Objective

The globalisation trends in the building sector resulted in the adoption of inadequate design solutions, especially for warm weather regions, which replicated designs that are far from sustainable or energy-efficient. The obsession with glazed-unshaded buildings is the most visible aspect of this trend. These buildings perform badly even in central Europe, and yet we see an ever-growing number of glass tower buildings in Africa. The need to fight this cycle of inadequate building practices is clear,
especially considering a climate change scenario. In light of this challenge, it is urgent to investigate the best sustainable design and construction examples from warm regions worldwide. Design strategy involves bioclimatic approaches and other low-energy solutions for maintaining comfort levels in warmer climates. Some of these solutions already exist in Africa and only need to be disseminated and adapted to other regions. Inspiration might originate from nature, like the Saharan Silver ants, with enhanced optical reflection and radiative heat dissipation capabilities. This concept was recently successfully adapted as a building surface finishing layer. Combining these state-of-the-art approaches with the best bioclimatic solutions will be the hallmark of the ABC 21 project.

**Fields of science**

- natural sciences > chemical sciences > inorganic chemistry > transition metals
- engineering and technology, materials engineering
- natural sciences > earth and related environmental sciences > atmospheric sciences > climatology > climatic changes
- social sciences > sociology > globalization

**Keywords**

ABC 21

**Programme(s)**

H2020-EU.3.3. - SOCIETAL CHALLENGES - Secure, clean and efficient energy

H2020-EU.3.3.1. - Reducing energy consumption and carbon footprint by smart and sustainable use

**Topic(s)**

LC-SC3-EE-18-2019 - Bioclimatic approaches for improving energy performance in buildings in Africa and Europe

**Call for proposal**

Sub call

H2020-LC-SC3-EE-2019

Funding Scheme

CSA - Coordination and support action

Coordinator

POLITECNICO DI MILANO

Net EU contribution

€ 396 812,50

Address

Piazza leonardo da vinci 32
20133 Milano
Italy

Region
Nord-Ovest > Lombardia > Milano

Activity type
Higher or Secondary Education Establishments

Links

Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network

Other funding

€ 0,00

Participants (9)

Agence marocaine pour l’efficacite energetique
Morocco
Net EU contribution

€ 47,812.50

Address

Espace les patios 1er etage angle av anakhil et av ben barka hay riad
10100 Rabat

Activity type

Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 0,00

E7 ENERGIE MARKT ANALYSE GMBH

Austria

Net EU contribution

€ 160,937.50

Address

Walcherstrasse 11/43
1020 Wien

SME

Yes

Region

Ostösterreich > Wien > Wien

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 0,00
FCIENCIAS.ID - ASSOCIACAO PARA A INVESTIGACAO E DESENVOLVIMENTO DE CIENCIAS

Portugal

Net EU contribution
€ 54,627,50

Address
Campo grande, edificio c1, piso 3
1749 016 Lisbon

Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa

Activity type
Research Organisations

Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network

Other funding
€ 0,00

THIRD-PARTY

FACULDADE DE CIENCIAS DA UNIVERSIDADE DE LISBOA

Portugal

Net EU contribution
€ 63,577,50

Address
Campo grande c5 piso 3
1749-016 Lisboa

Region
Continente > Área Metropolitana de Lisboa > Área Metropolitana de Lisboa

Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network
MINISTERE DE L’ ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

Senegal

Net EU contribution

€ 84 750,00

Address

Rue des peres maristes
21948 Dakar

Activity type

Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 0,00

MINISTERE DE L’ AMENAGEMENT DU TERRITOIRE NATIONAL, DE L URBANISME, DE L HABITAT ET DE LA POLITIQUE DE LA VILLE

Morocco

Net EU contribution

€ 34 687,50

Address

Angle rue al joumaz et al jaouz, secteur n°16, hay ryad
10000 Rabat

Activity type

Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network
UNIVERSITE DE LA REUNION
France
Net EU contribution
€ 62 875,00
Address
Avenue rene cassin 15
97715 Saint denis de la reunion cedex 9
Region
Ile-de-France > Ile-de-France > Seine-Saint-Denis
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network
Other funding
€ 0,00

ECOLE AFRICAINE DES METIERS DE L'ARCHITECTURE ET DE L'URBANISME
Togo
Net EU contribution
€ 25 797,50
Address
422 rue des balises tokoin doumassesse
Lome
Activity type
Higher or Secondary Education Establishments
Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network
Other funding
€ 0,00
UNIVERSITE AL AKHAWAYN D'IFRANE

Morocco

Net EU contribution

€ 150 435,00

Address

Avenue hassan ii
53000 Ifrane

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

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European Union, 2024