

HORIZON  
2020

# Advanced Modelling Aided Design of Tissue Engineered Construct for Optimal Soft Tissue Repair

## Fact Sheet

### Project Information

#### MADE-TEC

Grant agreement ID: 890936

[Project website](#) 

#### DOI

[10.3030/890936](https://doi.org/10.3030/890936) 

Project terminated on 31 December 2022

#### EC signature date

11 March 2020

#### Start date

1 March 2021

#### End date

28 February 2023

#### Funded under

EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

#### Total cost

€ 190 680,96

#### EU contribution

€ 190 680,96

#### Coordinated by

ITA-SUOMEN YLIOPISTO



Finland

## Project description

### Advanced design of engineered constructs for optimal soft tissue repair

The articular cartilage (AC) is a connective tissue that is essential for the smooth movement of joints. Damage to it leads to joint osteoarthritis (OA), causing restriction of joint movement. Tissue engineering approaches present a promising treatment option through the replacement of the damaged tissues with tissue-engineered (TE)

constructs. The current hypothesis is that mechanical signals can improve the functional integration of TE constructs into host cartilage and that such mechanical signals can be tuned using an optimal distribution of material stiffness and cell density. The aim of the EU-funded MADE-TEC project is to develop a computational model that simulates the biomechanical and growth behaviours of the TE constructs and the host cartilage to determine the optimal design for functional integration into the cartilage.

## Fields of science (EuroSciVoc)

[engineering and technology](#) > [environmental biotechnology](#) > [bioremediation](#) > **[bioreactors](#)**

[natural sciences](#) > [biological sciences](#) > [biochemistry](#) > [biomolecules](#) > **[proteins](#)**

[medical and health sciences](#) > [medical biotechnology](#) > **[tissue engineering](#)**

[engineering and technology](#) > [industrial biotechnology](#) > **[biomaterials](#)**



## Keywords

[Post-traumatic osteoarthritis](#)

[articular cartilage](#)

[biomechanics of soft tissues and cells](#)

[finite element modelling](#)

[biofabrication](#)

[mechanobiology](#)

[integration](#)

[growth model](#)

## Programme(s)

[H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions](#)

MAIN PROGRAMME

[H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility](#)

## Topic(s)

[MSCA-IF-2019 - Individual Fellowships](#)

## Call for proposal

[H2020-MSCA-IF-2019](#) 

[See other projects for this call](#)

## Funding Scheme

[MSCA-IF - Marie Skłodowska-Curie Individual Fellowships \(IF\)](#)

## Coordinator



### ITA-SUOMEN YLIOPISTO

Net EU contribution

€ 190 680,96

Total cost

€ 190 680,96

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Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

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**Permalink:** <https://cordis.europa.eu/project/id/890936>

European Union, 2025