of bioprinting concepts within a **colonoscopic framework**, representing a **preliminary milestone on the path toward a combined colonoscope–bioprinting system**. These early developments remain at an **exploratory stage** and will continue to evolve as the project advances through its research and validation phases.

The first year of TENTACLE has also been characterized by **active engagement with the scientific and clinical community**. Project results and concepts have been presented at major international conferences, including TERMIS EU 2025 in Freiburg, FEMS Euromat in Granada and AFPM 2025 in Ghent, while **dissemination efforts have expanded through digital channels and targeted outreach initiatives**.

In January 2026, the consortium gathered in Turin for its first **General Assembly after one year of work**. Hosted by the **University of Turin**, the meeting provided an opportunity to review progress, align upcoming priorities, and reinforce the shared vision of developing patient-centred, regenerative solutions for colorectal diseases. The General Assembly was **followed by the first stakeholder workshop** targeted to doctors and healthcare professionals dedicated to **recent advances and future perspectives in ulcerative colitis treatment**, fostering **dialogue between researchers, clinicians, and citizens**.

As TENTACLE enters its second year, the project will build on this initial groundwork, advancing **technological development, validation activities**, and **stakeholder engagement**. The consortium remains committed to translating innovative biomedical engineering solutions into safer, more precise, and less invasive therapeutic strategies.

Funded by the European Union under the Horizon Europe programme, TENTACLE **continues to progress toward redefining regenerative approaches in colorectal disease treatment**, while exploring future applications beyond its initial clinical focus.

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PROJECT DETAILS:

Project Full Title
InnovaTivE in situ 4D biopriNTing for regenerAtion of CoLorEctal mucosa and submucosa

Project Acronym
TENTACLE

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Project Website
https://www.tentacle-project.eu

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