



Italcementi Group

A world class local business

"Trasparent cement" for the Italian Pavillion in Shanghai

Italian Pavilion at Expo 2010 Shanghai China
featuring the new "transparent cement" expressly developed by Italcementi



Italcementi Group

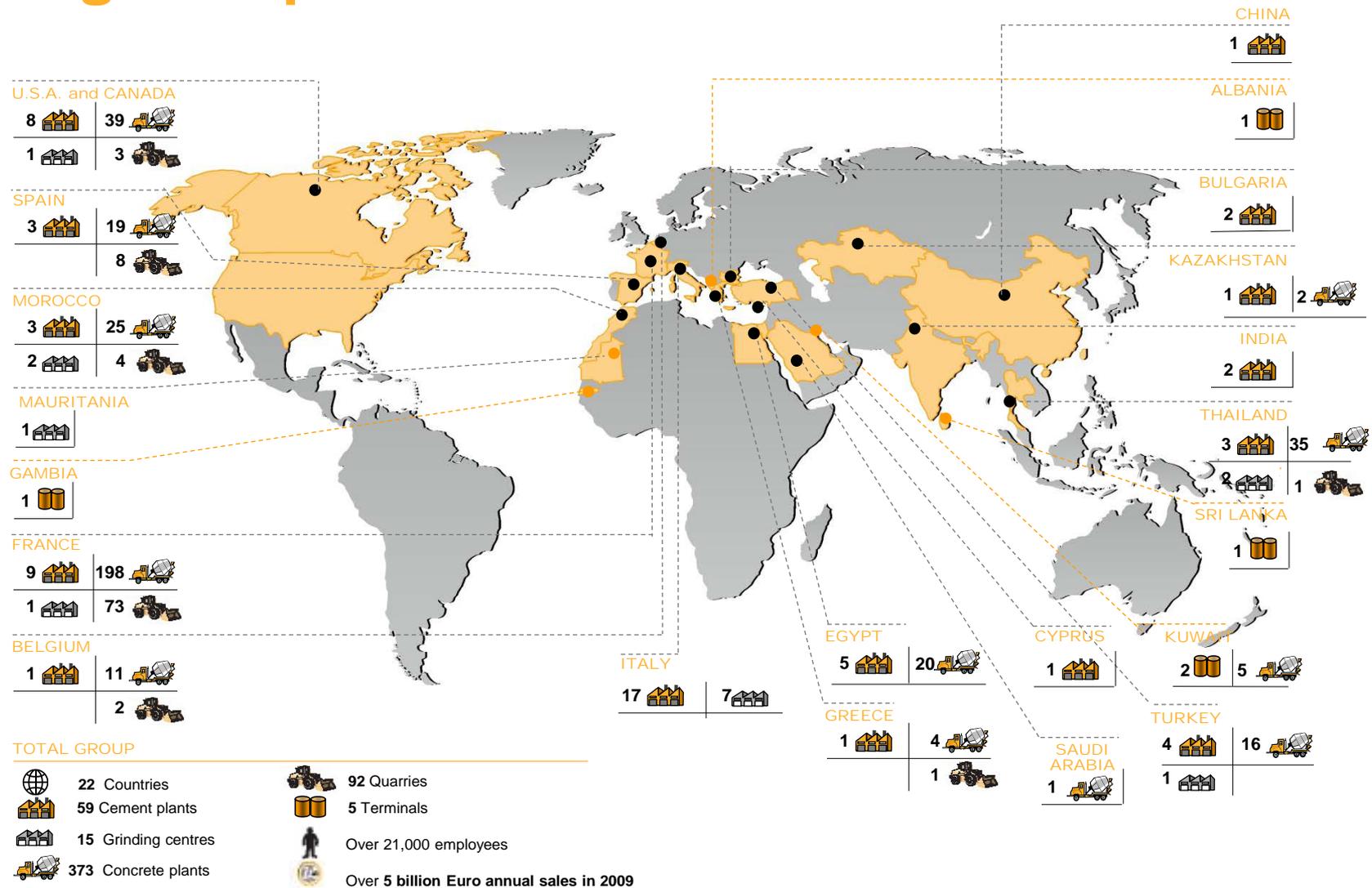
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Innovation: a mission in Italcementi's history

Giovanni Ferrario

Italian Pavilion at Expo 2010 Shanghai China
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A global presence



Italcementi Group in China

Italcementi Group entered the Chinese market through the acquisition of Fuli Cement in June 2007.

