edilportale® TOUR 2015

La Mostra Convegno in 20 tappe su Architettura sostenibile, Efficienza energetica, Comfort abitativo, Active House, Costruzioni in legno, Antisismica, Antincendio, Tecnologie costruttive.

IN COLLABORAZIONE CON

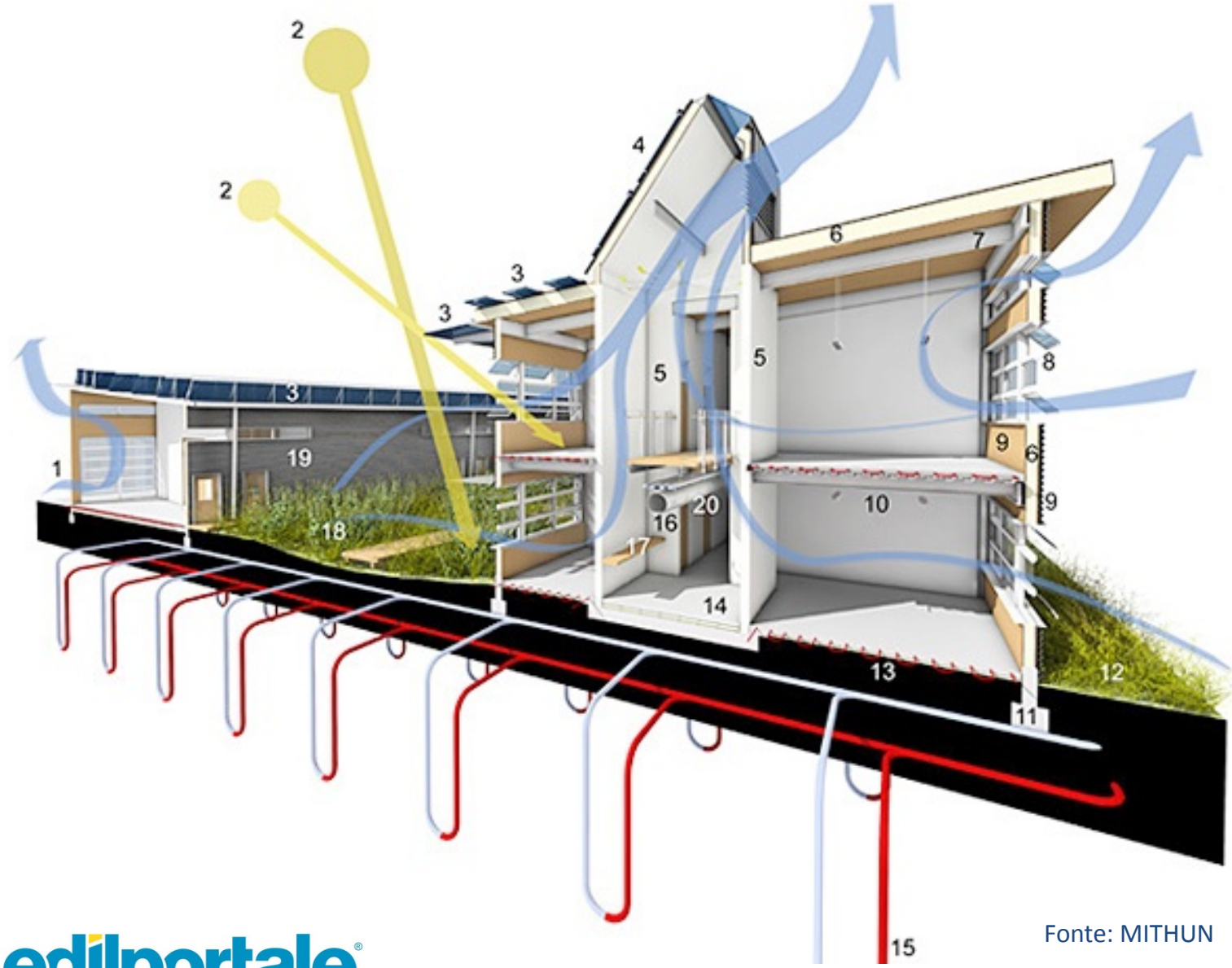
VELUX® KNAUF TecnovaGroup S.r.l. innovative buildings solutions SICILFERRO.IT COSTRUIAMO IL FUTURO DELL'EDILIZIA

Ancona, *15 aprile 2015*

La membrana interattiva

Prof. Niccolò Aste, DABC, Politecnico di Milano

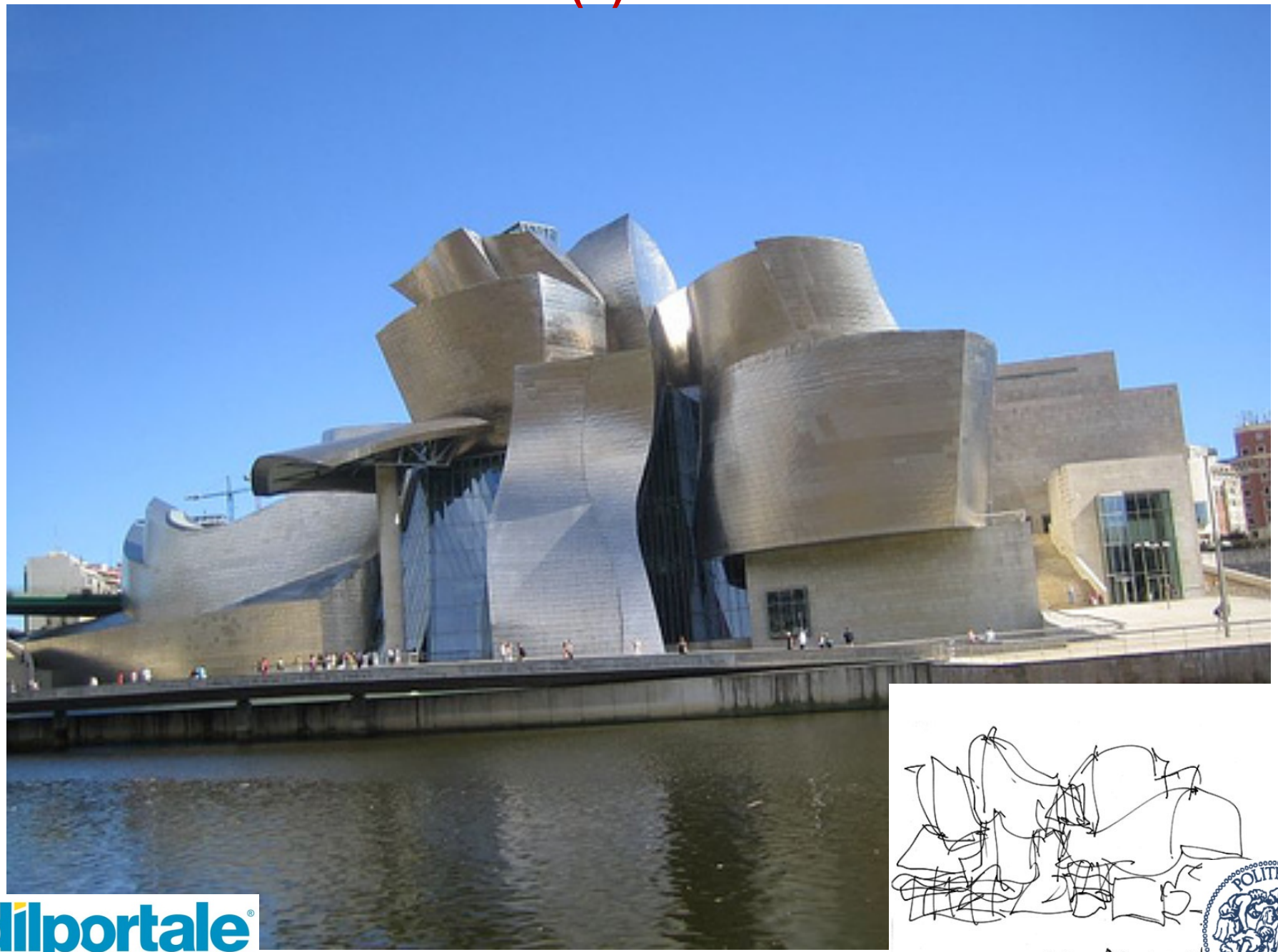
FLUSSI DI ENERGIA E MATERIA



1.Porous concrete to maximize site stormwater infiltration
2.Optimized building orientation for active and passive solar capture
3.143 kW photovoltaic panel array
4.Solar thermal collectors (22 kW energy contribution)
5.Masonry shear cores provide daylighting, high thermal mass and stack-aided natural cooling (fan assist)
6.Structural insulated panel system
7.Modular structural steel frame to enhance building flexibility for changing user needs
8.Operable windows provide natural cooling and daylight harvesting
9.High recycled content, low VOC and regionally produced materials
10.High efficiency L.E.D. and fluorescent interior and exterior lighting
11.High fly ash content structural concrete
12.Reclamation of former Naval dumping facility site
13.Radiant in-floor heating and free cooling
14.Social gathering nodes encourage interaction and creative exchange of ideas
15.Geothermal heat exchangers
16.Expressed building systems to enhance user awareness and connection to resource use
17.FSC certified regional wood products
18.Bioretention area collects excess roof stormwater to achieve 65/10/0 low impact site stormwater strategy
19.Site stormwater collection and re-use
20.Heat recovery ventilation

Fonte: MITHUN

COS'E' L'ARCHITETTURA? (1)



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COS'E' L'ARCHITETTURA? (2)

