

TRANS- USE

TRANS-forming industrial legacy
Spatial and Economic models of re-**USE**

Interdisciplinary and International summer school

10/24.07.2019 // Torino

promoted by:



**POLITECNICO
DI TORINO**
Dipartimento di
Architettura e Design



FULL
Future
Urban Legacy
Lab

with the participation of:



TECHNION
Israel Institute
of Technology



清华大学建筑学院
School of Architecture, Tsinghua University

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TERNI**

TRANS- USE

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Interdisciplinary and international summer school

10/24.07.2019 // Torino

SCIENTIFIC COMMITTEE:

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Michele Bonino - Rector's Delegate for Relations with China | Politecnico di Torino

Francesca Frassoldati - Department of Architecture and Design | Politecnico di Torino

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Matteo Robiglio - Department of Architecture and Design | Politecnico di Torino

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Matteo Robiglio - Department of Architecture and Design | Politecnico di Torino

Giulia Sammartano - Department of Architecture and Design | Politecnico di Torino

Michael Schmäing - ThyssenKrupp, Corporate Development, Acciai Speciali Terni S.p.A

Yehao Song - School of Architecture | Tsinghua University, Beijing

Antonia Teresa Spanò - Department of Architecture and Design | Politecnico di Torino

Roberta Taramino - Interuniversity Department of Regional and Urban Studies and Planning | Politecnico di Torino

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Franziska Uwis - ThyssenKrupp referent, Transaction Manager international

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Yuyan Xia - School of Architecture | Tsinghua University, Beijing

Jacky Yeh - School of Architecture | Tsinghua University, Beijing

Toolbox Coworking, Torino - via Agostino da Montefeltro 2, Skate Park

Officine Innesto + Fabrizio Alessio, Torino - via Egeo 16 | physical model production



INDEX

0.0_Introduction	8
0.1_Background	12
<i>//Diary</i>	24
1.0_Diary 1 st week	28
1.1_Mid-term seminar	50
1.1.1_Urban relations	52
1.1.2_Inside the building	54
1.1.3_Manage the process	56
2.0_Diary 2 nd week	62
2.1_Final results	74
2.1.1_Connective System	78
2.1.2_Potential Spaces	84
2.1.3_Open Options	90

0.0

Since uncertain conditions and risky decisions to be made for transforming existing cities have become the norm worldwide, trans-disciplinary innovative approaches and analytical tools should be experimented. Architectural and urban design options dialogue with environmental engineering practices and large amount of information and spatial data for the place are reconnected to regional trends, urban economics and management, reconsidering industrial production.

Introduction

The interdisciplinary and international summer school “**TRANS-forming industrial legacy. Spatial and economical models of re-USE**” has been conceived and organized by the China Room research group and the *FULL* interdisciplinary research center (Politecnico di Torino). It involved the active co-participation of teachers, tutors and students of the School of Architecture, Environmental Science School, Department of Leadership and Organization Management of the School of Economics and Management of Tsinghua University in Beijing, and Faculty of Architecture and Town Planning of Technion Israel Institute of Technology. The goal was the construction of spatial and economic models concerning the sustainable reuse of urban industrial legacies.

The educational and applied research program (carried out through the “research by design” method) explored during the summer school is based on two assumptions:

1. the activity of production (industry) is a significant mechanism for the transformation of the contemporary city. In our reasoning, every sector, both manufacturing and services, will be taken into consideration;
2. the current relationship between city and production is connected to the legacies of the past, whether they are evaluated as positive or not.

Starting from these two considerations, the interdisciplinary scientific and educational program built interactions and synergies by addressing the following issues and objectives:

- understand how production has changed and what are the current relationships between production and city (both in morphological features and in socio-economic variables);
- identify the spatial transformations due to the change of the productive activities;
- test methodologies to measure and represent the characteristics and transformations of production in the urban environment;
- clarify the role of industrial legacy in the change of production and its relations with urban transformations at different scales.

The set of these objectives has been pursued during the summer school by interweaving theoretical-methodological research with an applied “research by design” activity settled for students with different backgrounds, in which economic models, production managerial and architectural, construction, technological and infrastructural solutions were experimented together, within urban transformation. The training activities of the summer school were divided into theoretical frontal lessons, tutoring activities and sites visits, as subject of the design survey. Starting from the analysis of renowned examples of urban industrial legacy, participants progressively built a design toolkit (in organizational, architectural, urban, construction, environmental and economic sustainability terms) which highlights future scenarios for the former ThyssenKrupp area in Torino, while the theoretical contributions provided by international professors from different scientific and disciplinary sectors aimed at setting up a methodological framework of scientific investigation.

TRANS-USE
Interdisciplinary and international summer school
10/24.7.2019
Toolbox Covering, Tübingen

TRANS-for- legacy. Spatial and of re-USE

Support from the German Research Foundation (DFG)



the group



0.1

Mixing real data with simulations, designing the transition of a former industrial site can facilitate the understanding of urban issues and the comparison with others' experiences.

Background

by Francesca Frassoldati and Chiara Lucchini

There was a time, until the 1970s, when the city was expanding due to the needs of a growing modern economy, backed by powerful industrial elites and ambitious visions for an urban future promoted by local administrations. Torino matches this image: known as the city of FIAT car manufacture (today FCA), Torino urban growth was driven by the industrial strategies of the company established in Torino in the late 19th century. Car manufacturing was the future back then, and supplementary industries – such as steelwork, rubber processing, etc. – localized nearby their main client or were directly incorporated by FIAT. FIAT car manufacture produced iconic spaces, such as the Lingotto factory (1915-1917) and the lately built Mirafiori plant, thanks to which a rural piece of land in the Mirafiori district was urbanized and complemented with residential districts to house workers who relocated in Torino by the thousands from the hinterland, as well as from south and east Italy.

Urban population jumped from 719,300 to 1,019,230 between 1951 and 1961. After reaching the peak of nearly 1,200,000 inhabitants, starting from the 1980s inhabitants did not grow any further in Torino city proper, while redistributing in the smaller towns and villages that are now part of a broad metropolitan urban system.

The “company town model” started to be questioned when cities and citizens had no certainty about their future as bound to industry and the urban forms and organisations related to it. The economic boom that prompted urban growth until the early 1970s was followed by a time of industrial reorganization, with relevant impact on the city and particularly on those ‘new’ neighbourhoods built to house workers during the industrialisation phase. The ‘traditional’ industrial city of car manufacturing and ancillary industries was forcefully reconnected with new regions of the world that benefited from industrial restructuring.

If that worked for manufacturing processes, entire pieces of cities became obsolete and were left idle. Critiques to the way cities were conceived, planned, designed, and built started to question urban paradigms and the socio-politics of technical professions, particularly the assumption that growth can indefinitely continue. In Torino, industrial restructuring generated socio-economic and spatial implications, leaving thousands of workers unemployed and generating almost 10 million square metres of urban brownfields.

A wave of reuse of previously built districts and sites started in the 1990s, in which functions were substituted on an occasional basis, with the implicit assumption that there was a potential future use for every inch previously utilized. A multitude of guidelines and best-practices provided reasonable recipes to navigate contingent situations. The rehabilitation of the former Lingotto plant in Torino, which started in 1982, marks the beginning of this wave locally, which had its climax with the Winter Olympic Games in 2006.



1km

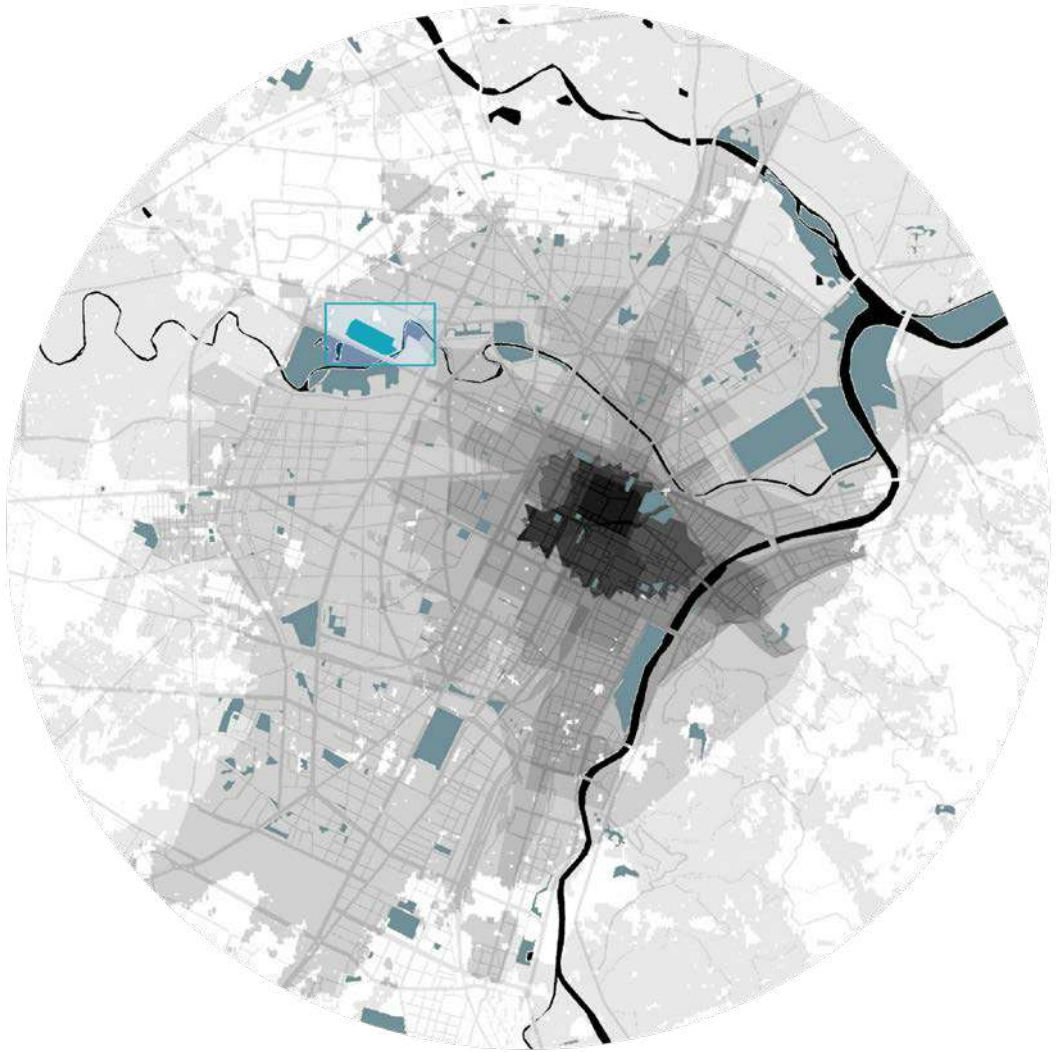


Ongoing transformations ■

Transformations in project ■

1km

Torino, transformation of industrial legacy (2019)
© Urban Lab - adapted by Giorgia Greco



Before 1500 ■

1560 ■

1620 ■

1700 ■

1760 ■

1865 ■

1900 ■

1920 ■

1970 ■

Actual footprint ■

Factory site ■

Urban parks ■

1km

Localization of ThyssenKrupp factory within the expansion of the urban pattern of Torino
© Matteo Migliaccio

Torino turned to culture as a driver for postindustrial transition. It was an experimental season, driven by public funding and accompanied by a crucial change nationally and at the level of the newly established European policies for cities.

The 2007 financial crisis brought a sense of ineluctable structural weakness in such economic and cultural dynamics.

In current times, the very definition of what the city will be in the future, and who is entitled to decide for the better of the urban majority, is questioned. Population is not going to grow again in the near future based on natural birthrate. Who is then the target of reuse? Who is going to invest in environmental remediation when demand for urban uses is not predictable according to previous patterns? Is the very question of costs simply related to the technical aspects of implementing actions or can extend to evaluating the option of taking no action on the legacy of the industrial structures? Is there a future for manufacturing in the city? What is design-driven approach to do in this framework?

The TRANS-USE summer school opened with this questions, considering the urban planning regulation at hand, the transformations that have been implemented more recently in the northern districts of Torino and those that were discussed in terms of expectations and anticipations yet never turned into operational plans for the transition of ThyssenKrupp site into a new urban context.





500m +

+

+

+

Satellite view of ThyssenKrupp factory in the urban fabric of Torino (2018)

——— ThyssenKrupp

----- former-Thyssen / Ilva

External perimeters assigned with the "Urban Regeneration Program" coherent to ex art. 14 of the Regional Law 20/2009 and the variant 221 to P.R.G.

**FIRST
INSEDIATIVE
FORMS**

.....
First feudal and military plant of "Palacio Luxenti".

1340

CHRONOLOGY

1710

The area becomes part of an important network of **residences for the Savoy family**.

1848
1853 - 56

First organization as a **protoindustrial site**.
New **toll fence** and new **railway** (Torino-Novara).

1907

New PRG with new toll fence and new mobility network to **develop the north-west side of Torino**.

1959 - 60

New PRG with the intention to push the area as a new industrial pole along the Dora river; **First construction of the existent buildings**.
Acciai Speciali Terni buys the plot to improve its international competitiveness on the steel market.

1982

1992 - 2004

2007

Privatization of the plant under **ThyssenKrupp - Acciai Speciali Terni**.
Intention of closing of the plant anticipated by the **broke of a fire**; Closing of the plant.

PROTOINDUSTRIAL LEGACY

INDUSTRIAL LEGACY



physical model

ThyssenKrupp former factory

1:100 scale



//Diary

10.7 .WED

10.00 – 10.30 at Skate Park

WELCOME and institutional greetings by: **Michele Bonino, Liu Jian**

10.30 – 11.15

OPENING LECTURE #1 – “Adaptive ways. Architecture and the reuse of large industrial legacies” with: **Matteo Robiglio**

11.15 – 12.00

OPENING LECTURE #2 – “Build The City on the City: A Sustainable Way of Spatial Growth through Brownfield Redevelopment” - with: **Liu Jian**

12.00 – 13.00

OPEN DISCUSSION - coordinated by **Alberto Bologna** and **Francesca Frassoldati**

LUNCH INCLUDED at Skate Park

14.00 – 14.30 at Skate Park

SELF-PRESENTATION OF THE TEACHING STAFF AND PARTICIPANTS

14.30 – 15.30

EXPLANATIONS OF THE STRUCTURE OF THE SUMMER SCHOOL: expected outputs (toolkits) for the mid-term review and final review.

with: **Alberto Bologna, Francesca Frassoldati, Chiara Crovini, Georgia Greco, Matteo Migliaccio, Roberta Taramino**

16.00 – 17.00

TOUR THROUGH TOOLBOX: presentation of the spaces and equipment available during the summer school.

