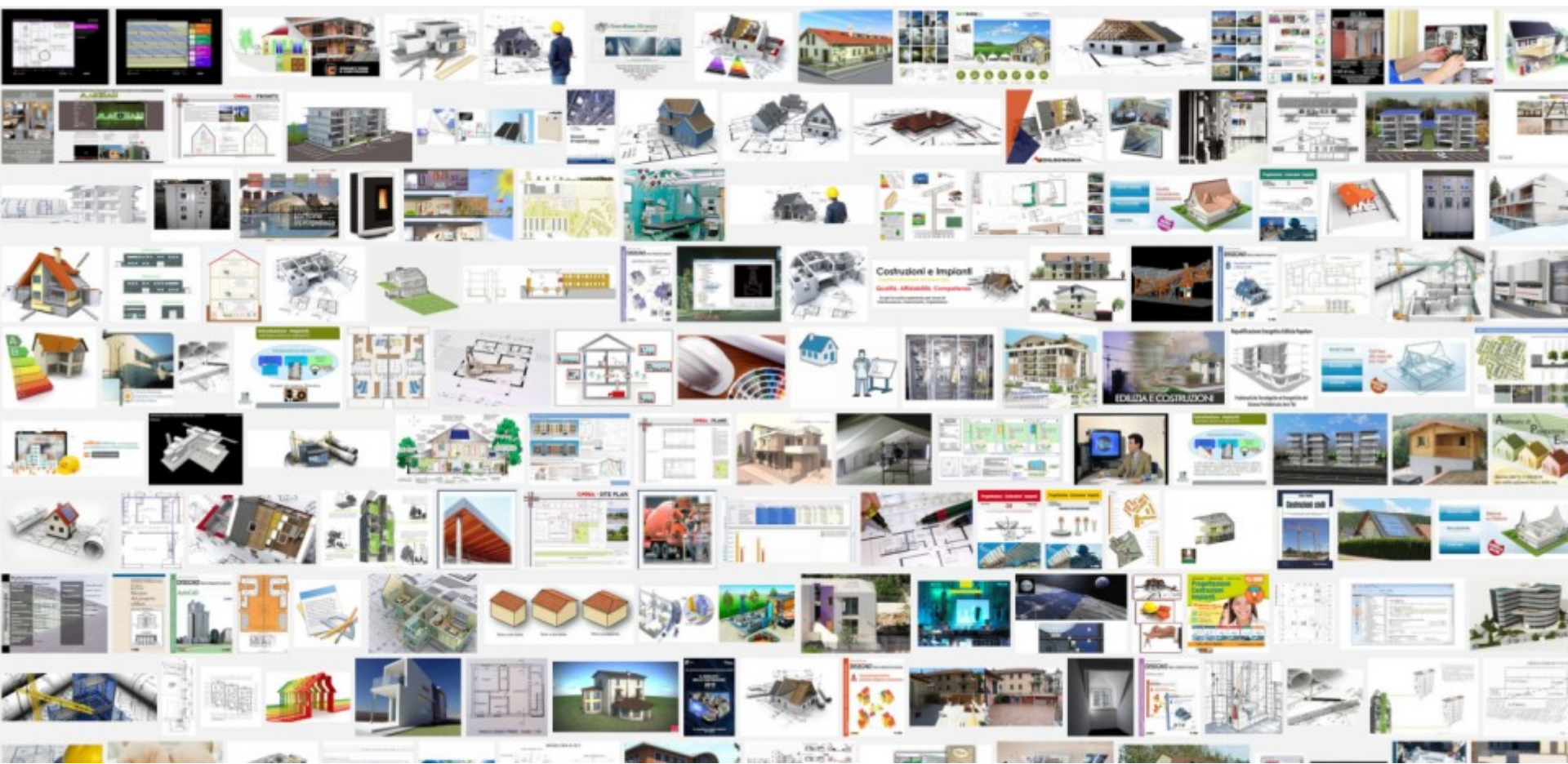


Construction Ecosystem South Tyrol

How to accelerate sustainable innovation

Hill's Place, London, Arch. Amanda Levete, Realizzazione Frener&Reifer,
Bressanone

Google Answer for «construction sector»



