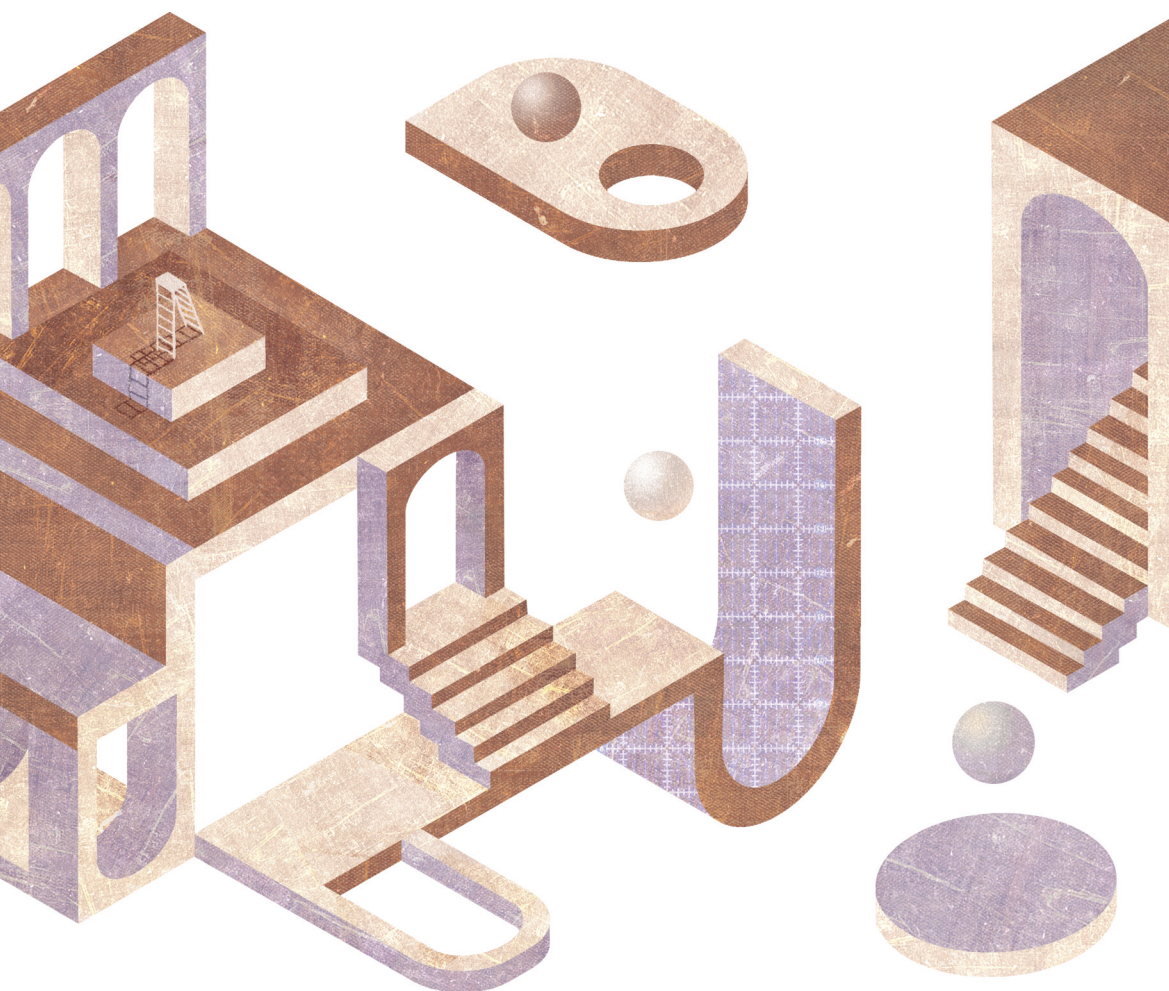


# MULTIPLE-SCALARITIES

Environmental systems as a combination of interior design,  
services, communication and technologies



edited by Giulia Gerosa, Andrea Manciaracina



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edited by Giulia Gerosa, Andrea Manciaracina

D.I. **FrancoAngeli**   
DESIGN INTERNATIONAL

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# 1. XS: Autofficina Futuro: an interactive cultural experience to expand our vision into the future of mobility

*Ilaria Bollati, Design Department – Politecnico di Milano*

## Abstract

With the involvement of new technologies, an ever decreasingly Euclidian is emerging, and a new concept of mobility is appearing, leading us to ask ourselves: ‘What will the future of the automobile be 200 years after its birth? Will new forms of movement emerge?’.

