



PIAZZETTA MON. VITO DE GRISANTIS

WASTE /COMPOST
AREA

LOADING DOCK
AREA

ACQUAPONIC
GREEN HOUSE

EXISTING
BUILDING

SOCIAL
FLEXIBLE
AREA

KIDS
PLAYGROUND

VIA TEVERE

VIA ADIGE

PEDESTRIAN
CONNECTION

PEDESTRIAN
CONNECTION

DOG
AREA

PEDESTRIAN
CONNECTION

PEDESTRIAN
CONNECTION

VIA ADIGE

VIA TEVERE

PIAZZA INDIPENDENZA

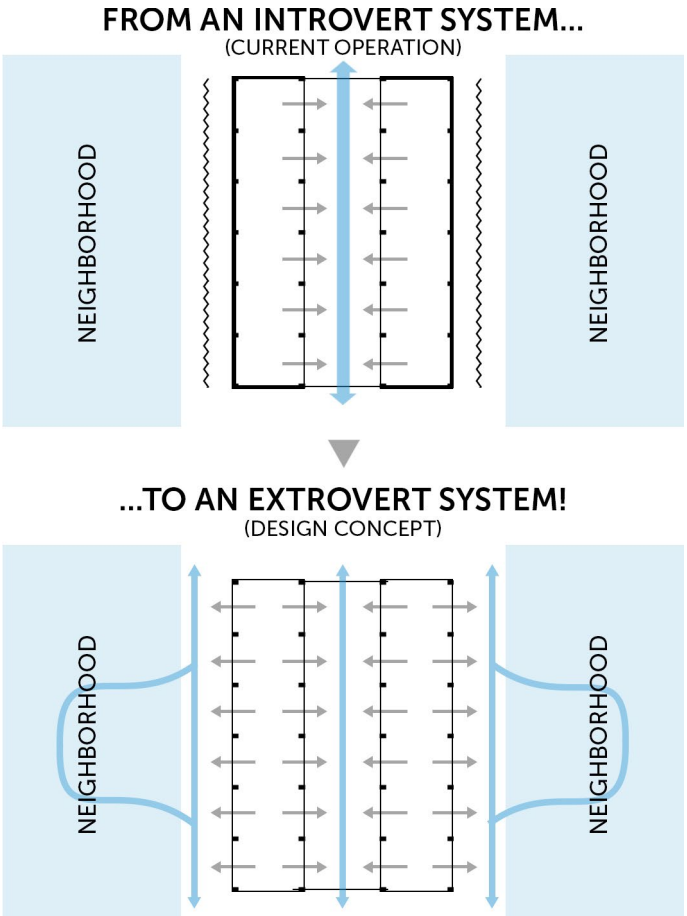
MARKET4FUTURE

A MARKET AS A COMMUNITY PLACE

The Santa Rosa local market is currently organized as an agglomeration of commercial boxes served by a main vertical corridor. It acts as a **VERY INTROVERT SYSTEM**, where all the market stalls work inside the main axis, completely detached from the near context.

BUT, HOW IT WOULD BE POSSIBLE TO PROMOTE A PROFUND RELATIONSHIP BETWEEN THE LOCAL MARKET AND THE NEARBY CONTEXT?

The main goal of the project aims to achieve was that of **TURNING AN INTROVERT SPACE INTO AN EXTROVERT SYSTEM**, profoundly related to the urban context and, at the same time, able to act as a place dedicated to the community.



Thanks to **GLAZED FACADES**, the existing market has been opened towards the surrounding urban fabric, becoming a place of socialization instead of a crossing gallery.

The previous permability of the market gave the way to a **TRANSVERSAL ACCESSIBILITY**, that sees the multiple boxes to open towards the adjacent exterior areas. The proposal of intervention for the new Santa Rosa local market suggests to outline not only a space dedicated to commercial purposes, but also a **PLACE COMPLETELY DEVOTED TO THE COMMUNITY**, acting as a **VIBRANT PUBLIC SPACE INSERTED INTO THE SURROUNDING URBAN FABRIC**.