<http://datatellers.info/Projects/Tis/ClusterBau/Public/>

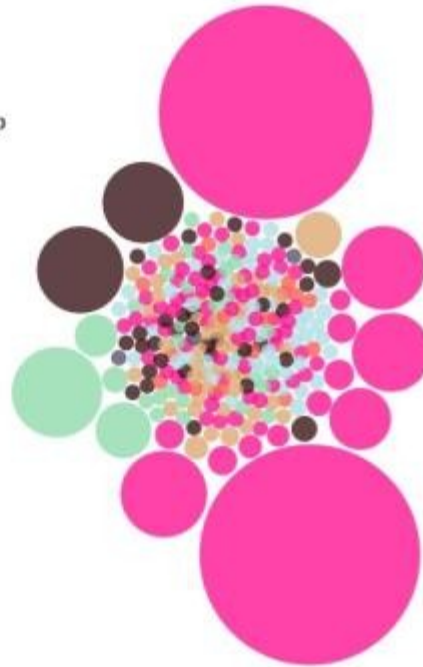
ANALISI DELLA FILIERA D'INNOVAZIONE

TOTALE

Anno 2014

Tot. dipendenti: 8.392

Tot. fatturato: 2.114.132.736 Euro

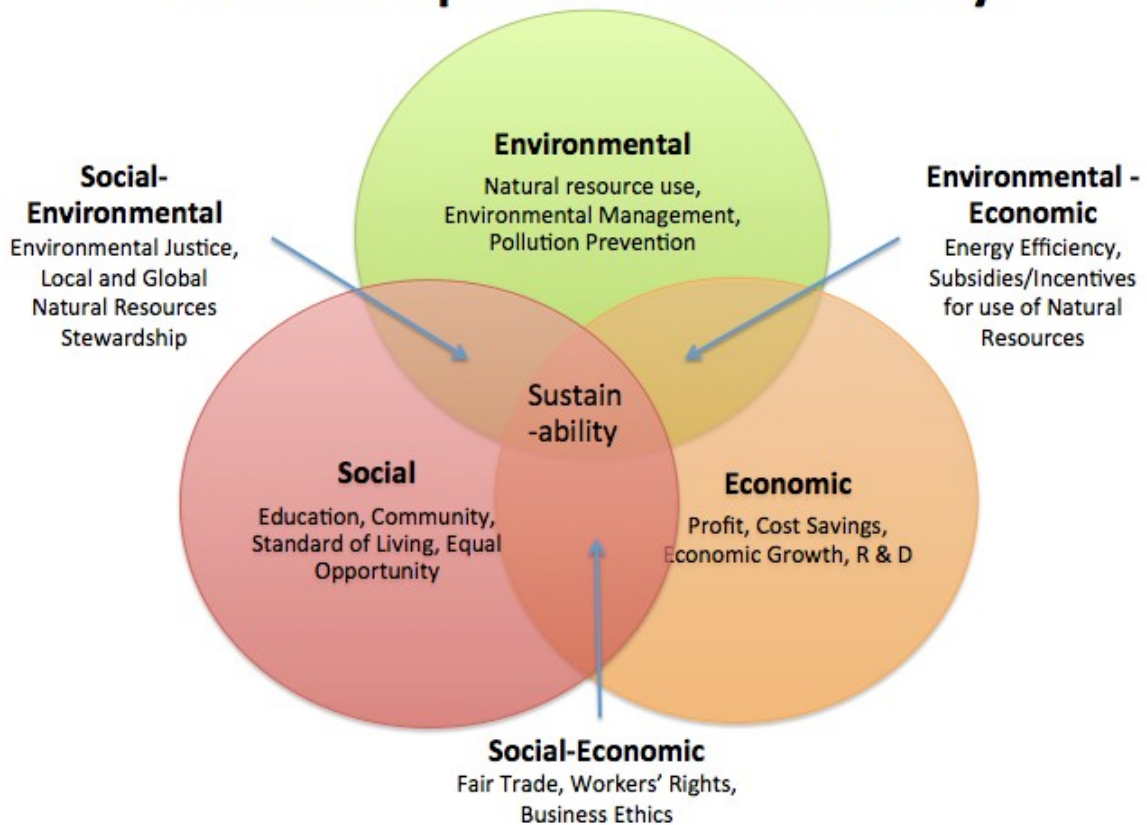


Copyright IDM

<http://datatellers.info/Projects/Tis/ClusterBau/Public/>

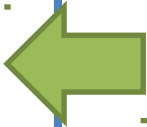
1. What is sustainable Innovation in the construction sector?
2. How can we promote sustainable innovation for SMEs?

