



POLITECNICO
MILANO 1863

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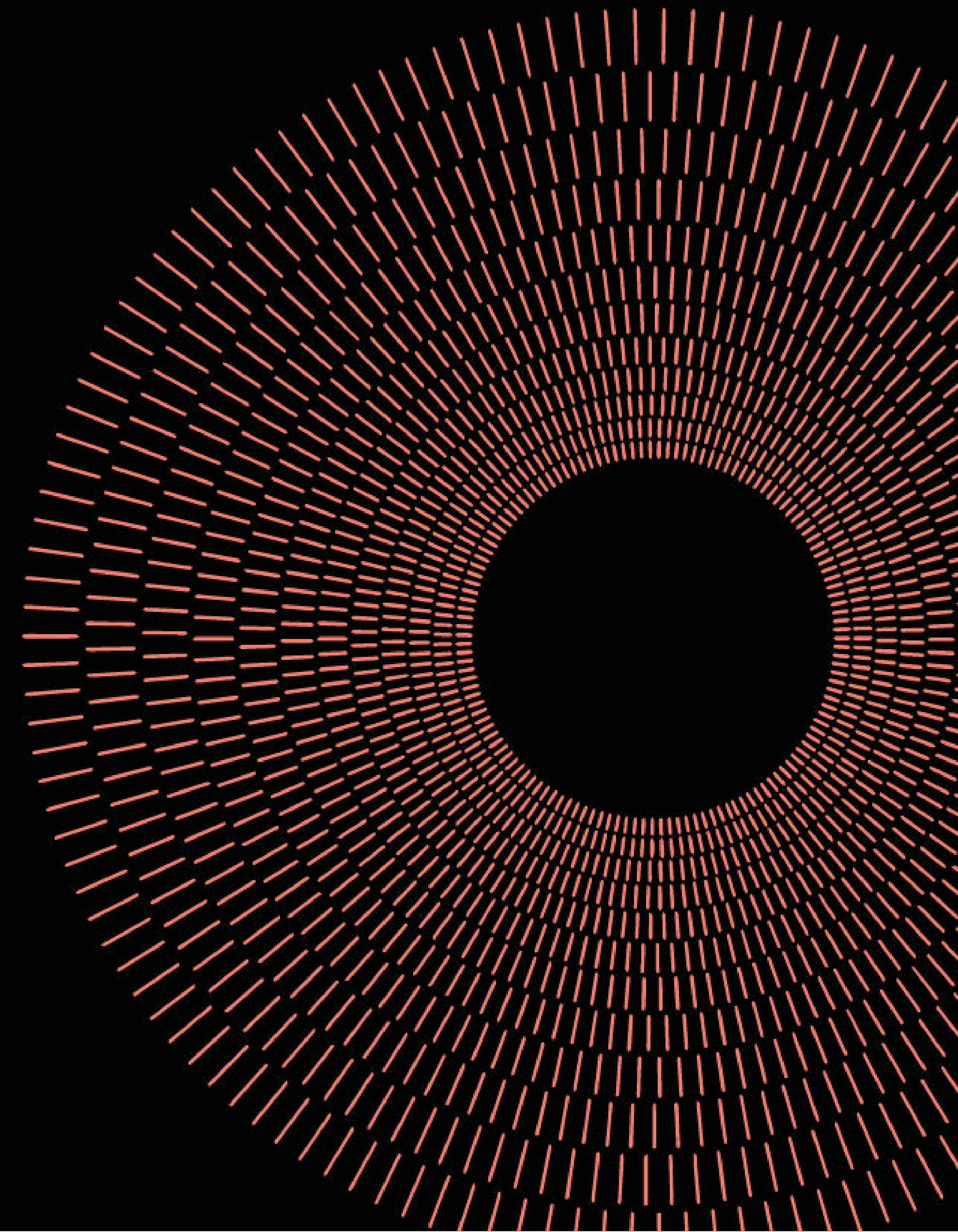
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POLITECNICO DI MILANO



EDUCATIONAL EXCELLENCE

Politecnico di Milano is a scientific-technological university which trains **engineers, architects** and **industrial designers**.

It is recognised as a **leader in education**. It offers courses of all levels:

- + Laurea (equivalent to Bachelor of Science),
- + Laurea Magistrale (equivalent to Master of Science),
- + Doctorate programmes,
- + Masters,
- + and postgraduate courses.

It has growing national and international appeal and a high employment rate for its graduates.

The following professionals graduate from the Politecnico:

26%

ITALIAN
ARCHITECTS

33%

ITALIAN
DESIGNERS

17%

ITALIAN
ENGINEERS

<https://www.polimi.it/en/the-politecnico/about-polimi/>



POLITECNICO IN NUMBERS

RESEARCH ACTIVITIES ARE ORGANISED IN 12 DIFFERENT DEPARTMENTS:

- + Department of Aerospace Science and Technology (DAER)
- + Department of Architecture and Urban Studies (DASTU)
- + Department of Architecture, Built Environment and Construction Engineering (DABC)
- + Department of Chemistry, Materials and Chemical Engineering "Giulio Natta" (DCMC)
- + Department of Civil and Environmental Engineering (DICA)
- + Department of Design (DESIGN)
- + Department of Electronics, Information and Bioengineering (DEIB)
- + Department of Energy (DENG)
- + Department of Management, Economics and Industrial Engineering (DIG)
- + Department of Mathematics Francesco Brioschi (DMAT)
- + Department of Mechanical Engineering (DMEC)
- + Department of Physics (DFIS)

LABORATORIES:

208

RESEARCH LABS

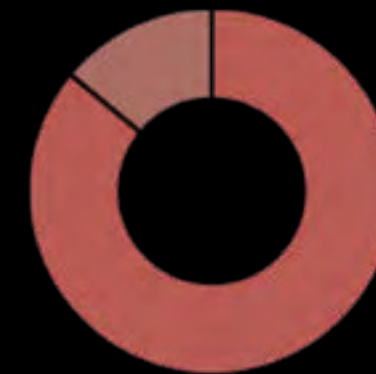
33

INTERDEPARTMENTAL
LABORATORIES

4

LARGE
INFRASTRUCTURES

EMPLOYMENT OF GRADUATES THREE-YEAR COURSES (2018 DATA)



86%

of three-year course graduates who did not continue their studies at the Politecnico have found a job one year after obtaining their degree.



30%

already had employment by their graduation day.

EMPLOYMENT OF GRADUATES MASTERS (2018 DATA)



95%

employed within a year of graduating.

30% employed by their graduation day.

11% of Italian master's degree graduates work abroad.



83%

of foreign master's degree graduates are employed one year after graduation,

51% remained working in Italy.

EMPLOYMENT OF PHD GRADUATES (2018 DATA)



Engineering

97%

Architecture

97%

Design

100%

University

97%



Companies

43%

Universities and Research Institutes

52%

Self-employed workers

10%

OUR VALUES AND MISSION



RESPONSIBILITY



RESPECT



INTEGRITY



PROFESSIONALISM



FAIRNESS



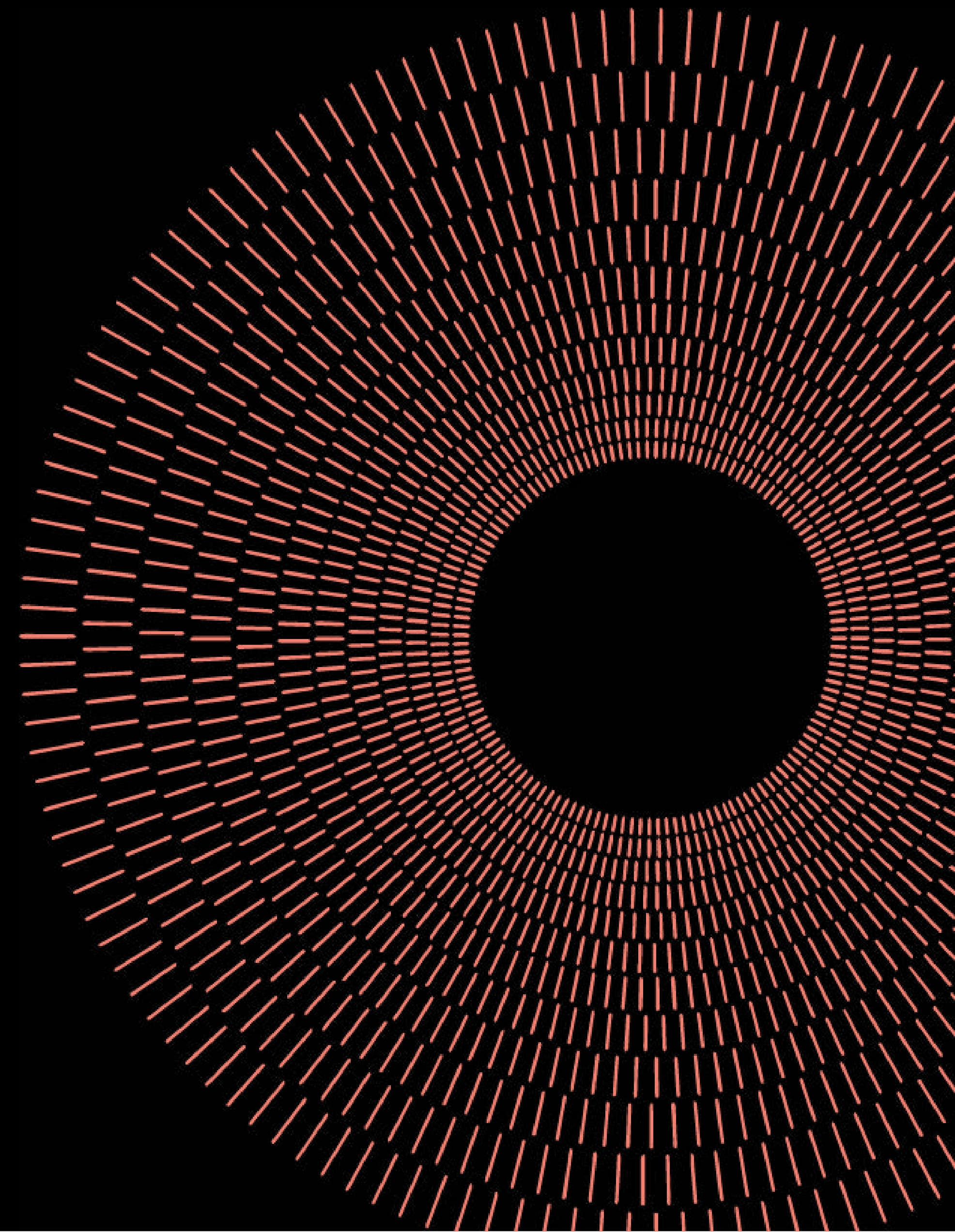
TRUST



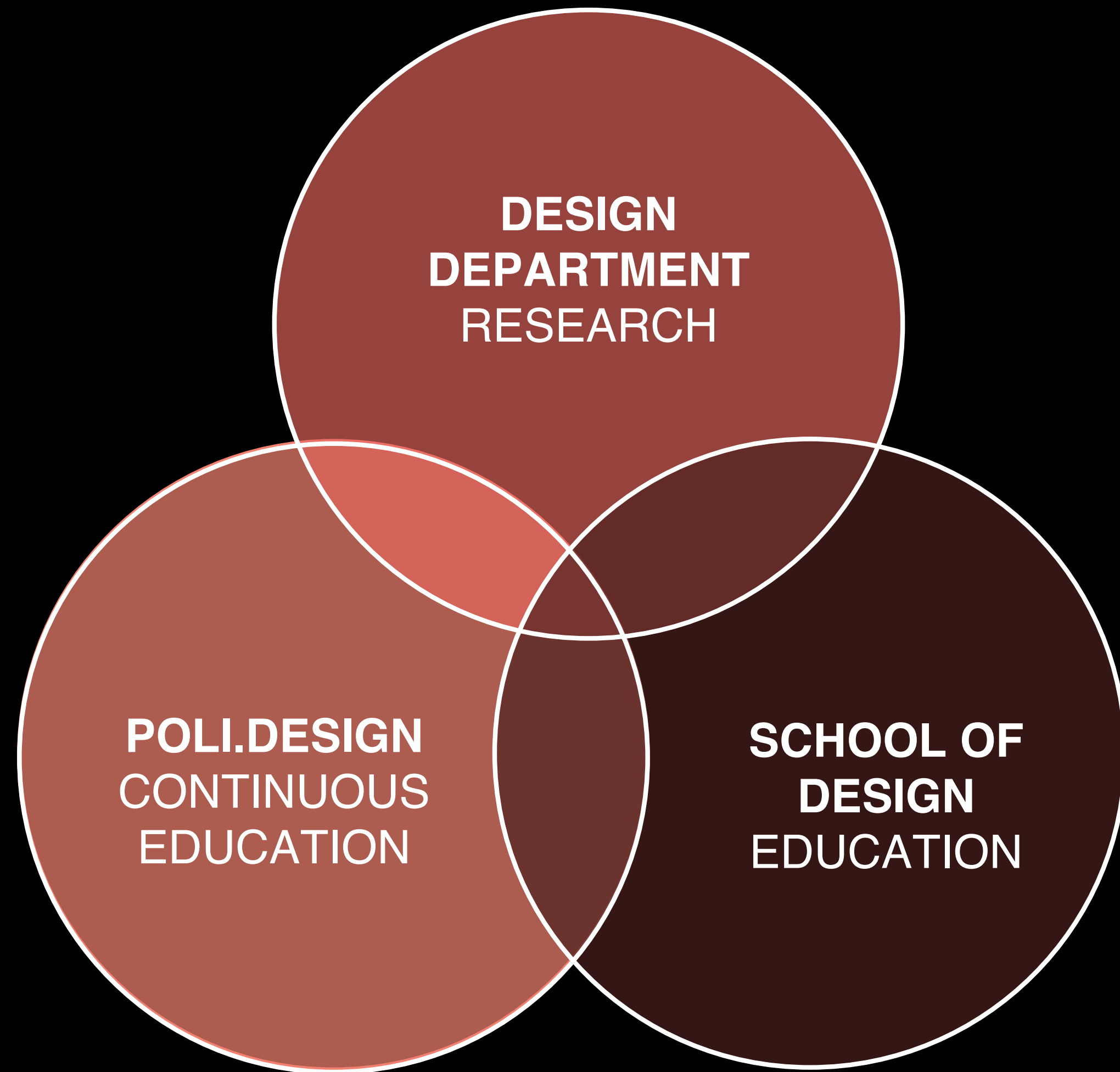
TRANSPARENCY

We shall be a “**European Leading University**”, capable of guiding research and scientific and **technological innovation** to improve human life in a **sustainable and responsible way**.