#OPENING + #SEMINAR DAY

11.7 .THU

9.00 – 10.00 at Skate Park

INSTRUCTIONS FOR THE SITE VISIT AND SUGGESTIONS FOR FIELD WORK - scheduled on July 12 - “Different layers to map” at Skate Park

with: **Alberto Bologna, Francesca Frassoldati, Matteo Migliaccio**

10.00 – 11.30

POSTFORDIST TORINO - by **Giulietta Fassino** and **Chiara Lucchini**

12.00 – 13.00

THYSENKRUPP - “Good practices in reuse of former industrial and productive sites” Westpark in Bochum, former cast steel plant, Phoenix - Lake in Dortmund, former steel plant, ThyssenKrupp Head Quarter in Essen, former cast steel plant

with: **Franziska Uwis**

14.00 – 15.00 at Skate Park

OPEN DISCUSSION: coordinated by **Alberto Bologna** and **Francesca Frassoldati**

15.00 – 18.30

DEFINITION OF CASE STUDIES TO BE DEVELOPED IN THE FOLLOWING DAYS

Teaching and Tutoring:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Georgia Greco, Yaniv Edery, Elena Guidetti, Deng Huishu, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Song Yehao, Xiaodi Zheng

#SEMINAR DAY

16.7 .TUE

9.00 – 12.00 at Skate Park

DEVELOPMENT OF CASE STUDIES

Teaching and Tutoring:

Federico Accorsi, Alberto Bologna, Uri Cohen, Chiara Crovini, Francesca Frassoldati, Georgia Greco, Elena Guidetti, Deng Huishu, Ruth Leonov, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

12.00 – 13.00

SEMINAR - “Independent school of the public space: methods for action and interaction” with: **Ruth Leonov**

14.00 – 15.30 at Skate Park

SEMINAR: “3D metric survey using image and range based technologies”

with: **Emilio Abbate, Giulia Sammartano, Nannina Spanò**

15.30 – 16.00

SEMINAR: “Invisible Archeology at Egyptian museum”

with: **Enrico Ferraris**

16.00 – 18.30

DEVELOPMENT OF CASE STUDIES

Teaching and Tutoring:

Federico Accorsi, Alberto Bologna, Uri Cohen, Chiara Crovini, Francesca Frassoldati, Georgia Greco, Elena Guidetti, Deng Huishu, Ruth Leonov, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Song Yehao, Xiaodi Zheng

#MID-TERM TRAINING + #BEST PRACTICES

15.7 .MON

9.00 – 12.00 at Skate Park

METHODOLOGICAL LECTURE #1 - with: **Tiziana Tosco** and **Federico Accorsi**

12.00 – 13.00

METHODOLOGICAL LECTURE #2 - *Rethinking Haifa* with: **Uri Cohen**

14.00 – 16.00 at Skate Park

TUTORIAL #1 - with: **Federico Accorsi**,

16.00 – 18.30

DEVELOPMENT OF CASE STUDIES - Teaching and Tutoring:

Federico Accorsi, Alberto Bologna, Uri Cohen, Chiara Crovini, Francesca Frassoldati, Georgia Greco, Elena Guidetti, Ruth Leonov, Deng Huishu, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Song Yehao, Xiaodi Zheng

#MID-TERM TRAINING + #MODEL

#BEST PRACTICES

19.7 .FRI

9.00 – 13.00 at Skate Park

DESIGN WORK with Tutoring:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Georgia Greco, Deng Huishu, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

14.00 – 15.00 at Skate Park

A NEW OLYMPIC STRUCTURE IN A FORMER FACTORY: “The case-study of the Oxygen Factory in Shougang, Beijing” - with: **Edoardo Bruno, Marta Mancini, Maria Paola Repellino, Deng Huishu**

15.00 – 18.30

DESIGN WORK with Tutoring:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Georgia Greco, Deng Huishu, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

#DESIGN WORKSHOP

20.7 .SAT

9.00 – 12.00 / 14.00 – 16.30 at Skate Park

DESIGN WORK - with Tutoring:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Elena Guidetti, Georgia Greco, Deng Huishu, Ruth Liberty-Shalev, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

12.00 – 13.00 at Skate Park

LANDSCAPE AND INDUSTRY OR RAILWAY HERITAGE - with: **Ruth Liberty-Shalev**

#DESIGN WORKSHOP

12.7 .FRI

9.00 – 13.00 at ThyssenKrupp

VISIT TO THE SITE: Teaching and Tutoring:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Giorgia Greco, Elena Guidetti, Deng Huishu, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

WITH GEOMATICS LAB: Emilio Abbate, Alessio Calantropio, Filiberto Chiabrandino Giacomo Patrucco, Giulia Sammartano, Nannina Spanò, Lorenzo Teppati

14.00 – 15.00 at Skate Park

"Brown to Green: Landscape Regeneration of Brownfield Sites"

with: Xiaodi Zheng

15.00 – 16.00

TUTORIAL #1 - "Risk management and business model: towards their effective integration within the business management" - with: Chiara Crovini

16.00 – 17.30

OPEN DISCUSSION - coordinated by Alberto Bologna and Francesca Frassoldati - with: Carmelo Ignaccolo

DINNER INCLUDED

#SITE VISIT +

#METHODOLOGICAL FRAMEWORK

17.7 .WED

10.00 – 15.00

ARCHITECTURAL GUIDED TOUR IN IVREA

15.30 – 18.30 at Salone dei 2000

MID-TERM PRESENTATION AND DISCUSSION of the work carried out

Discussants:

Federico Accorsi, Alberto Bologna, Francesca Frassoldati, Giorgia Greco, Elena Guidetti, Deng Huishu, Ruth Leonov, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

#VISIT IVREA + #MID-TERM REVIEW

21.7 .SUN

ALL DAY LONG

SEMINAR AND GUIDED TOUR curated by Urban Lab

Visits to Parco Dora and Lingotto

Elena Guidetti, Matteo Migliaccio, Deng Huishu, Marta Mancini

#SEMINAR + #DISCOVER TURIN

23.7 .TUE

9.00 – 13.00 / 14.00 – 18.30 at Skate Park

DESIGN WORK with Tutoring:

Federico Accorsi, Alberto Bologna, Chiara Crovini, Elena Guidetti, Deng Huishu, Ruth Liberty-Shalev, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

#DESIGN WORKSHOP +

#FINAL PRESENTATION TRAINING

13.7 .SAT

10:00 – 12:00 at Full Office

"Research on the Integrated Assembled Experimental Nearly Net Zero Building in Different Climatic Zones"

with: Song Yehao

Afternoon

EGYPTIAN MUSEUM + URBAN LAB EXHIBITION

#GOOD PRACTICES + #FIELDWORK

14.7 .SUN

FREE



18.7 .THU

9.00 – 13.00 / 15.30 – 18.30 at Skate Park

DESIGN WORK with Tutoring:

Federico Accorsi, Giorgia Greco, Deng Huishu, Ruth Leonov, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Song Yehao, Xiaodi Zheng

14.00 – 15.00

SEMINAR: "Mega Industrial Urbanisms" - with Nina Rappaport

15.00 – 15.30

RE-CODING TEAM FULL - "Rethinking code for mixed use, and manufacturing" - with: Caterina Barioglio, Daniele Campobenedetto, Marianna Nigra

#DESIGN WORKSHOP

22.7 .MON

9.00 – 13.00 / 14.00 – 18.30 at Skate Park

DESIGN WORK with Tutoring:

Federico Accorsi, Alberto Bologna, Chiara Crovini, Giorgia Greco, Elena Guidetti, Deng Huishu, Ruth Liberty-Shalev, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

DINNER INCLUDED

#DESIGN WORKSHOP +

#FINAL PRESENTATION TRAINING

24.7 .WED

9.00 – 9.40

GREETINGS from:

Guido Saracco (Rector of Politecnico di Torino)

Carla Bartolozzi (Dean of the School of Architecture, Politecnico di Torino)

10.00 – 12.30

FINAL PRESENTATION OF THE TOOLKITS DEVELOPED DURING THE SUMMER SCHOOL

Discussants: Federico Accorsi, Alberto Bologna, Michele Bonino, Chiara Crovini, Elena Guidetti, Francesca Frassoldati, Deng Huishu, Ruth Liberty-Shalev, Marta Mancini, Matteo Migliaccio, Lidia Preti, Maria Paola Repellino, Matteo Robiglio, Song Yehao, Xiaodi Zheng

12.30 – 13.00

CLOSING REMARKS

LIGHT LUNCH

#FINAL PRESENTATION +

#PUBLIC DISCUSSION



In the first week of the summer school the theoretical contributions focused on the reconstruction of a framework of possibilities.

The aim was to provide specific and technical tools for interpreting the challenges of the ThyssenKrupp former factory in Torino.

Diary 1st week



10.7 .WED

Name: Matteo Robiglio

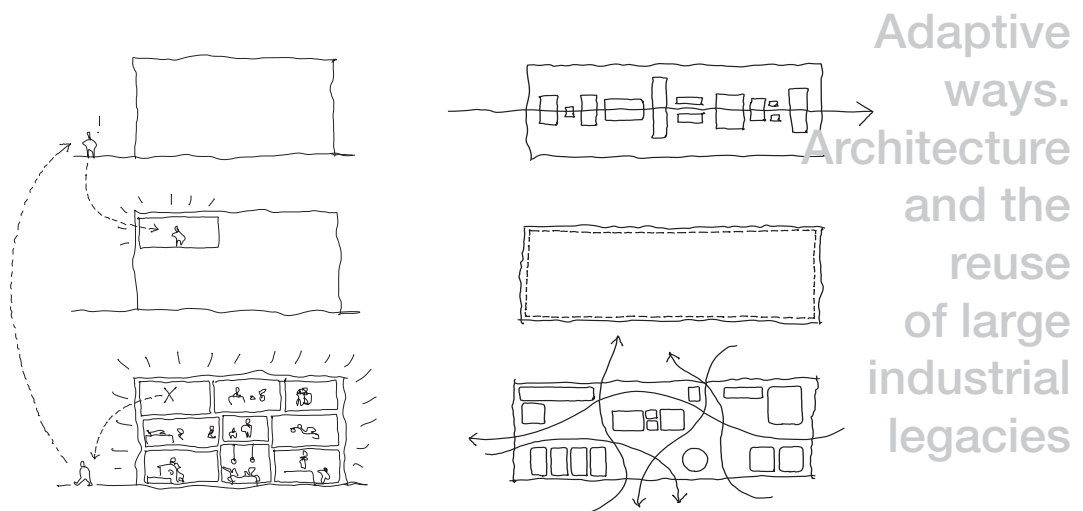
Title: Architect, PhD, Full Professor / Head of FULL Future Urban Legacy Lab

Institution: Department of Architecture and Design, Politecnico di Torino

Research field: Community architecture, adaptive reuse and urban regeneration



Processes of adaptive reuse of the industrial legacy of cities and their architectural outputs are a reminder of the proper relationship between architecture and society. In contrast to the concept of innovation supposedly being produced by formal and technical prowess and individual creativity, adaptive reuse experiences show that innovation is the result of enduring social practices. Such practices are generated independently from architecture but reach their full potential if interpreted and enhanced by architecture.



Extract from the contribution

DAY #1 _ Opening Summer School

Introduction to adaptive reuse and brownfield redevelopment

@ToolboxCoworking

Name: Liu Jian

Title: Dr., Vice Dean, Registered City Planner, Tenured Associate Professor

Institution: Department of Urban Planning and Design, School of Architecture, Tsinghua University of Beijing

Research field: Interests on town and rural planning, urban regeneration, and international comparative studies on urban planning.



Future challenges of the urban design practices are interdisciplinary, considering the continuity of local identity, the prospects of sustained urban development and the use of recycling of local resources, etc. It will be increasingly important to create a resilient spatial structure through an intelligent arrangement of infrastructures and public spaces that, while concretizing in a way the local identity, can accommodate the dynamic evolution of urban development and possible changes in land use. In summary, we will have to think in a transdisciplinary way and pay the man's request for a better life with due care.



11.7____.THU

Name: Franziska Uwis

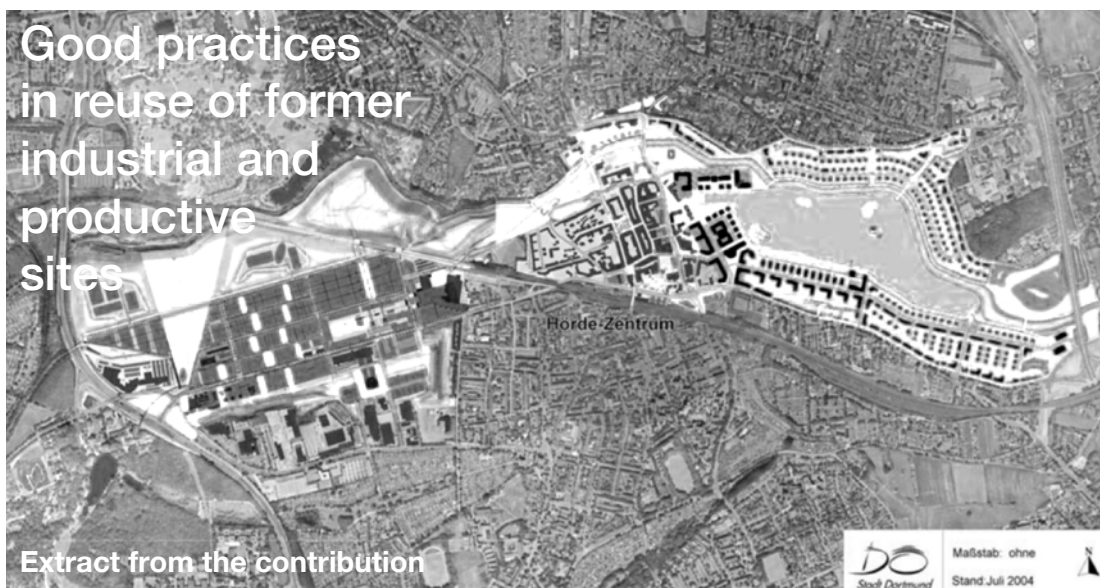
Title: Real Estate Transaction Manager international,
Full-time employee in Bochum

Institution: ThyssenKrupp Business Services
GmbH

Work field: Transaction management



For a large company like ThyssenKrupp, the reuse and regeneration of a former factory is not only a commitment towards the cities where we worked, but also a business opportunity considering the transformation of societies, their new needs, concerns, and demands. Transforming places promotes both new productive and functional uses, and opportunities for updating public facilities to current paradigms. Two examples of reuse of former ThyssenKrupp productive sites in Essen and Dortmund were illustrated as practices for rethinking the industrial presence in the city.



DAY #2 _ Towards site visit

Presentation by Urban Lab Torino. Good practices in reuse by ThyssenKrupp @ToolboxCoworking

Name: Giulietta Fassino, Chiara Lucchini

Title: Architect and Ph.D in History of Architecture and Urban Planning ([Fassino, G.](#))
Architect, Ph.D. Regional Development Manager at Urban Center ([Lucchini, C.](#))

Institution: Urban lab, Torino

Research field: Urban and regional development



In the 20th century, Torino was the icon of industrialization in northern Italy, with urban growth and socio-economic development driven by automotive industry. The reorganization of European industry, after the 1980s, resulted in a structural crisis for Torino. A phase of downsizing of productive processes and withdrawal of manufacturing plants started, which continued well into the 1990s. Political commitment and special funding, boosted by the 2006 Torino Winter Olympics, structured a new consensus around innovating and transforming the city into a leading example of post industrial restructuring. Yet the global financial crisis in the early 2000s opened new questions.



12.7____.FRI

Name: Chiara Crovini

Title: Ph.D. in Business and Management

Institution: Department of Management,
Università degli Studi di Torino, UNITO

Research field: Business and management



The lecture introduced basic business administration concepts, by concentrating on the definitions and roles of the business model and risk management process. The aim was to provide the general framework useful to the development of a project. Therefore, basic principles concerning the risk management process, risk analysis and decision making were introduced to enhance critical judgements and to spread a managerial culture with the purpose to raise awareness on the complexity of running a business and the importance of effective integration of processes, communication and information flows.



DAY #3 _ Site visit

Introduction to landscape regeneration of brownfields Risk management and business model at @ToolboxCoworking

Name: Xiaodi Zheng

Title: Associate Professor, co-Director,
International Affairs Office

Institution: Department of Landscape Architecture,
Tsinghua University of Beijing

Research field: Landscape Architecture



Responsible and creative landscape regeneration of brownfields requires understanding and collaboration between contamination remediation and spatial design. Environmental, ecological, artistic, social and economic aspects are discussed with the introduction of industrial nature, environmental justice and environmental art. Seattle Gas Works Park in the US is analyzed in depth to reveal the historical background, development process and long-term remediation effort. As proposed in my doctoral dissertation, Brown Earth-work could be used as an effective mean and strategy to assist design thinking of post industrial sites.





on-site visit

ThyssenKrupp factory





ThyssenKrupp factory
urban context
(2018)



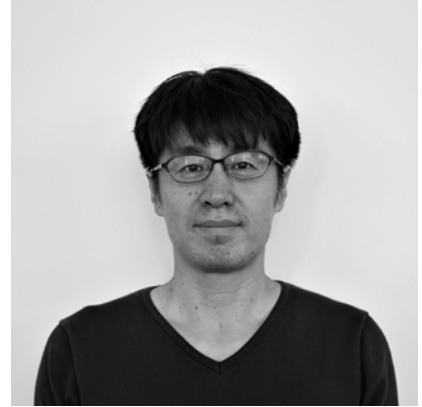
13.7_____SAT

Name: Song Yehao

Title: Architect, Full professor

Institution: Department of Architecture, School of Architecture, Tsinghua University of Beijing

