



# THE RIGHT TO FOOD

## VISIONING AND PROTOTYPING OF SMART URBAN FARMING

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**PH.D. IN ARCHITECTURE, M.ARCH.ENG., M.APPLIED ARTS**





**THIS BOOK PRESENTS A FINAL FUTURE SCENARIO - THE OUTCOME OF THE RESEARCH UNDERTAKEN WITHIN THE EUROPEAN PROJECT MUSAE: A HUMAN-CENTRED FACTORY FOR A FUTURE TECHNOLOGICAL SUSTAINABLE DEVELOPMENT DRIVEN BY ARTS (9/2022 - 8/2025)**

**LEAD BY POLITECNICO DI MILANO, ITALY: RESEARCH CENTRE FOR DESIGN FUTURES AND CREATIVITY-DRIVEN INNOVATION THROUGH DESIGN, COORDINATED BY PROFESSOR MARITA CANINA AND IDEACTIVITY CENTER RESEARCH GROUP**

**KATARINA ANDJELKOVIC IS THE WINNING ARTIST OF MUSAE'S FIRST OPEN CALL IN SERBIA: ARTIST-IN RESIDENCE PROGRAM AT ETF ROBOTICS, SCHOOL OF ELECTRICAL ENGINEERING - UNIVERSITY OF BELGRADE**

INITIATED BY: S+T+ARTS (SCIENCE, TECHNOLOGY AND THE ARTS) @STARTS.EU - AN INITIATIVE FUNDED BY THE EUROPEAN COMMISSION SINCE 2016. MUSAE - A HUMAN-CENTRED FACTORY FOR A FUTURE TECHNOLOGICAL SUSTAINABLE DEVELOPMENT DRIVEN BY ARTS | FUNDING: HORIZON EUROPE, CALL: HORIZON-CL4-2021-HUMAN-01, GRANT AGREEMENT NO. 101070421 | COORDINATOR: PROF. MARITA CANINA, POLITECNICO DI MILANO |

PROJECT TOPIC: DESIGN FUTURES ART-DRIVEN INNOVATION IN DIGITAL INNOVATION HUBS. MUSAE AIMS TO SET UP A HUMAN-CENTRED FACTORY MODEL, BASED ON THE DESIGN FUTURE ART-DRIVEN (DFA) METHOD, AND INTEGRATE IT INTO A (EUROPEAN) DIGITAL INNOVATION HUBS (DIHS) NETWORK, TO SUPPORT COMPANIES IN GUIDING STRATEGIC DIGITAL TECHNOLOGY INNOVATION AND ADDRESS FUTURE CHALLENGES IN THE FOOD DOMAIN TO IMPROVE PEOPLE AND PLANET WELLBEING. IT AIMS TO PROVIDE GUIDANCE TO EUROPEAN DIGITAL INNOVATION HUBS (DIHS) ON HOW AN ART-TECH COLLABORATION COULD BE SET UP IN A PRODUCT-ORIENTED SHAPE. SECOND, MUSAE AIMS TO EQUIP ARTISTS WITH A DFA METHOD TO DEVELOP A STRATEGIC APPROACH TO INNOVATION WITH COMPANIES.

THE PROJECT IS SUPPORTED BY HORIZON EUROPE (GA N. 101070421) THROUGH S+T+ARTS AN INITIATIVE OF THE EUROPEAN COMMISSION, LAUNCHED UNDER THE HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME TO SUPPORT COLLABORATIONS BETWEEN ARTISTS, SCIENTISTS, ENGINEERS AND RESEARCHERS | CONSORTIUM: POLITECNICO DI MILANO (IT), AB.ACUS (IT), UNIVERSITAT DE BARCELONA (ES), MADE (IT), PAL ROBOTICS (ES), GLUON (BE), UNIVERSITY COLLEGE DUBLIN (IE), THE UNIVERSITY OF MANCHESTER (UK), UNIVERSITY OF BELGRADE - SCHOOL OF ELECTRICAL ENGINEERING.