Based on these questions, the exhibition *Motion. Autos, Art, Architecture*, the Norman Foster Foundation, and the Guggenheim Museum Bilbao invited a younger generation of students from 15 design and architecture schools on four continents to imagine what mobility might be. Among them, Politecnico di Milano presented *Autofficina Futuro*, an interactive installation that, with multimedia content, responds to the presence and gestures of people. It recalls the idea of the *carrozzeria* (auto body shop) as a place of production and experimentation, but it looks far into the future, narrating multiple scenarios for tomorrow’s individuals and users.

This transdisciplinary project works on different dimensional scales and plays with extremes. On the one hand, it fits the smallest scale of the book (XS), being designed as a single installation with high attention to detail; on the other hand, it opens up a considerable complexity of thought and vision (XXL), affecting not only functional but environmental and social issues. *Autofficina Futuro* makes us think that mobility is now inextricable from the collective dimension and the sense of responsibility. How we reinvent our ‘movement’ is a crucial aspect of a global society.



## **The occasion.**

### ***What future to explore? Look ahead to 2086***

“Everything we see, hear, smell, and touch has been designed. Even the seemingly accidental is a consequence of a human act. So, we can design well, badly, or create mediocre. It is a choice. When design satisfies all the senses and lifts our spirits, we know it is good even if we do not consciously acknowledge the fact; it may be subconscious. Technology is an inseparable part of every aspect of our lives. The same is true of any work of art, including automobiles. It starts with the first tool and the act of making” (Foster, *The science fiction of my youth is the reality of today*, 2022).

According to Norman Foster, architecture and mobility are close relatives. They have many connections, some visual, some obvious, and others more subtle. Automobiles symbolize modernity as an object and as the personification of speed, motion, and interconnectivity. We take them for granted, but they are unique to our age and touch every aspect of our lives. Foster, one of the most renowned architects on the international scene, has always been fond of car design, and he curated an exhibition from April to September 2022 dedicated to the relationships among vehicles, art, and architecture at the Guggenheim Museum Bilbao. Entitled *Motion. Autos, Art, Architecture*, it celebrates the artistic dimension of cars. It brings together close to forty vehicles centre stage in the galleries. It puts everyday objects, such as automobiles, in dialogue with not only their history but also with the artistic spheres in order to open the eyes and minds of those who visit. The designed exhibit surrounds its viewers with significant works of art (Alexander Calder, Christo, Andy Warhol, and so on) and architectural projects. Most of these are being presented for the first time to a wide audience, as they have previously remained in the private collections or public institutions to which they belong.

The exhibition path is divided into different themes in a series of thematic titled rooms that run chronologically: the beginnings; the beauty of forms; the evolution of the vehicle; the symbol of national pride and its subsequent popularization; how the design of

racing cars broke away from the creation of road cars; the rise of visionary vehicles; and how cars became protagonists of American culture.

The visit ends in the Gallery of the Future, the section dedicated to the works of new generations of students who were asked to imagine what mobility might be like at the end of this century (Foster, 2022), coinciding with the 200th anniversary of the birth of the automobile. The Gallery of the Future grew out of the desire to give the young generations of design students a voice. Fifteen schools of design and architecture<sup>1</sup> on four continents were invited to imagine what mobility might be in the near or distant future; to look ahead to 2086, investigating how the status and *raison d'être* of the car are changing (Ceppi, 2022). They were given complete freedom to share their visions, through models, audiovisuals, renderings, drawings, and writings, which reflect the collaboration that has existed between the students, researchers, and various members of the industry – designers, artists, and architects.

## **Politecnico's proposal.**

### ***Autofficina Futuro. Not just an auto body shop***

“Museums have always been a part of the society they serve, and as society changes – for political, economic, or social reasons – museums too must change to serve society's new needs” (Bradburne, 2002, p. 214).

