

World Forum on
Urban Forests
Mantova 2018

PS_5.2: *Changing Spaces and Places*
Ludwig - Panunzi

Seismic Green Infrastructure: EKSOTECTURES & EKSOSCAPES

Ferdinand Ludwig, Stefano Panunzi

Technical University of Munich (TUM - DE) – University of Molise (UNIMOL - IT)

Technische
Universität
München

TUM



UNIVERSITÀ
DEGLI STUDI
DEL MOLISE





World Forum on Urban Forests Mantova 2018

Seismic Risks in Italy



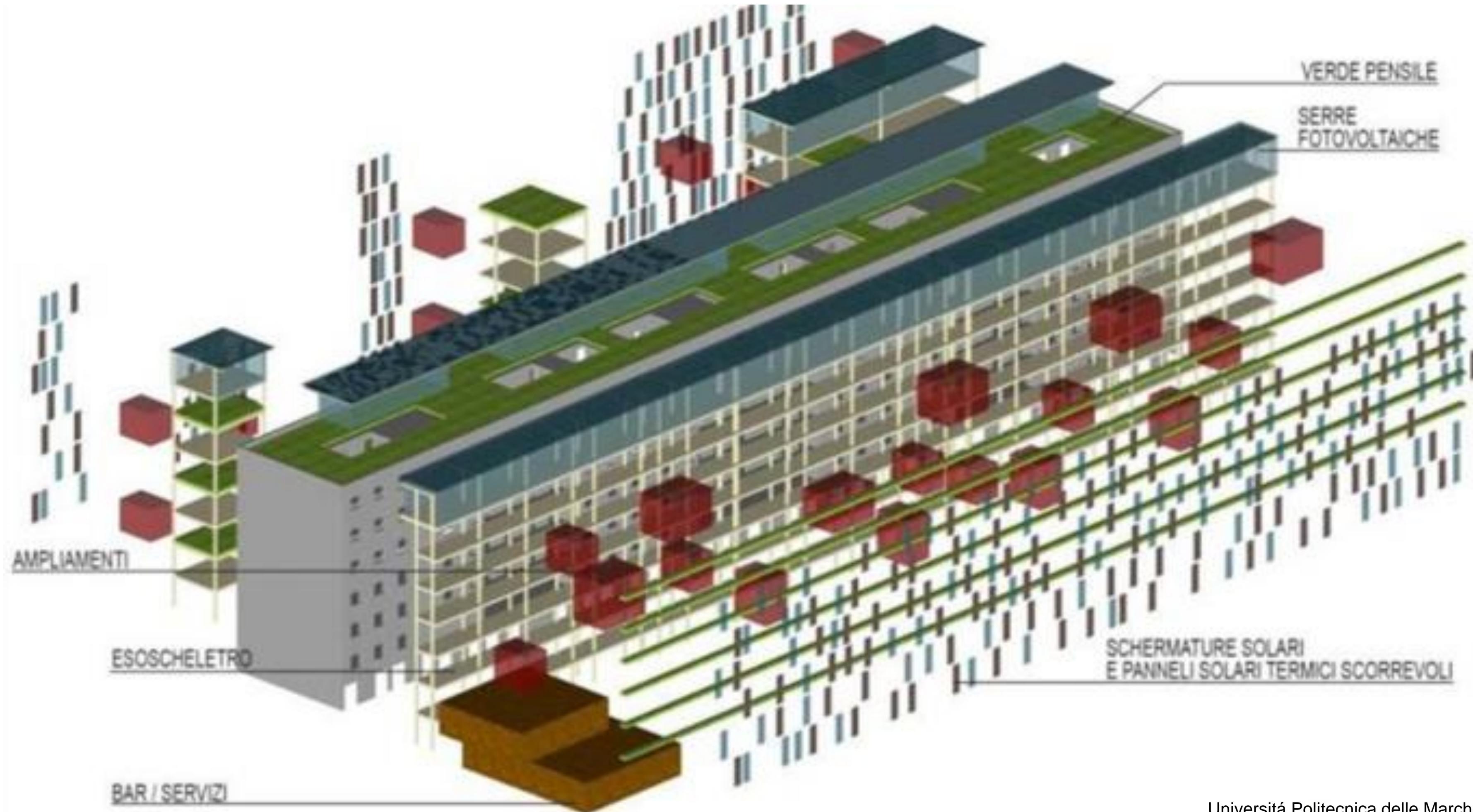


EKSOSKELETON – monofunctional, purely structural solutions





EKSOTECTURE – multifunctional integration



Università Politecnica delle Marche

Stefano Panunzi

University of Molise (UNIMOL - IT)