- ❑ located in Shaanxi Province, central China
- ❑ more than 400 employees
- ❑ a dry-process plant set up in June 2006
- ❑ strategically placed to serve central China, a region offering exciting mid-long-term growth prospects



The Group sustainable approach integrates with its innovative developments

Italcementi Group is aware of its social role and is committed to assure that all its employees and subsidiaries operate in a socially responsible way.

Sustainable Development represents the basis for the future of the Group since it embodies the right balance between economic growth, environmental protection and social responsibility.

Italcementi Group has been a member of the **World Business Council for Sustainable Development** and of the **Cement Sustainability Initiative** for 10 years and has recently signed a formal commitment to reduce energy. This is a clear example of how the research of innovative solutions to reduce consumptions is integrated with the will of reducing emissions.



World Business Council for
Sustainable Development

Innovation is one of our Values

Innovation *“We believe in the importance of innovation not only in the development of new products, applications and services, but also in our management approach. We must embrace change and be open to new ideas in order to attract the best talents.”*

i.nova represents Italcementi Group’s tangible and specific commitment to innovation. It means a guarantee of growth, global competitiveness, value creation and a contribution to a better quality of life for the countries in which the Group operates.

i.nova is the symbol, the flag around which Italcementi’s innovation community recognizes itself. It is the image of its “core identity”, its founding value, its vision and mission, its culture, its history, its experience.

i.nova is the flag under which Italcementi Group gathers the best talents, resources and multidisciplinary competencies. These are all “significant” elements of the numerous activities related to innovation with the aim of achieving excellence in the building sector and in the economic performance without forgetting the environmental protection and the improvement of the communities living conditions.



An organisation completely devoted to innovation

Italcementi Group's commitment to Research & Innovation has recently been confirmed with the establishment of the **Innovation Department** in January 2010.

Its main objective is to develop innovative products and applications with a higher added value, able to enhance the technological leadership, increasing competitive advantage and customer satisfaction, consistent with the Group strategic objectives, rules, principles and values.

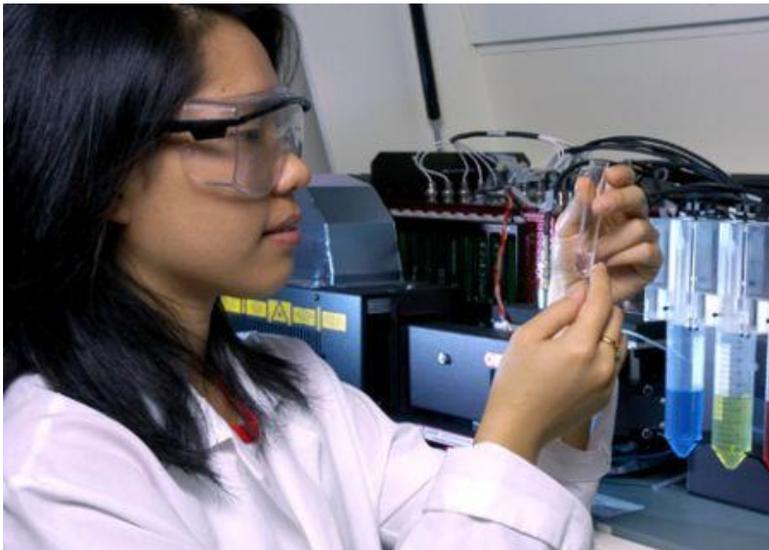
Italcementi Group's innovation is strongly market-oriented and aims to anticipate its trends and needs.