The decision of the Guggenheim in Bilbao to host the exhibition *Motion. Autos, Art, Architecture*, makes us reflect how, more than ever, society should use its museums as a *'motor for the learning society'* (Bradburne, 2002). Mobility will affect environmental issues, the design of our cities, our notion of community, the deep-seated ethical needs

1. Internationally renowned universities, i.e., Art Center College of Design (USA), Delft TU (Netherlands), ETH Zurich (Switzerland), Hongik University (South Korea), MIT Media Lab (USA), Royal College of Art (UK), Tecnológico de Monterrey (Mexico), Tokyo University (Japan), Tsinghua University (China), UMEA University (Sweden), Yale School of Architecture (USA), University of Cape Town (South Africa), University of Mondragon (Spain), University of Navarra (Spain).

of our society, and people's desires. According to Martha Nussbaum, mobility is one of the people's core capabilities. Mobility encompasses broad and complex challenges.

Indeed, this is more than just a practical and functional matter. Mobility *is* culture (Casicci, 2021) and it touches on deeper values. In the current research, mobility appears, in multiple forms, reticular and relational, prompting us to gaze into the distance and ask ourselves what sort of future awaits the car 200 years after its birth. Will it still be as dominant as in the past, or will new forms of movement replace it? Is mobility paradigm shifting? And if yes, how?

In the *Gallery of Future*, Politecnico di Milano, in close collaboration with the artistic collective CamerAnebbia, presented *Autofficina Futuro*: an interactive installation that discusses these central topics and responds to visitors' presence and gestures. It reacts to their actions, offering them a multimedia experience full of video content. It is careful not to weary the visitors since they are at the end of the exhibit's path and have already been deeply engaged by the visual and cognitive stimuli in the previous rooms. It resorts to user-friendly perceptual expedients by adopting natural interfaces, as well as detailed and concise video stories (Bollati & Tolino, 2022).

*Autofficina Futuro* recalls the idea of the *carrozzeria*. According to the 'Made in Italy' tradition, *carrozzeri* are professionals who work with cars and embody cutting-edge technologies, style, performance and aesthetics, functionality, attention to detail, and dreams. Hence, *Autofficina* represents not just an auto body shop but a place for continuous technological and aesthetic-innovation experiments; a place where cars are produced, repaired, improved, and modified in a fertile and vital dialogue with the customer. It aims to be a symbol of production and experimentation. It represents the idea of sophisticated, almost sartorial elegance, cognitive and innovative exchange, of the realization of unique pieces responding to people's desires.

A large neon sign with lettering almost 3 metres wide rests on top of five 2-metre monitors. They perceive the human presence, and as soon as a visitor approaches, they start to tell their stories. Fitted with

Kinect sensors, *Autofficina Futuro* encourages the visitor to make changes as (s)he goes along, getting closer and, thus, discovering it completely. In this way, visitors' movements allow many stories to be revealed about the future of mobility, transforming the auto body shop into portals of knowledge for tomorrow. Multiple scenarios appear on the screens and tell the stories behind the students' projects, explaining how they were created to meet the needs and wishes of individuals who will inhabit tomorrow. Images, sketches and films made by the students outline an array of different and possible futures.



*Fig. 1 – The sensitive installation. neon sign with lettering on top of five 2-metre monitors. Ph: Gabriele Carbone | Lab Immagine, Politecnico di Milano*

## **Students' projects.**

### ***To give younger design generations a voice***

As in a design anthology, the installation gathers various professors' and researchers' approaches together with students' projects. Four different design classes were involved, from both Bachelor's

and Master's courses. Their thoughts, insights, and digressions were collected, and the selected projects organized into five dimensions and scales of mobility impact: the environment and its global challenges; a society with its special needs (for instance, taking care of people with disabilities); the design of complex urban contexts of megalopolis and cities; and the idea of the community including both the desires of individuals and performance of their bodies.