**World Forum on
Urban Forests**
Mantova 2018

EKSOTECTURE – multifunctional integration



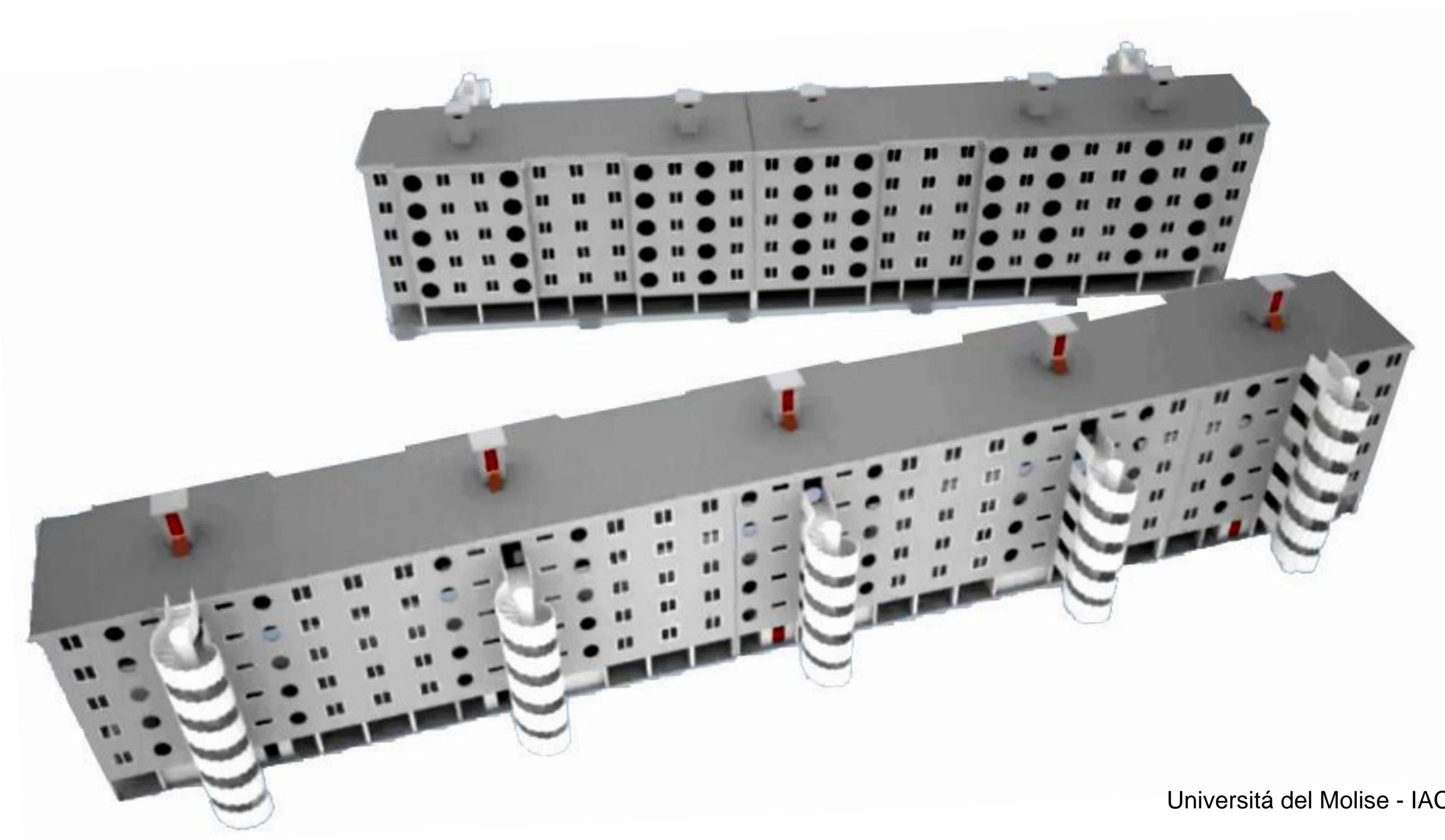
SuRE-FIT – european consortium

Stefano Panunzi
University of Molise (UNIMOL - IT)



**World Forum on
Urban Forests**
Mantova 2018

EKSOTECTURE – multifunctional integration



Universitá del Molise - IACP

Stefano Panunzi
University of Molise (UNIMOL - IT)



**World Forum on
Urban Forests**
Mantova 2018

EKSOTECTURE – multifunctional integration



Universitá del Molise - IACP

Stefano Panunzi
University of Molise (UNIMOL - IT)



**World Forum on
Urban Forests**
Mantova 2018

Baubotanik – Green EKSOTECTURE



Source: <http://www.ingegneriarchittiparma.it>

Ferdinand Ludwig
Technical University of Munich (TUM - DE)



Baubotanik – Green EKSOTECTURE



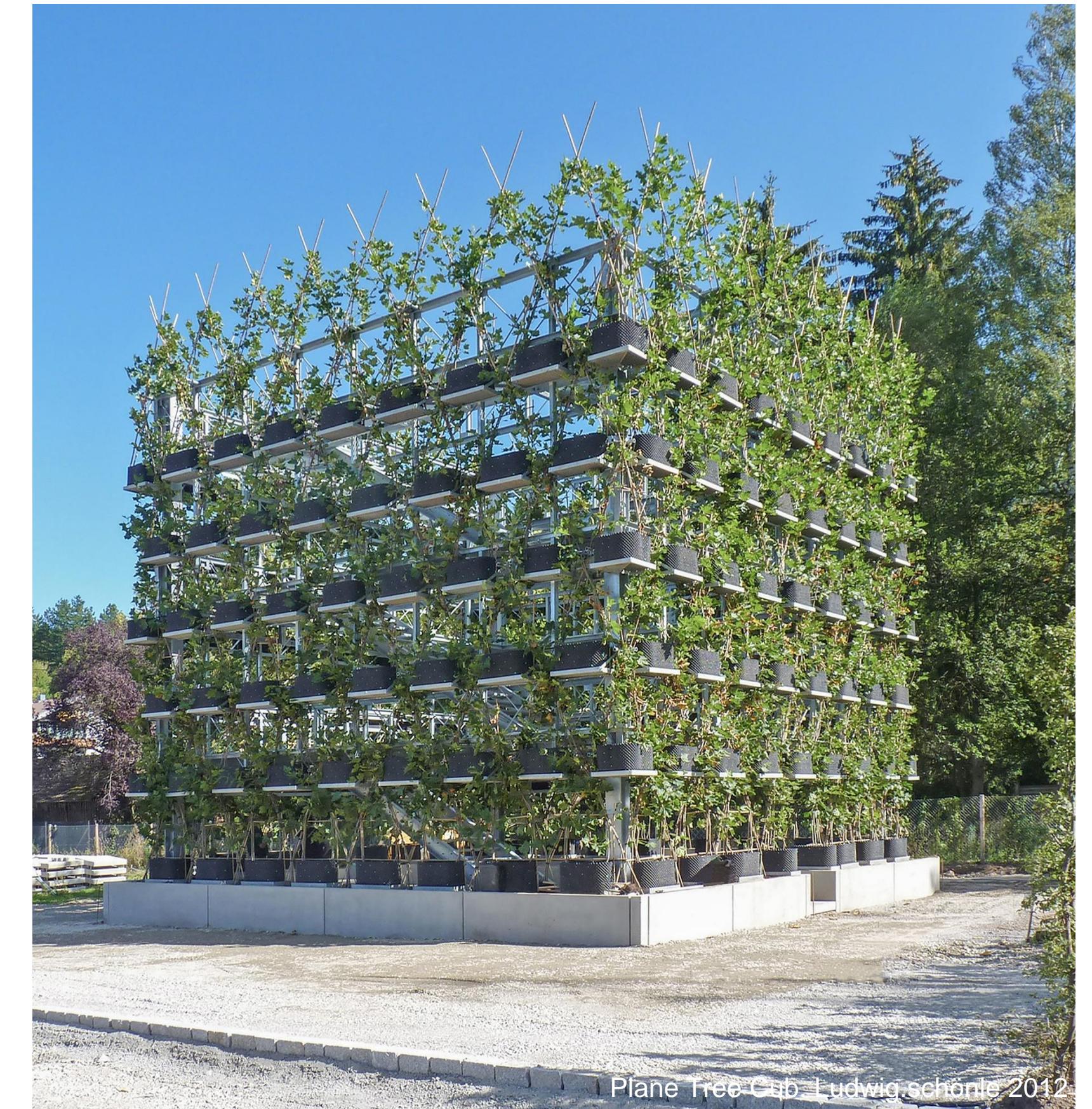
Source: <http://www.ingegneriarchittettiparma.it>



