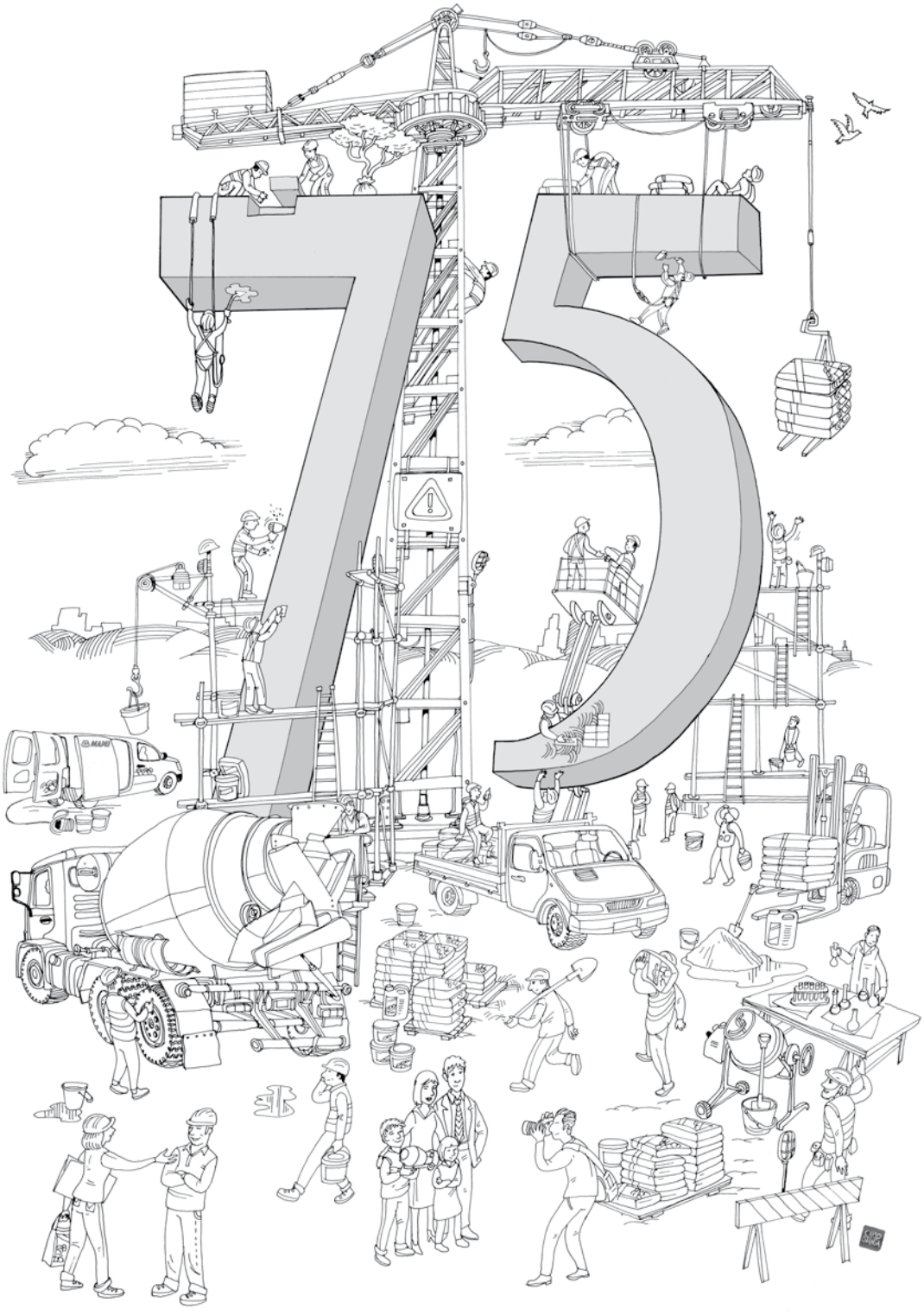
INTERNATIONAL

Realtà MAPEI

ISSUE 38



Year XIII - N. 38 - February 2012

EDITORIAL

A special issue for special people

Adriana Spazzoli
Realtà Mapei International
Editor-in-chief

This is a very special issue of *Realtà Mapei International.* First and foremost it aims to take a snapshot of the Company as it stands today and highlight - alongside all the various operations it is lately involved in - the guidelines inspiring how it performs its main corporate functions: from Research & Development and Human Resources to Production and Technical Service, without forgetting its Operational Marketing activities, passion for Sport and commitment to backing Culture.

The issues of environmental sustainability and the general framework of the building industry in Italy and rest of the world are - together with a thick supplement devoted to its most prestigious partners over the last year - the bearing columns of this issue.

In the wake of the brand-new corporate brochure presented to the general public during Mapei's 75th anniversary celebrations, this issue of *Realtà Mapei International* (as well as its Italian counterpart, *Realtà Mapei*) also intends to leave its mark. It aims to highlight the changes underway and, at the same time, underline how Mapei's original spirit is still very much the driving force behind the Company.

Mapei is remaining true to certain solid and authentic principles. At the same time, the ability to take on change is something the Company is renowned for and constitutes that something extra that enables it to keep on growing. This is the spirit in which we have decided to give the Italian and international versions of our magazine a real makeover in this issue. Starting with its title graphics and format size: slightly smaller and more compact, just like all the most widely read international magazines of the moment.

The internal page layout has also been notably updated, focusing more on highly spectacular building site photographs along with a carefully thought out arrangement of written material designed to making reading easier. Alongside certain familiar features, such as the columns that have always characterised the magazine, the pages of *Realtà Mapei International* really aim to focus on photographs and illustrations, accompanied by captions and quotes placed inside and alongside the pictures to provide vital information and references.

While keeping faith with its original concept, the new *Realtà Mapei* sets out to provide readers with an indispensable means of finding their way around the multifaceted world of building as seen from the privileged watchtower of the leading company in its sector.

This is not just what is nowadays referred to as restyling or updating based solely around new graphics.

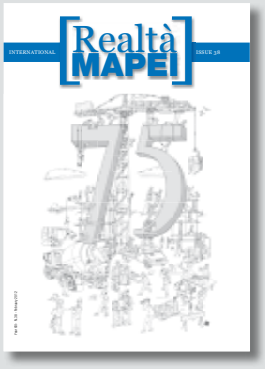
Like all means of communication that "travel on paper", *Realtà Mapei* also knows that real-time operating on the web has inevitably altered how information works. Nevertheless, without opting for a kind of sterile hybrid mix of various means of communication, *Realtà Mapei* has set itself the target of continuing to provide concrete information and know-how to everybody operating on all levels of the building industry. But that is not all. This editorial project is also tied by a twin thread to the latest advertising and communication image characterising the Company, baptised during the 75th anniversary celebrations of its original founding. The style of the new Mapei advertising campaign invites us to identify with and imagine ourselves as an integral part of the "project" and politely suggests we consider how important the building world is in everybody's lives, just as the quality of the built environment lies at the very foundations of the quality of the lives of the individual, family and community. All this without forgetting the fundamental issue of eco-sustainability and more spontaneous and friendly interaction between people and nature.

The hope is that we will manage to hit all these targets. A "mission" that probably is "impossible" for many, but not for us, accustomed as we are to being read and exhorted to keep on doing better by our demanding but very, very special readers.

Enjoy reading this new issue and... looking at it!

SUMMARY

MAPEI 75 YEARS OF EXCELLENCE 1937•2012



COVER STORY:
This issue's front cover features an illustration specially devised by the Italian illustrator Carlo Stanga for the Mapei's 75th anniversary.

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Responsible Care

"Responsible Care" is the world chemical industry's voluntary program based on implementing principles and lines of action concerning staff health and environmental protection.

75 YEARS OF MAPEI

1937 - 2012: Mapei celebrates its 75th anniversary. Amongst all the birthdays, anniversaries and important dates which have made a mark on my life, this one is, without a doubt, one of the most significant. It is a special moment and offers me the chance to reflect; not only on my own personal and professional life and look back along the road that has led me here, but all above to consider it as a stimulus to look ahead with faith and to map out the future. That's how it has always been for me and how it has always been for Mapei, founded on the 12th of February at the gates of Milan from an intuition of my father, Rodolfo. From being just a small family concern, it has gone through phases of constant growth which have led it to become the multinational company it is today, operating all over the world and in which, for quite some time, the third generation of our family is now working. Today, Mapei is a world-leading company in the production of adhesives and chemical products for the building industry, with a consolidated presence in the five continents. It is a success story which makes me feel particularly proud, and which deserves to be shared, as one often does on such festive occasions, with all those who, over the years, have had the chance to know and work with Mapei. They are the numerous clients, employees, suppliers, collaborators and friends who, over the years, have in some way become a part of the world of Mapei and who have chosen to work and grow with us. And it is thanks to their contribution that, in spite of the widespread crisis in a number of industrial sectors, and its global impact on an increasingly large percentage of the world's population, Mapei is holding firm and the growth of the Company continues. It is undeniable that one of the keys to our success has been our capacity to acquire quotas of the market on a global scale, but this has only been possible because, right from the very start, Mapei has always followed a precise, corporate philosophy: specialisation in the building world, internationalisation with special attention for local market requirements, research and development into increasingly technologically-advanced products, tailor-made service and support for our clients, teamwork, sustainable development of all our activities, concern for the health and safety of all those who use our products and the care taken by our Human Resources department. A continuous growth also in terms of global revenue and new employees, consistent with the original spirit of the Company based on creativity, competence, passion and flexibility. But the real elixir of life for Mapei is the continuous process of innovation. Confirmation comes from the latest figures, and further proof is the increase in new, highly-evolved products capable of satisfying all the requirements of experts from the building industry all over the world. Innovation does not advance by history-making leaps and bounds. It is, rather, a continuous evolution, the fruit of hard work, as we do each and every day here in Mapei, which every year launches around 200 new formulas on the market which surpass existing products. And one of the areas Mapei excels in, thanks to the effort and resources invested in Research & Development, is eco-sustainability, with Mapei leading the way since the 1970s in the development of products with full respect for the environment and mankind. To set an example in the environmental field pays off, and the story of our Company demonstrates how, with such exemplary behaviour, enormous commercial advantages are also possible. The celebration for the anniversary of our Company, therefore, does not intend to be a self-satisfying look at the past, but rather a stimulus to ensure that Mapei's progress continues. And the winning recipe to look to the future with faith is one and one only: work hard at all levels to be the best and to offer the most satisfying products that the building market could possibly ask for. Obviously with the help of innovation and research, but also a consolidated corporate spirit which supports the complex yet well-organised Mapei company structure all over the world. Fully aware that, as Seneca once said, "he who has mastered the present is less dependent on the future".

C.E.O. of the Mapei Group

Giorgio Squinzi

THE TEN PILLARS OF OUR SUCCESS

1 ALWAYS BE ONE STEP AHEAD

Anticipate designers' requests, meet our client's request and interpret the needs of building companies and professionals on site.

2 BE THE BEST SUPPLIER

We aim to become a partner, and we are fully committed to offering our clients solutions with a high added value.

3 BUILD A RELATIONSHIP AS A PARTNERSHIP

with strategic suppliers. Our commitment is that, for our strategic suppliers, meeting our requirements becomes an opportunity to design new products and solutions together, and that they also meet the new requirements of the market.

