



BIOARCHITETTURA E URBANISTICA SOSTENIBILE

**SOLAR CITY A LINZ (AUSTRIA), REALIZZAZIONI LOCALI E DIRETTIVE
DELL'UNIONE EUROPEA**

**GIOVEDÌ 23 SETTEMBRE 2010
ORE 20.45**

**SALA CONFERENZE DELLA BIBLIOTECA COMUNALE
DI MONTEBELLUNA**



**INTRODUZIONE
FRANCO ANDOLFATO
SINDACO DEL COMUNE
DI MONTEBELLUNA**

**RELAZIONE
GIORGIO BEDIN**

**CONCLUSIONI
LAURA PUPPATO
PRESIDENTE DEL FORUM AMBIENTE
NAZIONALE DEL PD**

LA CITTÀ DI LINZ E SOLAR CITY

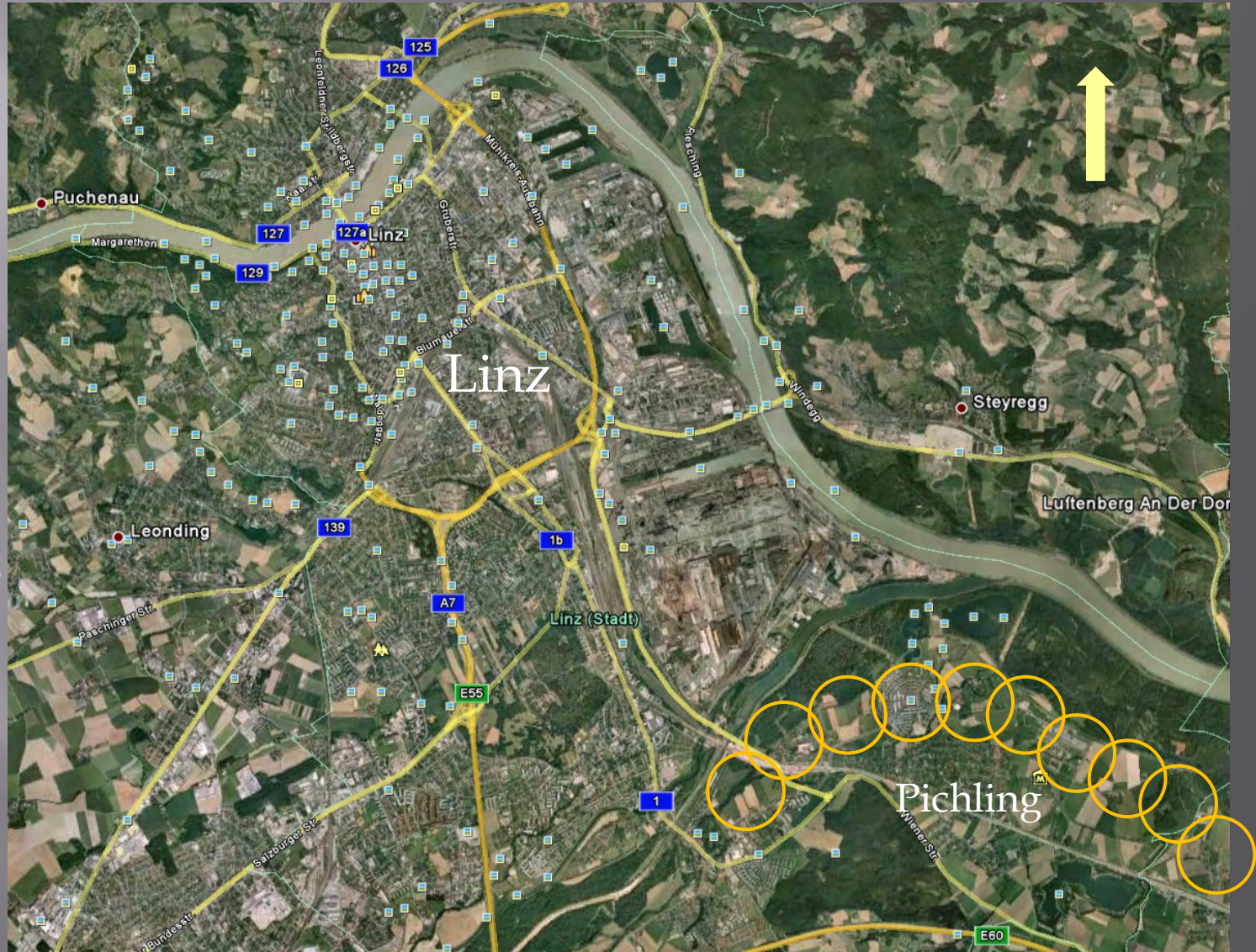


solarCity Linz-
Pichling
– Sustainable
City
Development

LINZ
Alta Austria 180.000
Abit.
Lambita dal Danubio

Solar City
25.000 abitanti Progetto
1994-2004

Master Plan di Pichling
Roland Rainer
Urbanista austriaco



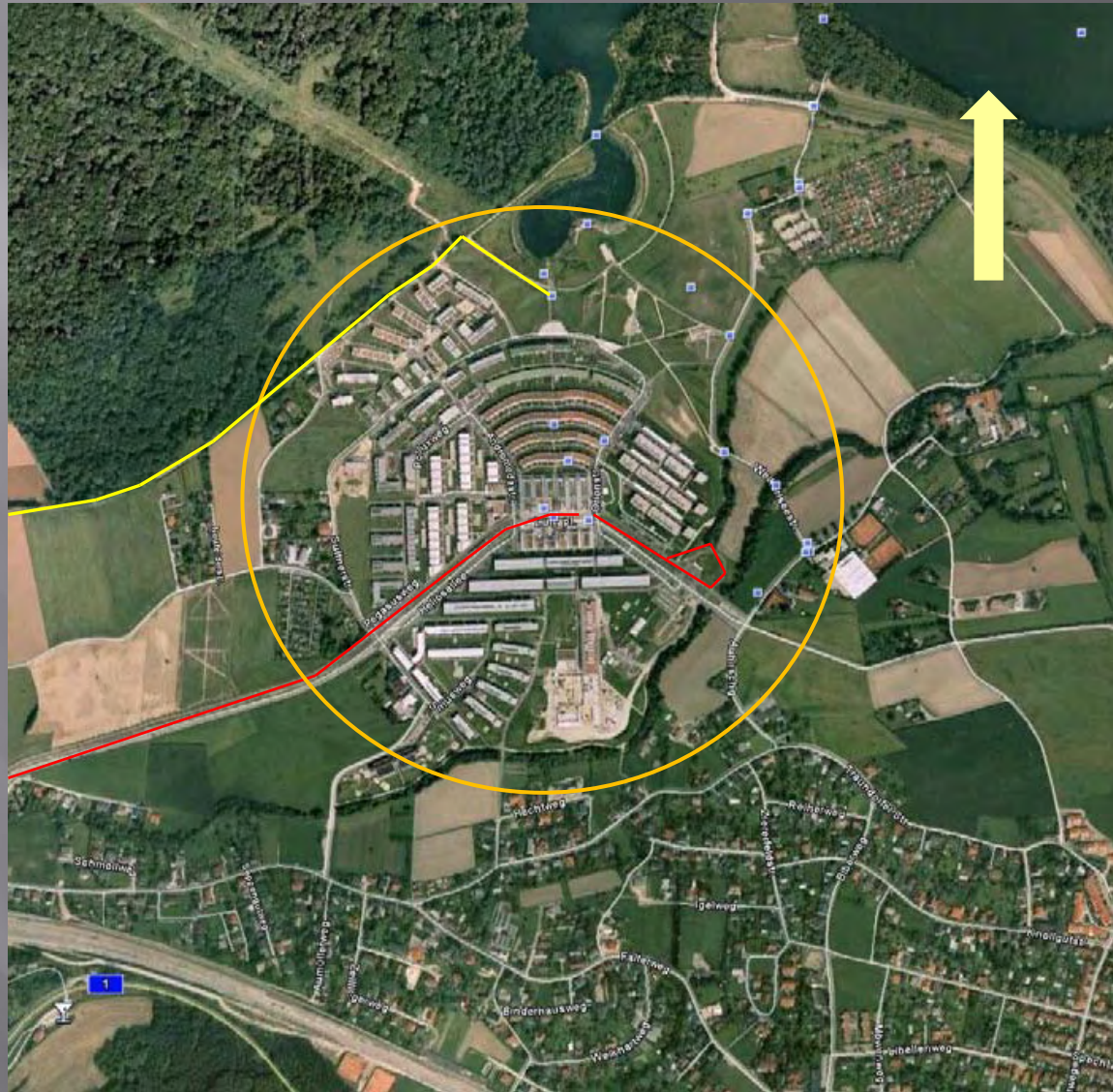
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Montebelluna, 23.09.2010

Solar City - Primo intervento completato nel 2008

Linea del tram da Linz

Pista ciclabile da Linz

Parametri di sostenibilità: massima densità possibile, massima flessibilità tipologica, studio attento della viabilità, promuovere e facilitare la viabilità pedonale o ciclabile, tutto il centro dell'insediamento reso libero dal traffico automobilistico, le singole abitazioni sfruttano l'orientamento del terreno, prevedono serre, giardini d'inverno, balconi ed affacci in modo da usufruire al meglio del clima e della natura circostante.