Research field: Sustainable architecture and urban studies, building technology



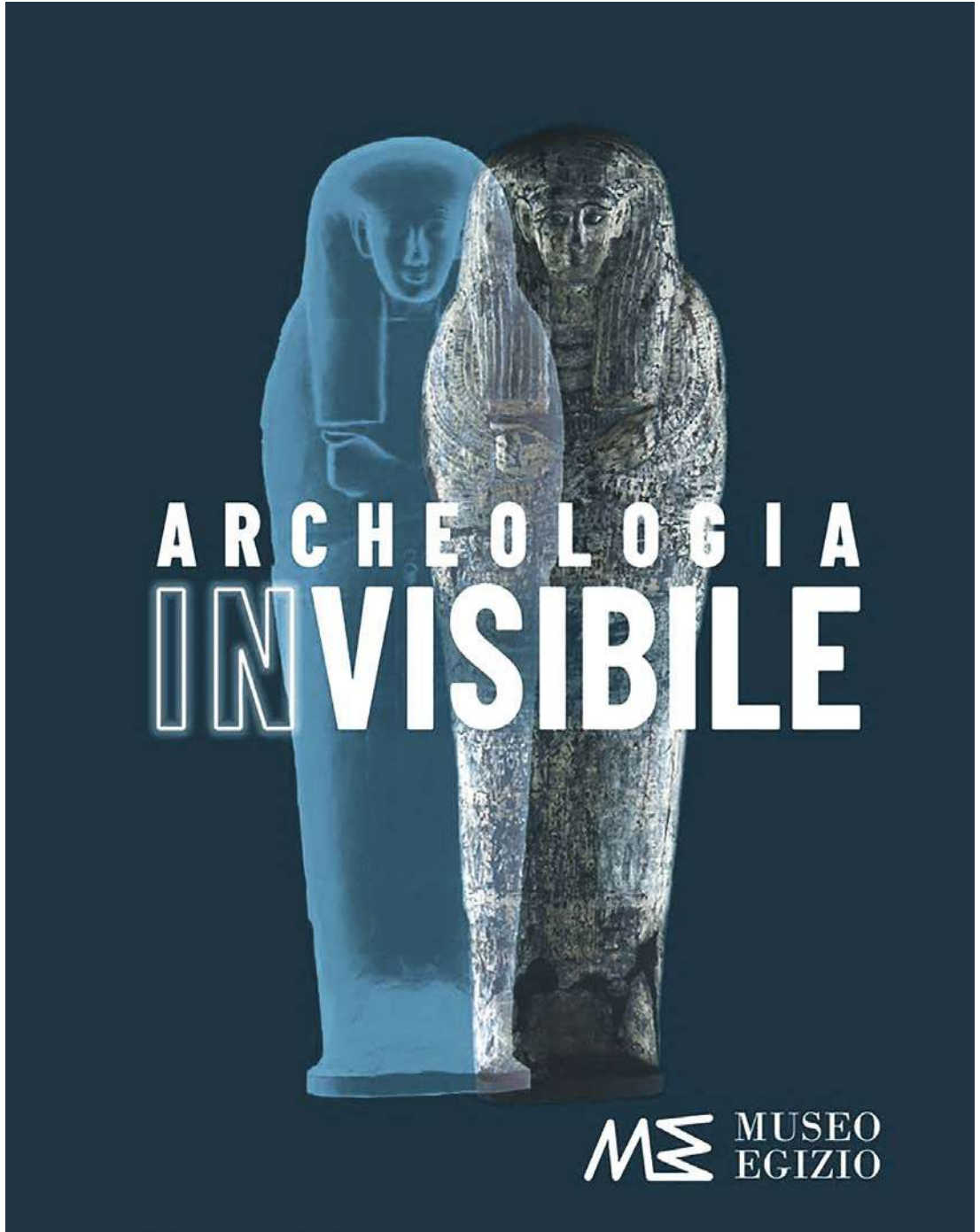
In contemporary China, there is a significant imbalance in rates of development between the eastern coastal provinces and the western inner country, and between cities and rural areas. Grounded in the search for a sustainable design strategy that is suitable and localised for the various parts of the country, Song and Partner Atelier (SUP Atelier) has developed three focus points through practice: the use of natural resources; the embodiment of cultural diversity; and the adoption of suitable technologies. In the lecture, several projects by SUP presented to illustrate how the sustainable strategies are implemented in real circumstances and how SUP integrates local materials and traditional craftsmanship into total environmental solutions.



DAY #4 _ Visit Torino

Introduction to sustainable design strategies in China

Visit to the **@Egyptian Museum of Torino** and **@Urban Lab Torino**



15.7____.MON

Name: Federico Accorsi, Tiziana Tosco

Title: Engineer, PhD, Research Assistant (Accorsi, F.),
Engineer, Associate Professor (Tosco, T.) / FULL

Institution: Department of Environment, Land and
Infrastructure Engineering, Politecnico di Torino

Research field: Ground water remediation and
contamination transport in the subsoil



The re-use of an abandoned industrial site in most cases must face and couple with the remediation of existing contaminations in soil, subsoil and groundwater associated to the past activities. The lecture provides an overview of contamination processes typically associated with brownfields, and of the state-of-the-art remediation technologies. Specific attention is devoted to those technical aspects – typical of environmental engineering – that can affect, integrate and interact with the architectural and landscape design, in view of an integrated, sustainable, re-use.



DAY #5 _ Controversal Memories

Introduction to remediation of contaminated sites. Urban development of Haifa industrial city @ToolboxCoworking

Name: Uri Cohen

Title: Assistant Professor

Institution: Faculty of Architecture and Town Planning, Technion Institute of Technology of Israel

Research field: Architecture and town planning



If once Haifa was the main harbor and international center of Israel, today it is in a state of decline and redundancy due to dramatic changes in global industrial and commercial patterns. Parallel to this decline process, peripheral cities are rising. New businesses, offices residential and logistic centers have no longer the urge to settle in city centers. Understanding the factors which underly the rise and fall of this 'sleeping beauty' will require 'thinking outside the box', figuratively and literally, and re-defining the city's future relationship with its hinterland and the industrial heritage.



16.7____.TUE

Name: Ruth Leonov

Title: Architect

Institution: Technion Institute of Technology of Israel

Research field: Public space and methods for action and interactions



"... a talent for speaking differently, rather than for arguing well, is the chief instrument of cultural change." (Rorty, R., Contingency, Irony and solidarity, Cambridge, 1993)

'gym' is an interdisciplinary think-and-do group which dedicates its operation to the public arena. The group operates as an independent school, based on discussion and creation. Members of the 'gym' are architects, artists, designers, programmers and researchers, who wish to expand the discussion in their field of expertise in order to create sharing spaces. 'gym' - without a capital G, is an open source project that offers a model for communication between disciplines and stake holders of any public space.



DAY #6 _ Public space
Methods for action and interaction
@ToolboxCoworking



DAY #6 _ Digital space

3D metric survey

@ToolboxCoworking

Name: Giacomo Patrucco, Giulia Sammartano, Antonia Teresa Spanò

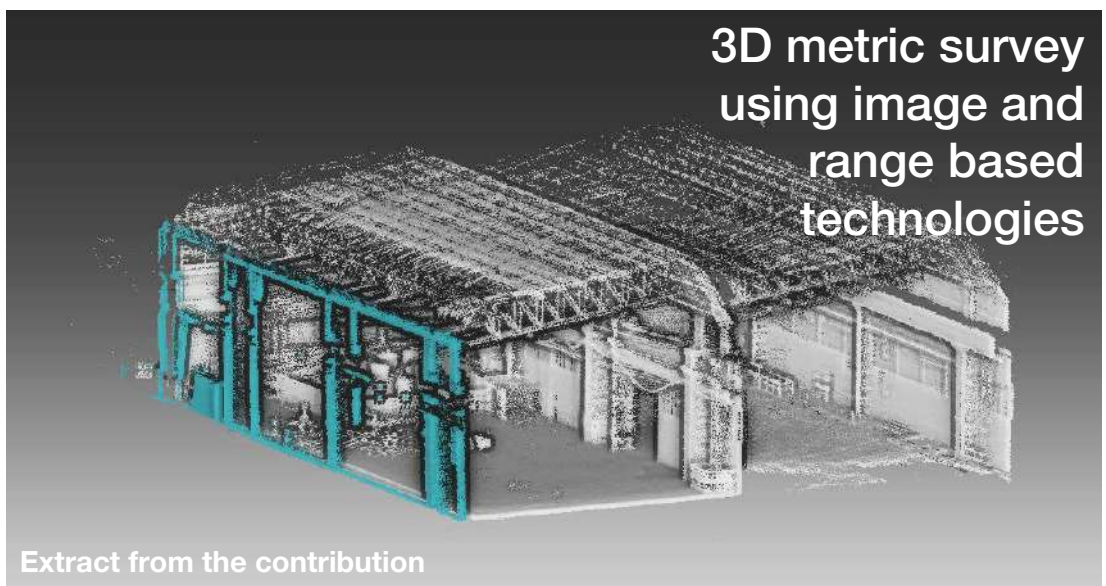
Title: Associate Professor ([Spanò, A. T.](#)), Research Assistants ([Patrucco, G.](#) - [Sammartano, G.](#)) / FULL

Institution: Department of Architecture and Design, Politecnico di Torino

Research field: Geomatics



Advanced Geomatics technologies offer nowadays in urban contexts multiple challenging situations in multidisciplinary experimental use of 3D dense models generated by imaging and ranging technologies (Terrestrial Laser Scanners, Mobile Mapping Systems, close-range and UAV photogrammetry). The extremely powerful metric value of reality-based measured models provide a rich informative content based on geometric and radiometric data, about the status of conservation, practicability and other useful information aimed at helping in each project steps, knowledge, analysis and design of complex sites as the one of the former ThyssenKrupp factory.



DAY #6 _ Digital space

Presentation of “Invisible Archaeology” exhibition
@ToolboxCoworking

Name: Enrico Ferraris

Title: Egyptologist, PhD, curator of the temporary exhibition “Invisible Archeology”

Institution: Egyptian Museum of Torino

Work field: Egyptology



What are the layers of information embodied in the materiality of an object? Which connections should be explored with every other external sources available (related objects or people, archives, historical/archaeological/physical context, etc.)? The curator of an exhibition gives voices to otherwise mute witnesses of the history. Indeed, he/she arranges for the visitors any type of objects (artifacts, photos, documents, contemporary products, scientific evidences, etc) to convey a specific narrative. The more data are unveiled, the more connections, understandings and conversations about our world curators will deliver over time.



17.7 .WED



DAY #7 _ Mid-term seminar in Ivrea

Visit to Ivrea, UNESCO World Heritage site, Olivetti industrial headquarter
Mid-term presentation @Salone dei 2000





Within one of the most important postindustrial architectures of the city of Ivrea, the working three groups present the progress of the design work produced during the first week. Five international discussants comment the output shown, enriching the participants training path and introducing new ideas for the continuation of the design toolkit definition.

Mid-term seminar

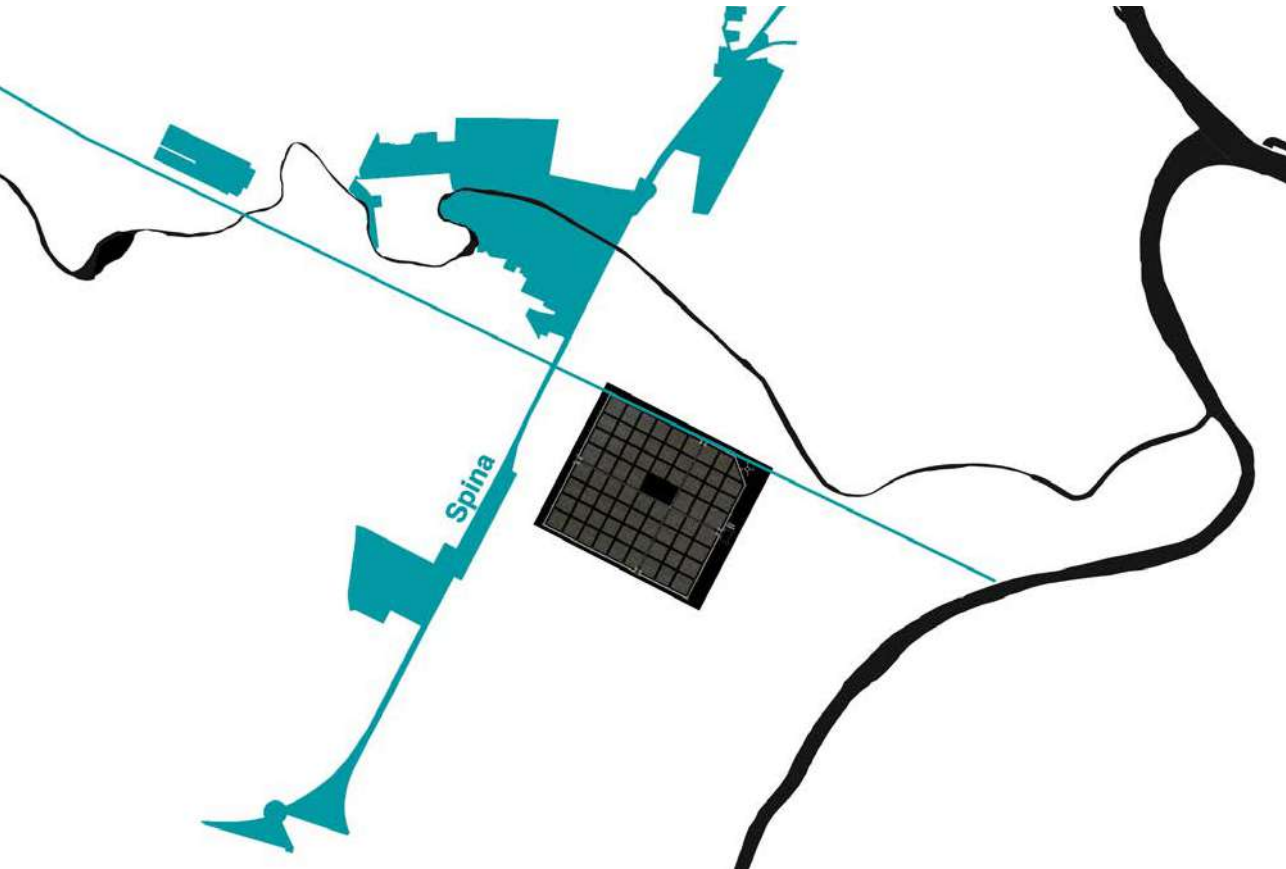


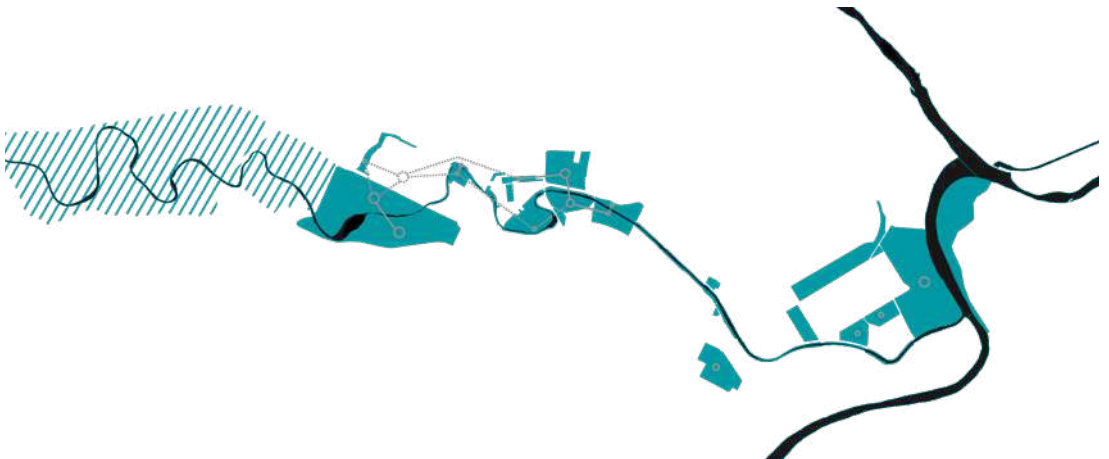
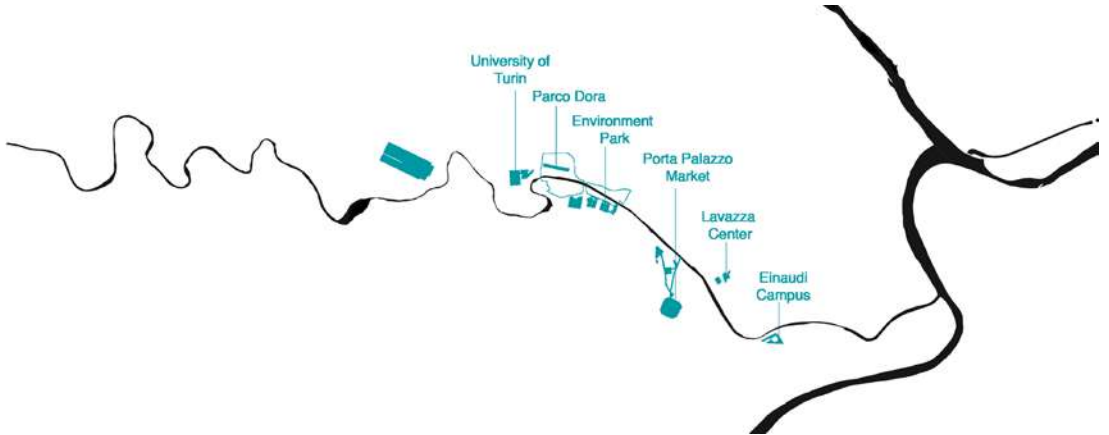
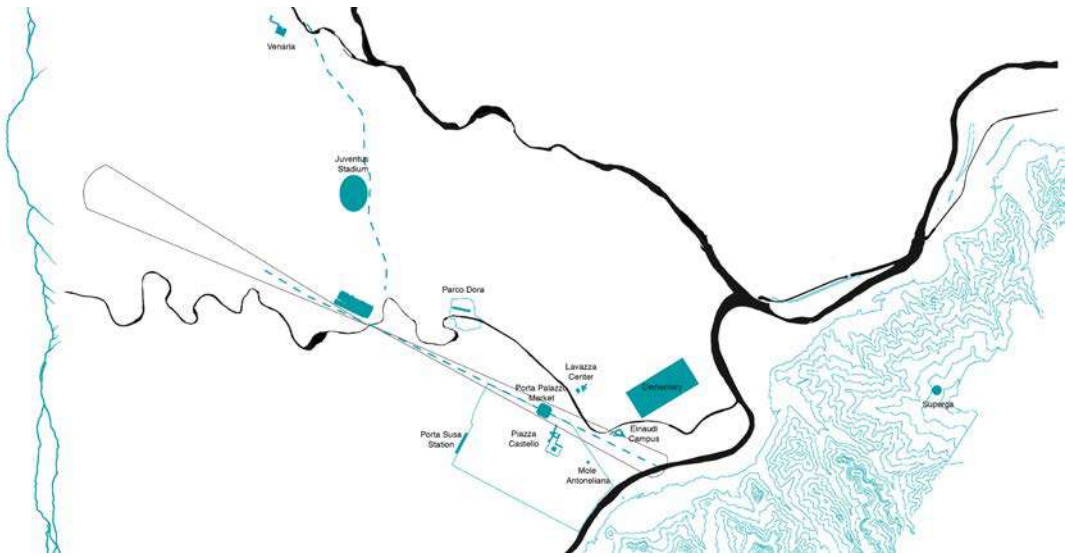
TEAM #1

URBAN RELATIONS

As main characteristics of the site we focused on the presence of the river, the green system it carries along and the car presence, not only from an industrial identity point of view, but as a consequence of the strong presence of Corso Regina Margherita. This latter creates a really direct connectivity to the center but also establishes direct visual connections to the key landscape and identity elements that distinguish Torino: the Alps on one side and the *Collina* on the other side. Moreover, the Dora river serves as an ecological parallel system to Corso Regina Margherita and meets this latter exactly on our site. The kind of system creates a continuity between the various former industrial remediated sites but also between the various green areas, that at the moment are disconnected but have the potential to becoming a continuous network.