4 MANTAIN A SOLID FINANCIAL BASE

which allows us to invest in the human resources, the structures, technology and solutions of the future.

5 NEVER STOP INNOVATING

Every year, we strategically and with transparency invest more than 5% of our global revenue in Research & Development.

6 CONTINUALLY IMPROVE PRODUCT AND SERVICE QUALITY

Our products and services comply with the most stringent International quality standards and are made according to the most efficient and severe management systems in compliance with ISO 9001 standard.

7 CREATED A COMMITTED WINNING TEAM

Our most precious resource is the value of our team: we work as a team with passion and we never stop training, allowing us to grow professionally.

8 BE AHEAD IN ENVIRONMENTAL SUSTAINABILITY

We place a great deal of importance on the environmental sustainability of our products, the ecological nature of our processes and safety for users of our products, our clients, our employees and the entire community.

9 BE DETERMINED IN THE PURSUIT OF EXCELLENCE

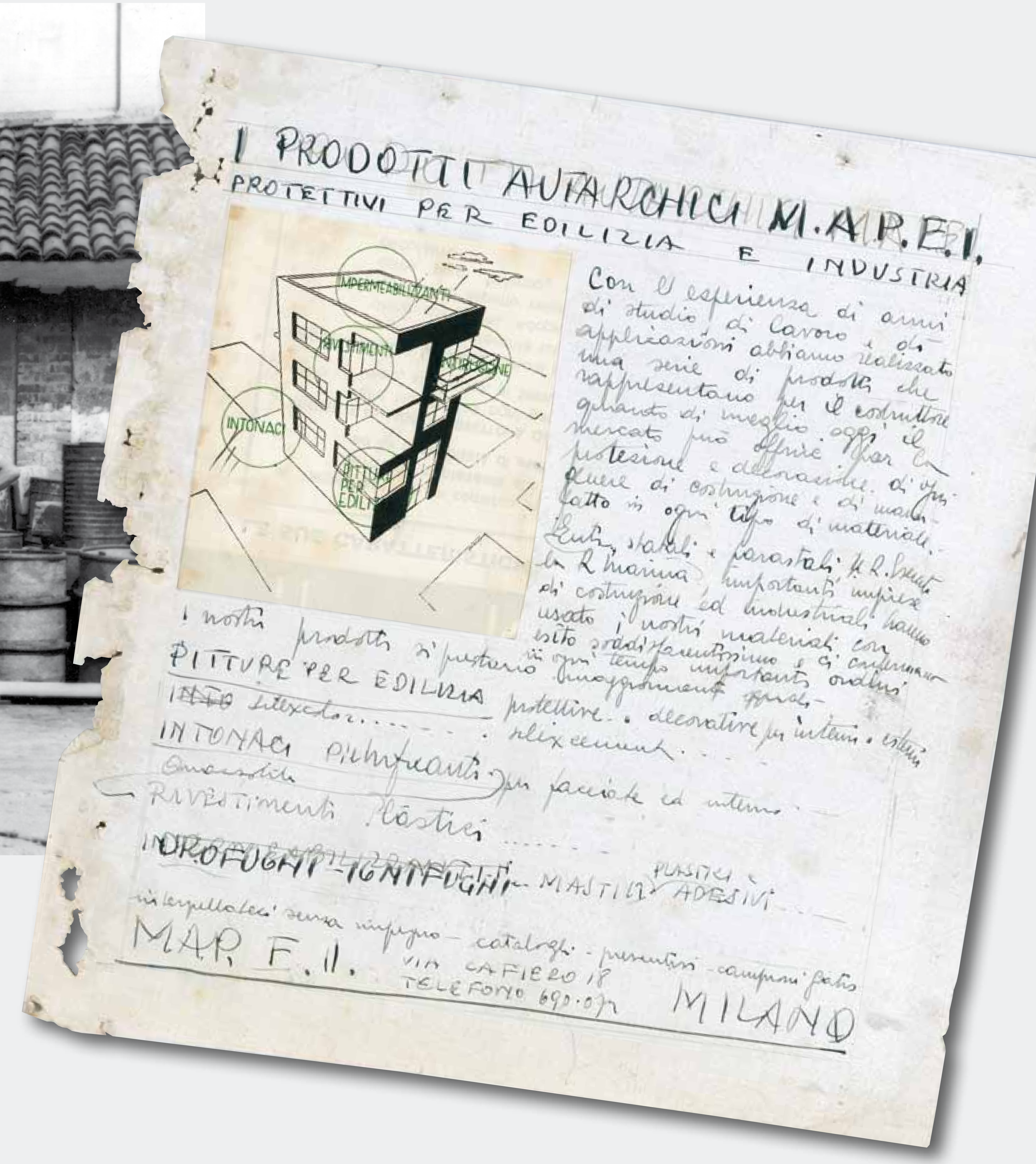
We are committed to achieving ambitious objectives to reach a position of leadership in targeted markets, working according to management systems in compliance with the requirements of ethic and social responsibility of the Company.

10 ALWAYS COMMUNICATE THE FACTS

High profile, transparent communication allows us to involve the general public and to share with them our ideals.

Mapei started operating in 1937 with just 7 employees, apart from the founder Rodolfo Squinzi, second right in the group photo and below, in the photo on the right.

The first Mapei logo (in the next page), designed by Bruno Polver, was used in Rodolfo Squinzi's official written presentation in 1937 when the Company was first registered. Italy has grown since then and has been completely transformed, and Mapei products and technology has helped in the execution of large building projects and the restoration of numerous important buildings of Italy's artistic and cultural heritage. But while the story of Mapei has a bond with that of the country in which it was founded, it is also the story of a Company which is ready to meet the challenges of this millennium. To tell the story of the past, therefore, assumes even more importance, because it helps us understand the present and design the future.


I PRODOTTI AUTARCHICI M.A.P.E.I.

PROTETTIVI PER EDILIZIA E INDUSTRIA

Con l'esperienza di anni di studio di lavoro e di applicazioni abbiamo realizzato una serie di prodotti che rappresentano per il costruttore quanto di meglio oggi il mercato può offrire per la protezione e decorazione di opere di costruzione e di manufatto in ogni tipo di materiali. Enti statali e parastatali, la R. Marina, R.R. Genio, importanti imprese di costruzione ed industriali hanno usato i nostri materiali con esito soddisfacentissimo e ci confermano in ogni tempo importanti ordini [illegible] speciali.

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Never stop pedalling

M. A. P. E. I.
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1937•1946

M. A. P. E. I.
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1947•1956

mapei

1957•1966

MAPEI

1967•1976

MAPEI®
ADESIVI • SIGILLANTI • PRODOTTI CHIMICI PER L'EDILIZIA

1977•1986

MAPEI®
ADESIVI • SIGILLANTI • PRODOTTI CHIMICI PER L'EDILIZIA

1987•2012

The story of a small Italian company which In 75 years has become an international leading Group in the world of adhesives and chemical products for building.

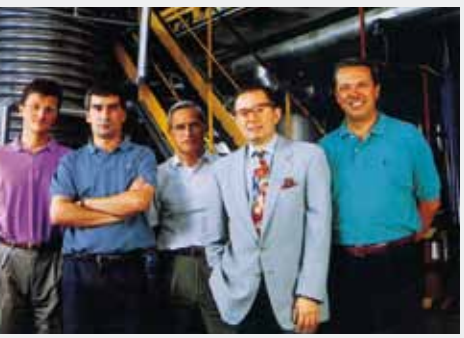
"A stage race with exhausting climbs and exciting sprint finishes, but above all so many exhilarating successes and exceptional team members. This metaphor of cycling - the sport I love most - is the best one to summarise the growth of Mapei and my memories tied to its story. 75 years from its foundation is the right occasion to celebrate, but also to look back over the most significant moments which have determined its development. As I said, in stages. Not a detailed commentary, but just a mention of the main turning points which have characterised its life until now. A growth which continues because it is based precisely on the solid roots of the past, and on values which have the beauty of always being valid, even today. And so, if I look back, I can see Mapei, and then Mapei again. It may seem rhetorical or over the top, but that's exactly the way it is; firstly for reasons of age - I was born just a few years after the Company was founded - but also because the story and growth of the Company inevitably blends in with my own personal story and that of my family. And if I wish to associate a face with Mapei that represents the entire being of the Company, this can be one person and one person only, my father Rodolfo, founder of the Company. A man who had the gift of creativity and an extraordinarily open mind, a unique role model who for me is still a source of inspiration. I inherited from him my enormous love of cycling and the opera, and the conviction that there cannot be work without art. As a child I would walk with him from our home, in Via Imbriani, Milan, towards the first headquarters of the Company in Via Cafiero, the same place which is today home of the Group's most important Research & Development Centre. And in those few hundred metres, by my father's side, I started to cultivate my dream: to become a research chemist. When asked the classic question "what would you like to be when you're older?" I had absolutely no doubt when I answered: "A research chemist". And my "Junior Chemistry Set" was obviously my favourite toy as a child. A passion and a game for me that felt completely natural, fed day after day by watching my father in the laboratory, carrying out experiments to create and improve products. In that period my father had few, but exceptional, collaborators at his side. I can clearly remember the

Excerpts from Rodolfo Squinzi's life. Photo on the left, front left in a small breakaway group during a "Coppa Bernocchi" cycle race. Photo in the middle: manufacturing begins in Via Cafiero in Milan in 1950. Right, manufacturing begins in the new plant in Robbiano di Mediglia, near Milan, in 1978, with Rodolfo Squinzi also getting involved with the new computer technology for production management

first seven of them, shown in a black and white photo taken in 1952 alongside my father, and several of them worked in Mapei for many years. I carried out my first experiments in that period, and they continued during my years at high school and university. I always spent a lot of time in the research laboratory, which was continuously growing, and leafed through my father's notebooks. My first personal formulations were created between the end of the 1950s and the beginning of the 1960s.

And in the meantime Mapei was growing, and so was I. The path opened by my father was clear and was founded on solid principles: with passion and the will to be the best through work I realised, there and then, that only through continuous product innovation is the growth of a company possible. At the beginning, Mapei was specialised in products for laying resilient floors, and supplied adhesives to the former Società Italiana del Linoleum (the Italian Linoleum Company), and then became a company specialised in products for laying ceramic tiles. The first important uses in this sector were the installation of tiles on pre-cast concrete panels, and represented a turning point and acceleration in the growth of Mapei.

Another important step forward, thanks again to the intuition of my father Rodolfo, was the first phase of internationalisation by exporting products over the border, into Switzerland and France. A process which, by also exploiting the Italian ceramic industry's reputation abroad, saw Mapei take its first steps in the Americas, starting with Puerto Rico. A process of internationalisation which had its first important turning point following the 1976 Montreal Olympic Games, where the Olympic athletics track was installed using our adhesives for the very first time. Experience in large sports arenas has continued since then, so much so that the next Olympic Games in London in 2012 will see Mapei playing a leading role yet again. A production facility was then opened in Laval near Montreal, and as a result Mapei entered into the Canadian market. This country acted as a launch pad to enter into the North American market where, in 1984, the first production facility was opened in Phoenix, Arizona, soon followed by another in Chicago, Illinois in 1986.