POLIMI DESIGN SYSTEM

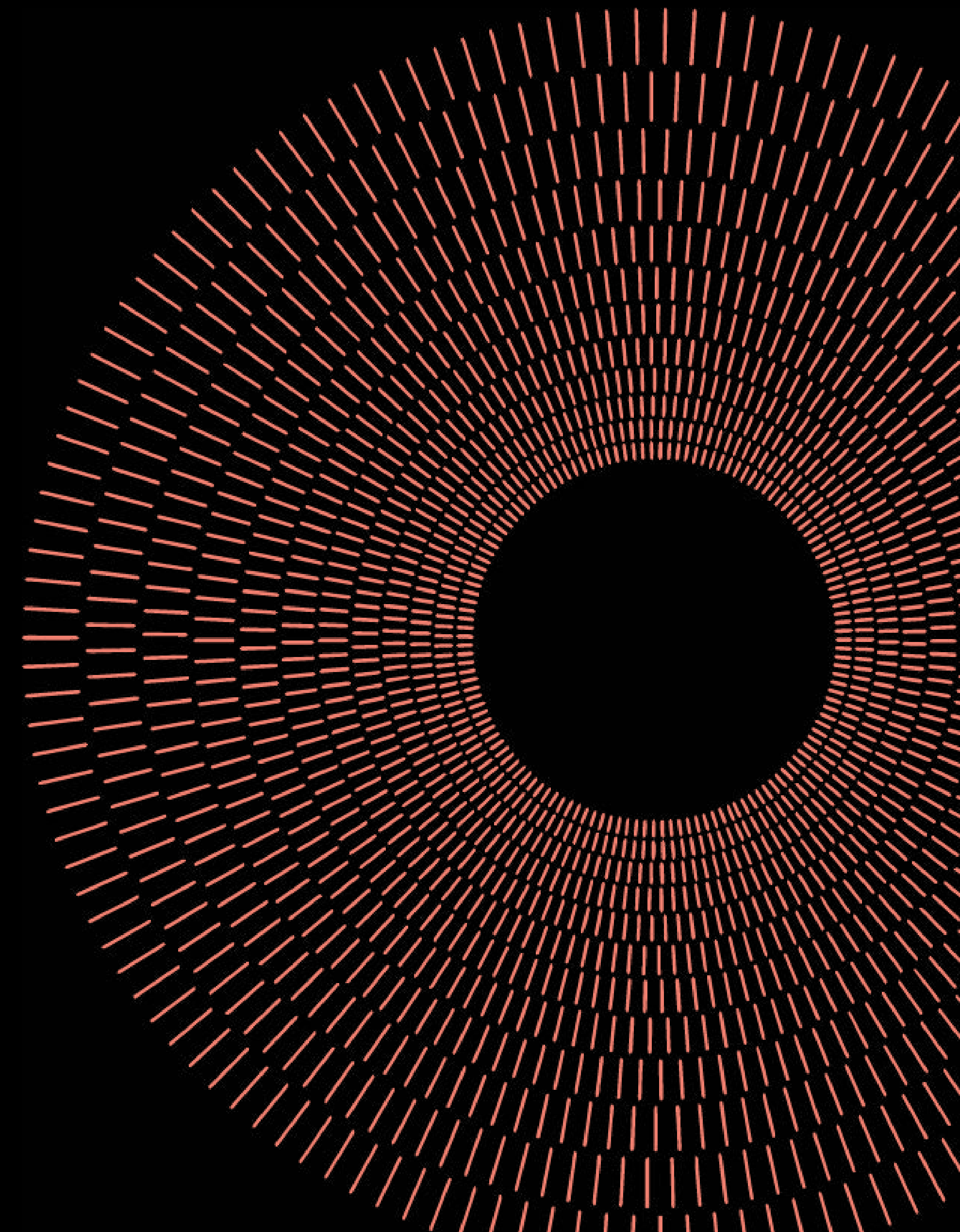


POLIMI DESIGN SYSTEM



The **POLIMI DESIGN SYSTEM** consists of 3 entities and intends to carry out **excellence about design** and to satisfy requests from a **technological, productive and professional context** in a continuous evolution.

DESIGN DEPARTMENT



THE MISSION

The Department aims to strengthen, in research and teaching, the **dialogue with different disciplines** with the aim of redefining the perimeter of the **culture of the project** and its application contexts in relation to the technological and social changes taking place and their impact.

The Design Department mission is to expand **design knowledge**, investigating how design enables and drives **innovation** to increase competitiveness, realise a better quality of life and achieve more **sustainable and inclusive growth**.

PRIORITIES OF THE DEPARTMENT

+ THE SIGNIFICANCE OF **DESIGN AND ITS PRACTICES**

as a key element of **research and education**; design has the peculiarity of giving shape to ideas and making them concrete **in harmony with contemporary design languages**;

+ THE CAPACITY TO ACT WITHIN THE **VARIOUS PROCESSES OF PRODUCTION** OF TANGIBLE AND INTANGIBLE GOODS,

focusing on the central role of the individual, the group, the community, and society as a whole: in its research and practice, the department works in the sectors of **interior design, product design, communication, fashion, services and sustainability**;

+ THE **SHARING** OF METHODS AND TOOLS,

which are continuously evolving, as a key element to support design: **the various cores of the different areas of research cross-pollinate each other** with regard to methods of analysis, narration, representation, communication, planning and production;

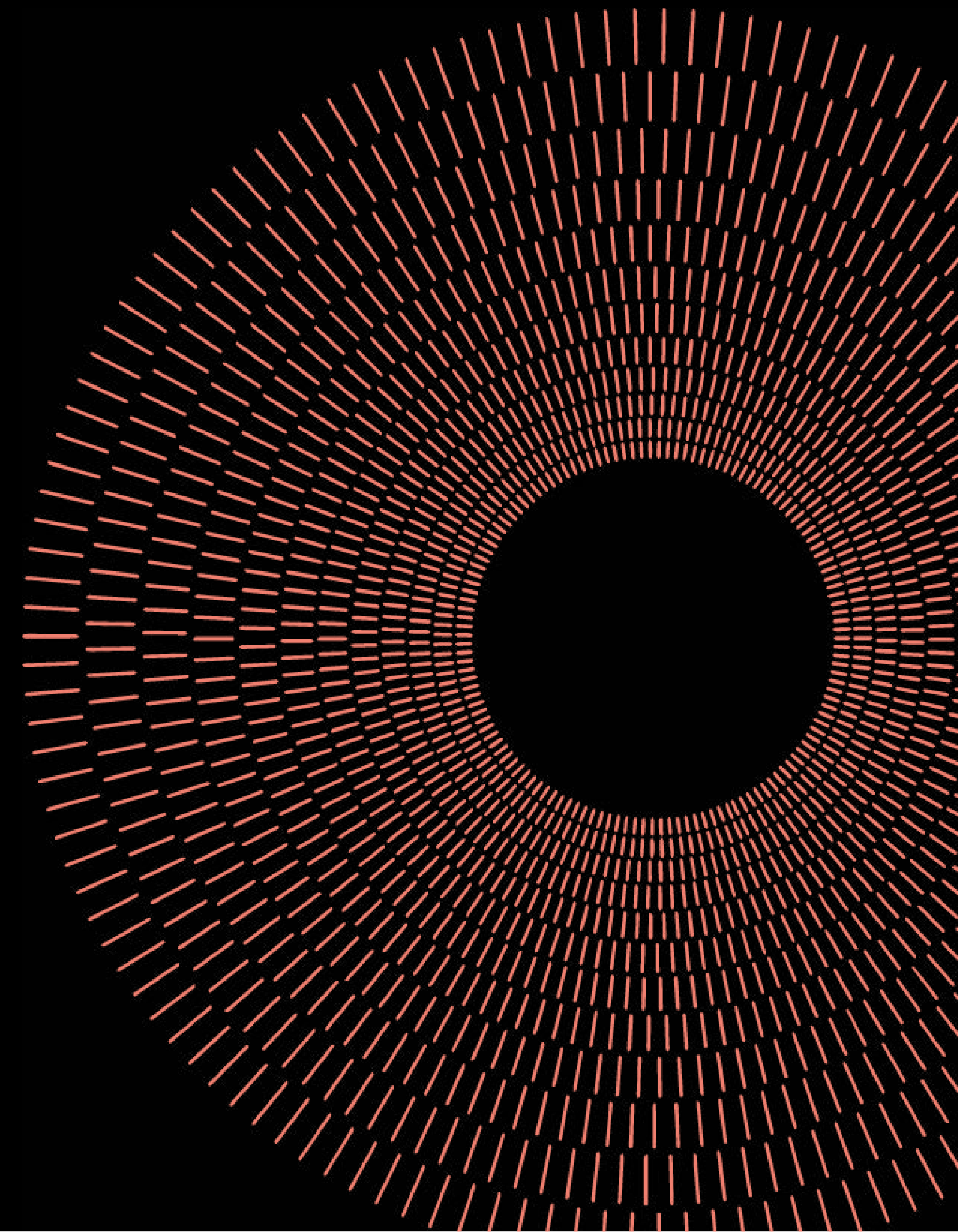
+ **A POLYTECHNICAL APPROACH,**

that is, virtual and concrete coexistence with an extremely broad, diverse range of polytechnical subjects, in which **design not only plays a mediating role but is also a critical element** which steers activities towards design ends and methods.

+ **HISTORY AND CULTURE,** AS FOUNDING ELEMENTS OF DESIGN,

in an ongoing dialectic between the **contemporary and historical roots**;

SCHOOL OF DESIGN



A LEADING INSTITUTION

In 1993 Milan, with its Politecnico, became the elective birthplace of the Degree Course in Industrial Design, the first of its kind in Italy. The Politecnico is a place of avant-garde training, a meeting point of different cultures. It links **architectural and artistic studies**, with their creativity and focus on form, to **technical, scientific and engineering studies**.

In addition, this university is noteworthy for its longstanding dialogue with the great entrepreneurial management tradition of small and medium enterprises.

The Design Department of Politecnico Milano is the largest scientific-technological university in Italy.

It operates in **multidisciplinary research settings**, in which design plays a mediating role and is a critical element.

Research activities are informed and influence iteratively the didactical activities.



QS Ranking by Subject "Art & Design" 2021

<http://www.dipartimentodesign.polimi.it/en/department/presentation>
<https://www.design.polimi.it/en/school/informations/presentation>

THE CAMPUS

The Milano Bovisa Campus arises on the site of the former gasometer of Bovisa, a neighborhood in the north of Milan. The campus has been substantially expanded as the result of an international competition, which was announced in 1998 by Politecnico di Milano in collaboration with other local entities (Municipality and Region) and which has brought about a general renewal of the zone.



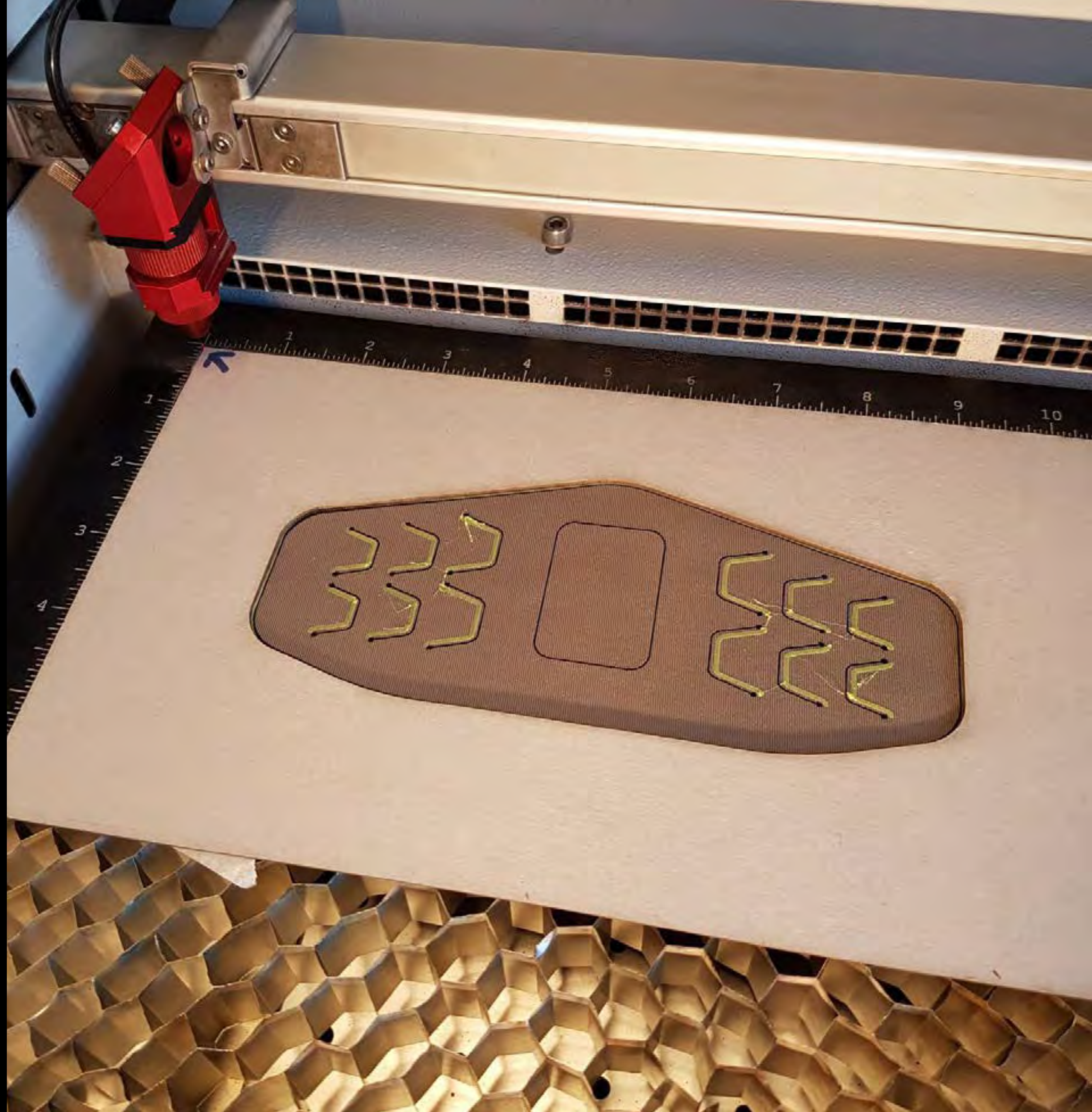
THE LABORATORIES

The Design Department has one of the most highly regarded systems of laboratories internationally, that boast specific, cutting-edge skills and equipment and conduct scientific and professional research.