We see the possibilities given by Corso Regina Margherita and the Dora river as a way to rethink the identity of Torino and create a counterpart to the *Spina*, an occasion to rebalance the city. Inside this new *decumanus* our sites plays a key role.





TEAM #2

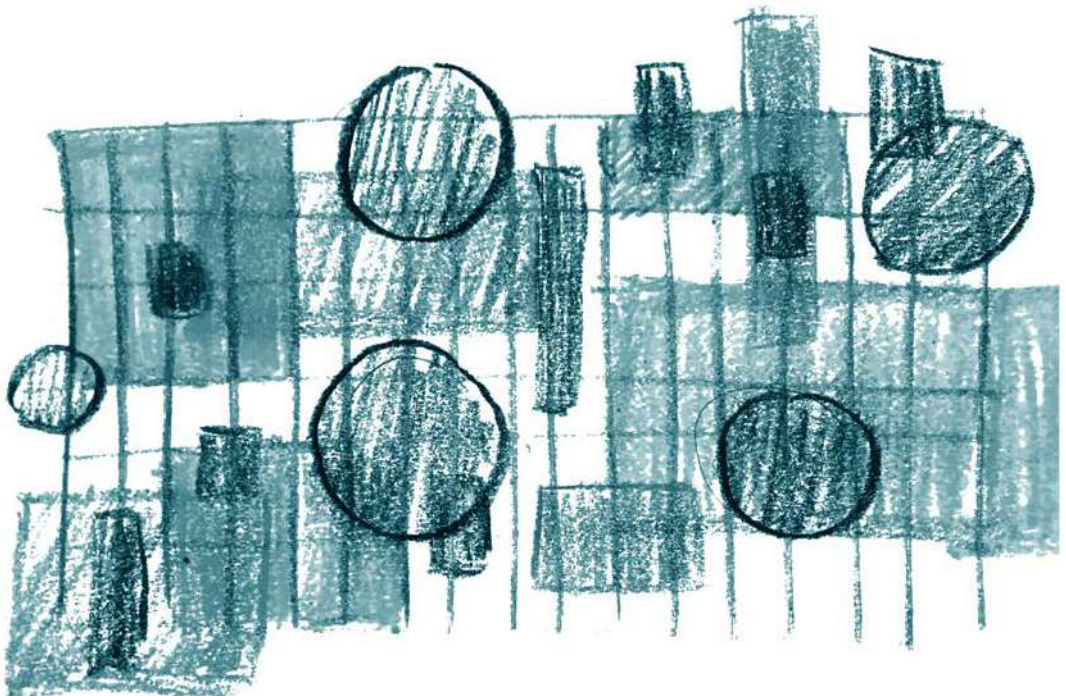
INSIDE THE OBJECT

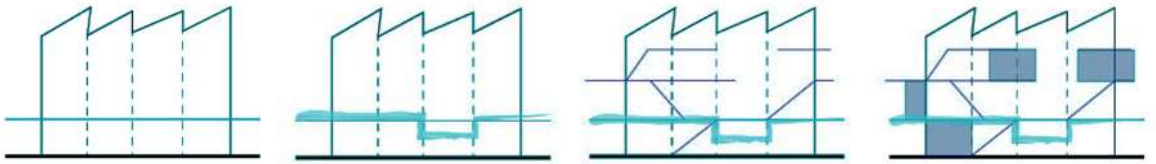
The intent of the project is to set up a “city within a city”, a facility that is not a mono-functional space but a dynamic system that changes its functions in accordance to the demand, time and financial opportunities.

Using a modular system of three scales of platforms (S,M,L) the plan offers a dynamic plan, that can be built step by step. By preserving and utilizing the existing construction the heritage of the site is preserved as an industrial site, while it utilizes the load bearing construction system as a base.

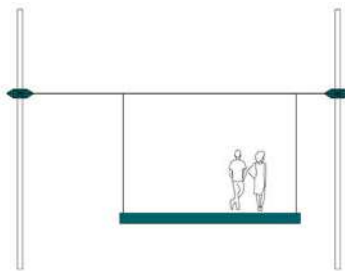
The aim is to redeclare the 0.0 level and elevate the functions above the ground, in order to disconnect from the polluted soil.

The section and the master plan are designed in aspiration to optimize the public space, as an endeavor to attract new crowd to this area of Torino.





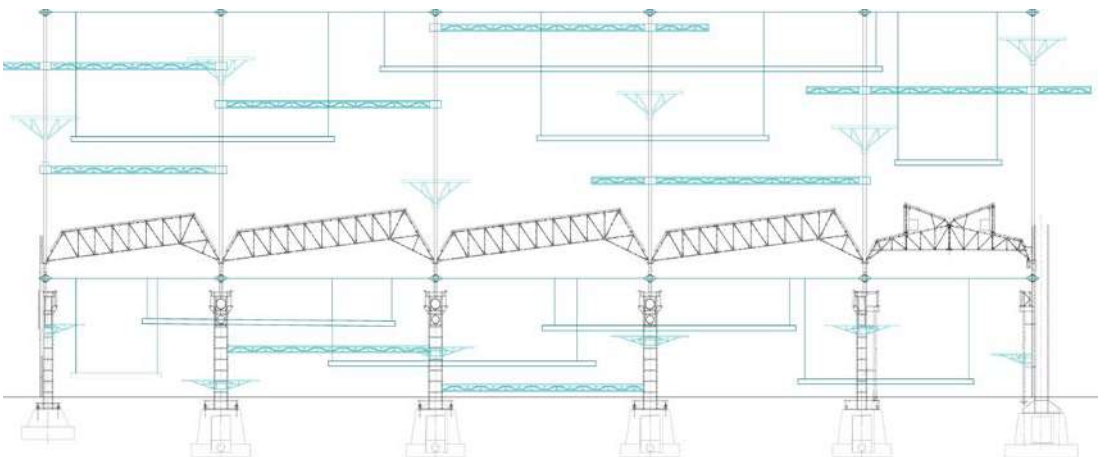
S



M



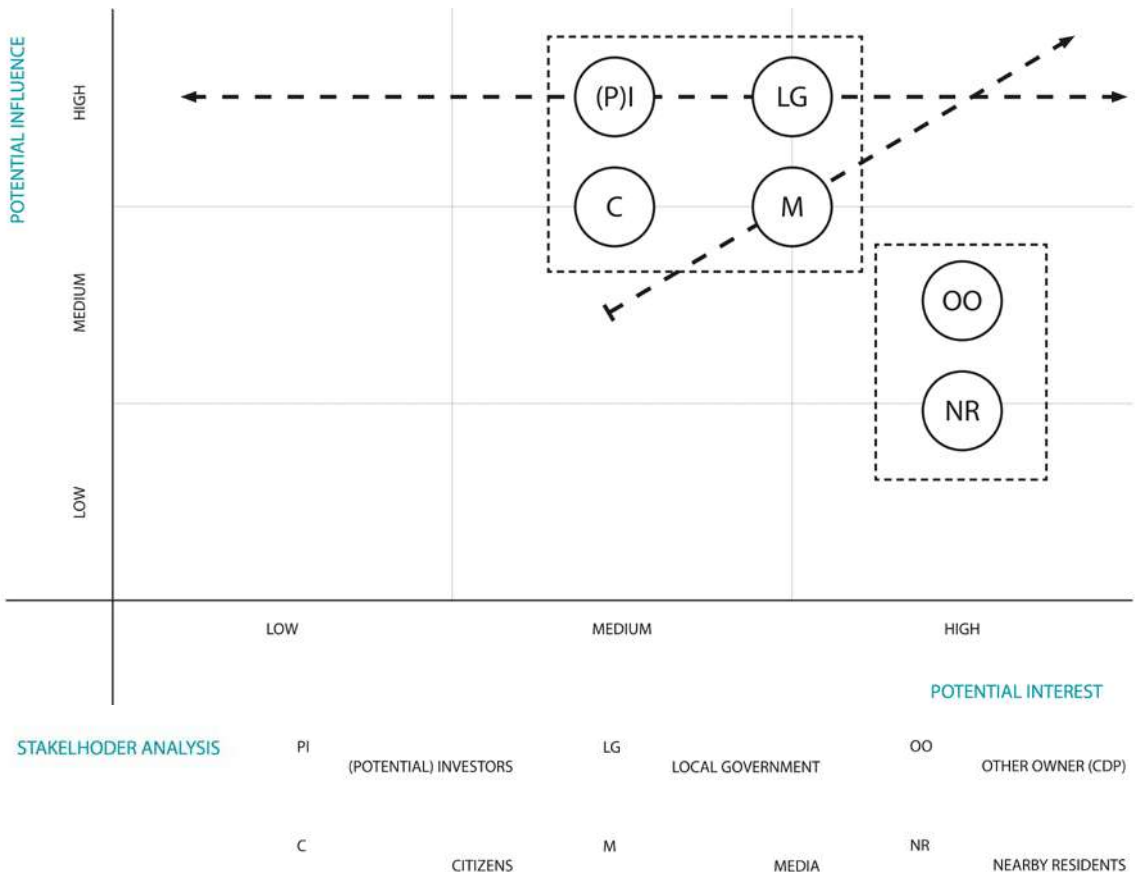
L



TEAM #3

MANAGE THE PROCESS

The economic analysis has been carried out considering the perspective of the owner of the site: the ThyssenKrupp. The stakeholders' analysis led to the categorization of them into two macro-groups. One is characterized by a high influence and a medium interest in the project, while the actors more concerned by the transformation of the area are the one with less leverage on the process. Some reflections were carried out on the potential mobility of some of the stakeholders in the matrix, meaning that the influence/interest of media and investors are strongly related to the project itself. In this preliminary analysis, risks and potentials related to the current state of the site were processed with the same tool: a division according to categories, identifying whether the risk/potential is internally or externally driven. This decision is strongly linked with a philosophical approach based on the idea that at this stage all risks may be regarded as potentials.



RISKS

FINANCIAL RISKS

Taxation

EXTERNAL

REAL-ESTATE MARKET RISKS

Decreasing population in Turin
Competition from other similar industrial sites

REPUTATION RISKS

Lack of trust from other investors
Resentment from citizens

INTERNAL

POLITICAL RISKS

Changing of administrations
Modification of land use
Public vision for the area

ENVIRONMENTAL RISKS

Brownfield - related dismission issues:
safety
soil contamination
plant contamination

INFRASTRUCTURAL RISKS

Isolation from the city center
(Public transportation)
Isolation from surroundings

POTENTIALS

FINANCIAL POTENTIALS

Low interest on lands
Collaboration with "CPD"

EXTERNAL

REAL-ESTATE MARKET POTENTIALS

Acquisition of the nearby property

REPUTATION POTENTIALS

Memorial value of the site

INTERNAL

POLITICAL POTENTIALS

De taxation of some Projects/ Fundings

ENVIRONMENTAL POTENTIALS

Presence of wild greenery on the site
Potential negotiation of remedation

INFRASTRUCTURAL POTENTIALS

Big scale
Strength of the structures
Strong foundation soil

Neighbouring Parks
Presence of Dora river

Main road connection to the city center/ Airport



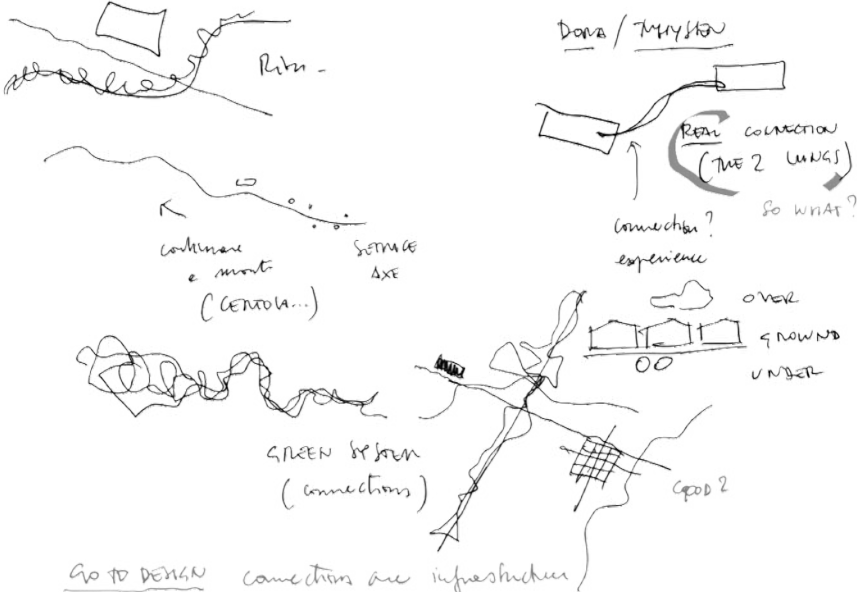
open debate



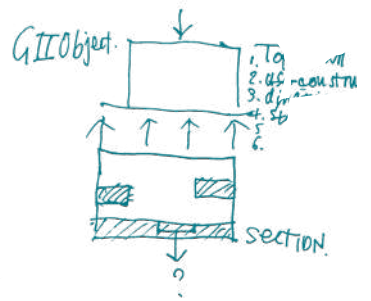
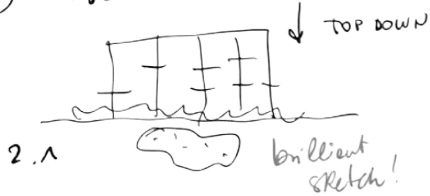
G1. Dona River Greenbelt Conversion (Redemption)

① CITY / SITE

very good visual analysis
logistics ... what about

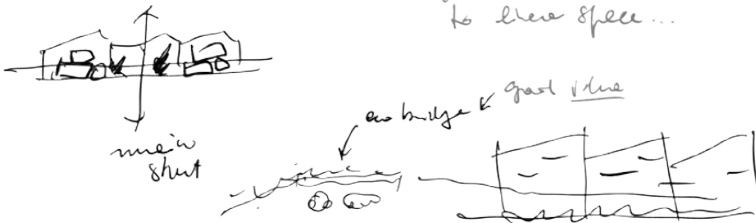
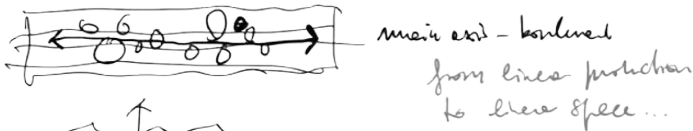


② OBJECT



We don't need residential ... both ... we need NEW
PUBLIC SPACE

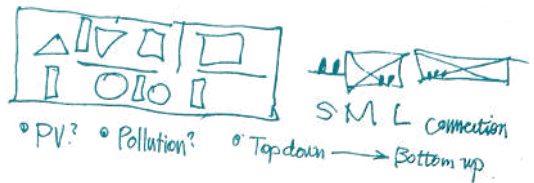
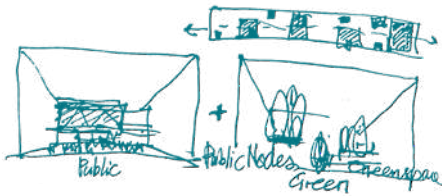
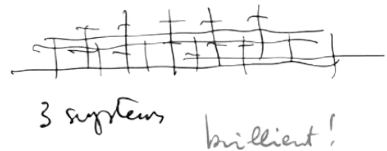
2.2. City enters the city.



reviews

@Alberto Bologna @Xiaodi Zheng
 @Francesca Frassoldati @Ruth Leonov
 @Matteo Robiglio @Song Yehao

2.3. Construction
 → leave behind programme.
 ≠ cont. functions



③ MONEY

acting as THYFEN
 cooperation with the "neighbours"

INVESTORS "project might arise interest" → clear statement

CITIZENS
 LOCAL GOV
 MEDIA

OTHER OWNERS / COP
 RENTERS

good timelines
 (diagram... suboptimal?)
 EMPATHY → PERSUASION metaphorical

VISIONARY ECONOMY
 WHAT COULD CHANGE
 THE CURRENT SITUATION

exchange with
 other groups -

How DESIGN CAN

- REDUCE RISK
- + ENHANCE POTENTIAL?