Top of page, the opening of the Mapei manufacturing plant in Laval, Canada, in 1984 with little Veronica Squinzi assisting her grandfather Rodolfo. Below, Rodolfo, Giorgio and Marco Squinzi in Laval in 1984. Further below, Giorgio Squinzi and Nick Di Tempora looking for the ideal location in Phoenix, Arizona, for the first production facility in the United States. Bottom photo, Giorgio Squinzi continues the internationalisation process by opening new manufacturing plants. Here, he is shown with some of his team mates: from left, Guido Trussardi, Roberto Boselli, Sergio Ceresa, Giorgio Squinzi and Luciano Trussardi.

The end of the 1970's was characterised by the commissioning of the Mediglia production facility on the outskirts of Milan, although it took a while before it was ramped up to full regime because of continuous delays in the release of the required permits (Italy was still under shock after what had happened in Seveso near Milan on the 10th of July 1976, when an accident in a nearby chemical works resulted in the release of a cloud of dioxin into the atmosphere). It was a particularly busy period of extra work, because the main production facility in Via Cafiero could no longer keep up the production rates. And I still remember that period, when every single person employed in Mapei also had to work on Saturdays and Sundays. After having worked right up to his final day, my father Rodolfo passed away suddenly on the 1st of November 1984 at the age of 76; and to think that just a few months previously he had inaugurated a production facility in Laval, Canada. It was a difficult time. Following the sudden loss of my father, I personally had to take on the full running of the Company, helped by my family and by all the managers and workers who gave their support through which was, for me, such a difficult time. Forced to reduce my involvement with Research & Development, for which I was then in charge and which had been my main activity since 1969, I followed the model outlined by my father and continued to implement the Company's expansion into Europe, with new production facilities in France and Austria. At the beginning of the 1990s it was Asia's turn with a new production facility in Singapore, an on-going process to cover new markets. There was another decisive moment in 1994, with the acquisition of Vinavil and the upstream integration of raw materials strategic for Mapei. A path which has continued since then, with today's Mapei still committed to growth on the world market through new acquisitions and, above all, by creating new production companies. The sharing of corporate values with respect for family traditions, which considers the strength of the Group its winning feature, witnessed another historical phase in the second half of the 1990s, when my children joined the Company: Marco, who grew up in Research & Development until he took full responsibility for all Group activities, and Veronica, responsible for Strategic Planning, M&A and new start-ups. And, alongside my children, there are also the managers of the Company committed to the growth of Mapei: those of the various areas where the Company operates, and a central group of 50 people who manage all the activities of the Group. This is the hard-core group, on the road all year round, committed to making sure that the various subsidiaries implement the operating philosophy of the mother company. It would be impossible for me, at this point, not to mention some of the team mates who have been by my side for more than thirty years, and have contributed, from both a professional and human point of view, to make

Mapei great. First of all my wife Adriana Spazzoli, Operational Marketing & Communication Director, and my sister Laura who works as a lawyer, and through her own legal studio takes care of our legal affairs. And then Luciano Trussardi, head of production operations who has now left his place to Roberto Boselli. Together with them is Carlo Pecchi, head of administration and finance and, before him, Rocco Fortunato. And last but not least Nick Di Tempora, a historical Mapei figure for North America. And together with them the numerous employees and collaborators, with their expertise, team spirit and commitment, every single day, all over the five continents. It is only thanks to the work of these people (and there are so many of them) that today Mapei Group can carry on following its path with determination: to achieve global leadership in chemical products for the building industry. My love of pedalling is not a secret for anybody, but there's a phrase that has always struck me…and it's not mine: "life is like riding a bicycle: to keep your balance you must keep moving". It was one of Albert Einstein's sayings, a symbol of the growth of thought, but I would like to second it: at this point, as team captain, allow me to remind all my team mates that you must never stop pedalling".

Milan, February 2012

Giorgio Squinzi

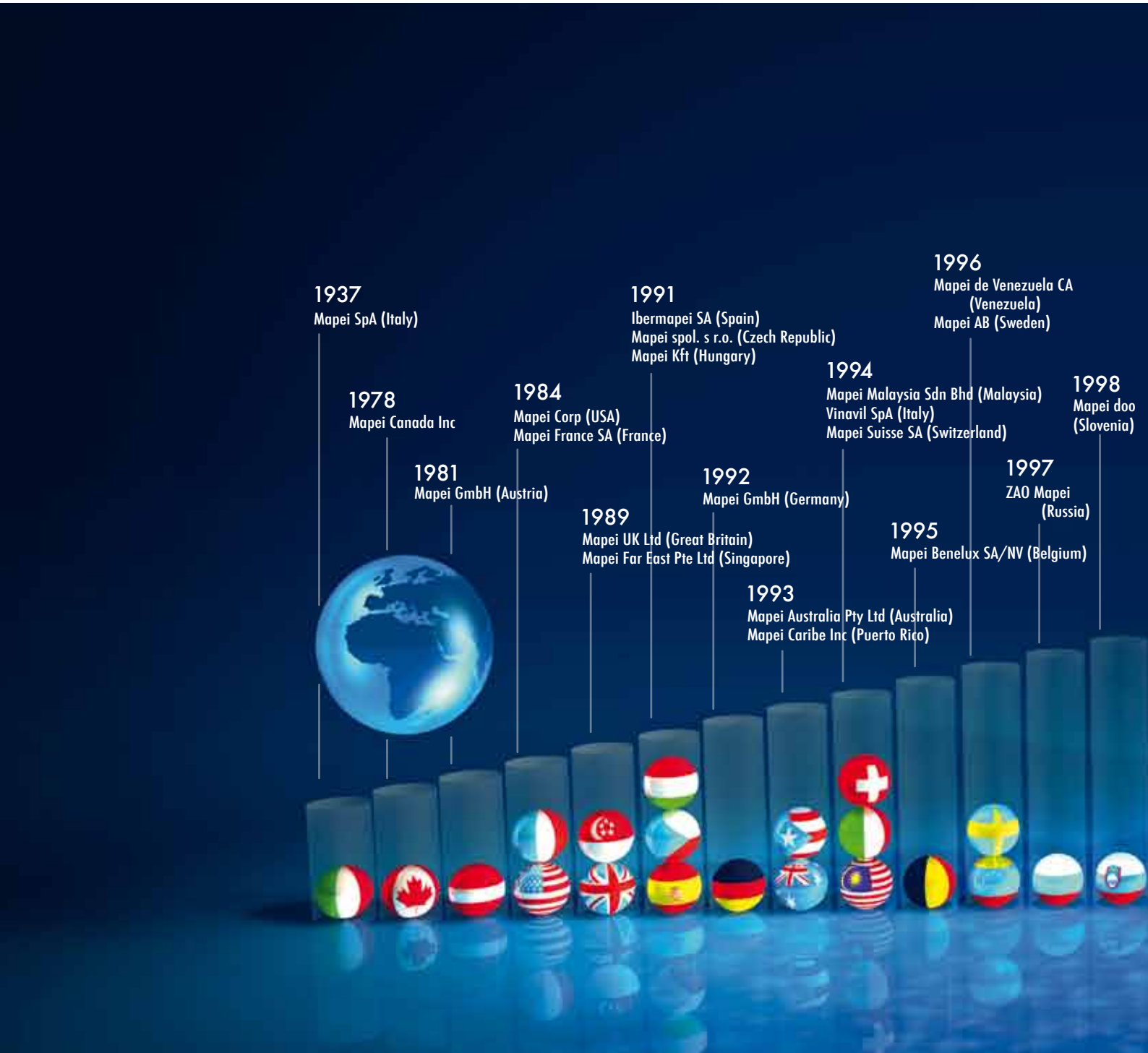
The second and third generation of the Squinzi family in charge of the Mapei Group: from the left, Marco Squinzi, Adriana Spazzoli, Veronica Squinzi, and Giorgio Squinzi.

» *2011: I, too, crossed the finish line of the UCI Road Cycling World Championships in Copenhagen. A feeling I will never forget and which has encouraged me to drive on into the future*