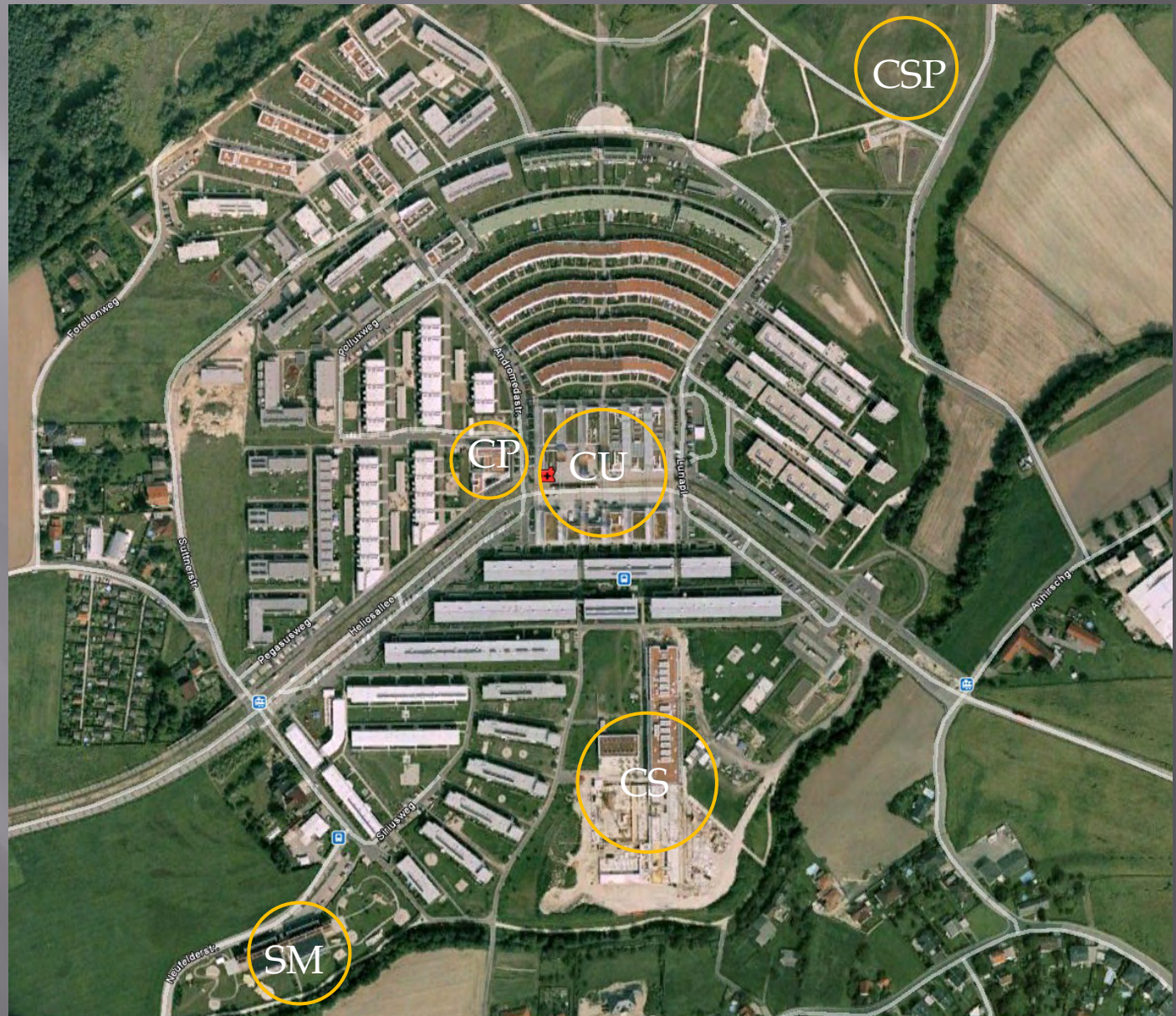
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Solar City - In dettaglio

Progetto
Norman Foster
Richard Rogers
Thomas Herzog
Renzo Piano
Norbert Kaiser

READ: Renewable
Energies in
Architecture and
Design

Primo insediamento
Per 3000 Abitanti +
SM Scuola Materna
CS Centro Scolastico
CU Centro Urbano
CP Centro Pastorale
CSP Centro Sportivo



Solar City - Il Centro Scolastico

School Center

Client: Bauträger BA/CA Leasing, Linz, A

Design: Architekten Loudon & Habeler

Vienna, A, Univ. Prof. Arch. Mag. arch.

Michael Loudon, Arch. Mag.

arch. Josef Habeler

Design of outdoor areas: Atelier Dreiseitl

Überlingen, D

Completion: 1st building phase: 2003, 2nd

building phase: 2007

Usable floor area:

elementary school: 3,464 m², day care: 719 m²,

secondary school: 6,844 m²

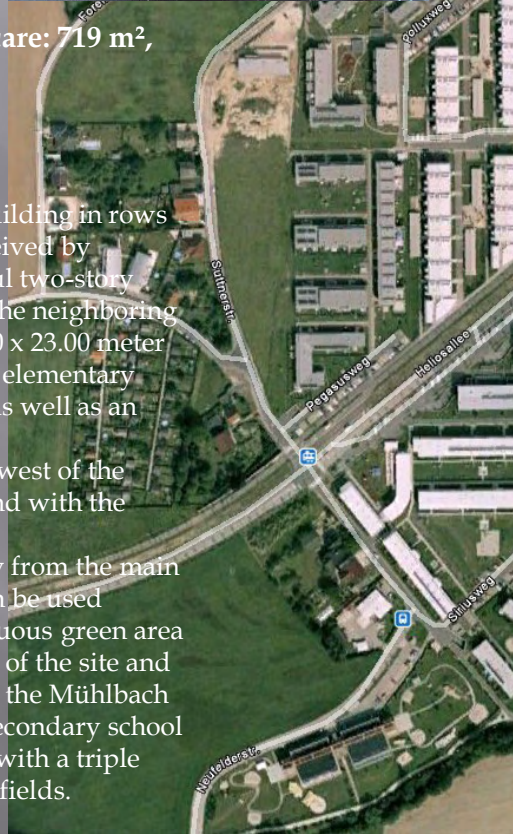
Energy demand: 34 kWh/(m²a)

Urban planning concept

This project develops the system of building in rows in the solarCity Linz-Pichling as conceived by Professor Roland Rainer. The reposeful two-story building is situated at right angles to the neighboring residential development and its 112.40 x 23.00 meter floor area encompasses a twelve-class elementary school with a single gymnasium hall as well as an eight-group daycare facility.

The single gymnasium hall lies to the west of the building and is connected underground with the main building.

By positioning the gym hall separately from the main building a forecourt is created that can be used during school recesses. A large continuous green area has been preserved in the eastern part of the site and leads into the natural landscape along the Mühlbach stream. At present a 24-class general secondary school is being constructed on the same site, with a triple gymnasium hall and outdoor playing fields.



Building concept

The building itself is accessed through a central hall. From this hall, the elementary school and the daycare facility are accessed through entrances on the east and west sides respectively. A two-story top-lit circulation hall extends through the entire building, so that the classrooms and group rooms obtain additional light from inside through high-level glazing in the walls. The daycare facility, which is at ground floor level, is accessed from the central hall. The daycare groups are located on the east side of the building; the group rooms can be subdivided into play and learning areas. The window parapets are low, in order to optimize the quality of the light in the rooms.

The circulation hall that extends along the entire length of the daycare facility offers sufficient space for movement and is lit through generously sized roof lanterns. The west wing contains the rooms for the daycare administrative staff and the teachers, a dining room and a training kitchen with service spaces as well as a crafts room and an exercise room. Two cores containing sanitary facilities, one for men and one for women, are located on the west side of the circulation hall. The access to the outdoor areas of the daycare facility is at the north end of this hall.

The elementary school is on the upper story and is reached by the stairs or by the elevator in the central hall. Most of the main classrooms are located on the east side of the building; special classrooms, service rooms, a central cloakroom as well as the administration office and the staff rooms are on the west side.

The corridor areas in the central top-lit hall offer sufficient space for movement and can also be used by the classes on the upper story as a recess area. The gym and the changing rooms are in the basement and can be reached from staircase one. The secondary school is housed in the southern extension of the building. The rooms for special teaching are located in a transverse wing that is connected with the secondary school underground. The triple gymnasium is also connected underground with the main building, and lies between the existing gym hall of the elementary school and the transverse wing.



School Center

Construction

The load bearing structure of the building is made of reinforced concrete; the columns are arranged on a 7.20 x 3.00 meter grid. The facade consists of bands of glazing (wood and aluminum window frames) and glass clad, rear-ventilated parapets. Sun protection louvers are mounted in front of the long facades; they can be adjusted to achieve maximum utilization of passive solar energy. Inside the building, plasterboard walls are used, along with suspended ceilings that help to reduce noise levels, for example in the circulation hall.

Energy concept

The important criterion of the energy concept is the avoidance of energy losses. Energy losses due to transmission are minimized by using large amounts of insulation in the external parts of the building and by keeping the shell of the building as compact as possible. Intake air is preheated (or in summer pre-cooled) by ground heat exchangers, thus reducing energy losses resulting from ventilation. Heat is recovered from the exhaust air. Additionally, passive solar energy gains are used to reduce the amount of heating energy required. Natural light is directed as required by external reflectors/louvers which also provide protection from the summer sun.

Energy-saving, psychologically effective natural ventilation that can be manually regulated is provided by special window vents.