2.1

After having collected the comments on the material produced in the first week and discussed during the mid-term seminar, the second week aims to finalize the proposed design toolkits for the future of the ThyssenKrupp area.

2nd Diary week



18.7____.THU

Name: Nina Rappaport

Title: Architectural critic, curator and educator, Publications director at Yale School of Architecture, Director of the project/think tank the Vertical Urban Factory / visiting professor at F.U.L.L.

Institution: Yale University, Department of Architecture and Design, Politecnico di Torino

Research field: Vertical Urban Factory (Actar, 2015) investigates the modernist and contemporary factory



Many issues arise with large abandoned industrial sites globally that encompass not only the physical aspects of construction but the economic, social, material, infrastructural, and programmatic that all interact in space and time. Thinking about these sites topographically creates new circular system of ecological flows both global and local. Showing the more normative examples of transformations of factories to cultural spaces, the influence of the scale shift from large urban manufacturing to small, Rappaport emphasized the potential for the factory to be retooled as a factory while also considering the social aspects.



DAY #8 _ Opening second week

Nina Rappaport on innovative methods of design for manufactures and re-coding team @ToolboxCoworking

Name: Caterina Barioglio, Daniele Campobenedetto, Marianna Nigra

Title: Architects, PhD, Assistant Professors (Barioglio, C. - Campobenedetto, D.) / FULL, architect, PhD, Research Assistant (Nigra, M.) / FULL

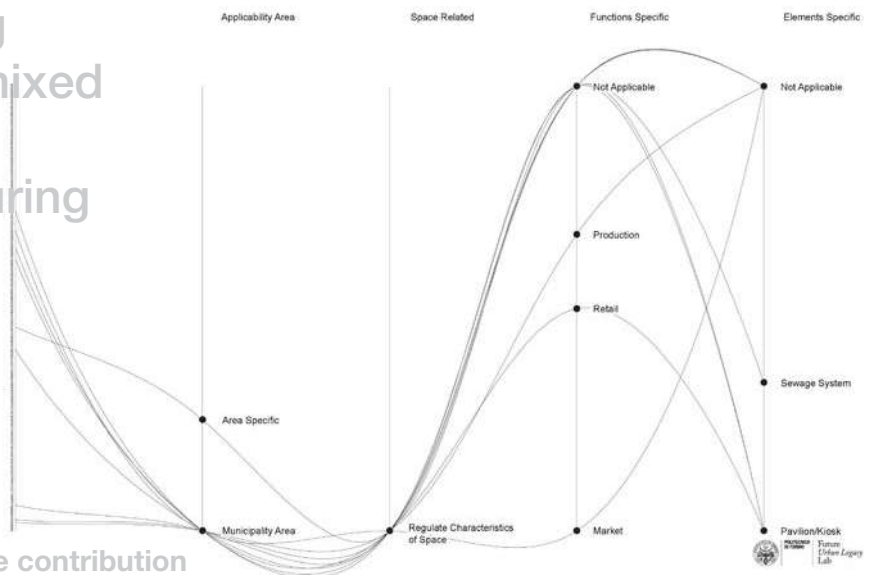
Institution: Department of Architecture and Design, Politecnico di Torino

Research field: Urban transformation and reuse strategies (Campobenedetto, D. - Barioglio, C.) Sustainable and complexity management, Design organization, Urban economics (Nigra, M.)



The relation between rules and city morphology traced back its roots in history. Relevant examples such as Zoning Resolution in Manhattan, New York, 1916 shows that a fine relation between the socio-economic emergence of changes and rules has played a crucial role in shaping cities. Either by complying with rules or pushing their boundaries, the role of rules can be to endorse change in the city transformations. In exploring such dynamics, the role of rules in facilitating the return of production to our cities is discussed and reviewed in the context of zoning and coding in Torino, Italy.

Rethinking code for mixed use, and manufacturing



Extract from the contribution

19.7 .FRI

Name: Edoardo Bruno, Deng Huishu, Marta Mancini
Maria Paola Repellino

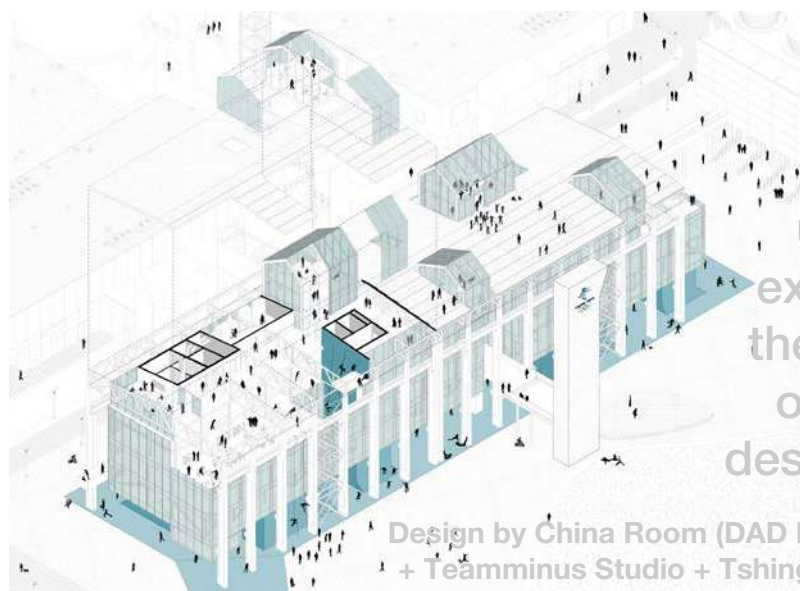
Title: Arch., PhD, Assistant professor, China Room (Bruno, E.), Arch., PhD candidates, China Room, (Mancini, M. - Huishu, D.) Arch., Research Assistant, China Room / FULL (Repellino, M. P.)

Institution: Department of Architecture and Design,
Politecnico di Torino

Work field: Industrial legacy, urban public space



The regeneration of the Oxygen Factory within former Shougang steel factory in Beijing - developed by the design team of China Room in Politecnico di Torino - has been reported within the program of the summer school considering mainly three aspects: the relationship between former polluted Chinese industrial sites and the mutual transformation of the metropolitan areas, the impact of big events such as Winter Olympic Games in guiding the general transformation and how mapping the negotiations between the stakeholders involved has been crucial in managing the design process. In this way, has been exploited how multilevel and transcalar analysis are crucial in determining the strategies embedded in decision-making processes aimed to promote industrial regeneration in China.



Shougang
steel factory
regeneration
urban visions
explored under
the perspective
of research by
design practices

Design by China Room (DAD Politecnico di Torino)
+ Teamminus Studio + Tshinghua Design Institute

DAY #9 _ Design practices for industrial regeneration
Lecture by E. Bruno, D. Huishu, M. Mancini and M.P. Repellino on
Industrial legacy research carried out by China Room
@ToolboxCoworking



20.7 .SAT

Name: Ruth Liberty-Shalev

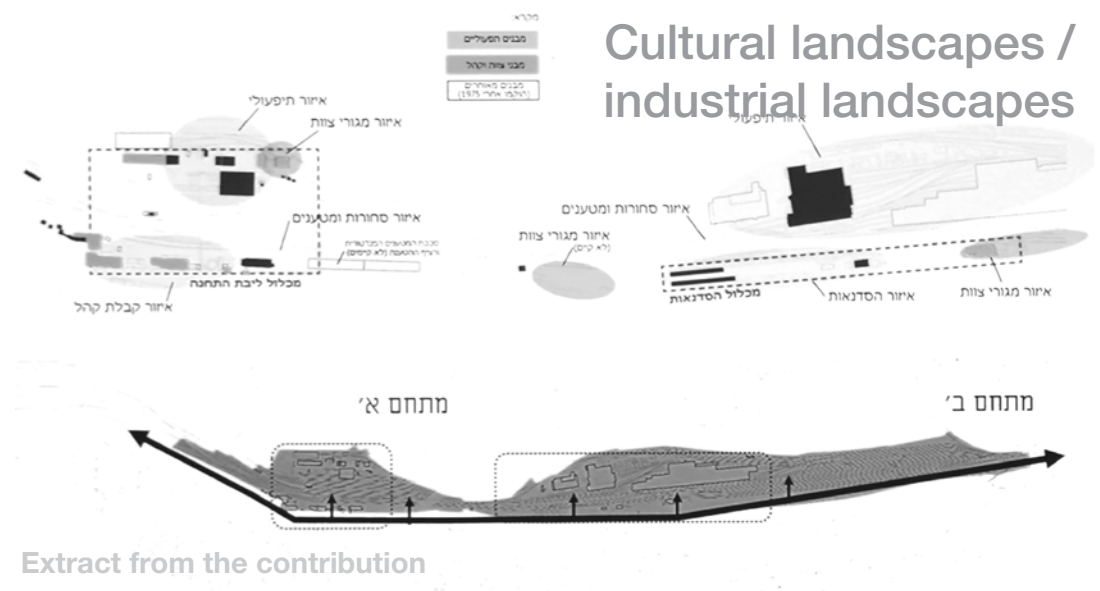
Title: Architect, Assistant Professor

Institution: Faculty of Architecture and Town Planning, Technion Israel Institute of Technology

Work field: Cultural Landscape / Industrial Landscape



The lecture compares architecture and landscape produced by traditional economies vs. postindustrial economies in Palestine, through the examples of the 19th century Monk's mill in the Sepphoris valley vs. the train station compound in Haifa, opened 1905. Both operated throughout the first half of the 20th century yet represent different and often competing cultures and economies. The concepts of 'cultural landscapes' and 'industrial heritage' in contemporary discourse are examined by reading these two examples as generators of local economic stability and regional economic growth.



DAY #10 _ Finalization of the work

Lecture by Ruth Liberty-Shalev on landscape and industrial heritage

@ToolboxCoworking



21.7 .SUN



DAY #11 _ Turin industrial legacy
Visit to transformed industrial sites in Torino
@Parco Dora and **@Lingotto**





work in progress



2.2

In the closing phase, the physical model is used as an important tool for the spatial translation of the design proposals.

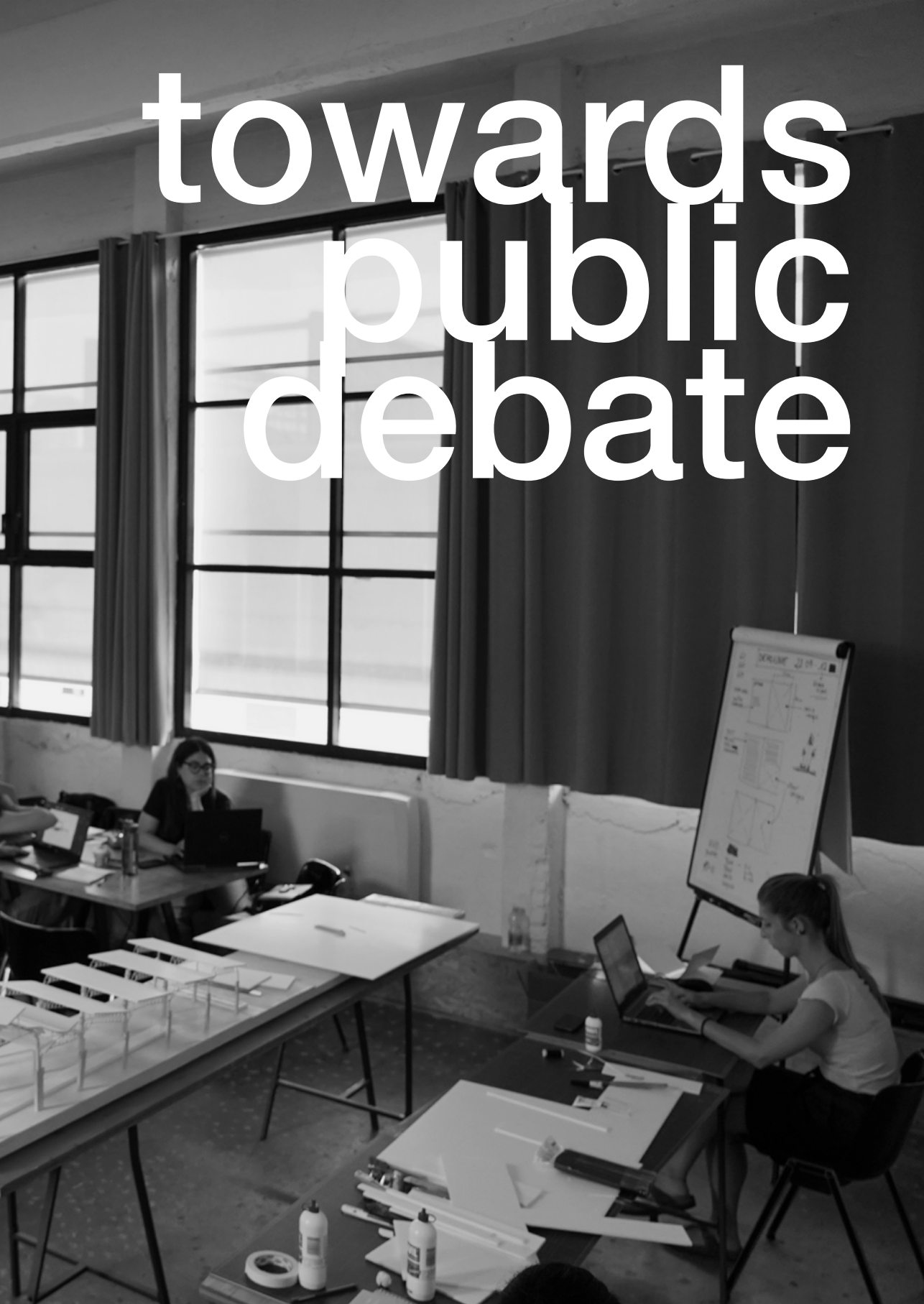
The synergic dialogue between the working groups leads to the development of a shared design toolkit, deepened through interdisciplinary approaches and scientific investigation tools, towards the definition of different scenarios.

Final results





towards public debate

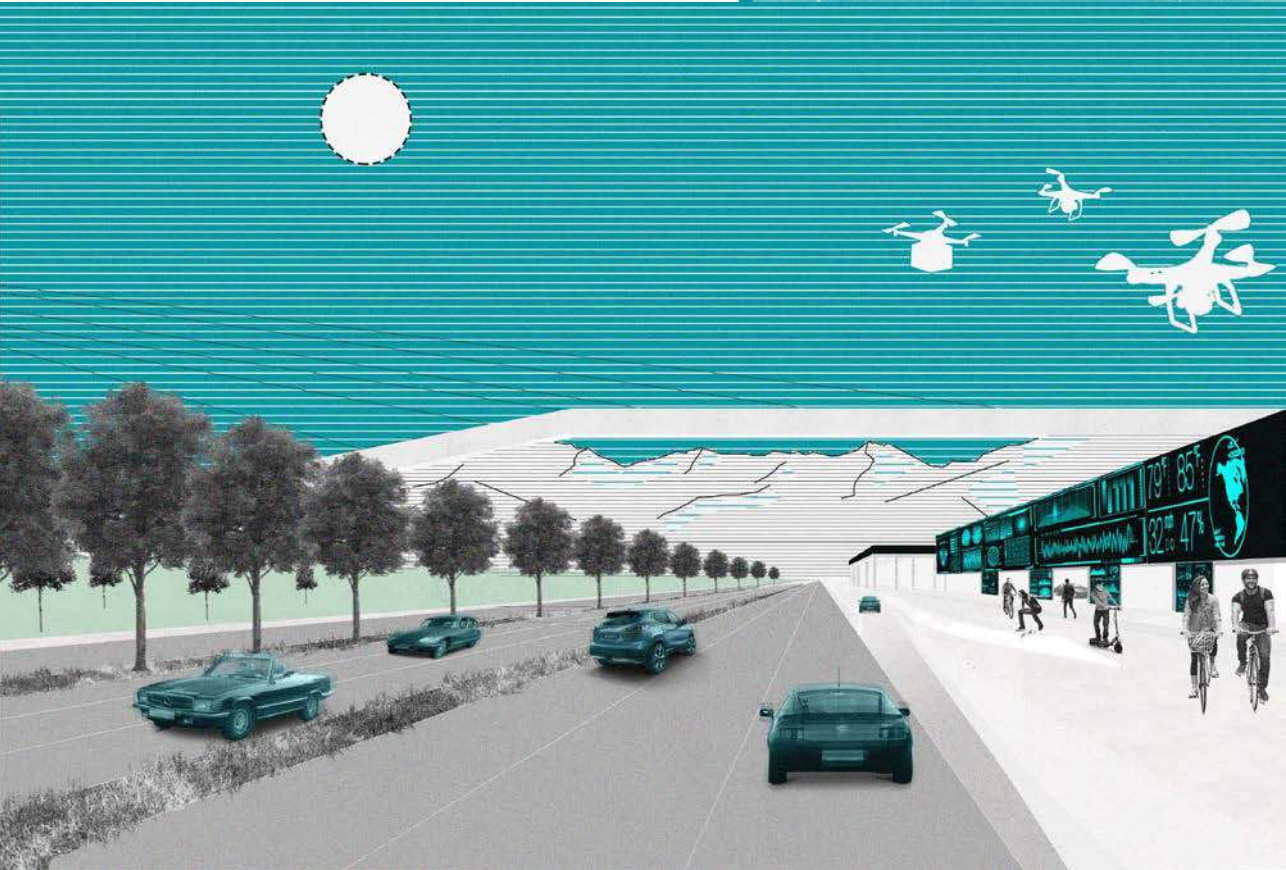


TEAM #1

CONNECTIVE SYSTEM

Alina Salahoru, Luca Lagorio, Zhihao Huang, Zhengxiang Li, Niharika Niharika, Stefano Mondozzi, Azadeh Nikmanesh Elahi

The studied site is located in an intermediate position among the dense and widespread city. Its scale within the urban area of Torino makes it a potential urban gateway. The former ThyssenKrupp area is placed at the intersection of two major urban arteries: overlooking one of the main axes of the city, Corso Regina Margherita and its intersection with the main axis of development of urban space, the Spina. The site is on the banks of the Dora river, in direct proximity to the highway system and in connection with a network of green spaces, both urban and agricultural. The combination of these elements and a wider global analysis made us think that the site has an excellent potential for becoming a modern urban gate to the city, proposing a vision of the future of the city while connecting it to its past.