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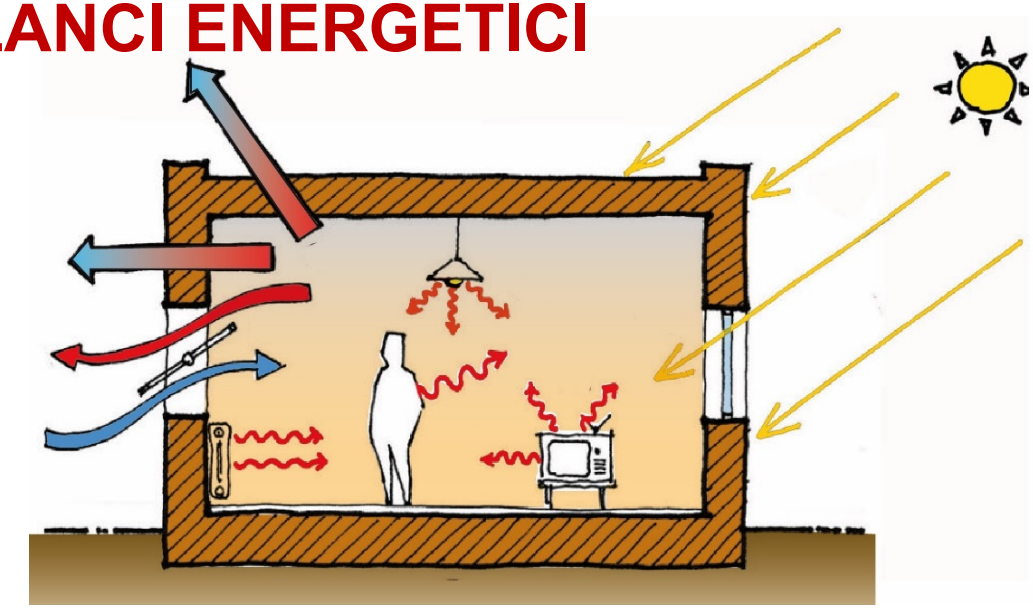
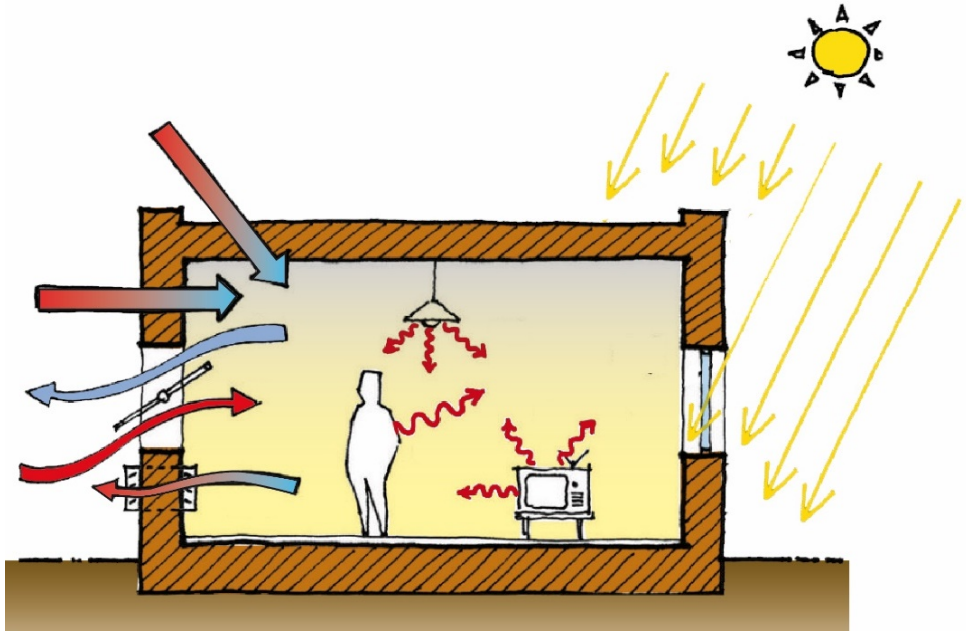
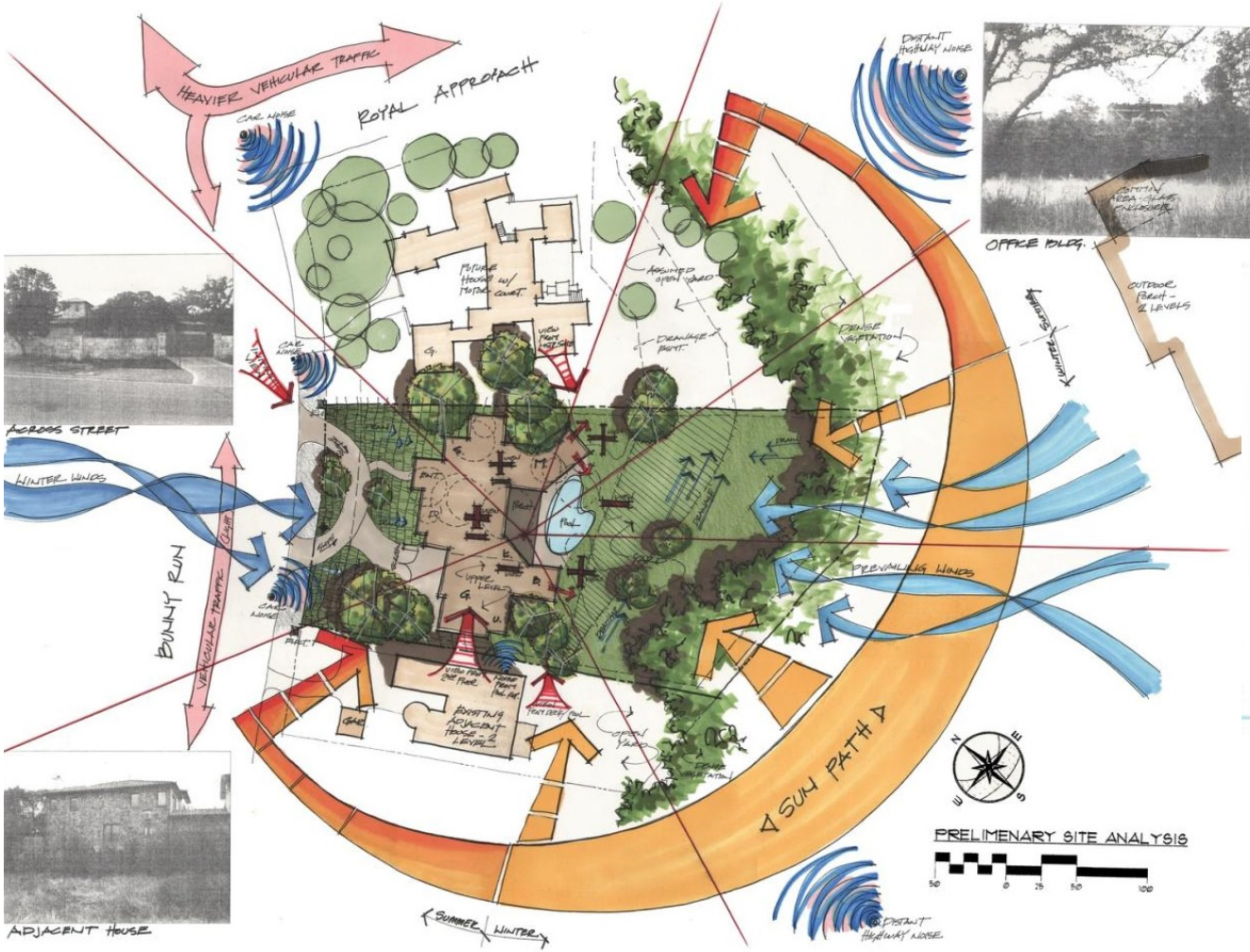
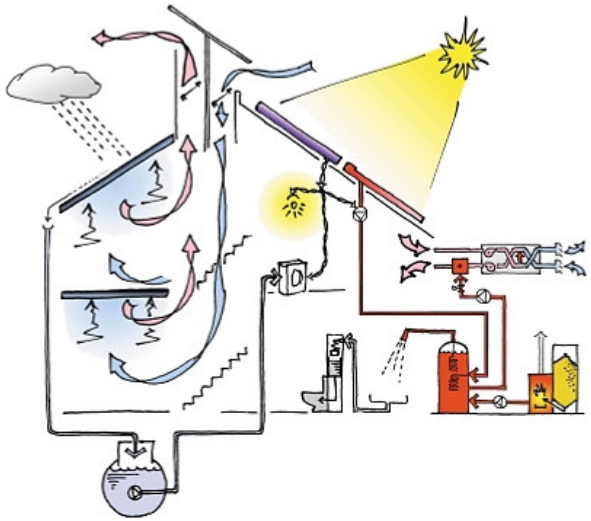
BILANCI ENERGETICI

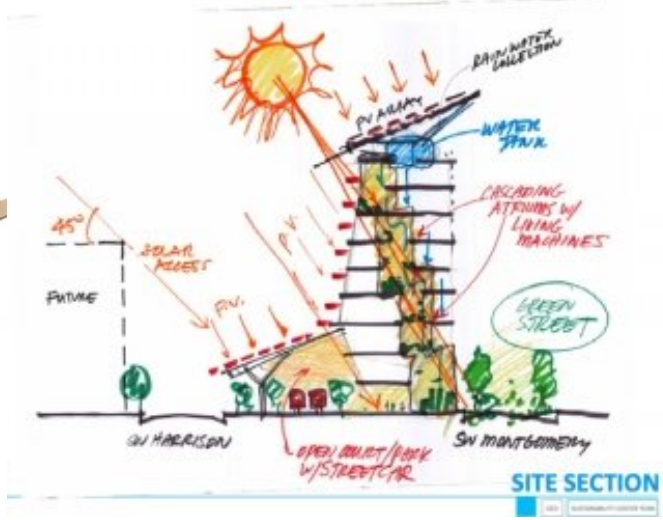


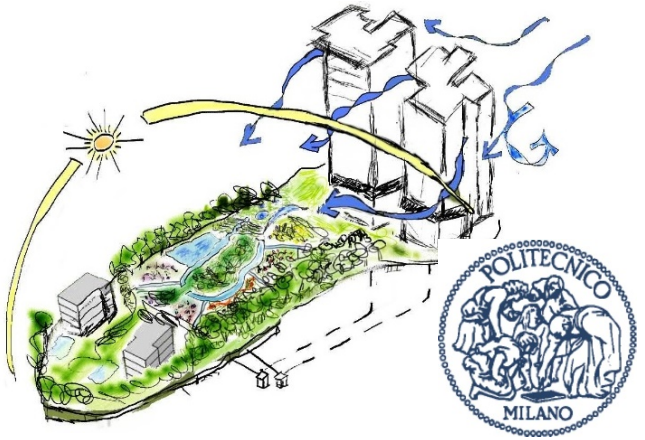


ARCHITETTURA SOSTENIBILE (1)









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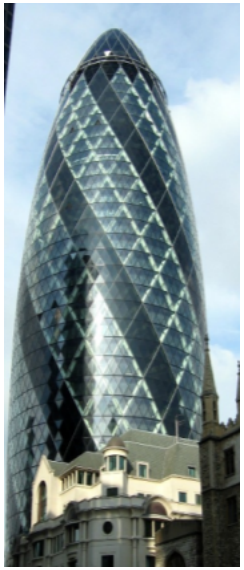
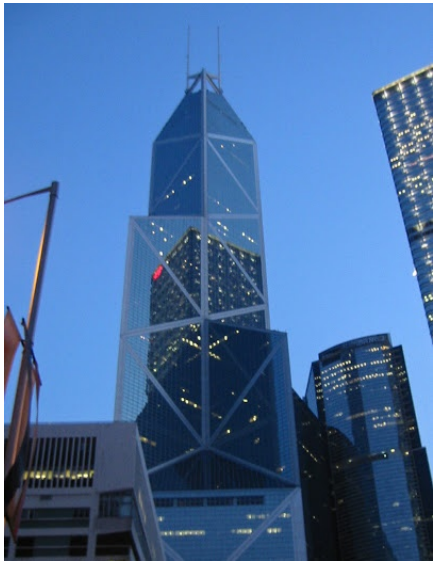
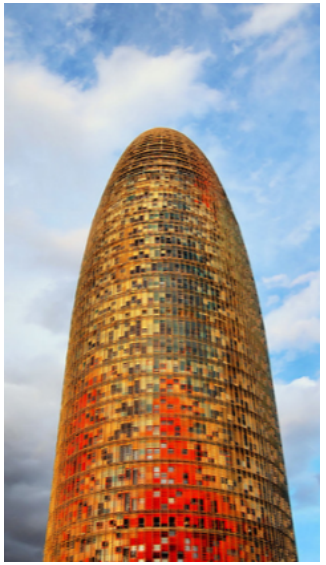
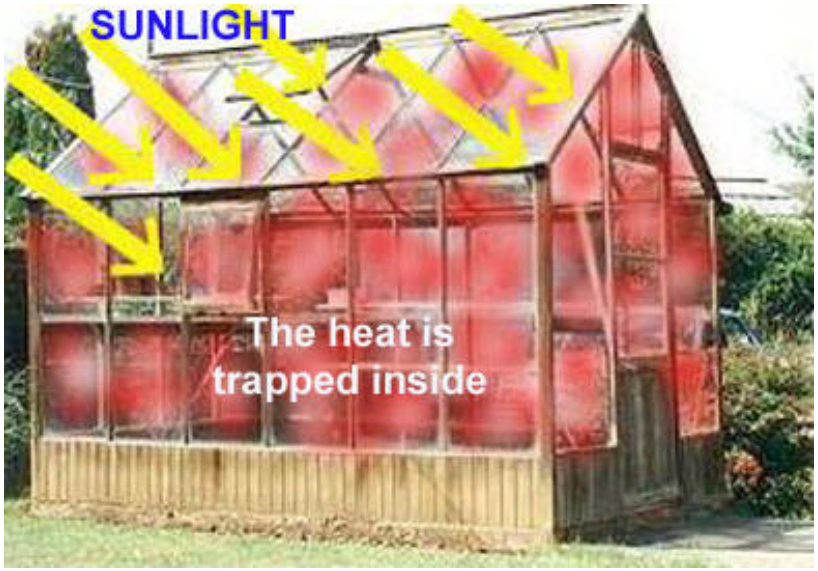
ARCHITETTURA CONTEMPORANEA