The system of laboratories for teaching and services was established in 2002 on the Politecnico di Milano's Bovisa Campus. It occupies an area of around 10,000 square meters of the building. For over ten years it has provided services for businesses, associations, bodies and professional organisations in various areas ranging from communication to product, from textile to fashion.

- + FASHION LAB
- + KNITWEAR LAB
- + IMAGE LAB
- + PROTOTYPES LAB

<http://www.dipartimentodesign.polimi.it/en/laboratories/laboratories-for-teaching-and-services>



FASHION LAB

The equipment and tools present allow users to work with fabrics, yarns, skins and innovative materials and to experiment with a range of working and model making techniques with the assistance of teaching staff and experienced technicians.

<http://www.dipartimentodesign.polimi.it/lab-moda>



KNITWEAR LAB

It is an important creative crucible in which future designers can learn to master the artisan and industrial techniques they need to bring their creativity to fruition and companies can gain research and experimentation help.

<http://www.knitlab.org/2017/11/01/ddm/>



IMAGE LAB

The Image Lab focuses on teaching and research support activities in the fields of planning, production and management of communication products in audio-visual and photographic format according to a design approach encompassing strategic, linguistic and technical competencies in which the multi-disciplinary approach is a modus operandi.

<http://www.dipartimentodesign.polimi.it/en/lab-immagine-en>



PROTOTYPE LAB

This lab specialises in making models and prototypes for design and industry with special attention to practicability and production checks to optimise project time frames and costs. The laboratory combines traditional artisanal know-how with the most up-to-date prototyping technologies. The Interaction Design Area (IDEA) of Prototype Lab is specifically designed to support students with tools, micro controllers, sensors for the physical computing.

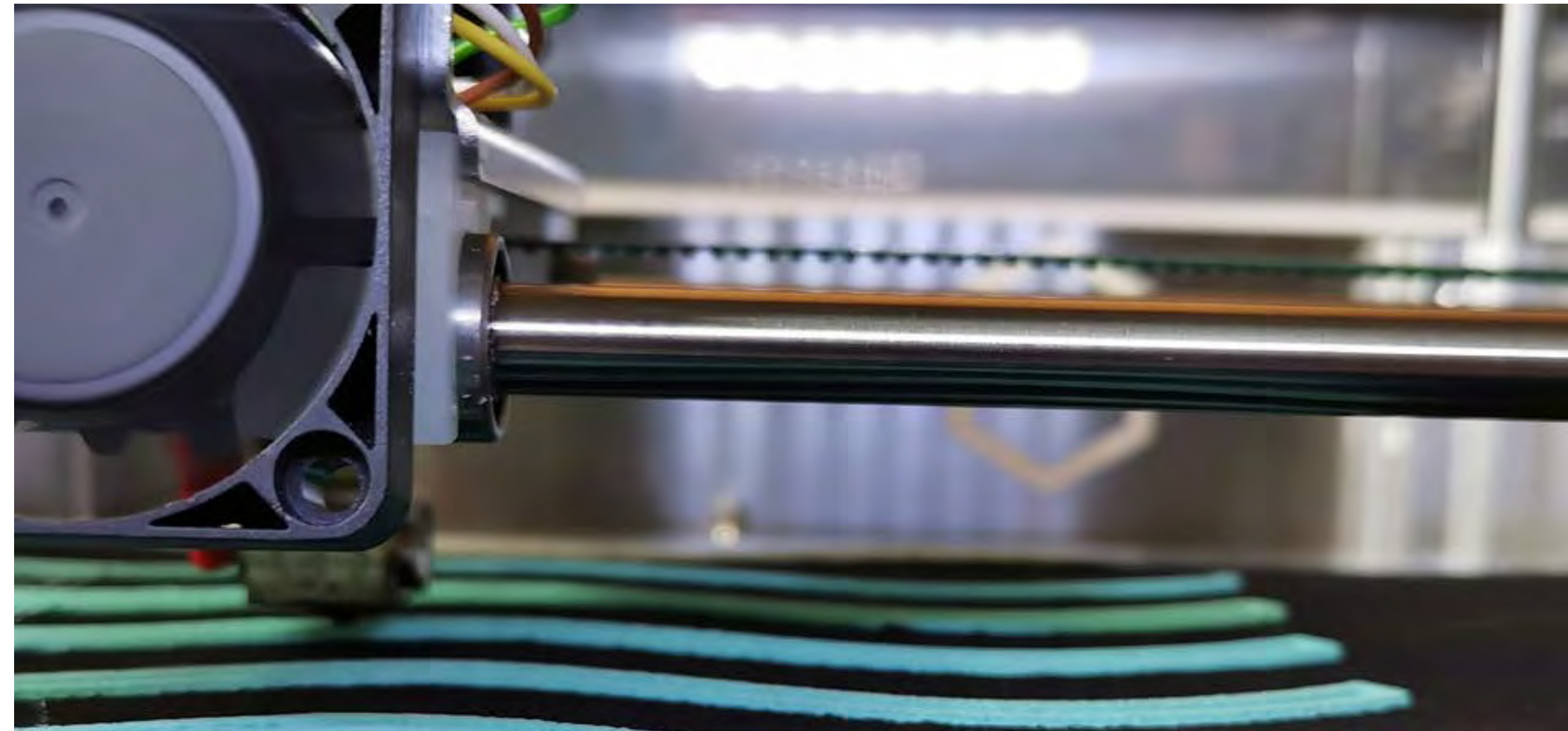
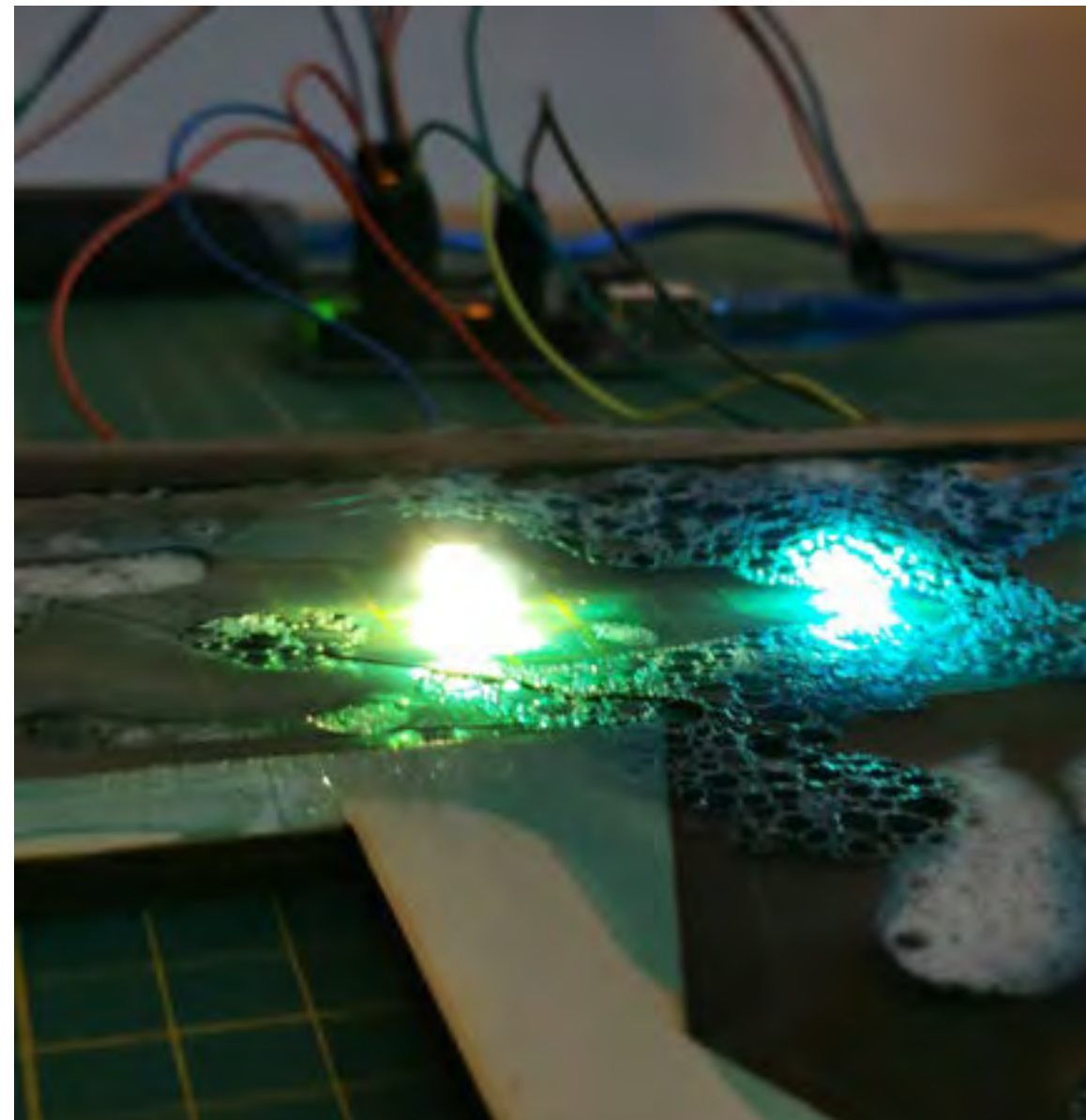
<http://www.dipartimentodesign.polimi.it/en/lab-prototypes>



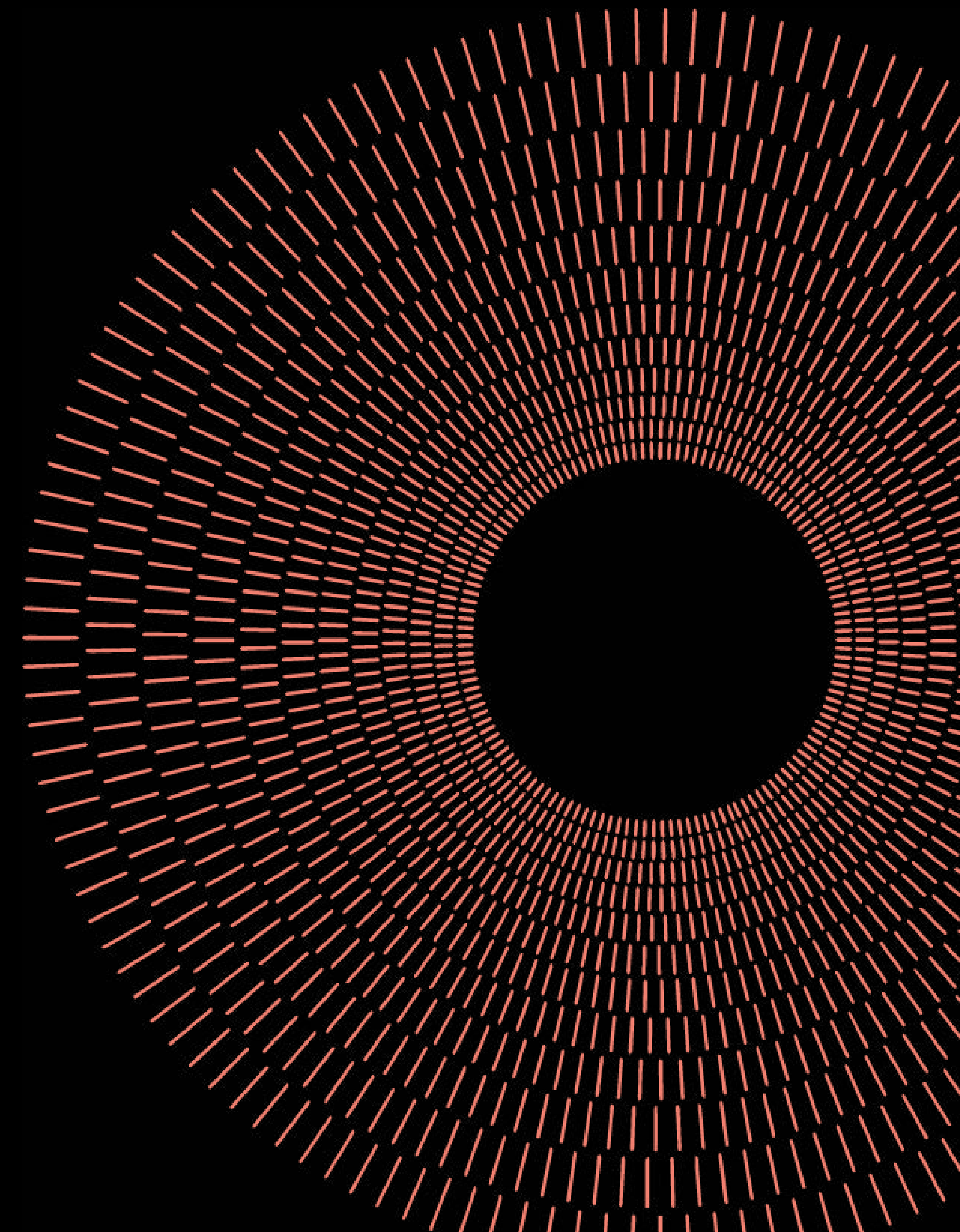
POLIFACTORY

Polifactory is an interdepartmental research laboratory that explores the relationship between design and new digital manufacturing processes, promoting a new culture of making.

<https://www.polifactory.polimi.it/en/about/>



DESIGN FOR THE FASHION SYSTEM, M. Sc.



DESIGN FOR THE FASHION SYSTEM DEGREE, M.Sc.

Fashion is a stratified phenomenon with an intrinsic complex nature, where cultural and material production are matched. At Politecnico di Milano it is faced in a **multidisciplinary teaching and learning environment** in the Master's degree course *Design for the Fashion System*.

By Fashion System is meant the **integrated system** of products, processes and services which define and make up the fashion market. The intention of this Master of Science is to train **designers oriented towards innovation, research and experimentation**, capable of interpreting design as a strategic element in fashion business innovation.

The Master of Science Programme aims at integrating multidisciplinary research questions and problems coming from the real world, **interacting in a dynamic balance with all external stakeholders** such as companies and the social community as a whole.