Since the 1970s, the city of Torino has been shrinking. The boundary of the densely populated area has stayed unchanged for decades. While other industrial sites which are surrounded by urban fabric have the potential to be connected to their surroundings and re-used for daily life activities, ThyssenKrupp area is isolated and therefore not likely to merge into the urban fabric in a predictable future. This made us think that the future of the site should relate to its productive past.

For the past decades, the global division of production made the conventional industry move to the East for low cost labor, but with the emergence of new technologies like IOT, 5G, robotic automation and AI, future factory may be unmanned. With the energy and trash crises becoming increasingly serious, the global production system may reverse to local manufacturing, which with all the new technology can be more efficient and sustainable.

Under such circumstances, Torino has the opportunity to become a new manufacturing center. It may not surpass a city like Milano, London or Paris in the popularity of high tech startups, but the relatively low cost of land and good infrastructure can make it more attractive for manufacturing. The site, as a former steel plant within the city, has the potential to be an educational site for the public to learn about cutting-edge technology and raise awareness of a sustainable future.

The participation of public and the injection of new industry can fully activate the site, making it a new generator of activity for the city.

The site is part of a system of interconnections at a territorial level: it is located at the intersection of urban main roads and regional infrastructures which make the site easily accessible, either from the airport of Torino, from Milano or from the French border. On the other hand, at urban level the site has a unique position, exactly at the crossing point between Corso Regina Margherita, a major urban artery, and the Dora river, a green environmental system.

With a conceptual reference to the Roman foundation of Torino, the axis of Corso Regina Margherita could become a contemporary decumanus for Torino, intersecting and rebalancing the axis of the "spine", the central ridge of Vittorio Gregotti's 1995 urban plan.

The site could also connect to a system of landmarks in the city of Torino, introducing production into the city's skyline. The main feature that we identified as enhancing the site's visibility was the building's long façade, perceivable by all the people entering the city in spite of the high circulation speed on Corso Regina. On the other hand, from the surrounding neighborhoods and from the city, the existing towers would play a central role. Envisaging our site as a 4.0 urban gate, we approached it by suggesting a mobility interchange hub, going towards a new concept of sustainable mobility. The connectivity of the general public arriving from outside as well as inside the city has been addressed by introducing sustainable ways to circulate in the site and the city.

From an environmental point of view, the project site is part of a system held together by the Dora river, a green system that enters the city from the agricultural land until Parco Dora and finally to the Torino hill to the east. The landscape strategies we suggested focus on reconnecting and enhancing the slow mobility along the Dora river, backbone of the "industrial nature" of Torino, through paths and viewing points, also in the perspective of containing contamination.

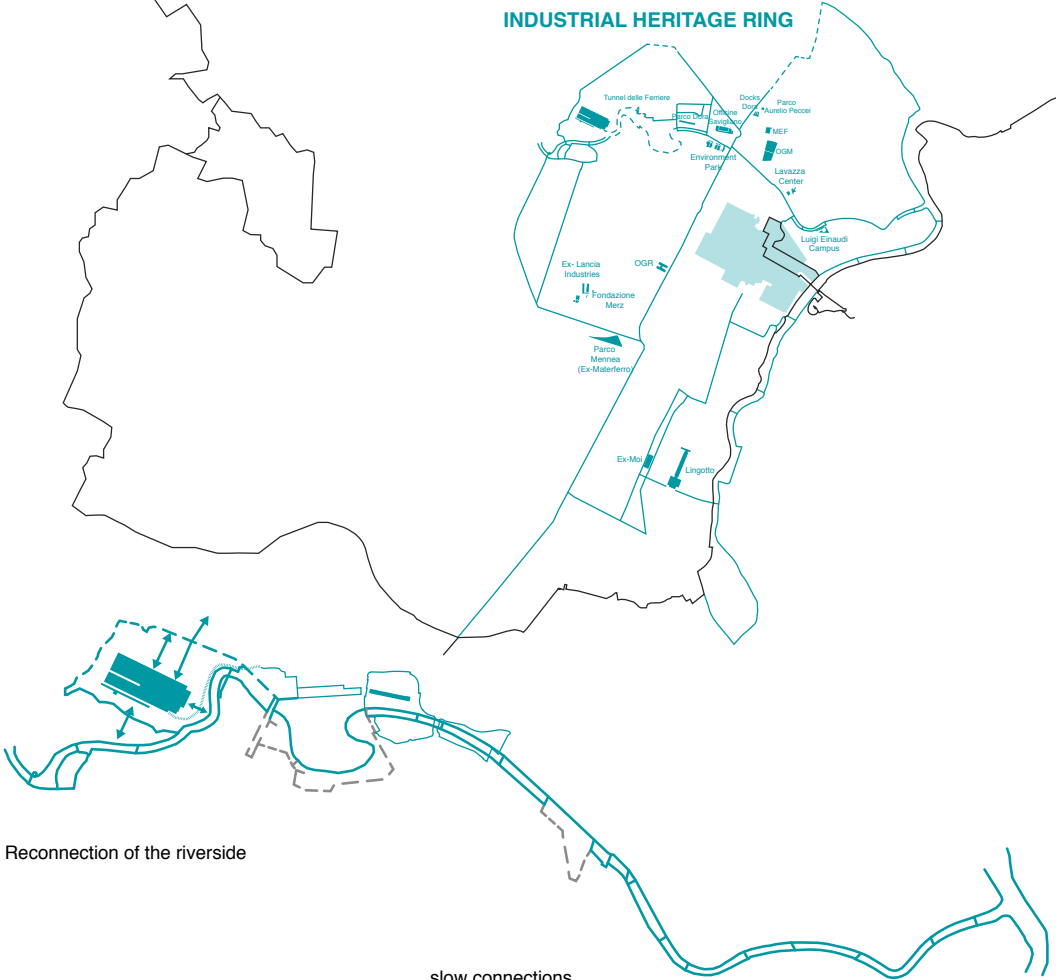
The strategy we followed wanted to highlight the importance of the connection between our site and Parco Dora. These two areas, today separated, were once two parts of a continuous plant managing different processes of the production chain. Their connection could create a continuous industrial heritage urban image, not only physically but also morphologically connected. In this context, the underground tunnel that once connected the two plants, holds a great potential in reconnecting physically but also from an industrial identity point of view the area of Parco Dora to our site.

The connection of these sites could reconnect a wider system, creating an “industrial heritage ring”, opposed to Torino’s already popular “Crown of Delights” system of residences of the Savoy family, enhancing at an urban level not only the royal history of Torino but also its industrial one.

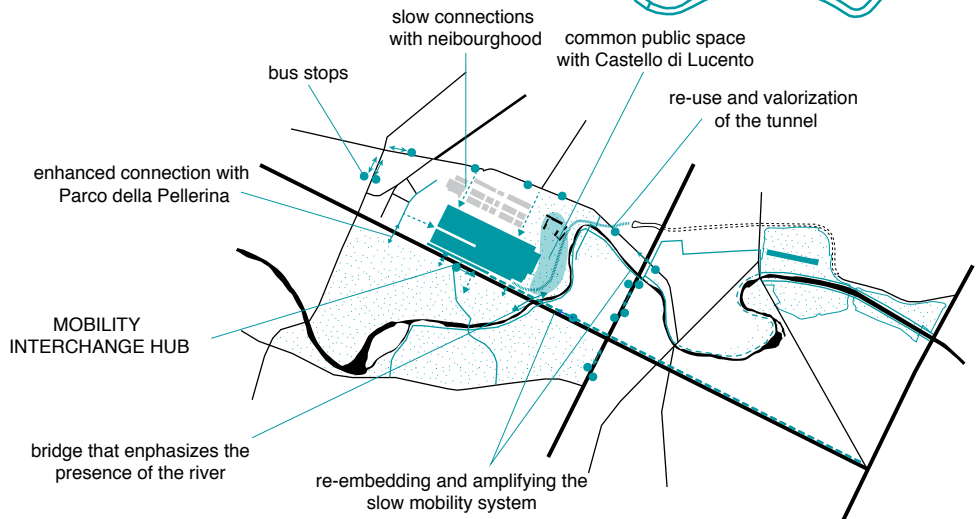


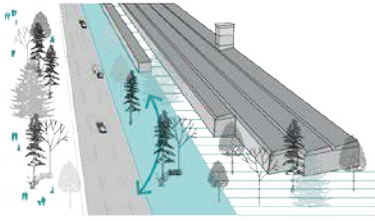
CORONA DELLE DELIZIE
Savoy dynasty
royal residences ring

INDUSTRIAL HERITAGE RING

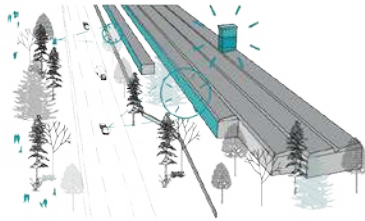


Reconnection of the riverside

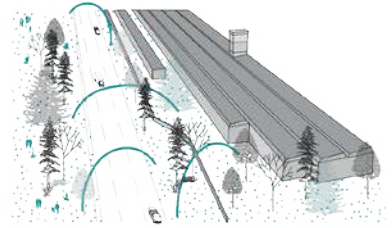




gradient of speeds



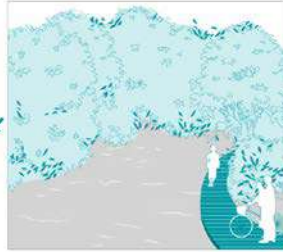
landmarks



space connections



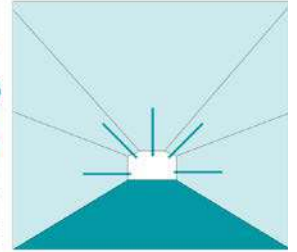
neighbourhood connections



connection with the river

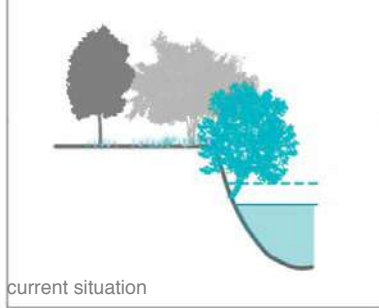


slow connectivity

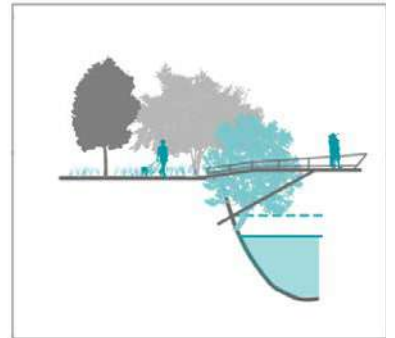
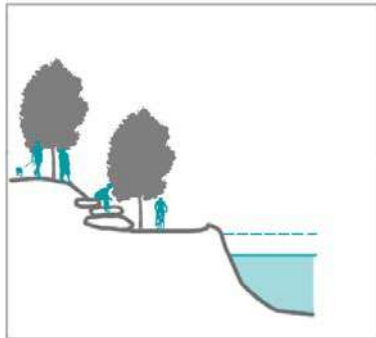
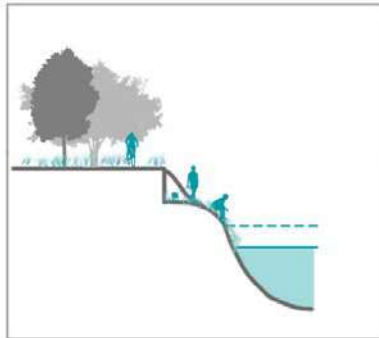
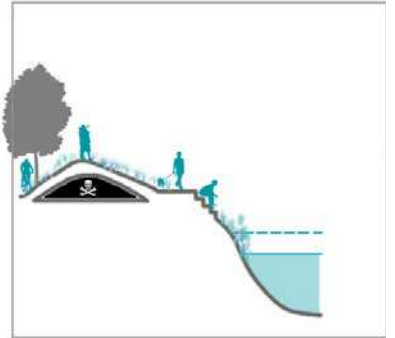
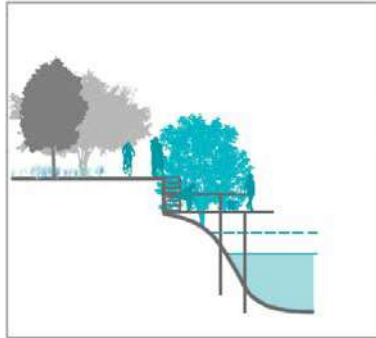


re-use of the tunnel

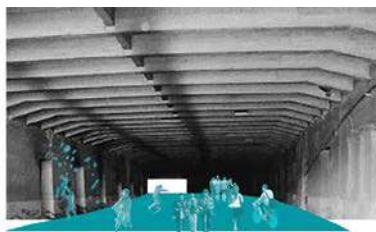
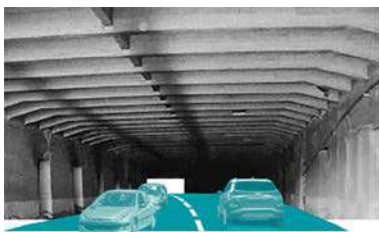
LANDSCAPE STRATEGIES



current situation



TUNNEL RE-USE



TEAM #2

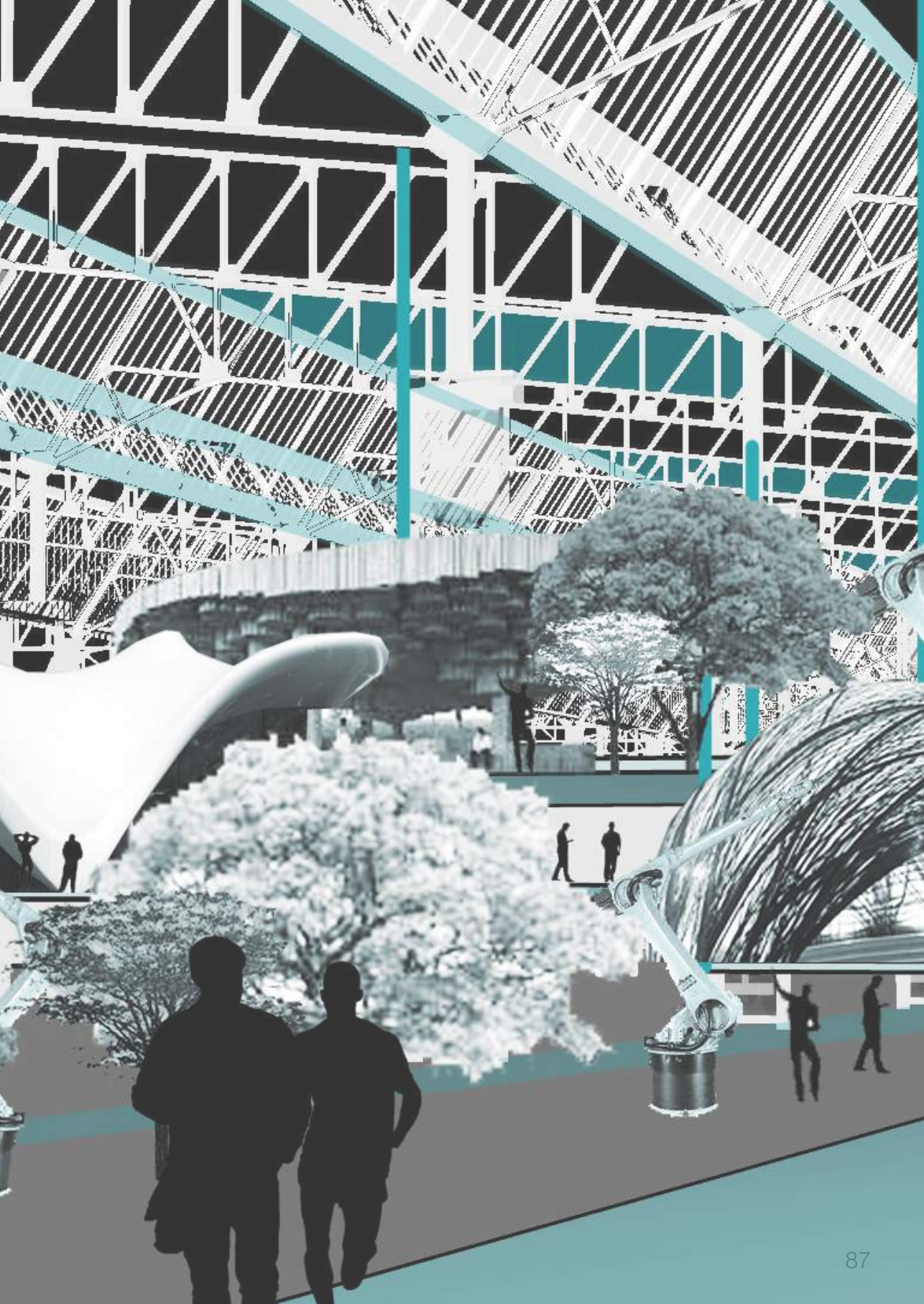
POTENTIAL SPACES

Yingnan Chu, Tamar Fradkin, Ella Antonia Hassin, Mekael Youssef Emad Farid, Dmytro Khyzhniak, Sharon Ester Sarfati, Yuyan Xia

City Factory aims to generate a “city within the city”, through a “dynamic system” that changes its functions according to demand, time and financial opportunities.