An organisation completely devoted to innovation

At the **international level** the Innovation Department works and cooperates with all the Group subsidiaries through specific Research & Development and marketing projects in order to speed up the deployment of innovative solutions.

The leading theme of our Innovation strategy is the Sustainable Development. In fact today our research group is very focused on innovative products and processes, with a strong commitment to reduce CO₂ emissions, to lower energy consumption and natural resources, to better manage water resources.



The Shanghai challenge: innovation and know-how

Italcementi Group picked up the gauntlet of the Commissioner General of Italy for Shanghai World Expo 2010 and of the designer to make the walls of the Italian Pavilion “transparent”, thus becoming the official supplier.

In particular, Italcementi built over 3,774 panels made of “**transparent cement**” that cover 40% of the total building surface.

The need to identify, in the shortest possible time, an innovative and cost-effective solution to make the Italian Pavilion’s walls transparent came out right after meeting the architect.

Italcementi Group exclusively developed this product that represents the result of winning field-research experience. Italcementi Group is successful in bringing the innovation to a sector, such as the building materials industry, that is only apparently “traditional”.



Innovation is more and more at the core of Italcementi Group’s mission.



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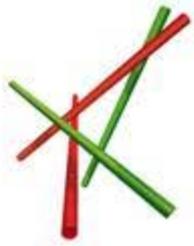
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"Trasparent cement" for the Italian Pavillion in Shanghai

Beniamino Quintieri

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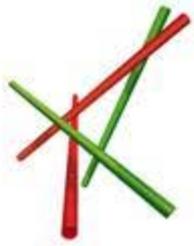


ITALIA
expo shanghai 2010
上海世博会意大利馆

Expo di Shanghai 2010
1° maggio - 31 ottobre

**70 milioni di visitatori, con una
media giornaliera di 600 mila
persone**

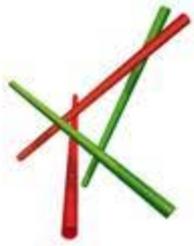
Parco espositivo oltre 5 kmq



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L'Italia si presenta con le sue eccellenze





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Work in progress....





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Giampaolo Imbrighi

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The transparent cement by Italcementi

Enrico Borgarello

i.light - the “transparent cement”

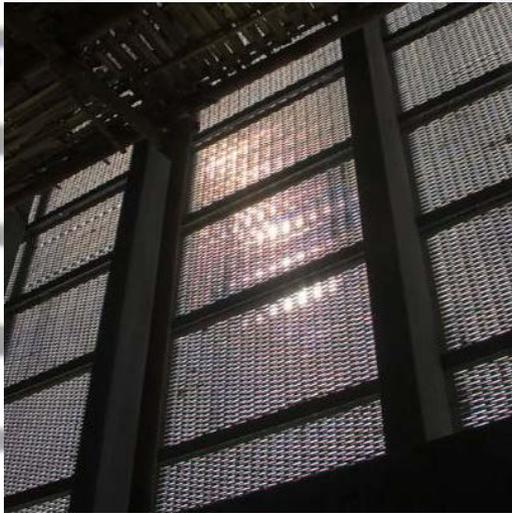
The new material has been developed by Italcementi Group. The **excellent flow properties of the mix** allow bonding a plastic resin matrix into a final panel that combines the typical robustness of cementitious materials and the possibility of filtering light.



i.light® is the official name of the “transparent cement” used to build the Pavilion with cement walls that are able to filter the light.

This “**transparent cement**” is particularly suitable for the **industrial production** and offers a great luminosity.

More transparency and flexibility



More transparency

The ability to “capture” light is greater, since this material contains a wider visual angle than optical fibers

More flexibility in design

The material made by special resins may have different colours and decorative design

More resistance

The strength properties of “transparent cement” are very performing: it is in fact possible to produce also very large precast panels

Lower cost

The “transparent cement” is much cheaper than other transparent cements and costs reach one size order less.



