Education and Culture DG

Lifelong Learning Programme

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ENEF

ENERGY EFFICIENCY IN THE BUILDING SECTOR: A SUSTAINABLE FUTURE

Project number: 510198-LLP-1-2010-1-IT-LEONARDO-LMP

Funding Programme: LLP - Development of Innovation – Leonardo da Vinci

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THE CONSORTIUM

- EUROCREA MERCHANT SRL – Italy
- INNOVATE – Ireland
- SPISSKA DEVELOPMENT REGIONAL AGENCY – Slovakia
- FRIEDRICH ALEXANDER UNIVERSITÄT ERLANGEN NÜRNBERG, INSTITUT FÜR LERN-INNOVATION – Germany
- IDEC – Greece
- VICOMTECH – Spain
- DIRECCION DE ARQUITECTURA – REGIONAL GOVERNMENT OF EXTREMADURA – Spain
- BULGARIAN CONSTRUCTION CHAMBER – Bulgary

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THE BUDGET

TOTAL PROJECT EXPENDITURE: 326.546 €

TOTAL PROJECT GRANT: 262.053

ENEF PROJECT

EnEf is a two year project aiming to improve energy efficiency in buildings, by alleviating the lack of knowledge of entrepreneurs and managers of the building industry.

This is achieved by creating an innovative training system accessible by an e-Learning platform and enriched by visual elements, simulations and interesting practices in building industry.

VIS-EDUCATION

The project intends to be innovative in the way the training is delivered: the consortium uses the new-coined word "VIS-EDUCATION", a matching of traditional education and visual interactive elements that makes learning faster, more attractive, and memorization of contents more effective. The innovation in learning is assured by the interplay of:

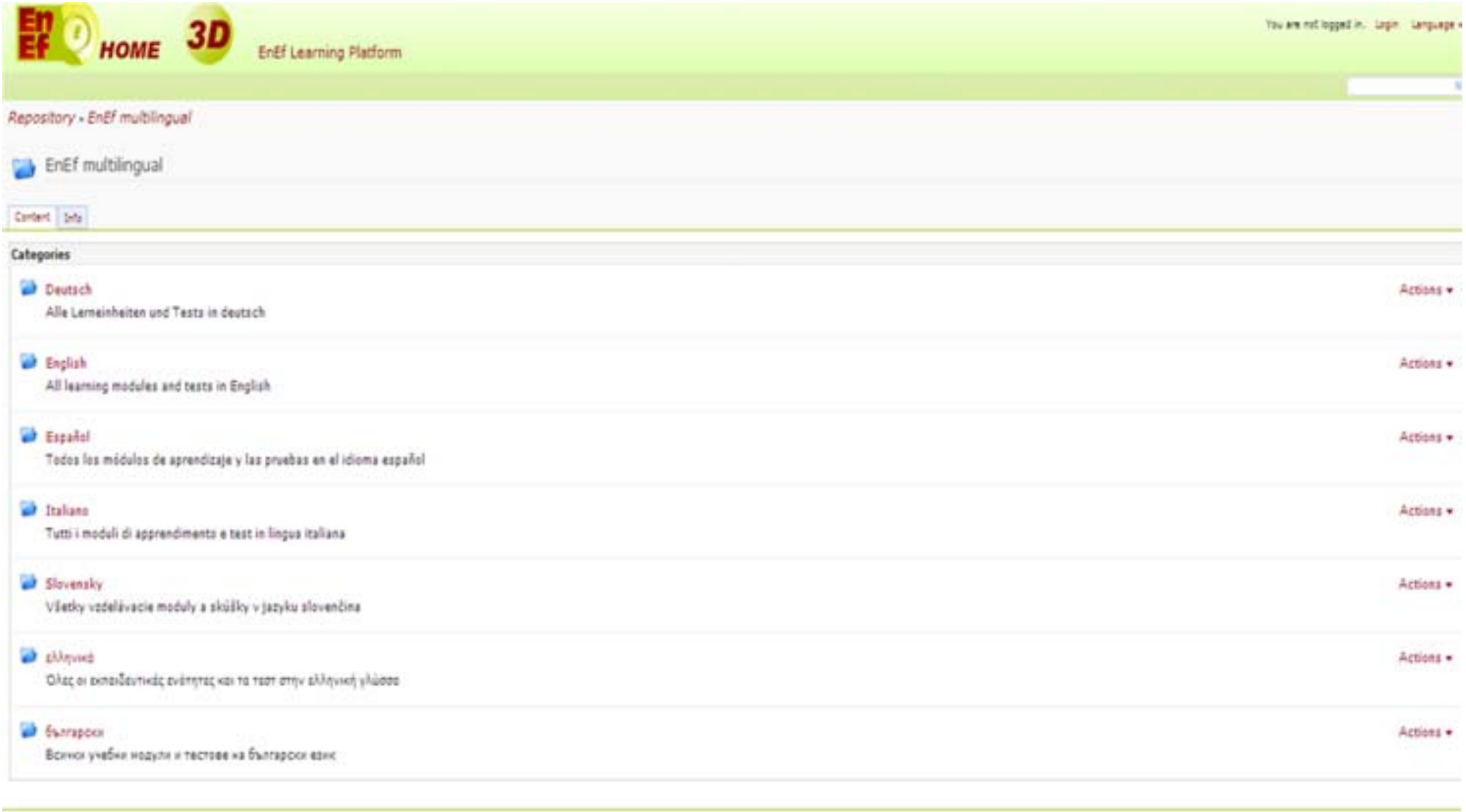
- an e-learning platform providing flexible learning modules and test for self-evaluation
- a 3D simulation tool linked to the contents and giving instant feedback about the efficiency of energy-saving measures in a building that the learner can modify interactively.