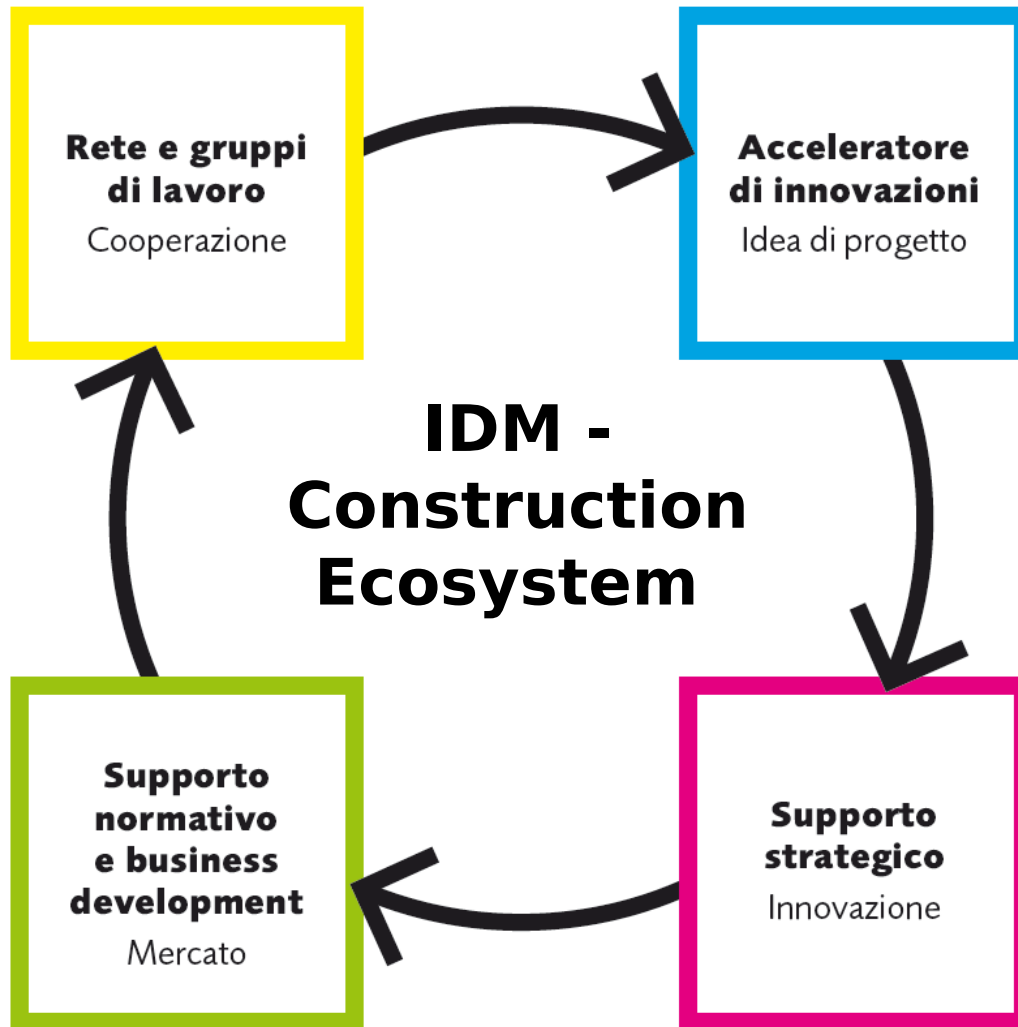
The Three Spheres of Sustainability



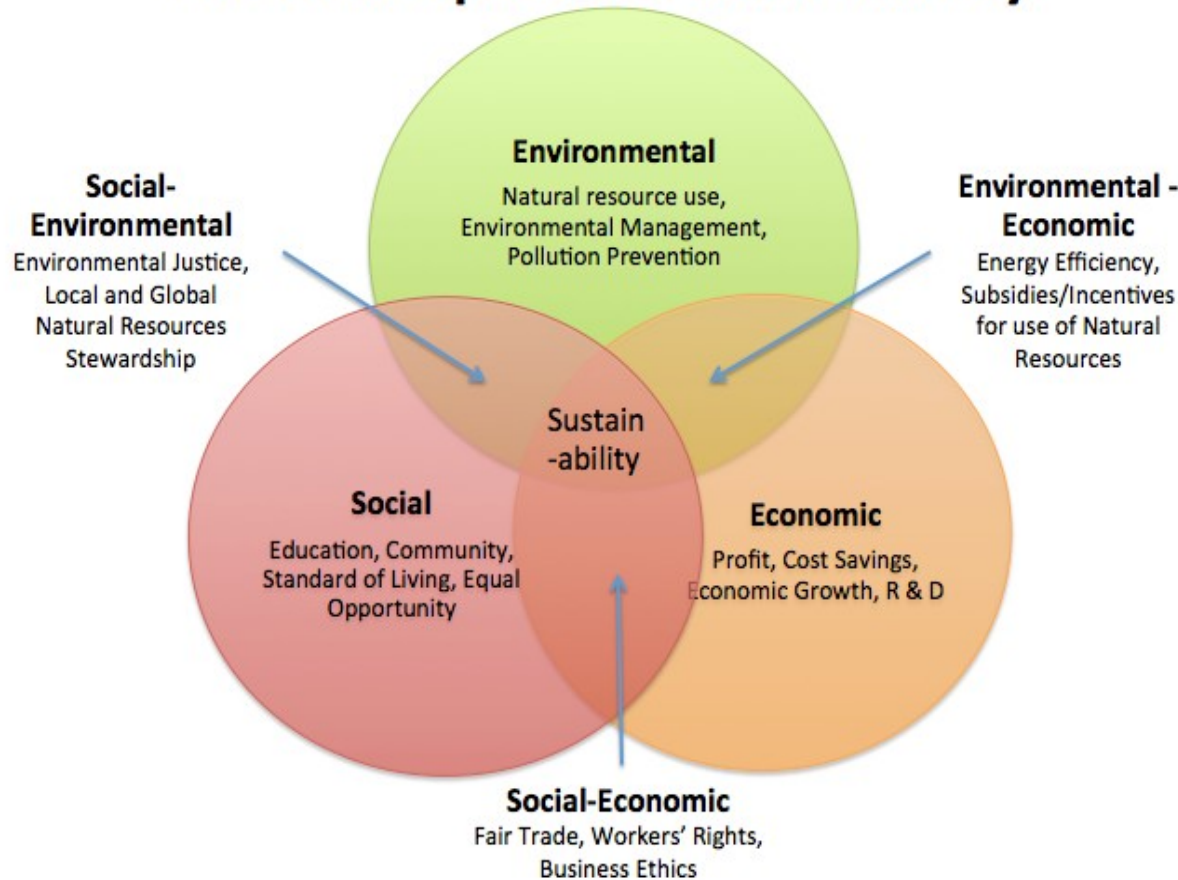
**2010/31/EU
EPBD / EPC**

**305/11/EC
7.
Requirement**





The Three Spheres of Sustainability



Facades & building envelope

Indoor environmental quality - Comfort

Fire safety technologies

Green roofs

Lean construction processes

Sustainability in public sector

Barrier free / Ambient assisted living

Concrete

Facility & District management



Struttura e attività

22 imprese/Istituzioni, PA

Output:

- Pubblicazioni informative
- Corso FACE
- Capitolato prestazionale delle facciate
- European Facade Network