The panels made for the Shanghai Expo



The panels used in Shanghai **measure 500x1000x50 mm** and degree of transparency equals 20% of their surface area.

Compared with static performance, based on tests carried out in the laboratory, a three-point flexural test showed that the panels can bear an elastic load of around 2 kN; maximum failure load as measured from tests was around 8 kN.

Each panel weighs **about 25 kg**.

The winning team



Teamwork is the success of Italcementi's innovation, made possible by the synergy between the know-how of the experienced researchers and the enthusiasm of young ones. This working method characterizes the daily commitment of more than 170 researchers from CTG – the Group Technical Centre.

CTG: the Group Technical Centre

Italcementi Group's commitment to research and innovation is of strategic importance as a guarantee of growth, global competitiveness and a contribution to a better quality of life for the community in general.

Thanks to its extensive industrial experience, Italcementi Group has consolidated an outstanding scientific and technological know-how.

This wealth of skills and expertise has merged into CTG, the Group Technical Centre, one of the most important European research centres on cementitious materials.

At the heart of Italcementi Group's innovation are the laboratories based in Bergamo and Paris where the daily work of about 170 researchers, including chemists, geologists and engineers.

Italcementi Group's new research centre, known as **ITCLab** - Innovation and Technology Central Laboratory, is rising near Bergamo.

CTG main activities

- ❑ Research and development of materials, products and processes
- ❑ Designing and building industrial plants and machinery
- ❑ Modernization and optimization of production processes
- ❑ Checking technical and economic performance for plants
- ❑ Specialist technical assistance

Since 1994, the Group has filed more than 60 patents

ITCLab is at the heart of the Group innovation

ITCLab – Innovation and Technology Center Laboratory – stands in the KilometroRosso area with a surface area of 11,000 m², 7,000 of which are exclusively dedicated to its research laboratories. The building, designed by **Richard Meier**, has been conceived to respect the LEED - Leadership in Energy and Environmental Design – standards, the most recognized and rigorous American certification system in the field of energy and the environment that will be attained also thanks to the use of **TX Active®**.

ITCLab's innovations

- ❑ photovoltaic panels for a total saving of 52 metric tons of fossil fuels
- ❑ solar panels to reduce traditional energy consumption and CO₂ emission
- ❑ geothermal wells for floor heating and cooling
- ❑ White concrete brise-soleil to reduce the building's solar heat gain



TX Active®: the “smog-eating” cement

The production and marketing of photocatalytic products containing **TX Active®** is the main concrete result after ten years of research and experimentation aimed at innovation.

TX Active® is a photocatalytic principle for cement products which can:

- ❑ reduce organic and inorganic pollutants that are present in the air. Its effectiveness has been thoroughly tested and thus certified by important independent research centres
- ❑ keep the surface of buildings clean and bright

Italcementi was the first industrial group to patent photocatalytic cementitious materials and to offer an industrialized solution to the problem of pollution in cities.

The **TX Active®** brand is global: in addition to being commercialized in Italy, France, Belgium, Spain and the United States it is also present in 12 more countries thanks to an agreement with Heidelberg Cement.





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Italcementi's innovation as a connection between past and future

Giovanni Ferrario

Padiglione Italia - Expo 2010 di Shanghai - Cina, realizzato con
il nuovo "cemento trasparente" frutto della ricerca Italcementi

A connection between Rome, Shanghai and Milan

Italcementi Group's innovation path began with the launch of TX Active[®], the “smog-eating” cement patented by the Group especially for the Dives in Misericordia Church in Rome. The Group experience and know-how have made it possible today to represent, together with the Commissionership, the *made in Italy* in China with an innovative product.



Moreover TX Active[®] will be in Shanghai as it has been selected among Italy's technological excellences to be included in the exposition called “Italy of the innovators”.