A MARKET FOR FUTURE!

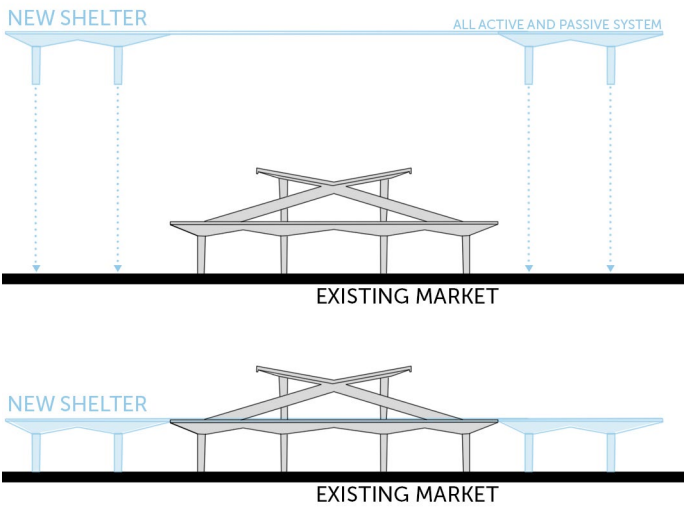
MASTERPLAN 1:500



THE NEW SHELTER
AN ALL INCLUSIVE WOODEN STRUCTURE
The proposed addition to the Santa Rosa local marked has been conceived both as a real extension of the commercial area and a new place for the community, that together outline a **NEW URBAN EPICENTER**.

The outdoor area is covered by a **TIMBER ROOFTOP**, which shape recalls the **PITCHED CONCRETE COVERING** of the existing local market.

The timber rooftop is conceived as realized with the **RE-USE OF THE OLIVE TREES WOOD** that has been affected by the Xylella, that had recently killed numerous elements within the Region.



The **NEW WOODEN SHELTER DEFINES** on one side the **EXTENSION AREA OF THE EXISTING LOCAL MARKET**, and on the other, it **ACTS AS AN ACTIVE ELEMENT** for the commercial operation. Besides the shaded area that it outlines, the rooftop thickness contains the most of active systems of the new complex.

Thanks to the **NEW COVERING A PROFUND INDOOR-OUTDOOR RELATIONSHIP IS PURSUED**, making the market stalls open to an urban use and accessibility, perfect for the Puglia Region. This will ease the use and the activity of the stalls during both the winter and summer time, shielded by the different weather conditions, making the market functioning all day long.

The outdoor space is characterized by **WIDE GREEN GRASS AREAS**, that help to **REDUCE THE HEAT ISLAND EFFECT, COOLING THE TEMPERATURES, AND OFFERING PRODUCING OF OXYGEN**.

THE NUMBER OF CAR PARKING LOTS ARE REDUCED, in order to preserve pedestrian areas, and encourage the sustainable mobility, as for bikes and scooters.