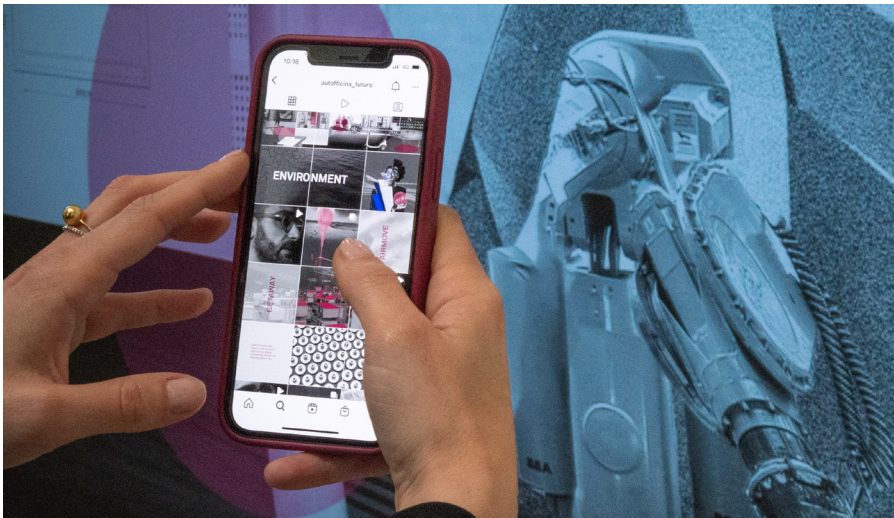


*Fig. 2 – Multiple scenarios appear on the screens. visitors' movements allow many stories to be revealed. Ph: Gabriele Carbone | Lab Immagine, Politecnico di Milano*

Among them, for example, the 4senses project proposes a solution that takes advantage of the features of automated driving to enable the use of the vehicle by people who are blind or have significant visual impairments while amplifying the experiences connected to the other senses. Jewl.in, on the other hand, is an autonomously driven electric urban mobility vehicle for elderly people who do not wish to give up the enjoyment of an active life facilitated by individual mobility.

*Flò* proposes an elliptical-shaped cabin space to facilitate the use of the vehicle as shared urban transport, allowing interaction and socialization among its users. Its concept draws inspiration from the convivial spirit of people around a bonfire. *Esders* is a seductive vehicle, refined and mysterious in its appearance as a monolith with no visible passenger compartment (Brevi & Gaetani, 2022).

Finally, each project presented by *Autofficina Futuro* can be further investigated through a QR code revealing additional content, students' video interviews, and a virtual exhibition hosted on a dedicated Instagram page and visually designed feed. It encourages a twofold dimension of the cultural consumption of the exhibition: a present and a distant way of visiting, to be experienced independently or used together to increase the experience.



*Fig. 3 – QR code reveal additional content, students' video interviews, and a virtual exhibition hosted on a dedicated Instagram page Ph: Gabriele Carbone | Lab Immagine, Politecnico di Milano*



## **Conclusions.**

### ***Autofficina Futuro plays with different dimensional scales***

Autofficina Futuro is a transdisciplinary project that works on different dimensional scales and plays with extremes. As a result, it fits the smallest scale of the book (XS scale), being designed as a single installation with high attention to detail; it is a short-lived project. It lasts just the time of a temporary exhibition. Autofficina Futuro can be experienced during the time of a museum visit.

As a process, Autofficina Futuro was developed to give a voice to this multitude of actors by presenting a choral project. It involves the entire School of Design (M scale), consisting of more than 160 tenured professors, 350 adjunct professors, and 4,200 students (Collina, 2022). Far from being a single-author installation, it gathers contributions of different kinds and degrees of maturity, ranging from the three-year degree courses to the production of an MSc thesis; an intensive multidisciplinary laboratory to an advanced workshop as part of the MSc degree. The resulting approach in selecting and producing multimedia content is heterogeneous. It wants to ensure the plurality of contexts and teaching methods and the multiplicity of results achieved. Autofficina Futuro represents a complex and multi-faceted community's identity.

Not only does Autofficina Futuro open up a considerable complexity of thoughts and visions (XXL scale), affecting not only functional, environmental and social issues, Autofficina Futuro also makes us think that mobility is now indistinguishable from the collective dimension and the sense of responsibility. How we reinvent our 'movement' is a crucial aspect of a global society. It helps us reimagine mobility's future as a prophetic responsibility at the collective level (Manuel, 2022) (Campagna, 2021). It is not only a question of how we will move, and be moved, tomorrow or decades after tomorrow, but it invites us to think about how the future will evolve and to use speculative imagination. Autofficina Futuro talks about the future.

If the future can be imagined but not foreseen, it is also true that design deals with how things could be.

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