Plane Tree Cub. Ludwig.schölle 2012



**World Forum on
Urban Forests**
Mantova 2018



Ferdinand Ludwig
Technical University of Munich (TUM - DE)



**World Forum on
Urban Forests**
Mantova 2018

Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012



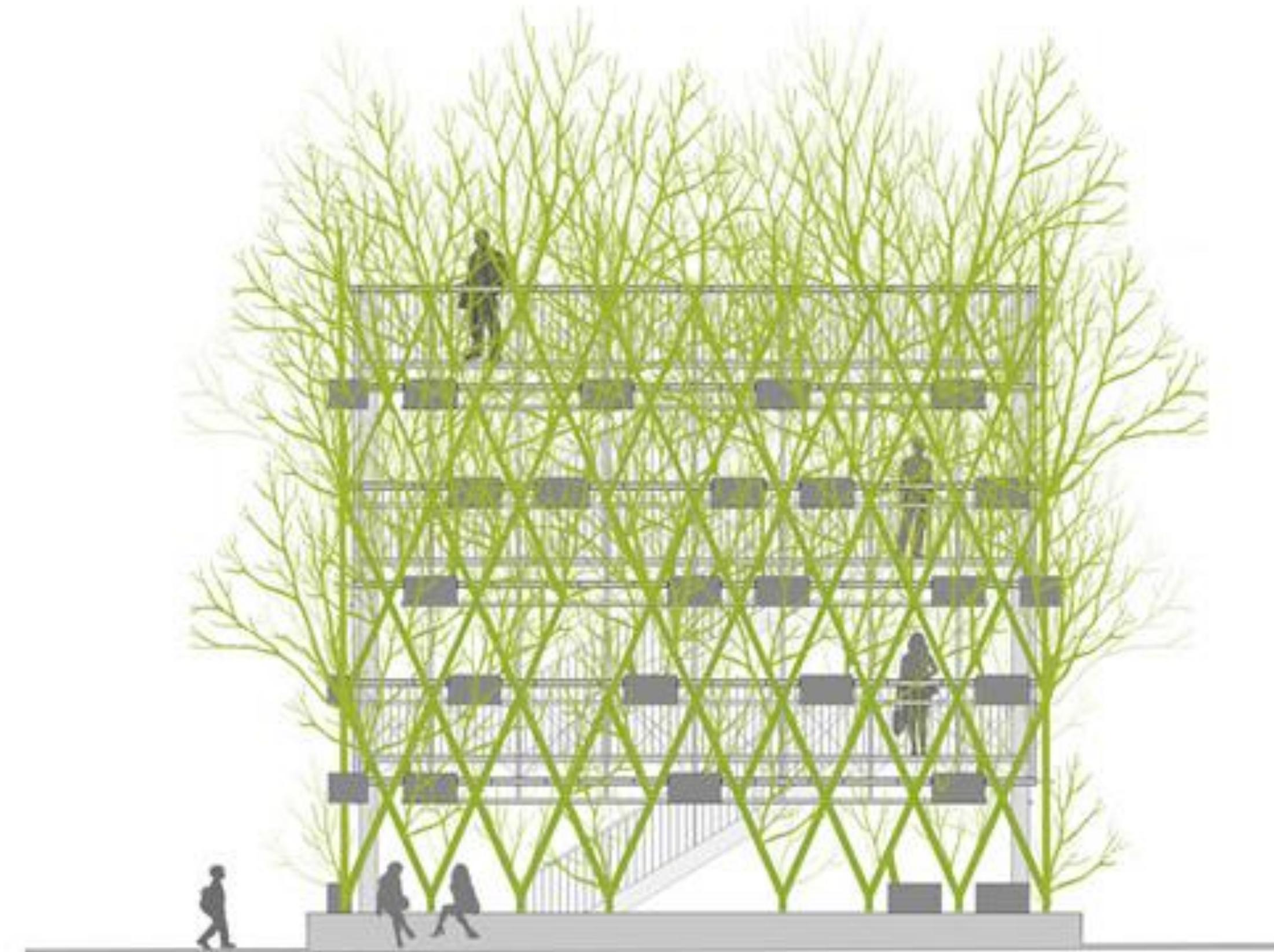
2012

Ferdinand Ludwig
Technical University of Munich (TUM - DE)



