Vision & Reality - Glückstein Quartier in Mannheim, Germany

ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST

9th International Stage – Belgrade 2013

CertainTeed SAINT-GOBAIN

IZOCAM

ISOVER SAINT-GOBAIN

Belgrade, Serbia

May 15-17 2013

Willkommen!
Сардэчна запрашаем!
Добре дошли!
Dobro došli!
Vítame Vás!
Tere tulemast!
Tervetuloa!
Кош келдіңіздер!
Добро пожаловать!
Ласкаво просимо!
Hoşgeldiniz!
Laipni lūgti!
Sveiki atvykę!
Bine ati venit!
Vítáme vás!
Dobrodošli!
Bienvenido!
Welcome!
Witamy!

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Content

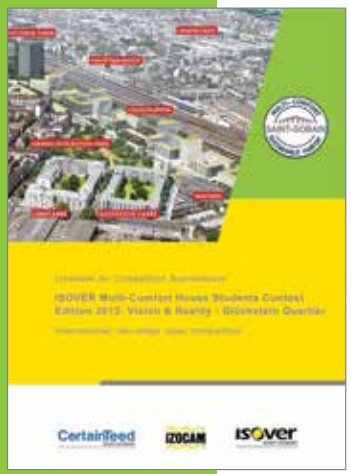
Introduction

HISTORY

During 3 days, between 15th and 18th of May, 52 student teams from 19 countries competed in the 9th International Stage of the ISOVER Multi Comfort House Students Contest in Belgrade, Serbia. Participants were coming from: Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Finland, Kazakhstan, Latvia, Lithuania, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Turkey, United Kingdom, and Ukraine

The event, dedicated to architecture students, aims at better disseminating the ideas of energy efficiency as well as the different comfort dimensions among these future opinion leaders. It is based on the Saint-Gobain Multi Comfort Concept and it was originally held at international level in Bulgaria in 2005. The competition is structured in 2 stages: national stages followed by an international one were the best 3 projects from each country compete.

For 2013 edition, 1000 students from more than 100 universities registered for the participation to the national stages, stretching from as far east as Far Eastern Federal University (FEFU) in Vladivostok from Russia to Edinburgh School of Architecture and Landscape Architecture (ESALA) in Scotland, United Kingdom in Western Europe.



ASSIGNMENT

The participants to ISOVER Multi-Comfort House Students Contest 2013 Edition were required to present a vision of the future development of some parts of the “Gluckstein Quartier” in Mannheim, Germany, taken into account the existing realities.

This project required the development of residential building based on the Saint-Gobain Multi Comfort concept which need to appear as a natural extension of the existing neighbourhood. In addition, the development had to improve the usage of the green area while creating a link with the existing housing stock.

FINAL STAGE

The contest started with the opening of poster exhibition giving the participants as well as jury members a first change to see all the proposed projects.

The members of the jury were:

- Slawomir Szpunar - International Marketing Director - Saint-Gobain
- Klaus Elliger - Head of urban design department - City of Mannheim
- Roland Matzig - RMP Architects - Germany

Participants in the ISOVER Multi-Comfort House Students Contest 2013 International Stage

The International Winners 2013

During the second day each participating team had the opportunity to present their design and ideas to the jury as well as to the other participants in the hall and to friends and colleagues watching them online as the event was webcast live.

THE INTERNATIONAL WINNERS 2013

- 1ST PRIZE: MATO BLATANČIĆ from University of Ljubljana, Slovenia
- 2ND PRIZE: ELENA KRUGLOVA, MARIIA ZHELIAZKOVA, ANNA KRUGLOVA from Poltava National Technical University named after Yuri Kondratyuk, Ukraine
- 3RD PRIZE: GRZEGORZ BOCHENEK from Wroclaw University of Technology, Poland

Special prizes:

- IVANA JELIĆ, DALIA DUKANAC from University of Belgrade, Serbia
- KEIU TULEV, LAURA OJALA from Tallinn University of Technology, Estonia
- IVO RIET, ANNA TEMMO from Tallinn University of Technology, Estonia
- ANDREI ANDREUYK from Belarusian National Technical University, Belarus
- JENNI EKLOF, SAMI ISONIEMI, JUKKA PERAMAA from Tampere University of Technology, Finland

Winner of the 1st prize : Mato Blatančić toghther with professor MARTINA ZBAŠNIK-SENEGAČNIK and Managing Director of ISOVER Slovenija Borut Kocjan

The Professors

PROFESSOR ARCH. ANNA LITVINOVA — Belarus

Architect, designer and a leading expert in the field of architectural design and coloring, design of color and their study in architectural school. Head of the department "Design of architectural environment" at Belarusian National Technical University since 2002, Associate Professor. In 1980, graduated from the Dnepropetrovsk Civil Engineering Institute in speciality "Architecture," in 1992 - postgraduate studies (by correspondence) at the Belarusian State Polytechnic Academy. Since 1986 - Member of the USSR Union of Architects, the Belarusian Union of Architects. Full member of the AAU MOOSAO of the Republic of Belarus. Winner of the Special Prize of the President of the Republic of Belarus in the field of criticism and art history in 2003, Vth BSA National Festival of Architecture, International Science Project Competition and Exhibition mode on-line "Artistic Design Culture In the Era of Information Technologies", Russia, 2008. For creative achievements in the training of future architects awarded diplomas of the Belarusian Union of Architects and the Belarusian Union of Designers. The head of 30 graduation diploma projects (starting with 1998) marked by I and II degrees certificates in international and national contest of the best graduation projects (2 Grand Prix of the Republican contests.) Co-author of a textbook, "Architectural coloring"(two books), author over 50 scientific publications in domestic and foreign editions. The participant of republican and international conferences, symposiums, congresses and exhibitions. Jury member of international and national competitions in the field of architecture and design. Author and coauthor of over 50 completed and implemented significant works of architecture and design (Belarus, Russia, Ukraine, Crimea, Armenia, Lithuania).

DOCTOR OF ARCHITECTURE ARMEN SARDAROV — Belarus

Doctor of architecture, Dean of the Architect department of Belarusian National Technical University. The Belarusian scientist, architect and teacher. He graduated from the Architectural Faculty of the Belarusian Polytechnic Institute. In 1974 he successfully defended his thesis, for the first time in the Soviet Union on the theme "Road architecture". From 1973 to 2005 he worked in the national road organizations in Belarus, starting as a senior engineer at the Institute "Belgiprodor" to the Deputy Director General - the chief architect of RUP "Beldortsentr." Since 2005 - Dean, Faculty of Architecture BNTU. Doctor of Architecture. Researcher in the field of transport architecture and history of the roads development in Belarus. Author of 7 books and over 200 other scientific papers. Works of A. Sardarov were translated to different languages in the United States, China and Poland. From 1992 to 1998 - Member of the Transportation Research Board (TRB) at the National Academy of Sciences of the USA. Editor in chief and associate editor of three scientific journals. Member of the Scientific and Methodological Council on the Protection of Historical and Cultural Heritage issues under the Ministry of Culture of Belarus. Author of the project of the memorial sign "Pachatak darog Belarus" on October Square in Minsk, the architectural design of bridges and overpasses in Minsk, Vitebsk, Mogilev, Gomel, Orsha, the projects of public buildings in Minsk and Minsk region. He developed over 120 projects of architectural and graphic design, facilities improvement of roads in Belarus. Awarded with six silver medals at USSR Exhibition of Economic Achievements, signs "Honorable roader" I and II degree, the medal of St. Cyril of Turov, Diplomas issued by Minsk Regional Executive Committee, Minsk City Council, the Ministry of Education, Ministry of Construction and operation of highways, the Ministry of Nature and the Environment.

ARCH. TATIANA PANCHENKO — Belarus

An architect, the head of architectural project and drawing department of the Brest State Technical University since 2010. In 1997 graduated from the Belarusian National Technical University, speciality "Architecture". In 2005, the post-graduate course (correspondence deportment) of the Belarusian National Technical University. Starting with 1999 the manager of more than 20 diploma projects, awarded with certificates of I and II degrees al the republic competitions of the best diploma projects. The author of more than 40 scientific publications in nativ and foreign editions. The member of republic and international conferences, symposiums, congresses and exhibitions. The jury member of international, republic competitions in the field of architecture and design.

ASSOCIATE PROFESSOR DR. ARCH. BORIANA GENOVA — Bulgaria

Boriana Genova was born in 1950 in Sofia. She graduated Architecture at Engineering Institute for Higher Education major in urban planning in 1974 and started her career as an architect. In 1976 she started work as a research associate at the Health Research, Technological and Design Institute. For the next three years arch. Genova worked for her doctor's degree at the Moscow Architectural Institute. Since 1982 arch. Doctor Genova works at the University for Architecture, Engineering and Geodesy in Sofia first at the research laboratory and later at the department for residential buildings. Since 2000 she leads the Department for residential buildings. As a scientist and research arch. Genova worked on different problems and regulations in the field of health and social service buildings, education and residential buildings. At the Architectural University arch. Genova holds lectures in Residential and Social Buildings as well as Urban Planning.

PROFESSOR LJUBOMIR MIŠČEVĆ D.I.A. — Croatia

Born in 1954 and graduated from the Faculty of Architecture in Zagreb in 1979. Since 1979 has been working in the Institute of Architecture and as an associate at the Department of Architectural Design. Since 1991 has been teaching Energy and Ecology Architecture. He became a senior lecturer in1994/95 and an assistant professor in 1996/97. Since 1997/98, has been a supervisor for Graduation thesis courses and in 1999/00 the head for courses in Integral Work. Completed the post-graduate program in Urban and Physical Planning in 1982; registered scientist. He attended a specialist seminar in Architecture and Practical Design in Lisbon in 1993: EU DG XVII. Since 1985 has been engaged in the Croatian project Passive Solar Housing Architecture and in international research projects in Energy and Ambience Rehabilitation in Housing. He received awards from the Croatian State Administration of Environmental Protection in 1995 and from Ford Motor Company for the protection of nature and cultural heritage in 2000. Since 2000, has been head of the International Summer School of Architecture in Motovun. Chairman of the Association of Zagreb's Architects from 2001-2005. The president of Croatian section in International Solar Energy Society (ISES) and vice-president of Croatian Centre for renewable energy sources (CERES). Head of EU projects for Croatia; PASS-NET (with the support of Intelligent Energy Europe - IEE) - the three years project (2007-2010) that promotes passive house as a standard of building in EU as of PERFECTION, IDES-EDU projects etc.

PROFESSOR JAN TYWONIAK — Czech Republic

Jan Tywoniak, born 1957, is professor at Czech Technical University in Prague, Faculty of Civil Engineering. Since 2008 he is a deputy head of the Department of Building Structures. His professional activities – in teaching and in research - are mainly related to the thermal performance of buildings and integrated building design approach. He was member of design teams by several buildings, consequently focused on minimizing of energy demand and integration of renewable energy systems. He was involved in introducing and operation of master-degree program Buildings and Environment. He participated in several national/European research projects. Prof. Tywoniak is the head of the national board for standardization Thermal Performance of Buildings. He is author and co-author of basic technical standards in this field. He is a co–initiator and member of scientific boards of national /international conferences dealing with refurbishment, thermal protection of buildings, passive houses (Passivhaustagung), sustainability of built environment (CESB). He published more than 100 papers and 3 books dealing with strategies for energy savings in buildings and overall sustainability of built environment. He was a member of the jury in ISOVER Multicomfort House Contest in 2011.

ARCH. EMIL URBEL — Estonia

Born in 1959 in Pärnu he graduated his studies of architect in 1982 at Estonian Academy of Arts. Awarded in 1990 by the Estonian Union of Architects 'Best young architect' he starts teaching at the department of architecture of Tallinn Technical College. From 2012 he is teaching at Tallinn University of Technology, Faculty of Civil Engineering, Department Of Structural Design.

PROFESSOR JOUNI KOISO-KANTTILA — Finland

Born in 1947 he graduated from the Dep. of Architecture at the Univ. of Oulu in 1973 and made his PhD in architecture in 1976. He has been teaching architecture at the Dep. of Architecture, Univ. of Oulu since 1976. He is professor of Architecture from 1988 and now he also acts as the coordinator of Candidate of Technology program at the department. He has had his own architect's company for thirty years and has designed numerous buildings in northern and central Finland. He's been actively involved wood constructions, wooden architecture and energy efficiency research. He is also the head of the National Graduate School of Wood Constructing and Design and the leader of national Modern Wooden Town Program financed by the Finnish Government. He is a member of Finnish Academy of Technology and has received several national awards for wooden architecture.

LECTURER HARRI HAGAN — Finland

Harri Hagan, Architect, M.Sc., is Lecturer having several courses in TUT School of Architecture and Department of Structural Engineering such as: Ecology in Architecture, Renovation and Complementary Building Design, Basic and Advanced Courses. He is also working in his own office which is from 1980 worked mainly with problems and solutions concerning architectural consequences of building repairs in suburbs, energy efficient and ecological renovation methods and visual possibilities transforming suburban areas. He is also responsible leader of ENTELKOR-project (Energy Efficient Renewal of Mass-produced Concrete Element Suburbs in Finland) in EDGE Laboratory for Architectural and Urban Research TUT. Project is financed by Finnish Ministry of Environment and ARA Finnish Foundation for Housing Development.

PROFESSOR ARCH PETRI AARNIO — Finland

Graduated from Department of Architecture at University of Oulu 1994. Member of the Finnish Association of Architects since 1995. Worked in architecture offices 1984-2003 focusing on public buildings, apartment buildings and wooden buildings. Teaching architecture at the university of Oulu in the department of architecture in the laboratory of architectural construction since 2003. The main aspects in teaching: wooden structures, detailing of structures, sustainability, energy efficiency, planning of flats. Member of the management team of the architecture department of the university of Oulu. The Good Teacher Award of Oulu university 2010.

PROFESSOR DR. LARISA GORSHKOVA — Kazakhstan

Basic education - civil engineer (civil and industrial construction). I have hands-on experience in construction, 30 years of teaching experience in higher education.
Academic degree - PhD, a post - Professor of Innovation Eurasian University in Pavlodar. Winner of the presidential grant “The best teacher of the university of the Republic of Kazakhstan.” Graduate students and students under my direction repeatedly is the winner of various international and national competitions for the best graduation projects, research work and student scientific conferences.

ASSISTANT PROFESSOR DINARA SADVOKASOVNA KARPYKOVA — Kazakhstan

Assistant professor of the department of Architecture at KasGASA, the Republic of Kazakhstan. Karpykova D. S. is an architect, highly skilled expert having the wide range of professional creative works. The sphere of her activity is connected with architectural, design, sculptural, art and decorative works. During practical work she has cooperated with creative teams of Moscow, Kiev and Volgograd, took part in city, republican and international exhibitions. She has creative experience connected with books in graphics and polygraph. Since 2000 she has been teaching the main disciplines on architectural specialty at KasGASA . She supervises diploma projects and term papers which are highly appreciated at the international, republican and city competitions. For participation at competitive projects of company “IZOVER” student’s projects under her guidance were awarded with diplomas in 2009 and 2012.

SENIOR LECTURER ARCH. OLEG ESYUTIN — Kazakhstan

Graduated from Moscow Institute of Architecture in 1978, postgraduate at the Department of Architecture of residential and public buildings at Almaty Architecture and Construction Institute between 1984-1987. He is curently senior Lecturer, "Architecture and Design," at Institute of Architecture and Construction, KazNTU. He is curently involved in the developement of different projects as a designer or as a supervisor in the corp. of city planners of Kazakhstan.

ARCH. UĢIS BRATUŠKINS — Latvia

Architect, born in 1961, Professional degree of Architect (1984), Master of Architecture (1995), Doctor of Architecture (2006). Doctoral thesis “Development of Public Open Spaces of Riga Medieval Centre in the 19th and 20th Centuries”. Member of Latvian Association of Architects. Author of many public and dwelling buildings in Riga and other towns of Latvia. Dean of the Faculty of Architecture and Urban Planning of Riga Technical University. Regular publications in the almanac “Architecture and Construction Science”//”Scientific Proceedings of Riga Technical University” and local professional magazine “Latvijas Arhitektūra”.

ASSOCIATED PROFESSOR DR, ARCH. SIGITAS KUNCEVIČIUS — Lithuania

Architect, born in 1958, gratuated from the Faculty Of Architecture at Vilnius Civil Engineering Institute in 1981.Since 1991 associated professor of Vilnius Gediminas Technical University (VGTU) Faculty of Architecture. Chief architect of architect company, succeeded in many different projects. Member of council Architects Chamber of Lithuania.

PROFESSOR ING. ARCH. LECTURER ANDRZEJ DUDA — Poland

Andrzej Duda, born in 1953, graduated from Silesian University of Technology in Gliwice (1973-79), post graduate studies in The Berlage Institute of Amsterdam (1991-92), established architectural office INARKO (together with H. Zubel) in 1988. Winner of about 40 architectural competitions, Honoured with many awards for his architectural works. Since 1980 a teacher at the Architectural Department of Silesian University of Technology in Gliwice and a guest professor at Warsaw University of Technology, Wrocław University of Technology, Prague University of Technology and Tbilisi Art Academy. Since 2002 an independent expert of European Union Prize for Contemporary Architecture Mies van der Rohe Award.

ASSISTANT PROFESSOR, PHD ARCH. ANNA BAĆ — Poland

In both activities, teaching at the Faculty of Architecture at Wroclaw University of Technology and architectural practice, Anna is focused on eco-logical and environmental friendly solution in architectural design. She is co-owner of small architectural firm with design ideas focus on sustainable architecture and energy efficiency. The firm has won a few competitions, mostly for education buildings and housing. Anna has written a few articles about energy-efficient and passive houses and about designing of contemporary schools. Anna is a member of Association of Polish Architects – SARP and Professional Association of Architects – DOIA. She is grounder of student's group 'eco_studio'. Her students received awards in many international competitions according to sustainable architecture.

PHD, ING., ARCH. KRZYSZTOF CEBRAT — Poland

Krzysztof Cebrat is a graduate of, and lecturer at the Faculty of Architecture of the Wrocław University of Technology, Poland. He is an architect with an 18. year experience, many award winning competition entries and designs, scoping from single family houses and their surroundings, through landscape design , to large scale educational and industry buildings . His research focuses on ecological and low cost architecture. At the Faculty of Architecture, he is involved in creating a new field of studies for second degree students: Sustainable Architecture.

PROFESSOR DR. ING. IRINA BLIUC

Romania

Prof. dr. ing. Irina Bliuc graduated from Civil Engineering Faculty, “Gh.Asachi” Technical University of Iasi. She accomplished the doctoral thesis in 1984, in the same university, the topic being related to Energy Efficiency and Comfort in Residential Buildings. The rich academic experience achieved in Faculty of Architecture and in Faculty of Civil Engineering and Building Services from “Gh. Asachi” Technical University of Iasi is reflected by course like: Buildings Physics, Constructions in Buildings, Renewable Energies, Modern Finishing Methods Used in Buildings Industry. The field of research is represented by: Energy Efficiency and Sustainable Buildings, Indoor Environment Quality and the Users’ Satisfaction, Adapting Buildings to Climate Changes. She encouraged the co-operation between universities, being the promoter of such a research project, its subject being “Systems of Integrated Solutions for Thermal Rehabilitation of Buildings”. Prof. Irina Bliuc is author and co-author of several technical books and papers published in important journals or proceedings of national and international congresses and conferences. She is also member of CIB, W077 – Facilities Management and Maintenance.

LECTURER DR. ARCH. MIHAI OPREANU

Romania

He is architect and lector at the Urbanism and Architecture University Ion Mincu, Bucharest, Technical science cathedra, since 1990. He has done serial research studies in ecological, bio-climatic and energy - efficient architecture as well as in historical monument restoration. Post-graduate in Architecture from UAIM Bucharest and Techniques History at EHESS Paris: Ambient Physics, Architectural Ecology and Technology, Restoration and Conservation. During 1994 and 2002 he participated to restoration workshop UAUIM - Ecole de Chaillot, Paris. He has regular articles in local architecture magazines “Arhitectura” and “Arhitext-Design” and also in “Monuments Historiques”.

ARCH. KIRILL TESLER, PHD

Russia

Born in 1984 in Tyumen, he graduated in 2007 from the Faculty of Engineering and Architecture at the Moscow State University of Civil Engineering (MGSU). He made his PhD in architecture in 2010 with a thesis - "Formation of architecture of multifunctional centers". His scientific activities at MGSU include development of a training course for senior students and creating of the master's program to ensure a comfortable and barrier-free environment for disabled. That program is a new direction for MGSU and it is very actually both for Moscow and for Russia as a whole. The aim of that work is to organize "inclusive zones" - special centers that help adaptation of people with disabilities in society and promote science and technology in the design and creation of new solutions designed for people with disabilities. His main professional activity is focused on designing. Now he is working on projects of medical buildings, for example reconstruction of the Russian Cancer Research Center, Bakulev Children's Rehabilitation Cardiology Center, Burdenko Neurorehabilitation Centre and others. The plans for the future are to design of socio-rehabilitation center for disabled people.

ING. ARCH. MALTCEVA IRINA

Russia

Irina Maltceva graduated from Ural Polytechnic institute (nowadays Ural Federal University) in 1979 and received a diploma in civil engineering. In 1981, she graduated from the Faculty of Advanced Studies at the Moscow Architectural Institute. In 1987 she defended her thesis on "Porous aggregates for concrete with varying properties." Now she is a professor of Architecture department of the Ural Federal University, lectures to students in the disciplines of building specialties: "Architecture of civil and industrial buildings" and "Building physics". She has about 30 years of teaching experience. Irina Maltceva is the author of three textbooks for students getting higher education: "Architecture of low-rise buildings from small sized elements", "Architecture of multi-storey residential buildings" and "Basics of building lighting and calculation of natural lighting". She has published more than 70 scientific papers. Professor Maltseva directs diploma works of students who study "Construction". Graduation projects carried out under her guidance have repeatedly won first places in Russian competitions of graduation projects in categories "Industrial Construction" and "Integrated Project". In 2012, the graduation project "Specialized rehabilitation center in the city Upper Pishma" (head prof. Maltsceva.) won in the nomination "For the introduction of advanced technologies" in the International competition announced by company "Technonikol." Professor Maltceva lectures at the Faculty of training and retraining for engineers and technical workers of the construction industry of the Ural-Siberian region, consults designers of modern construction techniques and materials. Maltceva Irina had an internship in the United States of America (Utah State), Shanghai (China), Denmark, Sweden, Norway, recently returned from Italy, where a contract of cooperation under the "TEMPUS" was signed. Maltceva Irina is a Scientific Secretary of the Scientific Council of the Engineering Institute and a member of the Methodological Council of the Ural Federal University.

ING. ARCH. KAGANOVICH NATALIA

Russia

Natalya Kaganovich, Assistant Professor of the Architecture Department of the Ural Federal University, a member of the Union of architects of Russia since 1985. She began her professional and creative career after graduating with distinction from the architectural Institute of Sverdlovsk in 1976. Working as a leading architect in the Sverdlovskgrazhdanproyekt design institute, she accomplished a number of her own works and collaborative works, among which there are projects of residential and public buildings, proposals and solutions for major neighbourhoods development and service objects. She participated in creative and professional contests. From 1990 to 2004 she worked as a leading architect and then as chief architect in private creative and architectural workshops. Since 2004 until present, she has worked as an Assistant Professor of the Architecture Department of the Ural Federal University. Natalya Kaganovich's teaching activities on training the future architect engineers consist of lectureship on typology and term paper guidance on architectural and structural design. A number of articles have been published concerning graduation design projects issues and topics, as well as teaching methodology, the history of architecture, and modern architecture directions; tutorial guidelines on term and graduation architectural design have been developed on the following topics: 'Low-rise residential houses', 'Low-rise public buildings', 'General schools'. The projects by students under Natalya Kaganovich's supervision have repeatedly become the winners and awardees of regional and national graduation project competitions and creative academic competitions. Among them were the awardees of annual review contests of Russian architectural engineering schools with the following topics: 'A low-rise residential unit in Sochi' (second prize), 'Equestrian centre in Yekaterinburg' (third prize) and a number of other projects on reconstruction and typology of residential and public buildings. Natalya Kaganovich considers the development of creative and individual approach to design, conceptual thinking and technical literacy of the future specialists to be the main task of her teaching activities.

M.ARCH. ANTON LAPAEV — Russia

Born in 31.10.1984 he graduated from Samara State University of Civil Engineering and Architecture in 2006.
From 2007 he is acting as Assistant lecture at Samara State University of Civil Engineering and Architecture.

M.ARCH. DAVYDOVA LYUBOV — Russia

After graduating in 2010 from Samara State University of Architecture and Civil Engineering she continued her studies with a Master of Architecture at the same university.
Curently she is working as assistanf for the Architectural Design courses and also as a reseacher for the Urban Development Chair.

ARCH. ZORAN LAZOVIĆ — Serbia

Born in London. He graduated from the Architecture University of Belgrade and perfected his professional career at the Royal Academy of Fine Arts in Copenhagen. Arch. Lazovic attended the Architectural Faculty DEA in Belleville, Paris and obtained his license for professional work in France. He was a major architect at DOMELA & SARFATI, Paris. Since 1989 arch. Lazovic has been teaching Methodology of Architectural Design at the University of Belgrade. Some of his recent big projects are the Residential complex in Novi Belgrade, a Sports complex in Belgrade and the Observatory at Geocentre in Denmark

PROFESSOR MIHAILO TIMOTIJEVIĆ — Serbia

Born in 1949 in Belgrade he graduated from the Faculty of Architecture at the University of Belgrade. He was head of the Department for Architectural and Urban Design between 2000 and 2002 and President of the Faculty Council between 2002 and 2004. Since 2004 he is Dean and professor of the Faculty of Architecture. His practical and theoretical courses in bachelor and master programmes are aimed at developing architectural design skills seen as a process of functionality and as a fore thinking space in urban context, with special approach in analyses of its urban and natural elements relation. Theoretical courses: Education & Child Care and Urban Reconstruction

ASSOC. PROF. ING. ARCH. HENRICH PIFKO, PHD — Slovakia

Born in 1959, he is currently teaching at the Faculty of Architecture of the Slovak University of Technology in Bratislava, at the Institute of Ecological and Experimental Architecture where he is the sponsor of the educational module "Architecture and Environment". In addition to teaching he is authorized architect (SKA), specialized in green architecture and passive houses (he is Certified Passive House Designer). He is chairman of the Institute for Passive Houses (iEPD) and founding member of ArTUR (Architecture for Sustainable Development) NGO. He participated in international research projects (e.g. EcoCity, Oikodomos), and he is author of a number of publications and co-author of the books "Effective Housing" and "Handbook of Sustainable Architecture".

ASSOC. PROF. , PHD. MARTINA ZBAŠNIK-SENEGAČNIK, — Slovenia

Was born in Ljubljana. She graduated at the University of Ljubljana, Faculty of Architecture, Slovenia, in 1986. She received a Master Degree in 1992 and in 1996 a Ph.D. degree (Negative influences of building materials on the environment and human beings). Since 1988 she has been working at the faculty, first as a teaching assistant, in the year 2000 she became an assistant professor and in 2009 an associate professor. She teaches the subjects Ecological building principles, Technology of building and building materials and Design studio. Her main working focus is the field of energy efficiency (passive houses, low-energy houses, energy-efficient building technologies), ecological use of building materials, natural materials, sustainable architecture, contemporary materials for facades, building technologies.
She was the research programme leader at Faculty of Architecture (Sustainable planning for the quality living space) in 2009-2011. She is the author of two monographs: Fasadni ovoj (Façade) (co-author) and Pasivna hiša (Passive house) (both Slovene language) and numeral articles in scientific and professional magazines in Slovenia and abroad. The monograph Passive House was also published in Croatian and Bulgarian language.

She is a member of the Council for the efficient use of energy by Ministry of the environment and spatial planning, member of Photovoltaic technology platform – working group Integration of solar power stations in the building. Her reference is also the organization and leadership of professional seminars for the architects since 2004 (the topics: energy efficiency, passive houses, building technologies). She is a founder and a leader of Passive House Consortium since 2008.

PROFESSOR ENRIQUE CORBAT DÍAZ

Spain

Architect from Barcelona School of Architecture ETSAB (UPC) since 1983 Speciality in bioclimatic architecture. Scholarship holder of Training Plan of Research Staff from Spanish Science and Education Ministry (1986-1989). Since 1989 professor in building construction department in Vallés School of Architecture ETSAV (UPC). Teaching centred in bioclimatic architecture and sustainable buildings. Investigations in Thermal Rehabilitation of Buildings. Since 1997 continuously teaches an elective course on Bioclimatic Architecture. In 1980 he won first prize in a competition for ideas for an exhibition center of alternative energy in the International Fair of Barcelona. He has designed and built several bioclimatic buildings along his career. Finalist at the FAD prizes of Architecture in 2001 by a bioclimatic natural cooled building housing located in old town district of Barcelona. Speaker at various courses and conferences in the Association of Architects, conferences always related to solar architecture issues and sustainability. Speaker at the Catalan Congress of Renewable and solar energy 1987 and Scientific meetings of the Mediterranean environment and building energy, 1990. Professor in Graduate Program Installations in buildings. Polytechnic Foundation of Catalonia. 2002-2008. Professor in sustainability, technology in architecture and integration of renewable energies UPC's masters.

PROFESSOR ENRIQUE ANTELO TUDELA

Spain

Born in La Coruña in 1973, he graduated from the Faculty of Architecture at the University of La Coruña where he is associate professor of the Department of Architectural Constructions. In addition to his academic activities, he is one of the founders of VIER arquitectos, an architecture and design office located in La Coruña. His work has been showed in many publications and exhibitions. He has given lectures at several forums, both in Spain and abroad and received several awards among which are the Ist Sustainable Building Award Castile and Leon 2006 and the Mediterranean Bio-architecture Award 2012.

PROFESSOR DR. OF ARCHITECTURE BENAI KHAFIZULA

Ukraine

Was born on October 9, 1945 in Herat, Afghanistan, in the family of employees, the family has 4 generations of architects. Currently is citizen of Ukraine. In 1969 was enrolled as the student of Kiev institute of civil engineering and graduated in 1975, receiving his Master's degree in Architecture (specialty – Architecture). 1975 - 1980 – Chief architect in Kabul construction plant (Kabul). 1980 - 1984 – post-graduate studies in Kiev institute of civil engineering. On February 21, 1984 has defended a thesis and received Degree of Doctor of Philosophy and Architecture. 1984 - 1988 – Deputy Director responsible for research work in the Central design institute. 1987 – practice in Kiev Scientific and Design institute of civil engineering (Kiev). 1990 - 1994 – work on doctor dissertation by the specialty 18.00.02 "Architecture of buildings and constructions" in Kiev institute of civil engineering. On December 9, 1993 has defended a thesis and received degree of Doctor of Architecture. 1998 - 1995 work in Dnepropetrovsk institute of civil engineering in the department of architectural design. March 1995 – until now – professor, Head of department of Architectural engineering and Dean of the faculty of Architecture in Donbas National Academy of Civil Engineering and Architecture (Donetsk). In 1997 was awarded with the title of Professor. Author of methodology instructions and guidelines for the specialty «Architecture» and more than 80 articles. Member of Training council of DonNACEA, deputy Head of State examination commission on defending of thesis and masters' works. Member of the Union of Architects of Ukraine. In 2001 was awarded with the "Excellent education" mark.

PROFESSOR DR. NEIL BURFORD — UK

Dr. Neil Burford is a Senior Lecturer and Postgraduate. Director in the Department of Architecture and Planning at the University of Dundee. His main research interests are in lightweight structures, ultra-low energy and zero carbon buildings and sustainable communities. He has previously worked on a number of highly innovative prototype building systems for manufacturers. This research has focused on the development of novel transformable structures using advanced materials and manufacturing and low embodied energy bio-composites. He spent 2003/4 as a Visiting Lecturer at the School of Architecture, Technical University of Munich and continues to collaborate with the Department of Architecture, UDK, Berlin. He runs the M.Arch Macro Micro Unit, a postgraduate architectural masters specialism which focuses on theoretical and applied practice-based research into ultra-low energy buildings and sustainable communities. The unit is currently developing and building a 'Prototype Energy Autonomous Studio', a zero-energy, off-grid demonstrator prototype– the first entirely renewable energy powered off-grid building to be constructed in the UK. Located in Dundee University's Botanical Gardens the prototype is being developed and constructed as a self-build project with a consortia of over 50 manufacturers and suppliers. It will provide a 'live' test-bed to monitor the technical performance of the Passivhaus timber frame construction and the energy and technical systems over a period of initially four years. The data will give a measure of the efficacy of producing ultra-low energy and off-grid buildings powered and heated by renewable energy alone in the context of the Scottish Governments strategy for a lowcarbon and renewable energy generation future.

LECTURER GUILLERMO GUZMAN DUMONT — UK

Full time Lecturer and director of External Relations and Communications at the Department of Architecture and Built Environment at the University of Nottingham, United Kingdom. Graduated from Architecture at the Universidad del Bio-Bio, Concepcion Chile in 1993, then carried out studies of MSc Renewable Energy and Architecture and PGCHE (postgraduate certificate in higher education) at the University of Nottingham from September 2000. He has over 15 year of experience in teaching design studio and have researched in Sustainable Energy Technologies integration to architectural design, post occupancy evaluation, pedagogic approaches in architecture related to identity, globalisation and ethics. One of the principal investigators of the Creative Energy Homes project sponsored by a number of important UK housing developers and researcher in the UK entry for the Solar Decathlon Europe 2010. Visiting professor at the Pontificia Universidad Catolica, Universidad del Bio-Bio and Universidad Tecnica Federico Santa Maria of Chile. He has set up a number of joint courses and collaboration agreements with prestigious Latin American universities, given keynote presentations, run workshops and organised joint conferences. He has been running the ISOVER competition studio for the last two years

2014 edition

Invitation for Competition Submissions ISOVER Multi-Comfort House - Students Contest 2014

School of tomorrow - Gaziantep, Turkey

International, two-stage, open competition, 2014 edition

Content:	Propose a design for tomorrows school in Gaziantep, Turkey
Participants:	Students
Organizer:	Saint-Gobain Insulation with the participation of national Saint-Gobain ISOVER, CertainTeed and IZOCAM organizations
Official Website:	www.isover-students.com

The subject of the 2014 competition is the design of a School of tomorrow - Gaziantep, Turkey

The project will require the development of school design based on the Saint-Gobain Multi-Comfort principles for the new ECO-Project neighbour development.