Ventilation concept

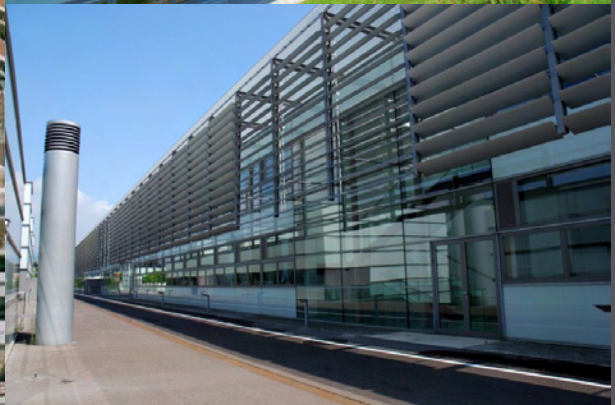
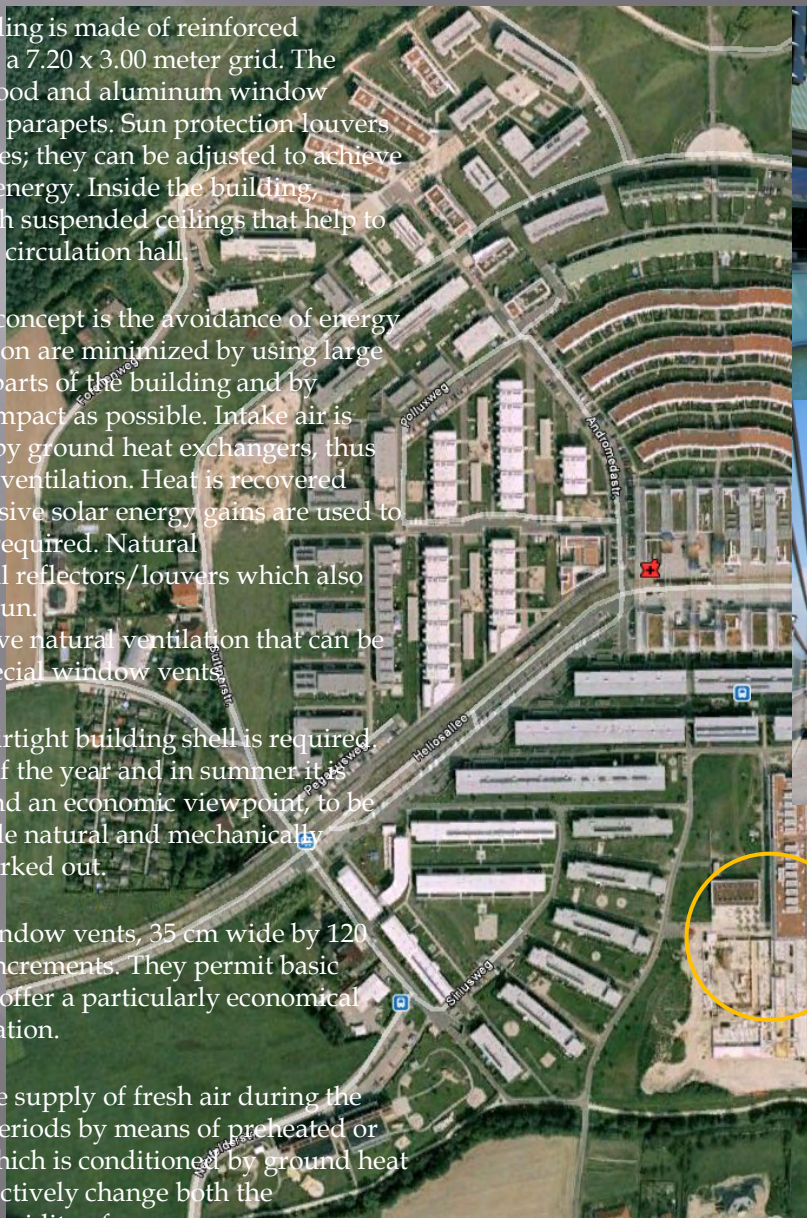
To recover heat from exhaust air, an airtight building shell is required. Since during the transitional periods of the year and in summer it is essential, from both a psychological and an economic viewpoint, to be able to open the windows, a compatible natural and mechanically supported ventilation concept was worked out.

Window ventilation:

Window ventilation is by means of window vents, 35 cm wide by 120 cm tall, that can be adjusted in small increments. They permit basic ventilation when and as required and offer a particularly economical form of permanent (night time) ventilation.

Mechanical support ventilation

The mechanical ventilation ensures the supply of fresh air during the heating season as well as during hot periods by means of preheated or (in summer) pre-cooled outside air, which is conditioned by ground heat exchangers. This conditioning can effectively change both the temperature as well as the absolute humidity of the air.



Client: IMMORENT, Pan
Grundverwertungsgesellschaft mbH, Vienna, A
Design: arch-schimek.at ZT GmbH, Linz, A, Architect
Dipl.-Ing. Olivia Schimek
Design of outdoor spaces: arch-schimek.at ZT GmbH,
Linz, A, Architect Dipl.-Ing. Olivia Schimek
Completion: 1st construction phase building 1: 2003
2nd construction phase building 2: 2005
Usable floor area: 1st construction phase: c. 1,180 m²,
2nd construction phase: c. 1,060 m², total c. 2,240 m²
Energy demand: including all active solar energy
systems: 9 kWh/(m²a) or 21 kWh/(m²a)

Location

The site of the day nursery is located at the south-western edge of the solarCity at the point of transition to the existing development in Pichling. As a result of its consistent west-east orientation and its positioning on the site, the building forms a protective shield to Neufelderstrasse, while the longitudinal side, with the aligned rooms for children's groups, opens onto the south, onto the generously dimensioned green space of the outdoor areas.

Concept

In 1998, the City of Linz launched an architecture competition for the design of a twelve-group day nursery as a low energy building. Even at this early stage of the project, the main aspects of the architectural design followed sustainability as the key principle behind all measures. In terms of energy technology, the solarCity day nursery is a pioneering and trendsetting project. From the very beginning, the architecture was designed according to ecology requirements and energy requirements, and consequently the facility was constructed so as to achieve passive building standards. Correspondingly, in refining the architectural concept special attention was paid to the didactic function of this building. This is apparent particularly in the overall concept of colors and materials and in the design of the interior, including the specially designed furniture.



Kindergarten

Building design and structure

Entrance

The main entrance and the adjoining waiting area for parents are positioned at the intersection of the main east-west circulation axis with the north-south pedestrian access route.

Building volumes

The compact form of the building provides the basis for minimizing energy losses.

The consistent east-west orientation enables passive solar energy gains through the generously sized areas of glazing on the south side.

The building is a combination of various building elements with very different requirements:

- "Service block": the pair of two-story, north-facing blocks that run parallel to Neufelderstrasse accommodate all the service functions and facilities – timber
- "Glazed passageway": this circulation and communal space also functions as a passive and active energy collector – steel, glass and concrete
- "Children's houses": the rooms for the children's groups are housed in the two south-facing two-story cubes that are oriented towards the outdoor space – timber

Structure

The timber structure makes a consistent contribution to an energy-conscious, environmentally sound building, and is low in expenditure of energy during construction.

Building envelope

- North facade: optimum thermal insulation. Additional weather protection by means of a lattice of wooden slats. Glazing is kept to a minimum.

- South facade: large areas of glazing for passive solar energy gains with a frame in front to provide shade and protect against overheating in summer. This dual shading-system with fixed wooden louvers and planting that loses its foliage in winter creates a pleasant microclimate in the transitional area to the outdoor space. A photovoltaic system that forms an integral part of the permanent horizontal shading is elevated on the frame that carries the planting.



Kindergarten

Passageway

The "children's houses" with the group rooms and the "service block" are reached by a passageway flooded with daylight that connects the central entrance area and the parents' waiting area with the outdoor areas. This high, bright and airy space formed by a steel and glass structure, with its galleries, bridges, stairs and lobbies, forms a communicative, stimulating communal area and plays an important role in providing orientation inside the building.

Energy concept and building services

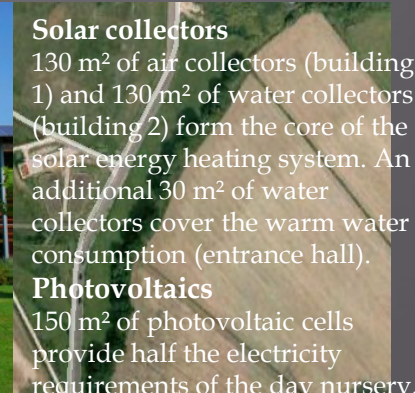
Passive measures

- Timber structure, reduction of the construction period thanks to the use of prefabrication
- Compact form of the building with a favorable surface-volume ratio
- Optimal positioning of the building in terms of orientation while taking into account the urban situation
- Minimization of transmission heat losses through excellent insulation and small windows on the north side
- Solar energy heat gains through the glazed passageway and the large south-facing glazing
- Clear organization of the temperature zones
- Daylighting concept minimizes the use of electricity.

Active measures

- Controlled ventilation with heat recovery system minimizes the need for additional energy and creates a pleasant room climate
- The glazed passageway collects and transfers additional solar energy gains with water collectors to provide warm water, air collectors (gravel heat storage) and water collectors (water tank heat storage) to gain heating energy and photovoltaic cells to complete the overall energy concept
- Connection to the district heating system in the context of the overall energy supply concept for the solar City
- Daylight-dependant artificial light control
- Automatic building control system. With the proposed measures, a heating energy requirement can be achieved of 9 kWh/(m²a) in relation to the gross floor area (including active use of solar energy) or 21 kWh/(m²a).