**World Forum on
Urban Forests**
Mantova 2018

Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012



2018

Ferdinand Ludwig
Technical University of Munich (TUM - DE)



**World Forum on
Urban Forests**
Mantova 2018

Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012



2028

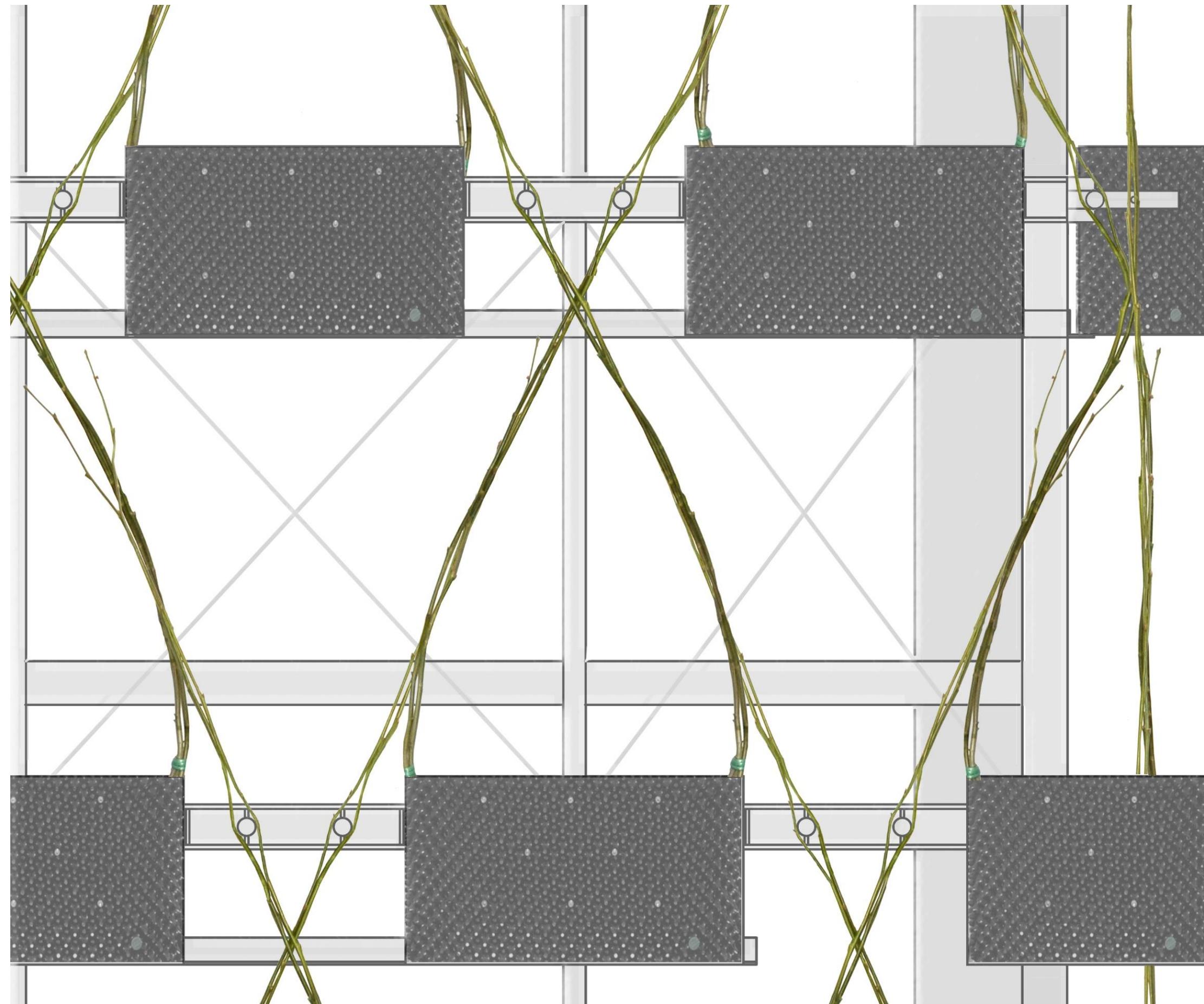
© Ludwig.Schoenle

Ferdinand Ludwig
Technical University of Munich (TUM - DE)