Participating countries in ISOVER Multi Comfort House Students Contest - 2013 Edition

More information about the new edition of the contest as well as full task, pictures and documents, site plan can be found at www.isover-students.com

CertainTeed SAINT-GOBAIN

IZOCAM

ISOVER SAINT-GOBAIN

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - BELARUS
National Stage 2013

Belarus National Technical University

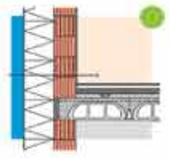
IGOR SHAMANOVSKI

more information on
www.isover-students.com

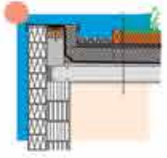
Concept of the project

Mannheim is a city with a rich history and tradition, and yet, one of the fastest-growing cities in Germany. These factors, as well as the location of the proposed site area were the determining factors of the concept of district Crossway station. Moving forward, keeping the history. Mannheim is one of the first railway station in Germany and the second-largest at this moment.Pri this in the city, the only one in the region, there is the museum dedicated to rail transport. Under the project, the museum of railway and modern environmental technology in transport (with the support of Mafinex), will be the nodal point of green ways, the center of gravity of visitors and one of the centers of the area. From this "station" will go green path connecting the various disparate parts of the city through their area leisure and recreation, bringing people together from different parts of the city, and, while being perhaps the first environmental monument railway in full size.

Constructions

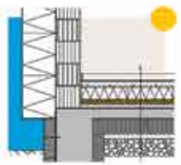


External thermal insulation composed system with EPS foam
Composition 5 in cm
1,3 Ceramic tiles
Tiles cement
2,0 Lime cement rendering
25,0 Perforated brick
0,5 Glue layer
36,0 EPS foam insulation
0,2 Leveling layer
0,3 Textil reinforced compound layer with undercoat
0,4 Thin layer of exterior rendering

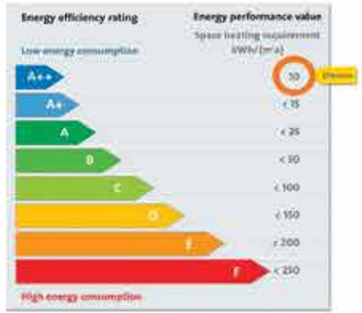


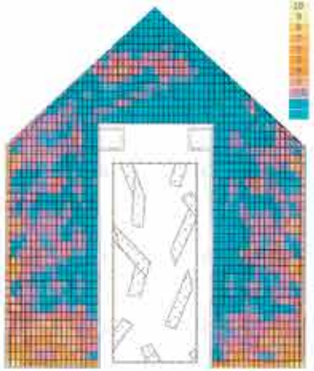
Inverted roof with greening
Composition 5 in cm
15,0 Plant substratum for intensive greening (on margin, round gravel 16/32)
Filter layer (geotextil fabrous web, non-decaying)
5,0 Drainge layer, expanded concrete aggregate 8/16
18,0 XPS- Extruded Polystyrene foam board
0,6 Roof confirmanat layer
0,8 Double-layer roof skin
(e.g. polymer bitumen roll roofing, glued)
Equalizing layer, perforated glass fleet roofing
Priming coat
Sloping concrete, 2 -6% gradient
20,0 Reinforced concrete slop with XPS-Extruded Polystyrene as thermal bridge insulation
1,0 Interior plaster

Insulation below ground
Composition 5 in cm
30,0 Reinforced concrete wall
0,1 Bitumen priming coat
0,5 Separating layer (water barrier)
12,0 XPS-Extruded Polystyrene glued and plugged
Ventilation with drainage pipe



Floating heating screed above ground
Composition 5 in cm
1,0 Tiles
0,3 Tiles cement
7,0 Cement screed with heating element
0,03 Vapour barrier
14,0 EPS-W 20 (expanded polystirene)
6,0 ISOVER impact sound insulation best
4,0 Protective concrete
Separating layer
0,03 Separating layer (water barrier)
12,0 Sub-concrete
Separating layer
18,0 XPS-Extruded Polystyrene foam board
Protective concrete





Analysis of insulation, hours

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

SPECIAL PRIZE
ISOVER
Multi-Comfort
House Students Contest
International stage,
Belgrade 2013

II PRIZE - BELARUS
National Stage 2013

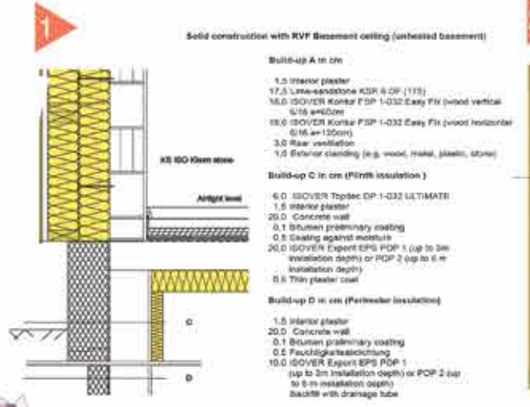
Belarus National Technical University

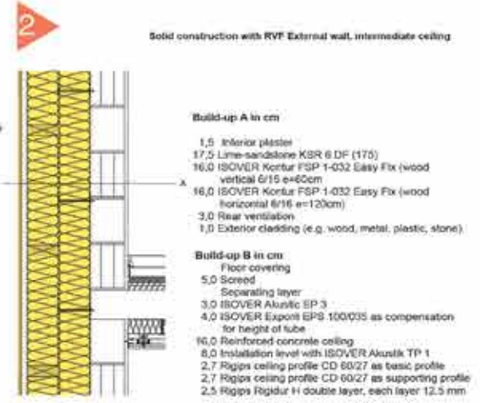
ANDREI ANDREUYK

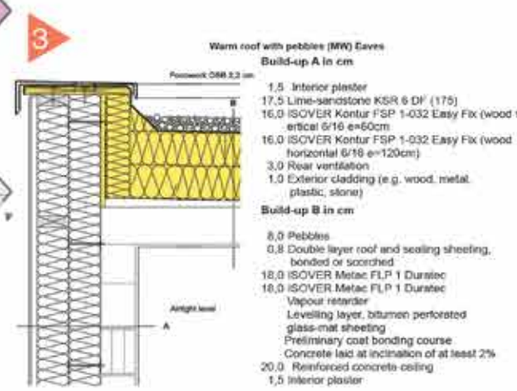
more information on
www.isover-students.com

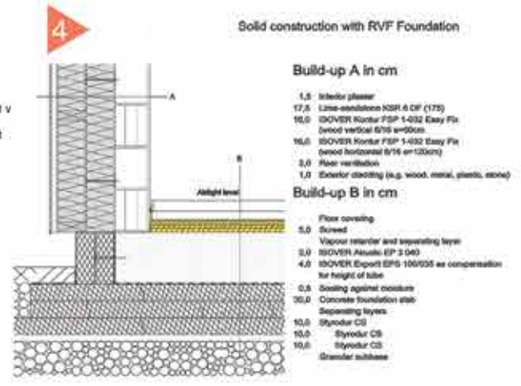

section


N
4-5 floor
first floor


1
Solid construction with RVF Basement ceiling (unheated basement)
Build-up A in cm
1,5 Interior plaster
17,5 Lime-sandstone KSR 6 DF (175)
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 6/16 a=60cm
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6/16 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding (e.g. wood, metal, plastic, stone)
KS ISO Klein stone
Airtight level
Build-up C in cm (Plinth insulation)
6,0 ISOVER Topdec DP 1-032 ULTIMATE
1,5 Interior plaster
20,0 Concrete wall
0,1 Bitumen preliminary coating
0,5 Sealing against moisture
20,0 ISOVER Export EPS PDP 1 (up to 3m installation depth) or PDP 2 (up to 6 m installation depth)
0,6 Thin plaster coat
Build-up D in cm (Perimeter insulation)
1,5 Interior plaster
20,0 Concrete wall
0,1 Bitumen preliminary coating
0,5 Feuchtigkeitsabdichtung
10,0 ISOVER Export EPS PDP 1
(up to 3m installation depth) or PDP 2 (up to 6 m installation depth)
Backfill with drainage tube
C
D


2
Solid construction with RVF External wall, intermediate ceiling
Build-up A in cm
1,5 Interior plaster
17,5 Lime-sandstone KSR 6 DF (175)
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 6/15 a=60cm
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6/16 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding (e.g. wood, metal, plastic, stone)
Build-up B in cm
Floor covering
5,0 Screed
Separating layer
3,0 ISOVER Akustik EP 3
4,0 ISOVER Export EPS 100/035 as compensation for height of tube
16,0 Reinforced concrete ceiling
8,0 Installation level with ISOVER Akustik TP 1
2,7 Rigips ceiling profile CD 60/27 as basic profile
2,7 Rigips ceiling profile CD 60/27 as supporting profile
2,5 Rigips Rigidur H double layer, each layer 12.5 mm
A


3
Warm roof with pebbles (MW) Eaves
Build-up A in cm
1,5 Interior plaster
17,5 Lime-sandstone KSR 6 DF (175)
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 6/16 a=60cm
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6/16 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding (e.g. wood, metal, plastic, stone)
Build-up B in cm
8,0 Pebbles
0,8 Double layer roof and sealing sheeting, bonded or scorched
18,0 ISOVER Metac FLP 1 Duratec
18,0 ISOVER Metac FLP 1 Duratec
Vapour retarder
Levelling layer, bitumen perforated glass-mat sheeting
Preliminary coat bonding course
Concrete laid at inclination of at least 2%
20,0 Reinforced concrete ceiling
1,5 Interior plaster
Airtight level
A
B

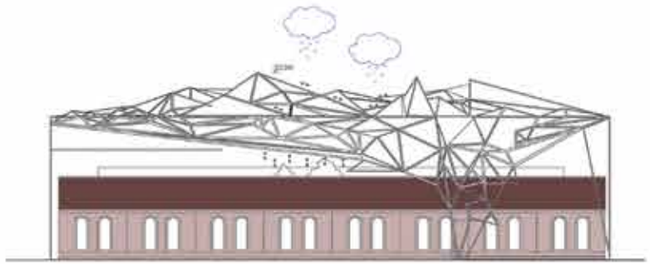

4
Solid construction with RVF Foundation
Build-up A in cm
1,5 Interior plaster
17,5 Lime-sandstone KSR 6 DF (175)
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 6/16 a=60cm
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6/16 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding (e.g. wood, metal, plastic, stone)
Build-up B in cm
Floor covering
5,0 Screed
Vapour retarder and separating layer
3,0 ISOVER Akustik EP 3 040
4,0 ISOVER Export EPS 100/035 as compensation for height of tube
0,5 Sealing against moisture
30,0 Concrete foundation slab
Separating layers
10,0 Styrodur CS
10,0 Styrodur CS
10,0 Styrodur CS
Granular subbase
A
B
Airtight level

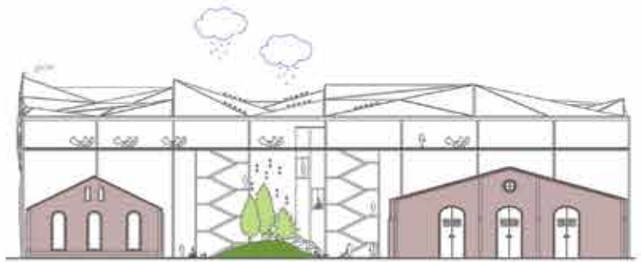
VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

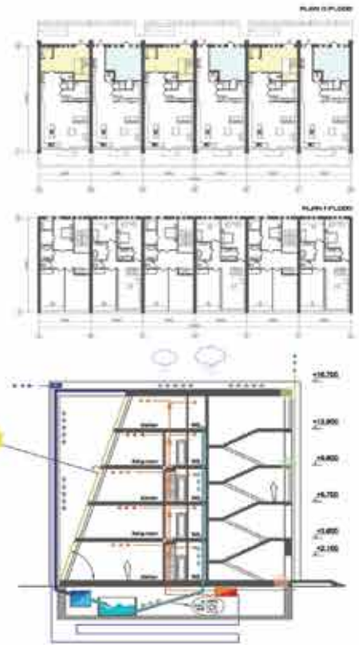
III PRIZE - BELARUS
National Stage 2013

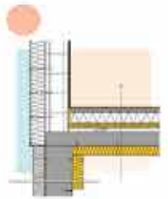
Brest State Technical University

OLGA
SCHERBACHEVICH









Selected constructions

Floor wet room screed above cellar

Composition S in cm

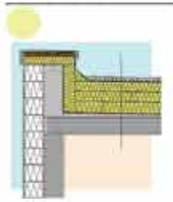
1,5 Tiles
Tiles cement
Stopper sealing
5,0 Cement screed
0,02 Vapour barrier
▶ 14.0 EPS-W 20 (expanded polystyrene)
▶ 6.0 ISOVER impact sound insulation board 60
Seperating layer
5,0 Composite infill
18.0 Reinforced concrete slab
▶ 12.0 ISOVER cellar ceiling insulation board

Fxternal thermal insulation r.omnonnd svstem with

ISOVER stone wool facade boards (e.g. Sillatherm WVP 1

Composition S in cm

2,0 Lime cement rendering
25,0 Wood wool haunching brick
0,5 Glue layer
▶ 16.0 Sillatherm WVP 1 fixed with
adhesive and plug anchor
0,2 Leveling layer
0,3 Textil reinforced compound layer
with undercoat
0,4 Thin layer of exterior rendering



Warm roof with gravel filling

Composition S in cm

5,0 Round gravel 16/32
0,8 Double-layer roof skin
(e.g. polymer bitumen roll roofing, glued)
▶ 12.0 ISOVER stonewoolwith mechanical strenght glued
▶ 12.0 ISOVER stone wool wth mechanical strenght glued
▶ 12.0 ISOVER stone wool wth mechanical strenght glued
Vapour barrier
Equalizing layer, perforated glass fibre roofing
Priming coat
Sloping concrete, 2" gradient
20,0 Reinforced concrete slab
1,5 Interior plaster

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - BULGARIA
National Stage 2013

UACEG

TONI NACHEV

DIMITAR RAEV

NIKOLA KOZHUHAROV

1. LOBBY
2. ELEVATOR
3. HALLWAY
4. KITCHEN/DINING
5. LIVING ROOM
6. BEDROOM
7. BATHROOM
8. STUDY
9. WARDROBE
10. AIR
11. CLOSET

BUILDING 1 ZONE A

APARTMENT TYPES

ONE BEDROOM APARTMENTS

STUDIO APARTMENTS

EASY ACCESS APARTMENTS

TWO BEDROOM APARTMENTS

THREE BEDROOM APARTMENTS

PENTHOUSE APARTMENTS

CALCULATIONS

HEAT LOSSES:

1.TRANSMISSION HEAT LOSSES PER M² AND YEAR: 21.02KWH/(M²A)
2.VENTILATION HEAT LOSSES PER M² AND YEAR: 5.57KWH/(M²A)
3.TOTAL HEAT LOSSES PER M² AND YEAR: 27.00KWH/(M²A)

HEAT GAINS:

4.INTERNAL HEAT GAINS PER M² AND YEAR: 11.36KWH/(M²A)
5.AVAILABLE SOLAR HEAT GAINS PER M² AND YEAR: 8.78KWH/(M²A)
6.TOTAL HEAT GAINS - FREE HEAT - PER M² AND YEAR: 18.70KWH/(M²A)

ANNUAL HEAT DEMAND:KWH/M²: 1313.78KWH/M²
SPECIFIC ANNUAL HEAT DEMAND:KWH/M²:
SPECIFIC ANNUAL HEAT DEMAND-ISEEWH/(M²A) ACHIEVED:
ENERGY EFFICIENCY RATING:

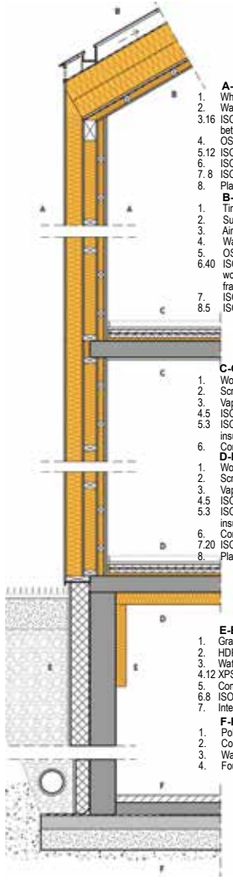
8.3
YES
A++

GROUND FLOOR
SCALE 1:200

2ND FLOOR
SCALE 1:200

3RD FLOOR
SCALE 1:200

4TH FLOOR
SCALE 1:200



A-A
1. White Stucco
2. Water and windproofing
3.16 ISOVER facade insulation board between wooden construction
4. OSB chipboard panels
5.12 ISOVER lightweight glass wool
6. ISOVER Climatic membrane
7. 8 ISOVER lightweight glass wool
8. Plaster board

B-B
1. Tin roof covering
2. Substructure
3. Air cavity
4. Waterproofing membrane
5. OSB chipboard panels
6.40 ISOVER lightweight glass wool between TJI roof framing (2 layers)
7. ISOVER Climatic membrane
8.5 ISOVER lightweight glass wool

C-C
1. Wood flooring
2. Screed
3. Vapour barrier
4.5 ISOVER lightweight glass wool
5.3 ISOVER impact sound insulation board
6. Concrete slab

D-D
1. Wood flooring
2. Screed
3. Vapour barrier
4.5 ISOVER lightweight glass wool
5.3 ISOVER impact sound insulation board
6. Concrete slab
7.20 ISOVER lightweight glass wool
8. Plasterboard ceiling

E-E
1. Gravel
2. HDPE membrane
3. Waterproofing - 2 layers
4.12 XPS insulation
5. Concrete foundation wall
6.8 ISOVER lightweight glass wool
7. Interior Plaster

F-F
1. Polished concrete with fibers
2. Concrete floor
3. Waterproofing
4. Foundation

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - BULGARIA
National Stage 2013

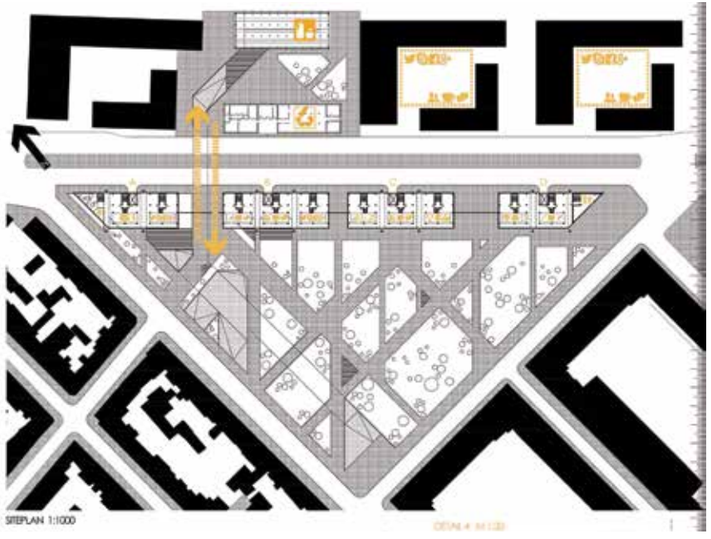
UACEG

PAVEL TSOCHEV

TIHOMIR PETROV

MARTIN PASKALEV

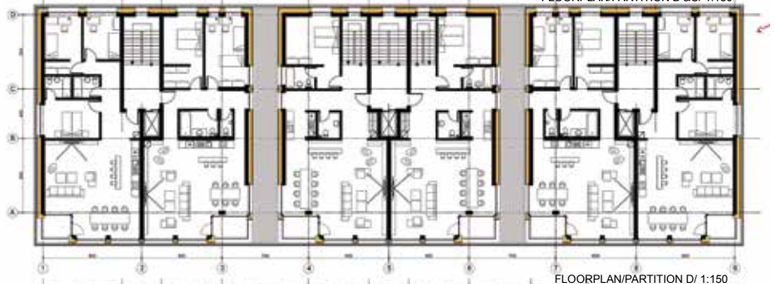
more information on
www.isover-students.com



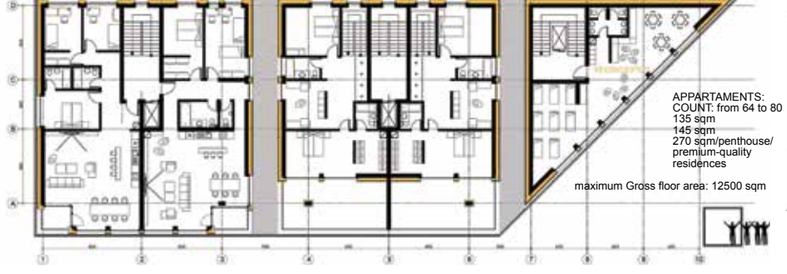
FLOORPLAN/PARTITION A/ 1:150

Bringing typical housing functions back into the city core instead of taking them out to the periphery is a process that needs to take in concideration the human affinity of establishing a local community. The old and narrow streets of Glücstein keep that feeling, which the new building structuries seek to interpretate. The goal of the new design is to bring the sence of being a neighbourhood to the large spaces.

FLOORPLAN/PARTITION B &C/ 1:150



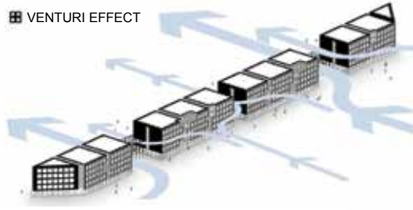
FLOORPLAN/PARTITION D/ 1:150



APPARTAMENTS:
COUNT: from 64 to 80
135 sqm
145 sqm
270 sqm/penthouse/
premium-quality
residences

maximum Gross floor area: 12500 sqm

VENTURI EFFECT



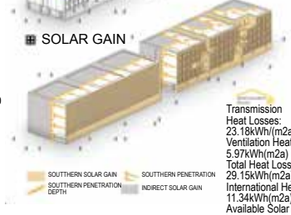
WIND POWER MANAGEMENT

SUN PROTECTION

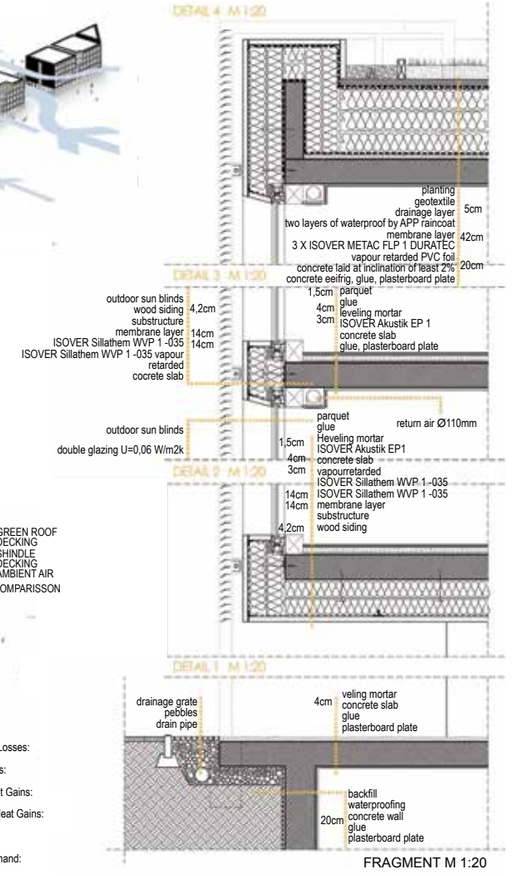
GREEN ROOF

SURFACE TEMPERATURE COMPARISSON

SOLAR GAIN



Transmission
Heat Losses:
23.18kWh/(m2a)
Ventilation Heat Losses:
5.97kWh/(m2a)
Total Heat Losses:
29.15kWh/(m2a)
International Heat Gains:
11.34kWh/(m2a)
Available Solar Heat Gains:
10.36kWh/(m2a)
Heat Gains:
20.17kWh/(m2a)
Annual Heat Demand:
33 616.93 kWh/a



FRAGMENT M 1:20

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - CROATIA
National Stage 2013

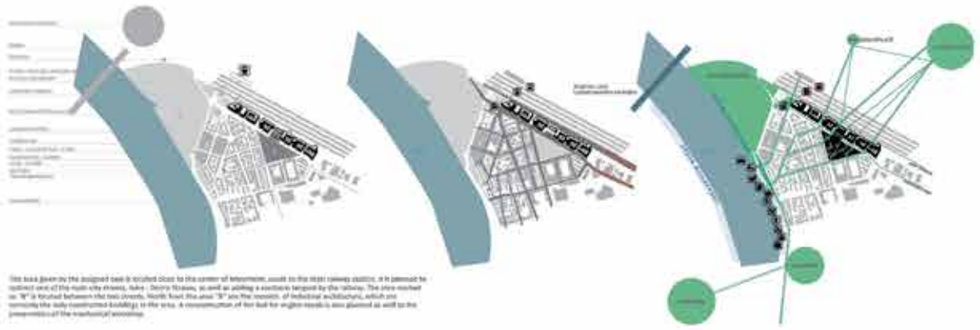
University of Zagreb

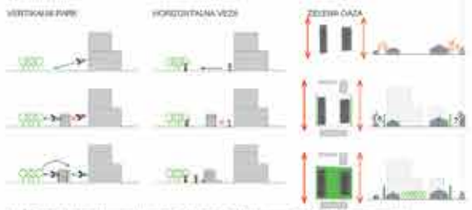
IVANA PATRICIA ĐJILAS

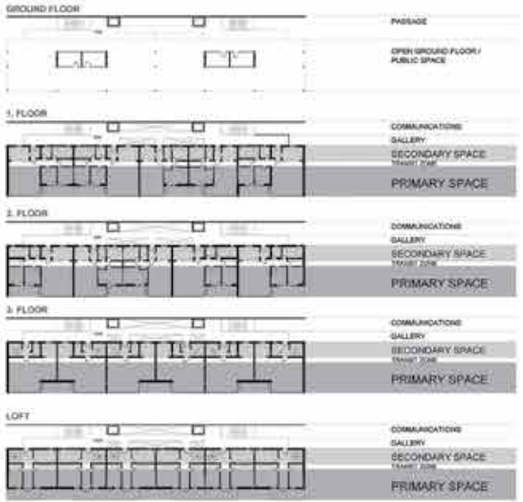
ANJA WAGNER

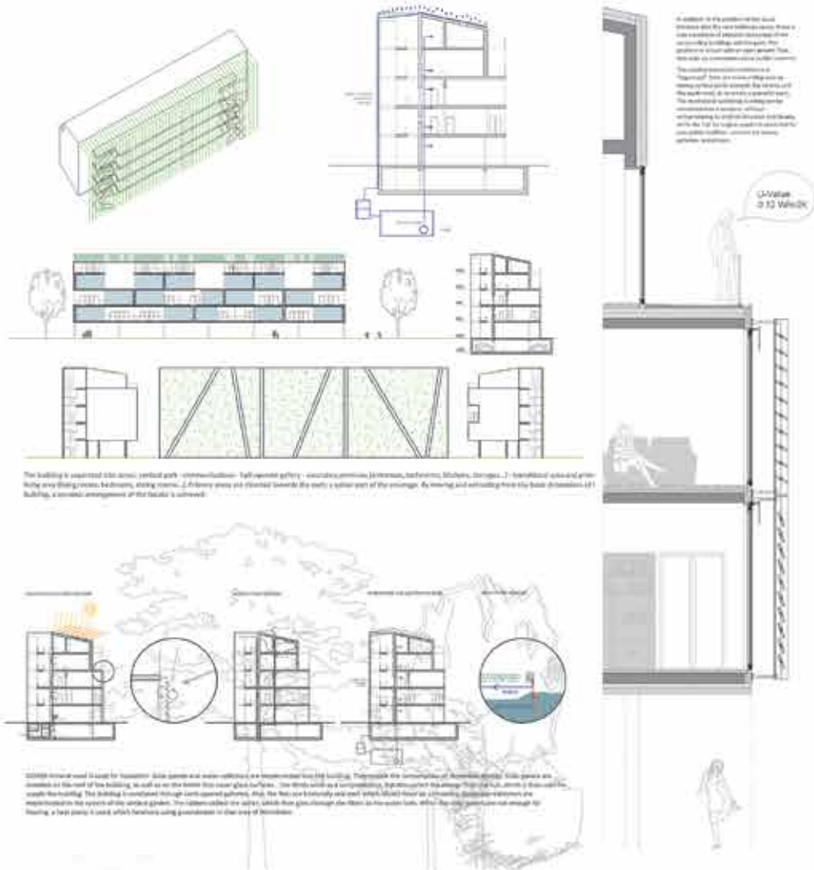
ISOVER Multi-Comfort House Students Contest 2013

Glückstein-Quartier MANNHEIM









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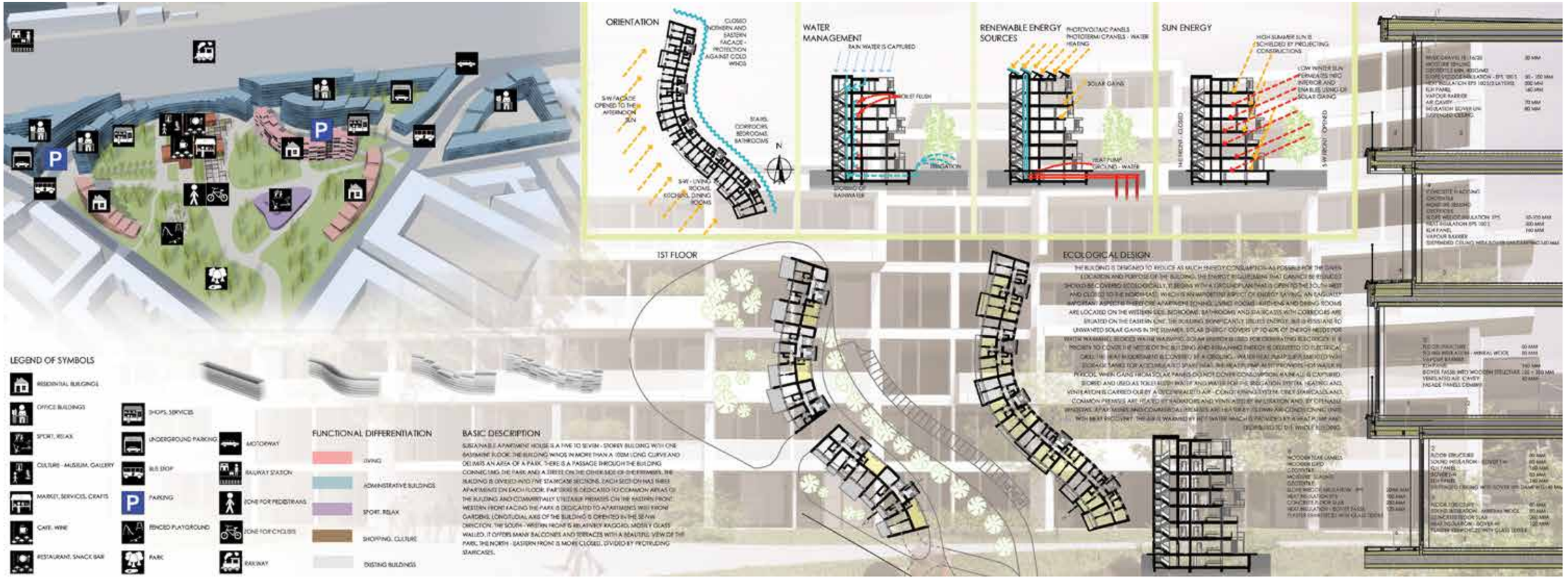
ORIENTATION
CLOSED NORTHERN AND EASTERN FACADE - PROTECTION AGAINST COLD WINDS
SW FACADE OPENED TO THE AFTERNOON SUN
STAIRS, CORRIDORS, BEDROOMS, BATHROOMS
SW - LIVING ROOMS, KITCHENS, DINING ROOMS
N
WATER MANAGEMENT
RAIN WATER IS CAPTURED
TOILET FLUSH
IRRIGATION
STORING OF RAINWATER
RENEWABLE ENERGY SOURCES
PHOTOVOLTAIC PANELS PHOTOTERM CPANELS - WATER HEATING
SOLAR GAINS
HEAT PUMP GROUND - WATER
SUN ENERGY
HIGH SUMMER SUN IS SCHIELDED BY PROJECTING CONSTRUCTIONS
LOW WINTER SUN PENETRATES INTO INTERIOR AND ENABLES USING OF SOLAR GAINS
NORTH FRONT - CLOSED
SW FRONT - OPENED
1ST FLOOR
ECOLOGICAL DESIGN
LEGEND OF SYMBOLS
RESIDENTIAL BUILDINGS
OFFICE BUILDINGS
SPORT, RELAX
CULTURE - MUSEUM, GALLERY
MARKET, SERVICES, CRAFTS
CAFE, WINE
RESTAURANT, SNACK BAR
SHOPS, SERVICES
UNDERGROUND PARKING
BUS STOP
PARKING
FENCED PLAYGROUND
PARK
MOTORWAY
RAILWAY STATION
ZONE FOR PEDESTRIANS
ZONE FOR CYCLISTS
RAILWAY
FUNCTIONAL DIFFERENTIATION
LIVING
ADMINISTRATIVE BUILDINGS
SPORT, RELAX
SHOPPING, CULTURE
EXISTING BUILDINGS
BASIC DESCRIPTION