Solar City - La Scuola Materna



Solar collectors
130 m² of air collectors (building 1) and 130 m² of water collectors (building 2) form the core of the solar energy heating system. An additional 30 m² of water collectors cover the warm water consumption (entrance hall).

Photovoltaics
150 m² of photovoltaic cells provide half the electricity requirements of the day nursery.

Gravel heat storage, building
140 tons of gravel temporarily store the heat gained by means of the air collectors.

Water tank storage, building
32,000 liters of water temporarily store the heat gained by means of the warm water collectors.



CENTER

Client: City Administration of the Provincial Capital of Linz, A,
Raiffeisen-Immobilien-Leasing GmbH, Vienna,
A, Strabag, Linz, A

Design: Auer+Weber+Architekten, Munich, D, Stephan Suxdorf
(associated), Sonja Mutterer, Philipp Auer,
Dieter Heigl, Till Richter, Volker Kilian

Design of outdoor areas: Latz + Partner Landschafts Architekten
und Planer, Kranzberg, D, Tilman Latz, Burkhard Krüpe

Completion: 1st building phase: 2004, 2nd building phase: 2005

Usable floor area: 8,400 m²

Energy demand: Volkshaus 39.67 kWh/(m²a)

Awards: Leaf Award 2005, category 'Best Environmentally
Sustainable Project'

Urban concept

The center of the solarCity, with the generously-sized access
boulevard, forms the functional and spatial link
between the different parts of the city, adjoined by modular
structural elements containing commercial, cultural
and general services. The boulevard can be experienced as an
inherent part of this center. In the future the
central square will be the focal point of urban life.

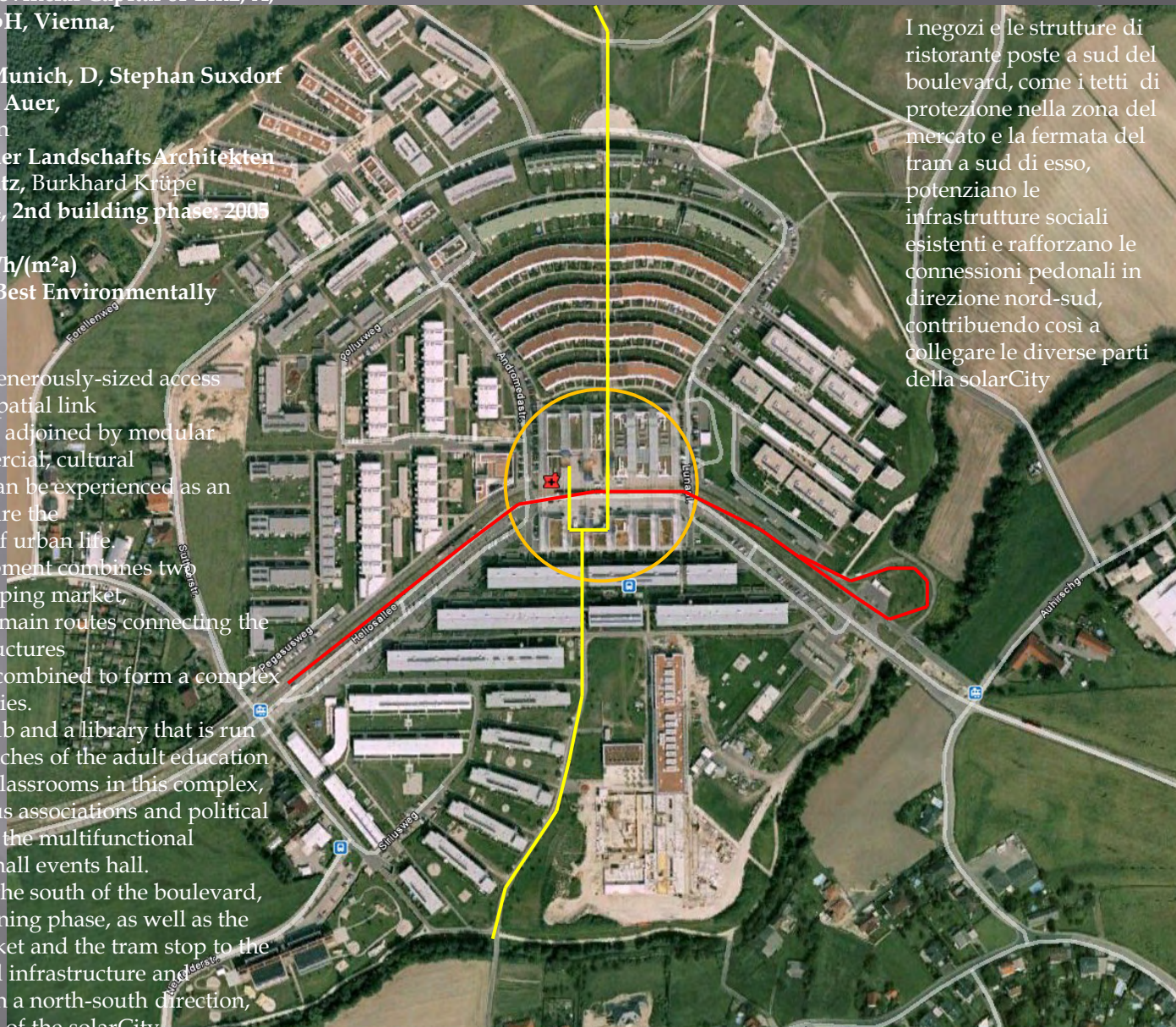
The north-western part of the development combines two
building shells to provide a local shopping market,
which is located at the junction of the main routes connecting the
four parts of the solarCity. The six structures
of the eastern half of the complex are combined to form a complex
that contains social and cultural facilities.

Included here are a senior citizens' club and a library that is run
by the municipal administration. Branches of the adult education
services and the music school shares classrooms in this complex,
and there are several offices for various associations and political
parties. In addition to seminar rooms, the multifunctional
Volkshaus offers one large and one small events hall.

The stores and restaurant facilities to the south of the boulevard,
which formed part of the second planning phase, as well as the
sheltering roofs in the area of the market and the tram stop to the
south of it, augment the existing social infrastructure and
reinforce the pedestrian connections in a north-south direction,
thus helping to link the different parts of the solarCity.

Solar City - Il Centro Cittadino

I negozi e le strutture di
ristorante poste a sud del
boulevard, come i tetti di
protezione nella zona del
mercato e la fermata del
tram a sud di esso,
potenziano le
infrastrutture sociali
esistenti e rafforzano le
connessioni pedonali in
direzione nord-sud,
contribuendo così a
collegare le diverse parti
della solarCity



Concept for the buildings

The main characteristics of the development are the overlapping north-south linear framework structures and the volumes of the buildings between them. The side streets and courtyards thus created allow for flexible usage and enable the residents and visitors to the solarCity to experience a diversity of spatial qualities.

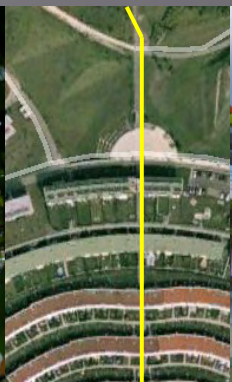
A color concept by the Salzburg artist Josef Schwaiger was implemented in the area of the market square. It comprises a spectrum of 13 colors that are created by overlaying different colored foils between the safety glass panes of the glazing facing the street. This strengthens the function of the framework structure as a bridge between different parts of the solarCity. Thanks to its balanced proportions and the fact that it is partially closed at the top, this open space creates a balance between openness and intimacy that invites visitors to linger here a while. While here the warm, sensual qualities of sunlight are conveyed, in the buildings sunlight is used to produce electricity.

Construction

The steel framework structure spans the side streets and the courtyards. It consists of a grid of girders 3.50meters wide and 14 meters long. At the intersections, at a height of 9 meters, the grid elements rest rigidly on fixed steel columns. The fixing of the columns also provides the horizontal bracing of the structure against wind and impact loads.

The primary structure of the two-story building consists of a reinforced concrete frame with a span of 10.25 meters. Inside the building, maximum flexibility is achieved by reducing the number of columns to an absolute minimum.

The post and beam facade made of larch wood attached to the front of the building has no structural function.



Il concetto di colore dell'artista Salisburgese Josef Schwaiger è stato implementato nella zona di Piazza del mercato. Esso comprende uno spettro di 13 colori creati inserendo diversi fogli colorati tra i vetri di sicurezza. Questo rafforza la funzione della struttura, come un ponte tra le diverse parti della solarCity. Grazie alle sue proporzioni equilibrate e il fatto che è parzialmente chiuso nella parte superiore, questo spazio aperto crea un equilibrio tra apertura e intimità che invita i visitatori a soffermarsi qui un po' di tempo. Mentre qui sono portati la qualità della luce del sole calda e sensuale, negli edifici la luce del sole viene

utilizzato per produrre energia elettrica.