**World Forum on
Urban Forests**
Mantova 2018

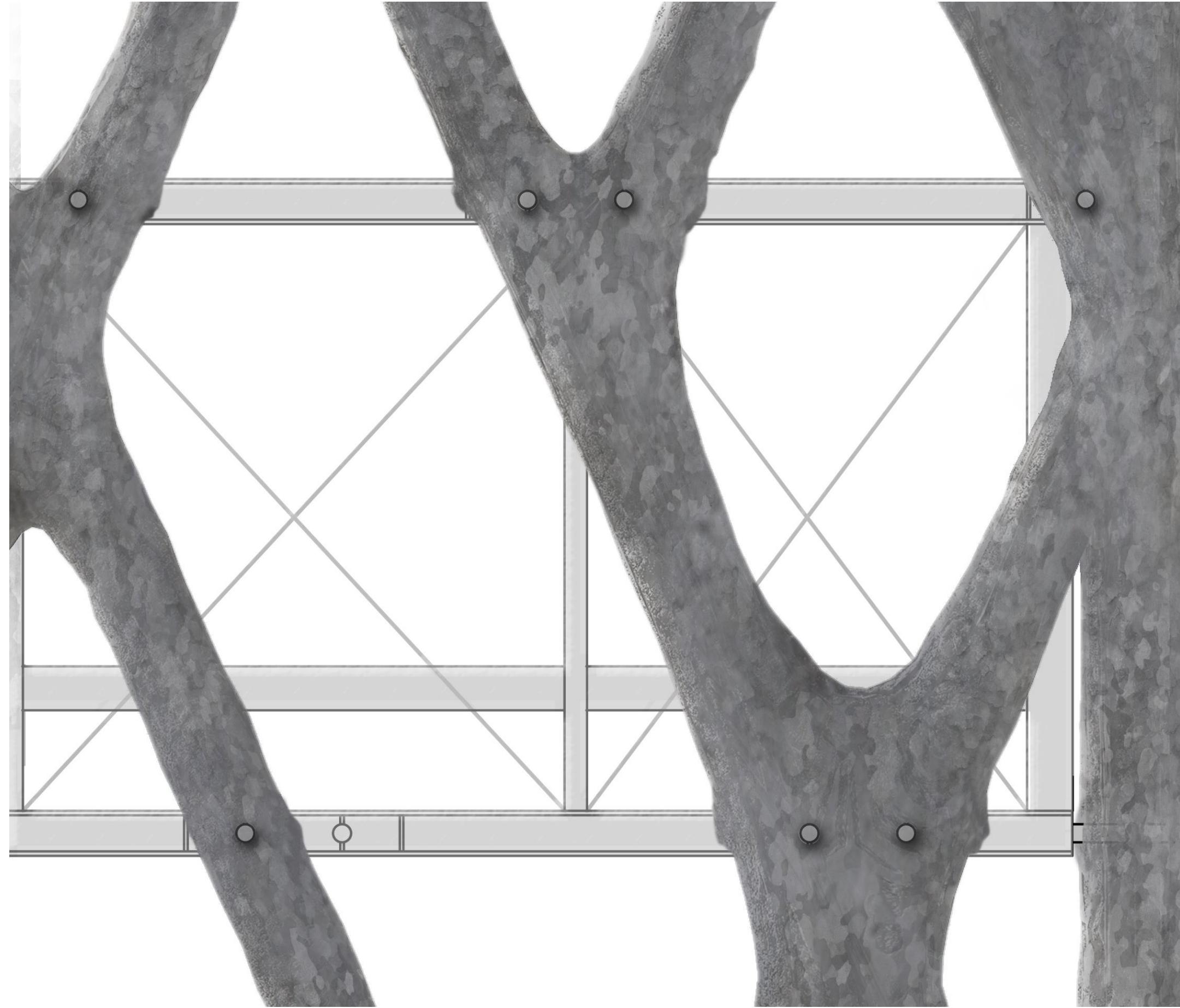
Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012





**World Forum on
Urban Forests**
Mantova 2018

Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012





**World Forum on
Urban Forests**
Mantova 2018

Plane Tree Cube in Nagold, Germany
ludwig.schönle 2012



Ferdinand Ludwig
Technical University of Munich (TUM - DE)