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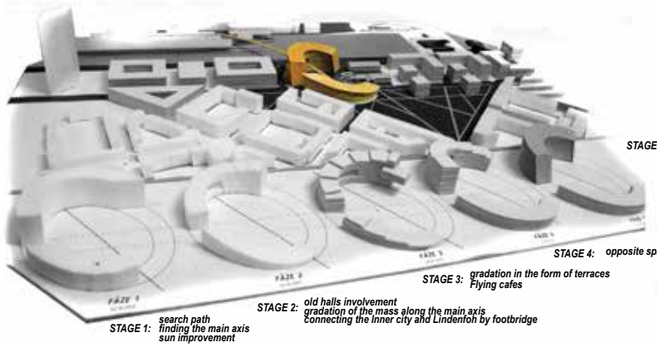
REAL MODEL FOTO



STAGE 1: search path
finding the main axis
sun improvement

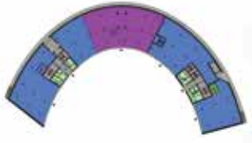
STAGE 2: old halls involvement
gradation of the mass along the main axis
connecting the inner city and Lindenfoh by footbridge

STAGE 3: gradation in the form of terraces
Flying cafes

STAGE 4: opposite spin

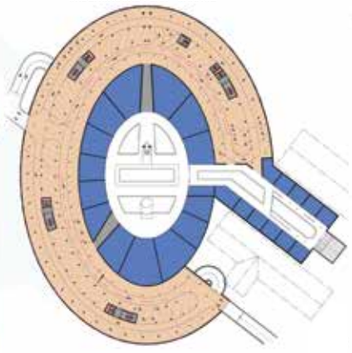
STAGE 5: solar design
— » adapting to track the sun
effort to achieve energy-active house

GROUND FLOOR PLAN

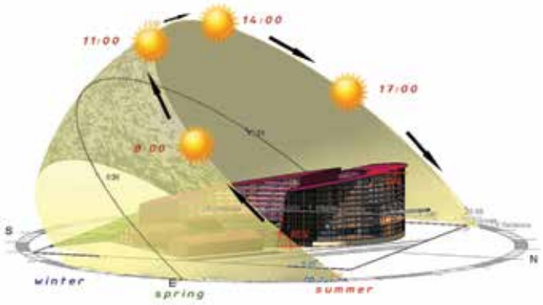


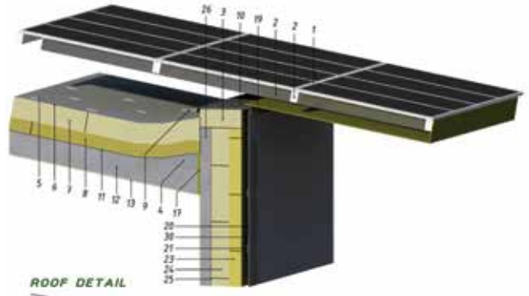
PLAN „COMMON FLOOR"

UNDERGROUND PLAN - GARAGE

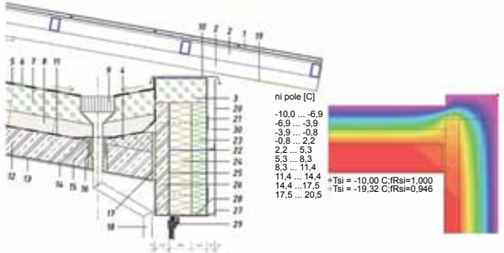


IDEA OF SHAPE - SOLAR DESIGN

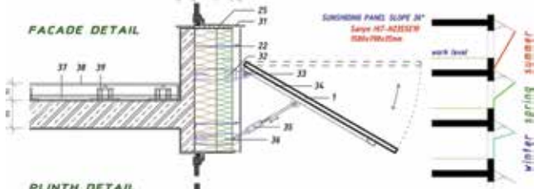




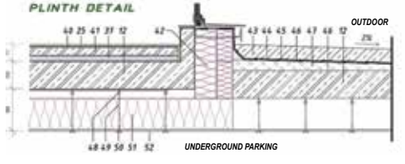
ROOF DETAIL



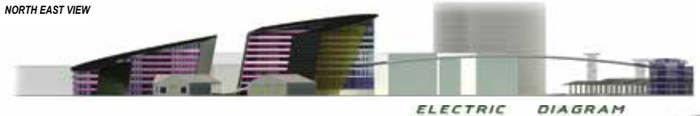
FACADE DETAIL



PLINTH DETAIL

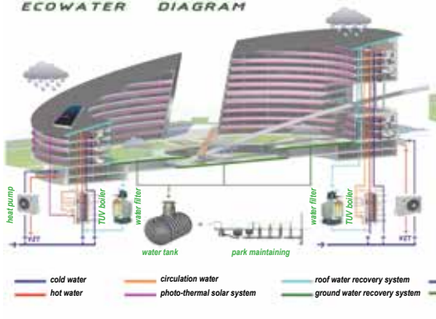


NORTH EAST VIEW

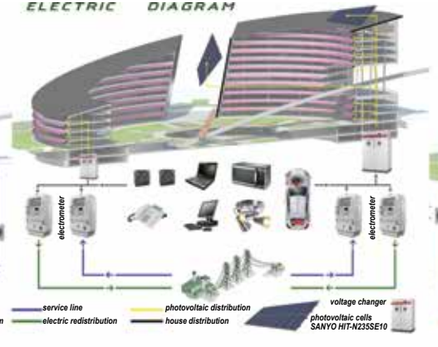


SOUTH VIEW

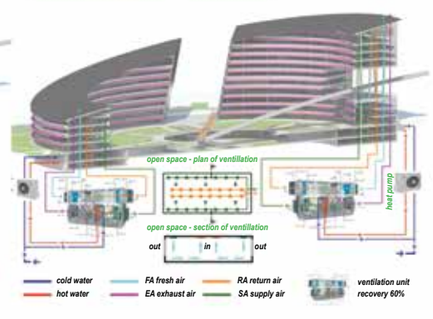
ECOWATER DIAGRAM

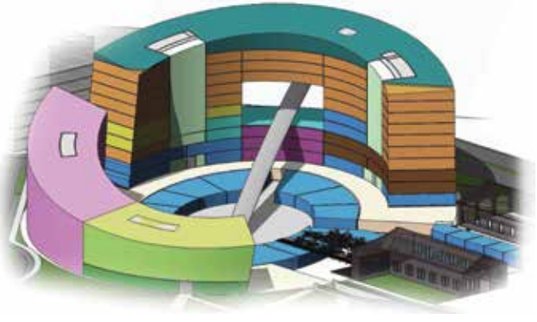


ELECTRIC DIAGRAM



VENTILATION DIAGRAM





AFTERSCHOOL ACTIVITIES
LIBRARY
HOTEL
PARENT CENTRE

GARAGE
OPEN GALLERY
BUSINESS

AUTOSALON
STUDIO
ADMINISTRATION

SANITARY FACILITIES
COMMUNICATION PART
TECHNICAL BACKGROUND

MULTIFUNCTION HALL
(CONFERENCE, THEATRE,
CONCERT, CINEMA)
RESTAURANT

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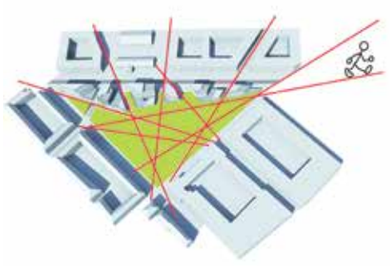
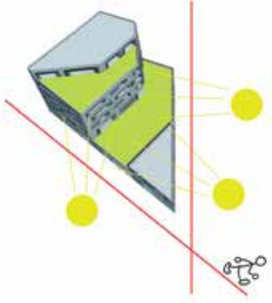
GREEN LIVING MANNHEIM

Project" solves a problematic area of a German city Mannheim. Project is all about revitalisation of this area and building new energy-efficient residential zone. The original road which used to go through this area is going to be moved and the old park is going to be extend. In this new part of the park is going to be a new housing estate. The new buildings have always two parts the residential one and the commercial one. The commercial part of the building is always situated in the parterre and the residential part is on the top of it. The effort was the every single step of design was processed from both aesthetic and technical so the enviroment friendly aspects. It leads to the design of buildings which is not an end in itself, but it always has its functional reasons.



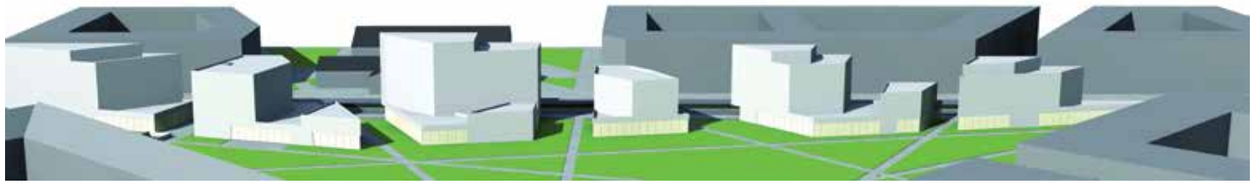


Urban design

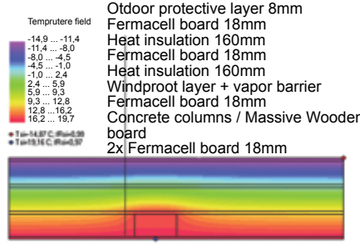
The whole urban concept is based on placing several lines through the aera. The lines represent the movement of pedestrians. System of the lines forms a specific form of Mikado game. The lines also divide the area to several parts. Each of the parts has a specific function. The lines cut the mass of buildings at the same time so the buildings are not barriers for the pedestrians in the area. The solution of the master plan puts the emphasis on the housing near employment opportunities in the form of office building in area „B". Area also contains a high level of public facilities. Both contribute to reducing traffic in the city center. Various function in the area ensure that the district will be used evenly throughout the day and it is not to be depopulationed at the end of the each working day.

Energy concept

From the begining each building is designed as a passive. Compact mass is accompanied by the solar shielding in the form of balconies constructions in the south. At the same time construction of the balconies carriers the photovoltaic panels, which provide energy for the lightning and auxiliary systems of the building. The solar shielding in the south is accompanied by the moving perforated metal sheets. This system guarantees no overheating of the apartments. Thanks to it there is no need for active cooling systems in the building. Thanks to concrete staircase core and the composite of the perimeter walls the building has very good accumulation characteristics. Energy loss by ventilation in the winter are eliminated by recovery ventilation unit. This unit is off in the summer and the apartments are ventilated by naturally ventilation from the north to the south. Buildings are heated by the air handling units. The energy for the ventilation system is provided by the large area heat pump. The heat pump is also a source of energy for hot water.
Energy concept



Structural system and infill constructions

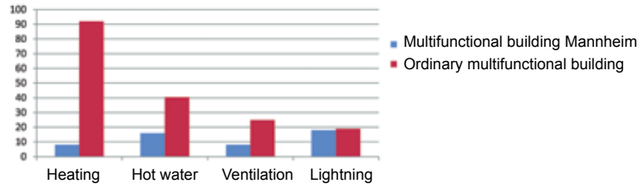


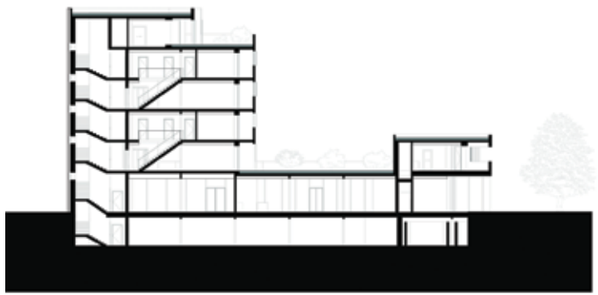
Otdoor protective layer 8mm
Fermacell board 18mm
Heat insulation 160mm
Fermacell board 18mm
Heat insulation 160mm
Windproot layer + vapor barrier
Fermacell board 18mm
Concrete columns / Massive Wooden board
2x Fermacell board 18mm

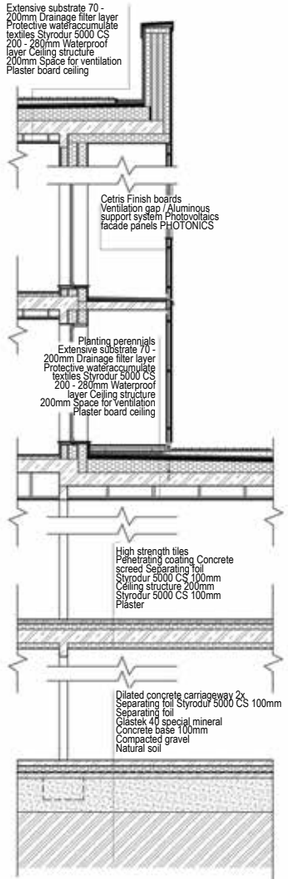
If is a lightweight' concrete skeleton reinforced by the staircase core. The perimeter walls consist of the massive wooden board placed between the columns. The board is clad with Fermacell board and there are two layers of the heat insulation from outside. They are also clad with Fermacell boards. The Fermacell system is used because of the fire protection of the infill constructions. The heat transfer coefficient of such a wall is only:

0,1 W/m2K

Comparison of annual energy performance (kWh/m2, a)







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KAIDI PIIRIMETS

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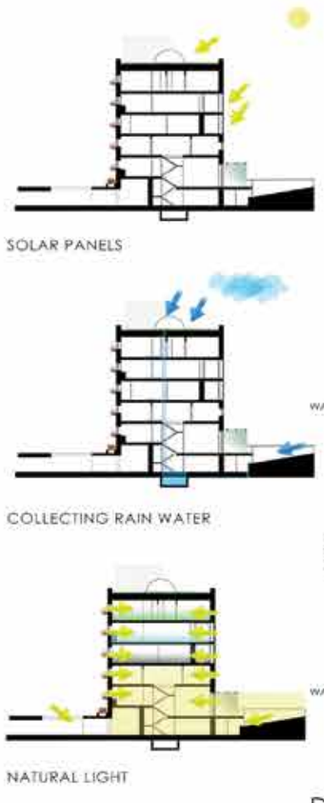
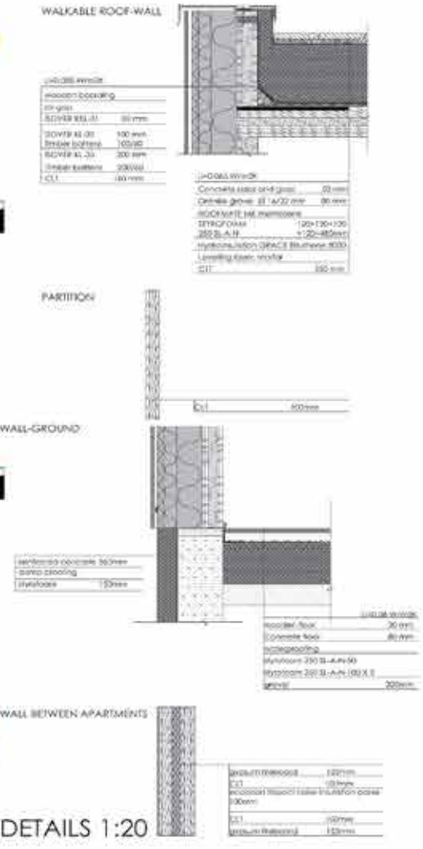
ZONING CONCEPT MASTER PLAN

ELEVATIONS OF URBAN VILLAS

URBAN VILLA PLANS





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House Students Contest
International stage,
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National Stage 2013

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KEIU TULEV

LAURA OJALA

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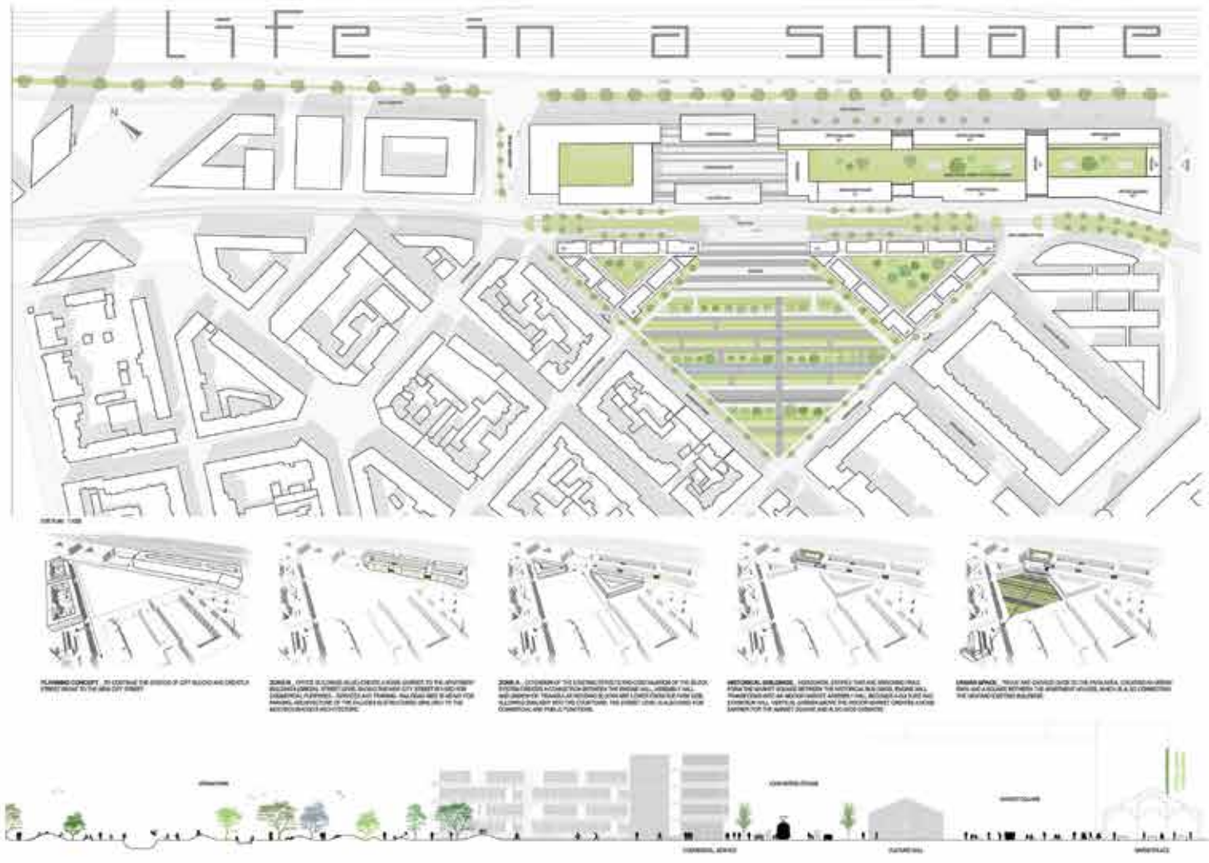
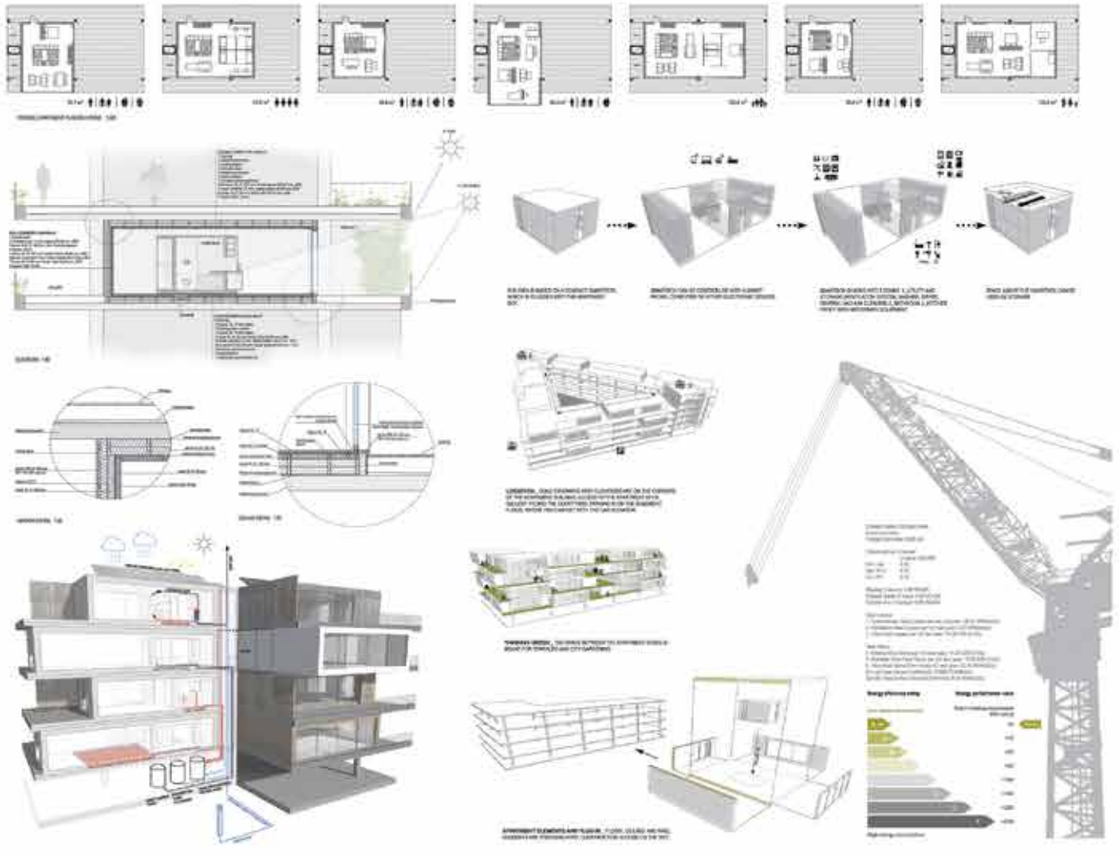

life in a square



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ANNA TEMMO

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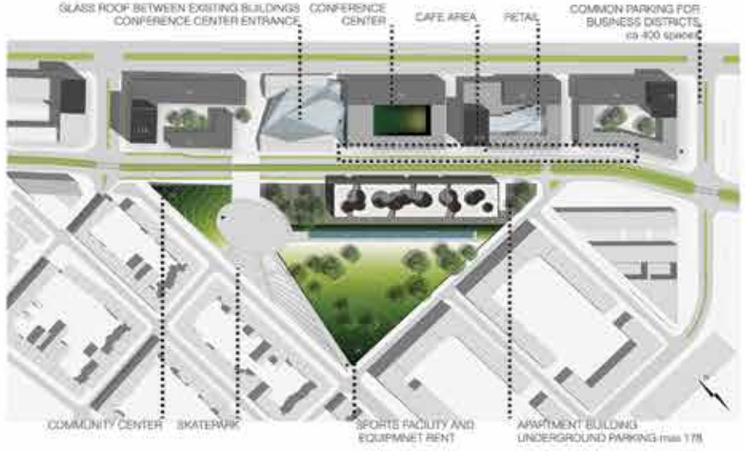
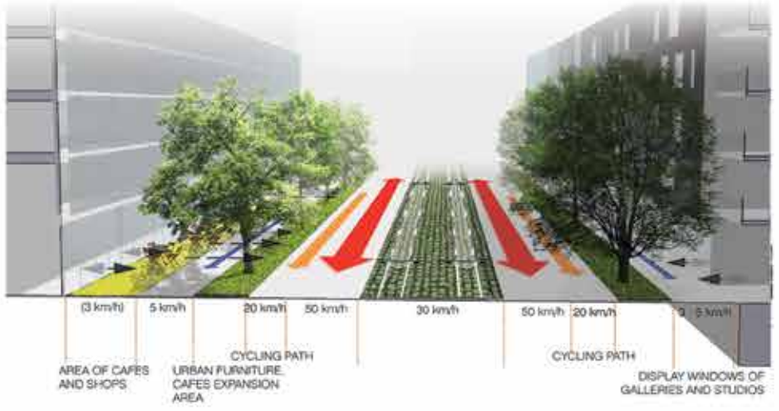
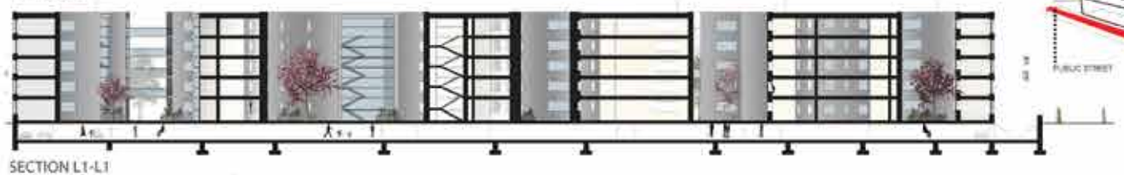


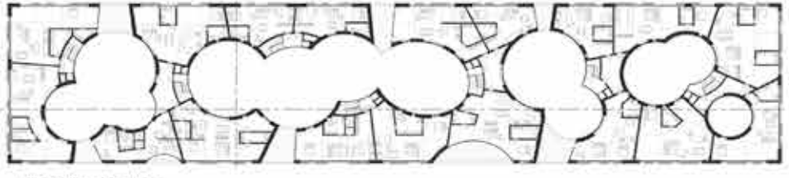
SITEPLAN



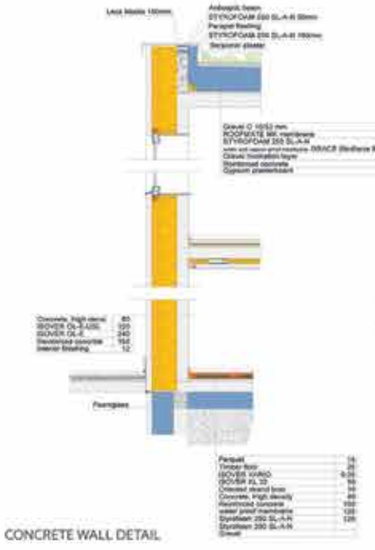
STREET ANALYSIS



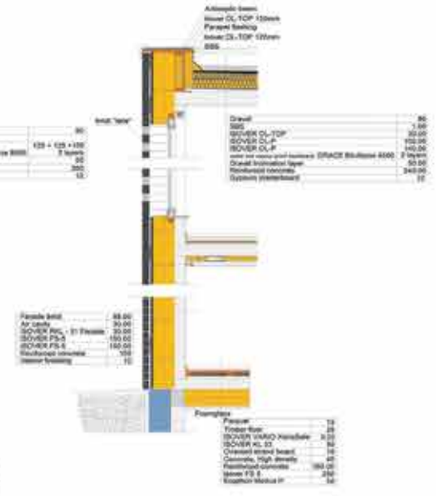
SECTION L1-L1



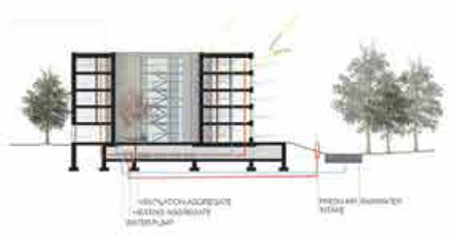
UPPER FLOORS PLAN

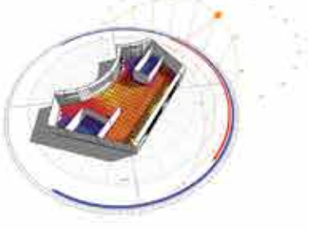


CONCRETE WALL DETAIL



BRICK WALL DETAIL





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Tampere University of Technology, School of architecture

VILLE LEIVO

MARKUS GERKE

ILKKA LINDBERG

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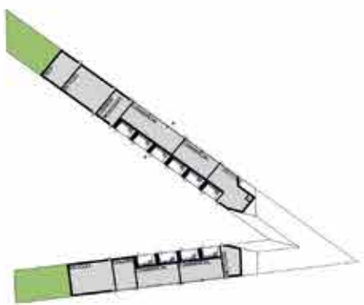

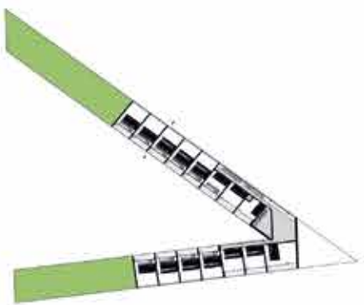

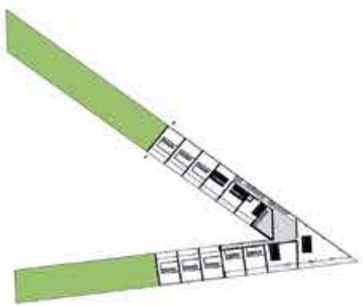

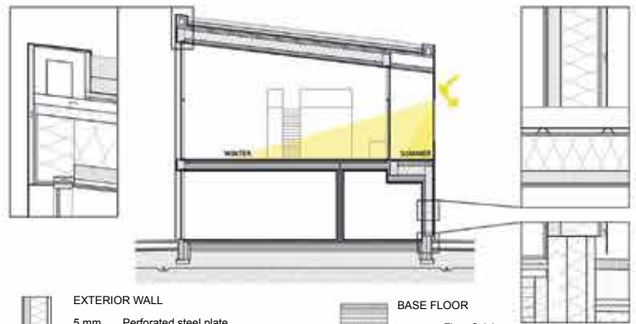

EXTERIOR WALL

5 mm	Perforated steel plate
50 mm	Steel profiles
Air space	
25 mm	ISOVER RKL-31 EJ FACADE wind barrier
350 mm	ISOVER KL-32 insulation
121 mm	CLT-board
18 mm	Gypsum plasterboard
	Fireproofing
	Interior finish

U-value = 0,10 W/m2K

PARTITION WALL

	Interior finish
18 mm	Gypsum plasterboard
	Fireproofing
95 mm	CLT-board
50 mm	ISOVER KL-37 sound insulation
95 mm	CLT-board
18 mm	Gypsum plasterboard
	Fireproofing
	Interior finish

R'w > 63 dB

ROOF

200 mm	Earth
150 mm	Light expanded clay aggregate
	Root protection
	Bitumen membrane
50 mm	Plywood
25 mm	Wood battens
100 mm	Air space
100 mm	ISOVER RKL-31 FACADE wind barrier
450 mm	ISOVER KL-32 insulation
138 mm	CLT-board
48 mm	Wood Battens
18 mm	Gypsum plasterboard
	Fire proofing
	Interior finish

U-value = 0,07 W/m2K

BASE FLOOR

	Floor finish
50 mm	Concrete
	Placing filter
50 mm	ISOVER FLO sound insulation
80 mm	Steel reinforced concrete
400 mm	ISOVER Styrofoam
	300 SL-AN insulation
200 mm	Gravel to block capillary action

U-value = 0,087 W/m2K

FLOOR SLAB

	Floor finish
50 mm	Concrete
	Fireproofing
	Placing filter
50 mm	ISOVER FLO sound insulation
50 mm	Limestone gravel sound insulation
296 mm	CLT-board
48 mm	Wood battens
25 mm	Acoustic springs
2x10 mm	Gypsum plasterboard
	Fireproofing
	Interior finish

R'w > 63 dB
L'n,w < 53 dB

INTERIOR WALL

	Interior finish
18 mm	Gypsum plasterboard
95 mm	CLT-board
18 mm	Gypsum plasterboard
	Interior finish

R'w > 38 dB

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

SPECIAL PRIZE
ISOVER
Multi-Comfort
House Students Contest
International stage,
Belgrade 2013

II PRIZE - FINLAND
National Stage 2013

Tampere University of Technology, School of architecture

JENNI EKLOF

SAMI ISONIEMI

JUKKA PERAMAA

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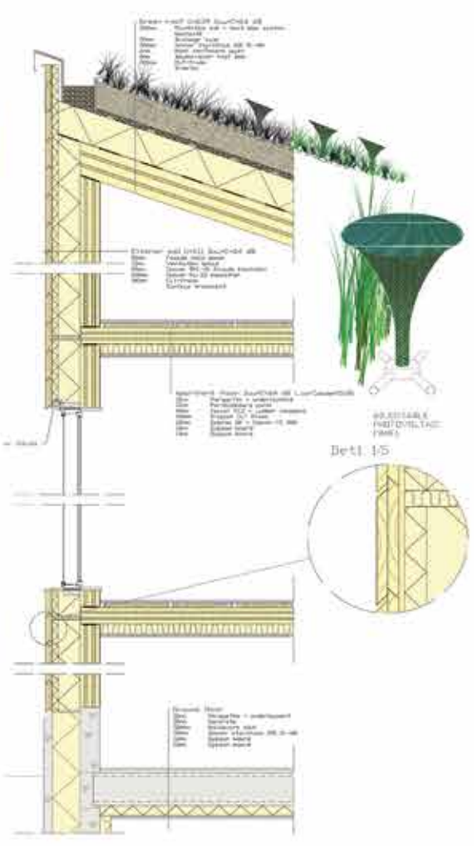
north