Design is interpreted as a strategic function integrated across the cycle of **research, design, development, and distribution**. Within this model, design education is oriented at growing professionals who are able to guide fashion into a **new paradigm**, centered on principles harmonized with the collective aim of pursuing a sustainable development, on a social, cultural, and economic point of view.

https://www.design.polimi.it/fileadmin/files/didattica/studiare_design/offerta_formativa_a_scelta/CdS_Design_for_the_Fashion_System_Lab_1_2.pdf

Driving digital transformation by design

An articulate vision of fashion as a cultural, social and economic phenomenon

master degree

Design for the Fashion System

1st semester

2nd year

COURSE CHALLENGES

Central themes of the course:

- + THE EFFECTS OF THE **DIGITAL TRASFORMATION**
- + SOCIALIZATION OF **SUSTAINABILITY ISSUES**
- + **NEW PRODUCTION AND CONSUMPTION DYNAMICS** (FROM PRODUCTS TO SERVICES, SHARING ECONOMY, SOCIAL INTERACTION & SOCIAL INNOVATION)

Teaching focus:

- + FROM PRODUCT (MERCHANDISE) TO **INNOVATION PROCESS**
- + FROM PROJECT THEME TO **PROJECT APPROACHES**
- + FROM A DISCIPLINARY FOCUS TO A **MULTIDISCIPLINARY OPENNES**

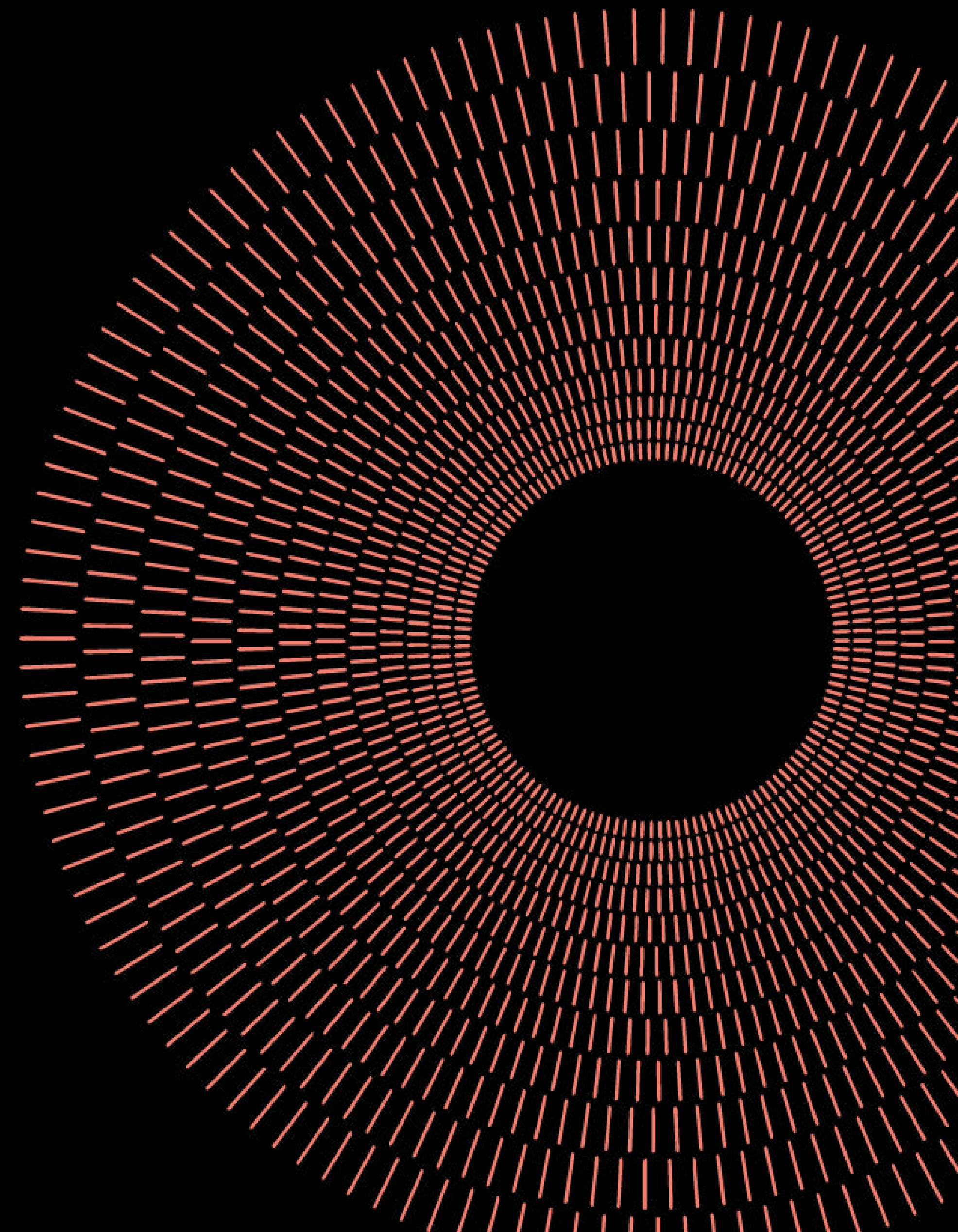
Learning outcomes:

- + ABILITY TO **PLAN AND DIRECT** COMPLEX PROJECTS
- + **LANGUAGE MATURITY**
- + ABILITY TO RESEARCH AND MANAGE **INNOVATION** AND CHANGE PROCESSES
- + ADVANCED **KNOWLEDGE AND TOOLS**
- + ABILITY TO **DIALOGUE** WITH OTHER DISCIPLINARY CONTEXTS
- + ABILITY TO **SYNTHESIZE**
- + CRITICAL SKILLS AND **ETHICAL DIMENSION** OF THE PROFESSION

“ 60% of the current functions have at least 30% of tasks that could be **automated**. By 2030 it is expected that from 75 to 375 million workers (from 3% to 14% of the world workforce) will be forced to **change the type of employment**. All workers will be forced to evolve to take into account the changes due to the advent of **new technologies**. ”

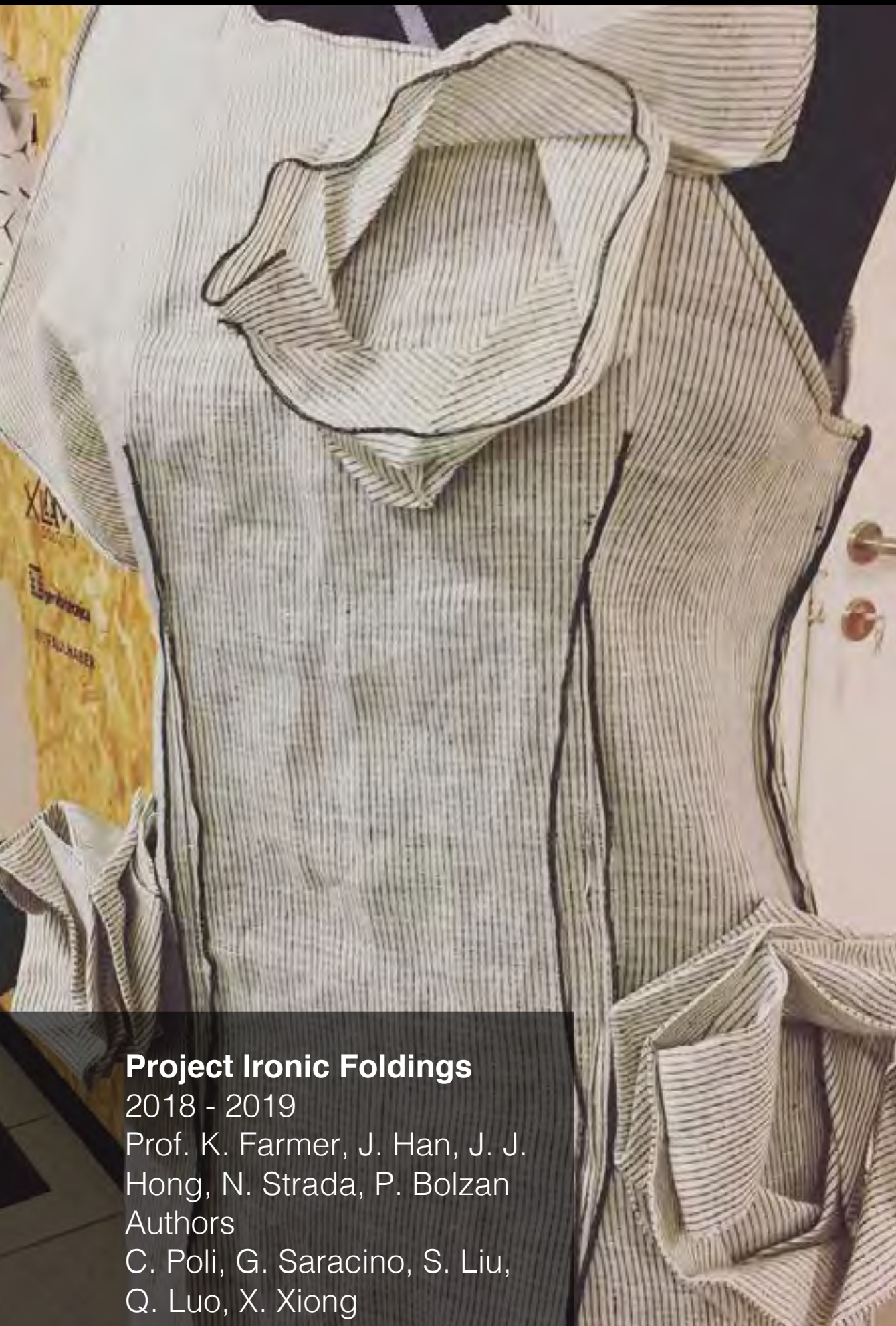
MCKINSEY&COMPANY (2017), "JOBS LOST, JOBS GAINED: WORKFORCE TRANSITIONS IN A TIME OF AUTOMATION", DECEMBER 2017.