The project reforms the former factory into an innovation hub, introducing the robotic technologies as a main design tool.

By replacing the old heart of the factory with a new younger one and applying a step by step strategy to preserve and utilize the original structure, the design proposal customizes and reuses the inner layout, in order to generate and optimize dynamic indoor and outdoor energy efficient spaces.



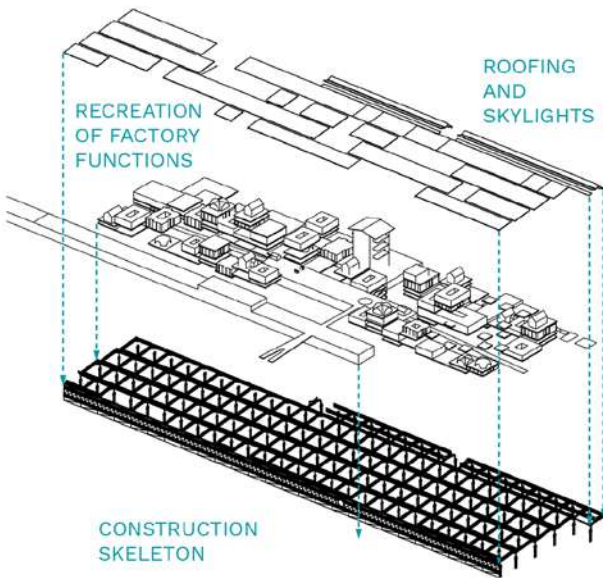
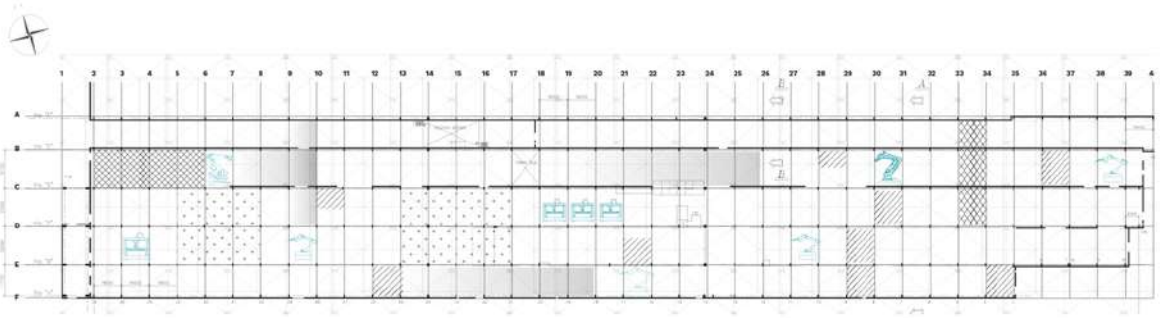
POTENTIAL SPACE METHODOLOGY

DESIGNING MULTI- FUNCTIONAL SPACE



TECHNOLOGY CHANGES

Creating new methods of using the new technological instruments as part as the 'daily use' planning and implementing of everyday life.



INTERDISCIPLINARY PLANNERS HUB

Consisting of planners, architects, industrial designers, graphic designers, civil engineers, electrical engineers, etc'

CLIENT'S DEMAND

The client deliver the HUB it's vision; function, amount of users, time frame, budget, program ect. and the HUB operats by his request

FIXED OR CHANGABLE FUNCTIONS

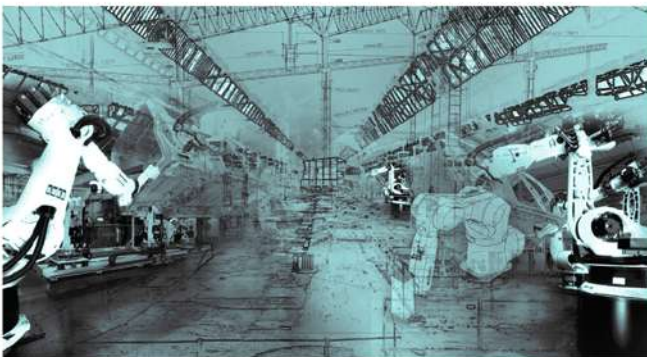
Some of the functions can be for long term use, like different businesses as offices or restaurants. and other can be one time events e.g. a festival or a market which emerge weekly

MODULES OF SPACE

XS → S → M → L → XL
manufacturing system

CONTROL ROOM

- + Monitoring of the robots
- + schedule of events
- + Production and curating of changing scenarios



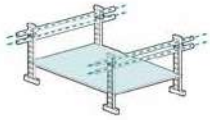
PRICIPLES OF DESIGN



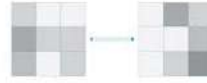
1/STEP BY STEP



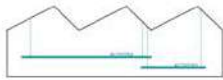
4/OPTIMIZING PUBLIC SPACE



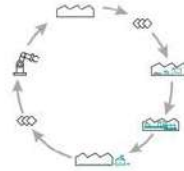
2/PRESERVING AND UTILIZING CONSTRUCTION



5/DYNAMIC INDOOR SPACE

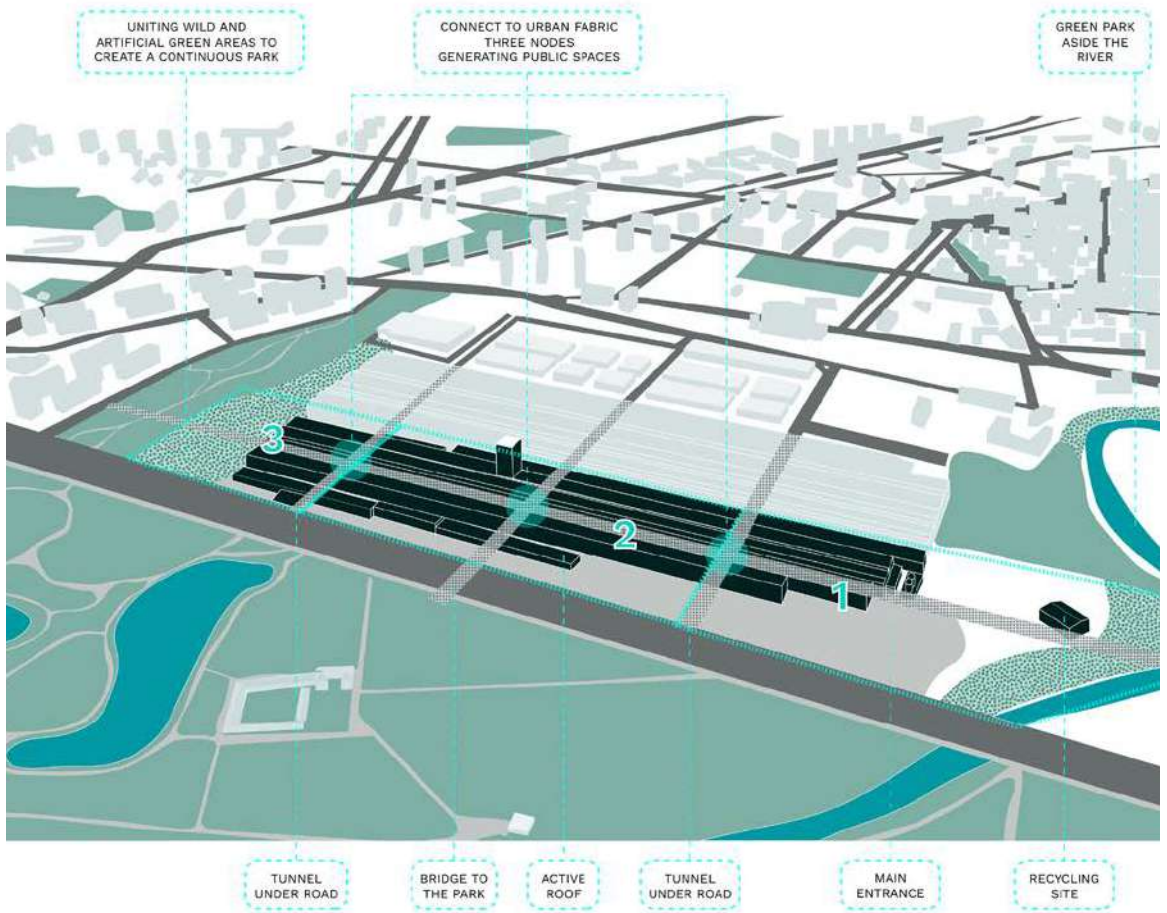


3/TOP-DOWN PLANNING



6/CUSTOMIZATION AND RECYCLING SYSTEM

MASTER PLAN



PILOT STAGE 1

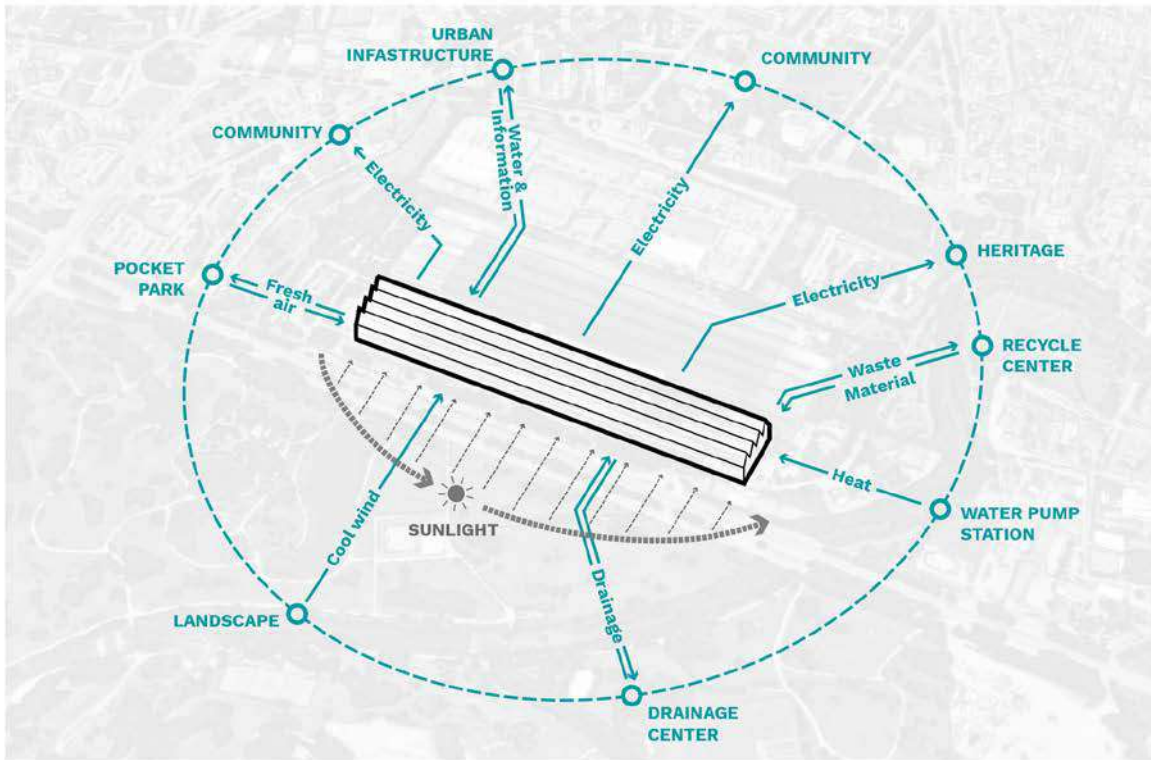
- 1/ RECYCLING SITE
- 2/ RIVER BANK PARK
- 3/ DESIGN HUB
- 4/ PUBLIC NODE
- 5/ MAIN ENTRANCE
- 6/ OUTDOOR SPACES

MID STAGE 2

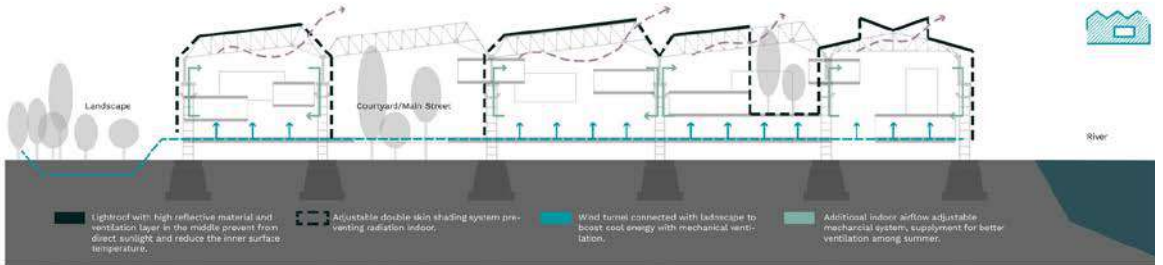
- 1/ BRIDGE TO THE PARK
- 2/ ACTIVE ROOF
- 3/ A LAUNCHER FOR DRONES
- 4/ LAND MARK
- 5/ MEMORIAL
- 6/ PUBLIC NODE