…UN CONCETTO ANTICO



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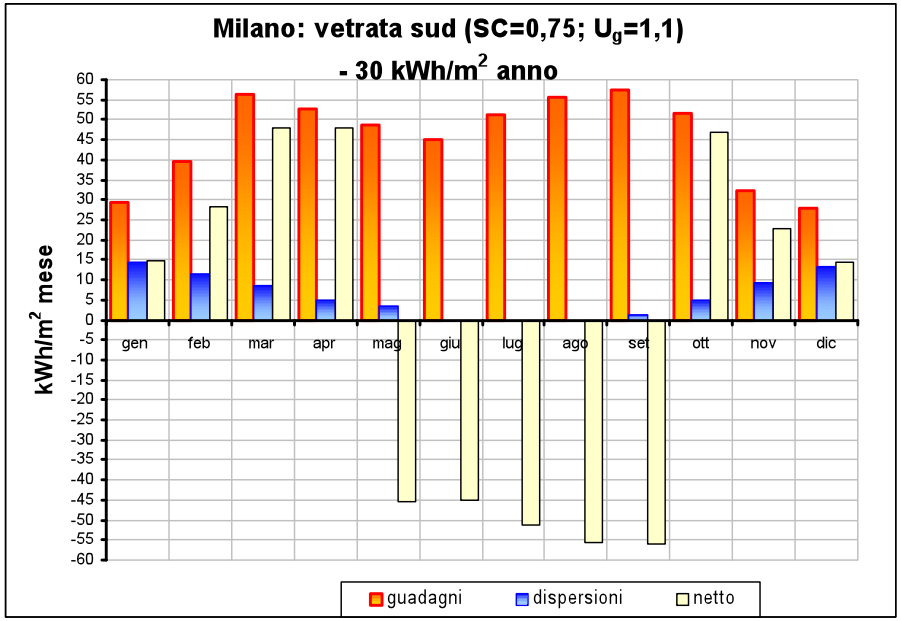
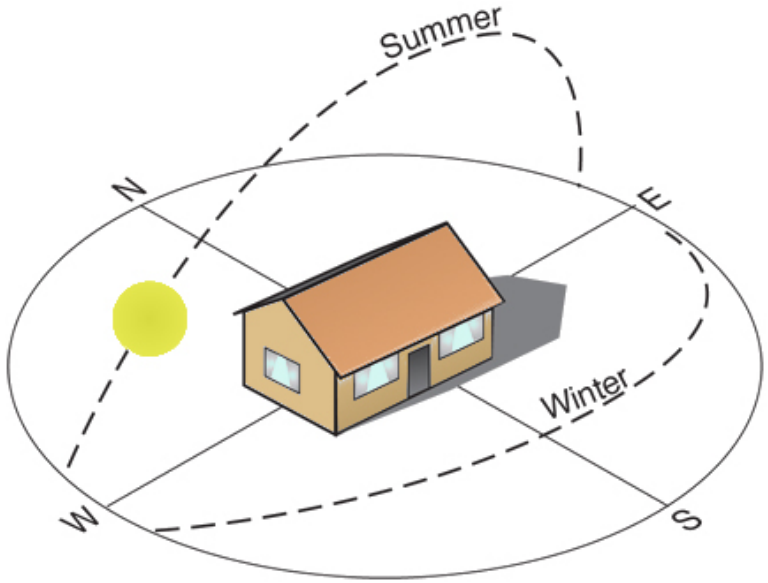
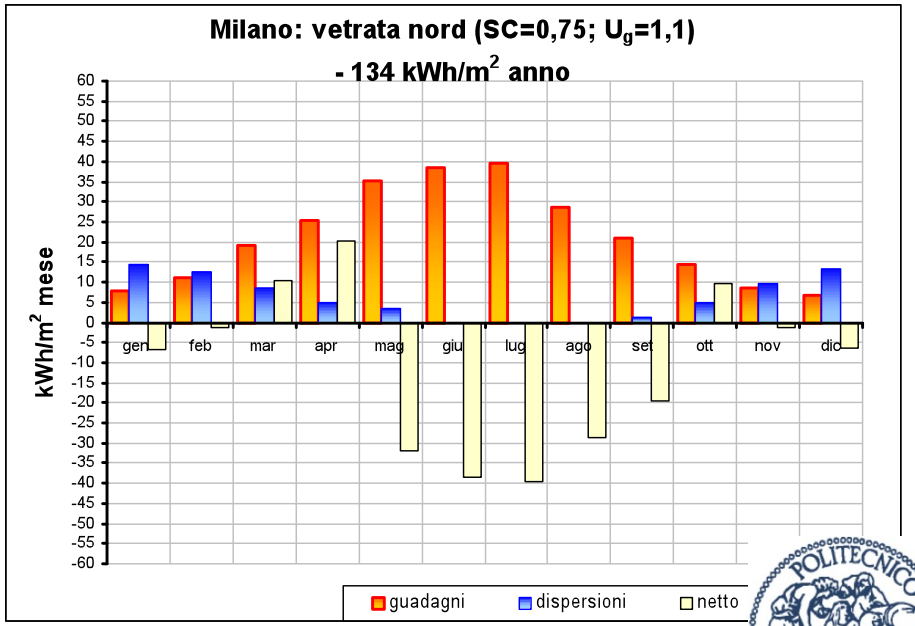
VETRO E PRESTAZIONE ENERGETICA (1)







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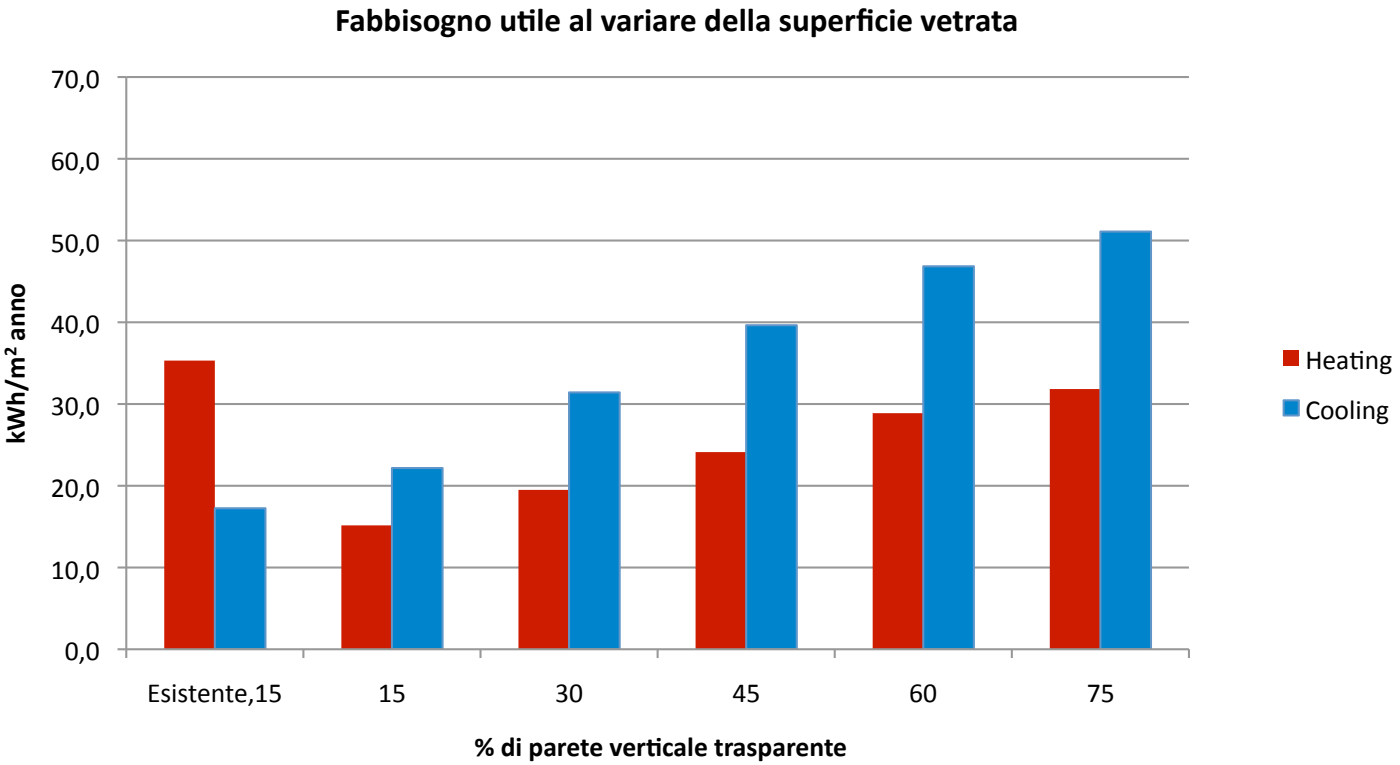

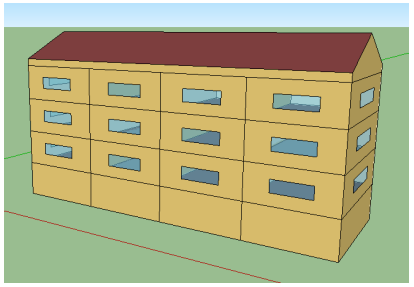

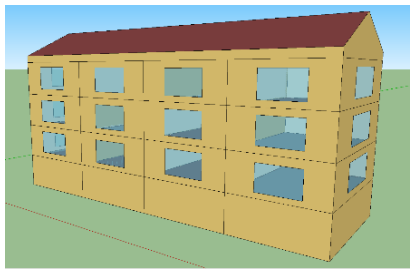

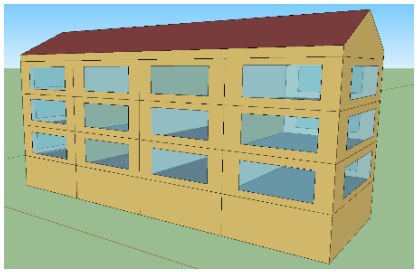

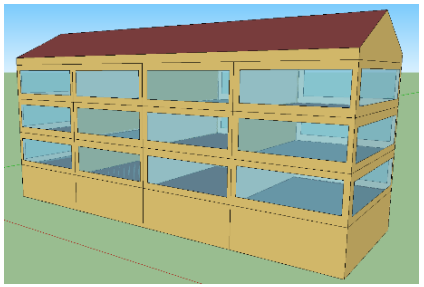

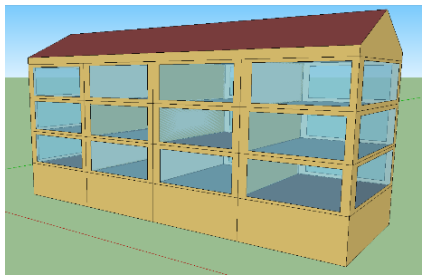

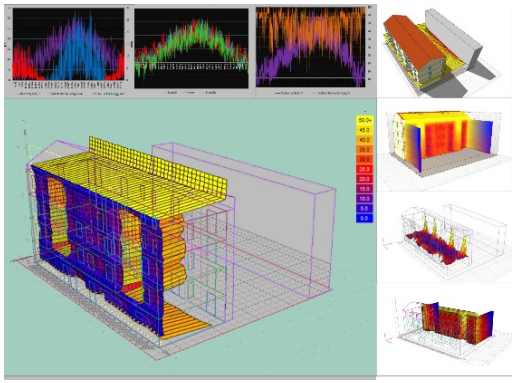

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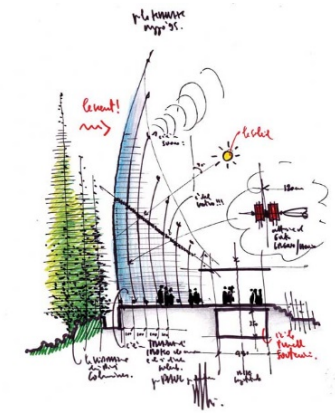
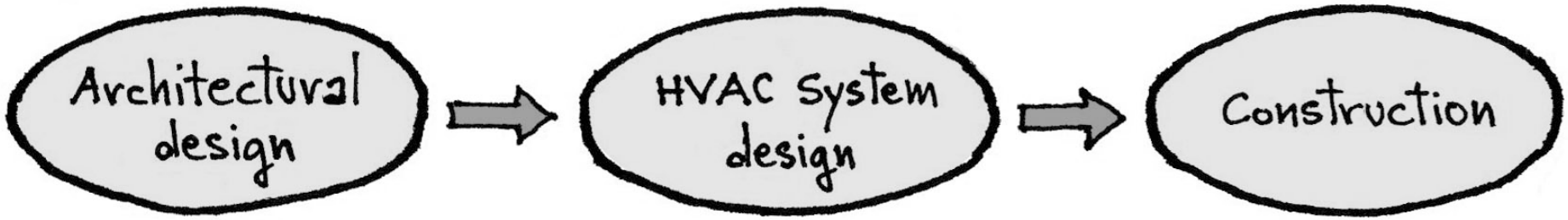