VIEW OF THE MARKET FROM VIA ADIGE



FUNCTIONS AND ACTIVITIES

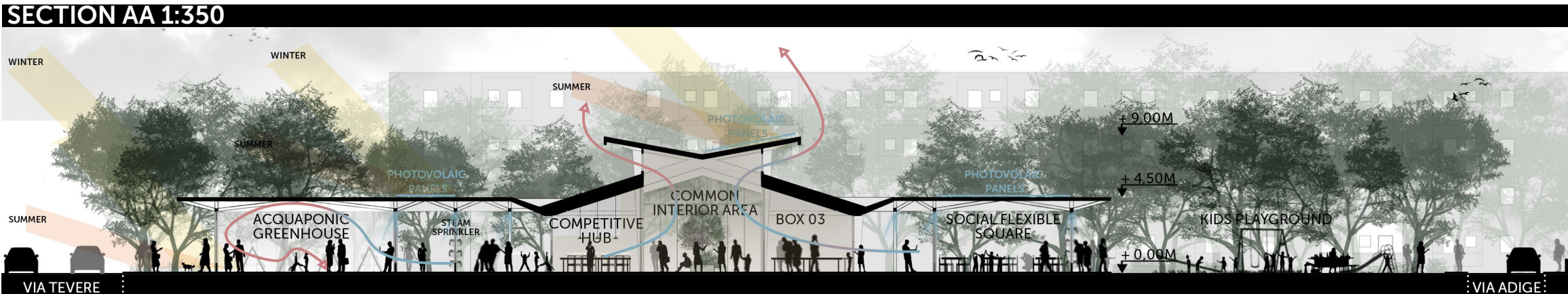
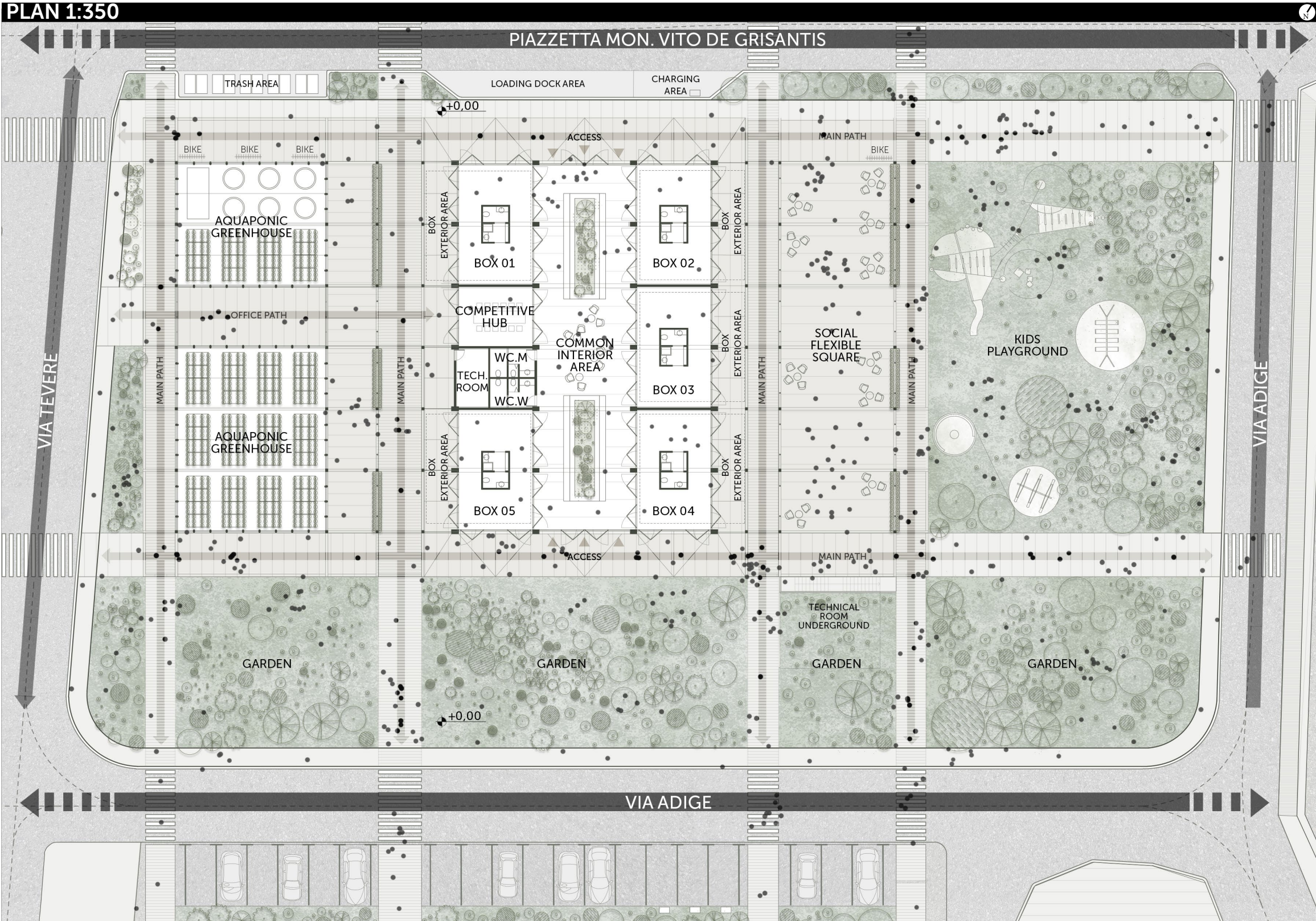
PLAN ORGANIZATION