WINTER


SUMMER


Detl 1/5

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

III PRIZE - FINLAND
National Stage 2013

University of Oulu

JONNA
SILVO

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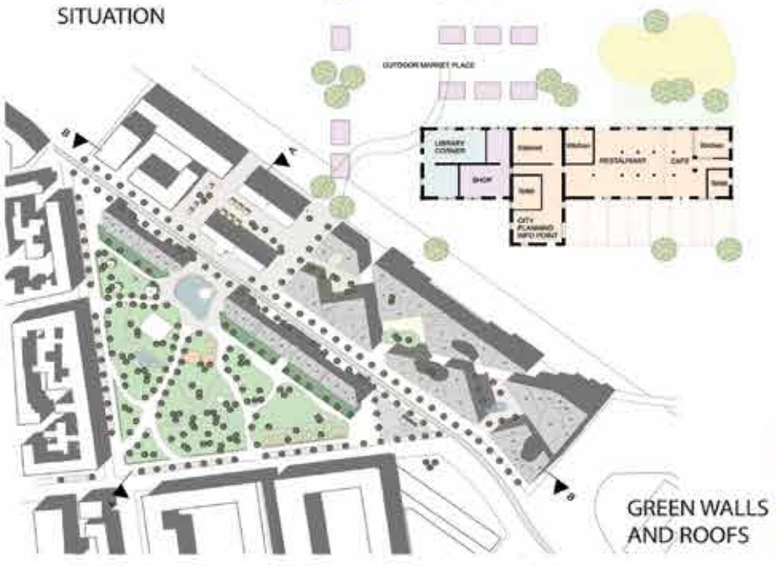
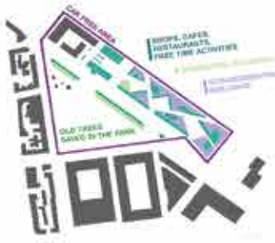
EXISTING BUILDINGS

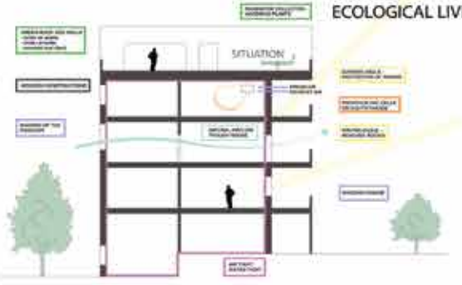
SITUATION



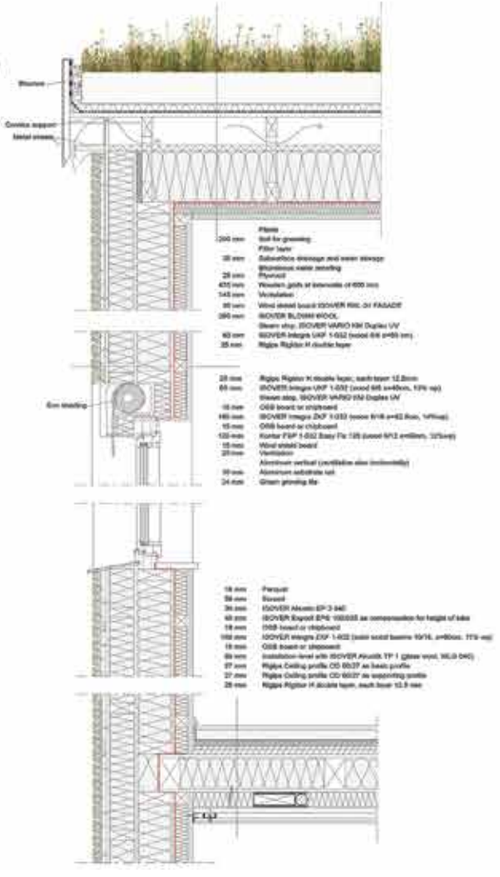
CONNECTIONS



ECOLOGICAL LIVING



GREEN WALLS AND ROOFS



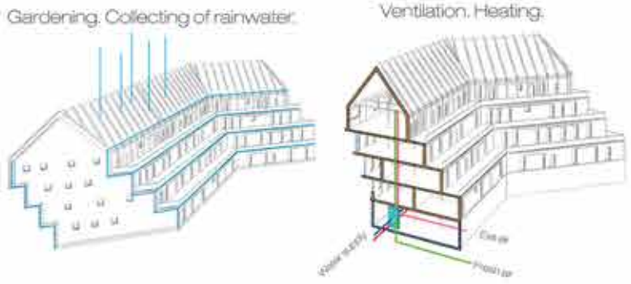
VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

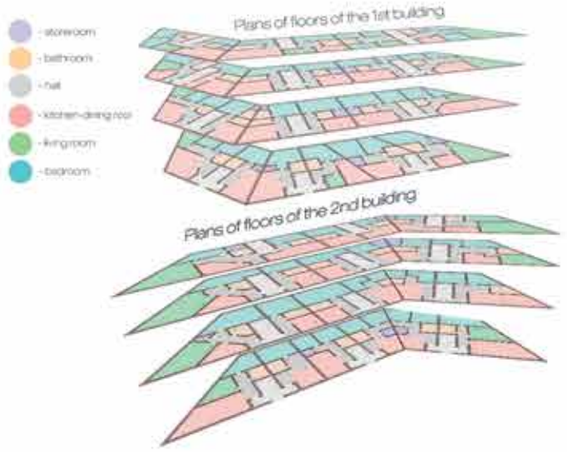
PRIZE - KAZAKHSTAN
National Stage 2013

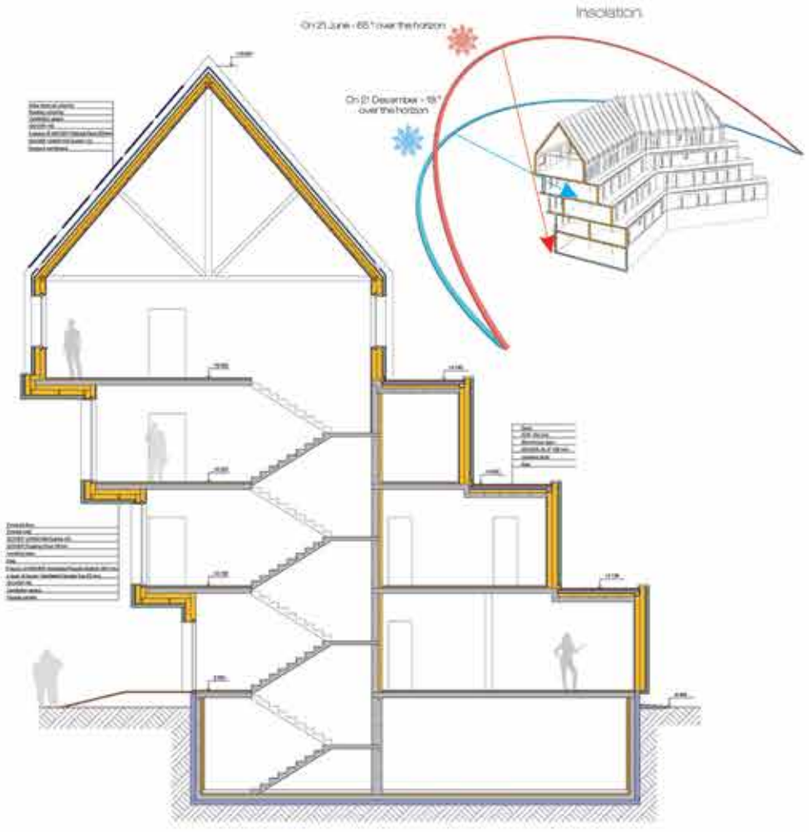
University of KazGASA

MICHAEL KIBITKIN


Residential buildings
Multi-Comfort house
Public buildings
Preschool institution
Scheme of landscaping
Functional zoning of buildings


Gardening. Collecting of rainwater.
Ventilation. Heating.


- storeroom
- bathroom
- hall
- kitchen-dining room
- living room
- bedroom
Plans of floors of the 1st building
Plans of floors of the 2nd building


Insolation

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - KAZAKHSTAN
National Stage 2013

University of KazGASA

MADINA MANGIBAYEVA

AIBEK ALMASOV

ARAILYM YESTAYEVA

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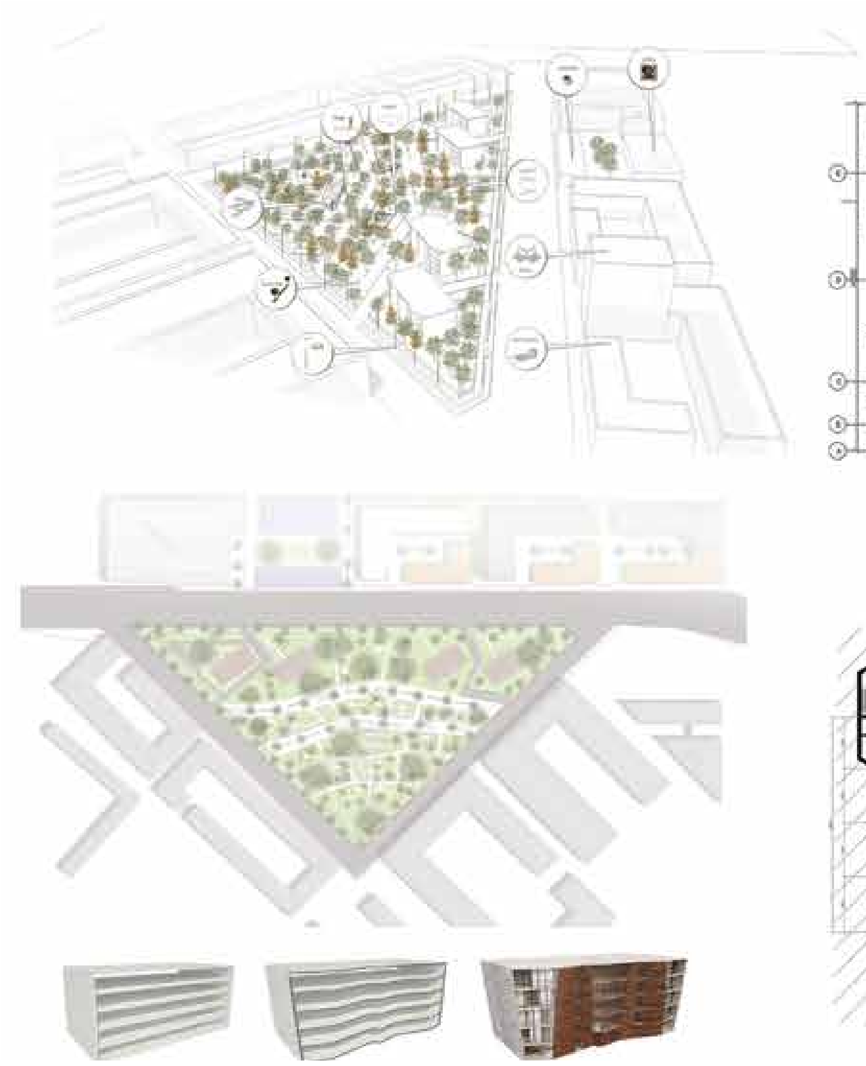

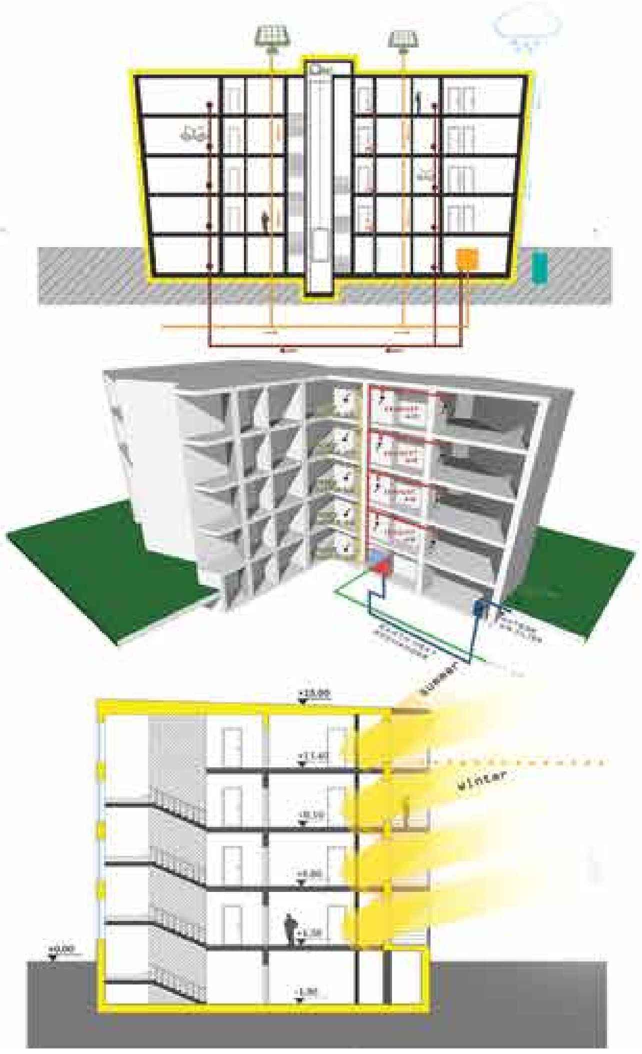

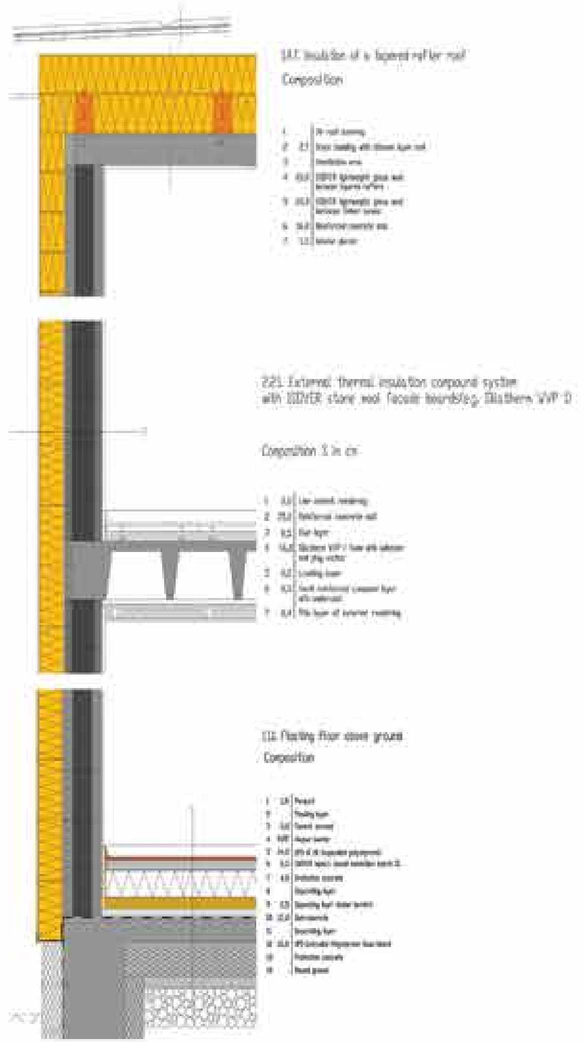

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III PRIZE - KAZAKHSTAN
National Stage 2013

Innovative University of Eurasia

SHAMIL SHUSHAYEV

ANTON NEVTESOV

MICHAEL KALUGIN

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Suedtangente Street
John Deer Street
Zone "A"
Zone "B"


Typical floor plan
1 floor
Explication of the 1 floor
01,03 -Bathroom
02 - Area for commerce


Section I-I
Section II-II


Development plan
Mannheim City
Legend:
Zone "A"
Zone "B"
1 - Trade - Fair
2 - Folk - leisure centre
3 - Offices (5, 11 fl.)
4 - House (5 fl.)
5 - House (5 fl).
6 - Parking (for housing)
7 - Park
Existing buildings
Public parking
Underground parking
Ventilation with heat recovery
Multi comfortable not only the house, but the yard
Comfort
Ecological
Maintenance
Security
The idea of facade decoration
Transfer of home comfort in an urban environment
Trade - Fair
Folklore - leisure center
isover
OL-P
20 cm
isover
"FLOATING FLOOR"
4 cm
isover
GYPROFORM
10 cm
Thermal insulation of exterior walls
Thermal insulation of the floor
Soundproofing and insulation of walls
Thermal insulation of the roof

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - LATVIA
National Stage 2013

Riga Technical University

ANRIJS MEDUMS

ELINA SKUJINA

SANDRA SINKA

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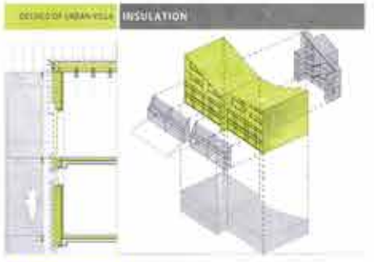
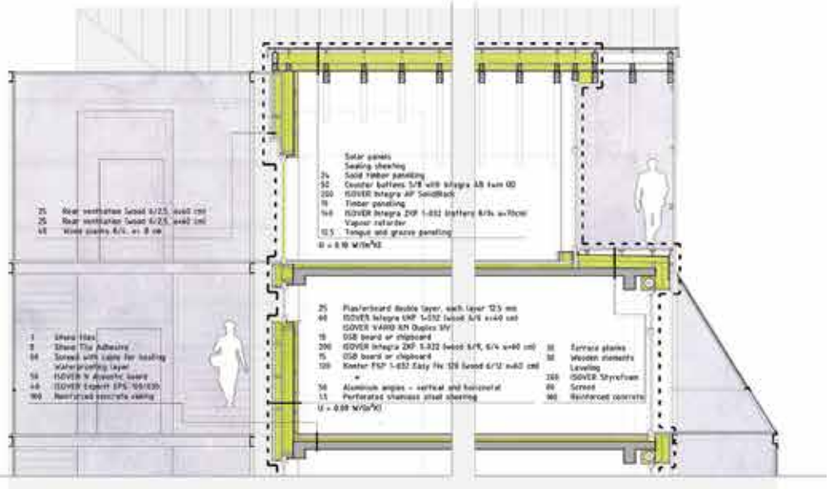
MASTERPLAN
ZONING
A
B


MASTERPLAN
VOLUME SHAPING

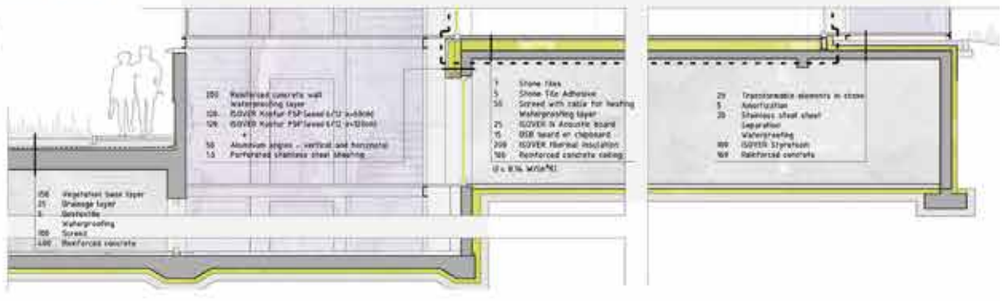

DETAILS OF URBAN VILLA
INSULATION


DETAILS OF URBAN VILLA
RAINWATER HARVESTING&VENTILATION




#MOUNTAINHEIM #SILHOUETTE


DETAILS OF URBAN VILLA
SHADING&SOLAR SYSTEMS



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KRIŠJĀNIS KOPŠTĀLS

INGUS ŠTRĀLS

TOMS KAMPARS

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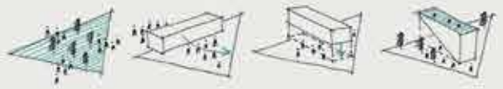
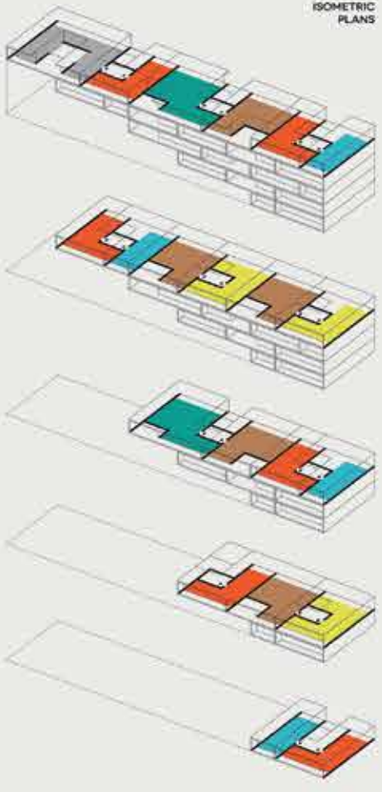
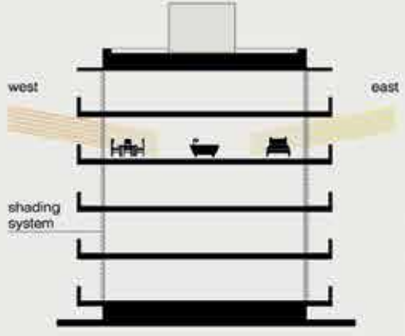
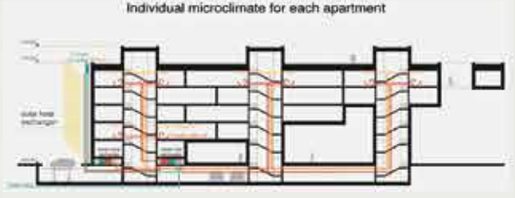


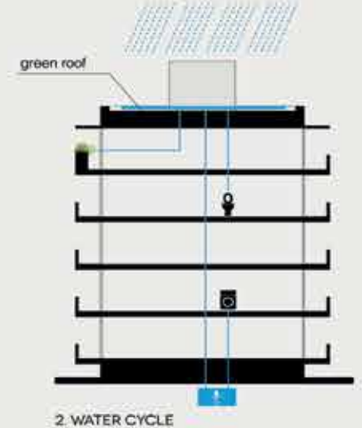
HANGING GARDENS
OF MANNHEIM



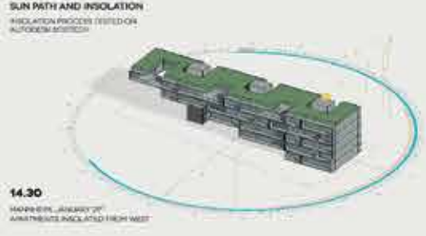


1. DAYLIGHT STRATEGY





2. WATER CYCLE



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National Stage 2013

Riga Technical University

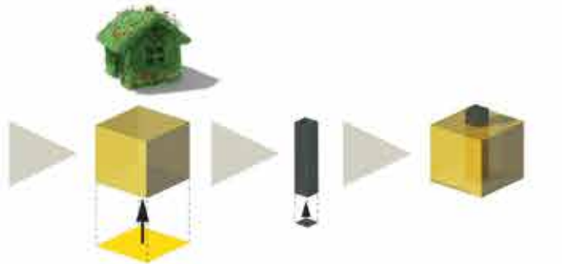
NATAĻJA

LĪGA

RŪTA

SITE PLAN

CONCEPT

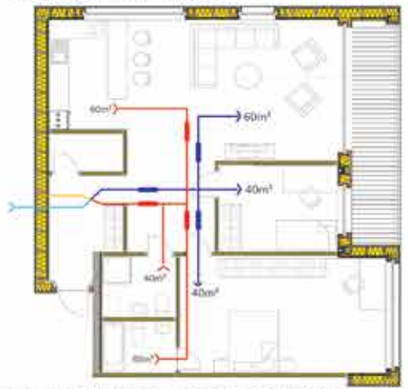


BASIC ELEMENT

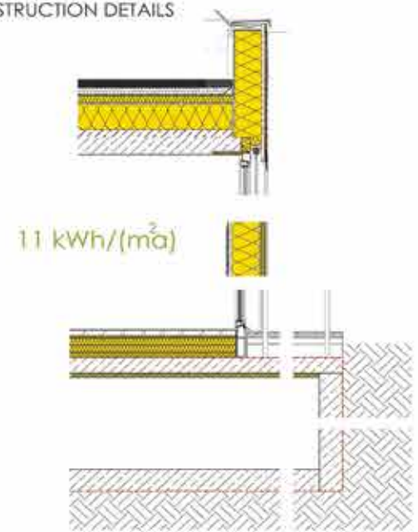
CENTRAL CORE

BUILDING SHAPE

HORIZONTAL SECTION



CONSTRUCTION DETAILS



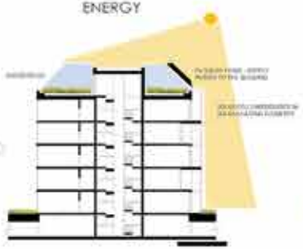
MECHANICAL VENTELATION WITH HEAT RECOVERY η HR = 93%

1. / 3. / 5. - FLOOR PLAN

2./ 4. - FLOOR PLAN

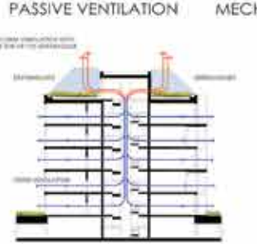
ROOF PLAN

ENERGY

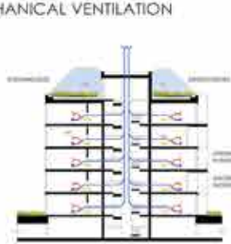


WATER CYCLE

PASSIVE VENTILATION



MECHANICAL VENTILATION



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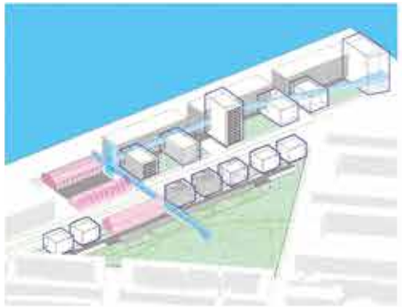
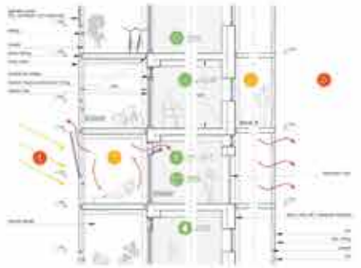
PRIZE - LITHUANIA
National Stage 2013

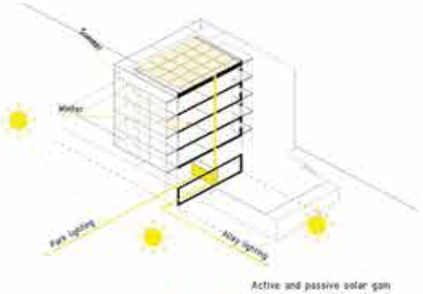
Vilnius Gediminas Technical University Faculty of Architecture

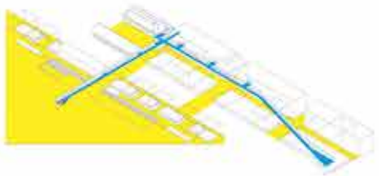
DONATAS CESIULIS

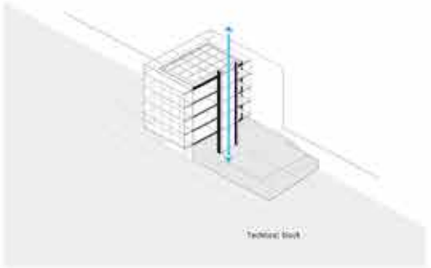
TOMAS SKRIPKIUNAS

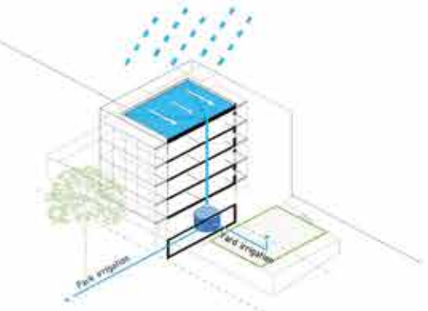


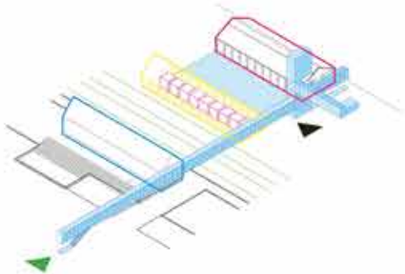


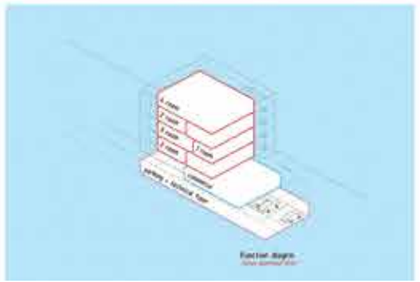

Active and passive solar gain

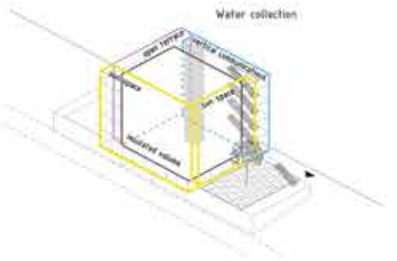











Water collection

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II PRIZE - LITHUANIA
National Stage 2013

Vilnius Gediminas Technical University Faculty of Architecture

LAURA ŽVALIAUSKAITĖ

AKVILĖ-MYŠKO ŽVINIENĖ

SURMINAS PETRAUSKAS

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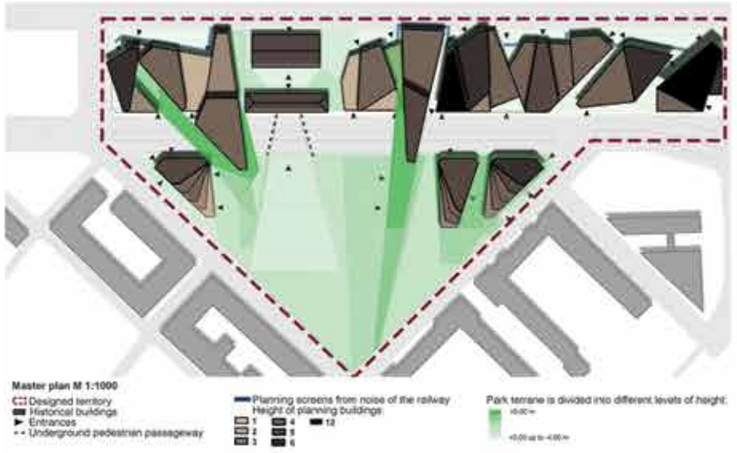
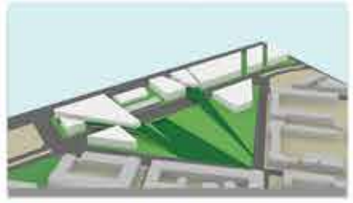
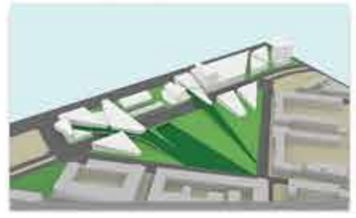
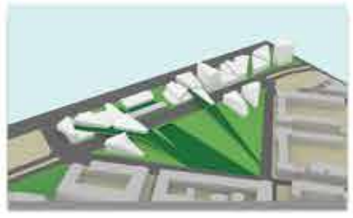
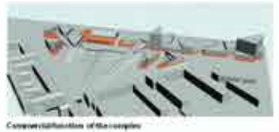
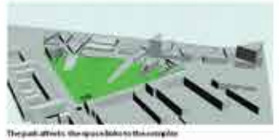

Master plan M 1:1000
Designed territory
Historical buildings
Entrances
Underground pedestrian passageway
Planning screens from noise of the railway
Height of planning buildings
Park terrane is divided into different levels of height:

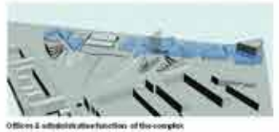






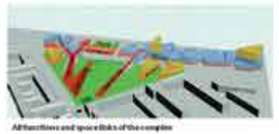

Commercial function of the complex


The park attracts the space links to the complex


Offices & administrative function of the complex


Residential function of the complex

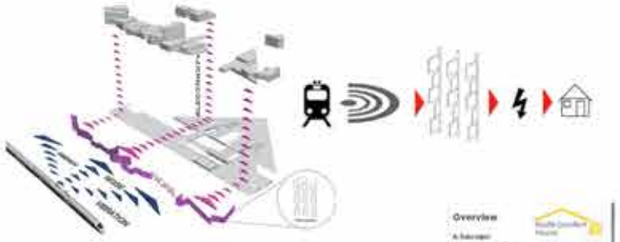

The main space links of pedestrians from the park to town

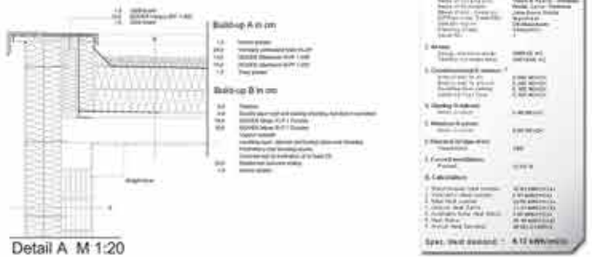

All functions and space links of the complex


Commercial function
Gym & space for sports
Offices
Leisure spaces & spaces for children
DETALIZATION OF THE APARTMENT
TYPES OF FLOORING