VERONICA SQUINZI
Mapei Group's
Global Development
Director

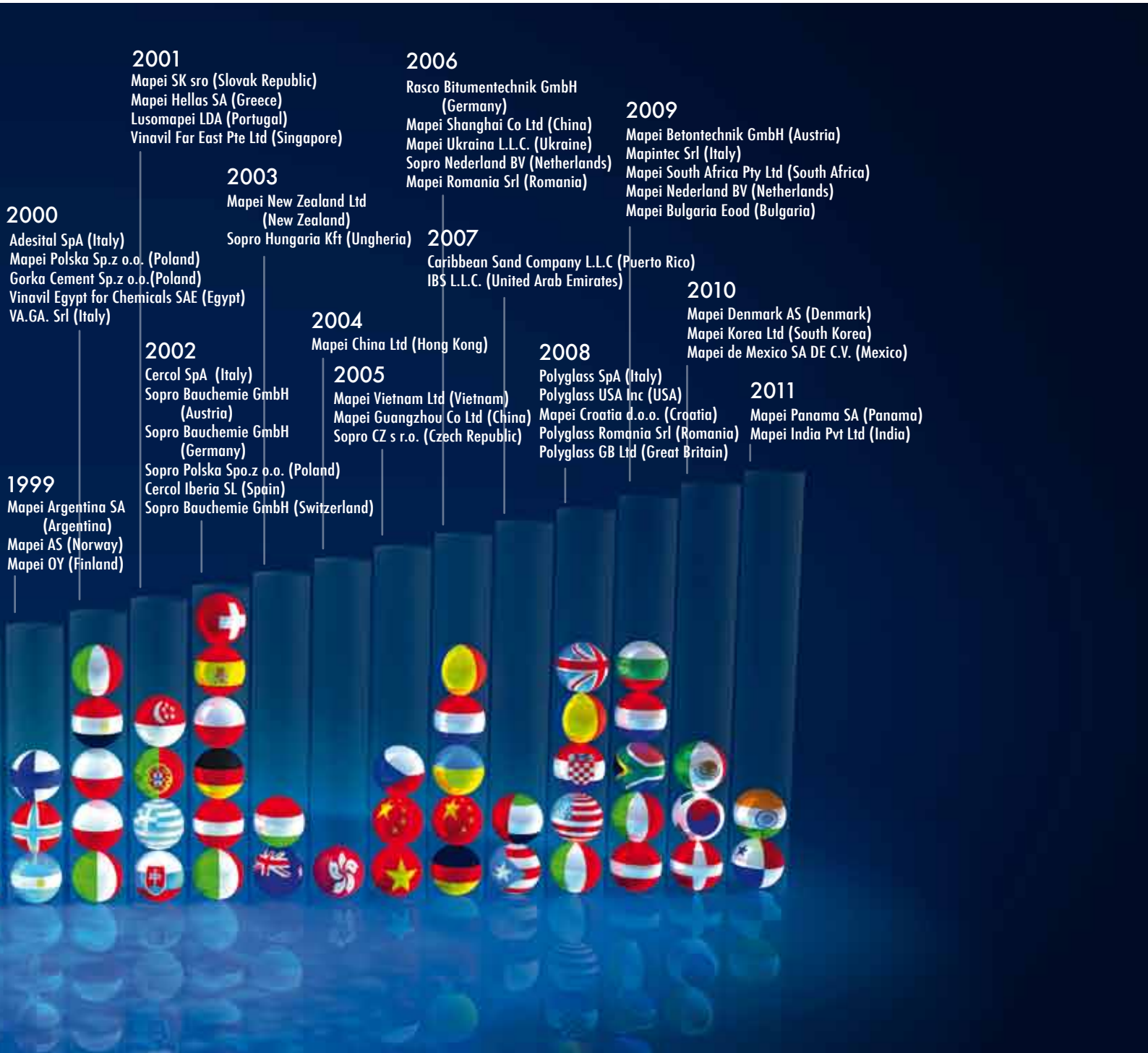
OUR GLOBAL DESTINY

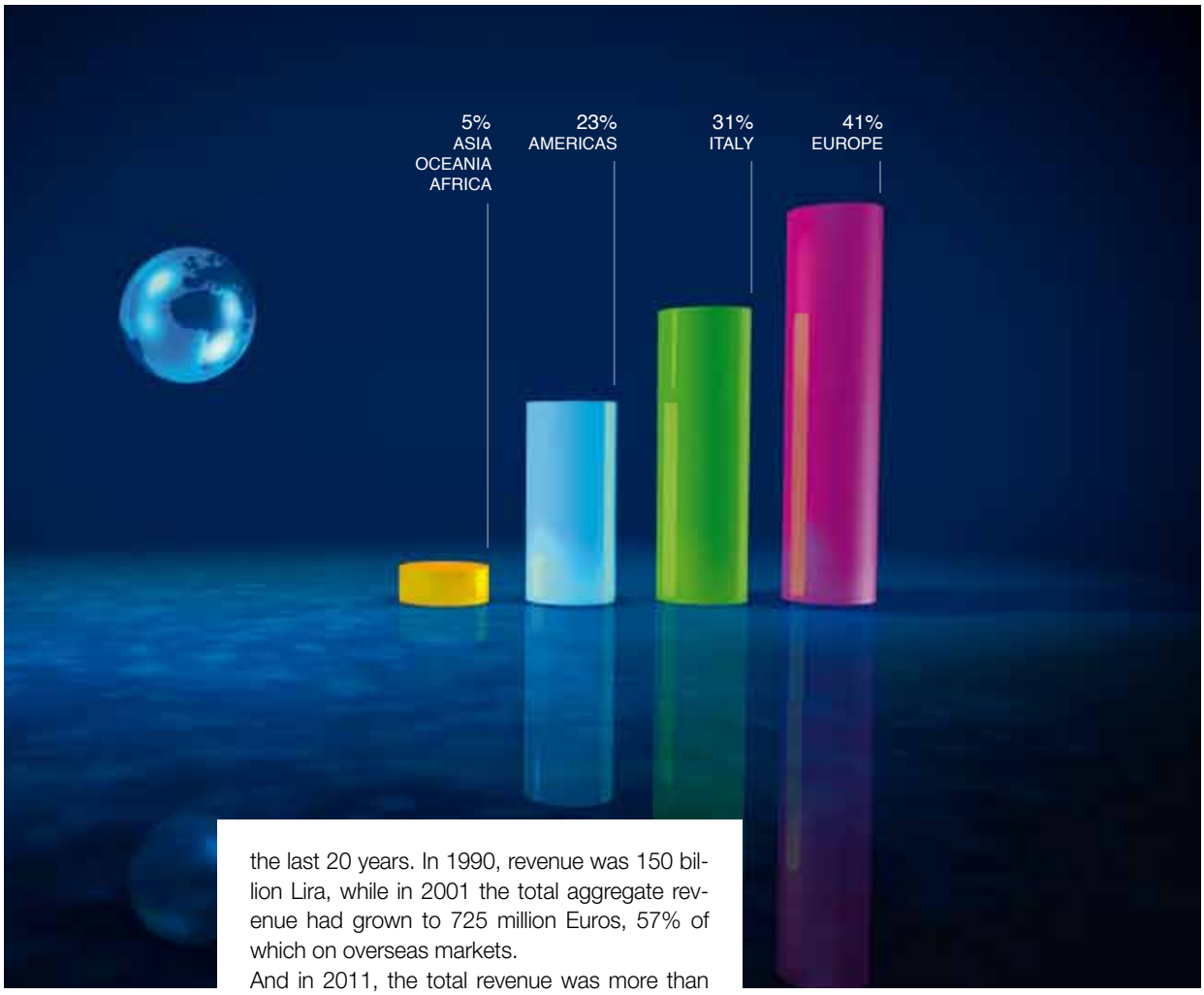
Mapei is present in the five continents and is able to meet specific needs, thanks to its deep knowledge of the local markets



Mapei's strategy of internationalisation is based on two main objectives: being closer to local-needs and achieving the lowest transport costs possible.
With the declared objective of being close to buyers and clients, the indisputable strength of Mapei in the five continents is to never disregard the requirements of each single country, and to use only locally-based managers and qualified personnel. The Company currently has 68 subsidiaries, 18 main Research & Development Centres, of which 1 corporate, and 59 production facilities, each with its own Quality Control laboratory.
Important figures which outline the success of a process which started in the 1970s, and has never stopped since. In the last 10 years alone, between start-ups and acquisitions, 20 new subsidiaries have joined the Group.
Amongst these facilities, most of them manufacture finished products, while others manufacture strategic raw materials for the Group which are then used to manufacture finished products: for example, VA.GA. manufactures selected silica sand, Gorka Cement manufactures aluminous cement, Vinavil manufactures acrylic and vinyl acetate polymers and Rasco Bitumentechnik manufactures bituminous products.
The Company's constant internationalisation is directly connected to the growth in revenue over

Below. Mapei's internationalization activity began in 1978. From then on, the figure of Mapei subsidiaries experienced no-stop growth. Today the Group has 69 subsidiaries in 25 countries.





Above. The graph shows the Group's revenue in 2011, divided by area.

the last 20 years. In 1990, revenue was 150 billion Lira, while in 2001 the total aggregate revenue had grown to 725 million Euros, 57% of which on overseas markets.
And in 2011, the total revenue was more than 2.1 billion Euros. The number of employees has also increased considerably: at the beginning of the 1990's there were just over 500, while today there are more than 7,500, of which 12% dedicated to Research activities.

The Objectives of Internationalisation
The objectives of Mapei's internationalisation strategy is to open new markets, to share know-how, to get a deeper understanding of the market in each country by being closer to local requirements and to reduce transport costs to a minimum. The growth strategy is based on the supposition that Mapei is a global player run on the basis of a family concern, but with a medium to long-term view. Mapei wants to maximise growth and efficiency, and not only profits, by concentrating on a mix which includes products, production capacity and people.
The need to become global through internationalisation is tightly connected to an increase in production capacity, by creating facilities in areas of high demand, and supply solutions in line with local requirements to keep costs under control.
To always be competitive, human resources are central to this approach. In fact, people have to be proactive in the development of local growth strategies and, in order to have the best understanding of each geographical area, an efficient local management is fundamental. So, headhunting talented people from all over the world is another constant commitment of the Company.
Growth is central to the Mapei Group's philosophy: a growth which must be healthy and well-balanced, where investments have the final aim of increasing the local presence of the Group.

INTERNATIONALISATION AND SPECIALISATION

Internationalisation means getting to know other cultures and understanding other people's specific requirements. And it is through specialisation that the process of internationalisation must necessarily pass. A process which sees Mapei Research & Development activities in the front line in formulating products for any and all requirements for the building world, to get closer to clients' and contractors' specifications.
We must not forget that Mapei is chosen because, thanks to its ranges of systems and products, any type of problem can be solved quickly with little or no harmful emissions for man or the environment, and with a guarantee of long-lasting results.

MAPEI'S FINANCIAL POLICY

No speculation and just one objective - the growth of the Group

CARLO PECCHI
Chief Financial Officer for the Mapei Group

Mapei is synonymous with success, reliability and solidity. Because Mapei, with its story stretching back 75 years, has never been in the red, has never laid anybody off to reduce personnel and has never made anybody redundant. All this in spite of the current global economic crisis. There is no secret to the formidable performance of the Company; just simple respect for a management concept based on certain fundamental guidelines.

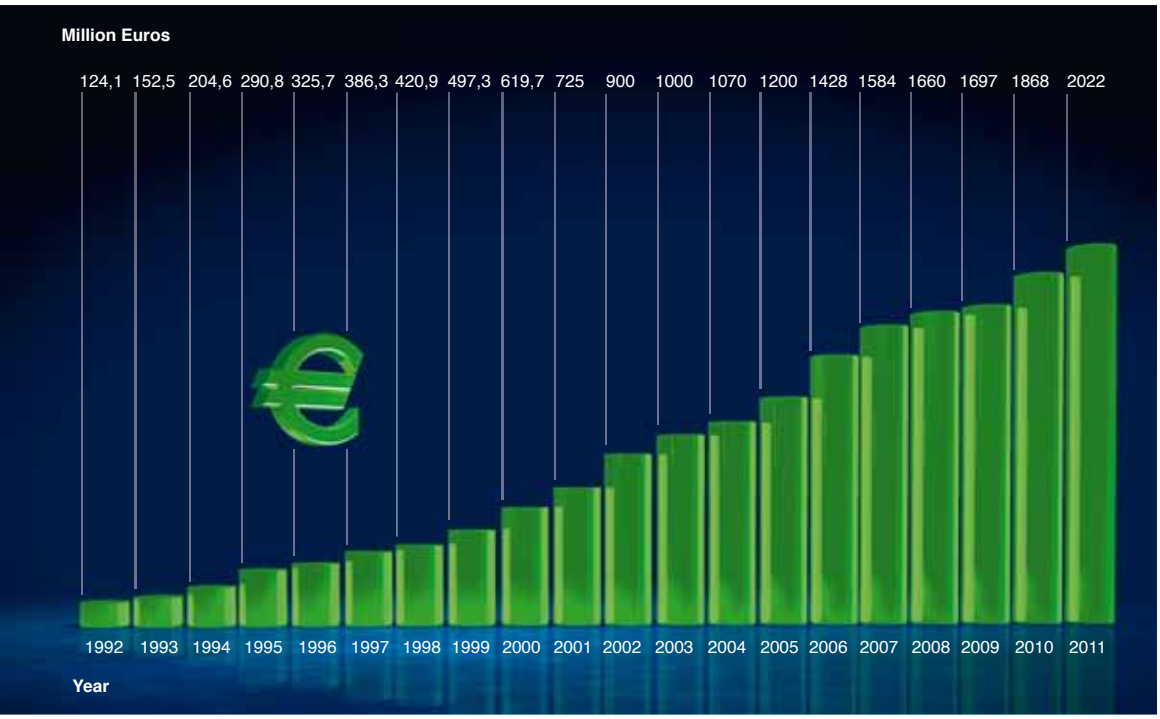
If there is a model which inspires Mapei, it is unquestionably one that is based on the founding family being central to all economic, financial and strategic decisions. The owners run the Company by being in close, constant contact with key management figures who have grown within the Company, and who fully share their entrepreneurial vision. A continuity which is also identifiable when strategic choices are made, to do things prudently and gradually with a long-term view without rushing or taking risks, bringing Mapei to progressively become world leader in the field of chemical products for the building industry, and determining its long-lasting success. This logic is based on the concept of mainly using the financial resources produced by the Company for investments into production, marketing and Research & Development, rather than distributing them in the form of dividends to share-holders. In layman's terms, Mapei has always invested all its financial resources into the growth of the Group: the development of new products and the acquisition or construction of new subsidiaries, deliberately avoiding speculative investments which would have drained the Company of its liquid assets.