The main idea for the new market is that of a **NEW URBAN EPICENTER**, able to restore and empower a deep sense of community by offering a space dedicated to multiple activities, from the commercial use to the playful functions. For this reason, the proposal focuses on **BOTH THE INTERIOR AND EXTERIOR AREAS**, in order to define a **COMPLEX SYSTEM** able to become a real community place.

The plan of the market is articulated within **5 COMMERCIAL STANDS**, that can be easily divided into two smaller areas. Near a toilet core, a **TECHNICAL ROOM** is placed at the ground floor in addition to the new one at the underground level. The **COMPETITIVE HUB** is designed as a very flexible office, where it would be possible to organize different kind of functions as **STUDY SESSIONS, RESEARCH PROGRAMS AND MEETING WITH THE LOCAL ACTIVITIES AND ENTREPRENEURS**. Furthermore, it would be possible to stay in contact with the offices and labs of the University of Tor Vergata, for technical support and coordinated researches. The **COMMON INTERIOR AREA** becomes a flexible open space, that can be used as an extension of the Competitive Hub, welcoming different kind of indoor events, even during the evening.

The outdoor area is equipped to become a real **URBAN AND COMMON SPACE**, where people can meet and socialize, enforcing their sense of belonging and community. During the warm seasons, it is possible to for the dealers to **SHOW THERE THEIR PRODUCTS**, making the market area more attractive for citizens and tourists. The area dedicated to the aquaponic cultivation is organized through multiple greenhouses organized under the timber shelter. The main aim was that to propose a dinamic area able to fulfil both a **PRODUCTIVE ACTION** and a **DIDACTIVE FUNCTION**. In this way, the system works as a tool for empowering the consciousness of this specific kind of cultivation, while actively harvesting products that the dealers can sell. The playground is equipped to attract kids and youngs, while the green grass zones houses also specific dog areas.

The big **OUTDOOR SOCIAL AND FLEXIBLE SQUARE** is conceived as a flecible space where to host different kind of events, during the winter and summer time, and during the day and the night. Besides the activity of the market, infact, it would be possible to organize conferences, fairs, set up tables and chairs to eat the products that are sold inside the market itself, or playful activities, all **DEDICATED TO THE COMMUNITY**.



THE SUSTAINABLE STRATEGIES

ALSO AN ENERGY MARKET

The main strategy for a sustainable performance of the new Santa Rosa local market, focused on **PREFERRING PASSIVE SOLUTION OF INTERVENTION**, instead of active ones, that in any case should use renewable energy sources.

Taking into account the typical south-mediterranean climate, the main aim was **COOLING THE HOT SUMMER TEMPERATURES**, thanks to **STEAM SPRINKLERS** placed on the ceilings and to openable sheds placed on the rooftop, creating a natural ventilation, and new covered and shaded external areas.

An **HIGH PERFORMANCE HEAT PUMP** ensures indoor air quality and temperatures both during the winter and summer times, consuming about 25KW. Along with a **MECHANICAL VENTILATION SYSTEM**, an indoor air quality is ensured. The energy consumption and management is efficiently monitored through dedicated domotic systems.

Both the existing and the new rooftop areas are covered with **PHOTOVOLTAIC PANELS**, for a total of 520 sqm, that will ensure enough energy supply for the complex, with the chance of storing the exceeding unused amount. The entire photovoltaic system produces around 80Kw, while the consumption of the building is around 36 Kw.