A SELECTION OF FASHION-TECH PROJECTS



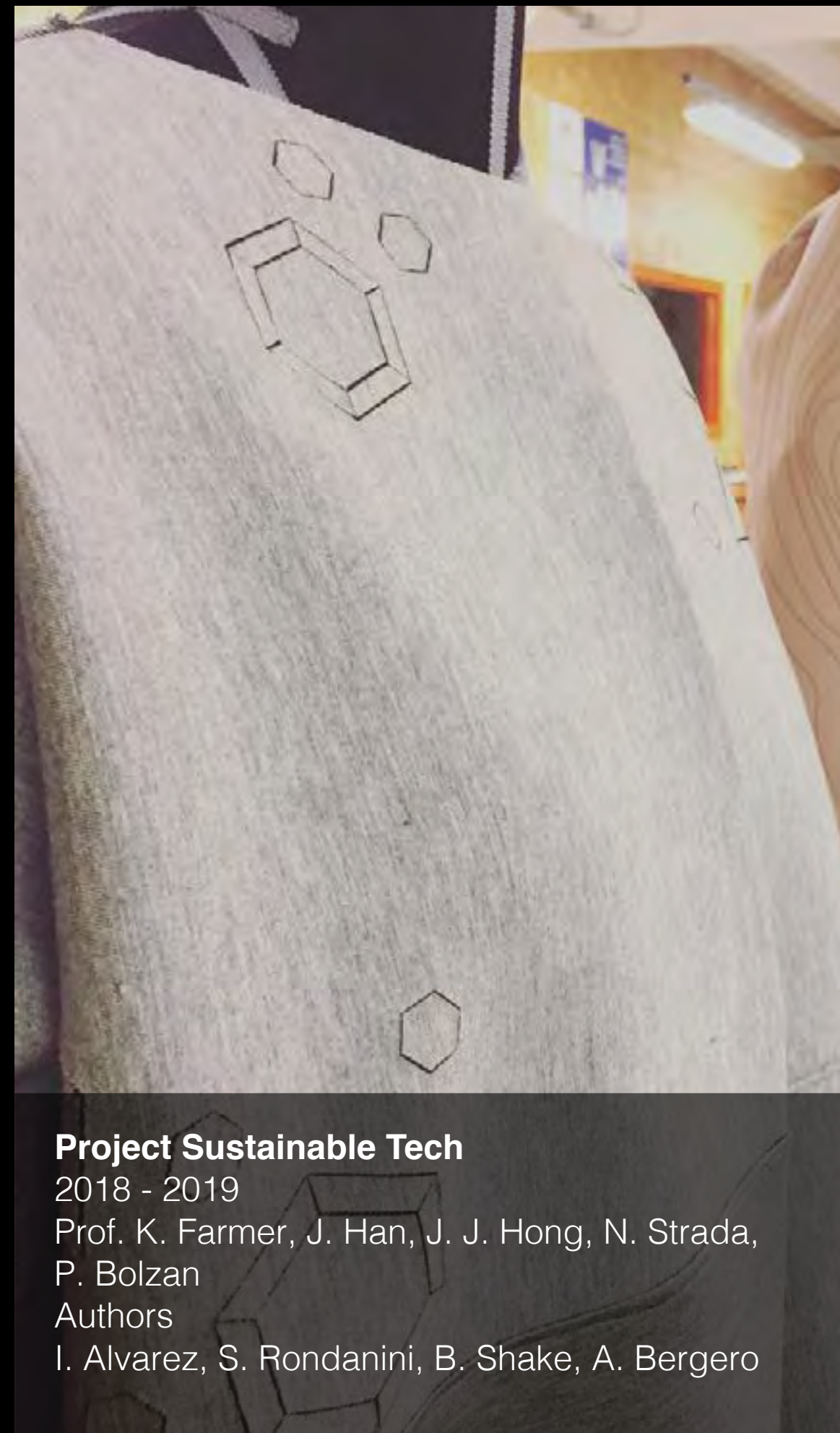
FIT INVESTIGATES fit

- + ZERO WASTE
- + LASER CUTTING



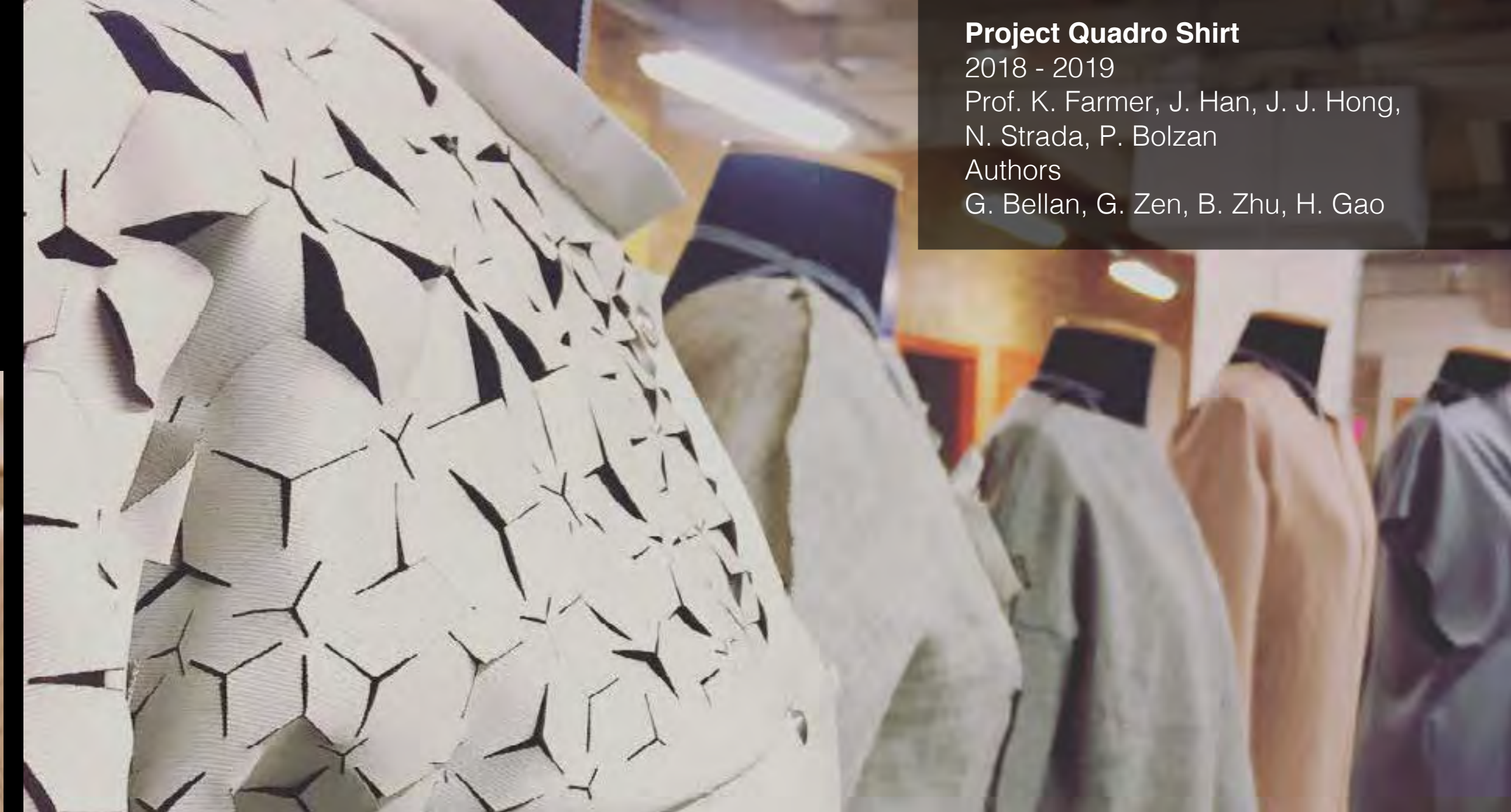
Project Ironic Foldings

2018 - 2019
Prof. K. Farmer, J. Han, J. J. Hong, N. Strada, P. Bolzan
Authors
C. Poli, G. Saracino, S. Liu, Q. Luo, X. Xiong



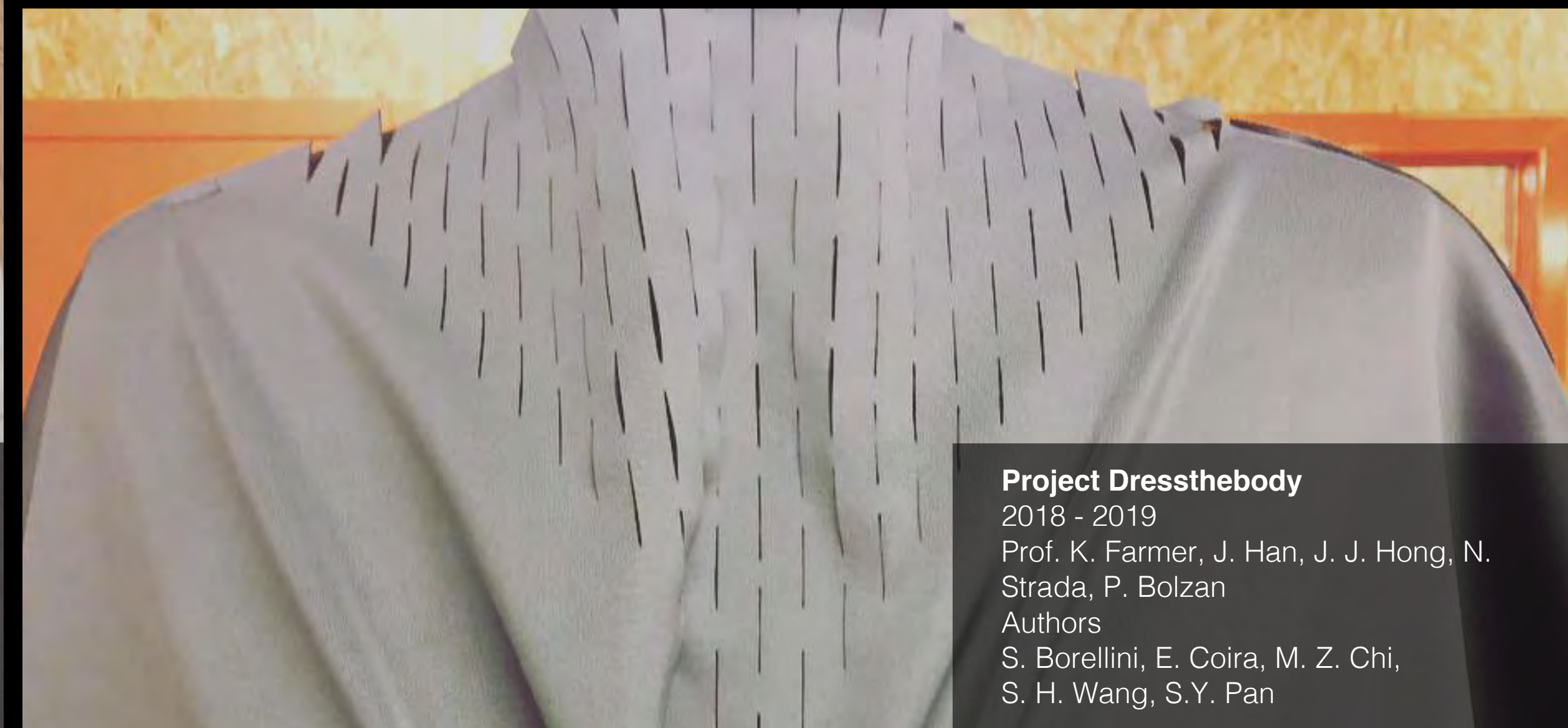
Project Sustainable Tech

2018 - 2019
Prof. K. Farmer, J. Han, J. J. Hong, N. Strada, P. Bolzan
Authors
I. Alvarez, S. Rondanini, B. Shake, A. Bergero



Project Quadro Shirt

2018 - 2019
Prof. K. Farmer, J. Han, J. J. Hong, N. Strada, P. Bolzan
Authors
G. Bellan, G. Zen, B. Zhu, H. Gao

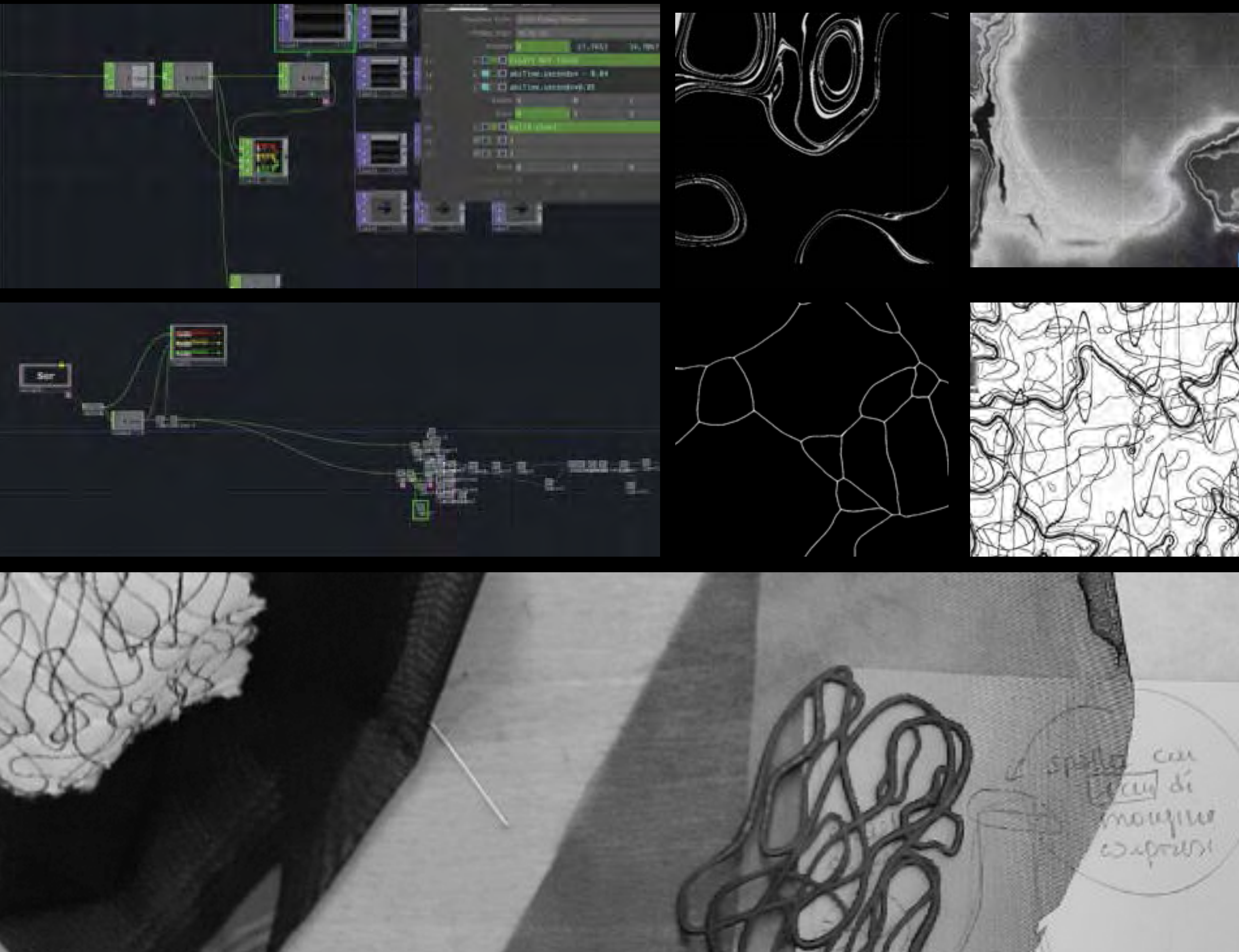


Project Dressthebody

2018 - 2019
Prof. K. Farmer, J. Han, J. J. Hong, N. Strada, P. Bolzan
Authors
S. Borellini, E. Coira, M. Z. Chi, S. H. Wang, S.Y. Pan

CLOSE

- + LASERCUTTING
- + 3D PRINTING
- + CODING & PROGRAMMING

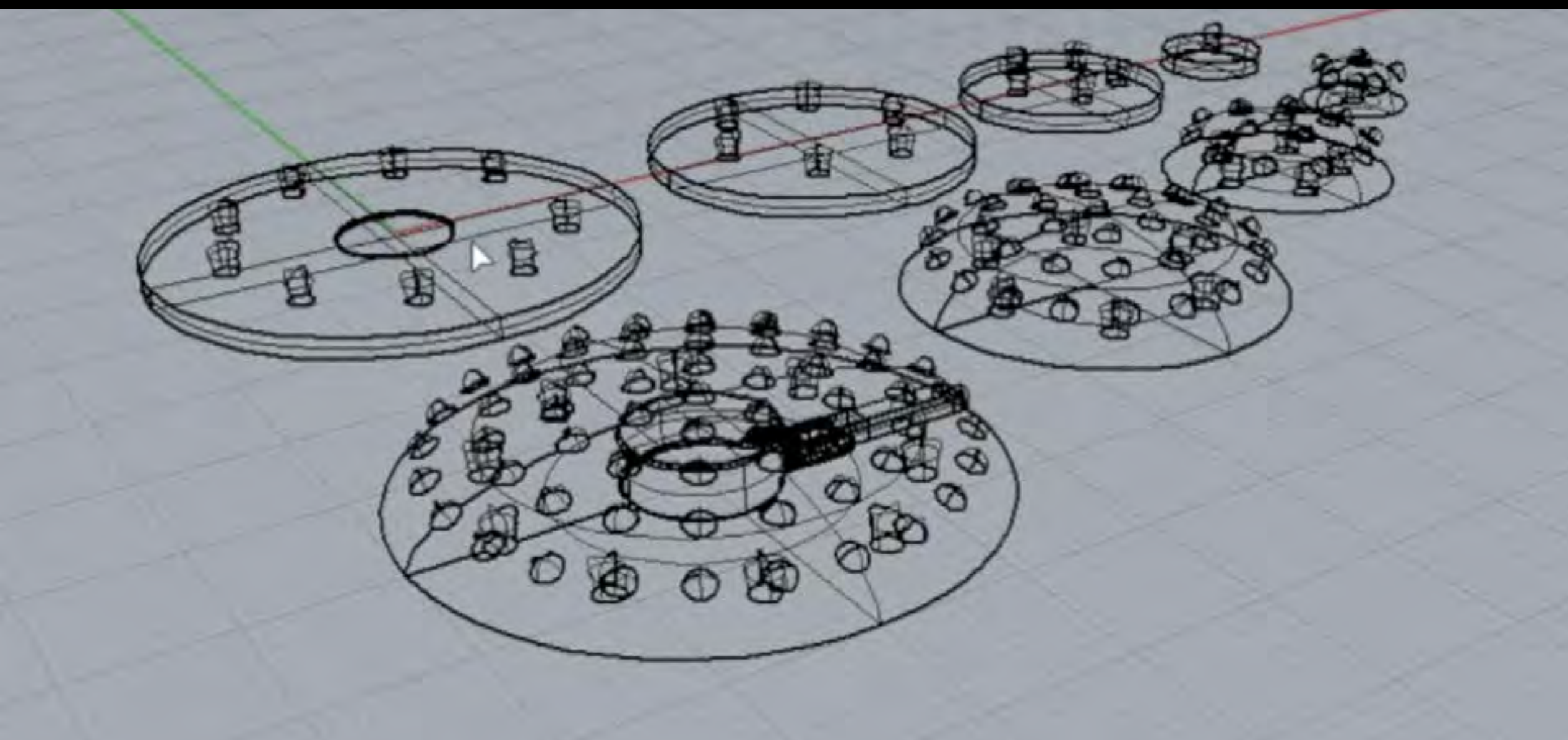


Project Close
Advanced manufacturing for
sustainable fashion
AA 2020 - 2021
Prof. D. Casciani
Authors
A. Baroni, V. Busignani, B. De Wit,
P. Mazza, M. Voltolini