Towards the challenge of 2015

Italcementi Group is ready to face the Expo 2015 in Milan putting at the designers and building community's disposal its innovative expertise based on:

- ❑ 2 research centres in Bergamo and Guerville;
- ❑ about 170 researchers including chemists, geologists and engineers;
- ❑ over 60 patents in the last decade;
- ❑ a network of international scientific cooperation consisting of research centres, universities and companies of the building and building materials community;
- ❑ a network of 10 external centres, 30 companies and 26 Italian, European and non-European universities.

Italcementi is ready to face the challenge of 2015



Innovation is the driver of the strategic plan

Innovation is one of the main assets included in the Italcementi 2010-2014 strategic plan. The Group will be mainly focused on the development of its industrial network through the adoption of the best available technologies to guarantee both the environmental protection and competitive advantages.

ITALY

Calusco (2003)

Matera (2010)

Rezzato, Monselice
and Porto Empedocle
(in permitting phase)

BULGARIA Devnya (2011/12)

CHINA Fuping
(2013)

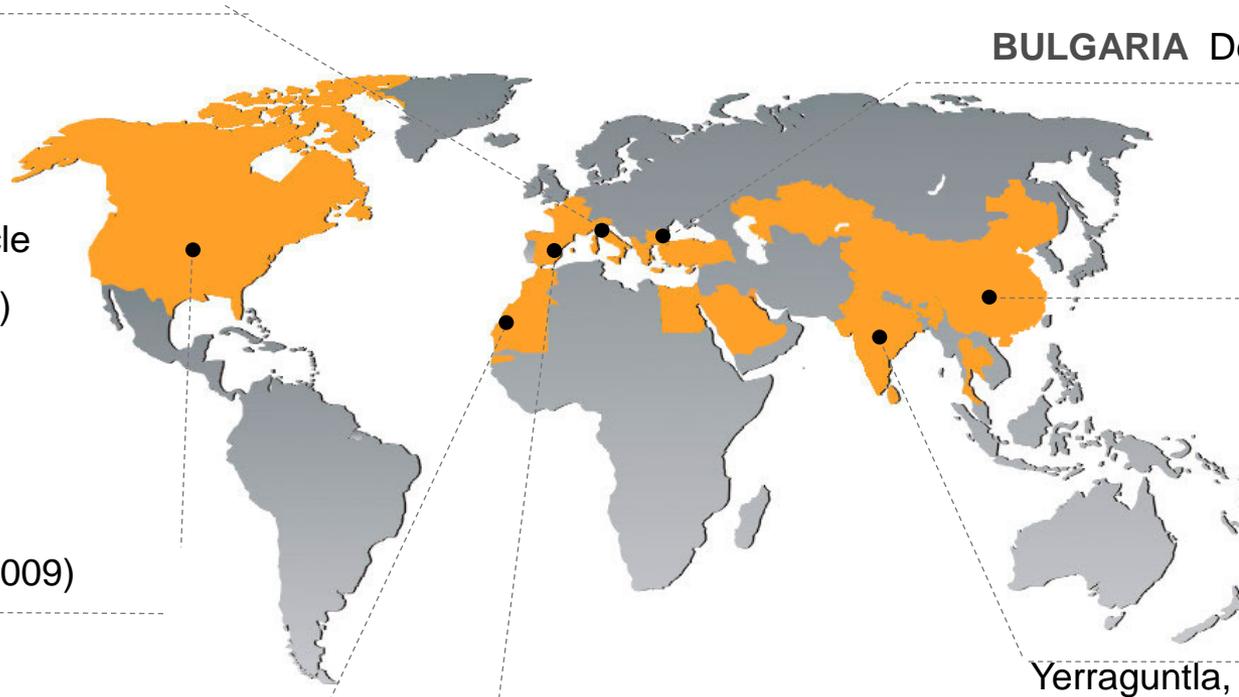
USA Martinsburg (2009)

INDIA

Yerraguntla, Chennai, (2010)

MOROCCO Ait Baha (2009/10)

SPAIN Malaga (2007)





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