FINAL STAGE 3

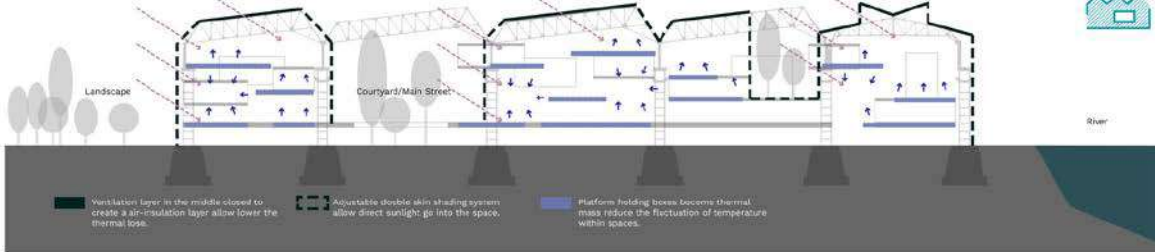
- 1/ CONNECTING PARK
- 2/ COMMUNITY INTERACTION
- 3/ PUBLIC NODE



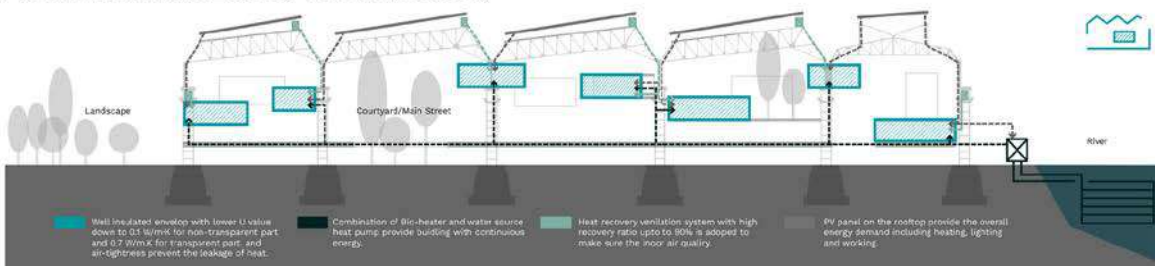
PASSIVE COOLING STRATEGIES FOR SEMI-OUTDOOR IN SUMMER



PASSIVE HEATING STRATEGIES FOR SEMI-OUTDOOR IN WINTER

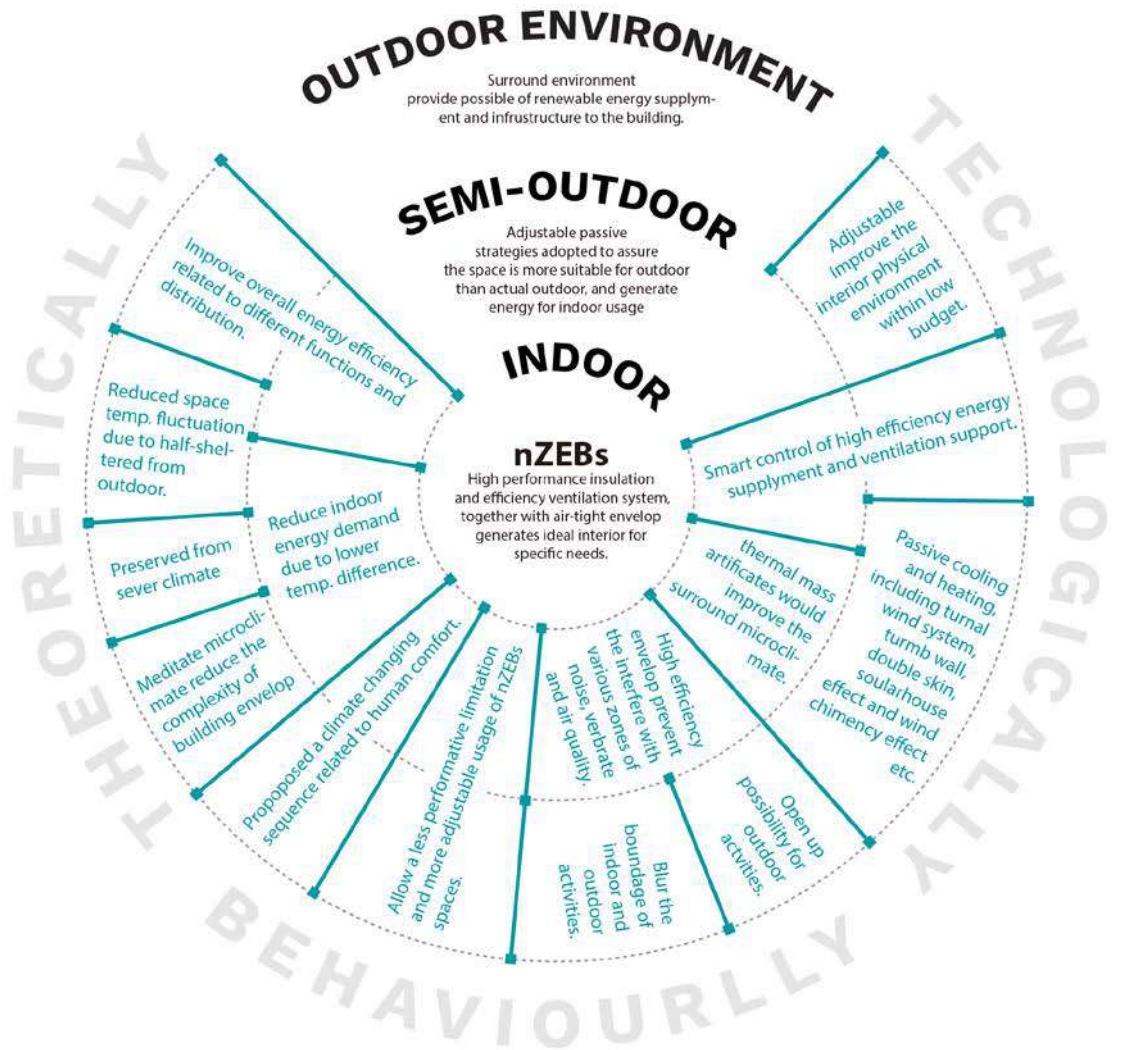
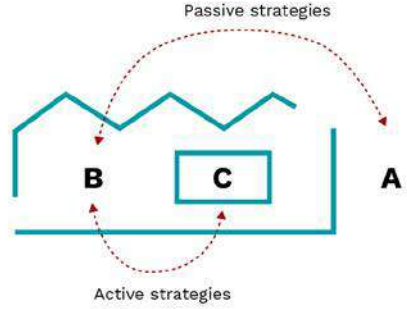


ACTIVE STRATEGIES FOR INDOOR



NZEB STRATEGY SYSTEM

- A. Outdoor Environment
- B. Semi-Outdoor Environment
- C. Indoor Environment



A framework of three-layer system explains theoretically, behaviourly and technologically of adaptive reuse of industry building into nZEB.

TEAM #3

OPEN OPTIONS

Adriano Aimar, Farzaneh Aliakbari, Fabian Hilla Fella, Jacky Yeh

Context and stakeholders, potential risks and opportunities were taken into consideration for the selection of possible functions. Then the analysis were carried out by comparing three categories: compatibility with public needs, cost effectiveness, and risk/safety of investment. The proposed uses were ranked from one to fifteen in each category. This analysis led to three possible scenarios of combined uses: a memorial landmark botanic garden with residential; a skatepark/event venue with offices; or a sport hub/stadium with retail.

Stakeholders/ risks analysis

Risks/potentials identification

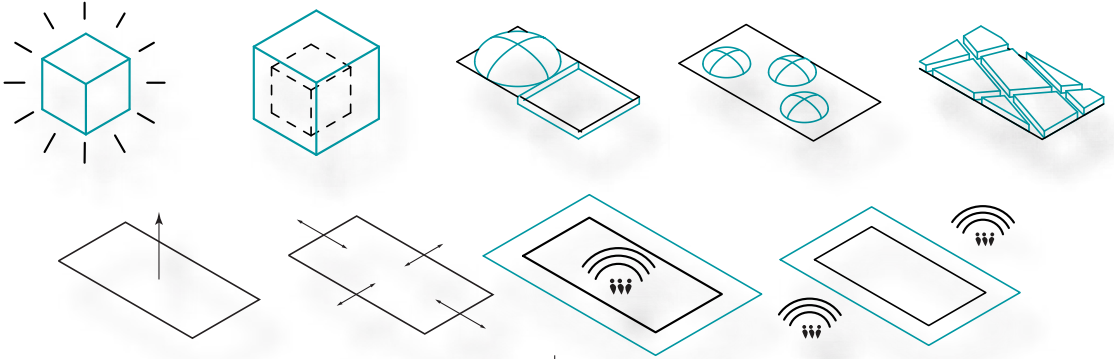
P / R N.1

P / R N.2

P / R N.3

P / R N.4

Strategy development



Solutions individuation



Multicriteria analysis and solutions evaluation

Scenarios definition



Our analysis identified a number of weaknesses and risks:

Reputational risks –

a. lack of investors' confidence, compelling ThyssenKrupp to invest first. After a first investment, the company could earn trust from others and attract further investments.

b. Citizen's resentment. A possible approach could be to turn the site into a spiritual place or a museum for industrial heritage.

Infrastructure risks – the site is isolated from its surrounding. Solutions could focus on the reuse of the site with functions that require isolation from the outside, such as exhibition space, hospital, events, educational building, and stadium. Or it could also be used for those activities that need to be kept limited in a designated space, such as military training/shooting, concert, movie and cinema area.

Environmental risks – The site has a contaminated soil, whose treatment can be integrated and be the base of a specific function. For an on-situ remediation (generating an hilly landscape), design outcomes could be a landmark, skatepark, golf club, botanic garden. In case of capping (namely a concrete slab), it could be integrated in sport facilities or land art.

Infrastructural potential – The dimensions of the site are huge and this could play a key role in hosting great events, becoming a movie studio or accommodating markets and fairs.

Three dimensions (social, economic and environmental) were taken into consideration to select nine criteria to measure evaluate the fifteen solutions (public opinion approval, remediation cost, construction cost, maintenance cost, potential revenue, combination with residential, combination with offices, combination with retail, and lastly, the influence of the position). Every solution was rated with a qualitative scale for each criterion.

In order to compare the solutions among each other, three weighting system for the criteria were developed: the public opinion centered approach, the cheapest investment approach, and the one based on the safety of the investment.

In the opinion centered option, Public opinion approval weighted 40% of all dimensions. Remediation cost, Construction Cost, Maintenance Cost and potential revenue was each given 5% of the whole project. Combination with residential, was given 15% while combination with retailer and offices were given 10% each. Lastly, the influence of position was given 5% of the total project. For the cheapest option, it is believed that costs should be minimized, and it is the most crucial one. Therefore, remediation costs, construction costs, and maintenance costs were given 20% each. Potential revenues were also important for the consideration and was given 15%. The rest were given 5% each for public opinions and possible combinations with different functions.

After the weighting of each dimension and the related options, it was easier to have a ranking of each function based on public opinion, cheapest option, and highest revenue. In the chart provided, it is clear that for public opinion, the best function is to build a landmark followed by a memorial and botanic garden. For the cheapest option, it is best to build a skatepark, followed by events location, military area and shooting area. For highest return on investment, it is best to build an events location, followed by stadium, and sports facilities.

This analysis led to three possible combinations of solutions:

1. Memorial/ landmark and a botanic garden in combination with residential premises (Public opinion)
2. A skatepark event location combined with offices.
3. Sports hub/ stadium, completed with retail.

In the last part of the project, the different combination of solutions were evaluated again along with the risks identified in the beginning and their influence on the possible stakeholder. Reputational Risk was related to positive or negative perception of the stakeholders, and to financial and economic risks of the project. Political Risk was related to the macro-economic and political situation of the territory of Torino, considering policies and regulations of the local government. Environmental Risk is everything related to disasters that might happened, climate and pollution that could affect the project. Infrastructural Risk impacts on the transportation and surrounding that might affect portively/negatively the project. Financial Risk was related to business, cost and revenue analysis, assets and liquidity of the project. Real Estate Market Risk was related to the realization of residential, commercial and retail buildings.

Among the possible shareholders were considered: Investors, Nearby Neighbours, Local government, Media, Citizens, Potential investors and other owners.

Options	Social dimension				Economical dimension			Environmental dimension	
	Public opinion approval	Remediation Cost	Construction Cost	Maintenace Cost	Potential Revenue	Combination with Residential	Combination with Offices	Combination with Retail	Influence of position
Spiritual place	4	3	3	2	1	3	2	2	1
Memorial	5	3	3	2	1	3	4	2	1
Exhibition space	4	3	3	3	3	3	4	4	3
Hospital	4	5	5	5	5	3	3	2	3
Events location	3	3	3	3	5	1	3	5	2
Stadium	2	1	5	4	5	1	3	4	2
Educational Building	4	5	5	5	4	4	5	4	3
Military/ shooting area	2	1	3	3	4	1	1	1	1
Airplan Hangar	2	1	3	2	2	1	2	2	3
Movie Studios	3	3	3	3	4	2	3	2	1
Landmark	5	3	4	2	1	5	5	5	1
Skatepark	3	3	2	1	1	5	4	5	4
Golf club	2	3	4	4	4	5	3	4	3
Botanic Garden	4	5	4	4	3	5	4	3	2
Sport Facility	2	3	4	3	3	5	4	5	3

Multicriteria analysis

Options	Social dimension				Economical dimension			Environmental dimension		
	Public opinion approval	Remediation Cost	Construction Cost	Maintenace Cost	Potential Revenue	Combination with Residential	Combination with Offices	Combination with Retail	Influence of position	
Opinion Centered	40	5	5	5	5	15	10	10	5	100
Cheapest option	5	20	20	20	15	5	5	5	5	100
Safety of investment (revenue)	5	5	5	15	30	10	10	10	10	100

Criteria weighting

Options Final score **Public opinion centered scenario**

Options	Final score
1. Landmark	90
2. Memorial	77
3. botanic garden	73
4. Exhibition space	72
4. Educational building	72
4. Skatepark	72
5. Spiritual place	65
6. Sport facility	63
7. Hospital	62
8. Events location	61
9. Golf club	59
10. Movie studios	58
11. Stadium	50
12. Airplane Hanger	44
13. Military/ Shooting Area	43



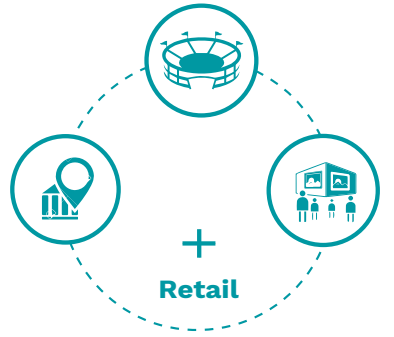
Options Final score **Cheapest option scenario**

Options	Final score
1. Skatepark	70
2. Events location	67
3. Military/ Shooting Area	66
4. Landmark	64
4. Airplane Hanger	64
5. Movie studios	63
5. Exhibition space	63
6. Memorial	62
7. Stadium	61
8. Sport facility	60
9. Spiritual place	59
10. Golf club	57
11. botanic garden	49
12. Educational building	44
13. Hospital	42



Options Final score **Highest revenue scenario**

Options	Final score
1. Events location	74
2. Stadium	68
2. Landmark	68
2. Sport facility	68
3. Golf club	67
4. Movie studios	66
5. Educational building	65
5. Exhibition space	65
6. Skatepark	63
6. botanic garden	63
7. Hospital	61
8. Military/ Shooting Area	59
9. Memorial	57
10. Spiritual place	52
11. Airplane Hanger	50





COORDINATION
AND TUTORING



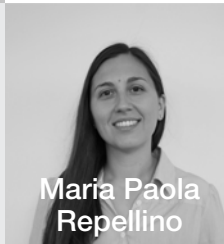
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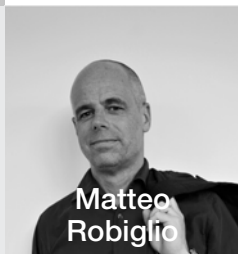
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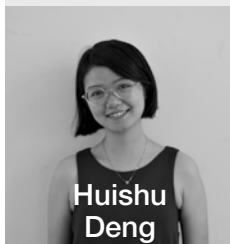


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ORGANIZATION
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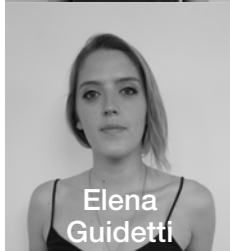
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MANAGEMENT

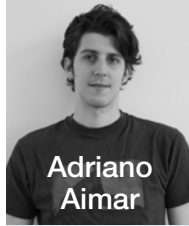


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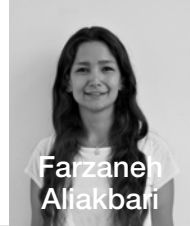
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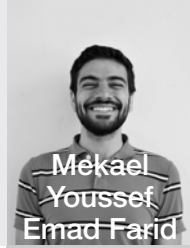


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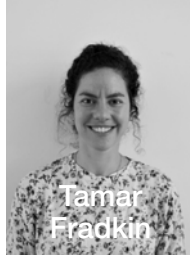
Politecnico di Torino

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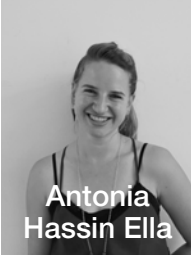
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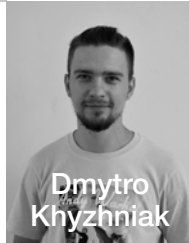


Antonia Hassin Ella



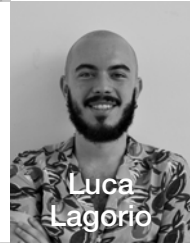
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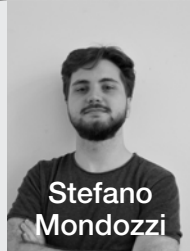
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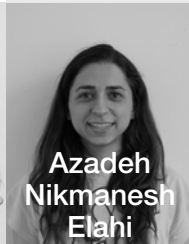
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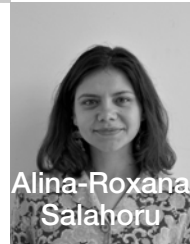
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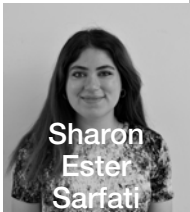


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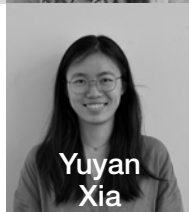


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Tsinghua University, Beijing

Tsinghua University, Beijing



Jacky Yeh

TRANS-USE shared, in an **international** comparative framework, **innovative** approaches and tools for the **synergistic design** of financial instruments, environmental recovery procedures, architectural and urban design operating in complex market conditions on large-scale obsolete **industrial sites** that embody controversial legacies.

TRANS-USE has focused on the analysis of urban industrial legacies and developed a toolkit for transformation and reuse, using the former industrial site of **Thyssenkrupp** in Torino as a case study.



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