A Central Treasury was created in 2004 to facilitate financial transactions between the companies within the Group. It is managed by the mother company of the Group, Mapei SpA, and it has gradually encompassed all the subsidiaries. This instrument has enabled the Mapei Group to optimise the cost of money for every single company involved, and has had a positive effect on costs.

Mapei is officially managed by a CEO but, in reality, it is as if there were a permanent board of directors every day, comprising members of the owners' family and various top managers. It is a management structure which allows decisions to be made extremely quickly. And during the recent years of economic and financial turbulence, being able to take decisions quickly has proven to be an invaluable asset. Mapei's shrewd financial policy has also allowed the Company to be closer to its clients, ensuring that special attention is paid to its long-standing and single-brand clients. In concrete terms, this means making life easier, wherever possible, during difficult financial periods, especially when there are cash-flow problems such as those we are currently experiencing. And if, from an industrial point of view, Mapei has never used as much as an hour of redundancy, from a financial point of view, Mapei has never asked to extend its payment terms. Its renowned punctuality means that suppliers also appreciate its reliability and are happy to consolidate long-lasting business relationships.

In conclusion, the aim of finance for the Mapei Group is the growth of the Company on the global market, and the satisfaction of all stakeholders, be they clients, suppliers, collaborators or share-holders.

Below. The graph shows the growth of the Mapei Group's revenue from 1992 to 2011, in million Euros.



68 subsidiaries Over 7500 for 55.000


Mapei S.p.A.
Milan - Italy


Mapei S.p.A. - Robbiano di Mediglia
(Milan) - Italy


Mapei S.p.A.
Latina - Italy


Mapei S.p.A.
Sassuolo (Modena) - Italy


Mapei G.m.b.H.
Nußdorf o.d. Traisen - Austria


Mapei Betontechnik GmbH
Langenwang - Austria


Mapei UK Ltd.
Halesowen - Great Britain


Mapei Hellas SA
Chalkida - Greece


Mapei AS
Sagstua - Norway


Mapei Nederland BV
Almeno - Netherlands


Mapei Polska Sp. z o.o.
Gliwice - Poland


Lusomapei SA
Anadia - Portugal

Ibermapei S.A.
Cabanillas del Campo - Spain


Mapei AB
Solna - Sweden

Mapei Suisse S.A.
Sorens - Switzerland


Mapei Kft - Budaörs
Magyarország - Hungary

Mapei South Africa Pty Ltd
Johannesburg - South Africa


Mapei Argentina S.A.
Buenos Aires - Argentina

Mapei Corp.
Dalton (GA) - USA


Mapei Corp.
Fort Lauderdale (FL) - USA

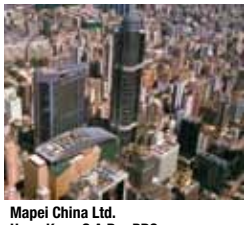

Mapei Corp.
Fredericksburg (VA) - USA


Mapei Corp.
Garland (TX) - USA


Mapei Corp.
South River (NJ) - USA


Mapei Corp.
Tempe (AZ) - USA


Mapei Construction Materials
Shanghai - People's Republic of China


Mapei China Ltd.
Hong Kong S.A.R. - PRC

I.B.S. LLC
Dubai - United Arab Emirates

Mapei Construction Products India
Pvt Ltd - Bangalore - India


Mapei (Malaysia) Snd. Bhd.
Rawang - Malaysia

Mapei Korea Ltd
Chungbuk - Korea


Sopro Bauchemie GmbH
Wiesbaden - Germany


Polyglass Great Britain Ltd.
Willenhall - Great Britain


Polyglass Romania S.r.l.
Lasi - Romania


Polyglass USA Inc.
Winterhaven (FL) - USA


Polyglass USA Inc.
Hazleton (PA) - USA


Polyglass USA Inc.
Fernley (NV) - USA

Mother company Mapei SpA

Subsidiaries with their own logo

Subsidiaries supplying raw materials

and **59** production facilities.
employees
clients all over the world

Mapei Benelux S.A./N.V.
Grâce-Hollogne (Liège) - Belgium

Mapei Bulgaria Eood
Ruse - Bulgaria

Mapei Croatia d.o.o.
Kerestinec - Sveta Nedelja - Croatia

Mapei France S.A.
Montgru Saint Hilaire - France

Mapei France S.A.
Saint Alban (Toulouse) - France

Mapei GmbH
Weferlingen - Germany

Mapei spol. s r.o.
Olomouc - Czech Republic

Mapei Romania Srl
Bucarest - Romania

ZAO Mapei
Stupino - Russian Federation

Mapei SK sro - Ivanka Pri Dunaji
Slovak Republic

Mapei d.o.o.
Novo Mesto - Slovenia

Ibermapei S.A.
Amposta - Spain

Mapei Inc.
Toronto - Ontario - Canada

Mapei Inc.
Vancouver - Canada

Mapei Inc.
Laval (Montreal) - Canada

Mapei Inc.
Maskinongé - Canada

Mapei Caribe Inc.
Dorado - Puerto Rico

Mapei Corp.
San Bernardino (CA) - USA

Mapei Corp.
Deefield Beach - Florida - USA

Mapei Corp.
West Chicago (IL) - USA

Mapei Construction Chemicals
Panama S.A. - Panama

Mapei de Venezuela C.A.
Caracas - Venezuela

Mapei Australia Pty Ltd.
Brisbane - Australia

Mapei Construction Materials
Guangzhou - People's Republic of China

Mapei New Zealand
Auckland - New Zeland

Mapei Fast East Pte. Ltd
Singapore

Mapei Vietnam Ltd.
Quang Nam - Vietnam

Adesital S.p.A.
Fiorano (Modena) - Italy

Cercol S.p.A.
Sassuolo (Modena) - Italy

Polyglass Europa S.p.A.
Ponte di Piave (Treviso) - Italy

Vinavil S.p.A.
Ravenna - Italy

Vinavil S.p.A.
Villadossola (VB) - Italy

VA.GA. S.r.l.
Costa de' Nobili (PV) - Italy

Rasco Bitumentechnik GmbH
Augustdorf - Germany

Gorka Cement Sp. z o.o.
Trzebinia - Poland

Vinavil Egypt for Chemicals S.A.E.
Suez - Egypt

Roberto Boselli
Mapei Group's
Production
Operations Director

A CUTTING-EDGE PRODUCTION SYSTEM

Mapei's 59 production facilities provide the most innovative products for building

More than 20,000 tonnes of finished products leave the gates of Mapei's production facilities every day; and just as many tonnes of raw materials enter the gates, used in the preparation of more than 1,400 products (adhesives, sealants, mortars, admixtures, latexes, etc.) which make up the complete portfolio of Mapei products. The products distributed by the Mapei subsidiaries and used on the most important building sites all over the world, are made in the Group's 59 production facilities.

Diverse, high-quality chemical products leave Mapei production facilities every day: from powder adhesives to liquid products, paste products and polymers, for an overall total of more than 4.8 million tonnes per year. Production, which uses highly-automated processes, is another of the strong points of Mapei, which has created facilities all over the world to optimise logistics costs and to be closer to its clients. Facilities which always combine efficient production with respect for the environment and local situations.

So Much Automation

Technological development is one of the main characteristics of Mapei production plants. An example for everybody is the filling plant for Alupack bags, particularly appreciated in the DIY sector, which allows products to be stored for more than 2 years.

Innovative just like the new packaging plants for powdered adhesives, with the capacity of vacuum-packing more than 1,000 bags per hour without dispersing any dust into the workplace. These new packaging lines, operational in all Mapei's main production facilities around the world, are dedicated mainly to powdered cementitious mortars and use perfectly-sealed, low-density, compact polyethylene bags thanks to the use of special technology, developed in collaboration with Mapei technicians, which creates a vacuum during the filling phase.

And finally, a particularly avant-garde solution is

Right. A production line in the Mapei plant in Robbiano di Mediglia (Milan, Italy) used for manufacturing MAPEGROUT and TOPCEM. All the 59 Mapei production plants are provided with cutting-edge equipment on both the logistics and production levels.

Left and above. Mapei production plants uses innovative technologies for both production processes and production lines management.

From the left. Mapei plant in Garland (Texas, USA): packaging line for powder adhesives using polyethylene bags; packaging colored grouts using Alu-pack bags at Mapei plant in Gliwice (Poland); packaging line for powder adhesives using polyethylene bags in West Chicago (Illinois, USA).

Above. The Robbiano di Mediglia plant, near Milan, is the main production facility among the 59 ones of the Mapei Group all over the world. In the last few years, production and workers have been increased.

the water-soluble packaging for MAPEPLAST LA, a liquid admixture with foam-forming action used to make lightweight concrete suitable for filling grounds cuts in roadworks.

Beside, most production facilities in the Mapei Group have adopted innovative energy-saving systems, such as photovoltaic plants to produce energy. They are also equipped with particularly efficient systems to control emissions into the air and ground, and with safety checks and devices used during the production process.

The Most Important Production Facility in the Group

Located at the gates of Milan, the Robbiano di Mediglia plant, built in 1975 and extended on various occasions, is now the Mapei Group's most important production facility: more than 600,000 tonnes of products for the building industry left the facility in 2011, with 23% of the total going for export. In 2007, with the construction of a new warehouse and new production plants, the built-up surface area increased from 43,000 m^2 to 53,000 m^2 out of a total surface area of 160,000 m^2.

Thanks to the electrical energy produced at Robbiano di Mediglia and Latina plants by two photovoltaic plants opened in 2011, approximately 1,000 tonnes less CO_2 per year will be emitted into the atmosphere - the equivalent of approximately 9,000 car journeys from Rome to Milan - for a total of approximately 17,000 tonnes of CO_2 over the next 20 years.

The Robbiano di Mediglia plant is also the headquarters of Central Production and Engineering Central Services, two groups dedicated to the study of production and logistics systems, the coordination of all the activities of all the Mapei production facilities around the world and the study of innovative engineering solutions to make production cycles more efficient. Improving production efficiency is the main objective of this structure.

Upstream Integration in Supplying Raw Materials

The supply of raw materials is vitally important for the life of any company, from both an economical and organisational point of view. And even more so with a global Company such as Mapei, which considers internationalisation to be one

HIGHLY AUTOMATED PROCESSES FOR VERY EFFICIENT PRODUCTION

Left. The Vinavil plant in Villadossola (Italy): liquid raw materials storage tanks and high-pressure reactors for the production of vynilacetate-ethylene (VAE) emulsions.

Below, left. Gorka Cement - Trzebinia - Poland.
A facility for the production of aluminous cement.

