



# 4D · DESIGNING DEVELOPMENT DEVELOPING DESIGN

INTERNATIONAL CONFERENCE

Interdisciplinary Research Perspectives  
on the Role of Design in combining Social,  
Technological and Business Development

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**conference proceedings**



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DIPARTIMENTO DI DESIGN

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## Conference Proceedings

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# About the Conference

## 4D - Designing Development, Developing Design

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### Interdisciplinary Research Perspectives on the Role of Design in Combining Social, Technological and Business Development

4D Conference aims to discuss the role of Design in developing value for social entities, technological advancement, and business creation and revamping. Modern and nascent economies indeed are adopting design as a competitive lever to embed continuous and discontinuous technology in new product language as to propose new entrepreneurial ventures. Moreover, design has become a strategic lever for social entities to run fund-raising, to create new user engaging logic's, to combine social and economic value.

Specifically 4D conference embraces both perspectives:

- i) 'designing development' where design is the main input to create feasible conditions to enhance social values, to diffuse new technology paradigms and to create new ventures;
- ii) 'developing design' where design is the "output" of the interplaying of social, economic and technological supporting forces.

4D vision is to become a biennial Design conference organized in rotation by 2 types of partners: ones from developed industrial areas and the ones that are meeting a particular moment of local development. In 2017 partners from Italy and Lithuania are the conference organizers.

## **The Conference is organized within 3 tracks:**

### **Design & Social Development**

Social development is about improving the well-being of every individual in society so they can reach their full potential.

The success of the society is linked to the well-being of each and every citizen. Social development means investing in people. It requires the removal of barriers so that all citizens can journey toward their dreams with confidence and dignity. It is about refusing to accept that people who live in poverty will always be poor. It is about helping people so they can move forward on their path to self-sufficiency.

There are many ways to help people and one of them is by applying Design Thinking approach, and especially Human-centered design approach. Design Thinking is the confidence that everyone can be part of creating a more desirable future, and a process to take action when faced with a difficult challenge. Human-centered design is a creative approach to problem-solving. It's a process that starts with the people you're designing for and ends with new solutions that are tailor made to suit their needs.

Human-centered design is all about building a deep empathy with the people you're designing for; generating tons of ideas; building a bunch of prototypes; sharing what you've made with the people you're designing for, and eventually putting your innovative new solution out in the world.

This track invites submissions discussing community-based, participatory design, the reconceptualization of modern values and boundaries for the future scenario of human life and well-being.

### **Design & Technological Development**

In ancient Greek, the word techne was used instead of the words art and craft and is best translated into the word technology. Designing at the beginning of the 21st century will overcome the stylish minimalism of the last decade,

with innovation based purely on shape. Instead, there will be a return to parameters that have always been the basis of new epochs and dimensions in design: the sophisticated use of new materials and technologies. Historically, exciting, visionary and pioneering designs have always rested on the transformation of materials and technology into a new context. New products and services are being introduced to the market at a constantly increasing pace, while demands and expectations from customers grow and competition in the market also increases. The combination of these factors requires an effective product development and innovation management process, where detailed knowledge of user needs is critical, to maximize the potential for commercial success. New technologies have profoundly affected product design through innovative materials and processes available to current designers. The two main technological fields that have most relevance to product development are materials and processing techniques, though increasingly computer design packages, as well as the rapid dissemination of ideas through the internet has become equally important. Today a wide range of technologies developed in recent years is available to new product designers and makers.

Technology and design are two sides of any product, whether it is an IT solution, smartphone or kitchenware. Understanding of these both sides is not just an extra, but a necessity. An engineer can not construct a useful technical solution if he or she is not thinking about the usability of the product, while a designer can not produce a feasible construction without an understanding of underlying technology. Hence, today we need Renaissance man again, knowledgeable in technology, design, and culture, because we build products for the whole World with a variety of different cultures, experiences, educations and needs, using fast changing sustainable technological solutions. Today's educational and work culture should strive to wider education with selected deeper expertise, on the contrary to narrow specializations.

At first sight, it may appear that very different things have to be combined in product development and design: on the

one hand, a product must meet functionality, safety, sustainability requirements while the product manufacturing costs and the effect on the environment must be minimized. A wrong decision made on the type and amount of raw material, transportation, and other aspects may adversely affect the product quality and cause economic, social and environmental harm. For these reasons different specialists – engineers, technologists, designers, logistic specialists and others – must be involved in product development and design work, use life-cycle approach and define all product's impacts and aspects in early product creation and development phase. It really helps to save a lot.

One of the main roles of design research and practice has been to create positive social change through different design perspectives and technological development. Design is a powerful tool in creating space, product, process, system, game, software, method/tool and etc. The role of socially responsible design is to implement new ideas that meet unmet needs to make them powerful so they improve people's lives, make it happen to apply newest technologies and without compromising on ethics. This track will explore how electronic, networked and interactive nature of the digital world will change design research and practice; to understand how new materials (e.g. materials that repair themselves when damaged and surfaces that clean themselves), tools, methods (e.g. computer programs which enable representation of forms previously impossible to draw but which are also translated into direct manufacturing processes), and the purposes of design will evolve; and which opportunities will develop for people future lives.

## **Design & Business Development**

Design plays a focal role in building and developing the contemporary businesses. Design Thinking has become an established practice in the world's leading hubs of innovation.

The design of new value propositions and disruptive business models is an important prerequisite of sustained competitive advantage and industry leadership. The modern customers are gradually emerging as proactive co-creators

of value, and even co-designers of business processes. Managing the open, design-driven organizations is an important management challenge that calls for rethinking the established structures and cultures.

The track invites the participants to present their views on the evolving role and methods of the design-based approach to business development. We particularly welcome the discussions on the new concepts and instruments, as well as innovative practices in business design. Scholars and practitioners from a variety of fields have been attracted by the universal nature of design since this is the process that converts ideas into plans, opportunities, experiences, or physical objects. This conference section extends an invitation to those who wish to discuss new possibilities in the field of business.

Participants are welcome to contribute to the integration of design concepts in the phases of ideation, when a business concept is being developed; in adoption of design strategies, which help generate ideas that are novel to an industry and allow innovate contextually; in prototyping the product or service; in market engagement, where the interface with customers starts; in business modeling, where the components and business functions are being set in order to support viability of a business; and in entrepreneurial venture creation and development. Researchers are also invited to investigate tight and complex linkages, found between design and business & entrepreneurship that define customers' needs, redefine organizational structures and strategies, foster open and design-based innovation, influence the evolution of companies' value creation processes, at the same time allowing to gain and maintain their competitive advantage in an era of constant change.