Solar City - Il Centro Cittadino

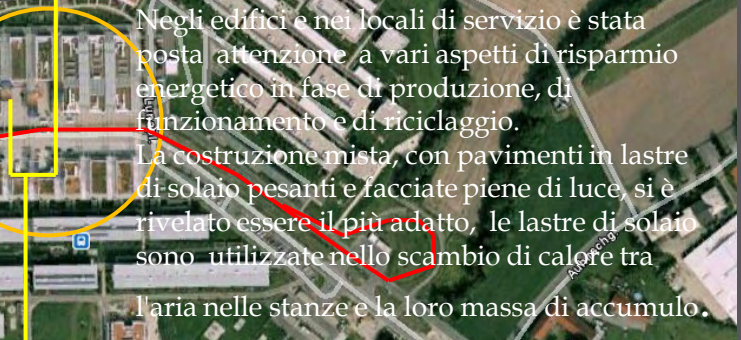
CENTER

Ecological concept

The buildings and their services carefully take into account various aspects of energy saving in the areas of production, operation and recycling. Mixed construction, with heavy floor slabs and light facades, turned out to be most suitable, as the slabs are engaged in the heat exchange between the air in the rooms and the storage mass. For the buildings with greater internal loads (offices, halls) the advantages offered by buildings with a thermally active mass are even greater, on account of the energy saved through the use of natural cooling. In combination with highly insulated wood facades and light partition walls that guarantee considerable flexibility in the internal organization of spaces, it was possible to realize an ecological building in which environmental impact and the use of energy and resources are minimized during all phases of the building's life.

Energy supply

The available areas on the roofs of the buildings are occupied by photovoltaic systems with a total area of 65 m².



Negli edifici e nei locali di servizio è stata posta attenzione a vari aspetti di risparmio energetico in fase di produzione, di funzionamento e di riciclaggio. La costruzione mista, con pavimenti in lastre di solaio pesanti e facciate piene di luce, si è rivelato essere il più adatto, le lastre di solaio sono utilizzate nello scambio di calore tra l'aria nelle stanze e la loro massa di accumulo.



Solar City - Il Centro Cittadino

CENTER

Open space concept

The square and the ensemble of buildings cross the boulevard to connect the northern and southern parts of the city. The green shimmering surface extends like a carpet both inside and outside, covering the surfaces of the buildings and the side streets, the pedestrian zones and the areas for vehicular traffic. Pedestrians, cyclists, motorists use this carpet together and adjust their speed to suit the special situation of an urban square.

The sandwich slabs of concrete and granite were developed especially for this location. Their joints follow the strict grid of the buildings. Long strips of dark stone continue the ground structure of side streets into the squares and across the traffic areas. They integrate the gutters, the cubic benches and the long water-table of dark colored concrete at the centre of the square. The color of the surfaces harmonizes with the larch of the facades and the glazed, partly colored roof elements. According to the weather conditions the color can change from a light grey-green to an intense green. Together with rows of trees in the west and east a tall creeper-covered pergola to the north terminates the square with a definite edge and separates public from private space.



Il colore delle superfici pavimentate armonizza con il larche delle facciate e delle vetrate, e con i parzialmente colorati elementi di copertura. Secondo le condizioni meteorologiche il colore può cambiare dal verde grigio al verde intenso. Assieme a righe di alberi ad ovest e a est un alto pergolato di rampicanti a nord determina il quadrato del centro con un perimetro preciso e separa la zona pubblica dallo spazio privato.

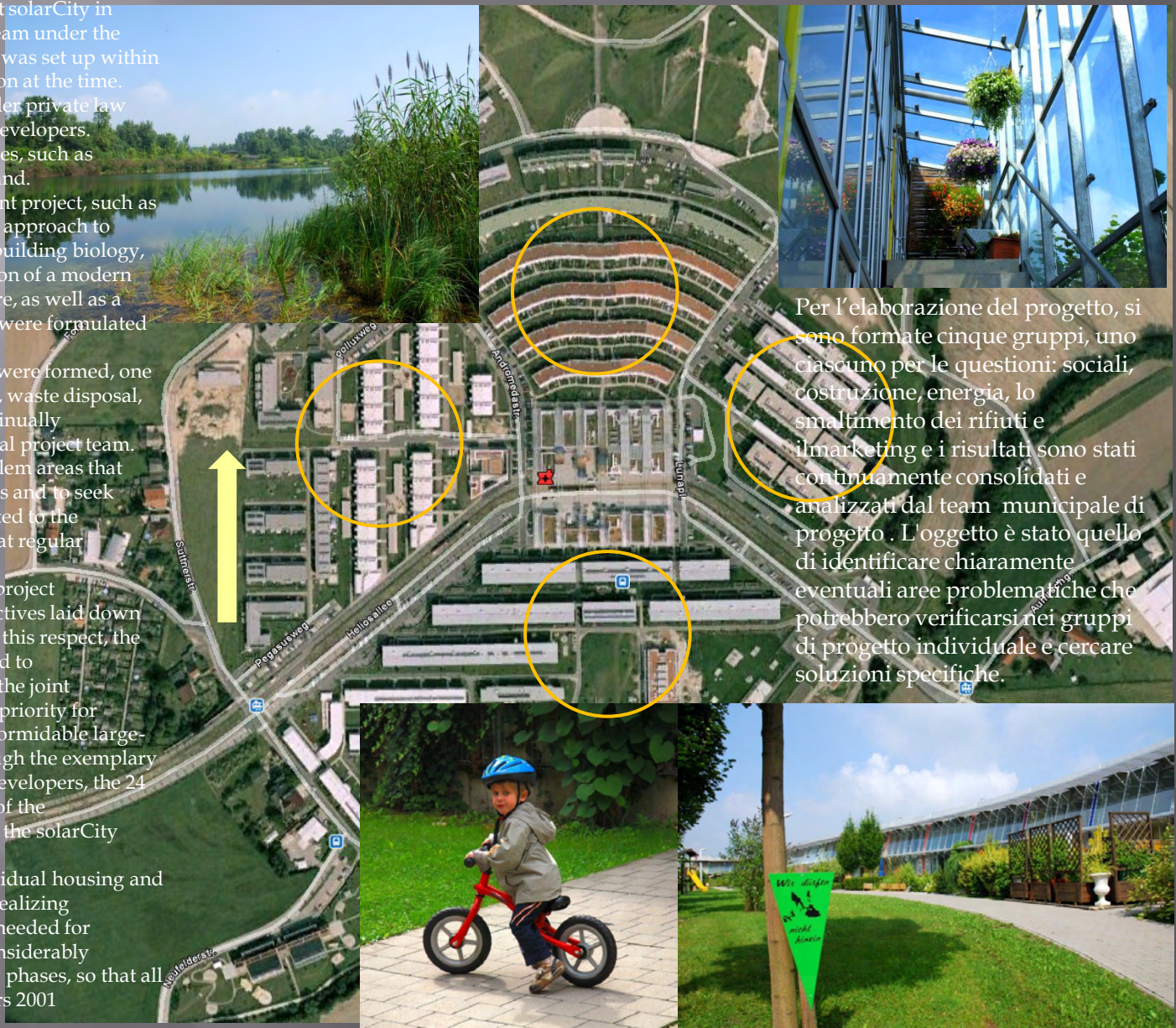
For the realization of the large-scale project solarCity in Pichling, a separate project management team under the direction of Dipl.-Ing. Gunter Amesberger was set up within Linz's municipal department of construction at the time. The City of Linz entered into contracts under private law with Linz's twelve participating housing developers. These contracts specified common objectives, such as binding maximum values for energy demand.

The main focuses of this urban development project, such as low-energy construction, a future-oriented approach to energy supply and disposal, the issues of building biology, local recreation and leisure time, the creation of a modern sociocultural, family-oriented infrastructure, as well as a joint, group-specific marketing campaign, were formulated in detail in a project agreement.

For the ongoing project work, five groups were formed, one each for social issues, construction, energy, waste disposal, and marketing, and their results were continually consolidated and analyzed by the municipal project team. The object was to clearly identify any problem areas that might arise in the individual project groups and to seek specific solutions. The results were presented to the supervisory board of the solarCity project at regular intervals.

One proof of the success of the municipal project management setup is the fact that the objectives laid down in the project agreement were achieved. In this respect, the project management team never saw a need to put pressure on the project partners, since the joint fulfillment of these objectives was a major priority for everyone. The concrete realization of this formidable large-scale project was only made possible through the exemplary cooperation between the twelve housing developers, the 24 participating administration departments of the City of Linz, the Linz AG corporation, and the solarCity project team.

Together with the 21 architects of the individual housing and infrastructure projects, they succeeded in realizing the plans swiftly and efficiently. The time needed for housing construction was, for example, considerably reduced by combining individual building phases, so that all the construction was completed in the years 2001 to 2005.



Per l'elaborazione del progetto, si sono formate cinque gruppi, uno ciascuno per le questioni: sociali, costruzione, energia, lo smaltimento dei rifiuti e il marketing e i risultati sono stati continuamente consolidati e analizzati dal team municipale di progetto. L'oggetto è stato quello di identificare chiaramente eventuali aree problematiche che potrebbero verificarsi nei gruppi di progetto individuale e cercare soluzioni specifiche.

Urban District Management

Installation of an urban district management office

In the urban district solarCity Pichling, which according to population statistics has just under 3,000 new residents, with another 4,000 residents in Pichling, urban district management is carried out both at an intermediate level, where it assumes a mediatory or interface function and deals, for example, with project coordination, and at the urban district level in the form of community work. This means that the intermediate level - the level of "urban district moderators" - functions as a "bridge" between the life-world of the community and the political and administrative authorities, public institutions and private enterprises. This requires multi-dimensional networking and resource work at the aforementioned levels from the professionals involved. In order to achieve an efficient development of the region and the urban district, an interdisciplinary and interdepartmental approach is required.