Below, right. VA.GA. Costa De' Nobili, Pavia (Italy).
A plant specialised in the selection of high-quality silica sand.

of the fundamental processes for its growth. Following these clear, strategic lines, 1994 saw the acquisition in Italy of Vinavil, the "white glue" company. For Mapei, one of Vinavil's most important clients, this is an important way for upstream integration of strategically-important raw materials (vinyl acetate polymers) to increase the portfolio of products on offer. This new development phase has continued into the third millenium with further acquisitions, both for the production of finished goods and for integrating the production of strategic raw materials. And so other companies are now part of Mapei Group, such as the Gorka Cement cement plant in Poland, VA.GA. in Italy for the extraction and production of high quality sand and, in 2006, Rasco Bitumentechnik, a German company specialised in the production of bituminous materials.

ALWAYS AT OUR CLIENTS' SIDE

Technical assistance is fundamental in solving the most complex problems

Client assistance, both before and after selling a product, is one of the keys to Mapei's success. For the more simple cases there is assistance and advice available over the phone, while for more complex cases we intervene directly on site. Assistance from our highly specialised technicians, with experience in all sectors, is guaranteed in every corner of the world. People with the right knowledge to guide our clients and users on how to apply our products correctly, and to solve any kind of technical problem.

Continuous, Articulated Training

Training has an important role to play for Mapei,

and we actively promote refresher courses and workshops to perfect installation techniques for our products. It is a wonderful opportunity to spend time with those who work in the building sector on a daily basis, and who wish to be constantly up to date with the most advanced solutions available.
With the objective of improving the quality of finished work, the training offered by Mapei is not only for laying companies, but also for specialists who operate at all levels, from designers to works managers. Mapei's aim, in fact, is to increase the level of professionalism of all those who work in this sector.

The courses and workshops are held by the Technical Service Department through practical demonstrations and the use of didactic material and audio-visual presentations. Mapei also periodically organises conventions for designers and building site managers, with the collaboration of members from chartered bodies.
The speakers at these events, which are held in Italy at the Company's various training centres (in Milan, Rome, Latina, Lecce, Sassuolo, Caserta and in Ponte di Piave at the Polyglass works), and abroad at the headquarters of all the subsidiaries, in particular in Poland, Hungary, United States and France, are all experts from the sector, and the themes they discuss are of primary importance for the building industry.
In 2011, training activities were extended all over the world involving over 45,000 experts, in particular installers, designers and building site managers. This was thanks to the use of our special Mapei motor-homes, two specially-fitted, mobile training centres which have allowed us to hold courses in numerous European locations. As with other fields, Mapei takes a very concrete approach, and the impact on operational activities is immediately felt.
For Mapei, training has always been a way of being closer to the market, and the way it is presented and organised is the same for all the subsidiaries located around the world. Technical assistance and training activities allow our teams of technicians working in this sector to follow the evolution of the market, and helps create solutions which are more reliable and more compatible to real market requirements. It is this well-tested chain of knowledge which best identifies Mapei's way of operating. Cutting-edge solutions which take shape through constant dialogue with all those who operate in the building sector, and which is constantly fed every day all around the world, both on the building site and in the classroom.

Left.
In 2011, more than 45,000 operators from the building industry took part to Mapei training courses and workshops.

FRANCESCO STRONATI
Director of Mapei Group's Technical Services

HOW TO TACKLE THE ITALIAN MARKET OVER COMING YEARS

Solid business organisation, growing with our clients, wider range of products, service for retailers, product guarantees

I would like to find a way of instilling a little bit of optimism in our clients and the readers of our magazine, because it is now rather obvious that we will have to live with this decidedly unfavourable market situation for quite some time. A while ago a popular Italian television commercial showed a man claiming that optimism is the real spice of life…. a playful rascal on the internet cleverly manipulated the images so that, right after making this statement, a naughty bird left a rather large and unpleasant organic dropping on the poor man's jacket. This little anecdote may be interpreted as a warning about how to tackle this tricky period in a positive spirit of optimism, while keeping a very watchful eye out for any unpleasant surprises.

The downturn is reducing the amount of financial resources available, but this is also leading to greater control over and the optimising of expenditure. During difficult periods we have to stop and think how to plan our own operations as effectively as possible and make the best possible use of company resources. We must try and react, so that both our entrepreneurial spirit and creative invention are injected with fresh life and impetus. In 2011, despite the very negative economic situation, the Mapei Group managed to record notable growth both nationally and on a worldwide scale. This favourable state of affairs may be put down to the fact that, thanks to the Group's research and internationalisation programme, we are still widening our range of products and offering our clients a fuller and more extensive selection of not just individual products but complete and tried-and-tested systems capable of serving their purposes to perfection. We are involved in building work from the design stage to the actual construction process, beginning with the foundations and terminating with the roofing; we can handle new constructions or repair work on existing structures. Our business organisation is composed of salespeople covering the entire territory, line specialists who are experts in their own specific field (such as wall coatings, admixtures for concrete, parquet, resin floors), who help out both the sales team and our clients, and also promoters, who work with designers in drawing up the various specifications. Our clients have managed to grow with us, making those necessary choices during this delicate period in time, no longer bent on merely obtaining the best possible purchasing price but focusing instead on the overall reliability of suppliers. A mix of sales, technical support, training, promotional-advertising operations and joint-marketing projects are just some of the "new topics" that will all have to be taken into consideration when handling relations between the clients and supplier.

I would also add seriousness and consistency to this mix, since far too many suppliers make up their own rules and regulations, claiming to be defenders of the environment simply by working on eye-catching advertising slogans. Safeguarding the environment is a serious matter and "eco" products must be exactly that; they must meet extremely stringent standards that are easy to identify and control, in the interests of both the end user and general public. Know-how has grown and so has the demand for quality in construction work. Take, for instance, thermal insulation and soundproofing systems: a few years ago nobody would have been concerned whether the apartment they were about to buy was thermally insulated or whether it had been soundproofed against the noise of foot traffic. I would like to focus on retailers for building materials and ceramics, because they belong to a category Mapei holds dear and they have always been our favourite business partners in Italy. Is the fact they are so numerous and widespread a problem or an opportunity? Let's consider a retailer with well-trained staff capable of providing its clients with a wide range of reliable solutions/products and equipped to offer a range of real services (readily available material, quick delivery, financing, promotions, design, customer service), would not this allow greater profits, a broader market and, consequently, better credit management?

If we manage to adopt this kind of organisation model, in my humble opinion the total of over 8000 retailers located all Italy could certainly coexist, and the fact they are so numerous would offer a real opportunity. On the contrary, if the market is broached passively ("I buy and sell what I am asked for at the cheapest price") all this will inevitably lead to a market in which supply booms and demand drops dramatically, resulting in a genuine decline in what is on offer.

So let's try and react to this downturn by enhancing the quality of our work, asserting that optimism is, indeed, the very spice of life… But keeping a double-barrelled gun at hand, just in case we need that second barrel!

» OPTIMISM… BUT WITH A WATCHFUL EYE!

ERNESTO ERALI
Mapei SpA Sales Manager

BEYOND OSTENSIBLE SUSTAINABILITY

Certified systems for Quality and environmental sustainability

The long-lasting commitment of Mapei to the environment, health and safety extends to all its facilities, products and processes. All around the world, all Mapei's new production facilities and expansion projects for existing facilities are designed and constructed with an eye on energy savings and safety for those who work there.
A recent investment worthy of mention is the commissioning in 2010 of a co-generation power plant in the Vinavil production facility in Villadossola (Northern Italy), which generates approximately 11 million kWh per year of electrical energy, reducing the equivalent annual emission of CO_2 gases by approximately 2,500 tonnes/year. Two photovoltaic plants were also installed in 2011 in the Mapei production facilities in Mediglia (near Milan) and Latina (Southern Italy). The combined maximum output of the two plants is 1,865 kW, leading to a reduction of CO_2 emissions of over 1,000 tonnes/year.

Certified Quality, Health And Safety Management System

• A quality management system has been applied by Mapei SpA since 1994, which is certified by an accredited body in compliance with ISO 9001 international standards and continuously upgraded.
• Mapei has adopted management systems compliant with international standards (ISO 14001, EMAS Regulations and OHSAS 18001) which are certified and checked annually by accredited bodies and extended to our subsidiaries.
• In 1992 Mapei joined the Responsible Care campaign, the international chemical industry's commitment to sustainable development.

Products with High Environmental-Sustainability, Safe for Workers and Users

Mapei's corporate policy focuses on respect of all employees and all those who use its products, which are recognised for their high level of sustainability.
Since 1970s, Mapei has developed a series of products especially safe for the environment. More recently (in the 1990s) efforts were channelled into the development of products with very low emission levels of volatile organic compounds (VOC).
Since October 2005, Mapei's ECO range products are certified by GEV institute and marked EMICODE EC1, and since June 2010, are marked EMICODE EC1 PLUS, which guarantees even lower emission levels of VOC. Mapei has also been a member for more than 5 years of the American body the U.S. Green Building Council (GBC), which publishes the LEED Regulations, one of the most widely-applied international certification systems for eco-sustainable buildings. Mapei contributes to the LEED credits scheme for buildings through its range of VOC products, products made from recycled raw materials or by-products from industrial production processes.

Operational Model

In order to guarantee transparency and promote correct behaviour in line with management expectations by members of the organisation, Mapei is upgrading the Operational Management and Control Model and Code of Ethics in compliance with corporate policies and in line with the requirements of current legislation.

GREEN INNOVATION

Mapei's experience in eco-sustainability lead to the development of the "Green Innovation" concept which has been applied to all the products which meet the requirements of LEED Regulations and the most important European and American certification institutes for environmental sustainability while improving environmental comfort and users' safety. The Green Innovation logo identifies the products with all or some of the following characteristics:
• very low emission level of VOC
• developed using recycled raw materials from or by-products of other industrial processes
• thanks to the use of Mapei BioBlock® technology, they reduce the formation of mould
• thanks to the use of Low Dust technology, negligible levels of dust are emitted.
Products with the above characteristics are nowadays more than 150.

NAZARIO BORGHETTI
Mapei Group's Quality Manager

ADRIANA SPAZZOLI
Mapei Group's Operational Marketing & Communication Director

GREENWASHING

Seeming rather than actually being or, in other words, greenwashing to give a positive image to your operations

"Green economy", "Green marketing", "Environmental communication" and "Eco-sustainable processes" are now an integral part of corporate jargon. They have taken on a key role and allow companies not just to inform their stakeholders about the peculiar qualities of products but also to send out a message reinforcing the company's overall image and identity.

Care for the environment and, more generally speaking, the issue of sustainability, are actually taking on a much more strategic role in business operations.

This kind of virtuous behaviour has gradually developed over recent years to mirror society's expectations, now that it is much more aware of the environmental consequences of industrial policies and decision-making. This also means that much more information is called for in connection with these factors.

One direct consequence of this approach concerns the world of advertising and communication: having "green credentials" has now become a key marketing factor, which must, nevertheless, be matched by real commitment by the company in this direction.

A green image more and more often turns out to be just a façade: hence the talk of greenwashing, a neologism referring to "a form of spin in which green PR or green marketing is deceptively used to promote the perception that a company's policies or products are environmentally friendly" as Wikipedia describes it.

Greenwashing is one of the greatest dangers to emerge over recent years for a company's corporate image and, when it is discovered by public opinion, has a negative effect on the company's reputation and is, therefore, damaging from an economic viewpoint.

The building industry certainly is not immune from this phenomenon and it is now increasingly common to come across product names or advertising aimed at creating an ecological aura that has absolutely no verifiable objective foundations.