APPROCCIO CONVENZIONALE



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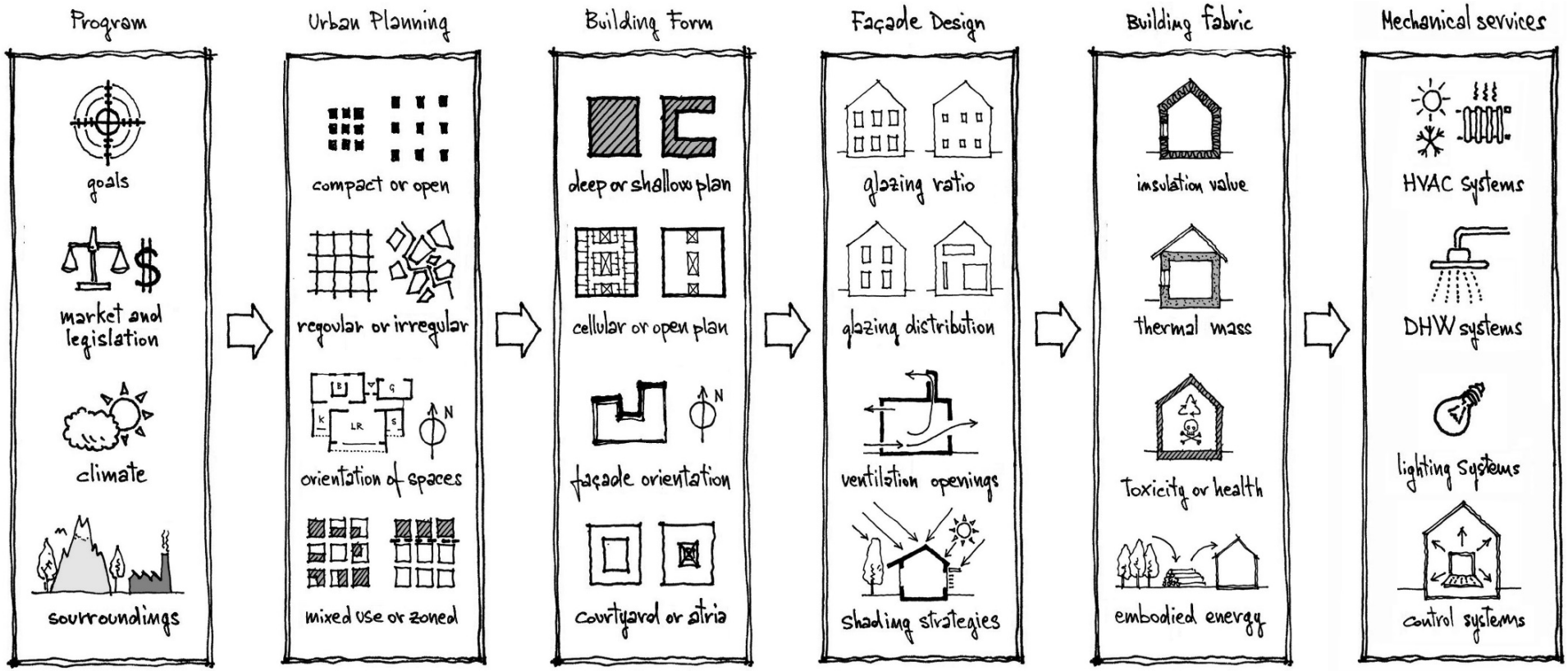

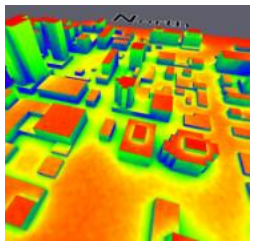

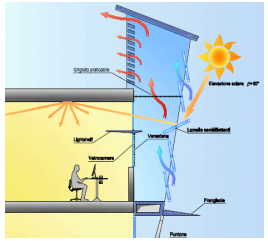

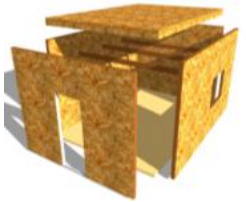

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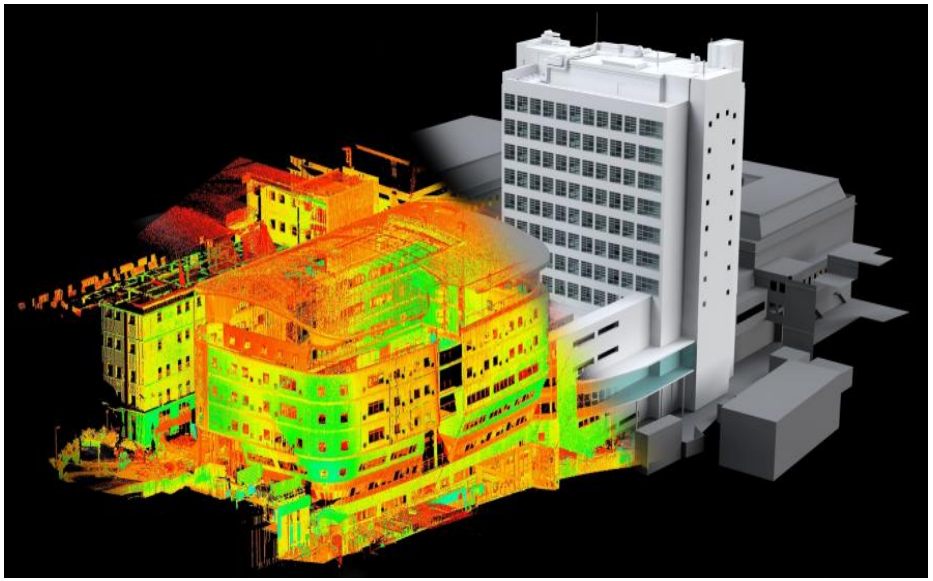