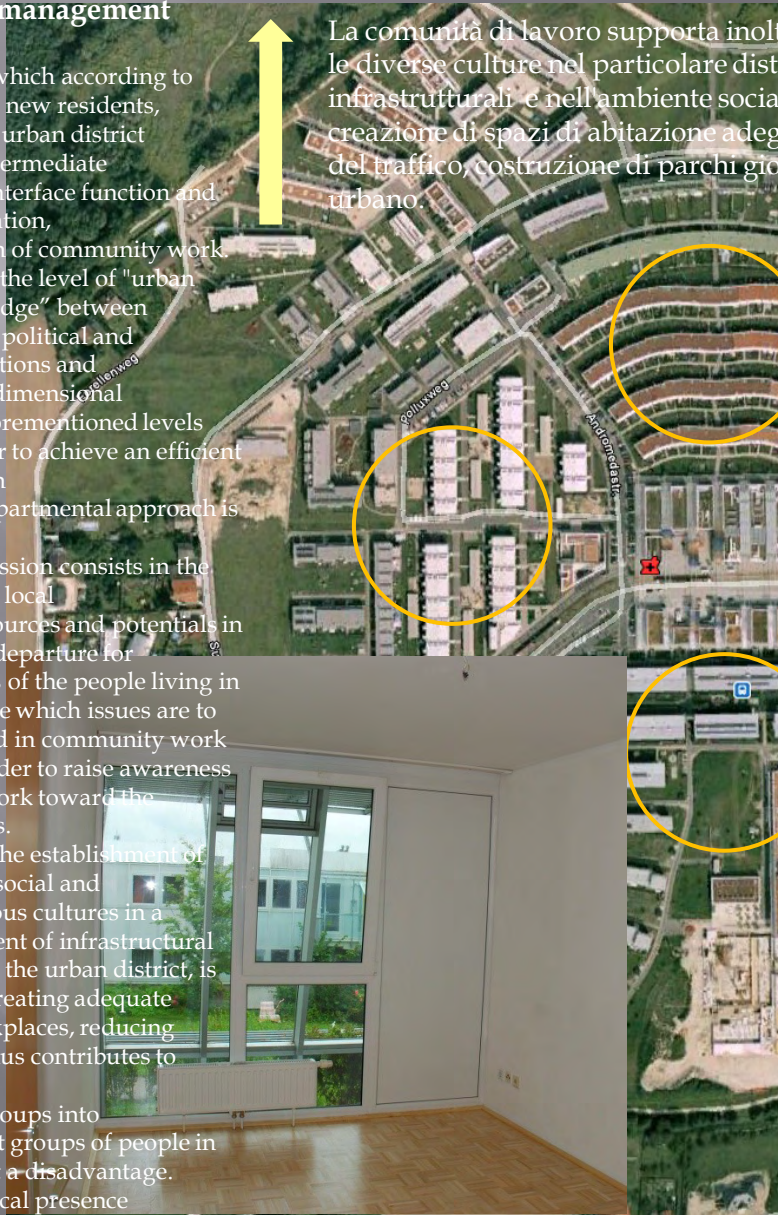
At the urban district level, the central mission consists in the non-project related empowerment of the local residents and in finding and linking resources and potentials in the district. In other words, the point of departure for community work is the needs and issues of the people living in the community. Their interests determine which issues are to be addressed. The professionals involved in community work help the residents to become active in order to raise awareness of the issues that concern them and to work toward the implementation of appropriate measures.

In addition, community work supports the establishment of horizontal networks between residents, social and infrastructural institutions, and the various cultures in a particular urban district. The improvement of infrastructural conditions in the social environment, i.e. the urban district, is an important aspect of this. It involves creating adequate dwelling spaces, public spaces and workplaces, reducing traffic, building playgrounds, etc. and thus contributes to urban (district) development.

Community work must take all target groups into consideration, since often many different groups of people in one urban district can find themselves at a disadvantage.

Prerequisites for community work are local presence and the establishment of an urban district office

La comunità di lavoro supporta inoltre la creazione di reti orizzontali tra residenti e le diverse culture nel particolare distretto urbano. Il miglioramento delle condizioni infrastrutturali e nell'ambiente sociale è un aspetto importante. Esso comporta la creazione di spazi di abitazione adeguati, spazi pubblici e luoghi di lavoro, riduzione del traffico, costruzione di parchi giochi, ecc. e contribuisce pertanto allo sviluppo urbano.



The idea of installing an urban district office in the solarCity Pichling arose as a result of a study carried out by the Austrian branch of the research, planning and consultancy network Wohnbund. The city councillor for social affairs in Linz, Deputy Mayor Dr. Ingrid Holzhammer, decided that community work / urban district work should be applied not only to project coordination but also preventatively, and initiated the establishment of an urban district office in Linz-Pichling.

The office's project coordinator and social worker are both integrated into the municipal administrative hierarchy of the City of Linz and its respective departments (the urban development department and the department of social affairs, youth and the family). This means that they are familiar with the organizational structures of internal administration and politics.

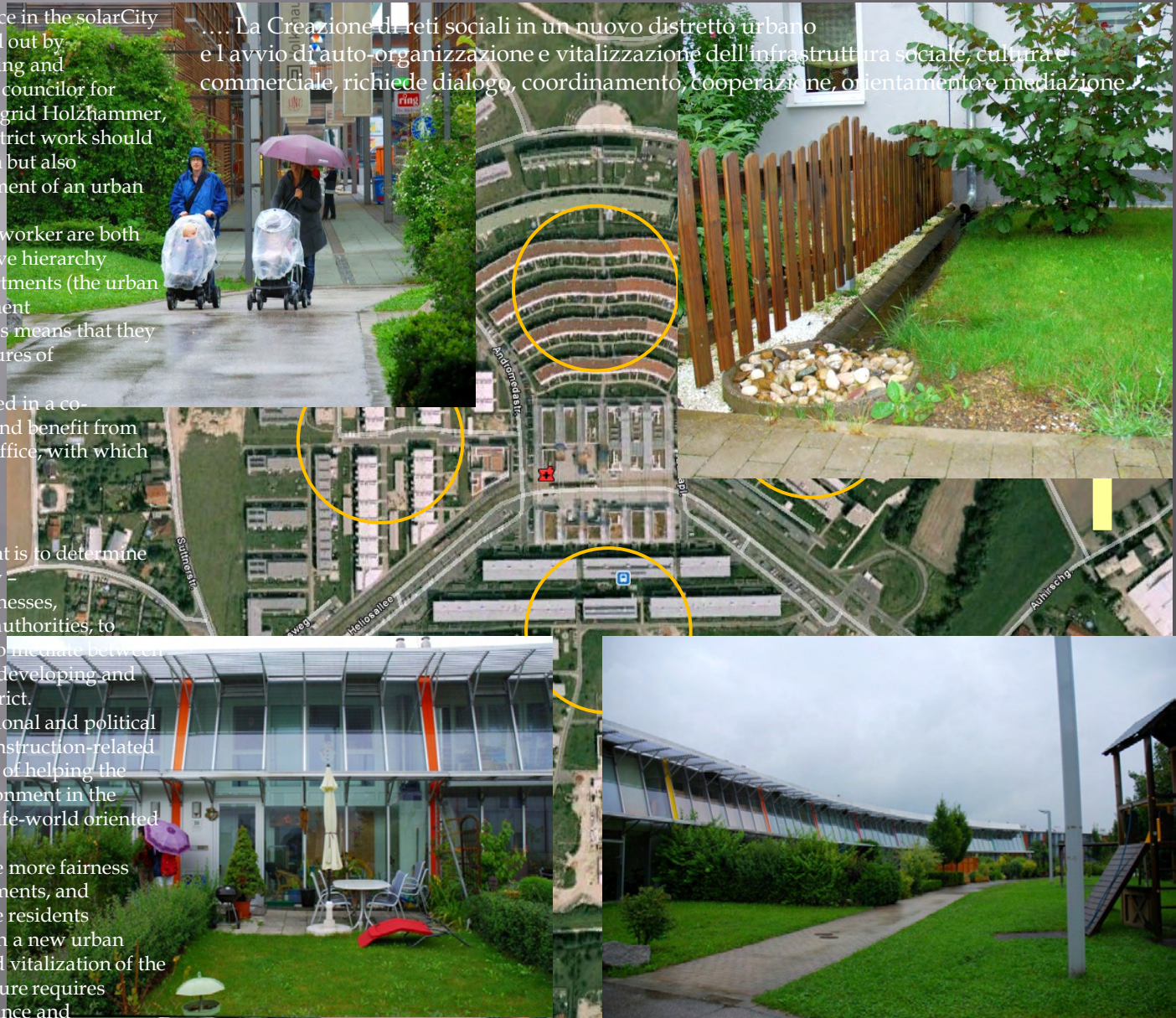
The twelve housing developers are involved in a co-financing concept and thus both support and benefit from the work of the solarCity's urban district office, with which they closely cooperate.

Concept

The objective of urban district management is to determine the various – and sometimes contradictory – needs and interests of residents, local businesses, associations, administration and political authorities, to coordinate and organize them, and often to mediate between conflicting parties, always with a mind to developing and improving the conditions of life in the district.

The interdisciplinary team has the professional and political task of ensuring the smooth running of construction-related and transport-related processes, as well as of helping the residents settle into their new living environment in the urban district of Pichling. This requires a life-world oriented approach; in other words, what is of primary importance here is to help achieve more fairness and co-determination in housing developments, and to do so with the active participation of the residents themselves. Establishing social networks in a new urban district and initiating self-organization and vitalization of the social, cultural and commercial infrastructure requires dialogue, coordination, cooperation, guidance and mediation.

... La Creazione di reti sociali in un nuovo distretto urbano e l'avvio di auto-organizzazione e vitalizzazione dell'infrastruttura sociale, culturale e commerciale, richiede dialogo, coordinamento, cooperazione, orientamento e mediazione.