TARGET GROUP

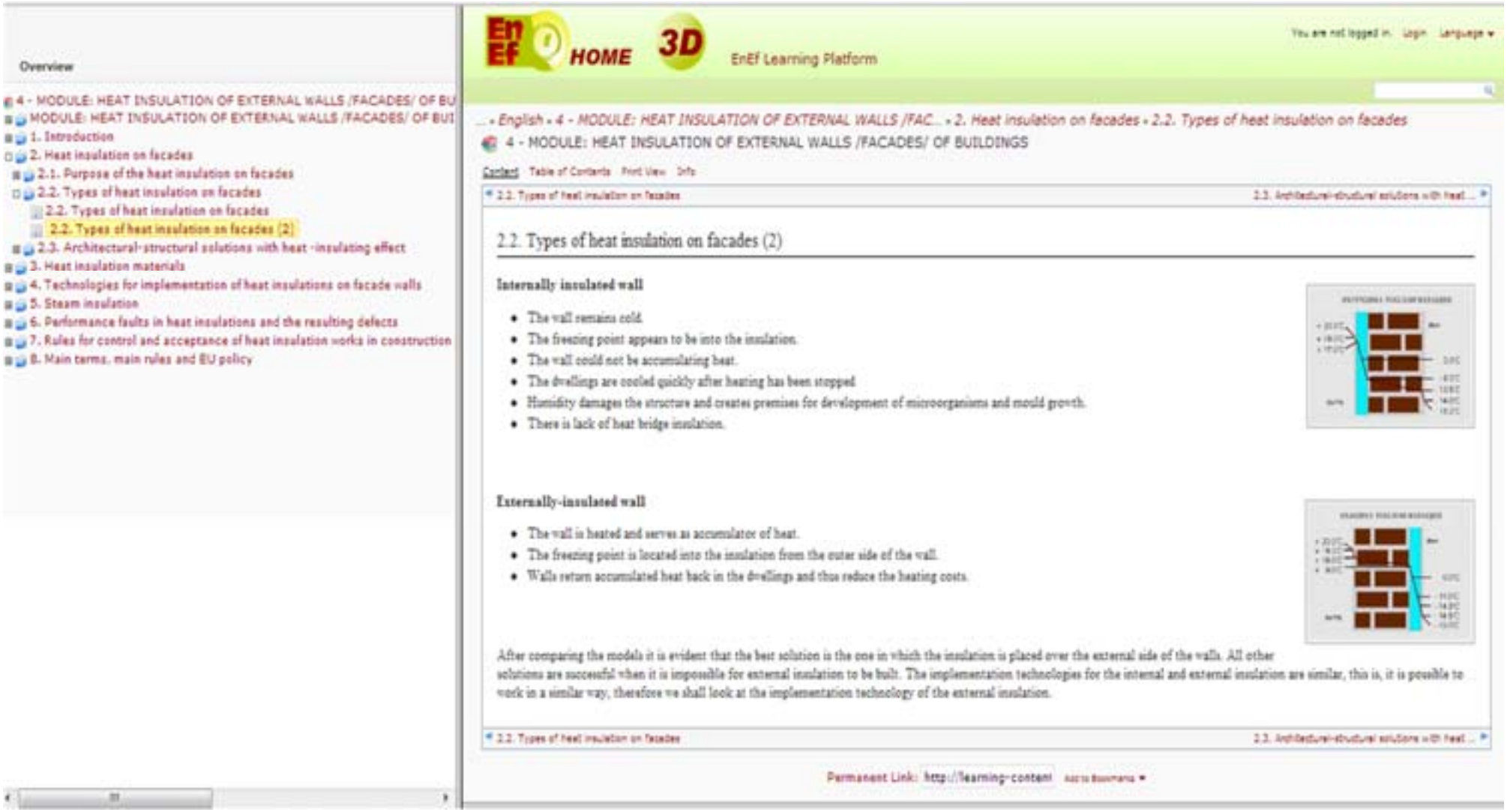
Target group of the project are entrepreneurs and managers of the building industry, employing up to 50 persons, which are the vast majority of the companies of the sector, one of the largest in Europe and a major motor for development.