CLOSE TO

- + SMART WEARABLE
- + LASERCUTTING
- + CODING & PROGRAMMING

Project Close
Fashion 4.0
AA 2020 - 2021
Prof. S. Savian
Authors
L. Bobak, C. Chiavegato, G. Cova,
M. Dell'Orco, S. Kersik, S. Magni



AER^x

- + SMART SHOES
- + SENSORS AND ACTUATORS
- + INTEGRATED SYSTEM
- + COMFORT



Project AERx
Design & Engineering Degree Course
Final thesis
Prof. V. Ferraro

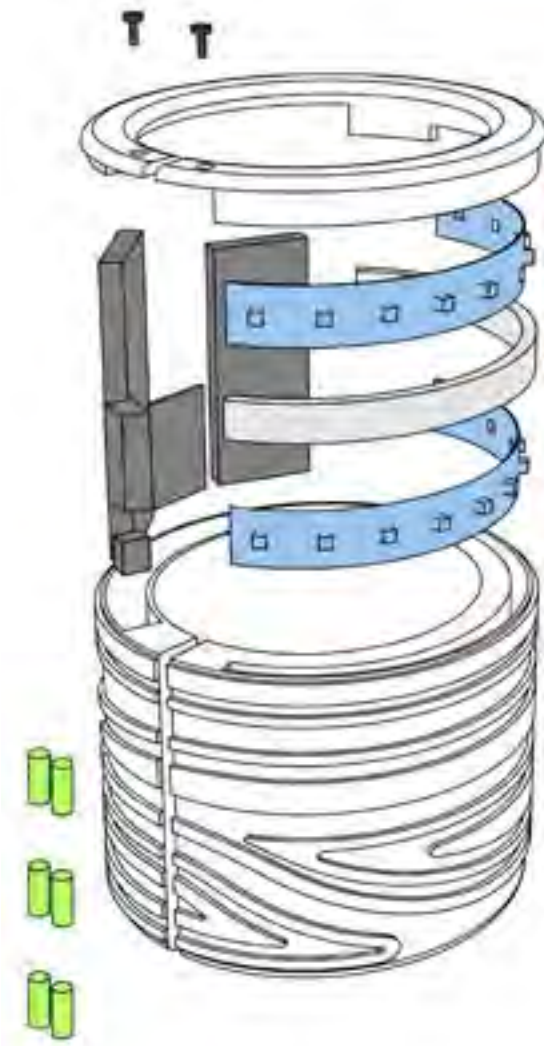
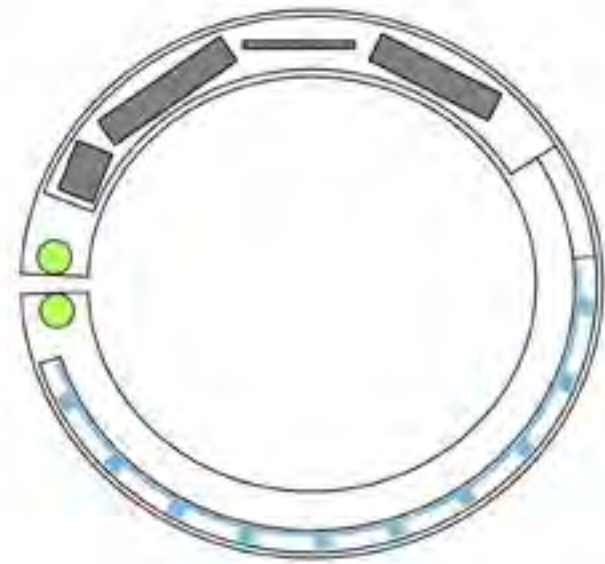
Author
L. Ferrari



HYGIENE SERENITY

- + CORRECT WASHING OF HANDS
- + CODING & PROGRAMMING
- + SENSORS AND ACTUATORS

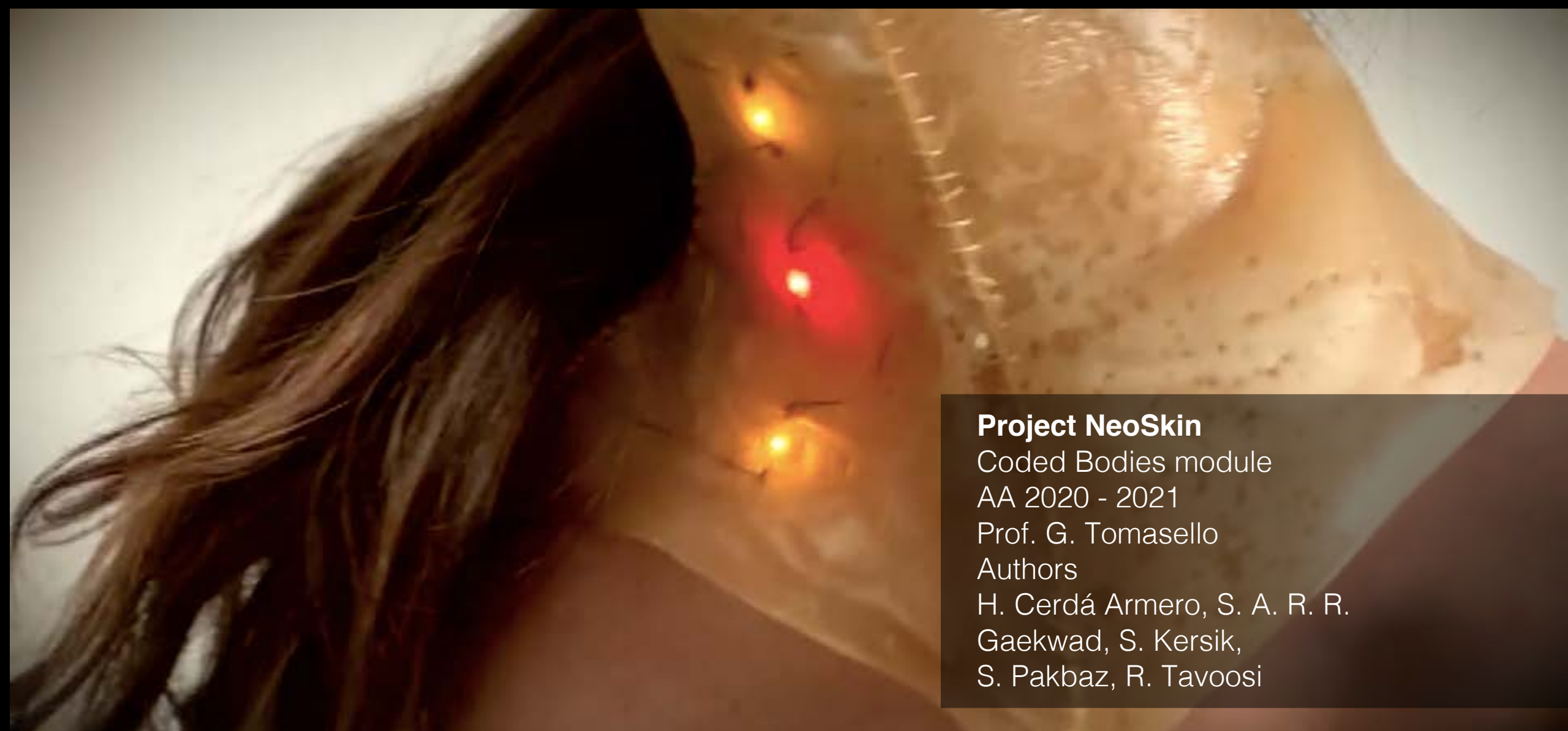
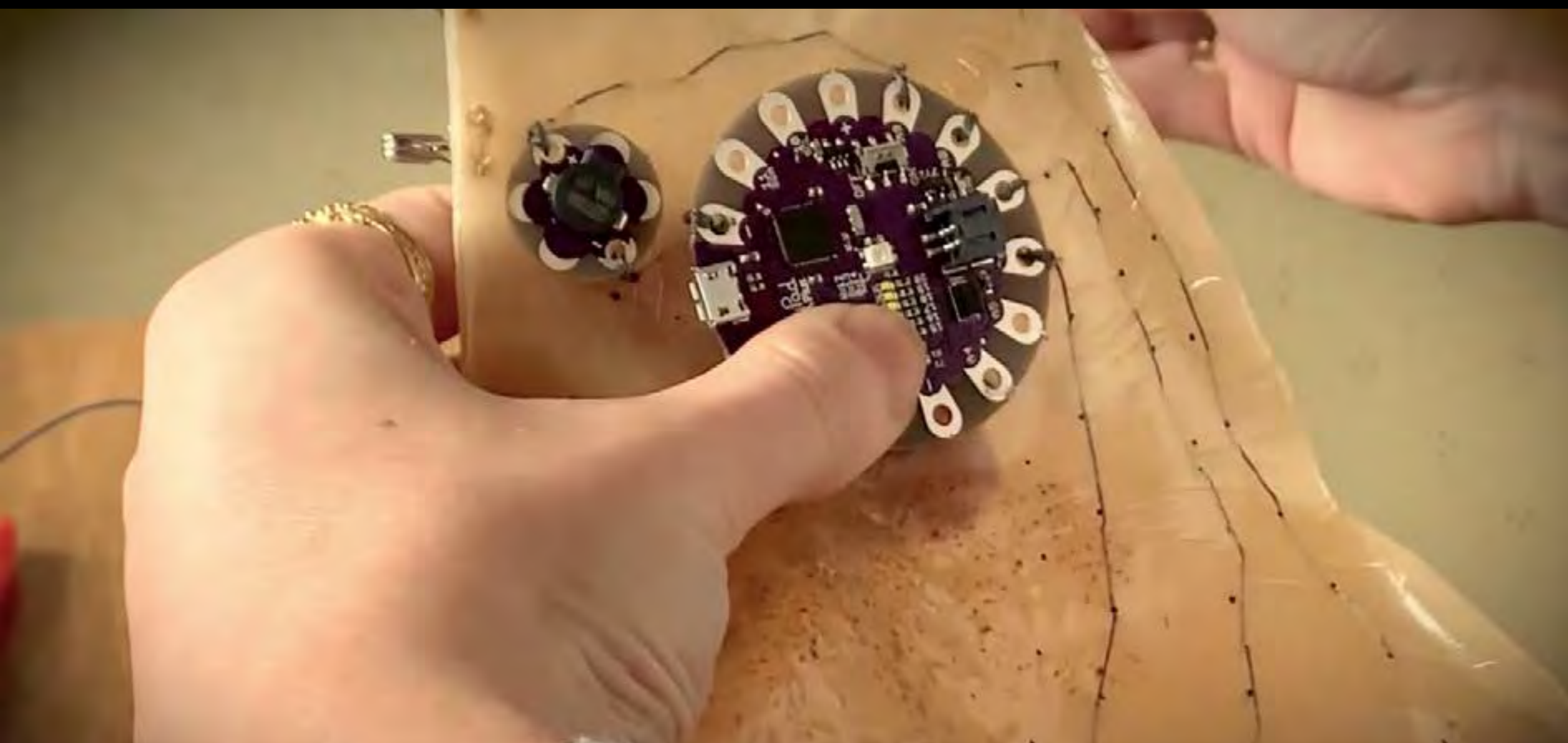
TECHNOLOGY
LEDS
MAGNETS



Project Hygiene Serenity
Advanced Manufacturing
for Sustainable Fashion
AA 2020 - 2021
Prof. D. Casciani
Authors
P. Gonzalez, S. Kartzhanova,
A. Regaglia, G. E. Ventura, J. Xue

NEOSKIN

- + E-TEXTILES
- + BIO-TEXTILES
- + SPECULATIVE DESIGN
- + CODING



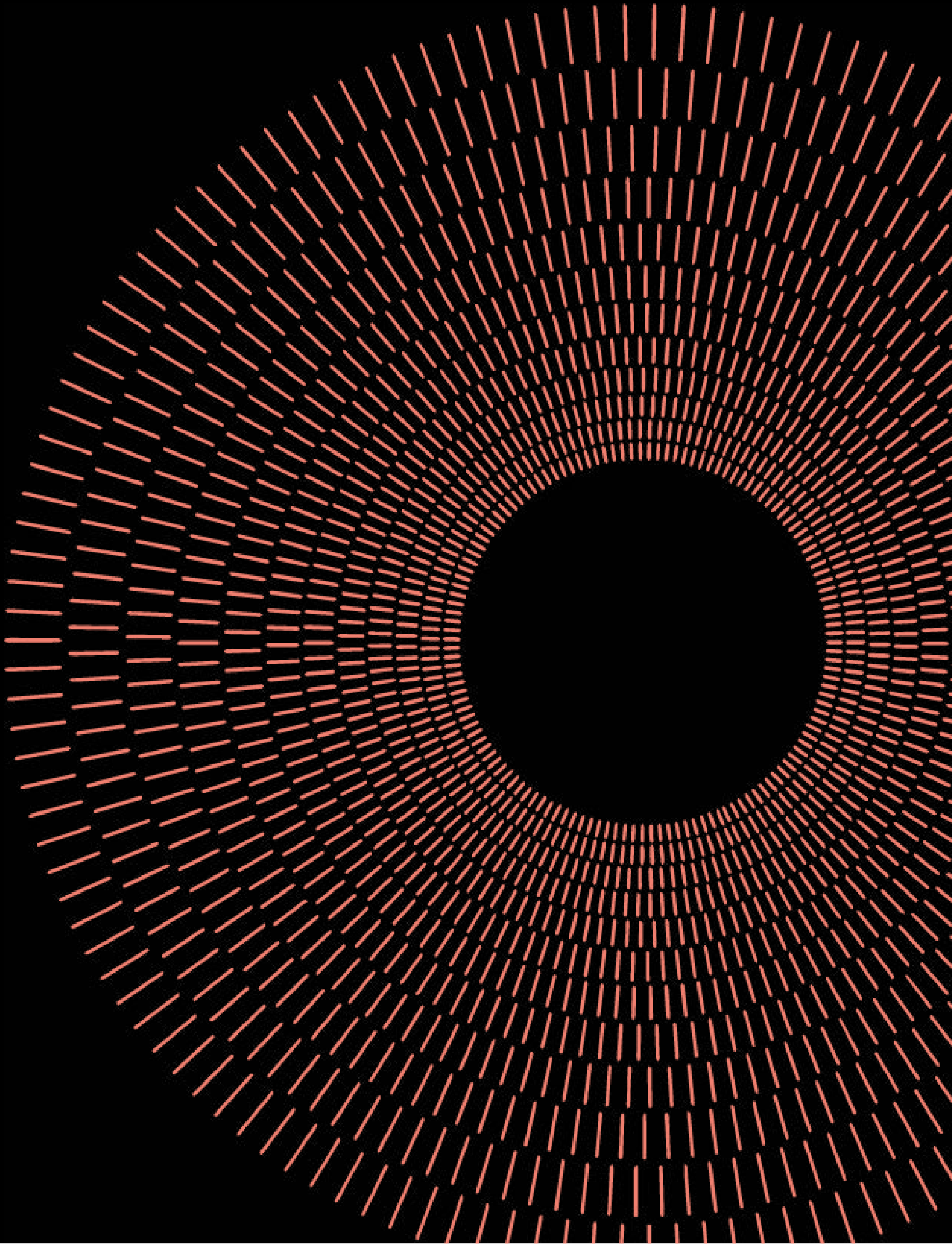
Project NeoSkin
Coded Bodies module
AA 2020 - 2021
Prof. G. Tomasello
Authors
H. Cerdá Armero, S. A. R. R.
Gaekwad, S. Kersik,
S. Pakbaz, R. Tavoosi

THE STRIPED SHOP

- + INSTALLATION
- + OMNI-CHANNEL RETAIL
- + INTERACTION



RESEARCH STUDIES ABOUT FASHION-TECH



DEFINE

Developing a fashion-tech innovation network for Europe.