The **RAINWATER IS COLLECTED AND CONVEYED TO DEDICATED TANKS**, in order to be reused, after specific treatments, for the irrigation of the green areas, the igienic systems of the market and for the **ACQUAPONIC CULTIVATION**.

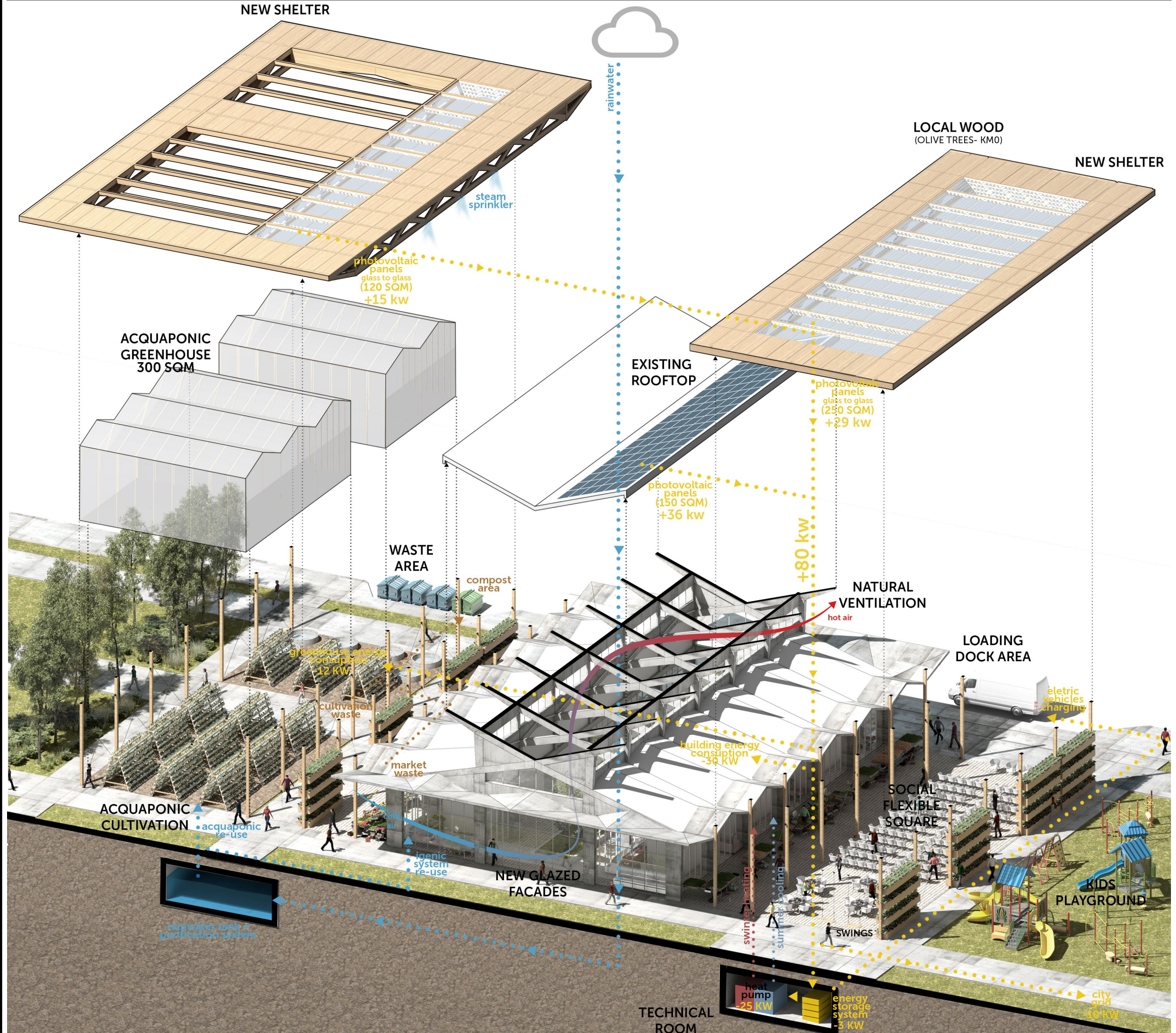
The greenhouse cultivation consumes about 12Kw of the total energy produced by the photovoltaic system.