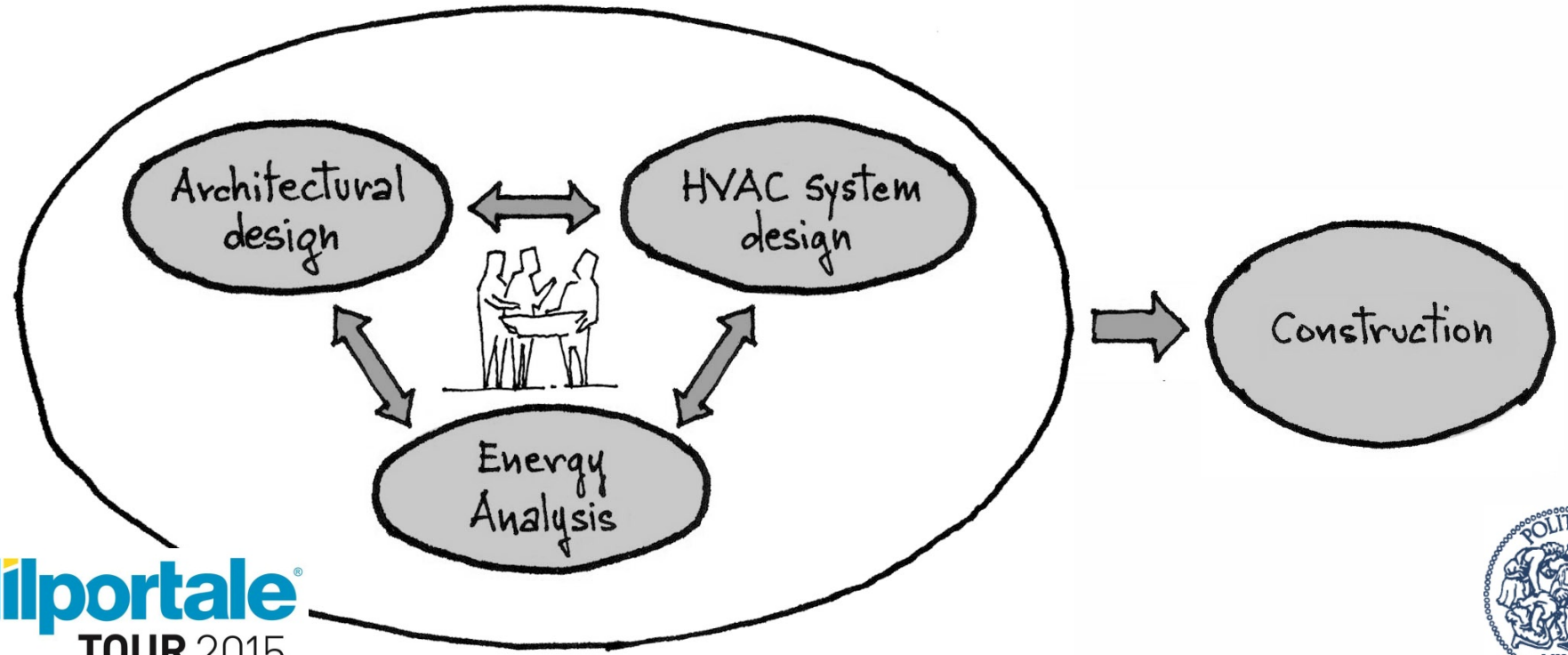

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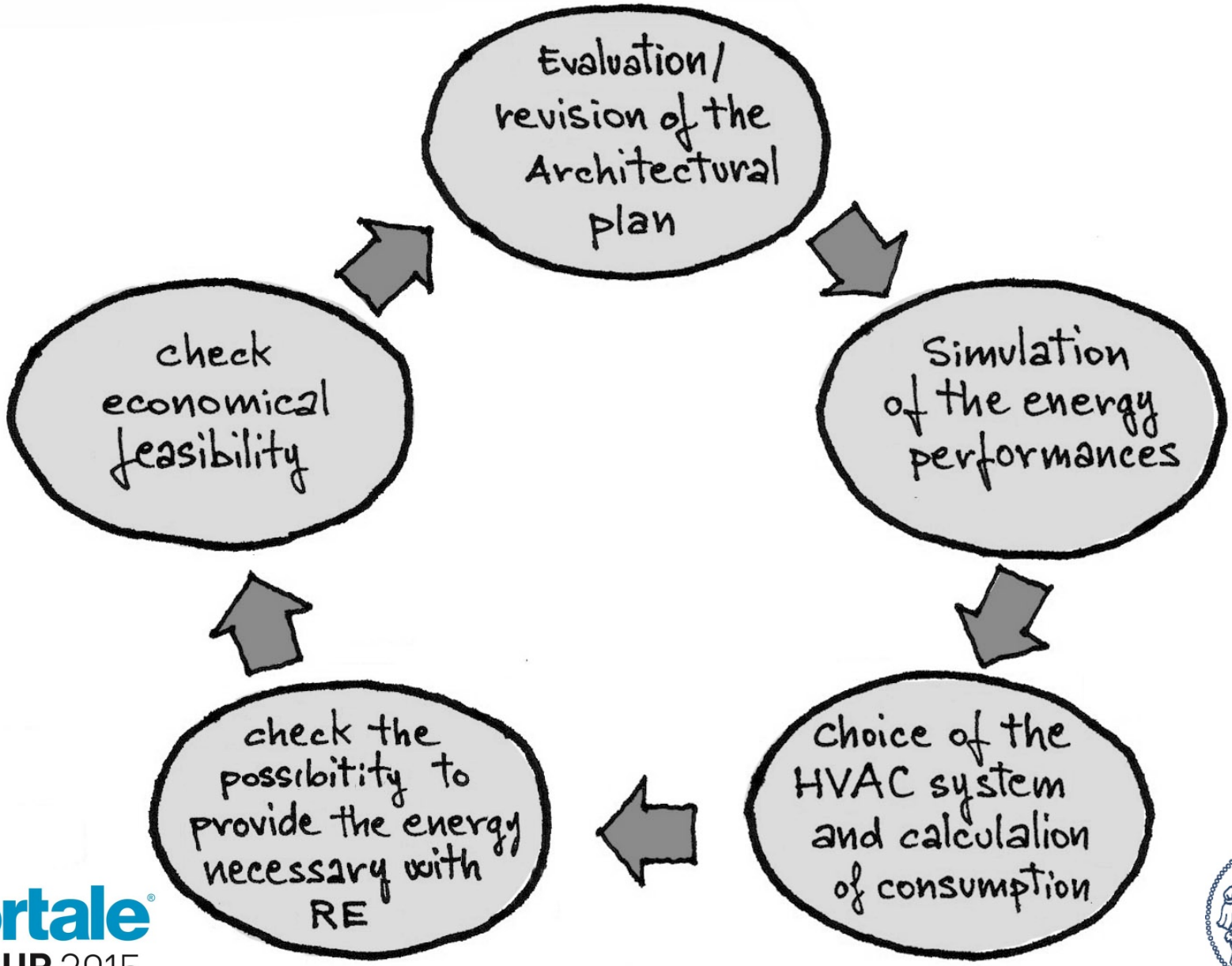

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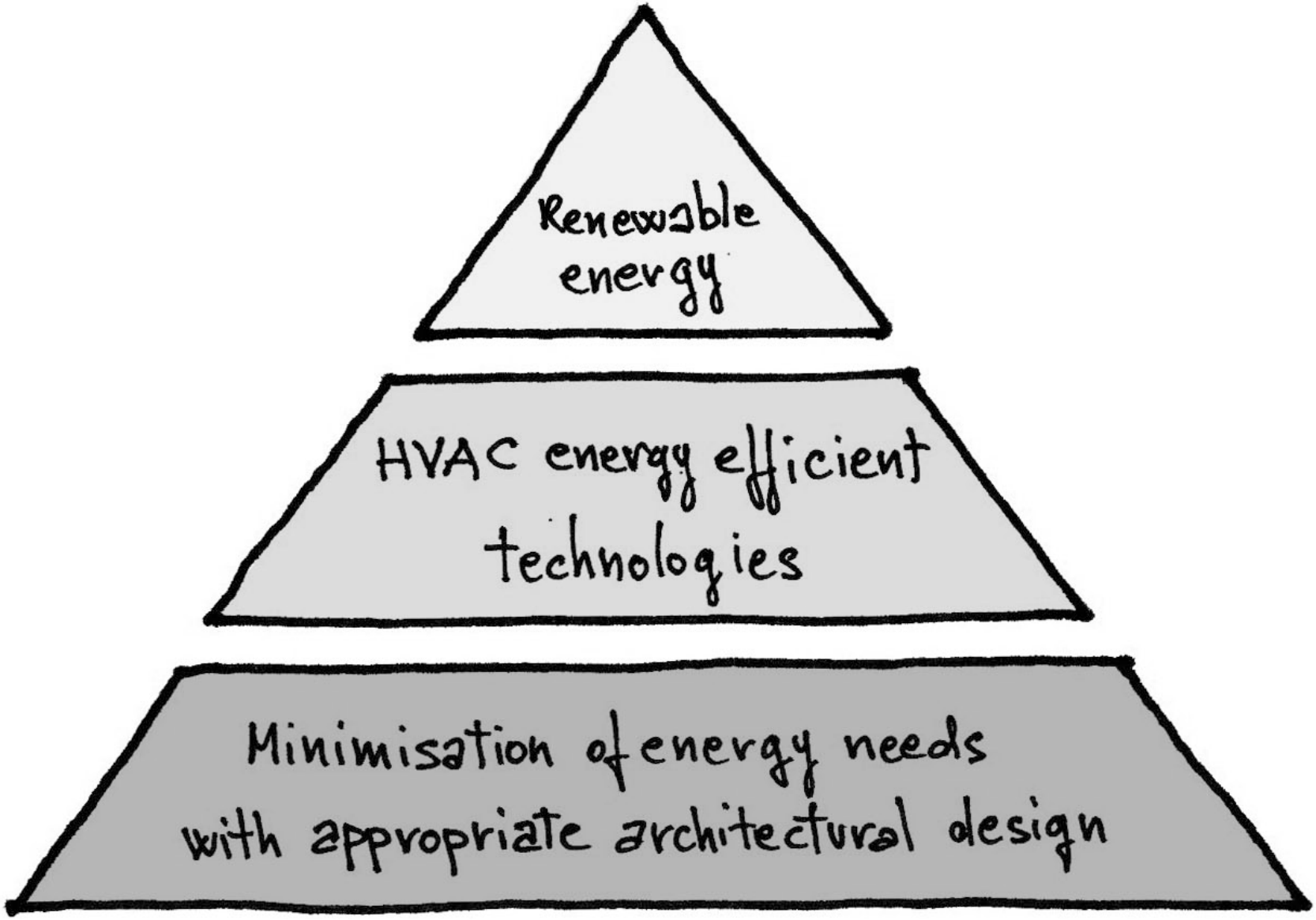
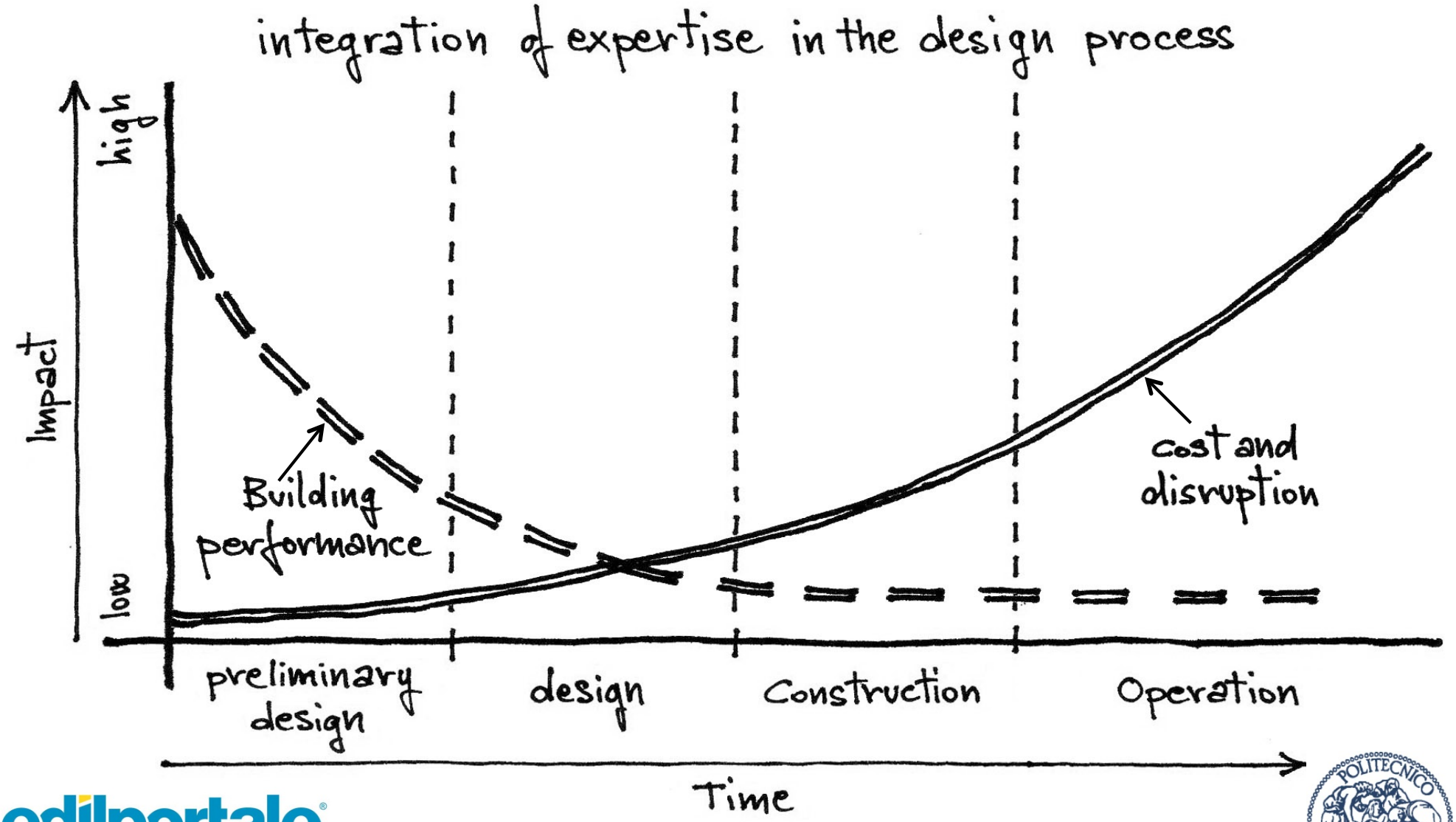


COMPETENZE ENERGETICHE



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L'INVOLUCRO INTERATTIVO

Green Roof
A planted roof encourages bio-diversity, reduces storm water run off and softens the roofscape.

Timber Structure
A post + beam timber frame gives a long lasting durable structure, internal flexibility and a unique natural interior.

Hot water tank
A 300 litre dual coil hot water tank can store enough hot water for the whole family all day and make the most of the solar thermal panels.

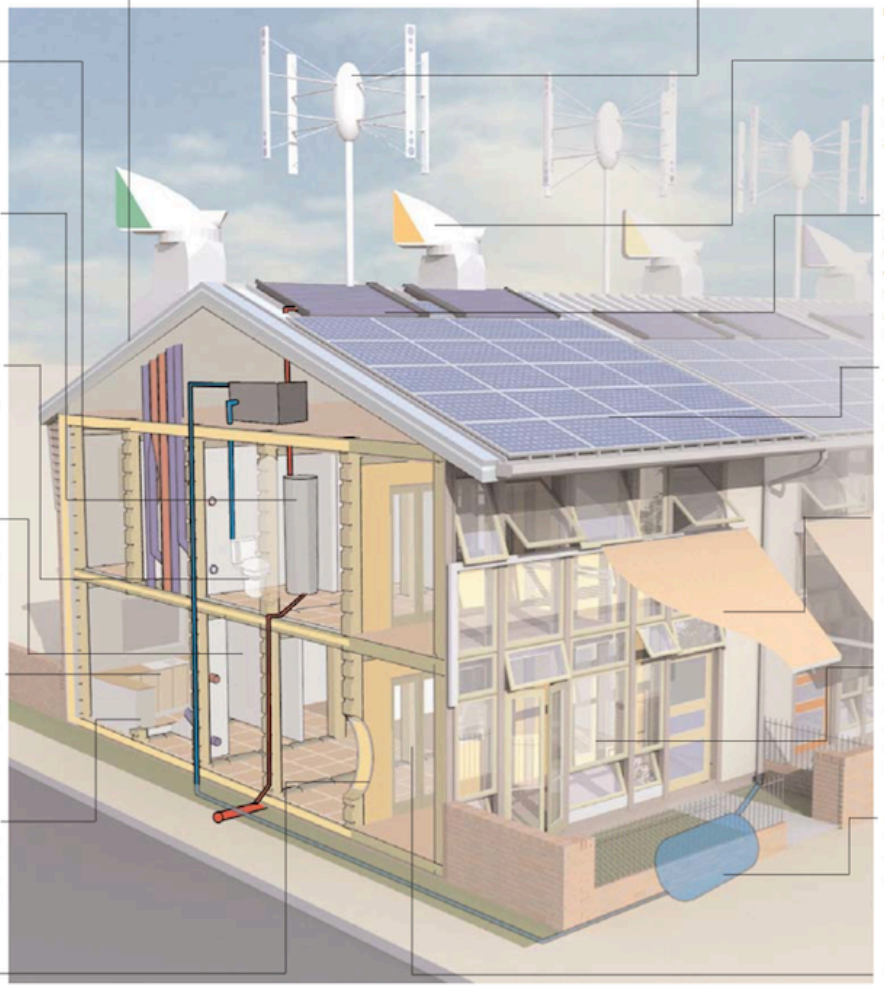
Dual flush toilet
2/4 litre flushing toilet reduces water demand without compromising performance.

