The educational materials are available into the **educational elearning resources centre** according to the proposed developing scheme: **a modular training catalogue made up of three different areas.**

BASIC TRAINING
- **Cultural contents:** the main concepts and innovative aspects that are involving the building area regarding the energy efficiency and sustainable building in order to define the cultural an legislative framework.
  - **The concept of nearly Zero Energy Building (nZEB), passivhaus and sustainable building,** from the definition to the recognition of the main features.
  - **The legislative framework** at local, national and European level about energy efficiency and sustainable building.
  - **The voluntary certification systems of the environmental sustainability**, such as LEED, BREEAM, ITACA, etc. and the emerging professional workers in the green building area.
  - **Energy efficiency and sustainable building market trends.**

PROCESS TRAINING
- **Technical contents:** specific in-depth analisys about emerging procedures, technologies and products of the market, in order to define the innovation potentialities compared to the present building approach.
  - **The innovation into the building process**, the implementation of procedures aimed at the check of the building organism quality from the project to the building, realized by other peolple not involved into the project and building process.
  - **Innovative building technologies**, non conventional technologies, for the opaque building cover and the transparent one.
  - **The evaluation of the sustainability of building materials and components.**
  - **Innovative system technologies (non conventional)**, condensation hot water heater, heat pump, multi-purpose machines, thermodynamic recovery refrigerating machines, absorption heat pumps, air-conditioning, hot sanitary water, high efficiency lighting and energetic systems which use renewable energy.
  - **Tools and methods for the efficient building management,** Building Management Systems (BMS), Energy Management Systems (EMS), Building Automation and Control Systems (BACS), domotic systems, consume record systems, etc., as regulation, management and control systems of the building performance in the training phase.
  - **The sustainable management of the construction site.**
  - **Tools and methods to verify the performace in progress** of the building components, of the building envelope, of the system components and plants.

PRODUCT TRAINING
- **Professional contents:** competences related to the use of innovative materials, technologies, specific building systems in specific building procedure considered strategic for the energy efficiency and sustainable building.

Over the **e-learning**, where management training materials are placed, the project I-Town suggests an **active learning methodology** that involves the participants into group work about study cases, in workshops with companies of the sector, in autolearning tests and in field tests, in the construction site and in the training lab at the building schools.

To reach this goal, the project I-Town considers as very important the **TEACHERS' TRAINING** through the development of
- **Cross contents:** competences connected with the training and communicative, the training management and organization, the resources management, the problem solving, the preparation of support learning materials, communication techniques and learning evaluation.

I MATERIALI DIDATTICI DISPONIBILI SULLA PIATTAFORMA E-LEARNING
LEARNING MATERIAL AVAILABLE ON E-LEARNING PLATFORM
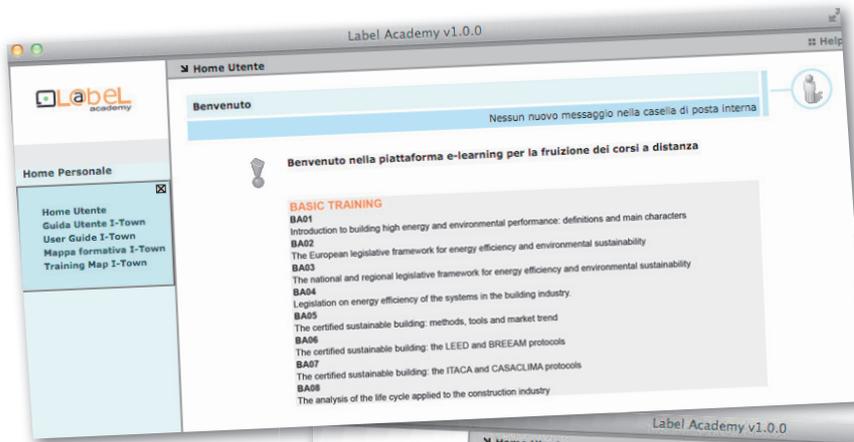**CIASCUN MODULO PREVEDE/EVERY MODULE PROVIDES**
Agenda
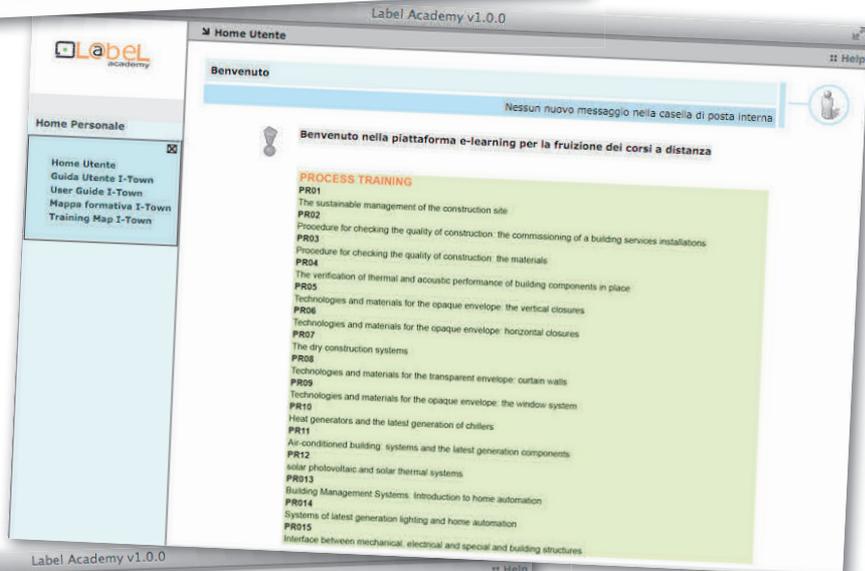**Slides delle lezioni/Lesson's slides**
Video lezioni/Video lessons
Materiali di supporto/Support materials:

- *Schede didattiche sui casi studio/Didactic sheets on case studies*
- *Materiale per esercitazioni in aula o workshop di cantiere/Material for classroom exercises or building site workshop*
- *Schede didattiche con sequenze applicative/Didactic sheets with application sequences*
- *Glossario/Glossary*

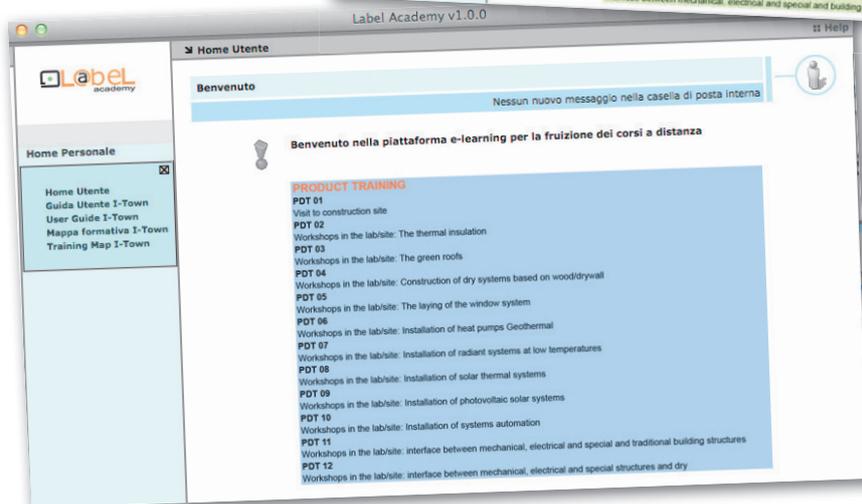- **Test di autovalutazione/Self-assessment test**

FORMAZIONE DI BASE
BASIC TRAINING

BASIC TRAINING
BA01
Introduction to building high energy and environmental performance: definitions and main characters
BA02
The European legislative framework for energy efficiency and environmental sustainability
BA03
The national and regional legislative framework for energy efficiency and environmental sustainability
BA04
Legislation on energy efficiency of the systems in the building industry
BA05
The certified sustainable building: methods, tools and market trend
BA06
The certified sustainable building: the LEED and BREEAM protocols
BA07
The certified sustainable building: the ITACA and CASACLIMA protocols
BA08
The analysis of the life cycle applied to the construction industry

FORMAZIONE DI PROCESSO
PROCESS TRAINING

PROCESS TRAINING
PR01
The sustainable management of the construction site
PR02
Procedure for checking the quality of construction: the commissioning of a building services installations
PR03
Procedure for checking the quality of construction: the materials
PR04
The verification of thermal and acoustic performance of building components in place
PR05
Technologies and materials for the opaque envelope: the vertical closures
PR06
Technologies and materials for the opaque envelope: horizontal closures
PR07
The dry construction systems
PR08
Technologies and materials for the transparent envelope: curtain walls
PR09
Technologies and materials for the opaque envelope: the window system
PR10
Heat generators and the latest generation of chillers
PR11
Air-conditioned building: systems and the latest generation components
PR12
solar photovoltaic and solar thermal systems
PR013
Building Management Systems: Introduction to home automation
PR014
Systems of latest generation lighting and home automation
PR015
Interface between mechanical, electrical and special and building structures

FORMAZIONE DI PRODOTTO
PRODUCT TRAINING

PRODUCT TRAINING
PDT 01
Visit to construction site
PDT 02
Workshops in the lab/site: The thermal insulation
PDT 03
Workshops in the lab/site: The green roofs
PDT 04
Workshops in the lab/site: Construction of dry systems based on wood/drywall
PDT 05
Workshops in the lab/site: The laying of the window system
PDT 06
Workshops in the lab/site: Installation of heat pumps Geothermal
PDT 07
Workshops in the lab/site: Installation of radiant systems at low temperatures
PDT 08
Workshops in the lab/site: Installation of solar thermal systems
PDT 09
Workshops in the lab/site: Installation of photovoltaic solar systems
PDT 10
Workshops in the lab/site: Installation of systems automation
PDT 11
Workshops in the lab/site: interface between mechanical, electrical and special and traditional building structures
PDT 12
Workshops in the lab/site: interface between mechanical, electrical and special structures and dry

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BUILD UP SKILLS
I town
ITALIAN TRAINING QUALIFICATION WORKFORCE IN BUILDING