- Interreg FACENET
- Format evento „Questioni di Facciata“

Struttura e attività

9 imprese/Istituzioni, PA

- T, UR, emissioni, illuminazione, acustica, ergonomia

Output:

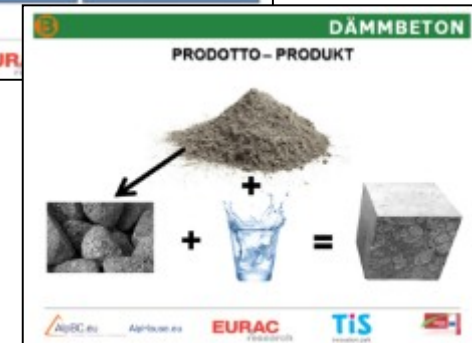
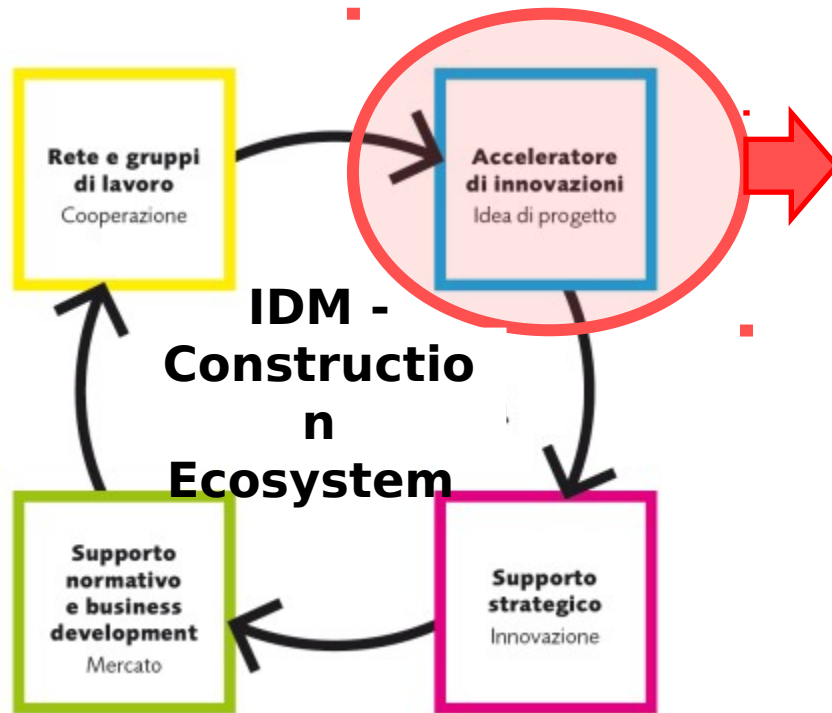
- Iniziativa RADON
- Formaldeide
- Linea guida „Comfort“
- Evento IEQ 21.10.15 TIS
- „ComfortTour Schools“
- 2 progetti R&S (imprese e istituzioni)

Struttura e attività:

4 Imprese locali + Comune di Bolzano

Output:

- elaborazione UNI 11235 coperture verdi
- Linee guida alla certificazione



How to overcome the «decision threshold» in SMEs to invest time&money in R&I projects?