Thermal Mass
High density internal finishes store energy and coolth, released when needed to keep the house warm in the winter and cool in the summer.

Aerated tapes
These taps reduce the water flow but increase the force of the flow giving the luxurious feel of soft champagne flowing.

Energy Saving Appliances
A++ rated white goods and low energy lighting reduces demand for electricity and water. Home electricity consumption can even be monitored in the home.

Super insulation
300mm thick insulated walls reduce heat loss to a minimum and combined with airtight construction provide a comfortable healthy interior. A standard building regs house has 100mm thick insulation.



Wind turbine
A roof-mounted turbine can produce up to half of the households' annual electricity requirements and any surplus can be exported to the national grid.

Wind Cowl
A heat exchanger uses the heat from the extracted air to pre-warm the fresh air ensuring 24-hour fresh and airy rooms.

Solar Hot Water
Solar thermal panels on the roof use the sun's energy to heat water. In mid winter top up hot water is supplied through a district heat main which serves all units from one wood pellet boiler.

Photovoltaic Panels
These 180W panels convert the sun's energy into electricity and any surplus can be exported to the national grid.

Solar Shading
In our Increasingly warm climate roof overhangs and an awning reduce overheating provide shade and maintain exterior views.

Sunspaces
These light and sunny full height spaces provide a warm place to sit out, grow herbs and citrus, dry clothes, store cycles and keep the home warm in the winter.

Rainwater Harvesting
This tank will collect rainwater form the roof, filter it and supply the house with non-potable water.

Healthy Interiors
Breathable constructions, good ventilation, carefully chosen materials and non-toxic finishes make for a happy healthy home.

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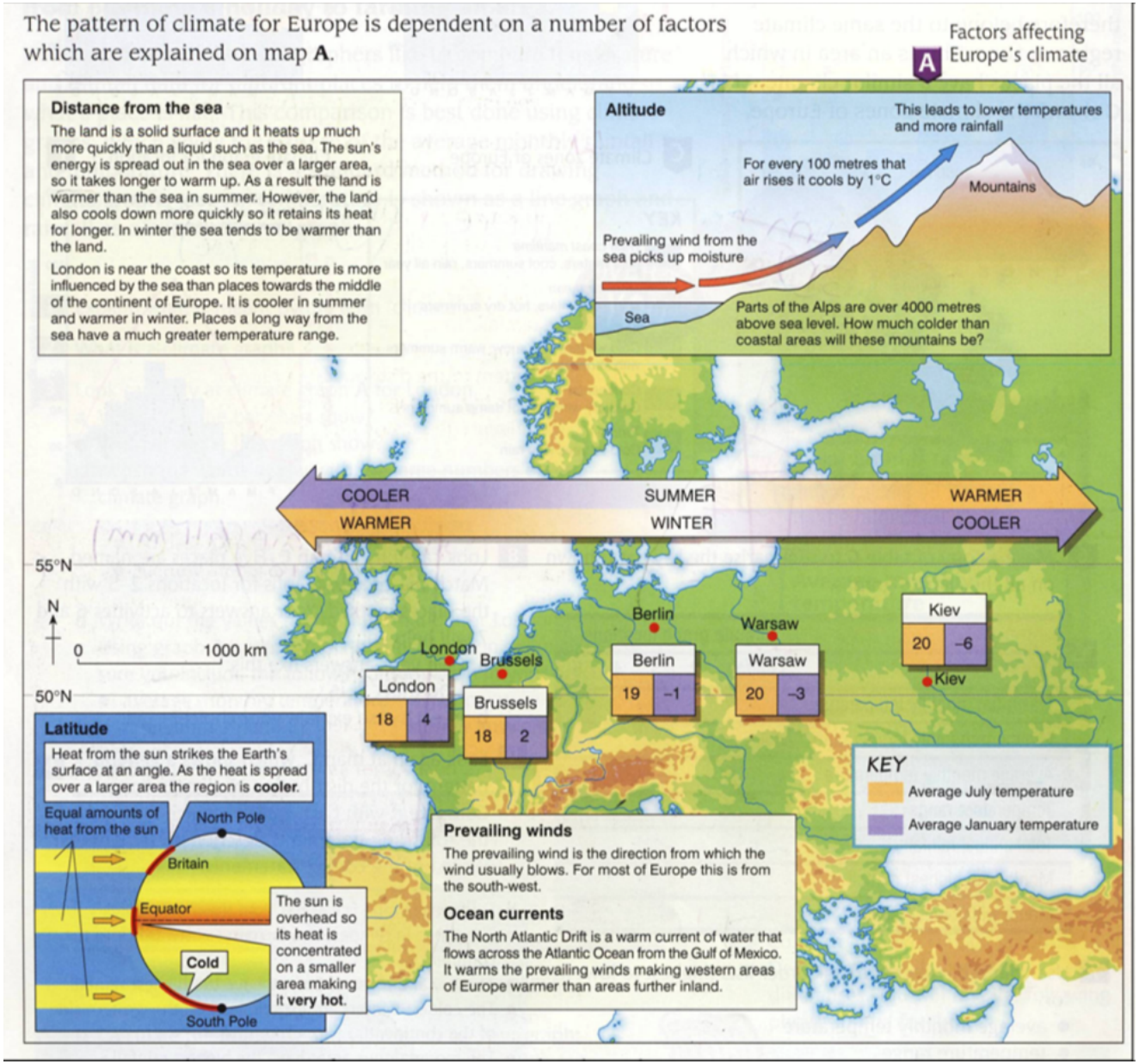
ARCHITETTURA & CLIMA



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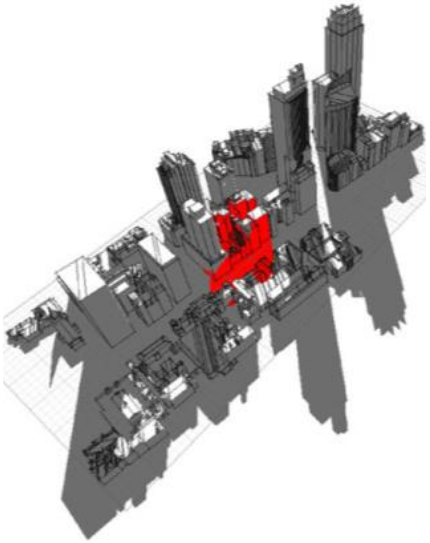
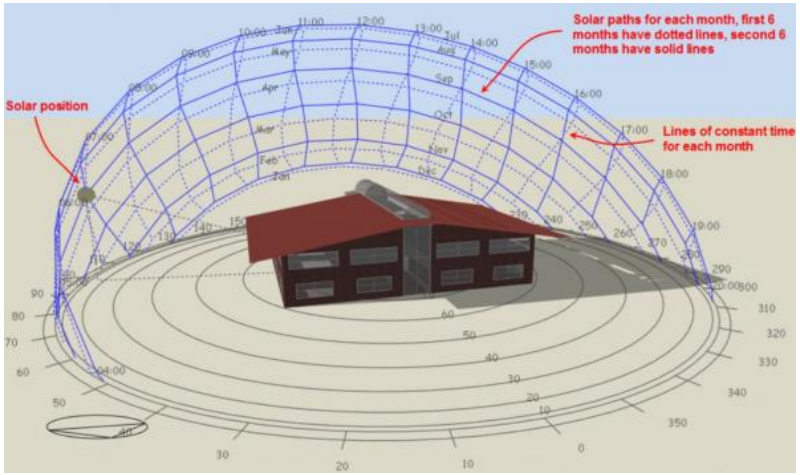
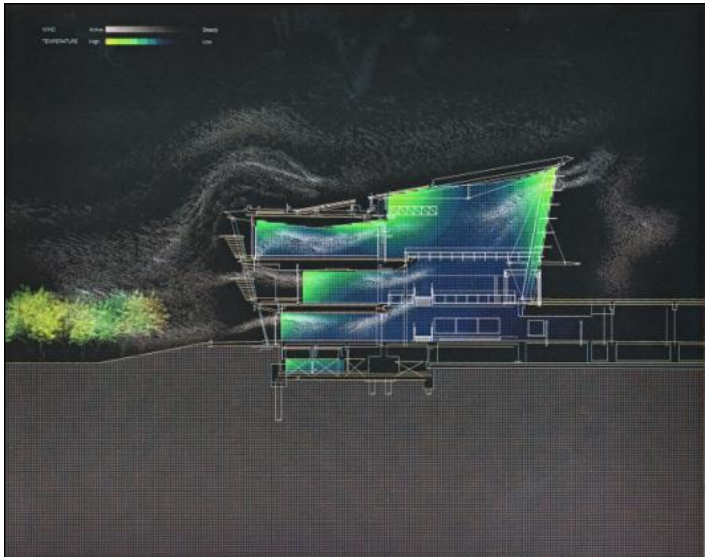
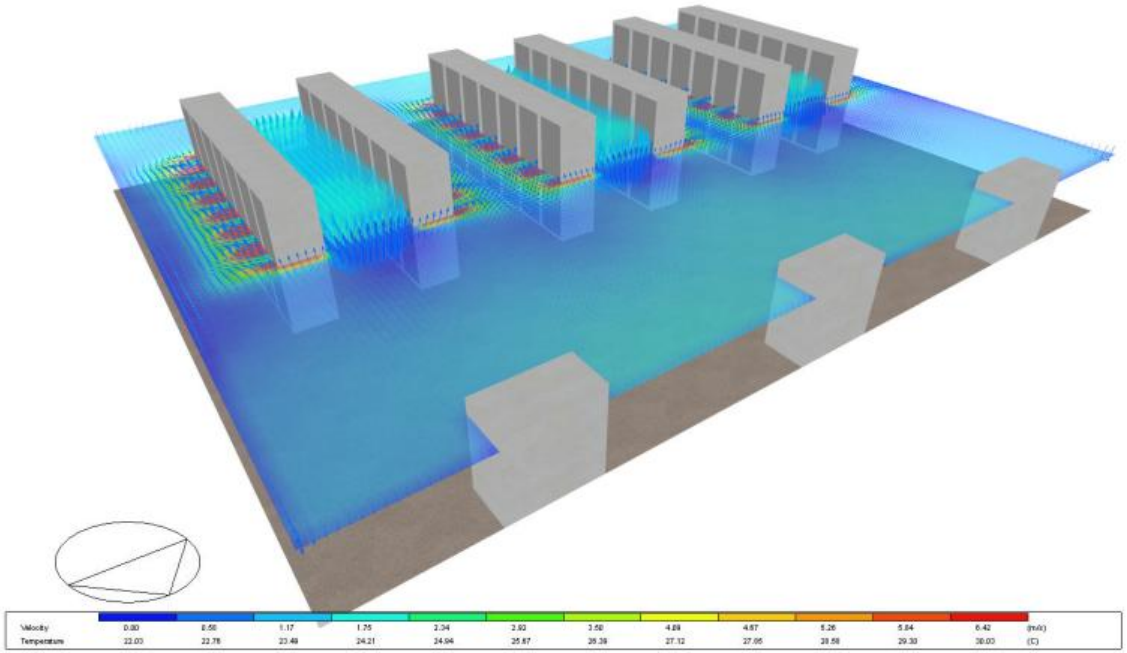
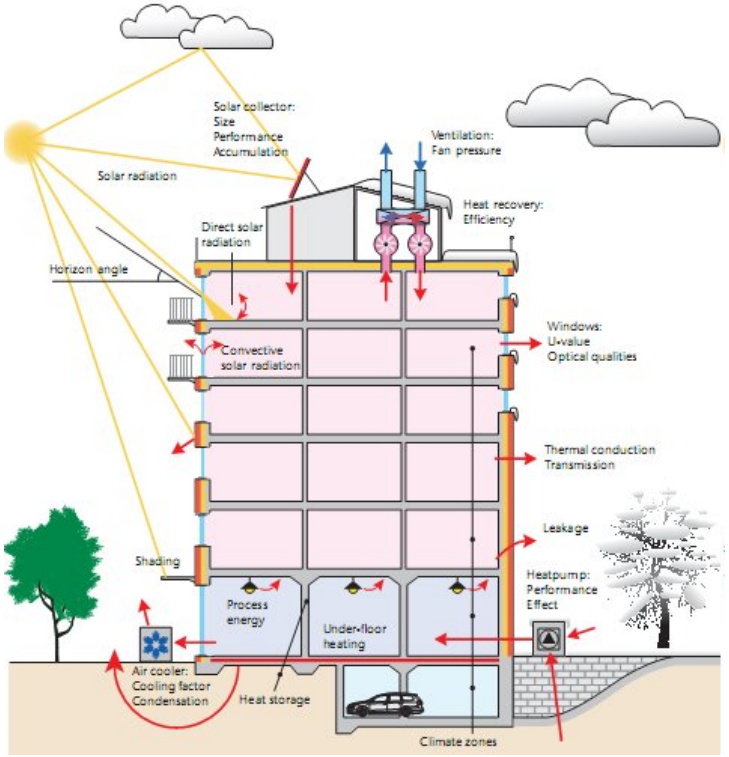
SISTEMA contesto-edificio-impianto