VENTILATION SYSTEM

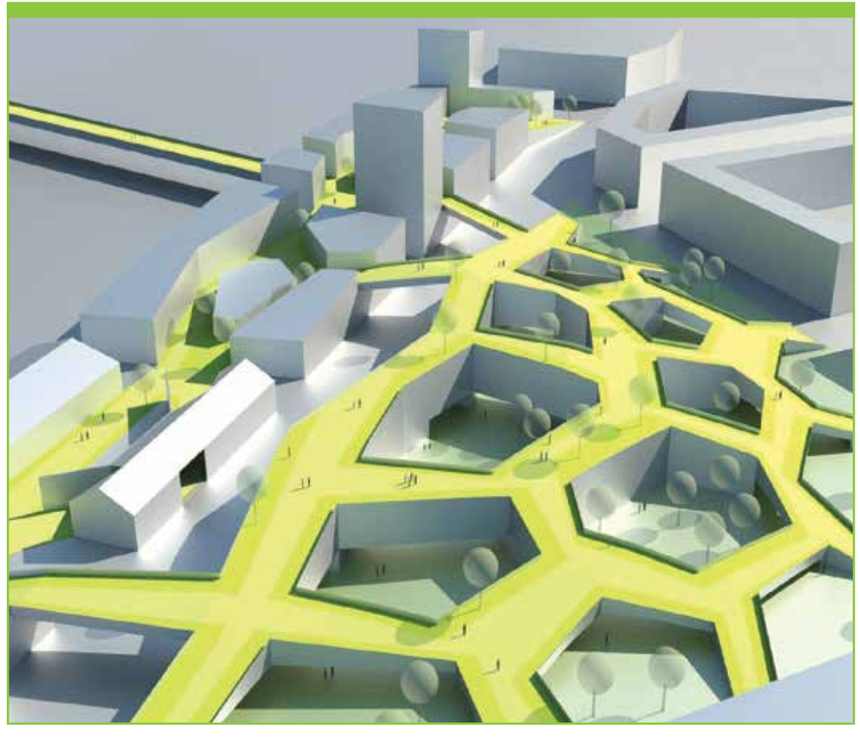

COMFORT VENTILATION
SOLAR SHADING
SOLAR HEATING




Buildup A in cm
Buildup B in cm
Detail A M 1:20

Overview

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY



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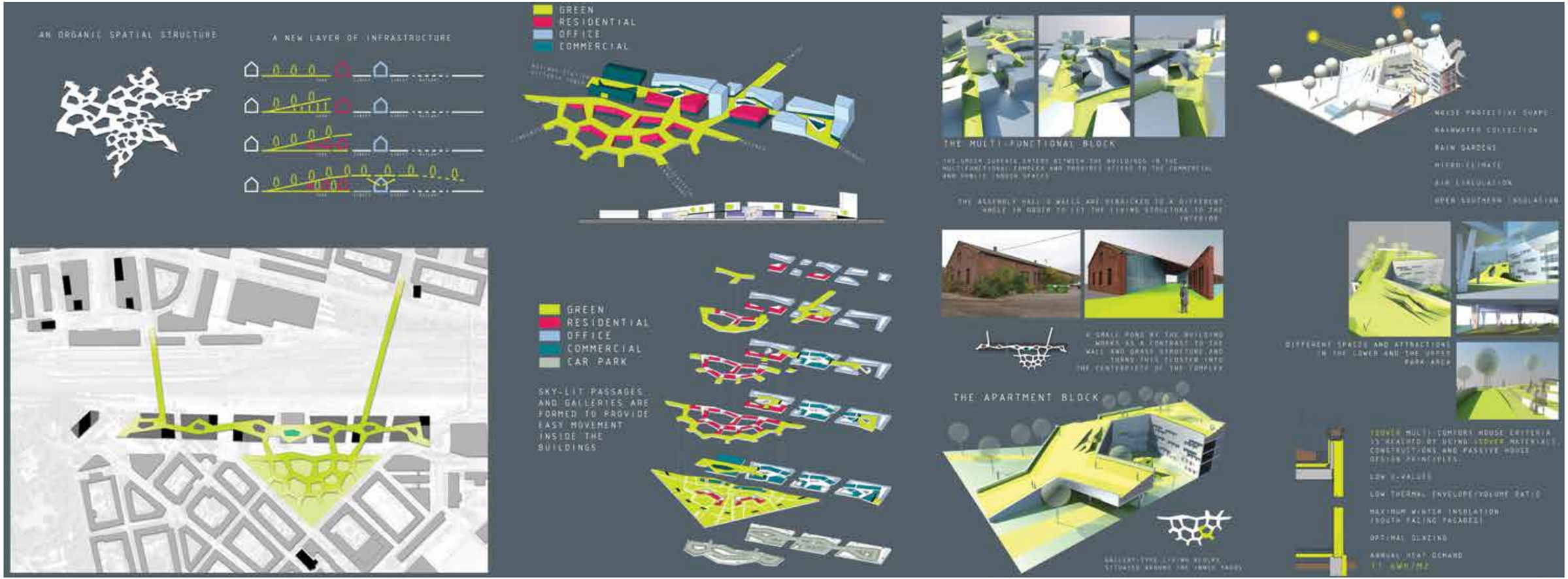
National Stage 2013

Vilnius Gediminas Technical University Faculty of Architecture

AINA GASIŪNAITĖ

ŽILVINAS JAGĖLA

ARTŪRAS MAŽEIKA


AN ORGANIC SPATIAL STRUCTURE
A NEW LAYER OF INFRASTRUCTURE
GREEN
RESIDENTIAL
OFFICE
COMMERCIAL
THE MULTI-FUNCTIONAL BLOCK
NOISE PROTECTIVE SHAPE
RAINWATER COLLECTION
RAIN GARDENS
MICRO-CLIMATE
AIR CIRCULATION
OPEN SOUTHERN INSULATION
GREEN
RESIDENTIAL
OFFICE
COMMERCIAL
CAR PARK
SKY-LIT PASSAGES AND GALLERIES ARE FORMED TO PROVIDE EASY MOVEMENT INSIDE THE BUILDINGS
A SMALL POND BY THE BUILDING WORKS AS A CONTRAST TO THE WALL AND GRASS STRUCTURE AND THINLY FALLS FURTHER INTO THE CENTERPIECE OF THE COMPLEX
DIFFERENT SPACES AND ATTRACTIONS IN THE LOWER AND THE UPPER PARK AREA
THE APARTMENT BLOCK
LOW U-VALUES
LOW THERMAL ENVELOPE/VOLUME RATIO
MAXIMUM WINTER INSOLATION (SOUTH FACING FACADES)
OPTIMAL GLAZING

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - POLAND
National Stage 2013

Silesian Univeristy of Technology in Gliwice

FILIP MAŁECKI

BARTŁOMIEJ MROCZKOWSKI

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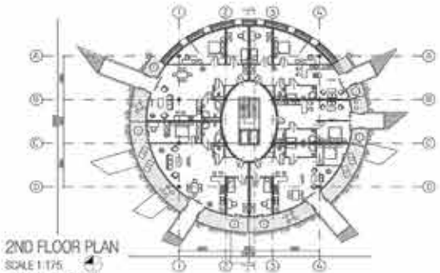
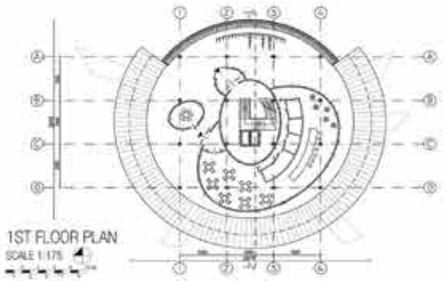
IDEA

MASTERPLAN

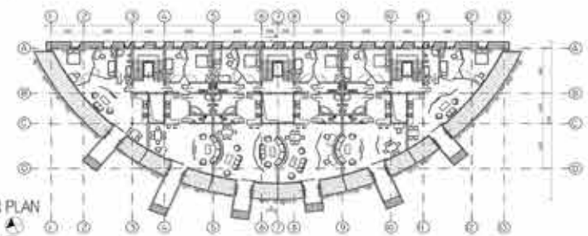


2ND FLOOR PLAN
SCALE 1:175

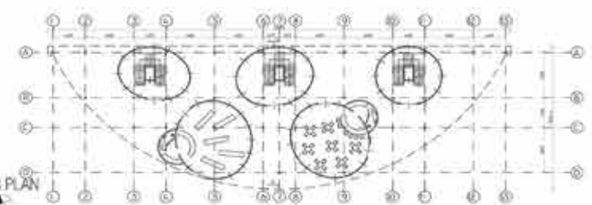


1ST FLOOR PLAN
SCALE 1:175

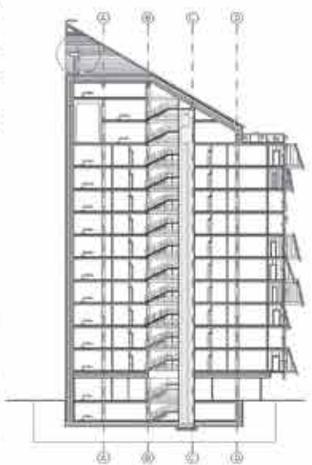
ZONE "B"



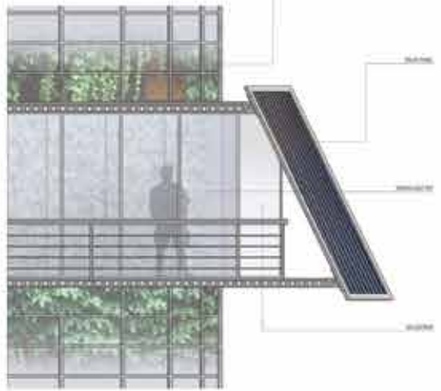
2ND FLOOR PLAN
SCALE 1:175



1ST FLOOR PLAN
SCALE 1:175

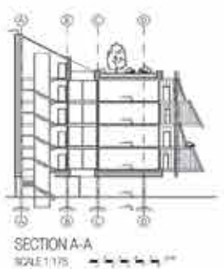


SECTION A-A
SCALE 1:175



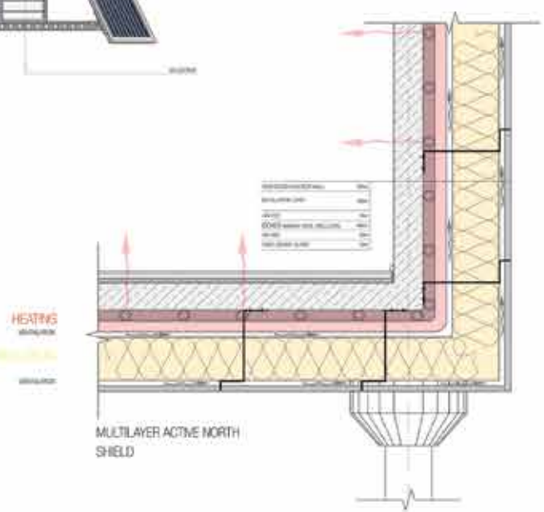
GLASS TERRACE WITH SOLAR PANEL

ZONE "A"



SECTION A-A
SCALE 1:175

ROOF DETAIL



MULTILAYER ACTIVE NORTH
SHIELD

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MARTA CHUDALLA

MARTA MASEŁKO

MAGDALENA STANISZEWSKA

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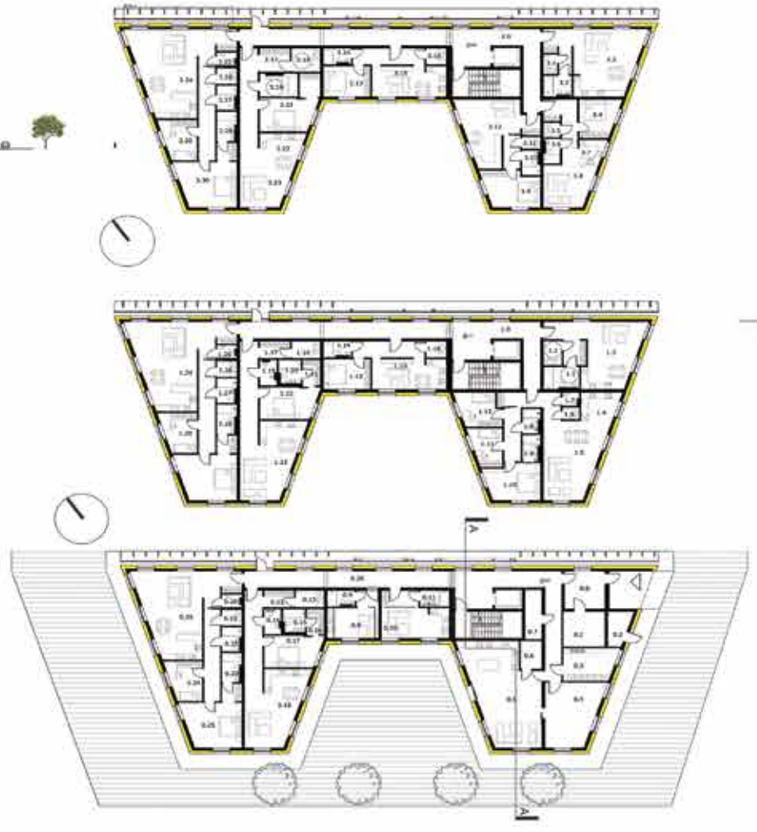
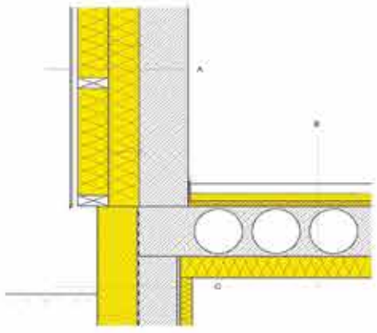
ECO SUPER FARM CHARM





Build-up A in cm

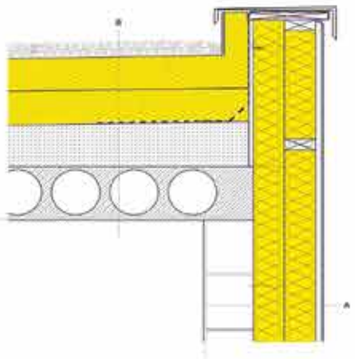
1,5 Interior plaster
24,0 Concrete wall
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 5*5 a=40cm
18,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6*18 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding (e.g. wood, metal, plastic, stone)

Build-up B in cm

Floor covering
3,0 Screed
Vapour retarder and separating layer
8,0 ISOVER Expont EPS 030 035
3,0 ISOVER Akustic DP 1
28,0 Bubble concrete deck
12,0 ISOVER Trodec DP 1-032 ULTIMATE

Build-up C in cm (Plinth insulation)

6,0 ISOVER Trodec DP 1-032 ULTIMATE
1,5 Interior plaster
20,0 Concrete wall
0,1 Bitumen preliminary coating
0,5 Sealing against moisture
20,0 ISOVER Expont EPS PDP 1 (up to 3m installation depth) or PDP 2 (up to 5 m installation depth)
0,6 Thin plaster coat



Build-up A in cm

1,5 Interior plaster
24,0 Soil brick
16,0 ISOVER Kontur FSP 1-032 Easy Fix (wood vertical 5*5 a=40cm
18,0 ISOVER Kontur FSP 1-032 Easy Fix (wood horizontal 6*18 a=120cm)
3,0 Rear ventilation
1,0 Exterior cladding

Build-up B in cm

9,0 Pebbles
ISOVER AquaDefense
10,0 Styrodur C3
18,0 Styrodur C3
0,8 Double-layer roof and sealing sheeting, bonded or scotched
Levelling layer, bitumen perforated glass-mat sheeting
Preliminary coat, bonding course
Concrete laid at inclination of at least 2%
28,0 Bubble concrete deck
1,5 Interior plaster

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House Students Contest
International stage,
Belgrade 2013

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Wroclaw University of Technology

GRZEGORZ
BOCHENEK

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AREA "A" South elevation 1:200
AREA "B" - Construction scheme of offices' facade
MOSAIC MULTI - FACADE
BASIC BUILDING SHAPE
REINFORCED CONCRETE CELLULAR CONSTRUCTION
SCAFFOLD
SOLAR COLLECTORS
USING RENEWABLE ENERGY SOURCES
CHANNELING FENCING
MULTIFUNCTIONAL PLANE
ADVERTISING OF THE CITY
INFORMATIONAL FUNCTION
SOLAR BLINDS
REDUCING SUNLIGHT
GREEN PLANE
WIND PROTECTION
WARMING AIR
SUN PROTECTION
SUN SHADING
AREA "B" - Construction scheme of residential units
BASIC BUILDING SHAPE
SCAFFOLD
WIND TURBINE
SOLAR BLINDS
SOLAR COLLECTORS
USING RENEWABLE
ENERGY SOURCES
SERVICES ON GROUND FLOORS
PUBLICK SPACE
SEMIPUBLIC SPACE
ON FIRST FLOOR
Water Garden
METEORIC WATER MANAGEMENT
METEORIC WATER
GREYWATER USAGE
RETAINING PLANTS
RESERVOIR
Wind Garden
WIND ENERGY MANAGEMENT
WIND TURBINE
SOUNDPROOF STRUCTURE
WIND PROTECTION
GREEN ROOFTOP
GREEN PLANE
AIR CLEANING
SOLAR PANELS
SUN PROTECTION
ELECTRICITY
GREEN PLANE
WIND PROTECTION
EXHAUSTION
Garden of the Sun
SOLAR ENERGY MANAGEMENT
SOLAR COLLECTOR
VERTICAL FACADE COLLECTOR
SOLAR BLINDS
SITE WATER
Details 1:20
Location plan 1:500

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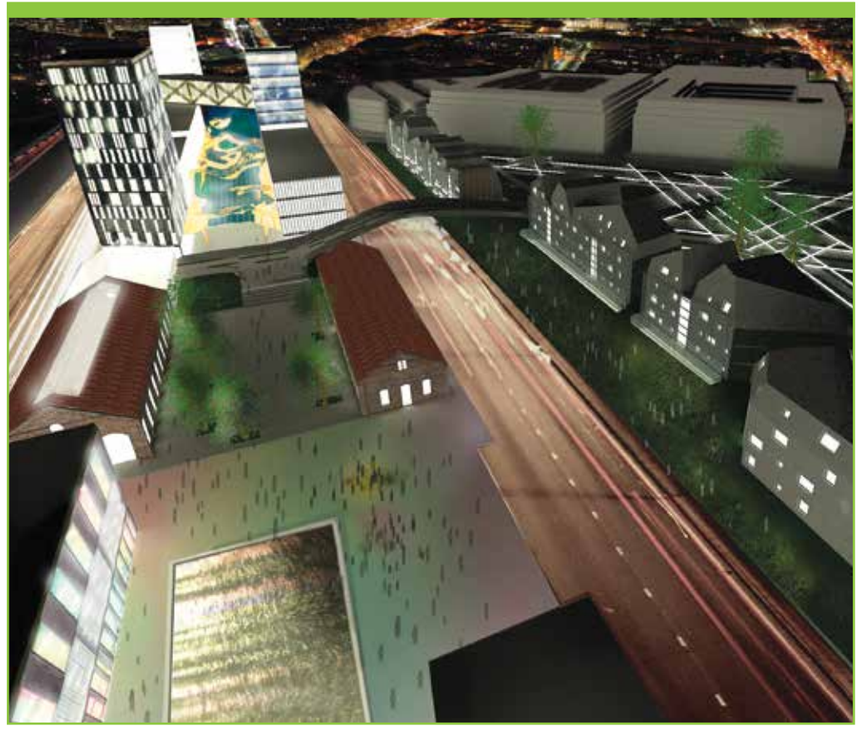

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National Stage 2013

Technical University „GH. Asachi" Faculty of Architecture „G.M. Cantacuzino" Iasi

GEORGE G. CARAPANU

BIANCA DOBRU

SEBASTIAN LUPU

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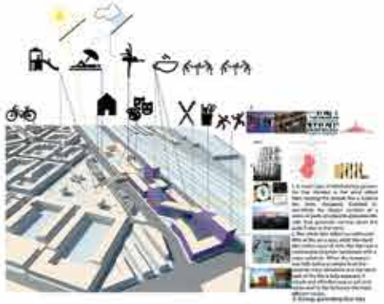
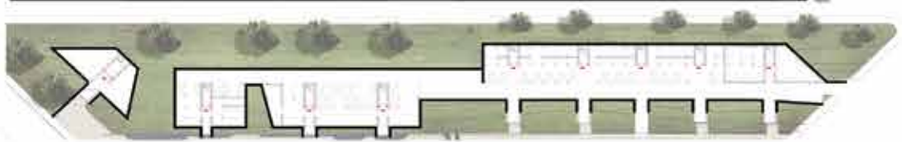


LONGITUDINAL SECTION B-B' SC. 1:500



GROUND FLOOR +0.00 sc. 1:500

1st FLOOR PLAN - building A sc. 1:400

2nd FLOOR PLAN - building A sc. 1:400

3rd FLOOR PLAN - building A sc. 1:400

4th FLOOR PLAN - building A sc. 1:400

3rd FLOOR PLAN - building B sc. 1:400

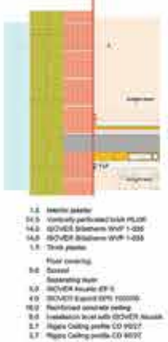
4th FLOOR PLAN - building B sc. 1:400

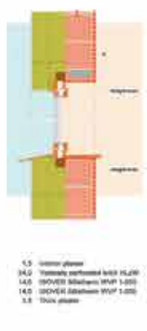
1st & 2nd FLOOR PLAN - building B sc. 1:400

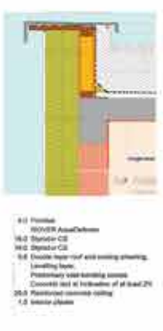
HEAT EXCHANGER - WINTER

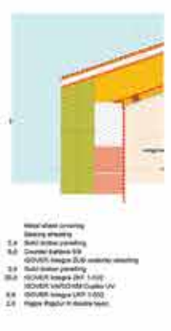
HEAT EXCHANGER - SUMMER

DETAILS USED FOR THE HOUSING BUILDINGS









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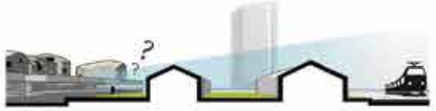
„Ion Mincu“ Architecture and Urbanism University

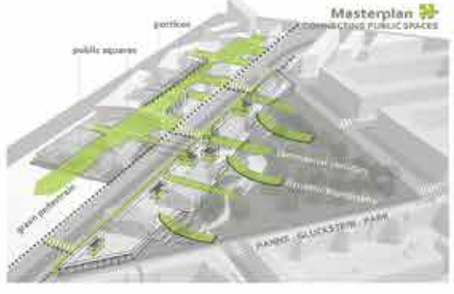
SABRINA ENE

CRISTINA MUNTEANU

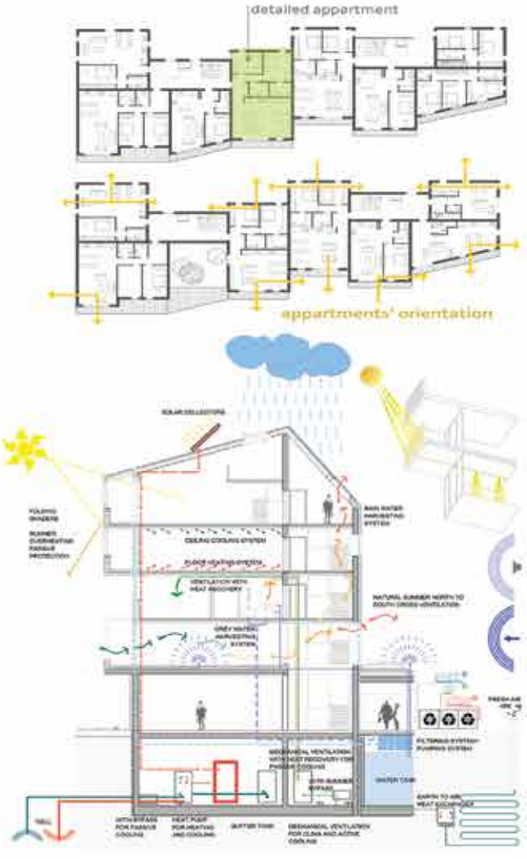

Masterplan
CONNECTING ZONE B
LOCKSCHUPPEN
PEDESTRIAN CONNECTION

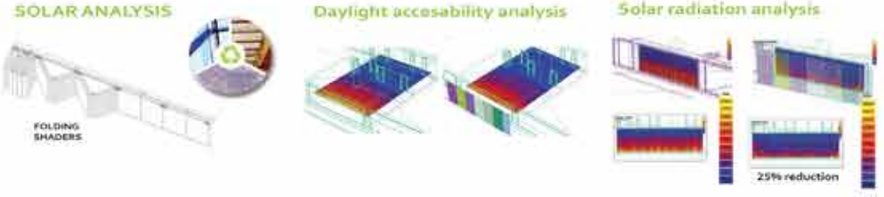

problem

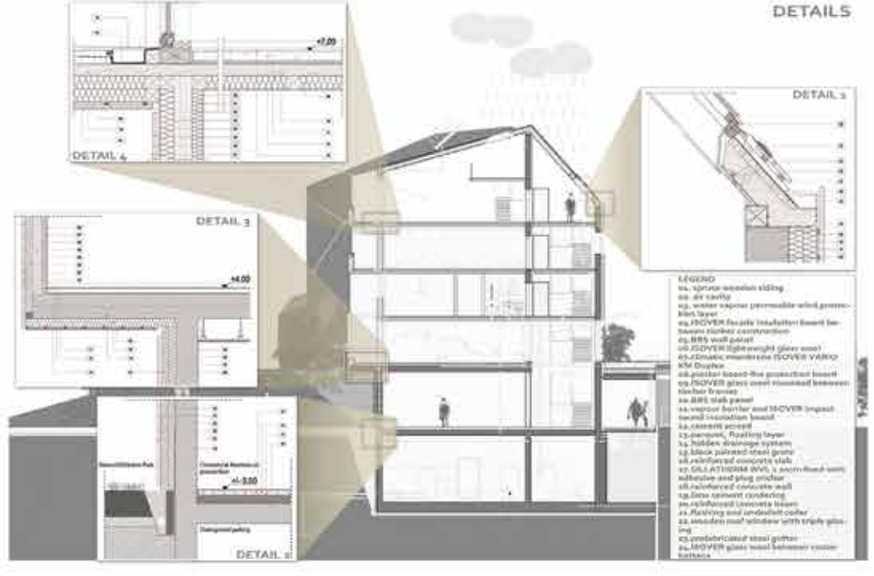

VISUAL CONNECTION
solution


Masterplan
CONNECTING PUBLIC SPACES
pavilion
public squares
glass pavilion
PARKS - SLUCKSTEIN - PARK


GREENHOUSES
CONNECTIVITY
Hannh-Böcklein-Park
FUNCTIONS
BUILDING


detailed appertment
appartments' orientation


SOLAR ANALYSIS
FOLDING SHADERS
Daylight accesability analysis
Solar radiation analysis
25% reduction


DETAILS
DETAIL 1
DETAIL 2
DETAIL 3
DETAIL 4

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University of Architecture and Urbanims „Ion Mincu“

LUCIANA BALANA

MADALINA LICSOR

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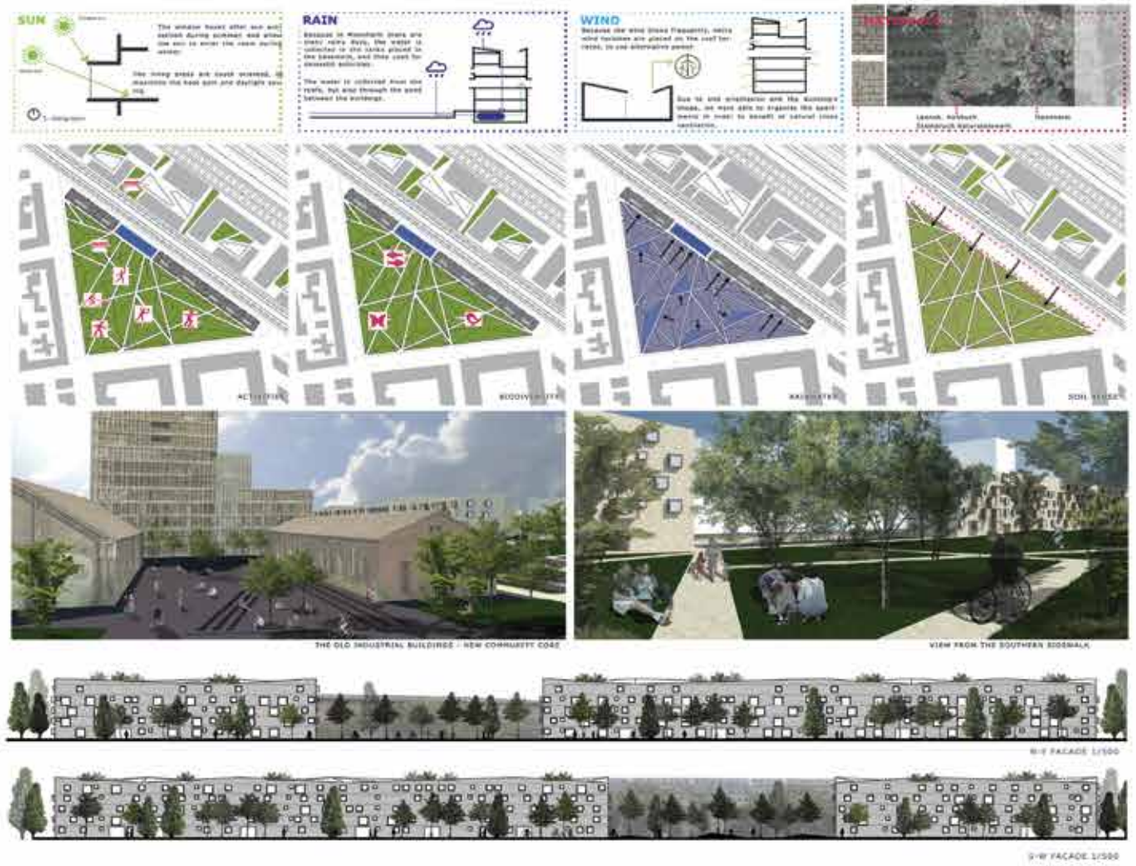
SUN
RAIN
WIND
THE OLD INDUSTRIAL BUILDINGS - NEW COMMUNITY CORE
VIEW FROM THE SOUTHERN BOARDWALK
N-S FACADE 1/500
E-W FACADE 1/500

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Ural Federal University

ROMAN PERMINOV

ALEXEY KHAKIMZYANOV

DARIA LOZHKINA

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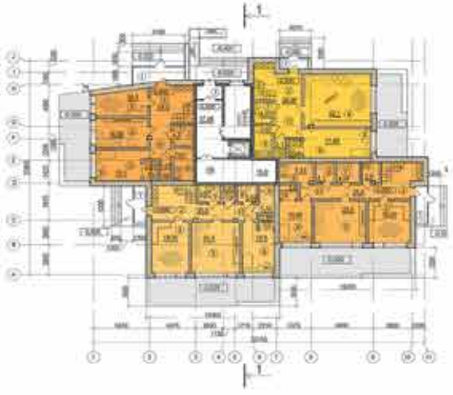
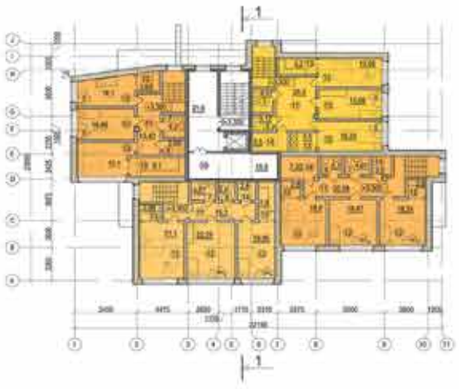
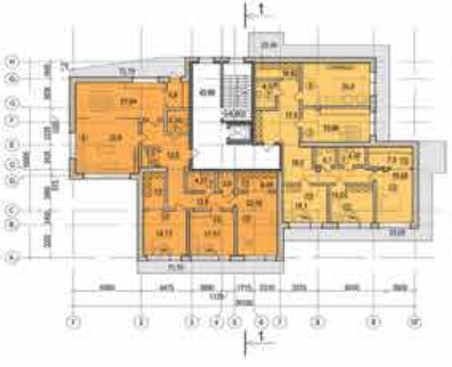
Ground floor plan



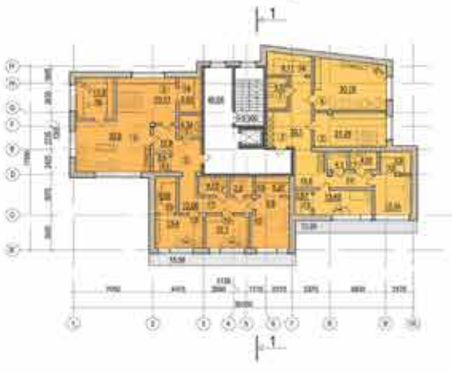
First floor plan



Second floor plan



Third floor plan



Economy Ecology Evolution

Explication

1. Tambour
2. Entrance hall
3. Kitchen
4. Living-room
5. Parlor
6. Guest bedroom
7. Bathroom unit
8. WC
9. Laundry room
10. Technical room
11. Hall
12. Bedroom
13. Wardrobe
14. Storage room
15. Keeping-room
16. Closet
17. Passage-way
18. Pram storage room
19. Public space