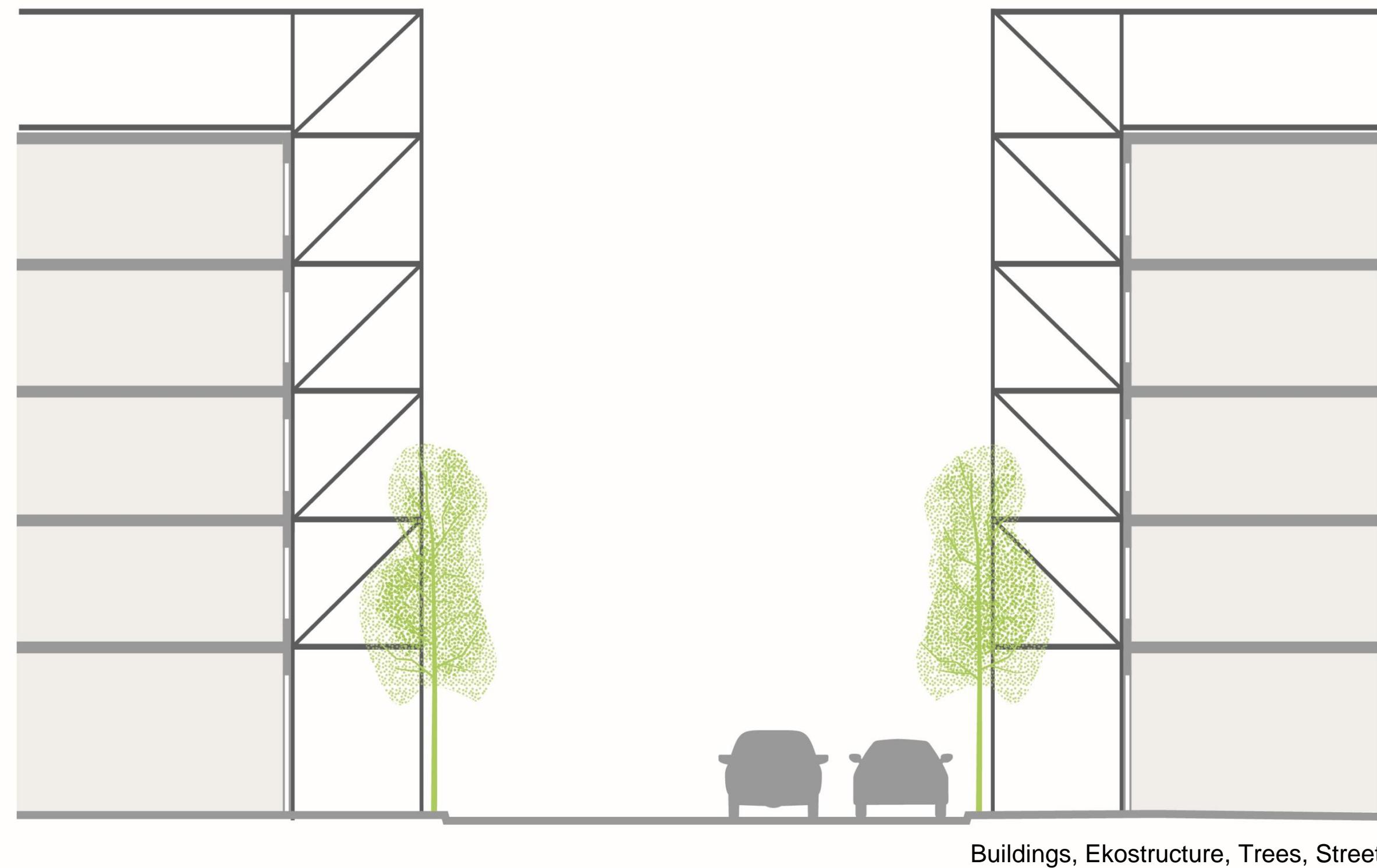
From EKOSTECTURE to EKSOSCAPES



Building, Street, Trees

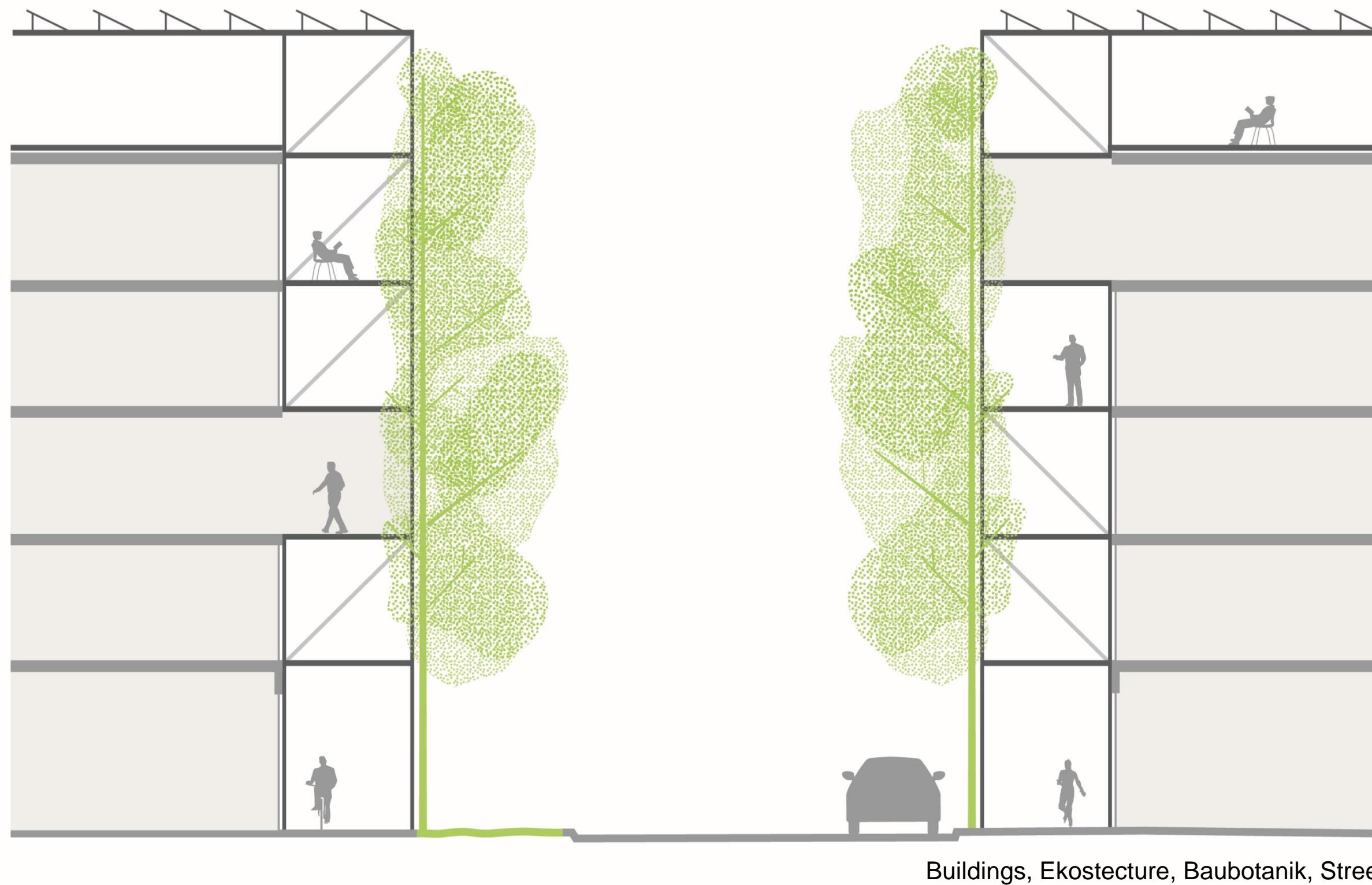


From EKOSTECTURE to EKSOSCAPES



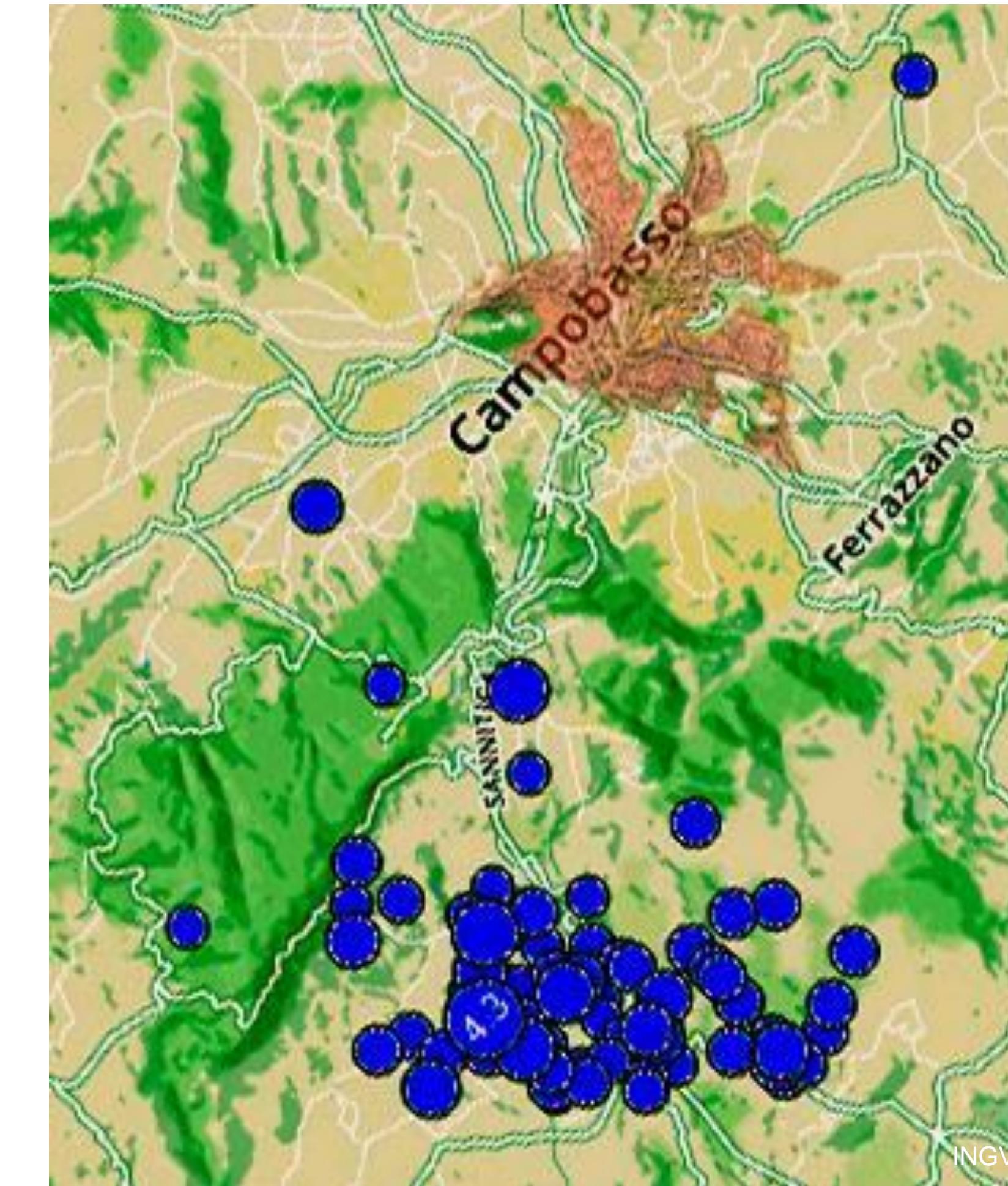


From EKOSTECTURE to EKSOSCAPES