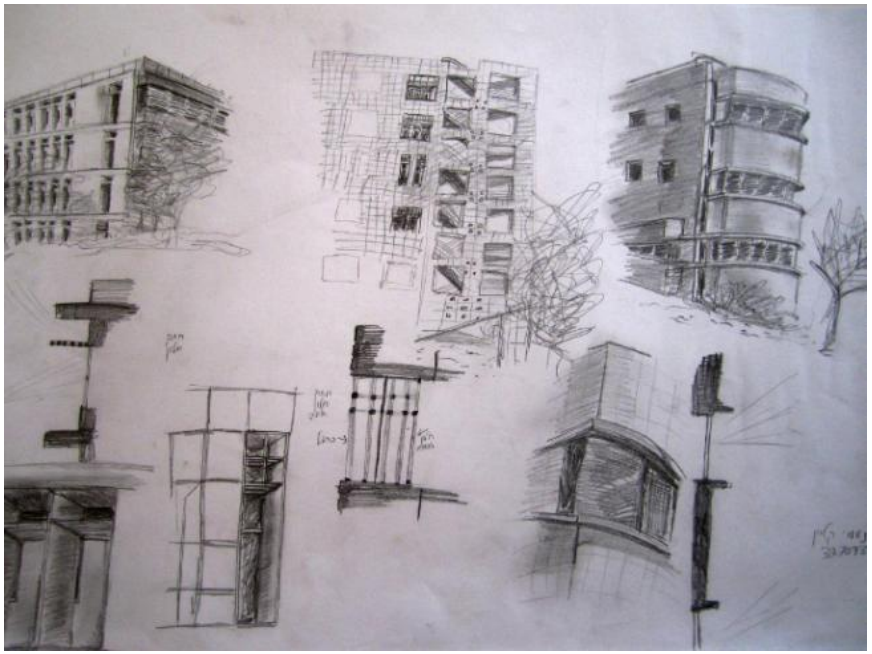


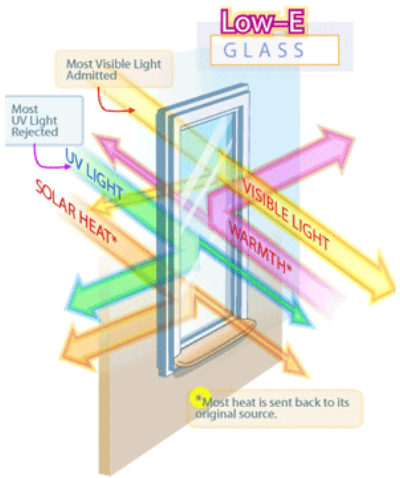


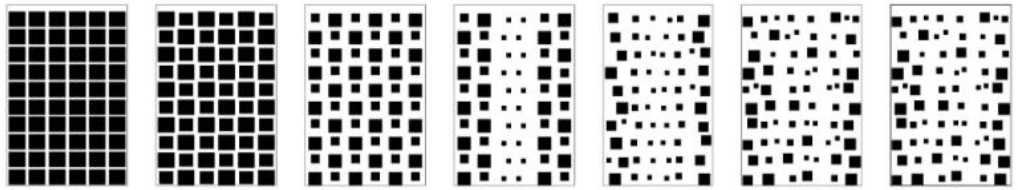


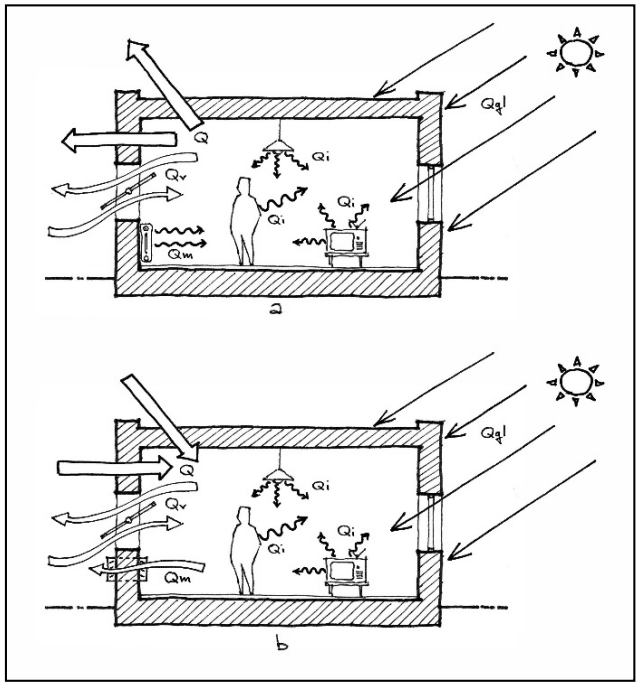


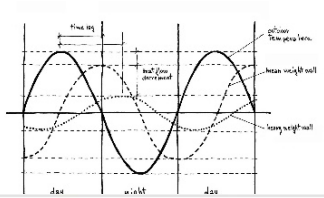
INVOLUCRO E MORFOLOGIA

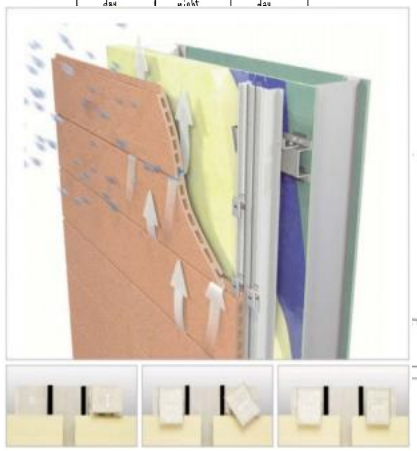


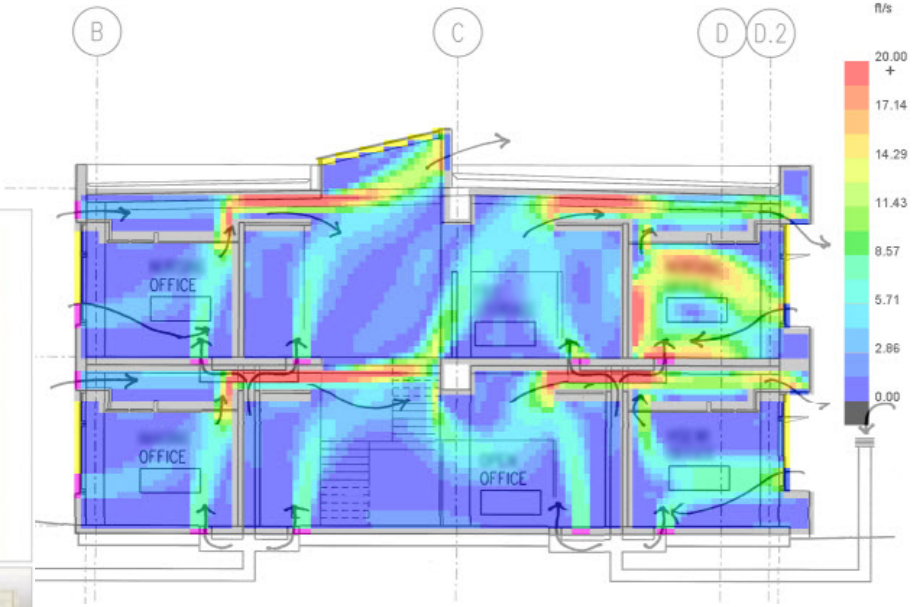








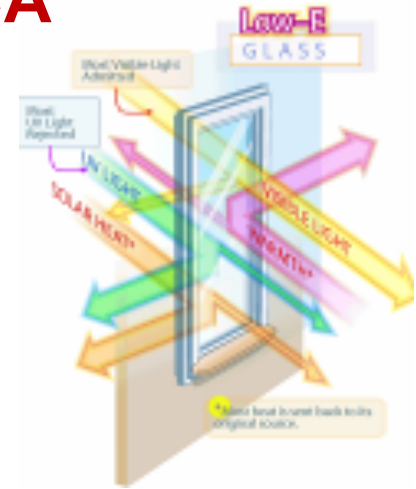




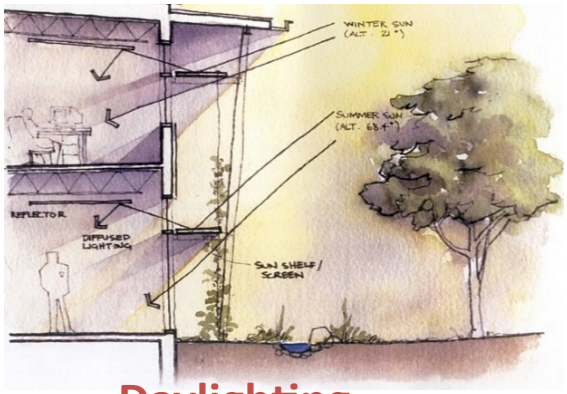
TECNOLOGIE PER L'EFFICIENZA ENERGETICA

Isolamento

Inerzia termica

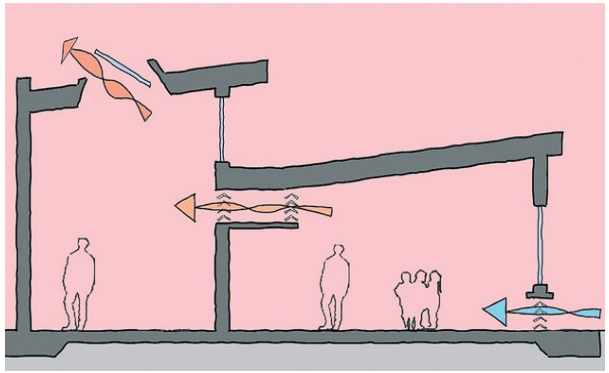


Vetri selettivi



Daylighting

Controllo solare



Ventilazione naturale

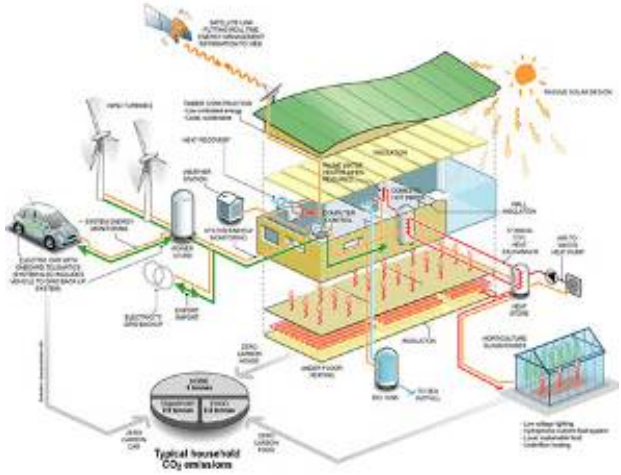
Fotovoltaico

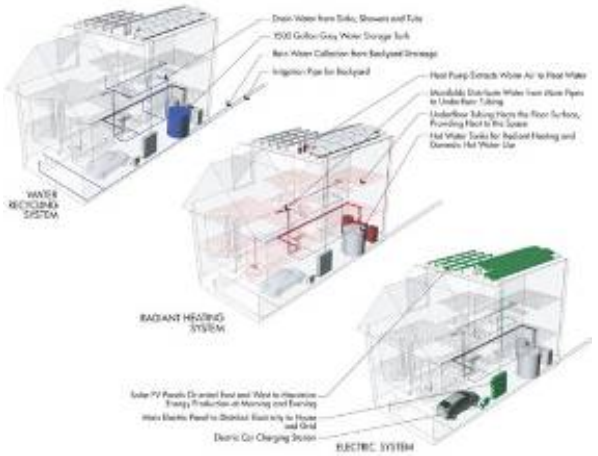
Solare termico

Building control automation

NET ZERO ENERGY BUILDING

"Net Zero Energy Building means a building where, as a result of the very high level of energy efficiency of the building, the overall annual primary energy consumption is equal to or less than the energy production from renewable energy sources on site."





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DIRETTIVA 2010/31/UE (EPBD[1] recast)

Articolo 9 - Edifici a energia *quasi* zero

Gli Stati membri provvedono affinché:

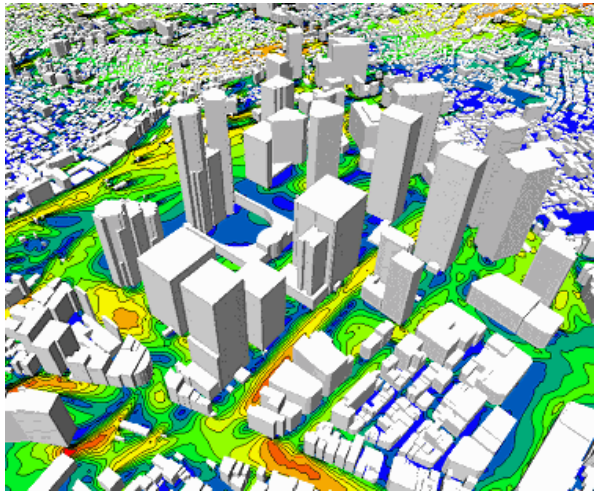
a) entro il 31 dicembre 2020 tutti gli edifici di nuova costruzione siano edifici a energia quasi zero;

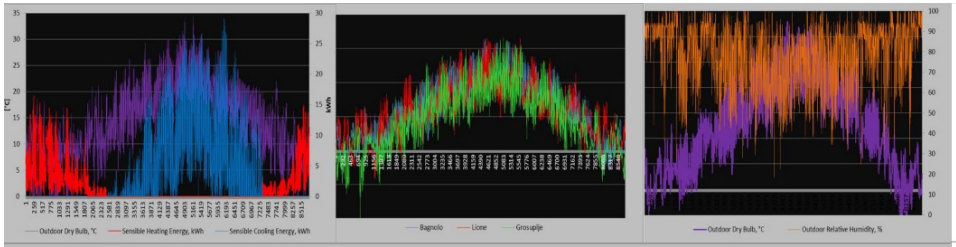
b) a partire dal 31 dicembre 2018 gli edifici di nuova costruzione occupati da enti pubblici e di proprietà di questi ultimi siano edifici a energia quasi zero.

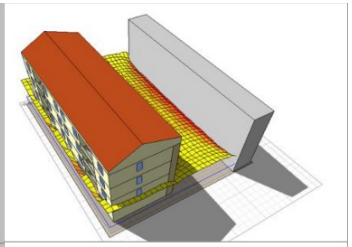
NOTA: «edificio a energia quasi zero»: edificio ad altissima prestazione energetica […]. Il fabbisogno energetico molto basso o quasi nullo dovrebbe essere coperto in misura molto significativa da energia da fonti rinnovabili, compresa l'energia da fonti rinnovabili prodotta in loco o nelle vicinanze.

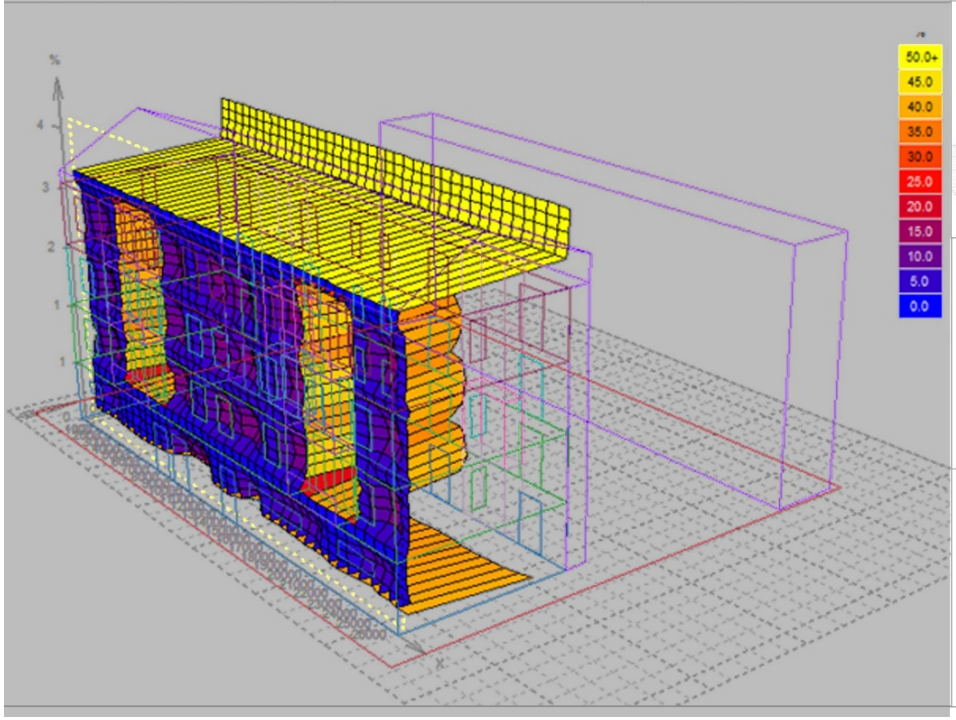
1: Energy Performance of Buildings Directive

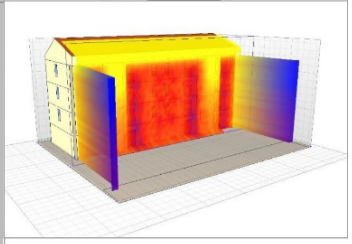
PROGETTARE L'EFFICIENZA ENERGETICA

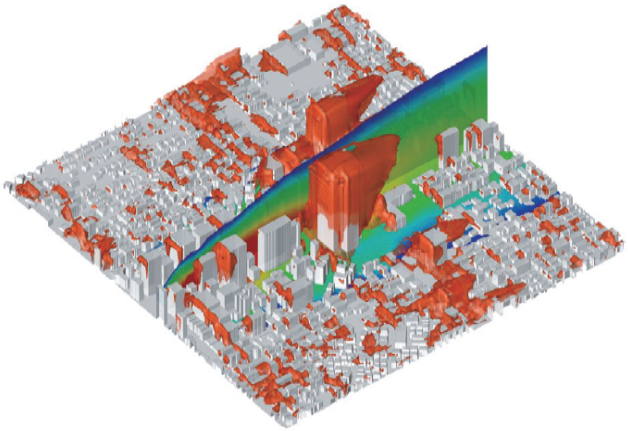


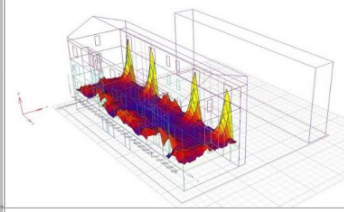


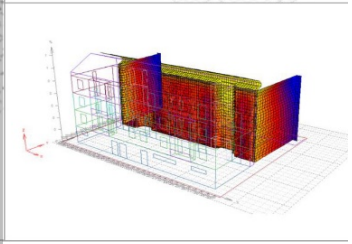


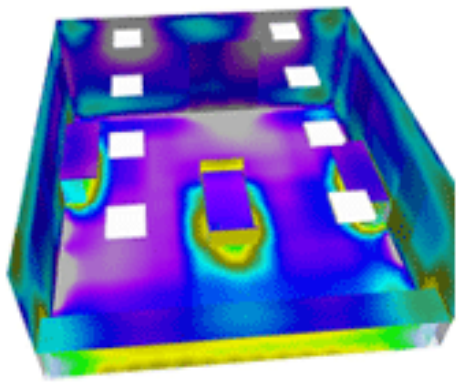


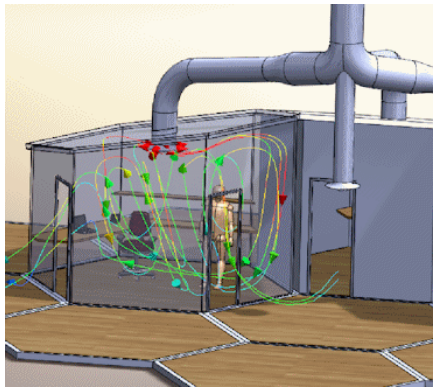


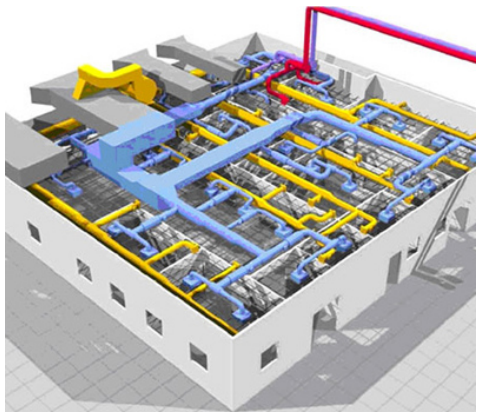


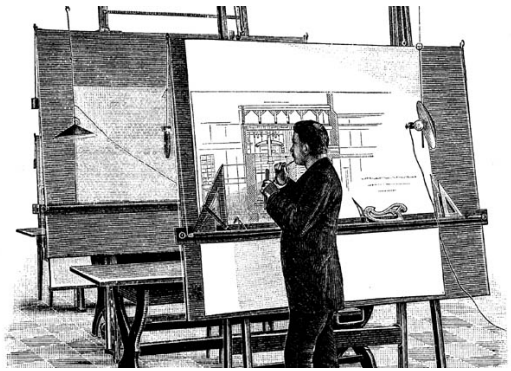












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