Context:

- 90% of SME with < 5 Employees
- No fixed resources for innovation
- Reactive innovation (competitor-triggered), unefficient, stressful
- Limited cooperation experience with Research institutions
- Sectorial knowledge: very deep, but too focused
- Little time available for «business innovation»

Positive aspects to be exploited:

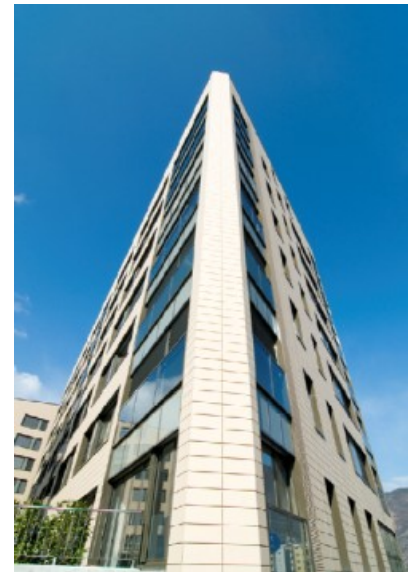
- Direct contacts with CEOs and decision makers, often also with good technical knowledge
- Agile decision processes
- No internal burocracy
- Products and services delivered are often Make-to-order / «project-specific» / tailored solutions
- High cooperation potential with supply chain

Developed in 2011 in «Enerbuild» Alpine Space project, in cooperation with EURAC, Insitute for Renewable energies.

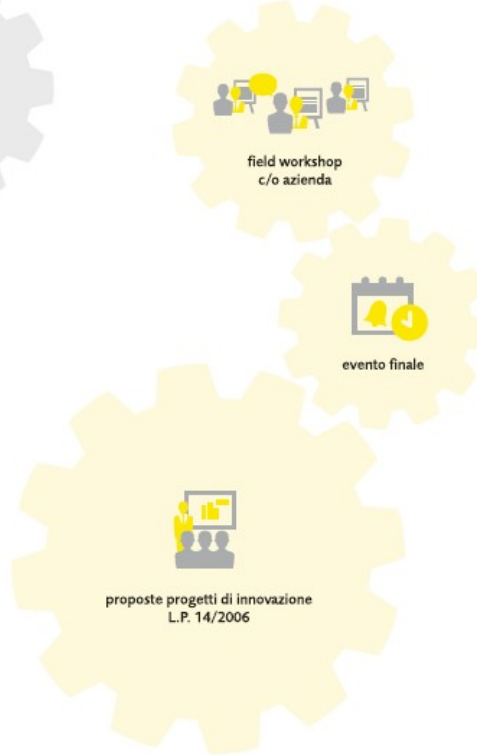
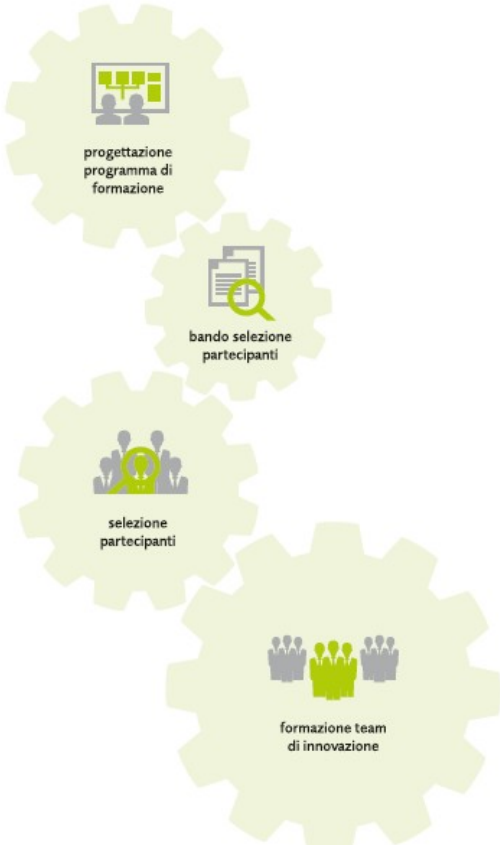
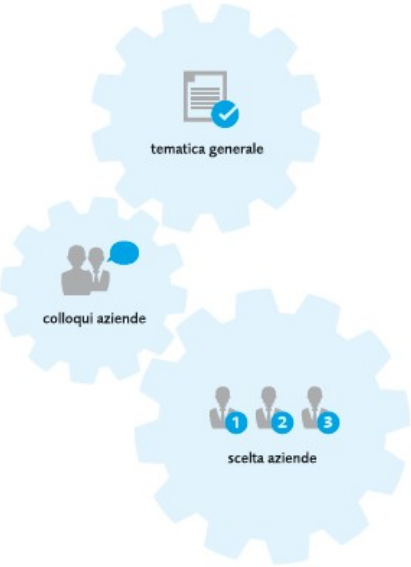