A breath of fresh air has resulted in a number of companies in this sector suddenly waking up completely "green" and others proposing bouquets of product that are ecological in nothing more than their name.

Greenwashing was the focus of a conference - organised by Assolombarda (the Association of the Lombardy Region entrepreneurial system) in Milan in April 2011 - entitled "Sustainability as a Marketing Lever: Communication Beyond Greenwashing".

Three main recommendations emerged from this conference on the use of environmental claims: the use of clear, unambiguous language; confining the use of "green claims" exclusively to the properties of reliable and verifiable products; avoiding the use of excessively generic expressions, such as "eco-compatible", "ecological", "green" etc.

But that is not all.

According to the guidelines on Marketing and Environmental Communication set down by the Assolombarda Environmental Quality Work Group published in the handout available at the conference in Milan, the requisite of reliability demands that "as well as being truthful, environmental information must, as far as possible, be verified (by the manufacturer in question and other subjects). To this end, information should be accompanied by environmental data obtained by applying well-known, acknowledged, scientifically grounded and reproducible methods".

Acting before speaking, no lies, and using clear and unambiguous jargon, are other suggestions aimed at guaranteeing words are matched by actions and intentions correspond to operations.

This is precisely the path followed by Mapei, which has always set out to provide the international building market with the most effective, high-performance products, which, at the same time, are certified as being harmless to their installers, end users and the environment.

But that is not all. Even the manufacturing systems, logistics and entire organisation of its 59

GREEN
product certification

From Mapei, safe products for the environment, workers and end users:

- *certified according to the most severe and demanding standards*
- *very low VOC content*
- *manufactured locally by eco-sustainable plants*
- *developed to reduce energy consumption*
- *formulated with recycled, ultra-light raw materials*
- *based on the innovative R&D labs of Mapei Group*

Trust on Mapei for your eco-sustainable project.

manufacturing plants spread across five continents conform to the strict regulations and procedures making it possible to safeguard the health of workers and protect the environment.
Its commitment in this direction is one of the acknowledged reasons for the Mapei Group's growth around the world, and the seriousness with which these targets are achieved is certified by widely acknowledged international institutes.
According to the Head of Assolombarda's Energy, Environment, Health Project Roberto Testore, "the competitiveness of a business is measured more than ever now on an environmental basis. That is why industry is increasingly aware of and carefully focused on ecologically-guaranteed processes, products and behaviour".
Mapei is inevitably encouraging this trend and backing Assolombarda's next project, which aims to take a closer look at the issue of economic and environmental performance indicators within the framework of Environmental Management Systems.
Proving once again (playing on the idea of colours) that's Mapei's green heart and soul increasingly identify with the blue of its traditional corporate colours.

SUSTAINABILITY IN THE BUILDING INDUSTRY

Evolution of the definition of what makes a product "green"

EPHRAIM SENBETTA is currently a Fulbright Scholar and Visiting Professor in the Civil Engineering Department at Addis Ababa University in Ethiopia and he also a consultant to Mapei SpA in support of Mapei's activities in Ethiopia.

It was not that long ago when the term "green product" did not mean anything in particular other than a vague, comforting feeling that the product is somehow less harmful to the environment and to people. As often happens when there is no clear definition and standard, many manufacturers of products and services claimed that their products were green and incorporated a lot of green color in their marketing materials, leading to the emergence of the term "greenwashing." In today's construction industry, a "green product" is being defined more clearly, in a measurable way, and in keeping with the concept of sustainability that includes the environmental, social and economic impact of everything we do.

Why the Focus on Green Products?

In the construction industry, the focus on green products is driven by the emphasis on green buildings. The growing popularity of green building standards such as LEED (Leadership in Energy and Envrironmental Sustainability) calls for products that are conducive to green buildings, i.e., "green products." According to McGraw Hill's *Green Outlook 2011* report , the current focus on green buildings is not a trend but a construction transformation. In the past five years, the US non-residential green market alone grew from approximately 3 billion US dollars to 43 billion US dollars, and total green construction grew by approximately six-fold[1]. Another important driver for the current focus on green products is customer demand. According to market research by the American retailer company Walmart, customers require that the products they buy are safe for use, that they are made well and that they are produced in a responsible way[2]. Other market research projects show that customers choose to buy products and services from companies that have a good ethical, social and environmental reputation. One such study shows that in the United States, 45% of adults surveyed show this preference[3]. In the construction sector, 78% of architectural and engineering firms and 81% of contractors say that client demand is driving them toward green[1].

How Green Products Were Defined

Until three or four years ago, the focus on the definition of green products for construction application, such as those in the flooring industry, revolved around the recycled materials content and the amount of volatile organic compounds (VOCs) in the products. Standards like LEED still call for products with recycled content, giving preference to the use of post-consumer recycled materials, in order to reduce waste to landfill. Requirements in LEED related to indoor air quality place great emphasis on low-VOC products to protect the health and well-being of building occupants. Over the years, Mapei has placed great emphasis on reducing the VOC content of its products, and particularly of its organic adhesives whose VOC content is well below that specified by organizations such as California's South Coast Air Quality Management District, the European GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.) and the German Der Blaue Engel Jury.

The Definition of Green Products Today

A number of important steps have recently been taken to define in measurable and verifiable manner what a green product is. In 2008, for example, the latest revision of ASTM (American Society for Testing and Materials) E2114, Standard Terminology for Sustainability Relative to the Performance of Buildings, was published in the USA[4]. ASTM Committee E60 on Sustainability is also in the process of developing a document titled "Guide for Minimum Communication of Marketing and Product Claims Related to Sustainable Building Products."

The purpose of the guide is to provide information on marketing and product claims related to sustainable or "green" building products. In addition, it outlines market expectations for communication of environmental data related to sustainable building products. It should be pointed out that the word "green," in the context of products, is gradually being replaced by the word "sustainable." Sustainability is a broader and more clearly defined concept as can be seen in the new standards that are designed to provide the necessary criteria for certifying green or sustainable products. As described below, new standards that are emerging for certifying green products have gone a long way toward defining the necessary criteria for identifying a product as green or sustainable.

New Standards for Green Products in The Flooring Industry

The Sustainable Carpet Assessment Standard (ANSI 140), completed in 2007, was developed to provide the criteria for demonstrating how carpet and rug products conform to the environmental, economic and social principles of sustainability throughout the supply chain. Another example, completed in 2010, is the Sustainability Assessment for Resilient Floor Coverings by the National Science Foundation/American National Standard Institute 332. The criteria covered by

this standard include the following:

• Product design including life-cycle assessment. The emphasis is placed on ensuring that products work as advertised, and that the products' impact on the environment is minimized;

• Responsible product manufacturing that includes conservation of energy and resources, reduction of environmental impact and minimization of packaging material;

• Long-term value that includes durability and the protection of indoor air quality that is achieved not only through minimization of emissions from products such as adhesives and sealants, but also through the prevention of mold growth and reduction of dust from products during their use. Mapei products containing BioBlock® technology for the prevention of mold and low-dust products are good examples.

• End-of-life management that includes product recyclability and compostability as well as post-consumer collection and reclamation in order to reduce waste and to use resources more wisely.

• Corporate governance including commitment to sustainability and public disclosure or reporting, employee safety and working conditions, and community engagement.

• Innovation is a key component of what makes a product green. In fact, the "green" movement is fueling innovation that is transforming construction products and practices, leading to improved competitiveness through reduction of waste and the improvement of quality. The tile industry has also been working on developing a standard for certifying sustainable tile and tile installation products. The draft standard was submitted for review to an ANSI (American National Standards Institute) committee in March 2011. This standard is also based on the sustainability principles and covers criteria similar to those outlined above.

Life Cycle Analysis (LCA)

A relatively new tool for assessing the true environmental impact of products or to assess their "greenness" is gaining popularity – the life cycle analysis methodology. The rules for doing an LCA are described in the international standard ISO 14040. The LCA methodology enables one to look at all the mass and energy flows from the time raw materials are extracted from the environment, through the product's manufacture, its use, and its final disposal at the end of its service life. Following all the mass and energy flows can enable one to know the product's impact on the environment[5]. LCA is being considered for inclusion in the next version of the LEED standard as a new credit for which points can be earned. The concept of "green" has come a long way from the days when it was only a vague feel good term to one that is defined in keeping with the sustainability principles. The development of standards that can be used to certify products as "green" is important to not only differentiate products but also to bring about improvements that will enable industry to enjoy sustained growth. Mapei's sustainability initiative, formally launched in 2010, is a critical component of the Company's ongoing commitment to support "green construction".

This article was taken from Realtà Mapei Americas, n. 15, the in-house magazine published by Mapei Corp. (USA), whom we would like to thank.

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[1]McGraw Hill, *Green Outlook 2011*

[2]*Chemical Week*, July 20/27, 2009

[3]*Ipsos MORI market research study*, 2006

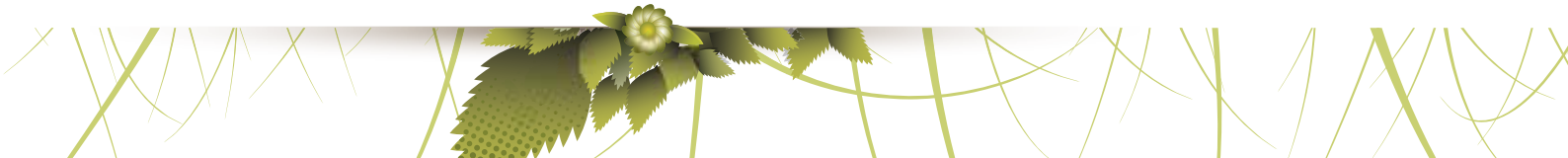
[4]ASTM E2114 *Standard Terminology for Sustainability Relative to the Performance of Buildings.* Annual Book of ASTM Standards, Volume 04.12

[5]*Guide for Minimum Communication of Marketing and Product Claims Related to Sustainable Building Project,* ASTM Committee E60

[6]*LCA for Mere Mortals*, by Rita Schenck, from the Institute for Environmental Research and Education

To develop eco-sustainable products, you have to invest in research and have your products certified by internationally recognized institutions.

Mapei products have been awarded official international certifications worldwide.



THE DRIVING FORCE BEHIND GROWTH

Research & Development for growing on the global market

MARCO SQUINZI
Mapei Group's Research & Development Director

In the Company strategy illustrated by the Mapei Group's CEO Giorgio Squinzi, success will only come through growth on the global market; to grow you have to be competitive; to be competitive you must invest in Research & Development; and to invest efficiently in R&D, you have to be open to the global scientific community.

Mapei's largest efforts have always been dedicated to Research, and 5% of total revenue is invested into R&D. Mapei has 18 main R&D Centres: 3 in Italy (the Corporate R&D Laboratory in Milan, besides 1 in Villadossola and 1 in Ponte di Piave), 1 in France (Toulouse), 2 in Germany (Wiesbaden and Augustdorf), 1 in Canada (Laval), 3 in the United States (2 in Deerfield Beach, of which 1 owned by Mapei and 1 by Polyglass, and 1 in Dalton), 1 in Norway (Sagstua), 1 in Austria (Langenwang), 1 in Switzerland (Sorens), 1 in Poland (Trzebinia), 1 in Singapore, 2 in China (Shanghai and Guangzhou) and 1 in Korea (Jinckeon).