Waste materials coming from the market itself are collected into dedicated reas and re used through a **PROCESS OF COMPOSTING** to fertilize the harvesting areas provided.

The outdoor areas are designed in order to offer to citizens and visitors **MULTIPLE CONFIGURATIONS AND HOUSE DIFFERENT KIND OF EVENTS**, in different moments of the day.

The **INDOOR AND OUTDOOR LIGHTING SYSTEM** ensure the chance to enjoy the public areas even during the evening, **CONTRIBUTING TO MAKE THE NEW SANTA ROSA LOCAL MARKET, A NEW COMMON PLACE FOR ALL THE PEOPLE OF THE NEIGHBORHOOD**.

BIOCLIMATIC EXPLODED AXO



PROJECT CONCEPT – “NewBauhausSMEs”

Draft06 - 22 January 2021

Project title	NewBauhausSMEs - "Piloting innovative and green regional value chains to strengthen competitiveness of SMEs in the construction sector as key partners for a new European zero-emission building industry"
Project Coordinator	European Entrepreneurs CEA-PME
Contacts	Stefan Moritz , Managing Director European Entrepreneurs CEA-PME, stefan.moritz@cea-pme.com Martina Musarra , Project Manager @ ContaminAction Hub s.r.l. m.musarra@contaminactionhub.com
EU Funding Programme & Call	Horizon 2020 Building and renovating in an energy and resource efficient way LC-GD-4-1-2020
Project Budget	10.000.000€ to max. 20.000.000 € (100% co-financing by the EU for NGOs, Public administrations and Research institutions, 70% for private companies)
Project duration	max. 4 years (e.g. 1 September 2021 – 31 August 2025)
Deadline	26/01/2021, at 17:00 CET
Potential partners	P2: CONFAPI (I) P3: Italian National Agency for Energy Efficiency ENEA (I) P4: ContaminAction Hub s.r.l. (I) P5: Municipality of Lecce (I) P6: BVMW (D) P7: IPK Fraunhofer Institute Berlin (D) P8: Jobs and Housing Havelschanze Cooperative Ltd. Berlin (D) P9: Sustainable Innovation Sweden (Swedish testbeds - Smart Built Environment – S) P10: COTEC Portugal (P) P11: Österreichischer Gewerbeverein / Austrian Business Association ÖGV (A)

Programme priorities

Specific Challenge:

Buildings and infrastructures are responsible for at least 40% of all greenhouse gas emissions. Modern constructions are **largely based on cement and steel, which both consume an immense amount of energy** to produce and even directly releases CO₂ through chemical reactions. With rising focus on the building sector (e.g. the ‘renovation wave’ initiative of the European Green Deal) in view of the **full decarbonisation by 2050**, the built environment remains a strategic domain for R&I. The priority is

the **design and construction of new or retrofitting of existing buildings as zero-emission/zero-pollution, positive energy-houses in sustainable green neighbourhoods**. There are two major components in this transition. **Firstly**, a transition in **designing and constructing buildings to reduce their embodied emissions** and to increase the energy efficiency of their operation; the same applies to retrofitting existing buildings to increase their efficiency. **Secondly**, a transition to energy positive buildings (producing electricity, covering their heating and cooling needs and contributing to the energy grid stability) with sustainable, renewable energy technologies. These two components are closely linked, since greater building efficiency can reduce demand for heating and cooling and allow a greater range of zero emission technologies to become viable. It also means, reducing demand through effective building designs, including those that are adapted to their local environments (bioclimatic architecture conditions) and use. **Spreading such building concept allows the creation of green neighbourhood “living labs”** (including social housing and non-residential buildings such as hospitals, schools, public buildings, commercial buildings, etc.) with additional urban functionalities (e.g. shared EV charging facilities).

