

BioiC

Bioinspired soft robotic systems for cognitive production

BIOIC is a project cooperation between **University of Naples Federico II** and **Fraunhofer Institute for Machine Tools and Forming Technology IWU**.

The goal of the project is to setup a **long-lasting strategic research collaboration** in the field of **bioinspired soft cognitive robotics technology**, with a focus on **biological transformation of production systems**.

BioiC TECHNOLOGIES

Technologies which use biologically-inspired soft components with embodied intelligence



Bimanual soft articulated robot imitating the human behaviour



Soft grippers for manipulation of delicate objects



Soft continuum robotic platform with shaping and stiffening



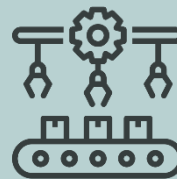
Soft growing robotic platform with manipulation capabilities



Soft micro-robots working as stand-alone/assembled systems

BioiC APPLICATIONS

Bioenabled technologies allowing the biological transformation in multiple application areas



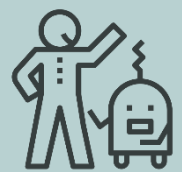
MANUFACTURING



AGRIFOOD



HEALTHCARE



SERVICE

PROJECT LEADERS

Prof. Antonio Lanzotti

University of Naples Federico II

Department of
Industrial Engineering
Piazzale Vincenzo Tecchio 80
80125 Napoli
Italy

Phone: +39 3293725542
antonio.lanzotti@unina.it

Prof. Steffen Ihlenfeldt

Fraunhofer Institute for Machine Tools and
Forming Technology IWU

Scientific Field of Production Systems and
Factory Automation
Reichenhainer Str. 88
09126 Chemnitz
Germany

Phone: +49 371 5397-2600
buero.ihlenfeldt@iwu.fraunhofer.de

TEAM LEADERS

Dr. Stanislao Grazioso

University of Naples Federico II

Department of
Industrial Engineering
Piazzale Vincenzo Tecchio 80
80125 Napoli
Italy

Phone: +39 3403318138
stanisalao.grazioso@unina.it

Dr. Arvid Hellmich

Fraunhofer Institute for Machine
Tools and Forming Technology
IWU

Department IIOT Controls and
Technical Cybernetics
Zwickauer Str. 46
01069 Dresden
Germany

Phone: +49 351 4772-2610
arvid.hellmich@iwu.fraunhofer.de

Dipl.-Ing. Linda Weisheit

Fraunhofer Institute for Machine
Tools and Forming Technology
IWU

Department Adaptronics
Nöthnitzer Str. 44
01187 Dresden
Germany

Phone: +49 351 4772-2144
linda.weisheit@iwu.fraunhofer.de



BioiC

a project cooperation between



Fraunhofer
IWU



UNIVERSITÀ DEGLI STUDI DI NAPOLI
FEDERICO II

<https://www.bioic.unina.it/>