ENEF MODULES – THE TRAINING PLATFORM

ENEF MULTILINGUAL



WITHIN A MODULE



ASSESSMENT EXCERSISES

Why 3D? Why Simulation?

LEARNING IS FASTER, MORE ATTRACTIVE AND MEMORIZATION OF CONTENTS MORE EFFECTIVE

AND…

LEARNING BY "PLAYING"

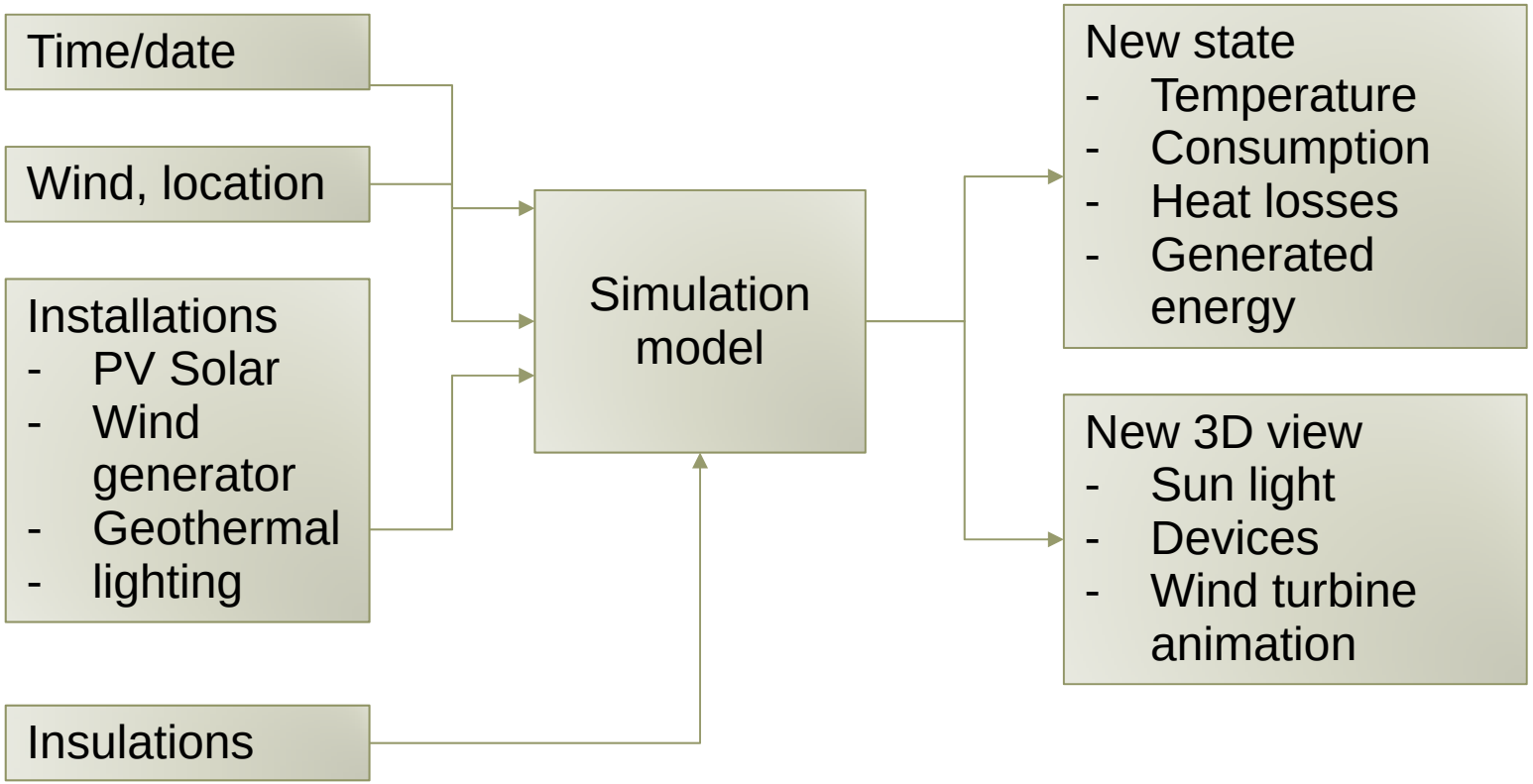
MEANS

LEARNING BY ENJOYING

=

Development: model

- Link input variables with changes in the state