Duration: 2018-2021

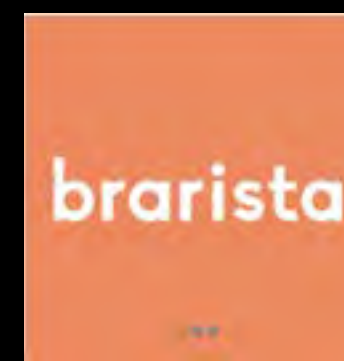
DeFINE is a collaborative project co-funded by the European Commission's COSME programme which aims to **support the fusion of cutting-edge technologies and innovation** with the European fashion and design industries.

The aim is to develop a **network** of incubators & accelerators, start-ups & SMEs, and financiers to form a **European fashion-technology community** where cross-sectoral knowledge is shared, ideas grow and transnational collaboration is nurtured.

27 European Fashion-Tech Start-ups and SMEs were involved in the **DeFINE Mentoring Programme** lead by **Politecnico di Milano**.

Partners:

- + BORAS INK
- + CEEI BURGOS
- + CYPRUS RESEARCH & INNOVATION CENTRE
- + EUROPEAN APPAREL AND TEXTILE CONFEDERATION
- + EUROPEAN BUSINESS AND INNOVATION
- + CENTRE NETWORK
- + FONDAZIONE POLITECNICO DI MILANO
- + L'INSTITUT FRANCAIS DE LA MODE
- + UNIVERSITY OF ARTS LONDON - LCF
- + MEDIA DEALS
- + POLITECNICO DI MILANO



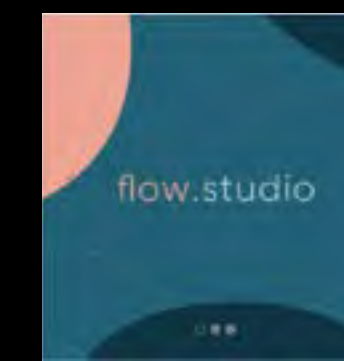
Brarista



Cleed



Petit Pli



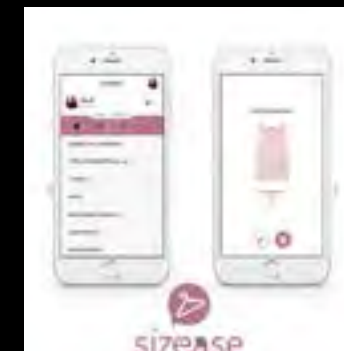
Flow.studio



Genius Objects



Greendeck



Sizease



Our Closet



Senstile



Tinker Design



Skinseries



IL3X



FindSourcing



Juliette and Louis



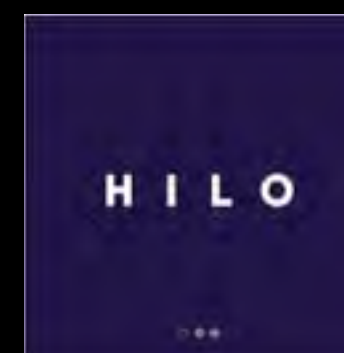
Cloudrobe



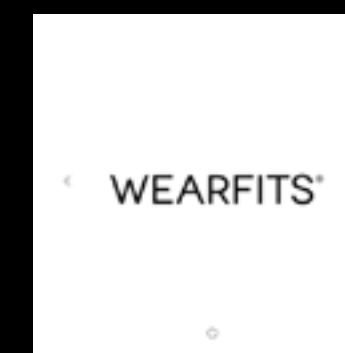
Uno Apparel



FeelMoreKnitwear



Studio HILO



WearFits



MINOIS



FreyZein



Cikis



Lithe Apparel



Thrill Digital



Miro Solutions



GetDressed



Disignum

<https://www.define-network.eu/>

DIGIMOOD

Digital modules of didactic for cultural and creative industry.

Duration: 2018-2021

DigiMooD is a EU project that aims at developing and testing the offer of a set of **innovative and interdisciplinary educational modules** in “Digital Entrepreneurship for the Creative Industries”, with a specific application to the **Fashion Industry**, its companies’ branding and narrative strategies and the digital service models.

This represents an emblematic sector for Europe where the digital transformation is impacting cultural, social, and productive matters thus looking for **further experimentation and learning**.

Partners:

- + ASSOCIAZIONE INDUSTRIALE LOMBARDA
- + ENTI CONFINDUSTRIALI LOMBARDI PER L'EDUCATION
- + EUROPEAN E SKILLS ASSOCIATION AIBL
- + FONDAZIONE POLITECNICO DI MILANO
- + FASHION TECHNOLOGY ACCELERATOR SRL
- + L'INSTITUT FRANCAIS DE LA MODE
- + MAMMUT FILM SRL
- + POLITECNICO DI MILANO

<http://www.digimood4cci.eu/>



Interdisciplinary Curriculum for Fashion in the Digital Era.

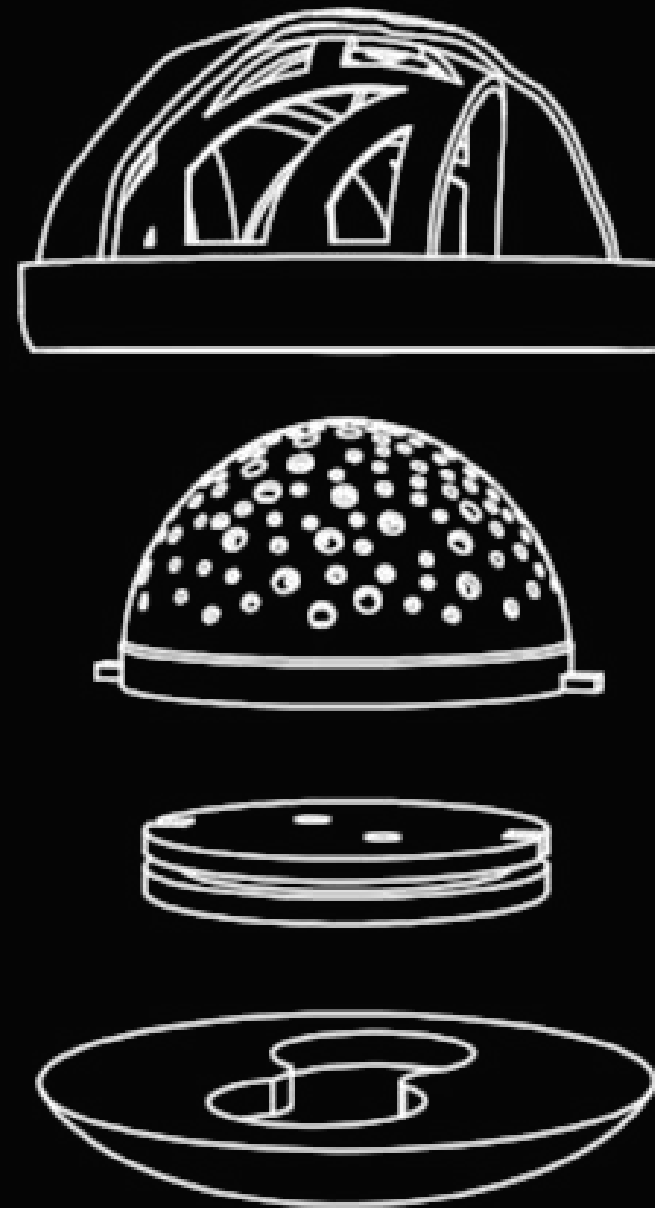
Duration: 2017-2020

The aim of EDU4Fashion-Tech is to bridge the **fashion field** with that of **innovative technologies** by creating a **new training pathway** to improve the level of key competencies and skills of students and trainers and to break down barriers between technologists and creative communities and build **meaningful collaboration**.

The objectives of the project have been achieved through the delivery of: intellectual outputs; learning, teaching and training activities; and multiplier events.

Partners:

- + POLITECNICO DI MILANO
- + UNIVERSITY OF BORAS
- + UNIVERSITY OF THE ARTS LONDON - LCF



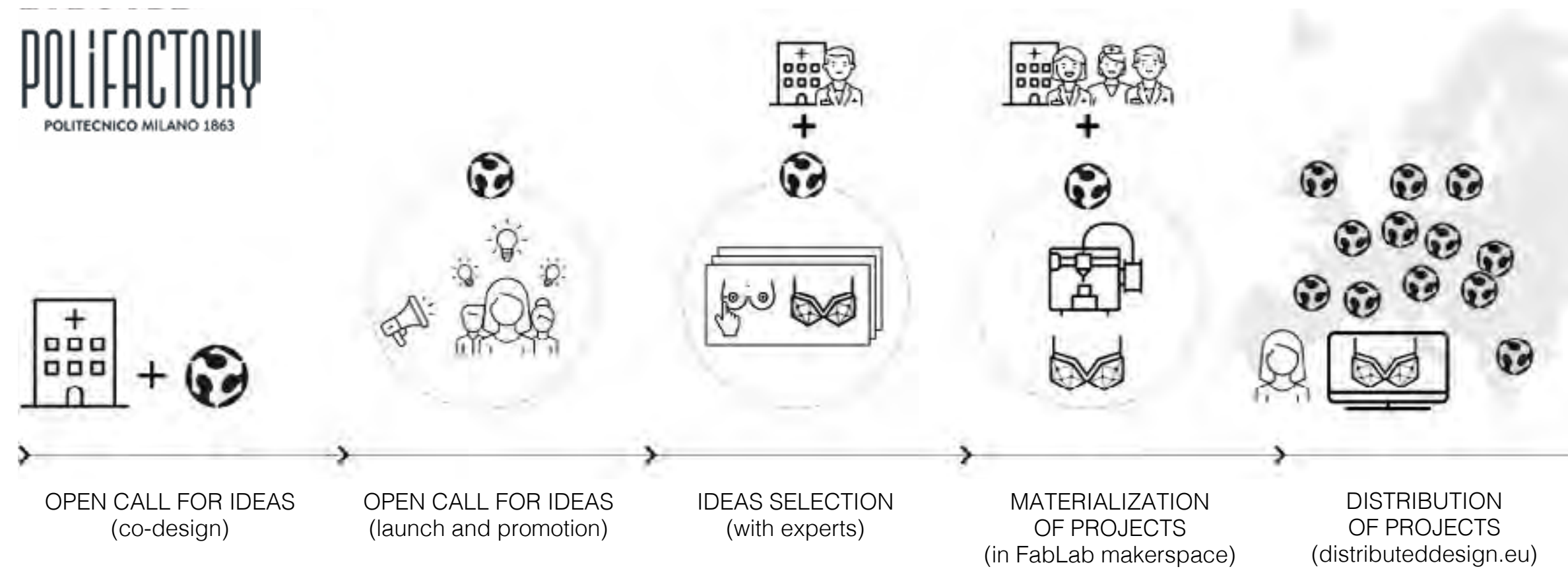
<https://www.e4ft.eu/news15>

IAMLIGHT workshop
24-28 June 2019
Prof. P. Bolzan, D. Casciani,
C. Colombi, L. Tenuta, S. Testa
Authors
L. Tallvod, B. Rossato, Z. Yujie