ENERBUILD

EURAC
research



- 6° edition (2016-2017) in planning phase.
- 19 local companies



Südtirol E.s.co. s.r.l. g.m.b.h.
energy service company

CASE STUDY: ESCo+ TOOL

Dati Generali Edificio

Dati generali

Scuola Chini

Indirizzo

Città

N° piani

Perimetro esterno

Superficie copertura

Superficie cantoniera

Superficie su vano non riscaldato

Superficie finestrata

Dati generali (da bollette)

	Anno 1	Anno 2	Anno 3
Consumo mc gas	31.706	52833	38733 mc/anno
Consumo elettrico annuale	90422	64396	85104 kWh/anno
Costo per riscaldamento annuale	29232,04	29232,04	29232,04€/anno
Costo elettrico annuale	5.487,54	14.387,44	34.218,89€/anno

Edificio as-is

Parte termica

Dati/Involucro	Value	Tipologia
Superficie coperture	1,01	Tetto piano in laterocemento
Superficie cantoniera	1,00	Rasamento in calcestruzzo su 1,00 terreno
Superficie su vano non riscaldato	0,00	
Superficie muri esterni	0,85	Mansarda a cassa vuota con mattoni (40 cm)
Superficie finestrata	2,80	Vetro doppio, telaio in metallo sereno

Dati impianti/riscaldamento

Caldaia standard, bruciatore atmosferico, camino

Tipo di caldaia

Rendimento medio stagionale

Potenza

>10 m, ambiente non climatizzato

0,8

200 kW

Ing. GIULIA DEGAN Ing. MONICA DEL BOLGIA Ing. CARLO DI MAURO

KARL PICHLER A.G. S.P.A.

EDELHÖLZER - LEGNAMI PREGIATI



BETON EISACK

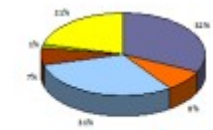
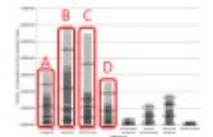
DÄMMBETON

PRODOTTO - PRODUKT

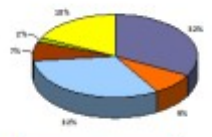
AlpBC.eu AlpHouse.eu EURAC research TIS innovation park

PROGRESS

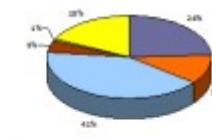
Bauen mit System • Costruire con sistema



FASE DI PRODUZIONE
OUTPUT : Emissioni piu' significative



B - CONSUMO DI RISORSE



D - ADEMPIMENTO

- Isolamento in polistirene
- Portland (sic)
- Portland (antico)
- Acciaio (ferro)
- Acciaio (traliccio)
- Dato

ROFIX[®]

Sistemi per costruire

TiS **Open Issues**



- The simultaneous improvement of mechanical and thermal properties is known to be difficult, because both properties are affected by the same material characteristics, such as density, but with concurrent behaviour.
- High-strength binders and high-insulating fillers must be developed to close the performance gap.
- Plastering systems must also satisfy requirements for historical building renovation, which currently do not admit OPC-based systems.

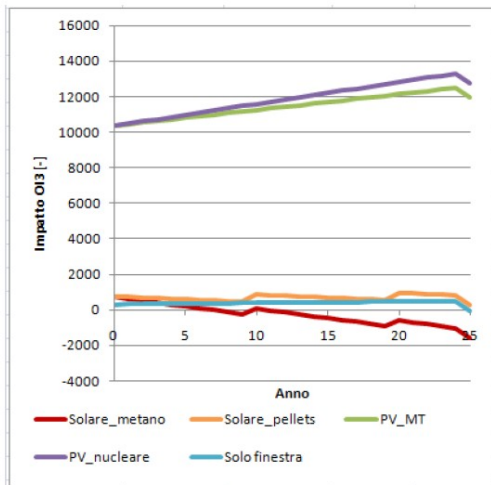
JOINT RESEARCH CENTRE
The European Commission's in-house science service