Scope:

Proposals are expected to deliver **at least two** (residential and non-residential, new and/or retrofitted) **large-scale, real-life demonstrations of promising technology, process and social innovations, in different regions of Europe**. The demonstrations should address the following aspects:

- **Scalable design of green, positive energy neighbourhoods** well embedded in the spatial, economic, technical, environmental, regulatory and social context of the demonstration sites.
- **Energy and resource efficient**, seamless industrial construction/renovation workflows from design to eventual offsite manufacturing, installation and post-construction monitoring
- **Sustainable and highly energy-efficient building designs** adapted to local environments and climatic conditions, including active-passive solutions, with:
- **Sustainable, innovative zero-emission and more cost and energy efficient, renewable energy generation** in the buildings combined with urban service facilities (e.g. charging facilities) and heating-ventilation-air conditioning (HVAC) solutions :
- **Energy storage systems** (e.g. using second life batteries from electric vehicles) with bidirectional charging functionalities
- **Highly energy-efficient building operation** at reduced maintenance costs and long-term performance with the help of digital technologies to optimise energy generation, consumption, storage and flexibility at neighbourhood scale
- **Citizen awareness raising activities linked to green neighbourhood “living labs”** (led by “green schools” where relevant), to facilitate social innovation, promote education and training for sustainability, conducive to competences and positive behaviour/good habits for a resource efficient and environmentally respectful energy use.
- **Coordination on standards and regulatory aspects** to ensure operational efficiency of buildings and HVAC technologies also addressing the design-built performance gap.

The objective of the demonstrations is to **test, in view of scaling up and wide replication, the proposed innovations across the whole value chain** (from planning and design through manufacturing and construction to end use, including all relevant players, governance and financing institutions, planners, owners, architects, engineers, contractors, facility managers, tenants, social partners, etc.).

The objective is also to adapt this value chain to new operation patterns resulting from the innovations (new business models and services, new usages, changed behaviour).

Therefore, the validation of the market and consumer uptake potential should be carried out in the form of real life “living-labs” and under conditions that are open to innovation and promoting affordable access to housing. On this purpose, the project will **set up** (or use existing) **innovation clusters in different regions of Europe**, where relevant with a link to other initiatives (e.g. R&I partnerships). Such innovation clusters need to include the local/regional/national value chain(s), to demonstrate, evaluate and ultimately replicate the innovative solutions in different environment and market conditions, with due consideration of social, business and policy drivers. This will also ensure the validation of the **innovations for different building types - residential** (e.g.

social housing) and **non-residential** (e.g. **hospitals, schools, public buildings**) - and **various climatic zones**. Proposals are expected to bring the **technologies from TRL 5/6 to TRL 7/8** at the end of the project.

Expected Impact:

1. **Actors** along the construction and renovation value chains **are qualified and have integrated the innovative technologies in their business models** and operations.
2. Strong **innovation clusters are able to accelerate the spread of green building and renovation concepts** to provide momentum to the 'renovation wave' that will be **politically underpinned**.

When compared to the state of the art the **innovative technical solutions further developed and demonstrated by the projects are expected** to bring several impact, among which: **Primary energy savings, Investments** in sustainable energy, **Demonstration sites that go beyond nearly-zero energy building performance**, **High energy performance** (nearly zero-energy level within the meaning of Directive 2010/31/EU for retrofitted / positive-energy level buildings for new constructions), **Reduction of greenhouse gas emissions towards zero** (in tCO₂-eq/year) for the total life-cycle, **Demonstration of high potential for replicability** using new or existing innovation clusters incorporating the whole value chain, **Shortened construction/retrofitting time and cost by at least 30%**, in order to allow market uptake and social affordability, etc.

Project idea

The **specific challenge** of NewBauhausSMEs:

How to make sure **European SMEs** of the building industry as well as in the linked value and supply chains can become **highly competitive** in delivering **cost-** and **time-efficiently smart** and **zero-emission buildings** based on **regional resources** and corresponding to **regional climatic conditions**, by **bridging the technological and skills gaps** that are given by the enormous challenges but also opportunities of the **New European Bauhaus** and the **Green Deal strategies** of the EU.