Section 1-1

Water supply system

Ventilation system

Heat gain sources

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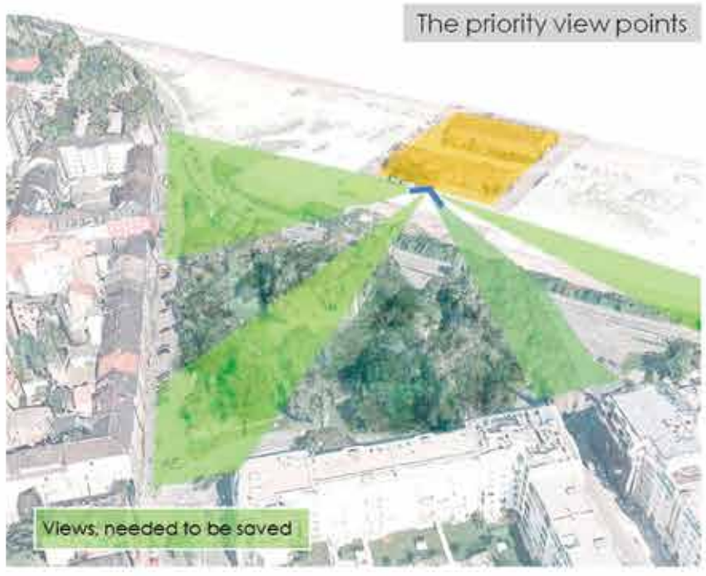
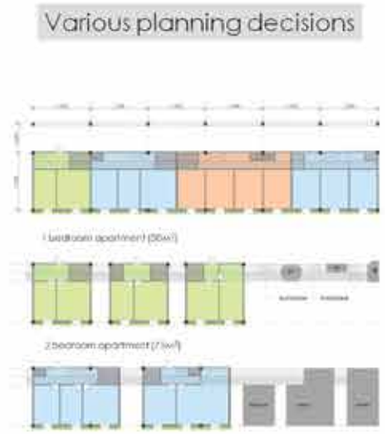
MSUCE

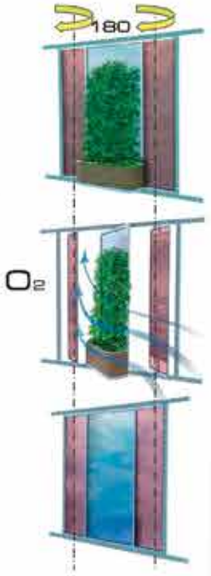
YULIA KRUTEEVA

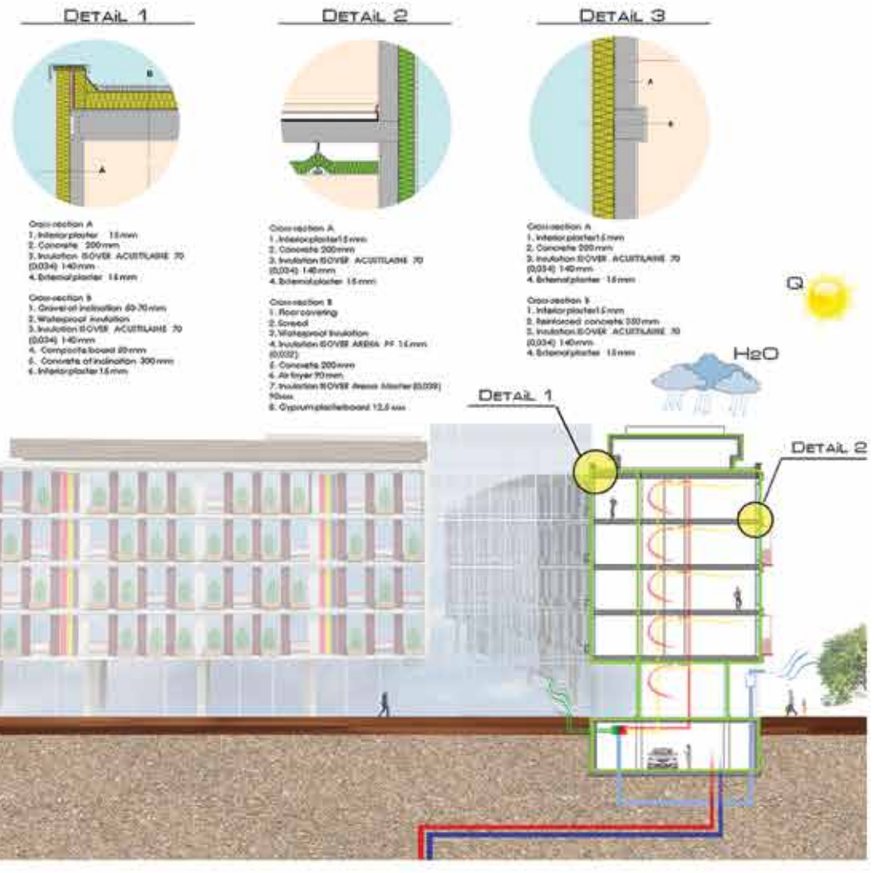
ELENA YUNUSOVA

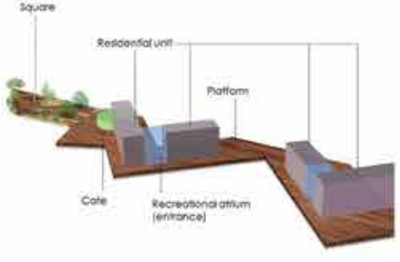
VALERIYA USATSKAYA

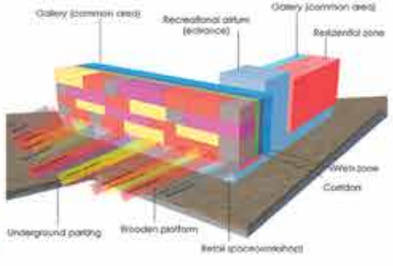

The priority view points
Views, needed to be saved

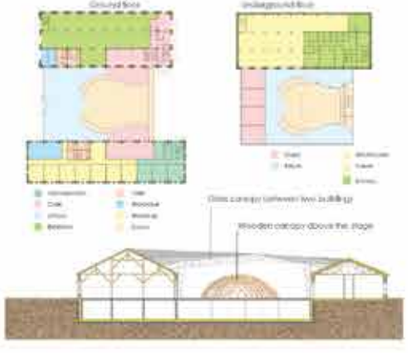

Various planning decisions
1 bedroom apartment (36m²)
2 bedroom apartment (71m²)


180
O2


DETAIL 1
DETAIL 2
DETAIL 3
Q
H2O
DETAIL 1
DETAIL 2


Square
Residential unit
Platform
Cafe
Recreational atrium (entrance)


Gallery (common area)
Recreational atrium (entrance)
Gallery (common area)
Residential zone
Waste zone
Corridor
Underground parking
Wooden platform
Retail space(workshop)


Ground floor
Underground floor
Wooden canopy above the stage

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Samara State University of Architecture and Civil Engineering

EVGENII SAVELYEV

DARYA ZAKHAROVA

ALEXANDR LAZNOV

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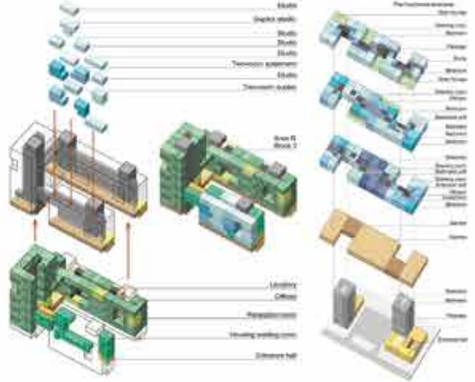
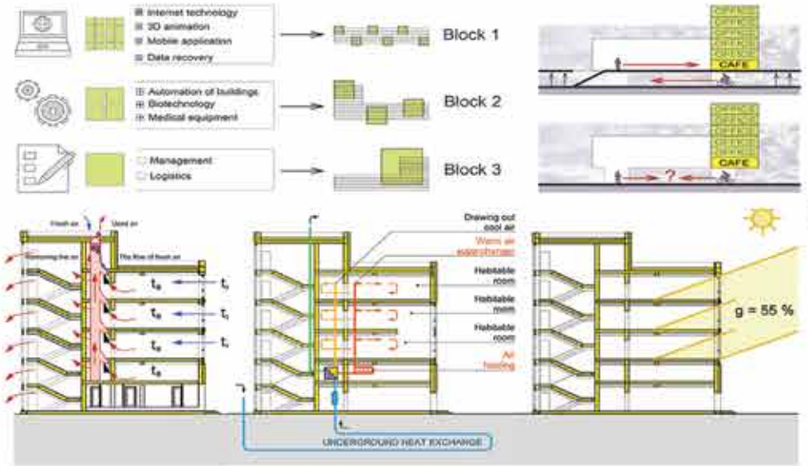
1. Historic Buildings
2. Zone A. Town Houses
3. Zone B. Office and Residencial Buildings
4.1. Park. Skate Park
4.2. Park. Recreation area
4.3. Park. Pavilions

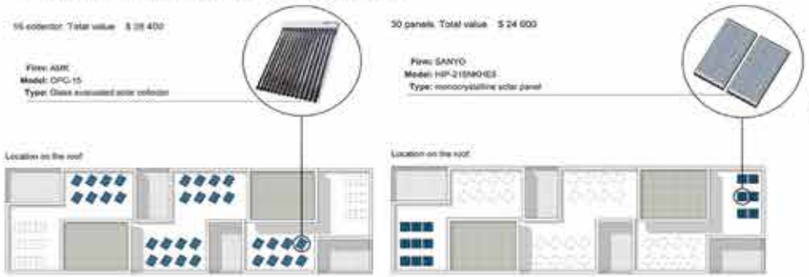
Functional structure
Town Houses (Zone A)
Office and Residential Buildings (Zone B)

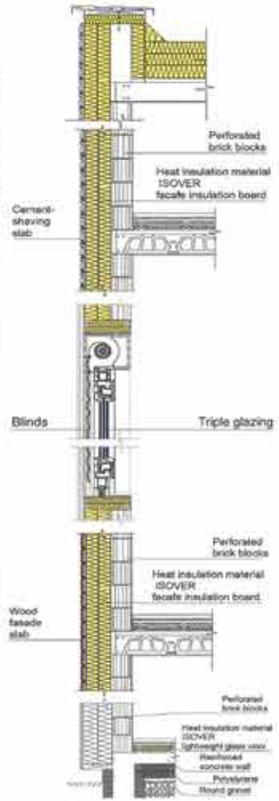




Heat Recovery = 78%
Underground Heat Exchange
Total Solar Energy Transmittance = 55%

Location of the Solar Collectors and Monocrystalline Solar Panels on the Roof





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SPECIAL PRIZE
ISOVER
Multi-Comfort
House Students Contest
International stage,
Belgrade 2013

PRIZE - SERBIA
National Stage 2013

University of Belgrade

IVANA JELIĆ

DALIA DUKANAC

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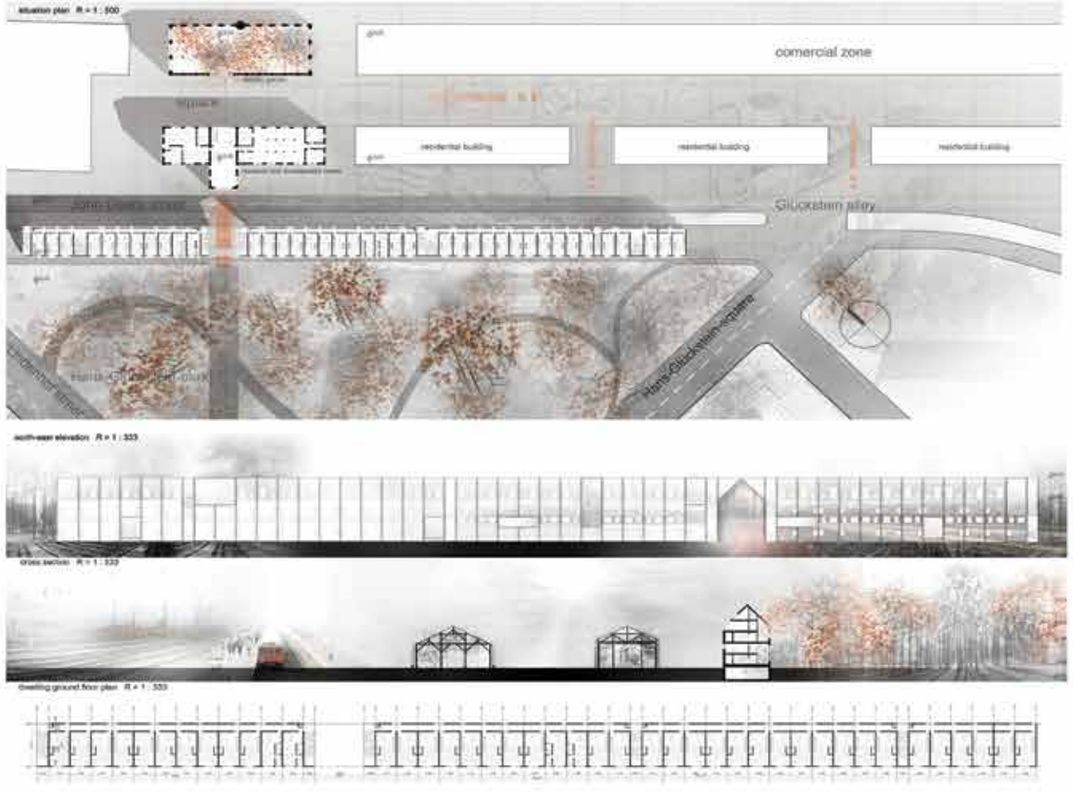
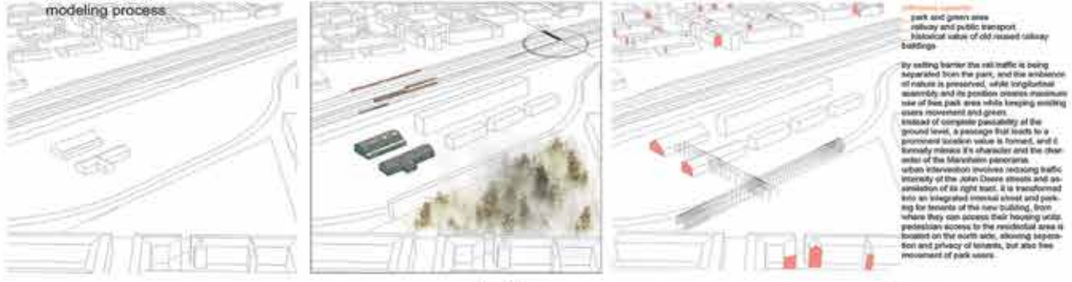
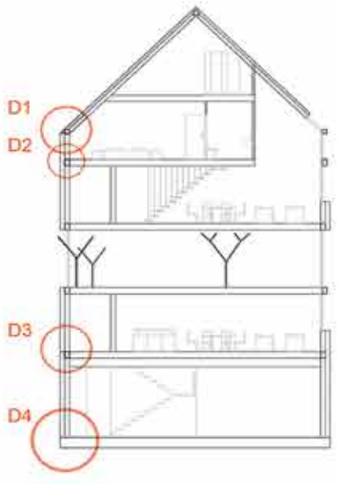
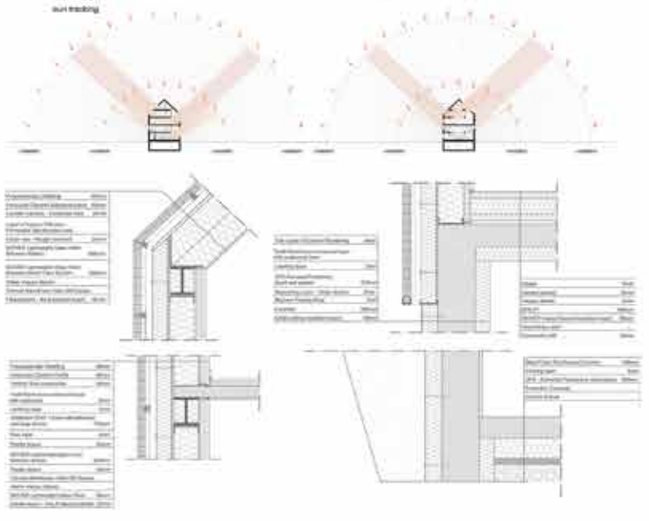

situation plan R = 1 : 500
comercial zone
residential building
residential building
residential building
John Deere street
Glucksteinallee
Hans-Glucksteinallee
north-east elevation R = 1 : 333
cross section R = 1 : 333
dwelling ground floor plan R = 1 : 333


modeling process
park and green area
railway and public transport
historical value of old reused railway buildings


D1
D2
D3
D4


sun tracing

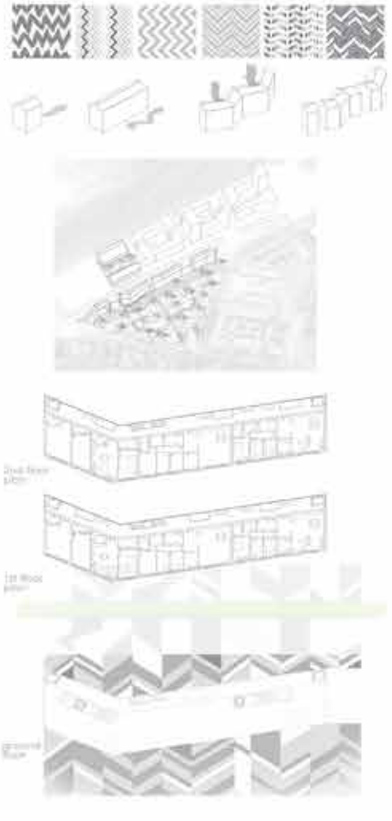
VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - SERBIA
National Stage 2013

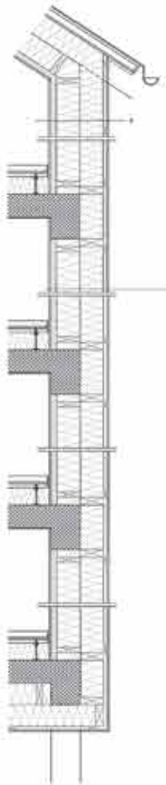
MAJA KOPTA

JELENA TASIĆ

JELENA STANKOVIĆ



DETAILS AND CALCULATIONS



General project data

Name of building project: WOTH

Climate region: DE-Aachenarea

Areas summary

	Comp.A (1128.00 m)	Comp.B	Comp.C	Total (1128.00 m2)
Heated floor area:		0.00 m2	0.00 m2	
Envelope areas:				
Exterior walls:	1284.48 m2	0.00 m2	0.00 m2	1284.48 m2
Exterior walls (underground):	0.00 m2	0.00 m2	0.00 m2	0.00 m2
Roof areas/Top floor ceiling:	1132.80 m2	0.00 m2	0.00 m2	1132.80
Cellar ceiling/floor (slab):	503.00 m2	0.00 m2	0.00 m2	503.00
Windows/doors:				
Window facing east:	0.00 m2	0.00 m2	0.00 m2	0.00 m2
Window facing south:	628.32 m2	0.00 m2	0.00 m2	628.32 m2
Window facing west:	0.00 m2	0.00 m2	0.00 m2	0.00 m2
Window facing north:	0.00 m2	0.00 m2	0.00 m2	0.00 m2
Horizontal window area:	0.00 m2	0.00 m2	0.00 m2	0.00 m2
Exterior door:	33.60 m2	0.00 m2	0.00 m2	33.60 m2
Total of all building envelope areas:	1917.28 m2	0.00 m2	0.00 m2	1917.28 m2

Summary of constructional U-values

	AF [m2]	U-value 1 [W/m2K]	AF 2 [m2]	U-value 2 [W/m2K]	AF 3 [m2]	U-value 3 [W/m2K]	Mean U-value [W/m2K]
EW - AB:	1284.48	0.18	0.00	0.00	0.00	0.00	0.180
EW - S:	628.32	0.18	0.00	0.00	0.00	0.00	0.180
RA - TFC:	1132.80	0.14	0.00	0.00	0.00	0.00	0.140
CC / FF:	503.00	0.28	0.00	0.00	0.00	0.00	0.280

Summary of glazing U-values

U-value for easterly orientation: 0.49 W/m2k
U-value for southerly orientation: 0.49 W/m2k
U-value for westerly orientation: 0.49 W/m2k
U-value for northerly orientation: 0.49 W/m2k
Mean U-value : 0.49 W/m2k

Summary of window frame/exterior door U-values

U-value for easterly orientation: 0.65 W/m2k
U-value for southerly orientation: 0.65 W/m2k
U-value for westerly orientation: 0.65 W/m2k
U-value for northerly orientation: 0.65 W/m2k
Mean Uw-value : 0.65 W/m2k
U-value entrance door: 0.80 W/m2k

Thermal bridges free: Yes / x

Airtightness: Yes / x

Ventilation system :

Effection Heat Recovery Efficiency : 88.00 percent

Calculations:

Heat losses:

1. Transmission Heat Losses per m2 and year: 19.47 kWh/(m2a)
2. Ventilation Heat Losses per m2 and year: 5.97 kW(h/m2a)
3. Total heat Losses per m2 and year

Heat Gains:

1. Internal Heat Gains per m2 and year: 31.34 kWh/(m2a)
2. Available Solar Heat Gains per m2 and year:
3. Total Heat Gains (Take Ideal) per m2 and year:

Annual Heat Demand [kWh/m2]: 1651.55 kWh/m2

Specific Annual Heat Demand [kWh/m2]: 2.20 kWh/m2

Specific Annual Heat Demand < 15 kWh/(m2a) achieved: YES

1.5 Plaster board - fire prevention board
3.0 Mounting lather 3/5
20.0 ISOVER lightweight glass wool between wooden beams
20.0 ISOVER lightweight glass wool between rafters
Water vapour barrier: Climatic membranes; ISOVER VARIO SM Duplex
5.0 ISOVER lightweight glass wool between counter battens
n/a
1.3 Plaster board-fire prevention insert

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University of Belgrade

DRAGANA SIMEUNOVIĆ

ANA VIRIJEVIĆ

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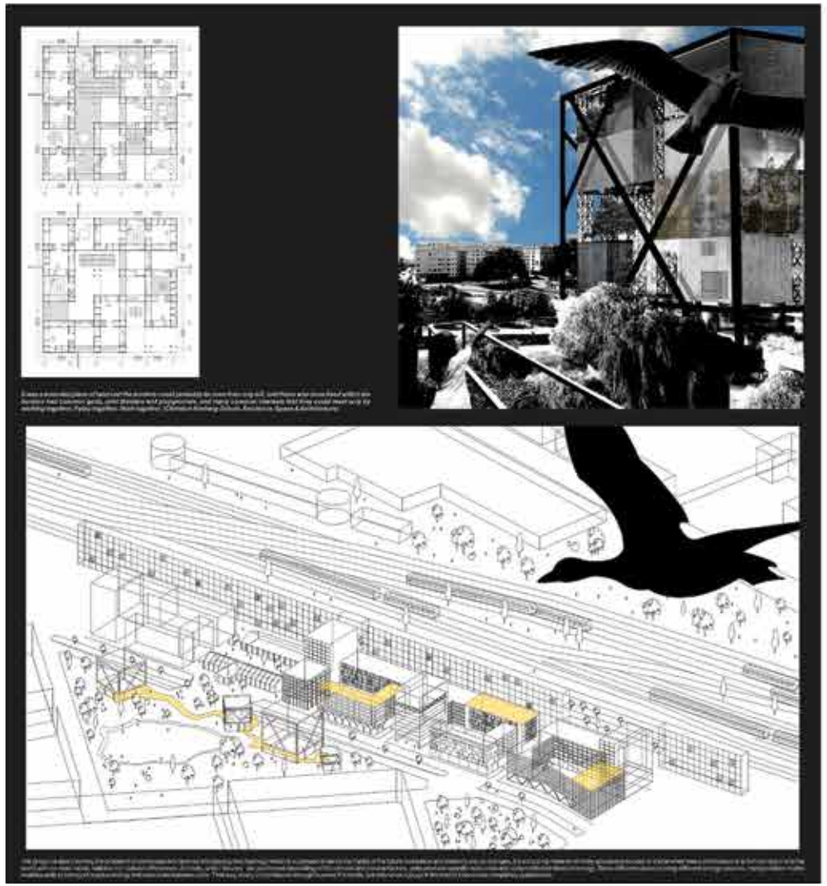

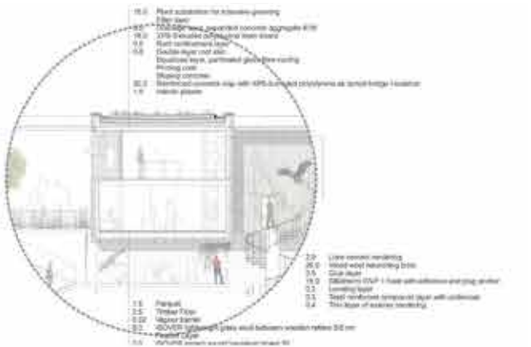

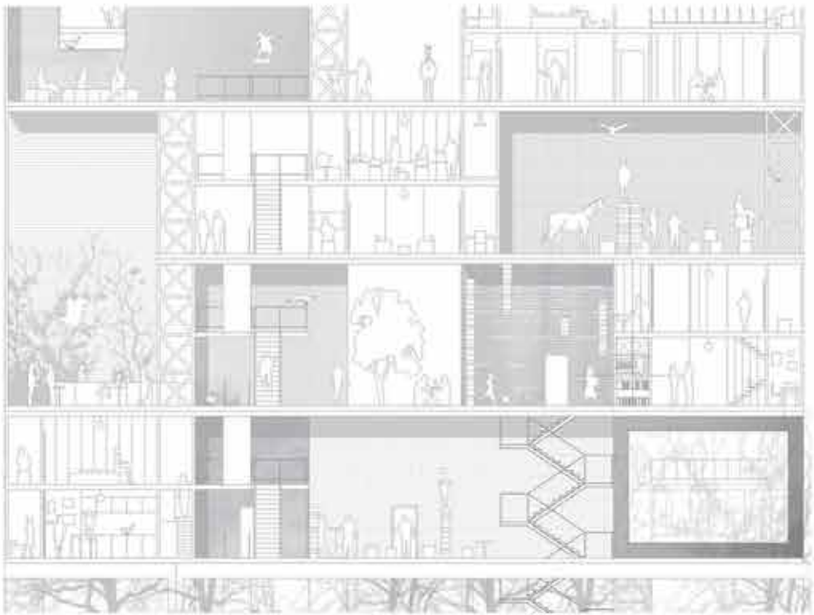

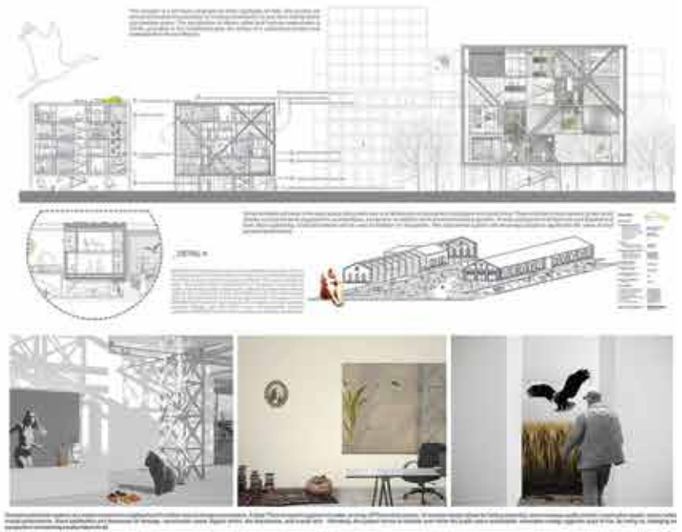

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Bratislava Slovak University of Technology Faculty of Architecture

IVANA PAVLOVKINOVÁ

TATIANA PETRULOVÁ

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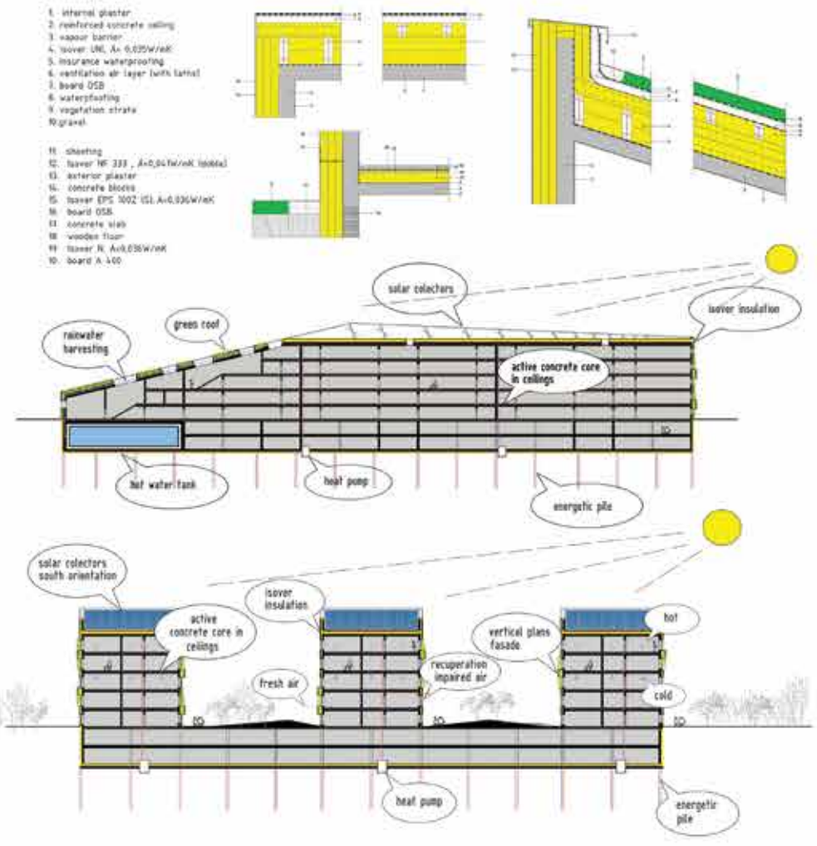
1. FLOOR
2. FLOOR
3-ROOM FLAT
LOFT FOR ARTISTS
BUILDING ENTRY
STAIRWAY, ELEVATOR
2-ROOM FLAT
APARTMENT
STAIRWAY, ELEVATOR
GARAGE
TECHNICAL ROOM
COFFE, SNACKBAR
WATER TANK
GARAGE ENTRY


1. internal plaster
2. reinforced concrete ceiling
3. vapour barrier
4. isover UNI, λ= 0,035W/mK
5. insurance waterproofing
6. ventilation air layer (with battns)
7. board OSB
8. waterproofing
9. vegetation strate
10. gravel
11. sheeting
12. isover NF 333 , λ=0,04W/mK (cobble)
13. exterior plaster
14. concrete blocks
15. isover EPS 1002 CS(λ=0,036W/mK
16. board OSB
17. concrete slab
18. wooden floor
19. isover N, λ=0,035W/mK
20. board λ 400
solar colectors
isover insulation
rainwater harvesting
green roof
active concrete core in ceilings
hot water tank
heat pump
energetic pile
solar colectors south orientation
isover insulation
active concrete core in ceilings
vertical glass fasade
hot
fresh air
recuperation impaired air
cold
heat pump
energetic pile

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II PRIZE - SLOVAKIA
National Stage 2013

Academy of Fine Arts and Design, Bratislava

MIRO
STRAKA

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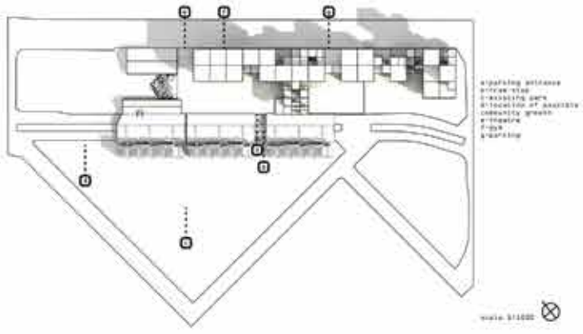
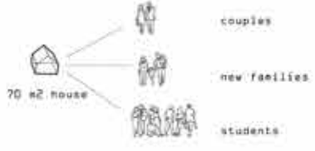
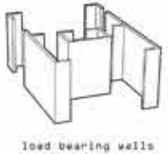
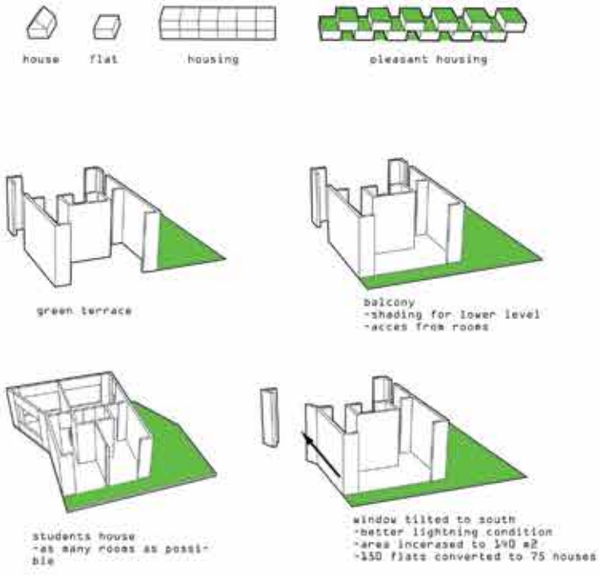
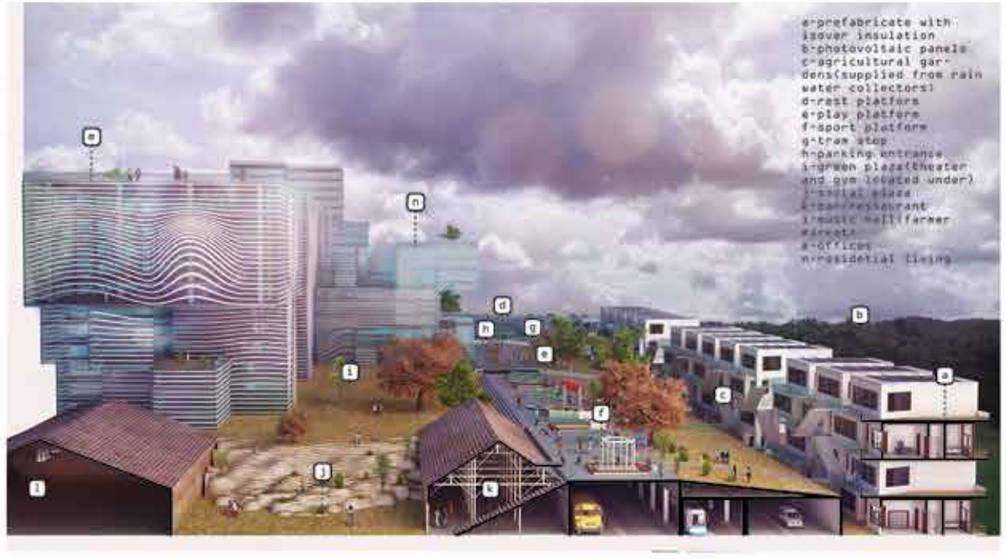