European Commission > JRC Science Hub

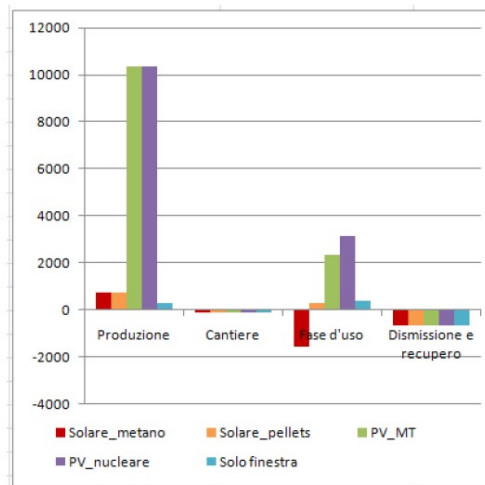
FASSADEN **FRENER
REIFER**

I-COVER IMPACT

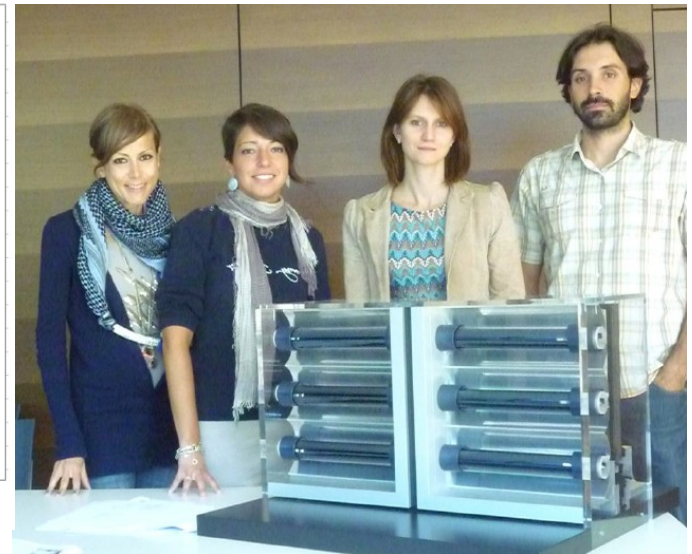
REIFER



Anno per anno



Fase per fase



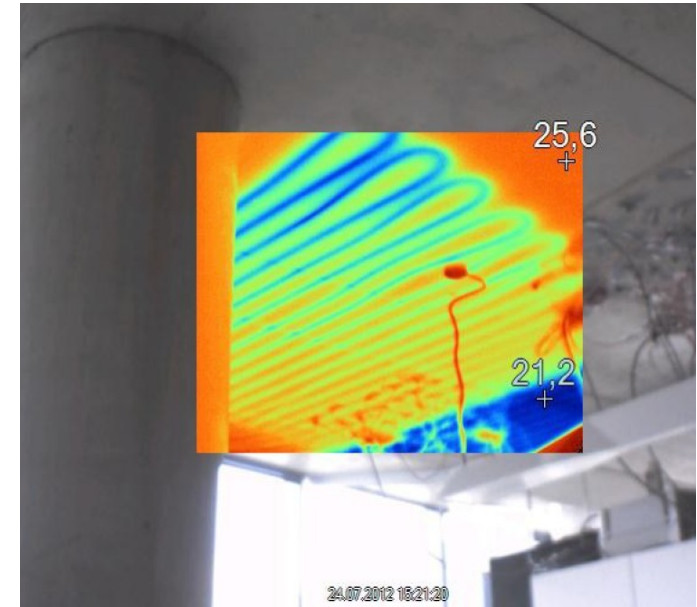
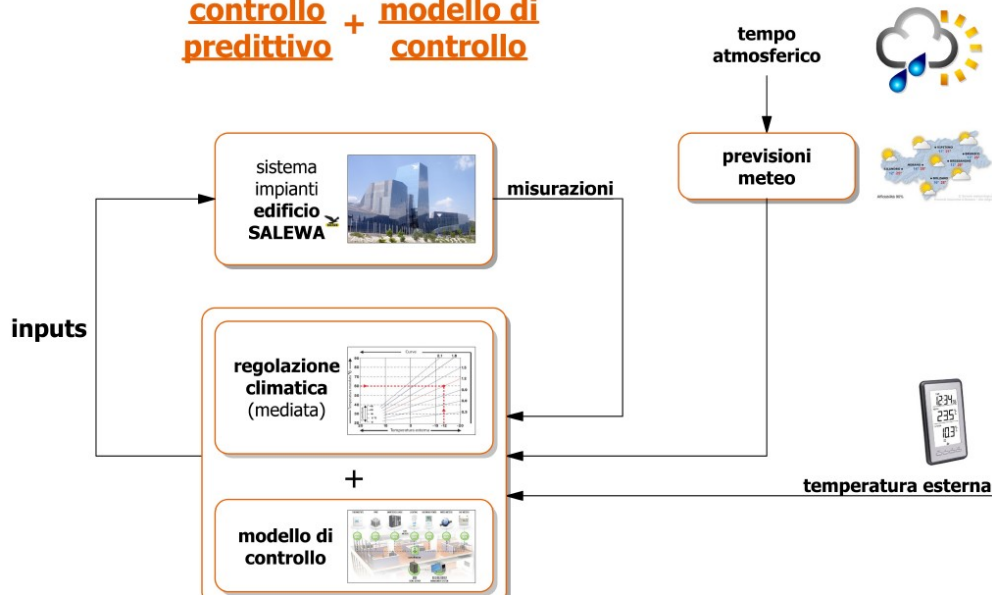