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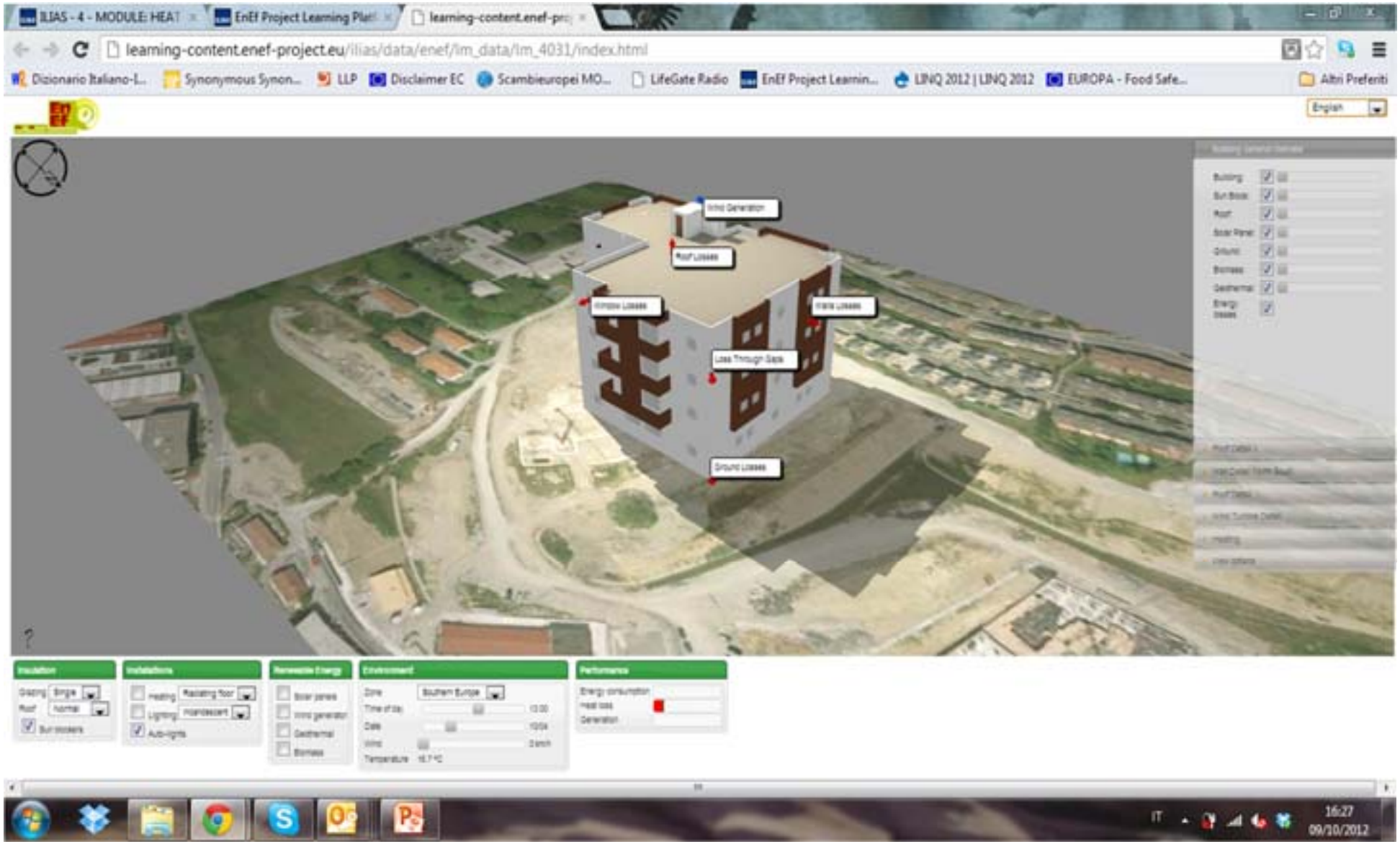
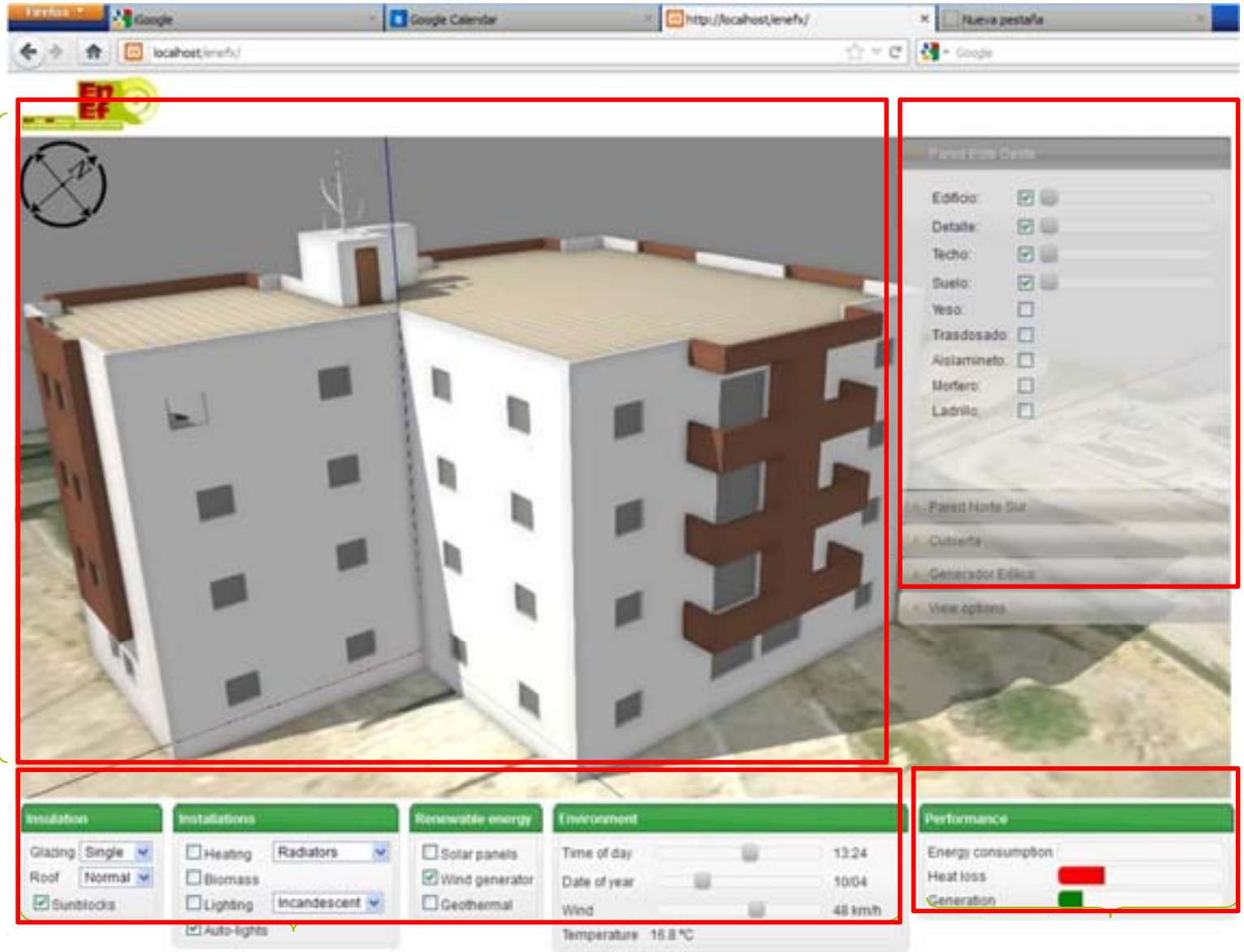
ENEF SIMULATION TOOL