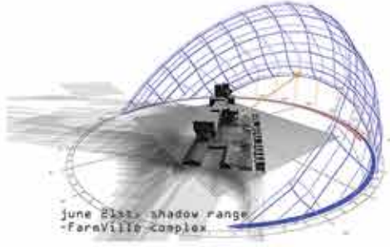

10440 m2
150 flats
70 m2 per flat

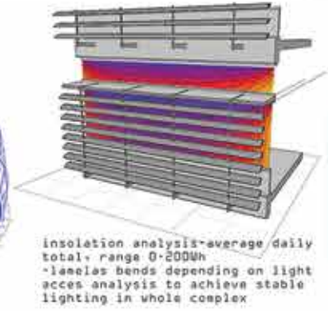

70 m2 house
couples
new families
students


load bearing walls


house
flat
housing
pleasant housing
green terrace
balcony
-shading for lower level
-acces from rooms
students house
-as many rooms as possi-
ble
window tilted to south
-better lightning condition
-area incerased to 140 m2
-150 flats converted to 75 houses


a-prefabricate with
isover insulation
b-photovoltaic panels
c-agricultural gar-
dens(supplied from rain
water collectors)
d-rest platform
e-play platform
f-sport platform
g-tram stop
h-parking entrance
i-green plaza(theater
and gym located under)
j-social plaza
k-cafe/restaurant
l-music mall/farmer
market
m-offices
n-residential living


june 21st, shadow range
-FarmVille complex


insolation analysis-average daily
total, range 0-2004h
-lamelas bends depending on light
acces analysis to achieve stable
lighting in whole complex


Dachaufbau
Dachaufbau
Warm roofwith pebblees (ESP)
Eaves

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Slovak university of Technology

TOMÁŠ
THOLT

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existing conditions
proposal of masses
traffic proposal
programmatic proposal
gallery of art
public space
railway museum
living in the park
site plan
urban
planning
mannheim germany


floor plan
longitudal section
housing
mannheim germany
roof
exterior wall
floor
underground walls
living in the greenery
construction detail - facade
isover multi-comfort house energetic
demand calculation = 15.4 kWh/m2a

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PRIZE
ISOVER
Multi-Comfort
House Students Contest
International stage,
Belgrade 2013

PRIZE - SLOVENIA
National Stage 2013

University of Ljubljana

MATO BLATANČIĆ

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AJDA TERLIKAR

JOŠT HRIBERNIK

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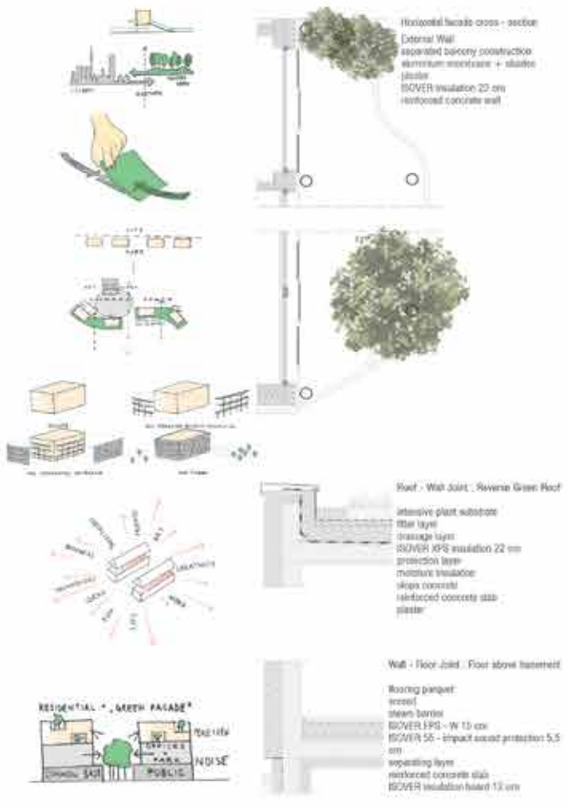
two friends /
co-workers
a modern
businessman
a family
two couples
retreat couple


Horizontal facade cross - section
External Wall
separated balcony construction
aluminium membrane + stucco
plaster
ISOVER insulation 22 cm
reinforced concrete wall
Roof - Wall Joint ; Reverse Green Roof
intensive plant substrate
filter layer
drainage layer
ISOVER XPS insulation 22 cm
protection layer
moisture insulation
skirpa concrete
reinforced concrete slab
plaster
Wall - Floor Joint ; Floor above basement
flooring parquet
screed
steam barrier
ISOVER EPG - W 13 cm
ISOVER 55 - impact sound protection 5,5
cm
separating layer
reinforced concrete slab
ISOVER insulation board 13 cm

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DAVOR PAVLOVIĆ

TADEJ PODAKAR

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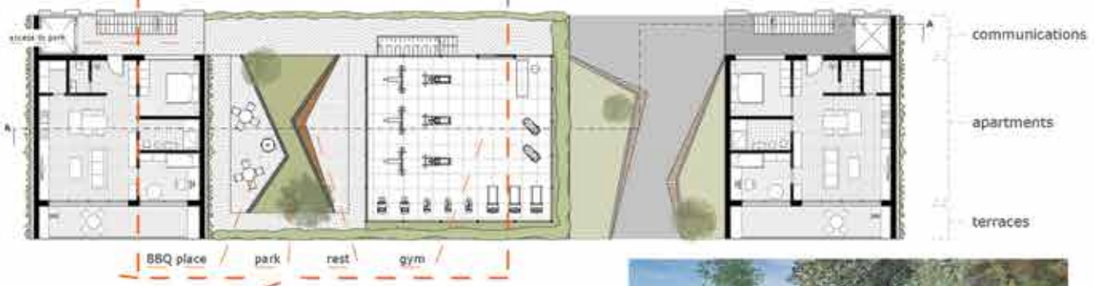
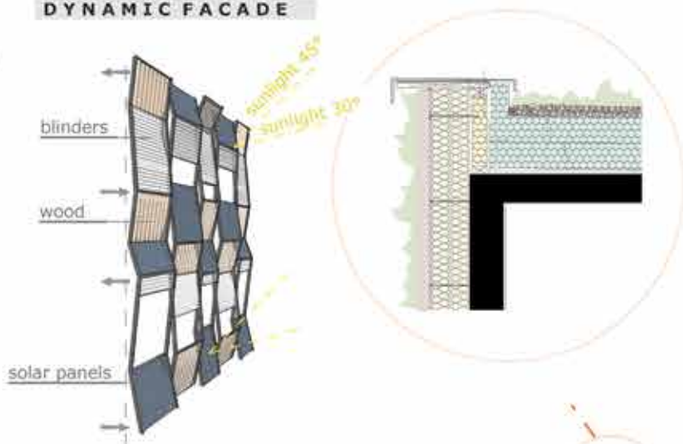
SITUATION

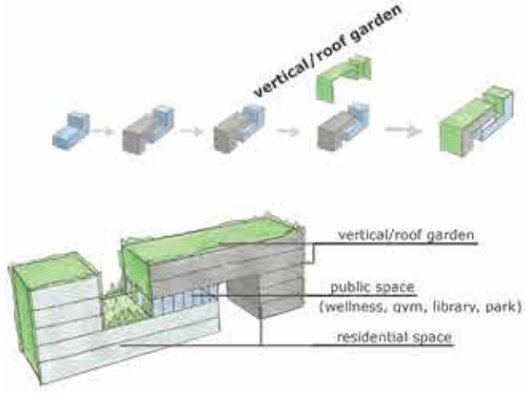
FLOOR PLAN with PUBLIC SPACE/PARK

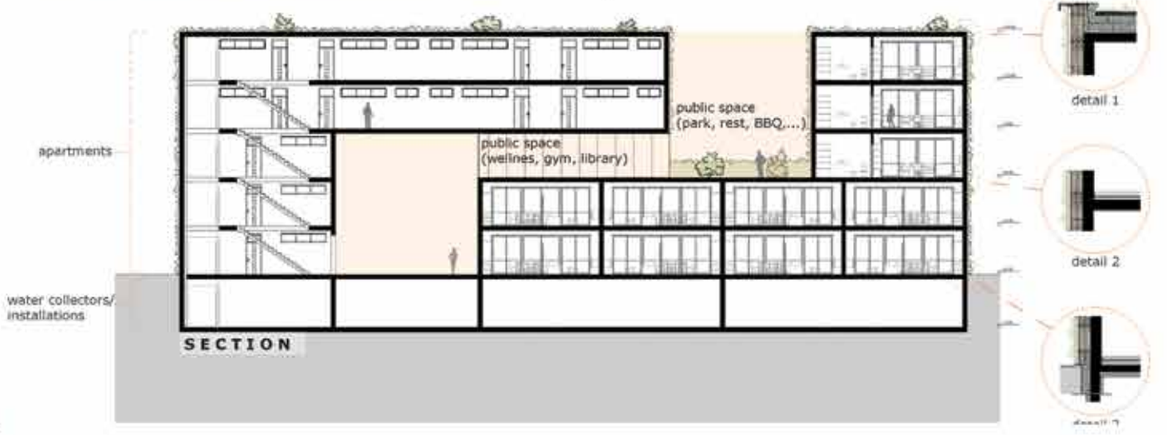


DYNAMIC FACADE



RESIDENTIAL BUILDING CONCEPT





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PRIZE - SPAIN
National Stage 2013

University of Coruña

ALBA DALAMA

PAULA CHARLÍN

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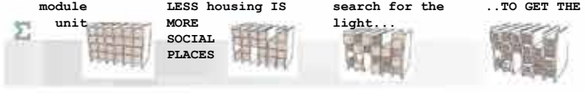
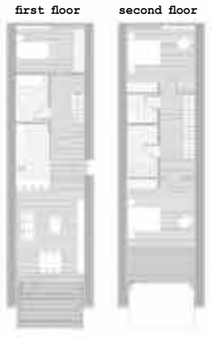
. . . anyway to live, anyway to organize . . .

THE BUILDING SYSTEM:



three bedrooms
dúplex

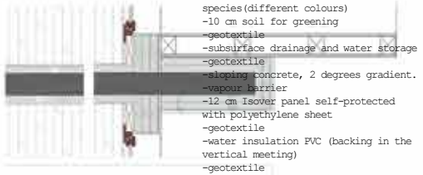


two bedrooms
dúplex

e : 1/150

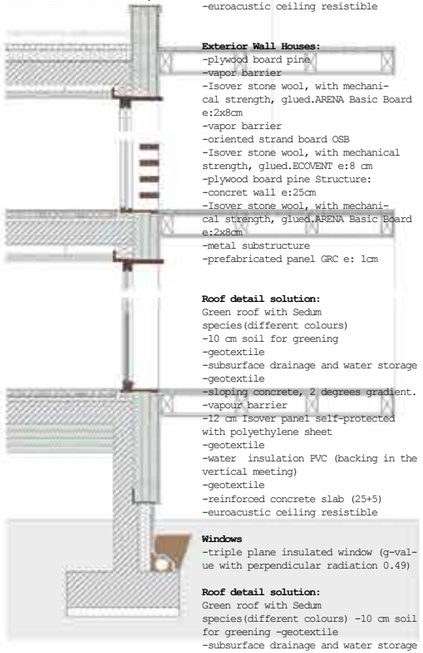
FOURTH FLOOR e : 1/400

HORIZONTAL SECTION e:1/20



Roof detail solution:
Green roof with Sedum species(different colours)
-10 cm soil for greening
-geotextile
-subsurface drainage and water storage
-geotextile
-sloping concrete, 2 degrees gradient.
-vapour barrier
-12 cm Isover panel self-protected with polyethylene sheet
-geotextile
-water insulation PVC (backing in the vertical meeting)
-geotextile
-reinforced concrete slab
-euroacustic ceiling resistible

VERTICAL SECTION e:1/20



Exterior Wall Houses:
-plywood board pine
-vapor barrier
-Isover stone wool, with mechanical strength, glued.ARENA Basic Board e:2x8cm
-vapor barrier
-oriented strand board OSB
-Isover stone wool, with mechanical strength, glued.ECOVENT e:8 cm
-plywood board pine Structure:
-concret wall e:25cm
-Isover stone wool, with mechanical strength, glued.ARENA Basic Board e:2x8cm
-metal substructure
-prefabricated panel GRC e: 1cm

Roof detail solution:
Green roof with Sedum species(different colours)
-10 cm soil for greening
-geotextile
-subsurface drainage and water storage
-geotextile
-sloping concrete, 2 degrees gradient.
-vapour barrier
-12 cm Isover panel self-protected with polyethylene sheet
-geotextile
-water insulation PVC (backing in the vertical meeting)
-geotextile
-reinforced concrete slab (25+5)
-euroacustic ceiling resistible

Windows
-triple plane insulated window (g-value with perpendicular radiation 0.49)

Roof detail solution:
Green roof with Sedum species(different colours) -10 cm soil for greening -geotextile
-subsurface drainage and water storage
-geotextile
-sloping concrete, 2 degrees gradient,
-vapour barrier
-12 cm Isover panel self-protected with polyethylene sheet -geotextile
-water insulation PVC (backing in the vertical meeting) -geotextile
-reinforced concrete slab (25+5) -euroacustic ceiling resistible

divisions between rooms costruction detail

construction detail	layer	material	e (m)	λ(W/m.k)	R(W/m².k)	Ra(dBA)	EI
	1	PlacoFlam (PPF) plaque	0.015	0.25	0.06	67.6	120
	2	PlacoFlam (PPF) plaque	0.015	0.25	0.06		
	3	Isover Arena Basic Board	0.067	0.037	1.8		
	4	Isover Arena Basic Board	0.067	0.037	1.8		
	5	PlacoFlam (PPF) plaque	0.015	0.25	0.06		
	6	PlacoFlam (PPF) plaque	0.015	0.25	0.06		
		total	0.194	Σ R	3.84	U-1/Σ	R0.26

floor and ceiling construction detail

construction detail	layer	material	e (m)	λ(W/m.k)	R(W/m².k)	Ra(dBA)	EI
	1	pine floorboard	0.02	0.08	0.011	70.5	60
	2	batten pine	0.02	1.3	0.015		
	3	floating slab of concrete mass	0.05	1.65	0.024		
	4	Isover PST panel self-protected with polyethylene sheet	0.05	0.039	0.564		
	5	reinforced concrete slab	0.3	2.5	0.14		
	6	air chamber	0.15	----	----		
	7	eurocoustic ceiling resistible	0.06	0.35	2.29		
		total	0.932	Σ R	3.04	U-1/Σ	R 0.325

ventilated facade construction detail

construction detail	layer	material	e (m)	λ(W/m.k)	R(W/m².k)	Ra(dBA)	EI
	1	plywood board pine	0.02	0.08	0.011	65	120
	2	air chamber	0.02	----	----		
	3	oriented strand board (OSB)	0.08	0.038	2.1		
	4	vapor barrier	0.015	0.012	0.115		
	5	Isover Ecovent	0.0016	----	----		
	6	Isover Arena Basic Board	0.08	0.033	1.8		
	7	Isover Arena Basic Board	0.08	0.033	1.8		
	8	vapor barrier	0.0016	----	----		
	9	plywood board pine	0.02	0.08	0.011		
		total	0.3182	Σ R	5.83	U-1/Σ	R 0.17

Fundation
- Concrete wall
- XPS Isover
- Drainage solution (plastic tube 11mm, water insulation, nodules panel geotextile layer and round gravel)
- Concrete fundation

Ceiling/floor
- Concrete slab (25+5 cm)
- Isover stone wool. Rigid panel (PST)
- Geotextile layer
- Vapour barrier (aluminium)
- Underfloor heating
- Parquet, finish layer

...common spaces look for maxim lighting...

the glass stairs allow the light could illuminate most of the stay

ACTIVE USE WATER....

... the lattice controls the entry of the light in summer...

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - SPAIN
National Stage 2013

Architecture of Valles (UPC)

MARTA FRANQUESA

FRANCISCO CARBALLO

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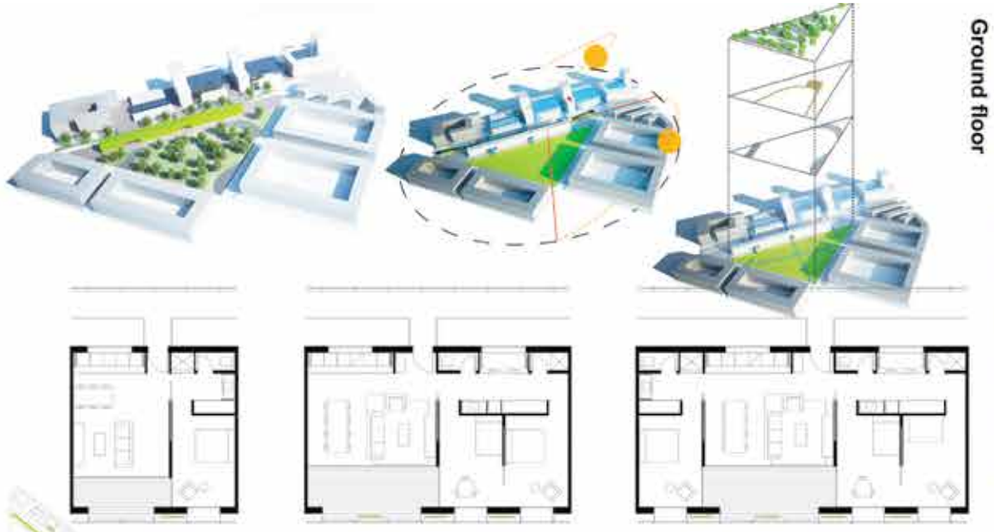
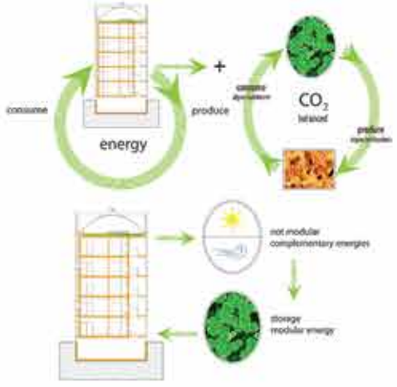
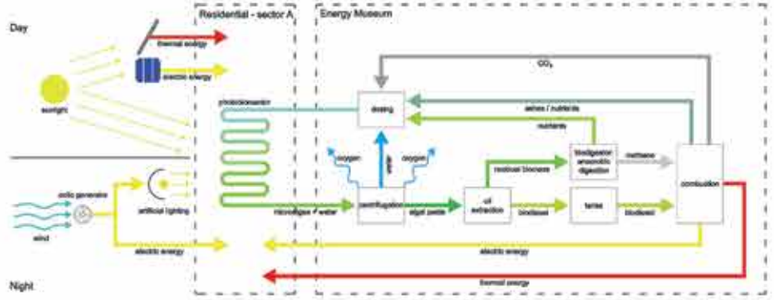
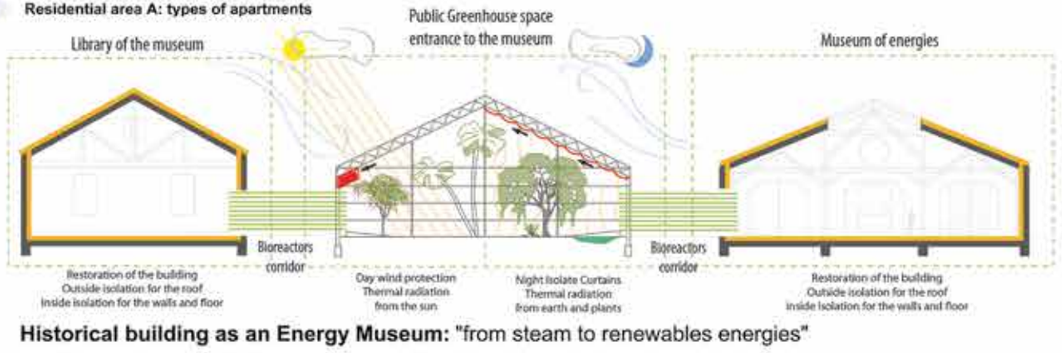


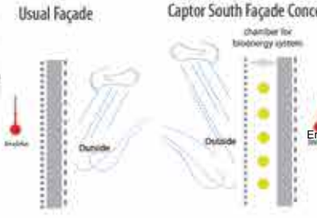
Residential area A: types of apartments







Historical building as an Energy Museum: "from steam to renewables energies"



100% PASSIVE HEATING

Proper insulation of all the building

Heat buildup in SW camera

Energy exchange with the catpation camera

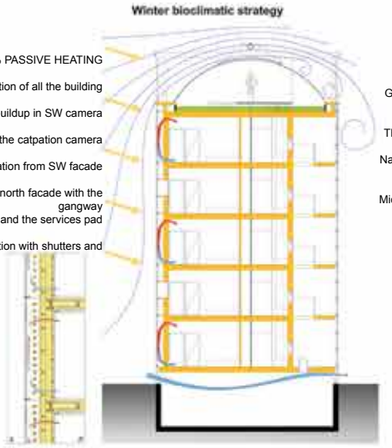
Direct sun radiation from SW facade

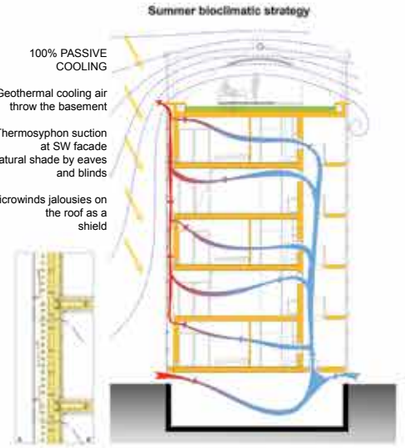
Thermal buffer in north facade with the gangway and the services pad

Nighttime protection with shutters and curtains

Annual passive heat production: 5,49 kWh/m2

We take the south facade camera for the installation of adtive systems





100% PASSIVE COOLING

Geothermal cooling air throw the basement

Thermosyphon suction at SW facade
Natural shade by eaves and blinds

Microwinds jalousies on the roof as a shield

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

PRIZE - TURKEY
National Stage 2013

Istanbul Technical University

PINAR ERPINAR

UTKU GÜNES

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GREEN
GREEN
PLANS OF URBAN VILLAS
SITE PLAN
MAIN SQUARE
MAIN GATHERING/ MEETING AREAS
PEDESTRIAN ROAD
UNDERGROUND HIGHWAY
ACCESS ROADS
THE CONNECTOR BRIDGE
ENERGY
WATER
NOISE BARRIER
CONSTRUCTION DETAIL
SYSTEM DETAIL
EXTERIOR WALL DETAIL

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - TURKEY
National Stage 2013

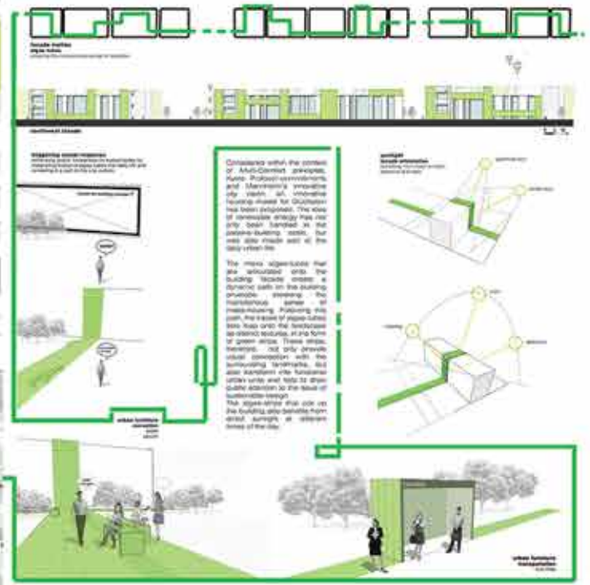
Istanbul Technical University & Middle East Technical University

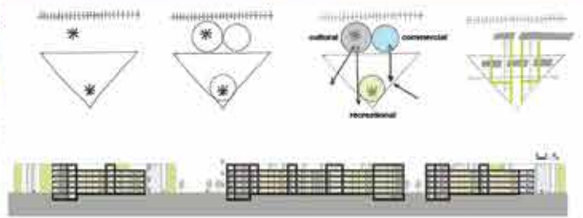
İLKE DENIZ

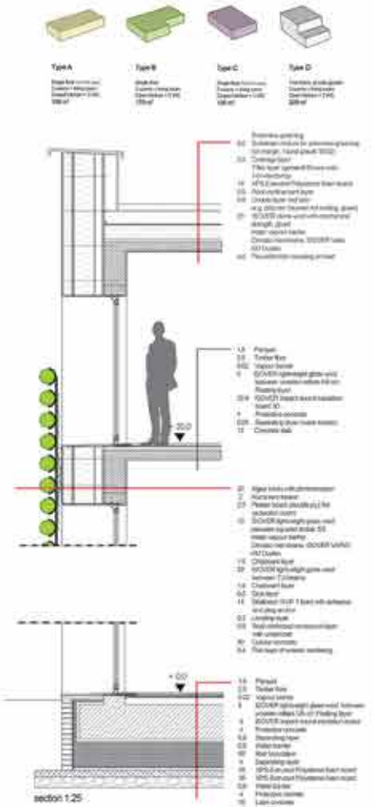
S. FEYZA YAGCI

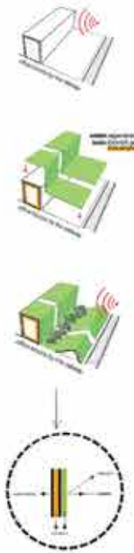
GOKCE ONAL


site plan
1:1000

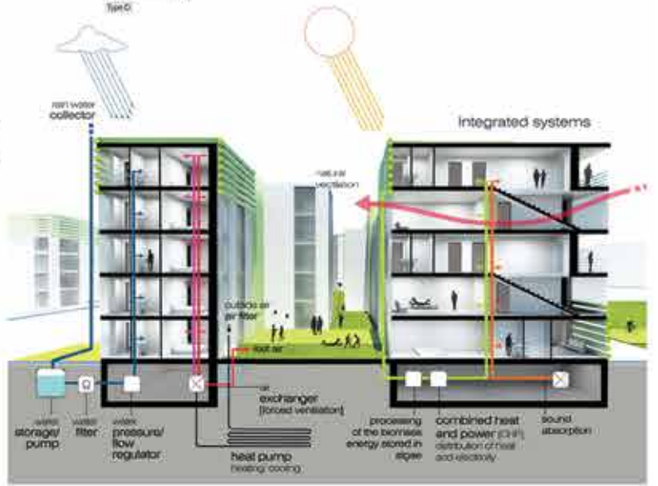



cultural
commercial
recreational

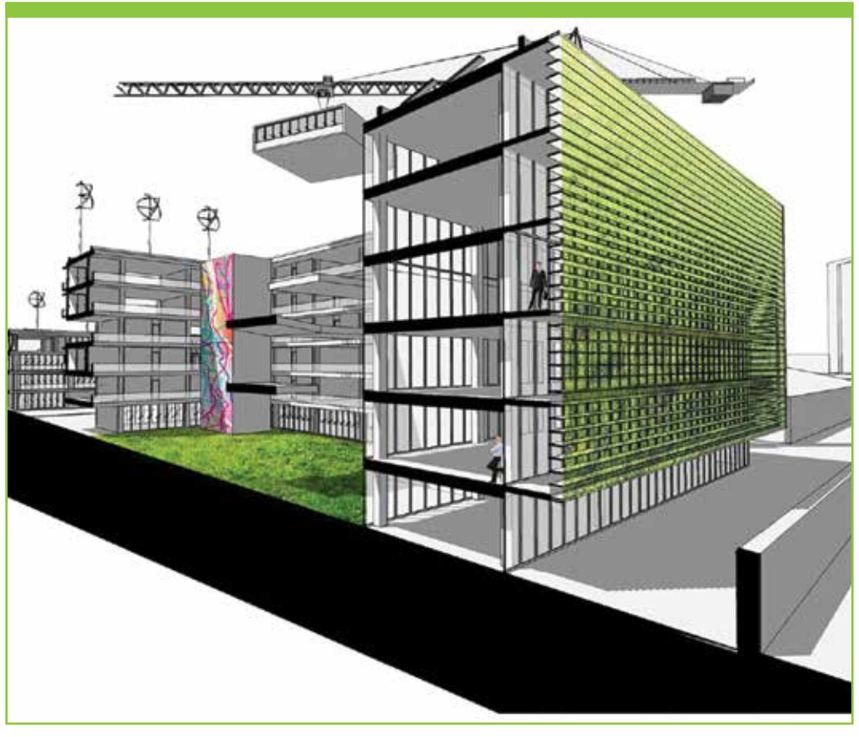

Type A
Type B
Type C
Type D
section 1:25




Type A
Type C
floor plans
Type A
Type B
Type D


rain water collector
integrated systems
storage/ pump
filter
pressure/ flow regulator
heat pump
heating/ cooling
exchanger (forced ventilation)
processing of the biomass energy stored in algae
combined heat and power
sound absorption

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY



III PRIZE - TURKEY
National Stage 2013

Istanbul Technical University & Yildiz Technical University

AYCA YAZICI

FERHAT BULDUK

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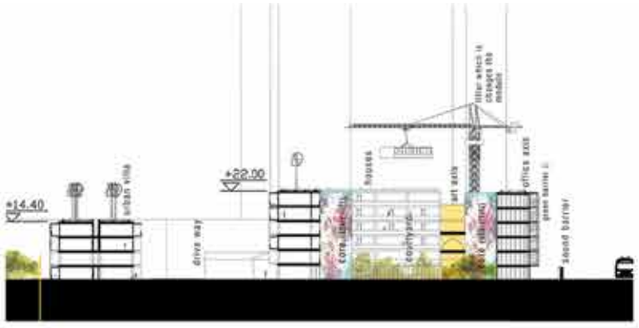
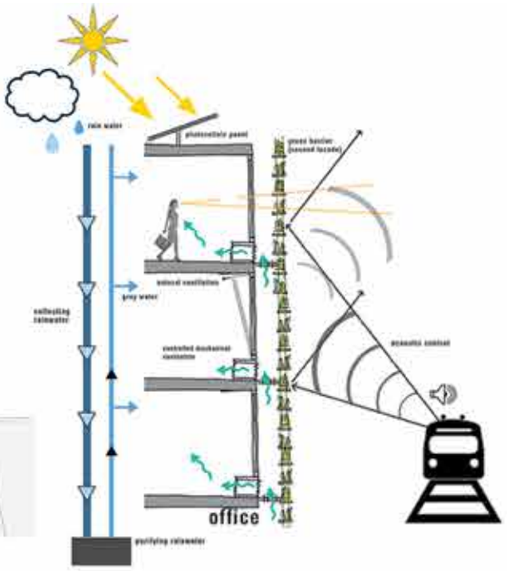
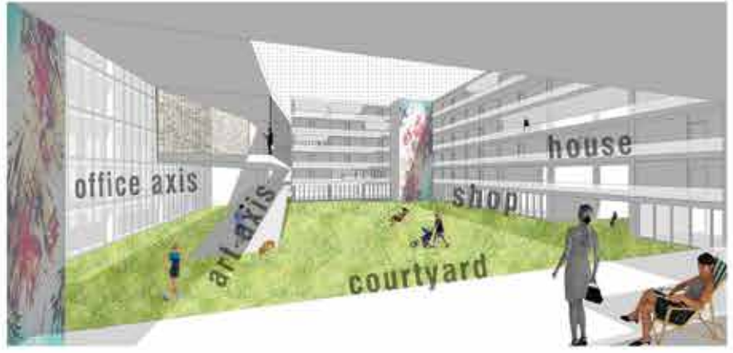




Green and Publicity Injection to Courtyards in the City

Useless courtyards turn into public places with green areas



temporary market area between two house blocks

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE
ISOVER
Multi-Comfort
House Students Contest
International stage,
Belgrade 2013

I PRIZE - UKRAINE
National Stage 2013

Poltava National Technical University named after Yuri Kondratyuk

ELENA KRUGLOVA

MARIIA ZHELIAZKOVA

ANNA KRUGLOVA

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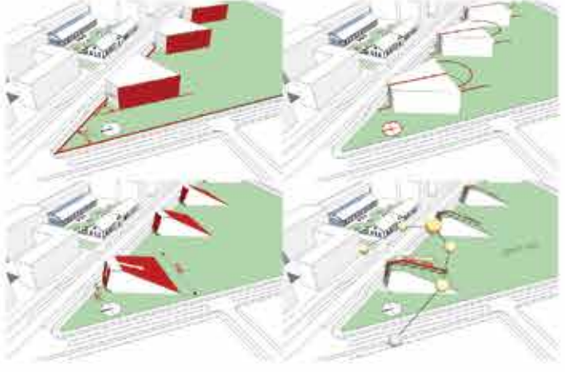
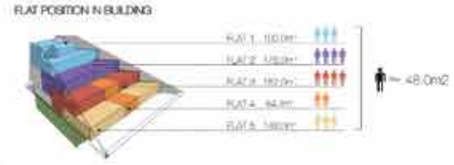
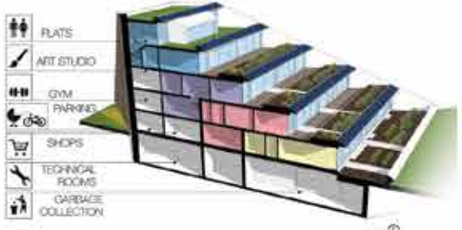
LEGEND:
pedestrian ways
transport ways
cycle lanes