FABCARE

Duration: 2018 - 2020

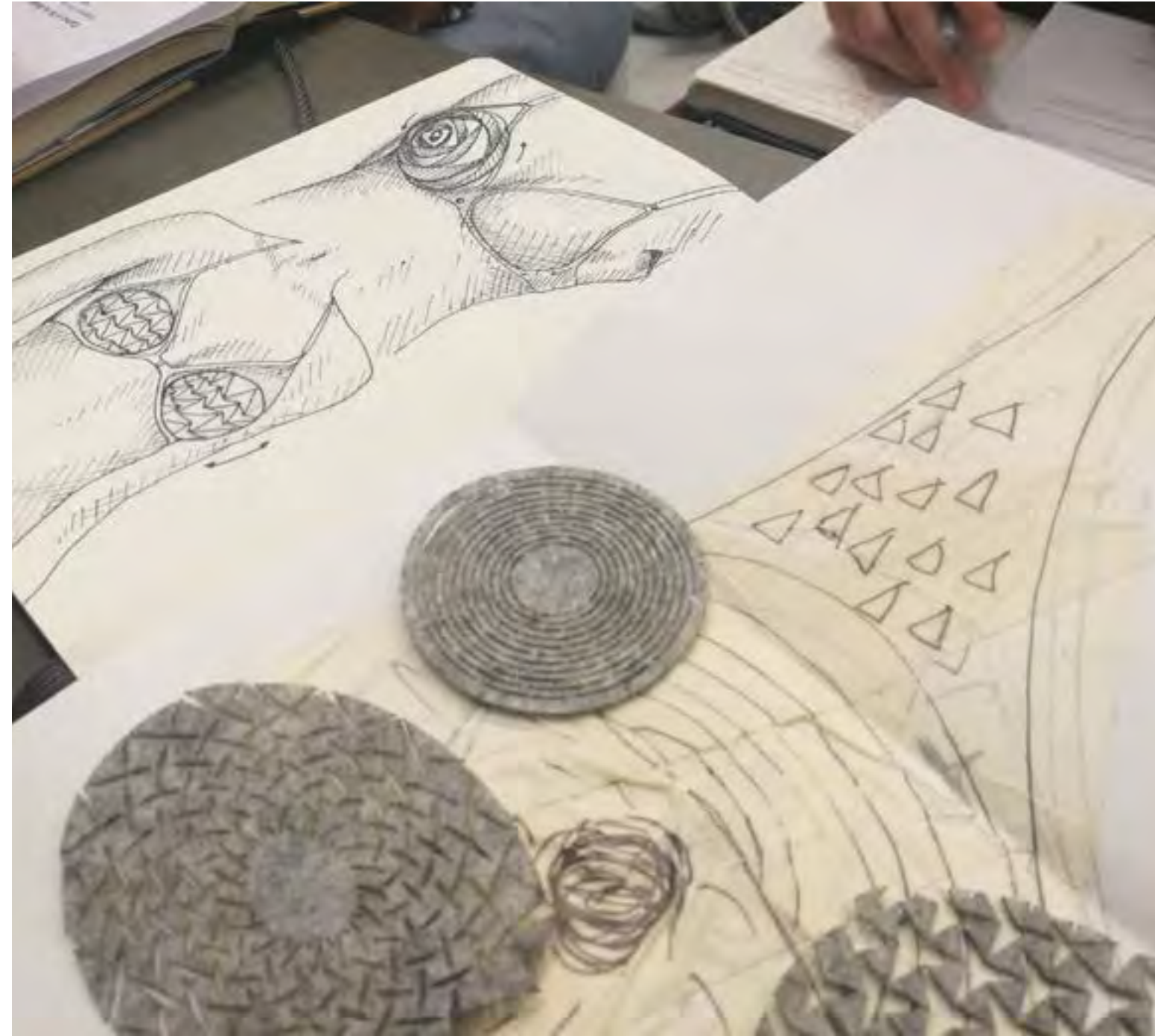
FABCARE is an experimental initiative created to stimulate designers, makers and independent innovators to **design open source products for healthcare** that can be distributed through digital platforms and materialized in Fab Labs. FABCARE is developed by Polifactory, within the Distributed Design Market Platform project. Its challenge aims to demonstrate how designers, makers and independent innovators – also interacting with patients, caregivers and their associations – can concretely design, produce and distribute open source healthcare solutions with a **real market potential**.



Partners:

- + POLITECNICO DI MILANO, POLIFACTORY
- + IAAC, THE INSTITUTE FOR ADVANCED ARCHITECTURE OF CATALONIA

<https://www.polifactory.polimi.it/polifactory/fabcare/>



Project Palpatine

Authors

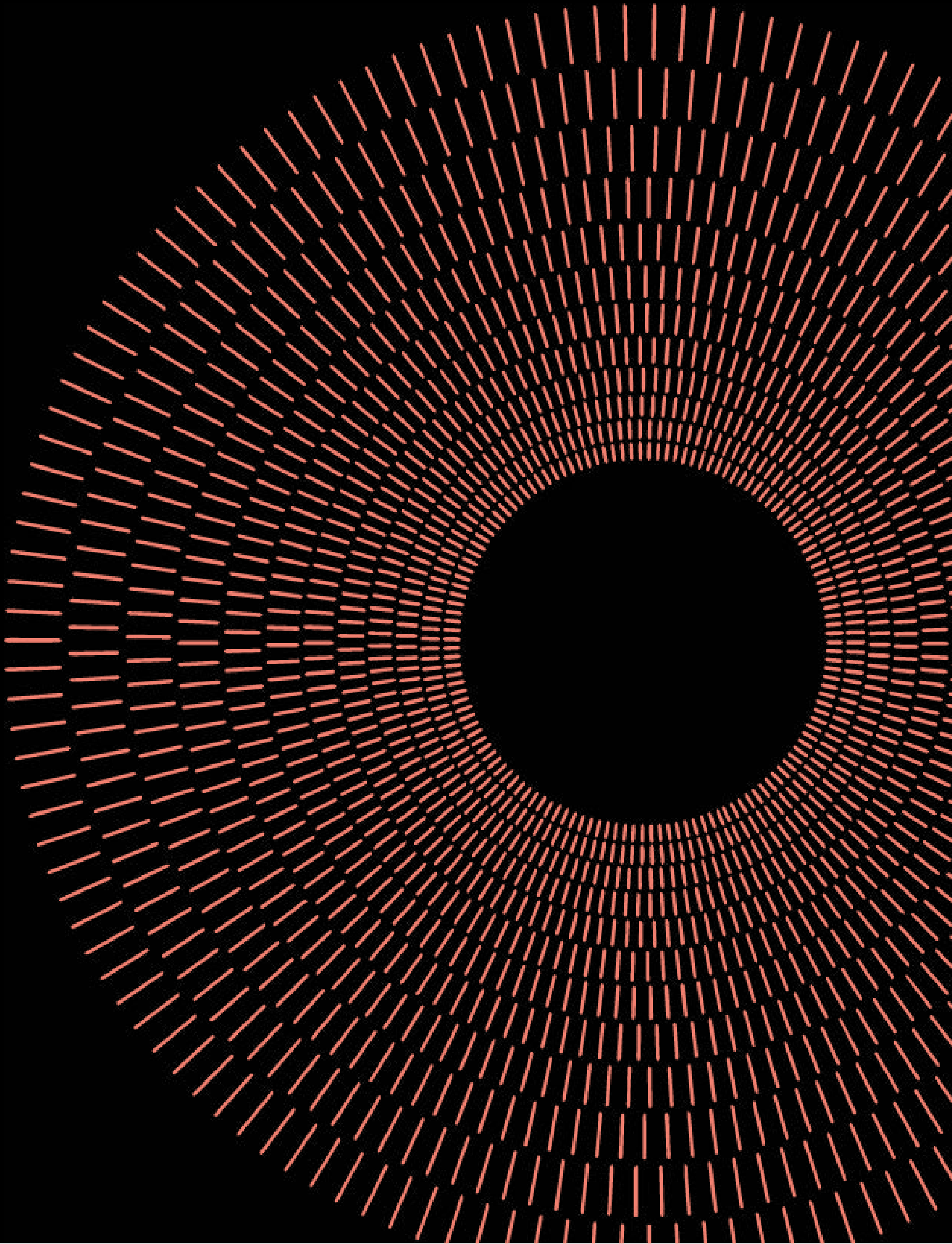
F. Poli, D. Sanchez, B. Beltrami,
L. Sommariva, C. Parise

Credits

Dr. M. Bertoncini (Centro Medico
Santagostino)



PUBLICATIONS ABOUT FASHION-TECH

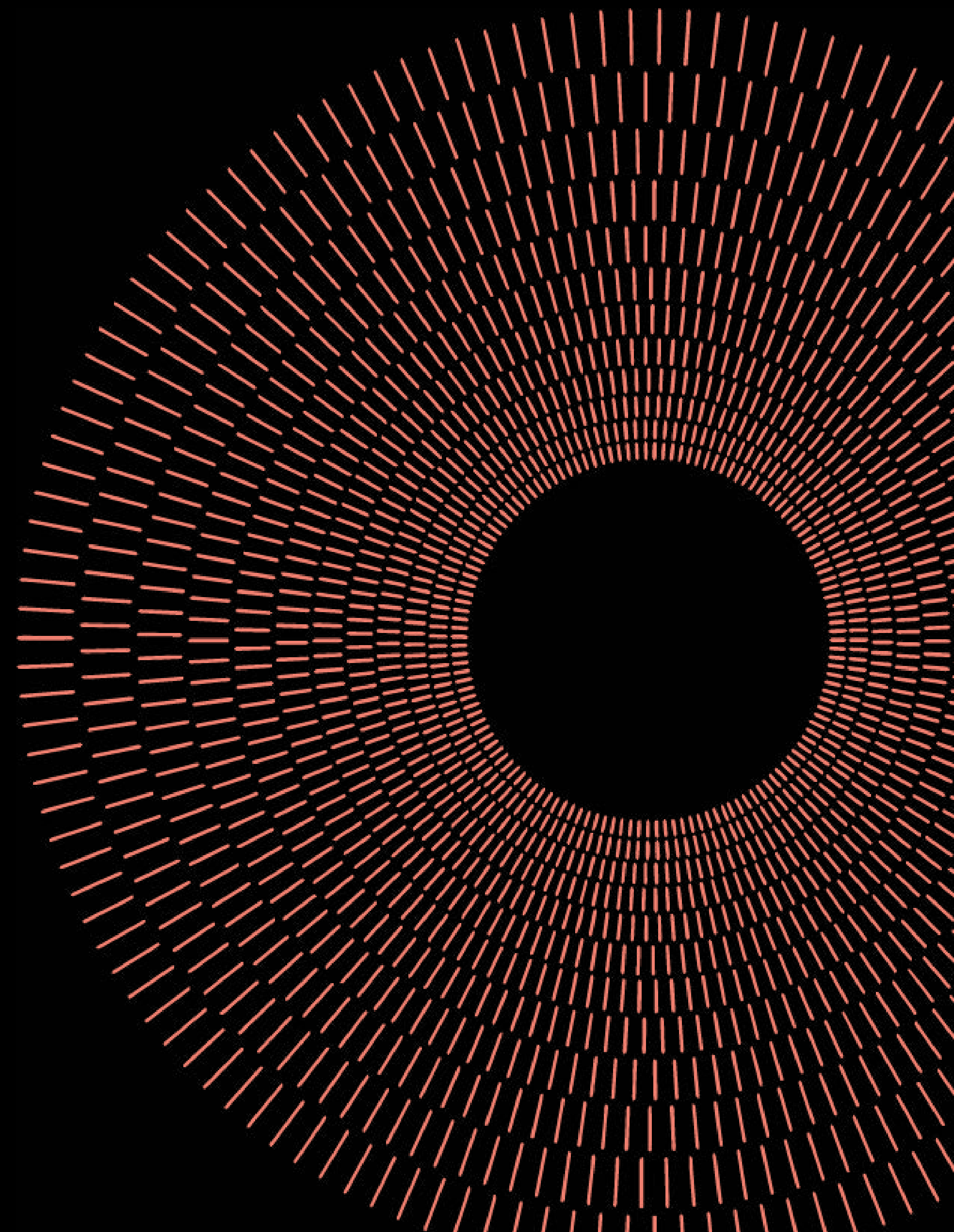


PUBLICATIONS

ABOUT FASHION-TECH

- + Bertola, P., Mortati, M., & Vandi, A. (2020). Digital Competences in the creative curriculum. In P. Bertola, M. Mortati & A. Vandi, *Future capabilities for creativity and design. How digital transformation is reshaping fashion careers and higher education* (pp. 38-77). Firenze: Mandragora.
- + Bertola, P., Mortati, M., Vandi, A. & Taverna A. (2020). Digimood: The project, the objectives, the outputs. In P. Bertola, M. Mortati & A. Vandi, *Future capabilities for creativity and design. How digital transformation is reshaping fashion careers and higher education* (pp. 79-97). Firenze: Mandragora.
- + Bertola, P. (2020). Education, Fashion and the Digital Turn. In P. Bertola, M. Mortati & A. Vandi, *Future capabilities for creativity and design. How digital transformation is reshaping fashion careers and higher education* (pp. 10-21). Firenze: Mandragora.
- + Mortati, M., & Bertola, P. (2020). Saperi indisciplinati nell'era digitale. *DIID - DISEGNO INDUSTRIALE INDUSTRIAL DESIGN*, 70, 134-141.
- + Colombi, C. & Vellesalu, A. (2020). Learners and Trainers: Fashion-Tech Pedagogy and Skillset. In Colombi, C.; Tenuta, L. *Education for Fashion-Tech. Design and technology for future fashion creatives* (pp. 45-115). Nielsen Book. https://235cf049-20ab-4ca2-b163-5d16a967e0a3.filesusr.com/ugd/578b00_85ea15f6b0224119869b6a20de26b956.pdf
- + Colombi, C.; Teunissen, J. (2020). Fashion-Tech Curriculum: a New Framework. In Colombi, C.; Tenuta, L. *Education for Fashion-Tech. Design and technology for future fashion creatives* (pp. 117-147). Nielsen Book. https://235cf049-20ab-4ca2-b163-5d16a967e0a3.filesusr.com/ugd/578b00_85ea15f6b0224119869b6a20de26b956.pdf
- + Bertola, P. & Colombi, C. (2018). Milan Fashion System Fueled by Internationalization Didactic Experiences. In R. de Sousa Vianna & D. Alves Laranjeira, *Internacionalização do ensino superior: concepções e experiências* (pp. 140-150). Brasil: EdUEMG, Bel Horizonte, Minas Gerais.
- + Bertola, P., & Teunissen, J. (2018). Fashion 4.0. Innovating fashion industry through digital transformation. *Research Journal Of Textile And Apparel*, 22(4), 352-369. doi: 10.1108/rjta-03-2018-0023
- + Colombi, C., Kim, P., & Wyatt, N. (2018). Fashion retailing “tech-gagement”: engagement fueled by new technology. *Research Journal Of Textile And Apparel*, 22(4), 390-406. doi: 10.1108/rjta-03-2018-0019

FASHION-TECH FUTURE AMBITIONS



Future generations of designers are participating in a transition to **new production and consumption models**, moving from being centered on “products and designers” to focus on “**values and design processes**”, where the phenomenon of the “designer myth” leaves space for the concept of a **system of creative professionals**.

POLITECNICO DI MILANO IS CURRENTLY WORKING ON:

- + *CUSTOMIZATION OF TRAINING PATHWAYS;*
- + *DIGITAL AND TECHNOLOGICAL TRAINING ASSOCIATED TO DESIGN CULTURE;*
- + *RE-MODULATION OF THEORY-PRACTICE MIXES*

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to Co-create Fashion-Tech Future Talents



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