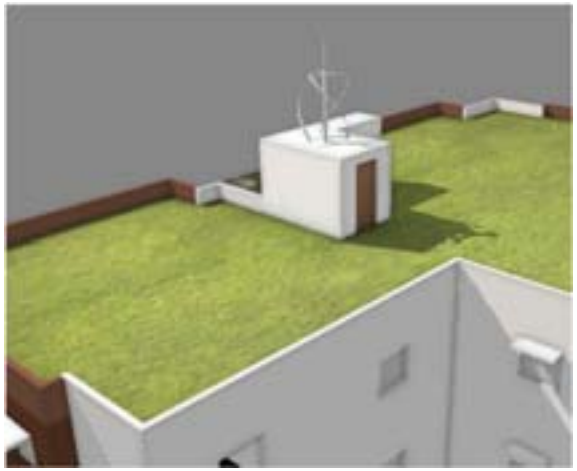
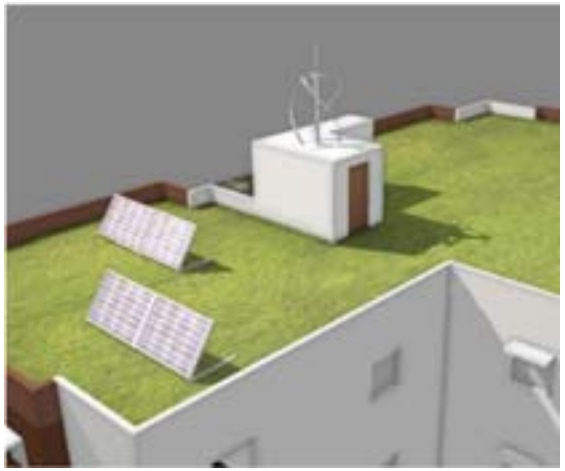
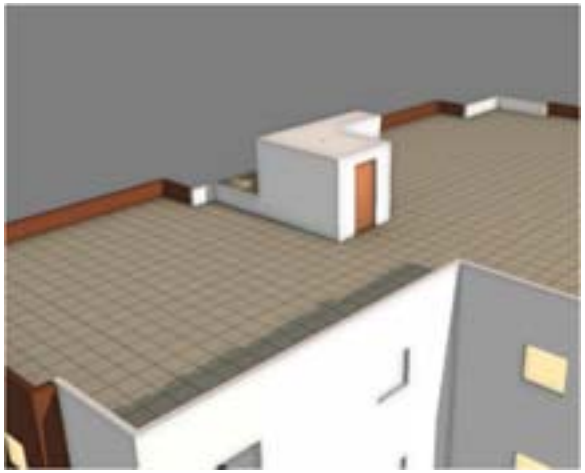
The building can been seen in all its sides and angles