SYMBOLS:
enter
enter to the parking
playground
park
exhibition
public space
cafe
house
office

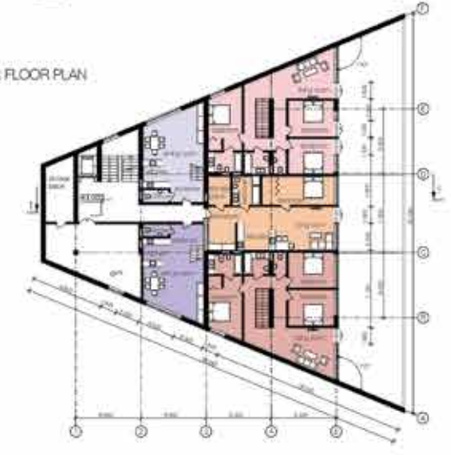


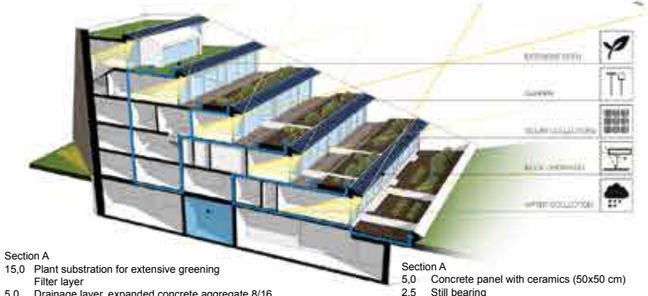
FLAT POSITION IN BUILDING





1st FLOOR PLAN



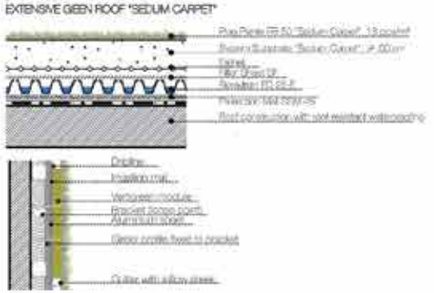


Section A
15,0 Plant substration for extensive greening
Filter layer
5,0 Drainage layer, expanded concrete aggregate 8/16
12,0 XPS-Extruded Polystyrene foam board
0,6 Roof confinement layer
0,8 Double-layer roof skin
Equalizing layer, perforated glass fibre roofing
Priming coat
Sloping concrete, 2°grdient
20,0 Reinforced concrete slap with XPS-Extruded Polysrene as thermal bridge insulation
1,5 interior plaster

Section A
Finishing floor
Screed
PE foil
15 ISOVER insulation ARENA PF
Concrete slab (333 Kg/m2)
150 Cavity
90 ISOVER insulation ARENA MASTER
12,5 Plasterboard

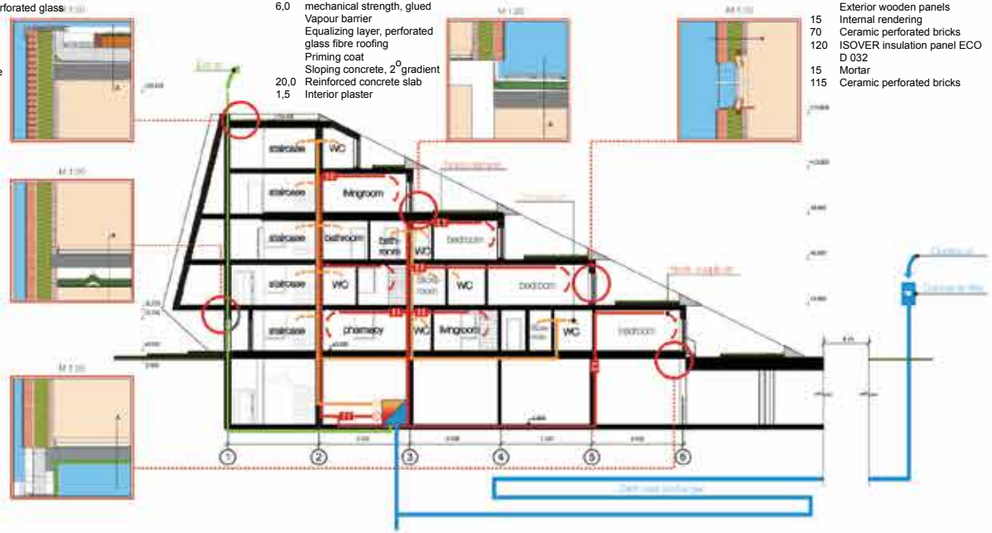
Section A
Floor covering
Screed
PE foil
15 ISOVER insulation ARENA PF
Concrete slab (333 Kg/m2)
65 ISOVER insulation ARENA PLUS
12,5 Plasterboard

EXTENSIVE GREEN ROOF "SEDUM CARPET"



Section A
5,0 Concrete panel with ceramics (50x50 cm)
2,5 Still bearing
4,0 XPS- Extrudet Polystyrene foam board
0,8 Double-layer roof skin
ISOVER stone wool with
6,0 mechanical strength, glued
Vapour barrier
Equalizing layer, perforated glass fibre roofing
Priming coat
Sloping concrete, 2°gradient
20,0 Reinforced concrete slab
1,5 Interior plaster

Section A
Exterior wooden panels
15 Internal rendering
70 Ceramic perforated bricks
120 ISOVER insulation panel ECO D 032
15 Mortar
115 Ceramic perforated bricks



VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - UKRAINE
National Stage 2013

Poltava National Technical University named after Yuri Kondratyuk

DMYTRO KOZYRENKO

MAXYM LYSOGORA

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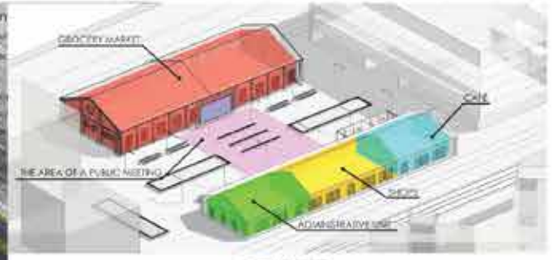


TYPICAL FLOOR S 1:200

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

III PRIZE - UKRAINE
National Stage 2013

National university Lviv polytechnic

ULYANA PRYTYKA

ANN HOTS

LEONILA RUDENKO

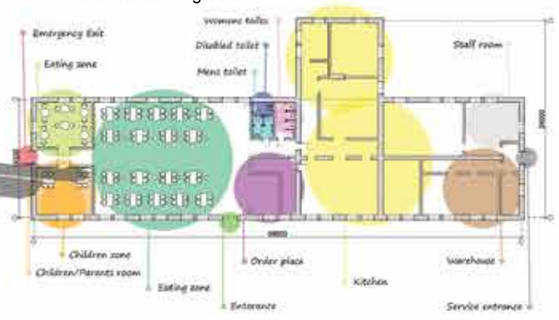
- Where we have used landscaping:

- How many PV we need for a one house:

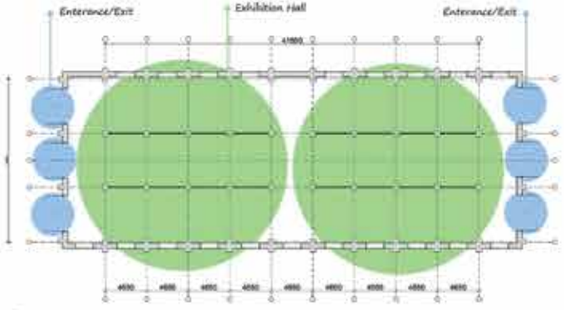
There are 20 people on the 1th floor
The building has 4 residential floors
3-4 people need 20 m of PV
1 PV - 16 panels
1 panel - 125

Conclusion :
we need 20 PV

- Historical building Cafe

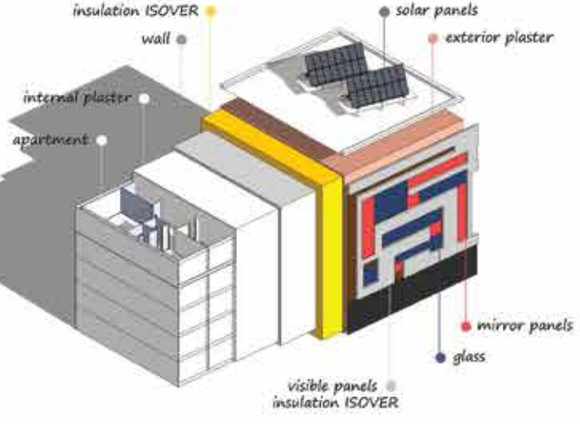


- Historical building Exhibition Hall

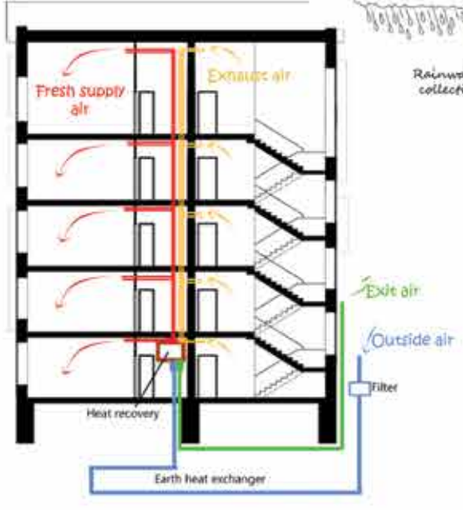


Typical floor plan M1:50

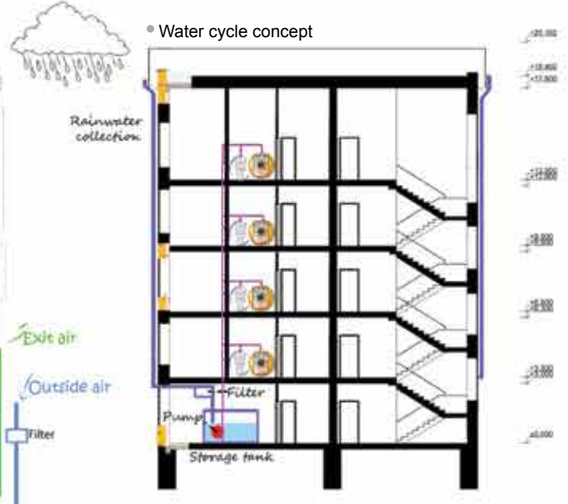
- Construction of our house



- Ventilation concept



- Water cycle concept



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PRIZE - UNITED KINGDOM
National Stage 2013

University of Dundee

DEAN CROSLEY

RUARIDH NICOL

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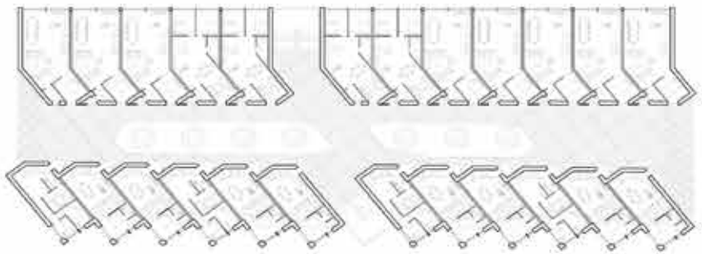
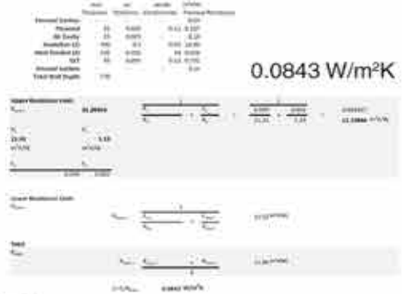
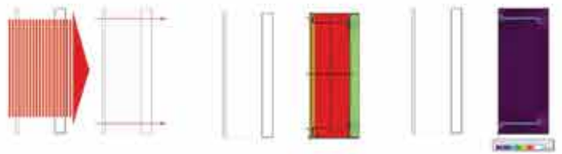
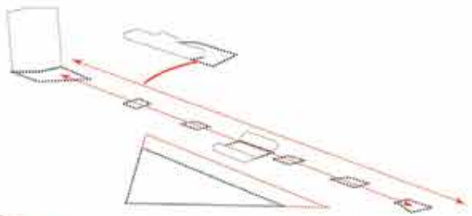
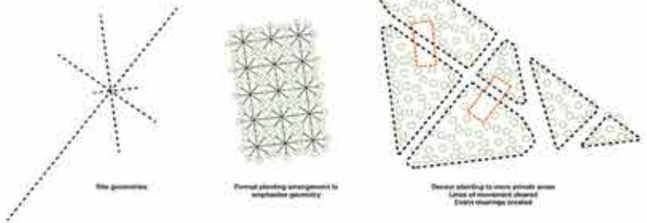
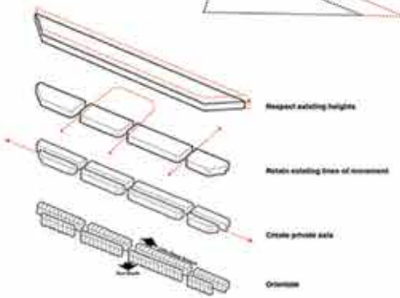


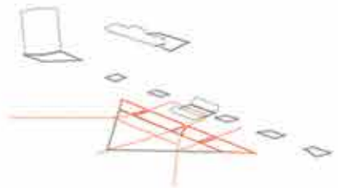

0.0843 W/m²K








Respect existing heights
Retain existing lines of movement
Create private axis
Orientate




36°

VISION & REALITY - GLÜCKSTEIN QUARTIER MANNHEIM, GERMANY

II PRIZE - UNITED KINGDOM
National Stage 2013

University of Edinburgh

DAN SHANAHAN

EMMETT MCNAMARA

KEVIN LOFTUS

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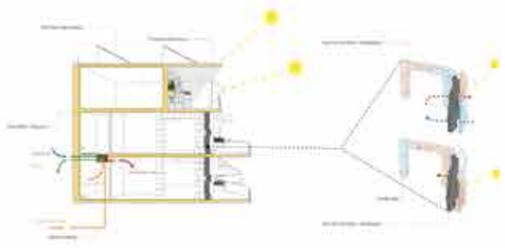
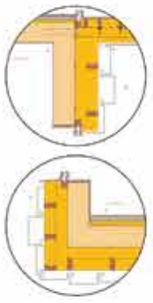
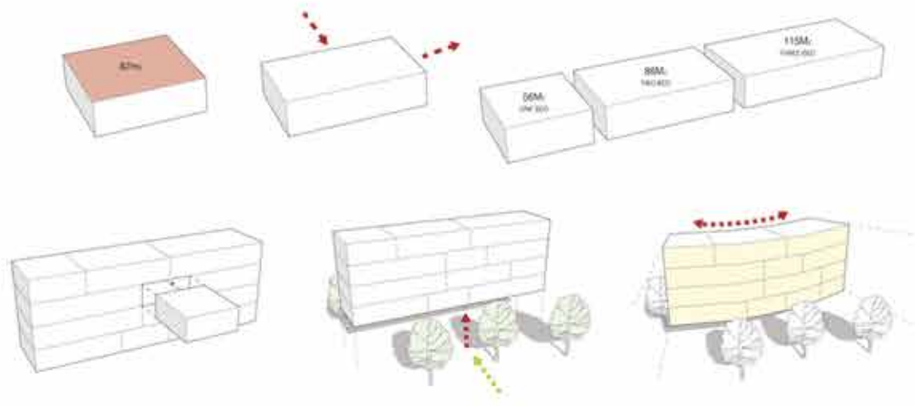
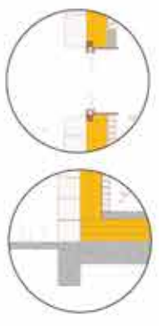








The multiple dimensions of comfort

COMFORT COMES FIRST!

Although the ISOVER Multi-Comfort House concept stands for energy savings and environmental protection, we have not forgotten the most important issue: the well-being of the inhabitants!

NEITHER COLD FEET NOR SWEATY HANDS - THERMAL COMFORT

In the ISOVER Multi-Comfort House.

Invigorating coolness in summer and comfortable warmth in winter. No problem for an ISOVER Multi-Comfort House. You will enjoy agreeable room temperatures between 20 and 23 °C - all year round.

Cooling in summer. Jointless insulation without thermal bridges, airtight constructions and windows with outside shading are indispensable to keep the summer heat outside. Cooling can be achieved by consciously using natural ventilation during night. A small adjustable cooling device ensures optimum temperatures.

Heating in winter. On cold days, the built-in ventilation system ensures that the used outgoing air warms up the fresh incoming air. Jointless insulation without thermal bridges and excellent windows with insulated frames help keep the warmth inside. Even a small candle or an inhabitant can be an efficient heat source then.

A FIRE-SAFE HOME.

Always on the safe side: preventive fire protection with non-combustible mineral wool insulation made by ISOVER. Optimum protection of roof, walls and floors.

Enjoy the peace and quiet of your home - with acoustic comfort by ISOVER.

Noise from the outside and noise from the inside. Every sound can be annoying if you're not in the right mood or need to sleep. For this reason, the ISOVER Multi-Comfort House concept offers acoustic insulation that allows house owners and tenants to enjoy the peace and quiet of their homes. Whether you want to rest or do concentrated work - your noisy neighbour will not disturb you. This works, of course, both ways.

BUILD WITH ALL COMFORT. AND GAIN ENERGY AT THE SAME TIME.

The most inexpensive energy is the one that is not consumed in the first place. It does not need to be generated, imported or paid for. Naturally, this also doesn't have any harmful effects, neither on human beings nor the environment. This is the basic concept of the passive house. Since a sufficient amount of warmth remains in the house, any active heat supplied by traditional space heating is usually superfluous. This saves energy and costs. The more so in view of further increasing world market prices for limited resources such as oil and gas. Thanks to its uncomplicated technical equipment, the ISOVER Multi-Comfort House requires very little maintenance.

THE PASSIVE HOUSE STANDARD GIVES YOU ALL THE FREEDOM YOU WANT.

A passive house does not define itself by outer appearance but by its inner values. Therefore any type and size of building can be realized. Every year, a growing number of examples testify to that. Whether one-family house or industrial estate. Whether school or church or mountain shelter. And it is no longer only the new buildings which comply with this future-oriented building standard. There is an increasing number of existing, old and even historical buildings where the refurbishment is based on passive house principles. By using well-selected passive house components it is possible to achieve ecologically and economically sensible results.

Snugly warm with 10 tea lights

COUNT ON ENERGY SAVINGS OF UP TO 75 %.

Compared to conventionally built new houses, the space heating requirement of a passive house is lower by about 75 %. And in contrast to old buildings, savings amount to as much as 90 %. In cold winters, a room of 20 m^2 can be heated with just 10 tea lights or two bulbs of 100 watts each to keep it snugly warm. In terms of fuel consumption, a passive house needs less than 1.5 l heating oil or 1.5 m^3 natural gas per square meter and year.

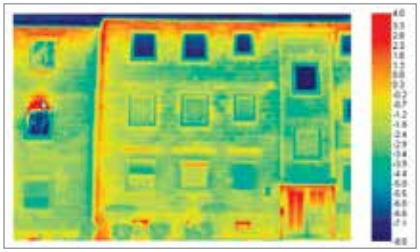
1. College of Physical Education Albstadt, Architect Prof. Schempp, Teubingen, Germany; 2. Office and residential building in Mosnang. Insulated with Flora natural hemp by ISOVER. Architect: Monika Mutti-Schaltegger; 3. WeberHaus, Reinau-Linx

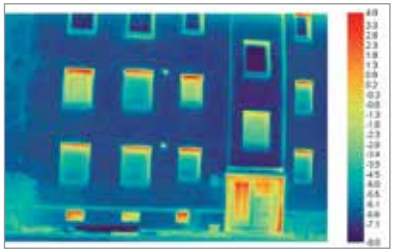
THE MOTTO FOR ALL ROOMS: KEEP THE WARMTH INSIDE!

The thermal requirements for the ISOVER Multi-Comfort House are based on the passive house design principles. These include excellent thermal insulation of the building envelope including windows and doors, airtight constructions, ventilation system with heat recovery for permanent supply of fresh air and if needed small additional heating or cooling system – depending on the climate zone.

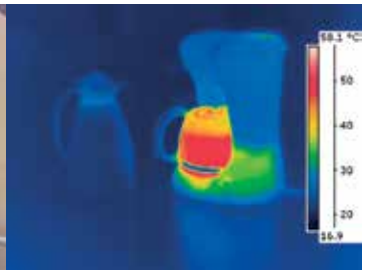
EVERY OCCUPANT IS A HEAT SOURCE.

Unlike conventional buildings that suffer high losses of heat to the outside, the thermal discharge of humans, animals and household appliances is quite important for covering the required amount of heating energy. Every person contributes by a calorific value of approx. 80 watts to heating up the interior. Considerable heat gains are realized through the windows which in winter allow higher amounts of sun energy to enter the house than those lost to the outside. Add to this the heating energy recovered from the exit air and you can normally save yourself the expense incurred by a conventional heating system.

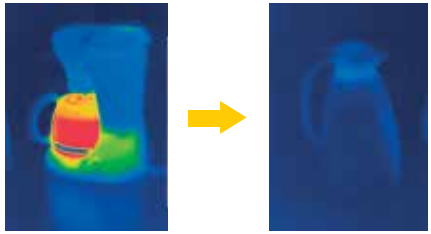




1. Multi-family house after energetic refurbishment
2. Thermographic pictures:
2.1 before refurbishment: The entire house is a thermal bridge.
2.2 after refurbishment: The external wall is thermally insulated, but heat still leaks through windows and doors.



FROM ACTIVE TO PASSIVE!



Modern comfort: keeping warm without consuming energy.

EVERYTHING WELL-INSULATED AND AIRTIGHT.

From the roof down to the foundation slab: a jointlessly sealed and airtight building envelope ensures thermal and acoustic insulation. And the ventilation system - complete with heat recovery - takes care of fresh air supply and heat distribution.

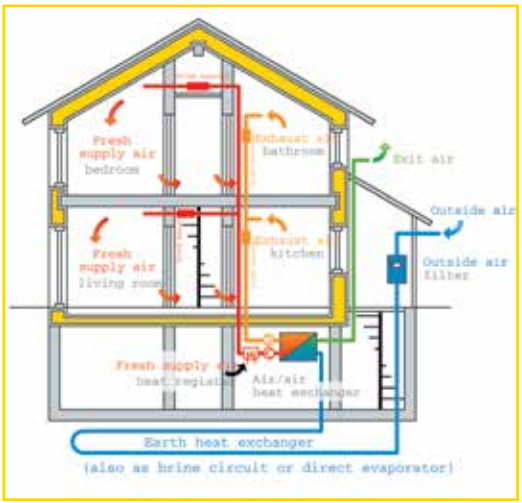
Live comfortably and make high savings

POINT BY POINT A PROFITABLE SYSTEM.

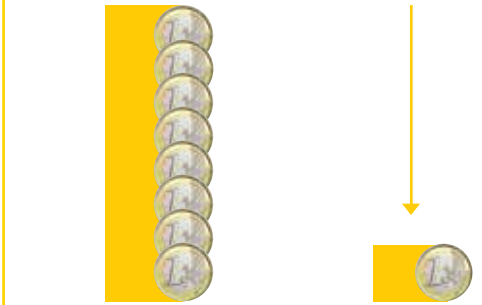
- Thermally insulated roof constructions
- Thermally insulated wall constructions
- Thermally insulated floor constructions
- Airtight building envelope
- Triple-glazed windows (for cold and moderate climate)
- Double-glazed windows (for warm climate)
- Insulated window frames
- Comfort ventilation System with heat recovery
- Optimum installation

AIR TEMPERATURE 20-23°C, RELATIVE AIR HUMIDITY 30-50 %.

In order to enjoy such agreeable living conditions, you have to dig deep into your pockets with conventionally built houses. Not with the ISOVER Multi-Comfort House where highest living comfort in all rooms helps you save a lot of cash. Even if the construction of such a house may incur extra cost, the total financial burden will be significantly lower compared to a conventionally built new house - thanks to extremely low energy costs over its useful life.



COSTS OF ENERGY CONSUMPTION



Standard house acc. to building regulations
8 Euro/m² per year

Multi-Comfort House
1 Euro/m² per year

IMPROVEMENT BY 8:1 COMPARED TO BUILDING REGULATIONS. THAT'S LIFE IN AN ISOVER MULTI-COMFORT HOUSE.

Compared to the passive house standard, not only conventionally built new houses but even more progressive types such as the low-energy house are comparatively expensive. Whenever possible, choose the passive house standard right from the start. After all, how often do you build a house? Just once in a lifetime.

PLANNING AND INSTALLATION WITH MAXIMUM PRECISION AND RESPONSIBILITY.

Optimum house location, correct positioning of windows and doors, proper dimensioning of the ventilation system, very high insulation standard, tight building envelope - all these factors are considered before building an ISOVER Multi-Comfort House. Special attention must be paid to avoiding thermal bridges. Thermal bridges and leaks have serious consequences for every type of building. Technically as well as energetically.

Airtightness

Largely reduced thermal bridges

HEATING ENERGY DEMAND:
< 15 kWh/m²a

Max. 10	W/m²	Heating load calculated according to the Passive House Planning Package
Max. 15	kWh/(m²a)	Specific heating energy demand
40-60	kWh/(m²a)	Specific total[1] final energy demand
100-120	kWh/(m²a)	Specific total[1] primary energy demand
Reference area (m²) is the heated useful living space.		

[1] total = including all of the household's energy consumers (heating, hot water, ventilation, pumps, lighting, cooking and household appliances)

U-value 0.1 W/m²K

U-value 0.7 W/m²K

COSINESS.

When living in a passive house, the enclosing areas such as walls, floors and windows have very pleasant inner surface temperatures, even at very low outdoor temperatures. External walls as well as floors above the cellar are only by 0.5 to 1 degree cooler than the room air temperature. Passive house windows are by 2 to 3 degrees cooler than the room air temperature. In houses that do not comply with the energy standard of a passive house, such a high degree of cosiness can only be reached with considerably higher heating costs.

Designing sustainable buildings

BUILDINGS: TACKLING THE CHALLENGES OF THE 21ST CENTURY

The world is changing at a faster rate than ever before. Whilst advances in science and technology have improved our quality of life, they have also highlighted how balanced is our environment. Global warming is no longer a remote concept, but a real threat to the future of mankind.

The building sector must recognise its impacts on global warming and preservation of our valuable and finite energy resources.

To address these issues we must change the way we design new buildings and renovate existing buildings so that we reduce their negative impacts on the environment. Through its support to sustainable construction, ISOVER wants to take up the challenge.

The construction process must preserve unique ecosystems, biodiversity and local landscapes, whilst ensuring a better quality of life and guaranteeing the health and safety of building occupants and users. Sustainable construction provides solutions that balance these sometimes contradictory issues and objectives. Working together with all of the partners in the building chain, ISOVER intends to be at the very front of this challenging new venture.

Benoit Carpentier
CEO
Saint-Gobain Insulation

The building sector potential

THE BUILDING SECTOR HAS A ROLE TO PLAY

Heating and air conditioning are the major causes of greenhouse gas emissions from buildings. In Europe, buildings alone are responsible for 30% of all emissions, equating to some 842 million tonnes of CO_2 each year – almost twice the Kyoto target.

But the building sector has a substantial potential. According to EURIMA (European Mineral Wool Manufacturers Association), by using advanced techniques and insulation systems to renovate or build better buildings, Europe could decrease its greenhouse gas emissions by 460 million tonnes – more than the total decrease commitment agreed in Kyoto!

To achieve this same level of saving by other means we would have to, for instance:

- Stop the 6 million cars currently running in London for 15 years, or
- Plant forests on a territory three times as large as France.

Climate with ISOVER glass wool

Thermal comfort: enhancing the performance of our insulation solutions

Thermal comfortis mainly associated with the maintenance and even distribution of interior room temperature and air quality.

It can be achieved by applying very high resistance thermal insulation to all room surfaces (including windows), combined with ventilation adapted to the season, doors and shutters, perfect air tightness to avoid unwanted air input and the building's good thermal inertia.

ISOVER's range of high performance insulation solutions is constantly being developed with new and innovative products and systems which take the science of insulation to a new level.

ISOVER's glass wool is the most efficient on the market with lambda 30 performance, and our global range of products includes lambda 32 products for glass wool and lambda 30 for polystyrene.

Acoustic comfort: enjoy the "comfort" class

Based on extensive studies of the very diverse types of noise, ISOVER has set a new insulation benchmark.

The new "ISOVER Acoustic Comfort Classes" define reliable acoustic comfort, going beyond the requirements set by the current European standards.

ISOVER Acoustic Comfort Classes help in selecting the most appropriate airborne and impact sound insulation, which is becoming increasingly important, especially in multi-occupancy buildings. ISOVER also offers various solutions for achieving these classes.

TECHNOSTAR is a complete commercial partition wall system for extended height applications requiring high levels of sound insulation performance as well as fire, thermal and structural performance. It is commonly used in cinemas to provide sound insulation between adjacent auditoria.

Exceptional energy savings

the ISOVER range of products and systems allows very high levels of energy efficiency to be achieved in buildings. Energy savings of up to 90% can be achieved over an equivalent uninsulated house.

In 2006, the renovation of this german building improved the thermal comfort for all residents of the building and enabled a 90% drop in the consumption of primary energy. The building's thermal envelope was significantly upgraded and the new total energy consumption of the building is now 14 kWh/m^2/year.

ISOVER, a fire security specialist

Insulation plays a dual role in terms of fire protection through:

- its own inherentfire safety properties,
- its effecton the fire performance and stability of the structure in the case of fire.

Mineral wool insulation will not support combustion and has the highest possible Euro class A classification (A1 & A2 s1d0); neither will it produce toxic fumes in a fire situation.

The exceptional insulating properties of mineral wool means that it contributes to the fire resistance of walls and thus the overall stability of buildings, helping to provide valuable extra time for evacuation.

EPS also meets fire safety requirements. In almost all building applications, however, EPS is used in combination with another material, such as plasterboard or concrete, which provides additional protection. In specific applications where the EPS is exposed, fireproofed EPS is often recommended.

ULTIMATE has been specifically designed for improved safety. It is resistant to high temperatures (up to 650°C) and can serve as a fireproof barrier. It can also be used to make ducts airtight and watertight in airconditioning systems and industrial or domestic hot water piping systems.

Climate With ISOVER Glass Wool

Insulation solutions for an improved indoor environment

We want to help reduce the sources of pollution by selling solutions that comply with allexisting requirements for indoor air quality. Our insulation solutions do not contribute to indoor air pollution, and are safe to handle and install in the home or office.

Mineral wool is generally installed in such away that no release of dust and fibres occurs after application, and tests to determine possible exposure of building occupants have shown no significant generation of airborne mineral wool fibres.

ISOVER mineral wool and polystyrene products do not provide a medium for the growth of micro organisms. They do not rot, decay or sustain mould. ISOVER hemp wool products are treated with biocides and fungicides to prevent development of micro organisms.

Since moisture promotes mould growth, controlling the level of moisture is one of the best and easiest ways to improve indoor air and protect your health: that is why we have developed the ISOVER VARIO membrane.

Indoor air quality is closely related to ventilation. Fresh outdoor air replaces indoor air through ventilation, thus removing and diluting contaminants generated indoors. ISOVER encourages the development of high performance controlled ventilation to maintain adequate air quality while reducing energy consumption.

The VARIO system allows timber roof and wall structures to breathe and dry naturally.

In winter, when the inside air is warmer than the outside, water vapour is pushed into the structure where it remains with potentially long term damaging affects on timber.

The VARIO system impedes the ingress of this water vapour by automatically reacting to the climatic conditions and closing its pores.

In summer however, when the ambient temperature is increa-sed, the VARIO system has the reverse effect by opening its pores to allow trapped water vapour to escape inwards, thus ensuring that the structure can dry naturally.

From nature - for nature

Optimum thermal insulation produces the highest energy savings. But it must also meet the highest demands in terms of workability, quality and sustainability. ISOVER has committed itself to fulfil all these criteria and develop the right products. ISOVER glass wool is primarily produced from waste glass. With a share of up to 80 %, this material now substitutes the main raw material quartz sand.

Production goes easy on our environment. The natural raw materials are extracted in small open-cast mines where regreening starts immediately after finishing the mining activities. Modern manufacturing methods assure that also the next production steps are environmentally sound.

With ISOVER mineral wool products on the safe side of insulation.

When production is based on a natural raw material, the finished product will also qualify as natural and eco-friendly. Benefits of ISOVER glass wool that speak for themselves:

- safe application and use
- not carcinogenic and not a hazard to health in compliance with Directive 97/69/EC of the European Commission
- free of propellants and pesticides
- chemically neutral
- excellent thermal, sound and fire protection
- especially economical in high insulation thicknesses
- non-combustible
- free of flame-retardant, groundwater-polluting chemicals
- durable and rotproof
- capable of diffusion.

Ultimate, the new high-performance insulation material by ISOVER.

www.isover-students.com

All the relevant information since 2005: all participants and their projects, video recordings of the presentations and contest tasks, documentation, literature, photo gallery