## **MUSAE. A HUMAN-CENTRED FACTORY FOR A FUTURE TECHNOLOGICAL SUSTAINABLE DEVELOPMENT DRIVEN BY ARTS**

THE PROJECT IS AIMED AT DEFINING AN INNOVATIVE PLANET-CENTRED FACTORY MODEL TO INTEGRATE ARTISTIC COLLABORATION IN THE (EUROPEAN) DIGITAL INNOVATION HUBS (E-DIHS) THROUGH THE DESIGN FUTURES ART-DRIVEN (DFA) METHOD TO HELP COMPANIES ANTICIPATE INNOVATIVE PRODUCTS AND SERVICES FOR THE FUTURE OF FOOD TO IMPROVE HUMAN AND PLANETARY WELL-BEING.

THE INNOVATIVE DFA METHODOLOGY BASED ON CREATIVITY, ART-DRIVEN INNOVATION, AND FUTURE THINKING, HAS BEEN IMPLEMENTED TO GUIDE TECH-DRIVEN BUSINESSES IN ENVISIONING NEW SOLUTIONS LEVERAGING ARTIFICIAL INTELLIGENCE (AI), ROBOTICS, AND WEARABLES TECHNOLOGIES TO IMPROVE THE SUSTAINABILITY OF THE FOOD VALUE CHAIN.

IT IS PART OF THE S+T+ARTS ECOSYSTEM, BRINGING TOGETHER EXPERTISE IN DESIGN, ART, NUTRITION, WELLNESS AND HUMAN-MACHINE INTERACTION. MUSAE WILL RUN 20 S+T+ARTS RESIDENCIES INVOLVING 20 ARTISTS AND 10 TECHNOLOGY COMPANIES WORKING WITH THREE MAIN TECHNOLOGIES, ARTIFICIAL INTELLIGENCE, WEARABLES, AND ROBOTICS, IMAGINING FUTURE SCENARIOS OF TECHNOLOGY APPLICATION AND DESIGNING PROTOTYPES, THUS OPENING UP NEW MARKETS AND INNOVATIONS.

LINKING TECHNOLOGY AND ARTISTIC PRACTICE IS CONSIDERED A WIN-WIN EXCHANGE BETWEEN EUROPEAN INNOVATION POLICIES AND THE ART WORLD TODAY. THE FOCUS OF MUSAE IS TO PROVIDE COMPANIES WITH NEW FORMS OF TRANSDISCIPLINARY COLLABORATION, AIMED AT EXPLORING FUTURE APPLICATION SCENARIOS OF TECHNOLOGIES USING ARTISTIC PRACTICE AND ALL INNOVATIVE TECHNOLOGICAL PRODUCTS AND SERVICES DEVELOPED WILL MEET THE SUSTAINABLE DEVELOPMENT GOALS (SDGS). THE USE OF THE DFA METHOD WILL HELP ARTISTS TO IMAGINE FUTURE SCENARIOS, CRITICALLY REFLECT ON THEM AND COLLABORATE WITH TECHNOLOGY PROVIDERS TO DEVELOP NEW TECHNOLOGICAL SOLUTIONS THAT MEET FUTURE HUMAN NEEDS WITH A HUMAN-CENTERED APPROACH, OPENING UP NEW MARKETS AND ACTIVITIES.

FOR THE DEVELOPMENT OF FUTURE SCENARIOS OF DIGITAL TECHNOLOGY APPLICATIONS, MUSAE WILL EXPLORE THE THEME OF HEALTH, FOCUSING IN PARTICULAR ON THE RELATIONSHIP BETWEEN NUTRITION AND HEALTH STATUS. THE PROJECT PILOTS WILL ADDRESS THREE MAIN SUB-TOPICS IDENTIFIED AS RELEVANT TRENDS FOR THE FUTURE: REDUCING CARBON FOOTPRINT IN DIETARY BEHAVIOR; ROLE OF FOOD IN HOLISTIC HUMAN WELL-BEING; RETHINKING THE FOOD CHAIN IN OUR ENVIRONMENT.