Urban District Management

Scope of functions

The urban district office team has developed a pillar model, the pillars being networking, empowerment of the residents, public relations, advisory services on technical matters related to transport, traffic and construction, and project coordination.

The team's wide-ranging tasks include achieving integration of the old and the new parts of Pichling, reflecting on and mediating between the various needs of the resident groups, conducting surveys to determine what activities are important in the community, and establishing networks, not only between the various institutions and organizations in the urban district, but also support networks for the residents.

With respect to housing, dwelling environment and ecology, the focus is on maintaining the dwelling quality, establishing mixed structures among the residents, cooperating closely with the housing developers and supporting active neighborhoods and local associations.

The integrated concept of the functions of urban district management also includes the strengthening of local business enterprises, that is to say local suppliers, as well as the development of centers that will function as focal points of communication.

Events in the urban district

Information meetings on specific themes (expansion of infrastructure, planning and design of recreational spaces, transport and traffic, etc.) serve to support the residents in developing a beneficial social climate (under the motto: "making neighborhoods livable"). Of primary importance is the dissemination of information in order to facilitate the discussion of specific themes with network partners and residents, gather helpful suggestions and avoid potential conflicts that could arise as a result of information deficits relating to construction or social development in the urban district. In this respect, urban district management functions as an information platform or hub, in that it provides information and makes it transparent.



A city is "not a spatial entity with sociological consequences but a sociological entity that is formed spatially".

This famous quote by the urban sociologist Georg Simmel [1] clearly highlights the dilemma inherent in new large-scale urban expansion projects. Spectacular architecture, technologically innovative energy solutions and ecological building concepts are not an adequate basis for sustainable urban (district) development unless they are accompanied by a sustainable vision of "society" and apply a discriminating strategy of social organization to settlement and usage.

Achieving a high degree of social mixing and density as well as a functioning community life in the sense of a "balanced community" was therefore an important goal of the City of Linz in planning and realizing the solarCity. This meant that the new district on the city periphery had to be developed with particular care as regards social planning and in dialogue with all stakeholders.

Expertise and "round tables"

Commissioned by the Department of Social Affairs, the external office Wohnbund Salzburg, working in close cooperation with the City of Linz, the future developers, private social services and an expert on women-oriented planning, prepared "comprehensive sociocultural planning" [2] for the first 1,300 dwellings on the basis of the criteria contained in the READ architects' master plan. The point of departure for this study was the conviction that anything even approaching mixed urban districts could only be achieved by means of highly detailed "social planning scenarios".

The study describes dwelling occupancy scenarios based on legal form, dwelling size and sociodemographic structure data, and also proposes quality components for achieving urban district development that is as innovative and socially sustainable as possible. The elaborated concepts and proposed measures were discussed and specified at "round tables" with the twelve housing developers and their architectural firms as well as other municipal specialists. In the joint realization of the concepts, the central approach focused on the goal of achieving an "attractive urban district solarCity Pichling with a high quality of life and high quality dwelling conditions".

.....Una città è "non un'entità territoriale con conseguenze sociologiche, ma un'entità sociologica che è formata spazialmente".

Questa famosa citazione dal sociologo urbano Georg Simmel, evidenzia chiaramente il dilemma insito in nuovi progetti di espansione urbana su larga scala. Spettacolari architetture, soluzioni tecnologicamente innovative, energia e costruzioni con concetti ecologici non sono una base adeguata per lo sviluppo urbano sostenibile, a meno che essi non siano accompagnati da una visione sostenibile della "società" e applicare una strategia più esigente di organizzazione sociale di insediamento e di utilizzo. Nella realizzazione congiunta dei concetti, l'approccio centrale si è concentrata sull'obiettivo di realizzare un "distretto urbano attraente solarCity Pichling, con un'alta qualità di vita e condizioni di abitazione di alta qualità".



Solar City - Le Residenze

Comprehensive Sociocultural Planning

“City’ on the outskirts” as a mission statement?

The large demand for dwellings in the Linz conurbation in the 1990s (12,000, according to provincial statistics) gave rise to the planning of a new, purely residential district with a focus on “social housing” on the outskirts of the city. It was thus clear from the start that in the case of the solarCity Pichling, the issue would not be to create more “city” in the sense of mixed-use urban development, but at best to achieve a compromise such as is found in almost all recent urban development projects in Austria and abroad. It is the opinion of many urban researchers that in recent years no real urban developments have been built in any case, but only housing estates and other suburbs camouflaged to varying degrees to appear urban or anti-urban. Nevertheless, the objective followed in developing the solarCity was to achieve an urban structure that was as mixed as possible and to effectuate this compromise with painstaking attention to detail. The goal was thus to develop socially compact and highly innovative housing solutions as functioning modules of the urban development area and to complement them with a future-oriented sociocultural infrastructure.



.....La grande domanda di abitazioni nell'agglomerato di Linz, negli anni '90 (12.000 secondo le statistiche provinciali) ha dato luogo alla pianificazione di un nuovo quartiere residenziale particolarmente orientato all'“edilizia sociale”, posto nella periferia della città di Linz. L'obiettivo era quindi di sviluppare soluzioni socialmente compatte e abitazioni altamente innovative come moduli funzionanti all'interno dell'area di sviluppo urbano e di completarle con un'infrastruttura socioculturale orientata al futuro.

Comprehensive Sociocultural Planning

Scenarios for dwelling mix and occupancy

The waiting lists of the participating housing developers, survey data evaluated by the province of Upper Austria, statistics, specially evaluated microcensuses, interviews with social organizations and other sources as well as the experiences of other comparable large development areas in Austria and abroad formed the basis of considerations regarding a socially acceptable population and dwelling mix.

"Scenarios" were prepared as simulations of what the dwelling mix and the structure of households in the first two planning phases of the solarCity might look like, depending on the respective assumptions on which each was based. The following scenarios were compared:

- Scenario 1: actual scenario (Linz average)
 - Scenario 2: developer scenario (based on waiting list data)
 - Scenario 3: target scenario (qualitative social mix)
- The data and percentages of the target scenario were intended to be seen not as absolute "benchmarks" but as approximations, as trends.

As far as orienting the project towards social target groups was concerned, the planning focused not so much on remedying the general lack of "typical" dwellings but rather on the lack of "space" for divergent needs and new market groups. Therefore one of the goals was to arrive at a qualitative differentiation of the demand for housing, in particular by taking into consideration non-family user groups, and to offer a variety of appropriate solutions, including larger dwellings for potential home-buyers, intercultural housing, and solutions for multigeneration families, apartment-sharing or "working and living"



Pertanto, uno degli obiettivi era di arrivare a una differenziazione qualitativa della domanda di abitazioni, in particolare, prendendo in considerazione gruppi di utenti non solo familiare e di offrire una varietà di soluzioni adeguate, comprese le abitazioni più grandi per i potenziali acquirenti della casa, alloggi interculturali e soluzioni per le famiglie multigenerazionali, condivisione dell'appartamento o "lavorare e vivere".