The purpose:

The purpose of NewBauhausSMEs is to achieve 2 competitive and successful regional "green building" clusters that have demonstrated within 2 large-scale pilot building projects in Italy and Germany to be able to deliver efficiently and to standardise the processes of innovative regional value chains for zero-emissions building and retrofitting, and standardise and prepare the replication in other regions of Europe.

The project is organized in 5 phases:

phase 1 (M1 – M6) – Setting the European Scene: research and exchange on the most advanced and sustainable building technologies and processes, creative ideation of applicable models in Europe (New European Bauhaus)

phase 2 (M4 – M12) – Participatory planning with R&D partners, local administrations and SME clusters alongside the whole regional value and supply chains (from raw materials, through manufacturing/industrial transformation companies, digital solution and energy experts to building craftsmen and final service providers – establishment of project building clusters in 4 countries

phase 3 (M12 – M40) – Pilot projects: implementation and living labs / master classes – 1 new building and 2 retrofitted existing buildings, using regional materials and technologically corresponding to the special climatic conditions. The use of the buildings should be different: residential/social housing, non-residential/schools, training centres and green building cluster incubators.

phase 4 (M30 – M48) – Monitoring, Standardisation, Replication, Policy recommendations, Training for SMEs and Final Dissemination

WORKPLAN

Work package 1 – Management and Coordination (M1-M48) – resp. LP

Work package 2 – Setting the European Scene (phase 1) – resp. P9

Work package 3 – Participatory planning (phase 2) – resp. P4

Work package 4 – Pilot projects implementation with living labs & master classes (phase 3) – resp. P6

Work package 5 – Replication and industrial standardisation (phase 4) – resp. P7

Work package 6 – Policy recommendations (phase 4) – resp. P3

Work package 7 – Training for SMEs (phase 4) – resp. P10

Work package 8 – Communication, Dissemination & Events – resp. P2

First budget hypothesis (in Euro - €)

Partner	Staff	Travel, CommDiss, training & events	Indirect costs	Subcontracting (pilot projects)	Total
LP: CEA-PME (B)	600.000	200.000	200.000	100.000	1.100.000
P2: CONFAPI (I)	400.000	160.000	140.000	100.000	800.000
P3: ENEA (I)	300.000	20.000	80.000	0	400.000
P4: CAH (I)	400.000	40.000	110.000	0	550.000
P5: City of Lecce (I)	400.000	40.000	110.000	2.000.000	2.550.000
P6: BVMW (D)	400.000	160.000	140.000	100.000	800.000
P7: IPK Fraunhofer (D)	400.000	40.000	110.000	0	550.000
P8: Jobs & Housing (D)	400.000	40.000	110.000	2.000.000	2.550.000
P9: SustInno (S)	300.000	20.000	80.000	0	400.000
P10: COTEC (P)	300.000	60.000	90.000	0	450.000
P11: ÖGV (A)	300.000	60.000	90.000	0	450.000
TOTAL	4.200.000	840.000	1.260.000	4.300.000	10.600.000

Co-financing

Partner	Total	Co-financing rate EU	Own co- financing rate	Own co- financing	EU- contribution
LP: CEA-PME (B)	1.100.000	100%	0	0	1.100.000
P2: CONFAPI (I)	800.000	100%	0	0	800.000
P3: ENEA (I)	400.000	100%	0	0	400.000
P4: CAH (I)	550.000	70%	30%	165.000	385.000
P5: City of Lecce (I)	2.550.000	100%	0	0	2.550.000
P6: BVMW (D)	800.000	100%	0	0	800.000
P7: IPK Fraunhofer (D)	550.000	100%	0	0	550.000
P8: Jobs & Housing (D)	2.550.000	70%	30%	765.000	1.785.000
P9: SustInno (S)	400.000	100%	0	0	400.000
P10: COTEC (P)	450.000	100%	0	0	450.000
P11: ÖGV (A)	450.000	100%	0	0	450.000
TOTAL	10.600.000			930.000	9.670.000