DEFINIZIONE DEGLI INTERVENTI DI
EFFICIENTAMENTO ENERGETICO



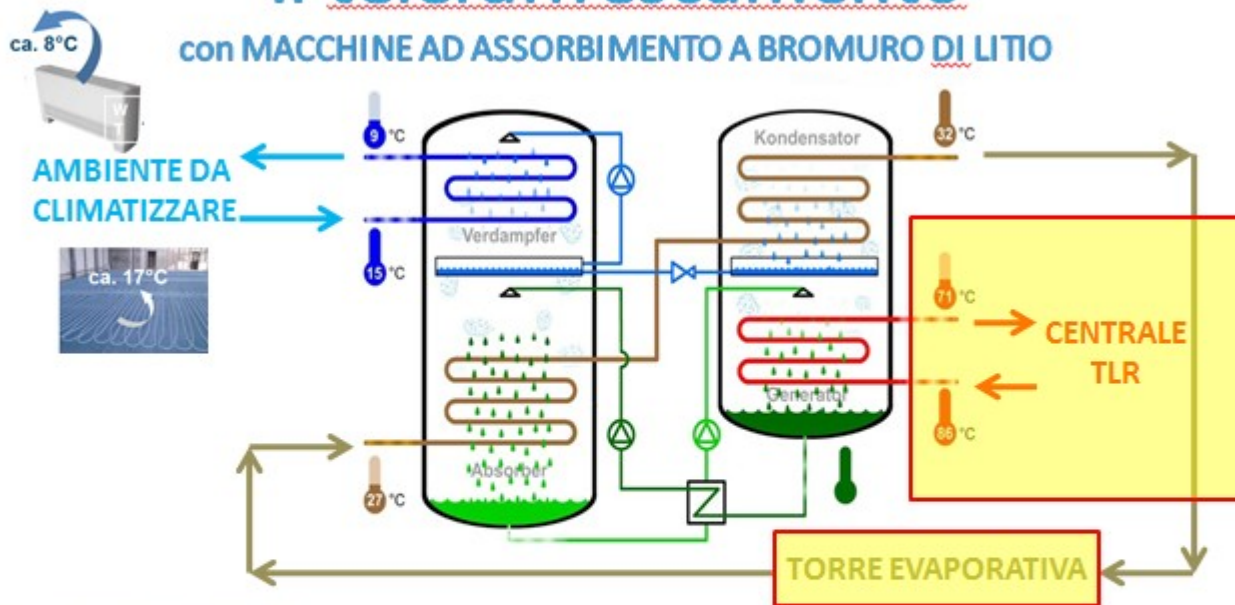
logica di controllo:

controllo + **modello di**
predittivo + **controllo**



Il teleraffrescamento

con MACCHINE AD ASSORBIMENTO A BROMURO DI LITIO

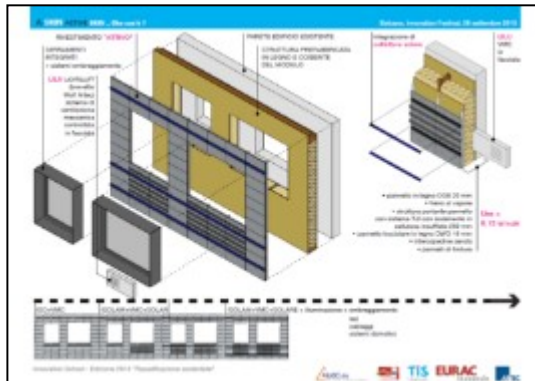


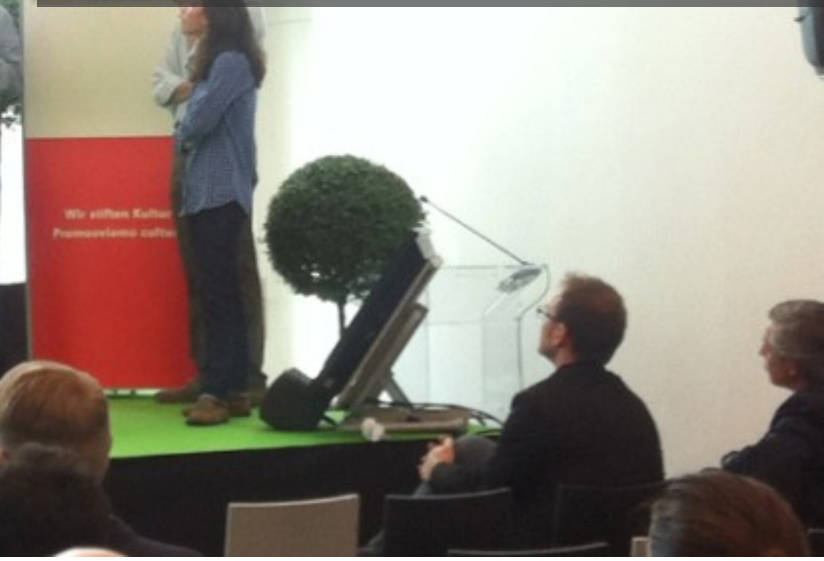
(Now
«ALPERIA»)



PROBLEMATICHE

1. "ingegneristica"
Temperatura di ritorno in centrale TLR
2. "architettonica"
Inserimento torri evaporative in contesto urbano





IDM - Ecosystem Construction
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0471 094 227