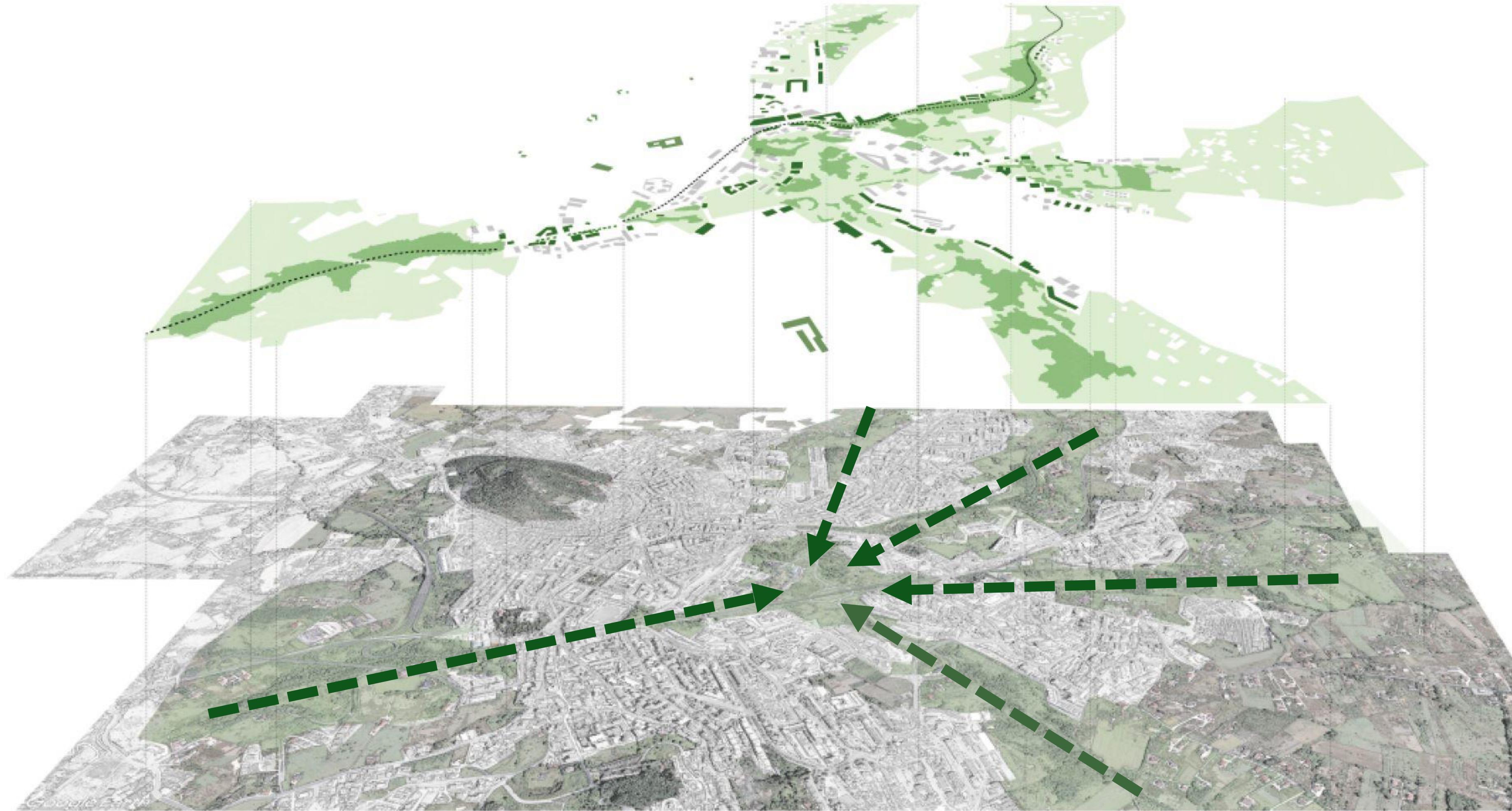


Case Study Campobasso – The Maple Leaf City





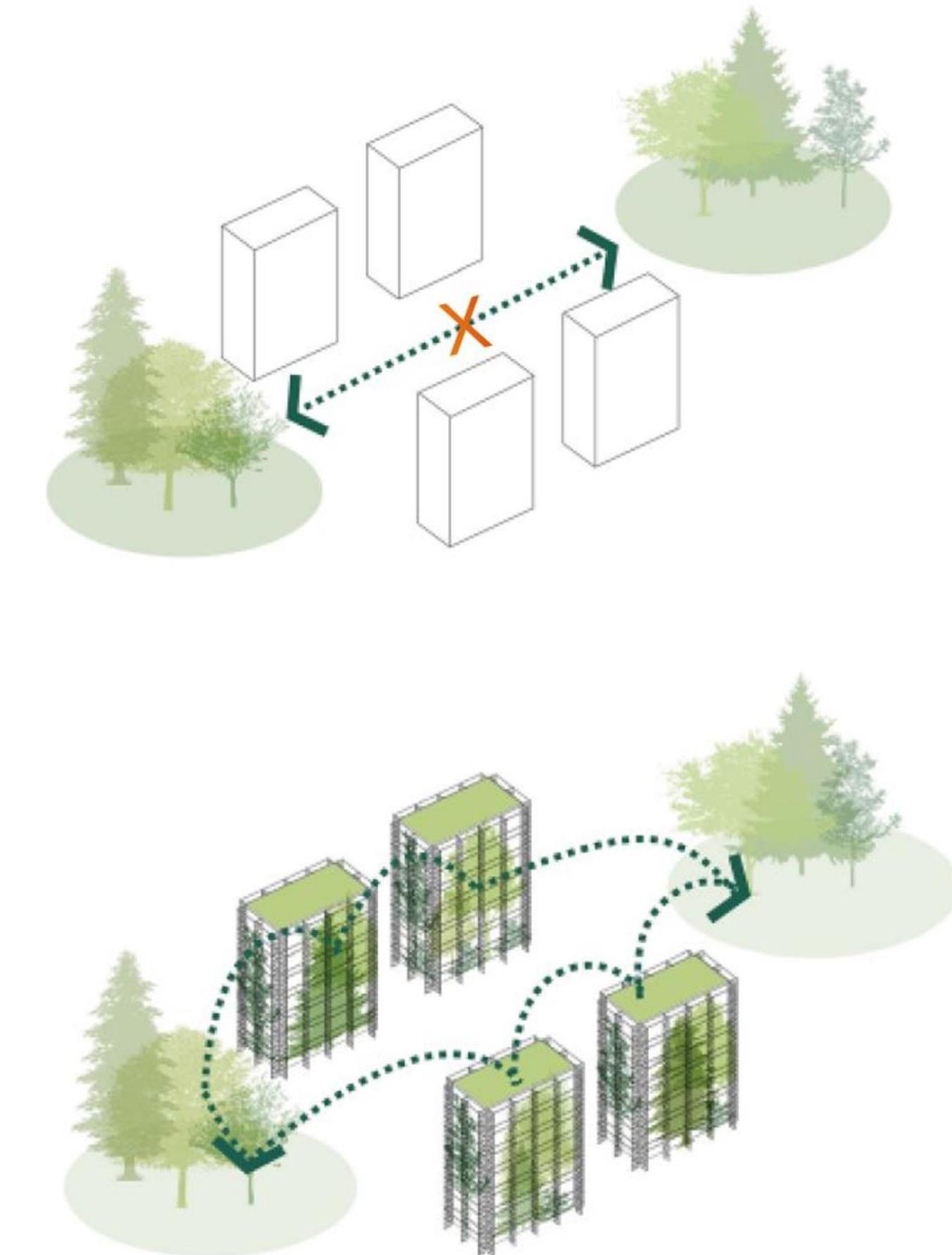
EKOSCAPES – Seismic green Infrastructure (TUM – UNIMOL)



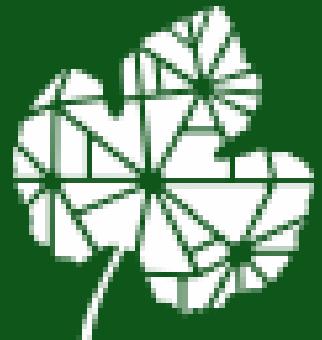
Green Veins for Campobasso - Zhenting Zheng, Junyue Deng



EKOSCAPES – Seismic green Infrastructure (TUM – UNIMOL)



Green Veins for Campobasso - Zhenting Zheng, Junyue Deng



THANK YOU

Ferdinand Ludwig, Stefano Panunzi

Technical University of Munich (TUM - DE) – University of Molise (UNIMOL - IT)