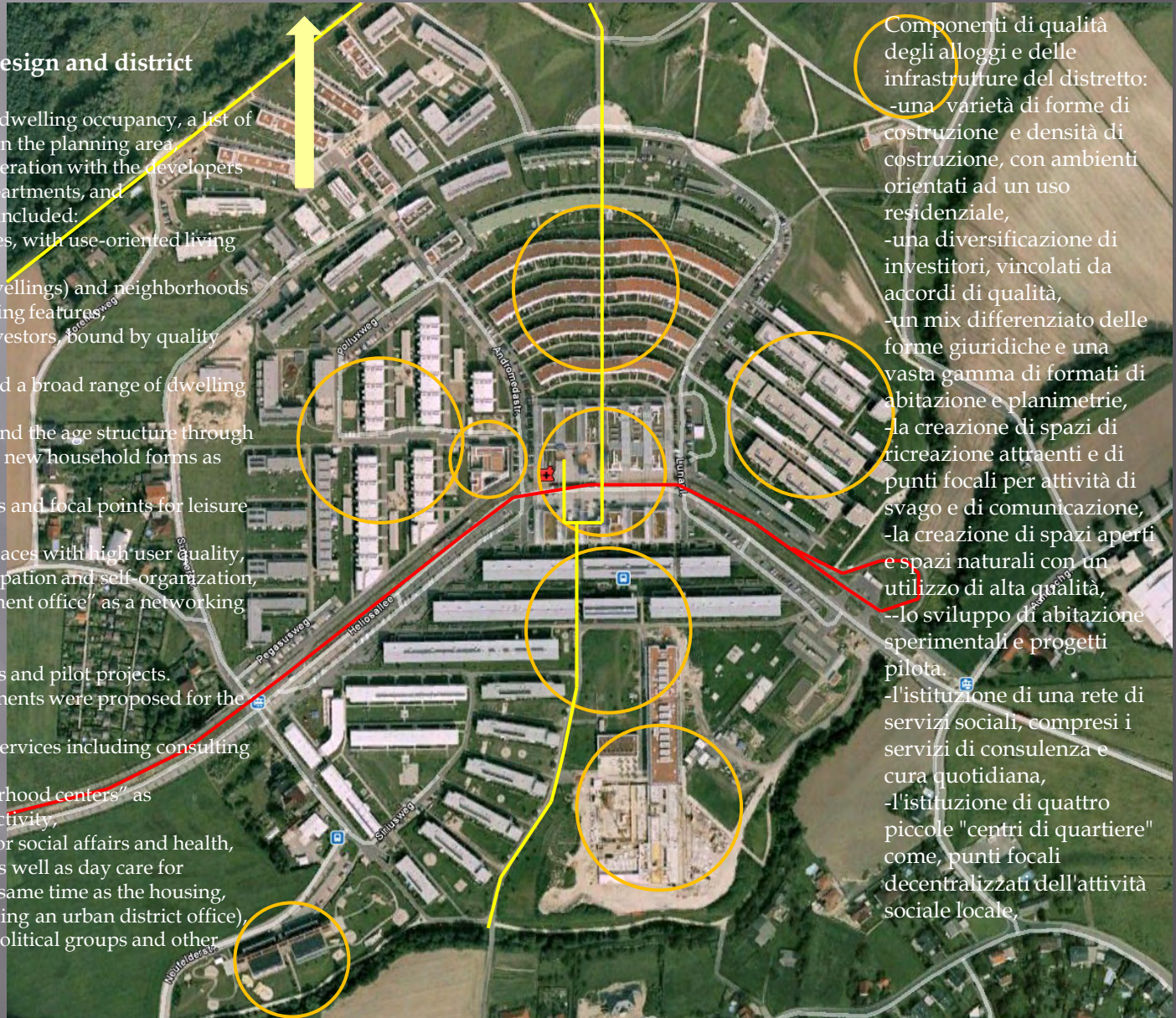


Comprehensive Sociocultural Planning

Quality components in housing design and district infrastructure

As a supplement to the target scenario for dwelling occupancy, a list of other quality components for "social life" in the planning area, including examples, was prepared in cooperation with the developers and the competent city administration departments, and recommended for implementation. These included:

- a diversity of building forms and densities, with use-oriented living environments,
 - manageable building sizes (100 to 300 dwellings) and neighborhoods (15 to 30 dwellings), with identity-promoting features,
 - a diversity of housing developers and investors, bound by quality agreements,
 - a differentiated mixture of legal forms and a broad range of dwelling sizes and floor plans ,
 - a sustainable mix in the social structure and the age structure through the integration of new dwelling forms and new household forms as well as of special target groups,
 - the creation of attractive recreation spaces and focal points for leisure activities and communication,
 - the creation of open spaces and nature spaces with high user quality,
 - differentiated concepts of resident participation and self-organization,
 - the institution of a "city district management office" as a networking hub (infocenter) with community work professionals and
 - the development of dwelling experiments and pilot projects.
- In addition, the following quality components were proposed for the central infrastructure of the district:
- the establishment of a network of social services including consulting services and day care,
 - the establishment of four small "neighborhood centers" as decentralized, focal points of local social activity,
 - the provision of a central infrastructure for social affairs and health, education and culture (education center) as well as day care for children and teens, to be completed at the same time as the housing,
 - public administration institutions (including an urban district office), an ecumenical center, meeting rooms for political groups and other associations and-stores within easy reach.

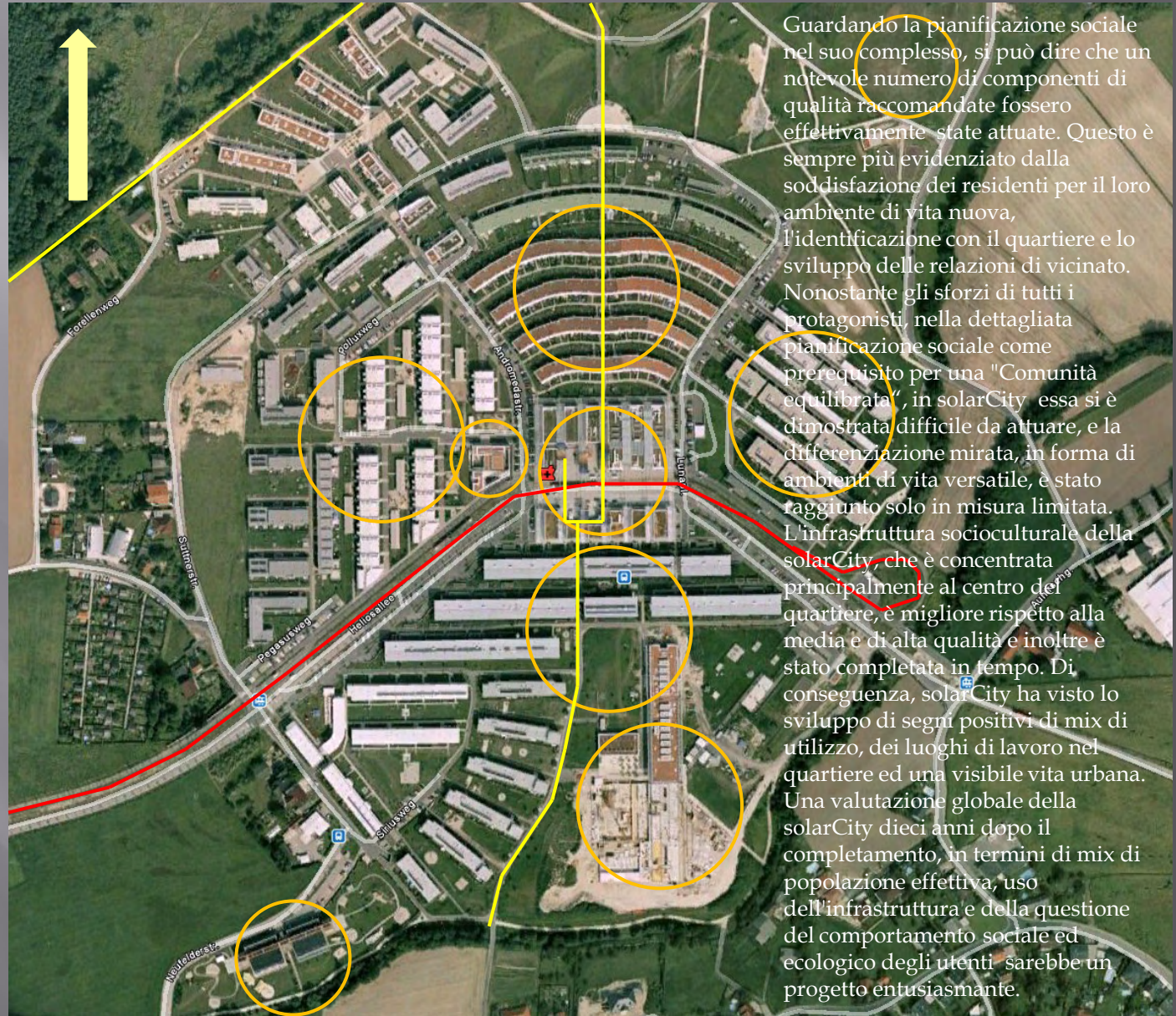


Componenti di qualità degli alloggi e delle infrastrutture del distretto:

- una varietà di forme di costruzione e densità di costruzione, con ambienti orientati ad un uso residenziale,
- una diversificazione di investitori, vincolati da accordi di qualità,
- un mix differenziato delle forme giuridiche e una vasta gamma di formati di abitazione e planimetrie,
- la creazione di spazi di ricreazione attraenti e di punti focali per attività di svago e di comunicazione,
- la creazione di spazi aperti e spazi naturali con un utilizzo di alta qualità,
- lo sviluppo di abitazione sperimentali e progetti pilota.
- l'istituzione di una rete di servizi sociali, compresi i servizi di consulenza e cura quotidiana,
- l'istituzione di quattro piccole "centri di quartiere" come, punti focali decentralizzati dell'attività sociale locale,

Social planning in review

Looking at the social planning as a whole, it can be said that a remarkable number of the quality components recommended were actually implemented. This is increasingly evidenced by the residents' satisfaction with their new living environment, their identification with the district and the development of active neighborly relations. Despite the efforts of all the protagonists, detailed social planning as a prerequisite for a "balanced community" in the solarCity proved to be difficult to implement, and the targeted differentiation, in the form of versatile living environments, was only achieved to a limited degree. Ultimately it was not possible to take the requirements of social and demographic transformation and new household structures into account in the solarCity to the hoped-for extent, nor to make as much allowance for the integration of experimental dwelling forms as anticipated. The sociocultural infrastructure of the solarCity, which is mainly concentrated in the district center, is better than the average and of high quality and was also completed on time. As a result, the solarCity has seen the development of positive signs of usage mix, workplaces in the district, and visible urban life. A comprehensive evaluation of the solarCity ten years after completion, in terms of the actual population mix, infrastructure use and the question of social and ecological user behavior would be an exciting project.



Guardando la pianificazione sociale nel suo complesso, si può dire che un notevole numero di componenti di qualità raccomandate fossero effettivamente state attuate. Questo è sempre più evidenziato dalla soddisfazione dei residenti per il loro ambiente di vita nuova, l'identificazione con il quartiere e lo sviluppo delle relazioni di vicinato. Nonostante gli sforzi di tutti i protagonisti, nella dettagliata pianificazione sociale come prerequisito per una "Comunità equilibrata", in solarCity essa si è dimostrata difficile da attuare, e la differenziazione mirata, in forma di ambienti di vita versatile, è stato raggiunto solo in misura limitata. L'infrastruttura socioculturale della solarCity, che è concentrata principalmente al centro del quartiere, è migliore rispetto alla media e di alta qualità e inoltre è stato completata in tempo. Di conseguenza, solarCity ha visto lo sviluppo di segni positivi di mix di utilizzo, dei luoghi di lavoro nel quartiere ed una visibile vita urbana. Una valutazione globale della solarCity dieci anni dopo il completamento, in termini di mix di popolazione effettiva, uso dell'infrastruttura e della questione del comportamento sociale ed ecologico degli utenti sarebbe un progetto entusiasmante.