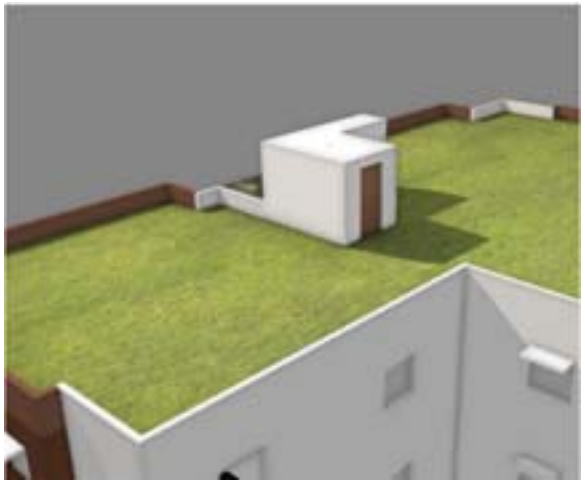
With a more or less details at choice of user

Integrated application

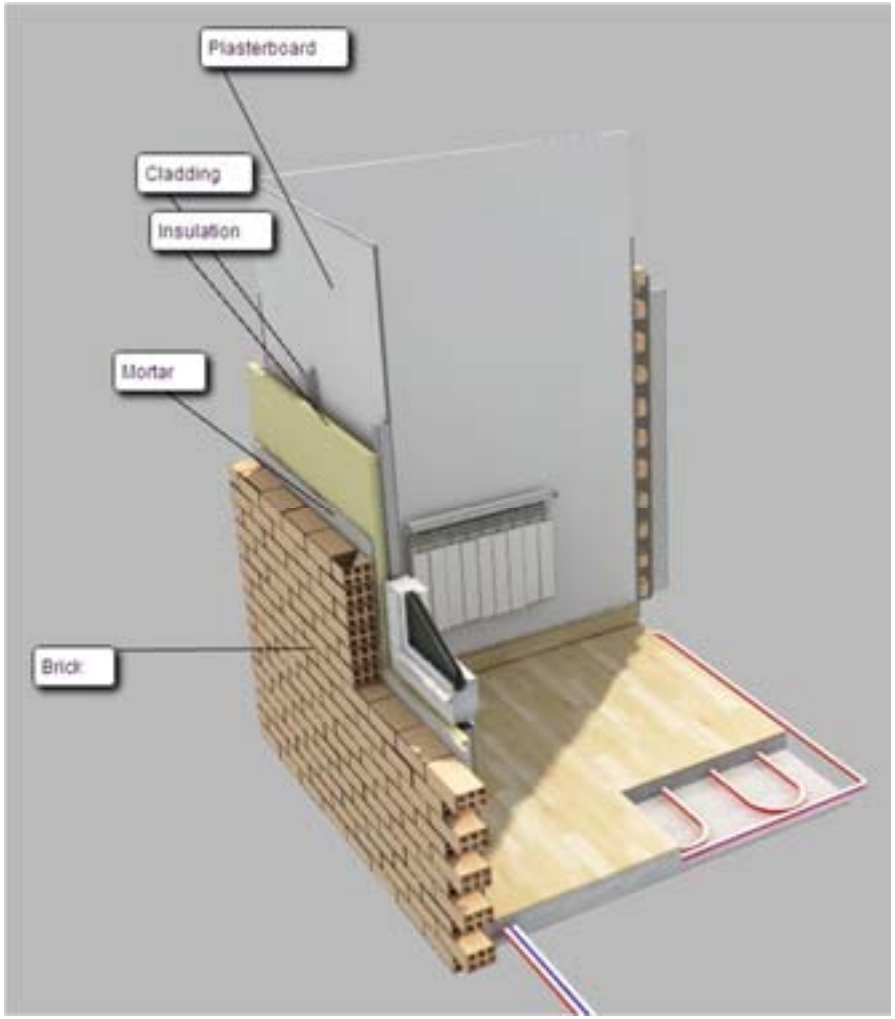


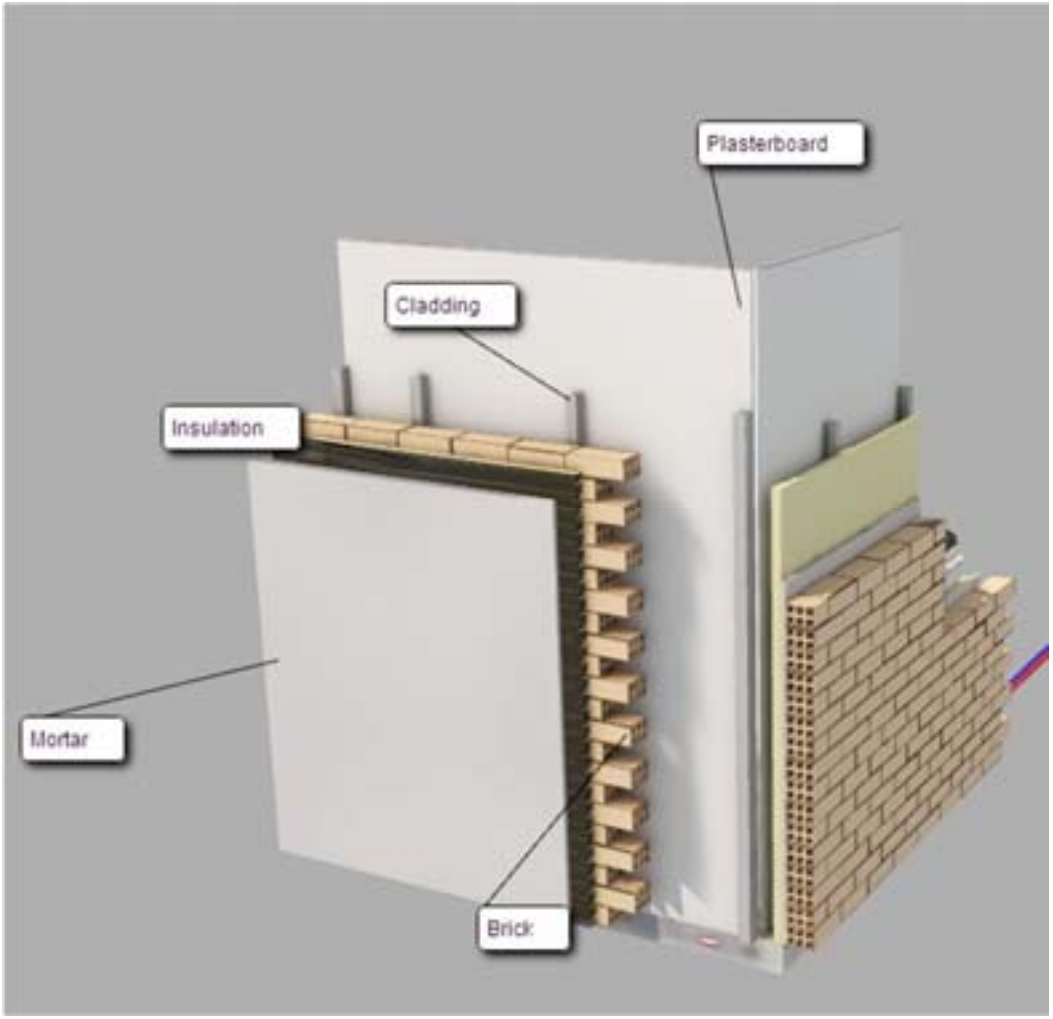
Integrated application

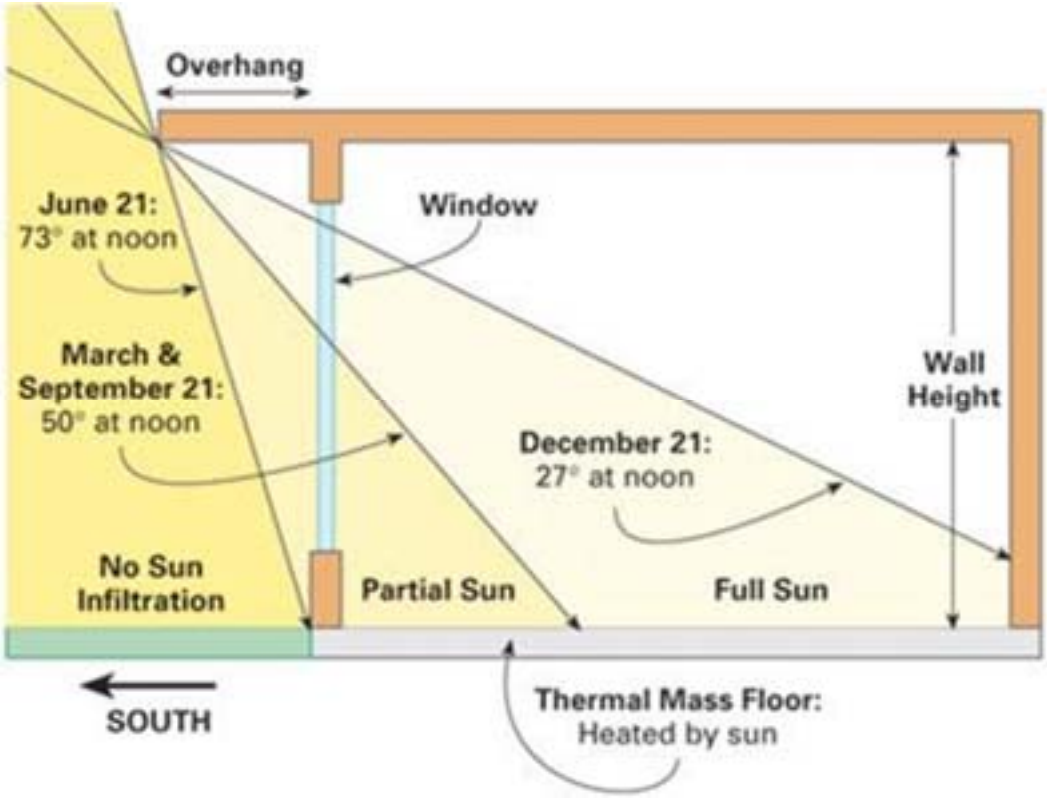
Integrated application – Detailed walls





Example: glazing in South orientation

- Module 5, section 2.5.2
  - Sun at noon in Winter enters room
  - Sun at noon in Summer should not enter -> overhang placed

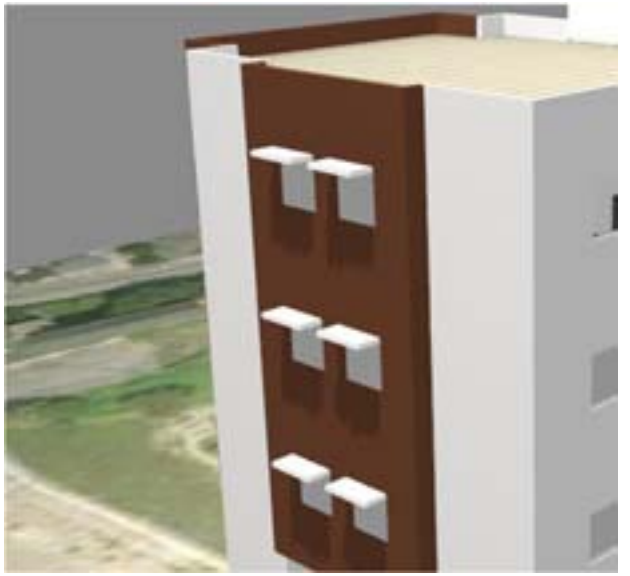


Example: glazing in South orientation

- Interactively seen

Winter noon

Summer noon



Summer noon + overhang

You can see different optional installations for energy generation and for heating. An open section of the floor in the detailed room will let you see the hidden pipes for the radiating floor

You can turn lights on or off (or let them work automatically) and see their effect in consumption.
In short, you can see the building performing as a whole system and how some aspects affect others and where each installation fits.

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