Personnel dedicated to Research account for 12% of the total workforce and research is the sector in which Mapei continues, even today, to take on the largest number of new recruits, choosing particularly amongst young high-school and university graduates in various science disciplines.

The laboratories, co-ordinated by the Corporate Research Centre in Milan, are equipped with the most sophisticated equipment available, and also work with prestigious universities and scientific and industrial research institutes. They provide support to the Technical Service Department to solve the most complicated problems, and the Quality Control laboratories of all the Group's 59 production facilities also work alongside the R&D laboratories.

Mapei R&D are equipped with cutting-edge equipment. In the picture, I.R. spectrophotometer with microscope.

Below. ESEM-FEG electron microscope at Mapei R&D Centre in Milan.
In the next page. Mapei research activities are closely tied with the development of new products or with the application of the existing ones. The Company invests in R&D activities 5% of its revenue.

Research for Man and the Environment

Attention to eco-sustainability is currently the main driving force behind the Corporate Research Centre in Milan. The elimination of solvents, progressive replacement of "PBT's" (Persistent, Bio-accumulative and Toxic materials), an increase in the use of recycled materials and durability (an increase in the service life of materials applied) are the main objectives of the Corporate Research Centre, which place it in the front line when it comes to proposing technologically-advanced solutions.

To reach these objectives, the Centre has an approach to innovation which uses specialised research teams as one of its strong points, based on their in-depth experience and knowledge and constant contact with those who use the products.

Specialisation is not unconnected with the multidisciplinarity nature of research, which includes the exchange of information and knowledge between the teams and the constant update of scientific knowledge through joint research projects with the scientific community.

All of this obviously has a precise target, the global market, to provide quick answers to specific requirements, to develop products and introduce them, where possible, into homogenous, integrated systems to provide clients with specific solutions to a wide array of requirements in the building sector.

The main objectives of Mapei Research & Development include the identification and development of new ranges of products/systems, penetration into new market segments and, therefore, an increase in the business portfolio.

All this allows the Mapei Group to not only grow, but also to be, for example, less vulnerable to the current unfavourable economic conditions and increasingly be closer to experts from the building industry with a product range able to satisfy all their needs.

R&D AND THE ROLE OF PRODUCT MANAGERS

Synergy to accelerate innovation and growth

Among the main recommendations from the most authoritative economists to a company operating on the global market are the need to specialise in differentiated market niches, to have an extremely flexible company structure, to pay the utmost attention to clients' needs and adapt to them accordingly and, finally, to specialise in products with a high technological content. To that effect, high investments into Research & Development are the silent, yet powerful, propellant which makes this exemplary process run at full regime.

Through specialisation, Mapei currently offers 15 product ranges and, as concrete proof of its internationalisation, the Group has 68 subsidiaries and 59 production facilities in 25 countries. Also worthy of mention is the growth in the number of R&D centres around the world: an increase which was strongly desired, in order to be closer to local markets and to the specific requirements of clients in each single country.

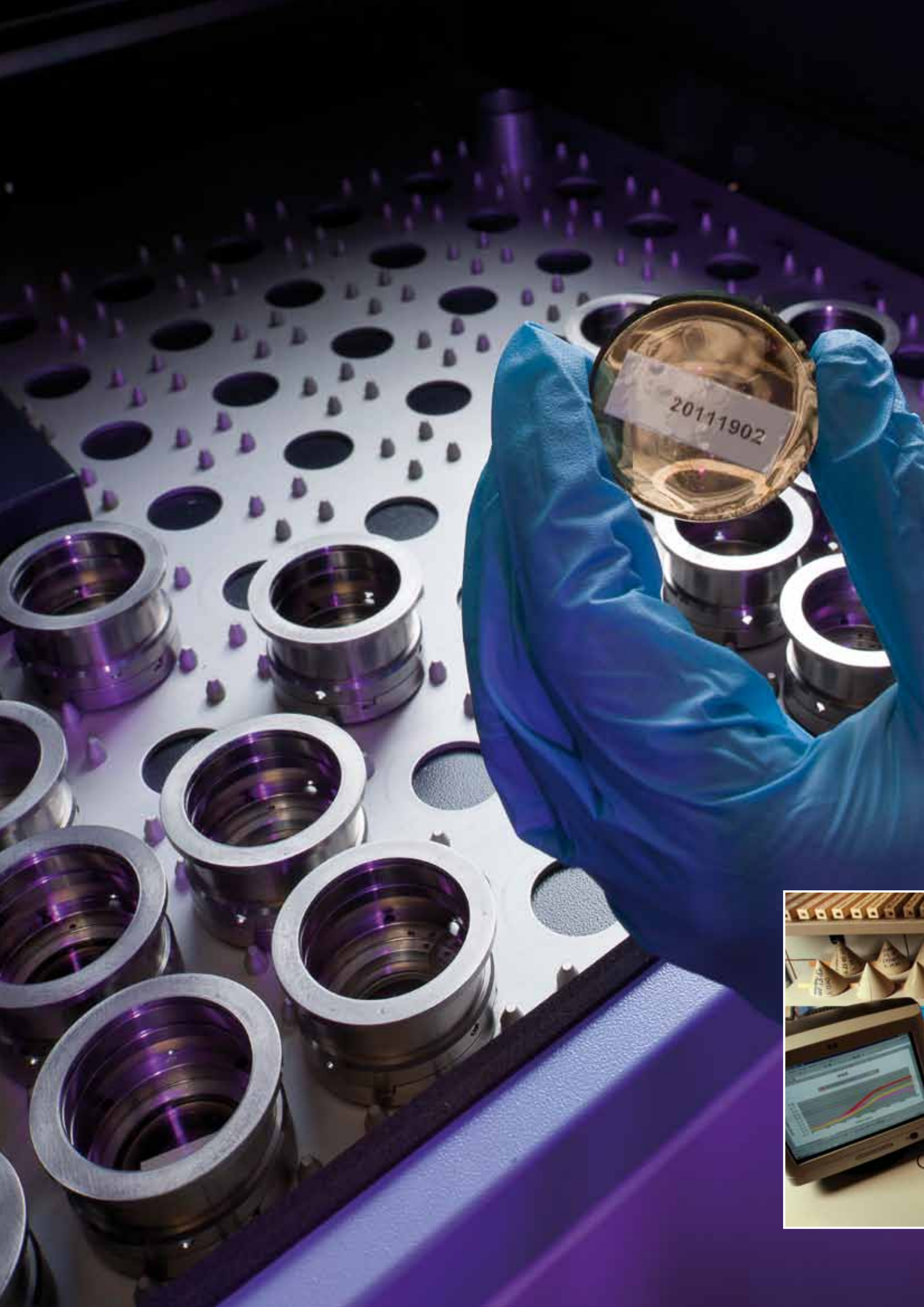
Behind all Mapei products there is an impressive amount of scientific research to which more than 730 employees are dedicated (see article on previous page).

The Role of the Product Managers

One of the main objectives of Mapei Research & Development is to identify and develop new ranges of products/systems, penetrate into new market segments and, therefore, increase the business portfolio. A key role in this process is covered by Product Managers, who integrate different corporate functions towards a single strategic objective, and maximise the value of a product according to market requirements.

This figure is of primary importance for Mapei because, apart from making all corporate activities focus on the market, they also have a direct relationship with the formulation of new products and the implementation of existing ones.

Mapei's team of Product Managers has been strengthened over the years, and thanks to the indications from these market professionals and the interaction between local product managers and the R&D Centres, today it is possible to give a quick response to clients' requirements and, in many cases, anticipate market trends. Basically, local Product Managers are professionals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who operate on the local territory and, by working in close contact with their clients, have the task of directing activities in the R&D centres towards the formulation of new products, or the improvement of existing products, to test new formulations directly in the field and then suggest modifications before a product is actually launched onto the market. This is a consolidated method, in line with Mapei's usual procedure whereby there is a long experimental and testing process of their products. To achieve this, apart from identifying the final objectives, one of the Product Managers' tasks is to make sure tests are carried out as soon as possible during the development of various types of product.

One of the most important results of their work in the field in recent years is, without a doubt, the increase in the number of new product ranges available, guaranteeing complete coverage through the chemical products on offer to the vast world of building. But that's not all. For a number of years in Mapei we no longer talk about single products, but about product systems. Complete solutions for all building requirements, through the interaction of different products developed to be compatible with each other and guarantee the best results possible. Outstanding examples of this concept are the ranges which include systems for restoring masonry buildings, thermal insulation and soundproofing systems and systems for structural strengthening.

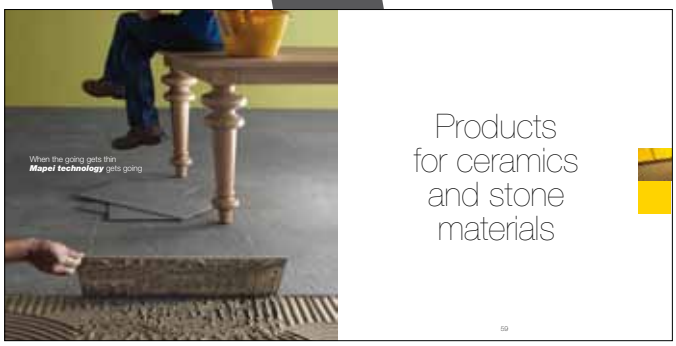
From concrete repair using extremely durable, shrinkage-compensated systems (the MAPEGROUT line) to waterproofing products which are today a part of systems for foundations to roofs, or thermal insulation systems and wall coatings, Mapei Research & Development keeps on working to offer not only what the market is demanding, but also to anticipate what the market will be demanding in the future.

Amongst the exemplary achievements resulting from the path Mapei has chosen to follow, there are also figures available: data from the market tells us, in fact, that in spite of the moment of crisis such as the one we are currently going through, this strategy has brought rewards on a global scale, and turnover in the last 5 years has been growing by an average of 10% each year.

» A LONG TESTING PROCESS GUARANTEES PRODUCT QUALITY

Above. The polymer synthesis laboratory at Mapei R&D Center in Milan.
Left. Chemical elemental analysis by X-ray fluorescence.

15 PRODUCTION LINES



CERAMICS AND STONE MATERIALS

A COMPLETE RANGE OF PRODUCTS TO HELP SELECT THE MOST SUITABLE LAYING SYSTEM: CEMENTITIOUS AND PASTE ADHESIVES, HYDRAULIC BINDERS AND PRE-BLENDED MORTARS FOR SCREEDS, PRIMERS, SKIMMING COMPOUNDS, GROUTS, SEALANTS AND COMPLEMENTARY PRODUCTS.
Product Manager **Francesco Stronati**

Mapei products contribute to the quality of life by modifying and improving aesthetics, comfort and safety in the environments where we live. In fact, Mapei products are everywhere in our homes: underneath floors, in concrete pillars and on the surface of historical buildings. Substrates which are often invisible, yet inseparable from the elements for which they ensure a bond is formed through their adhesive force. All of this obviously has a precise target, the market, to provide quick answers to specific requirements, to develop products and introduce them, where possible, into homogenous, integrated systems to provide clients with specific solutions for a wide array of requirements in the building world. More than 1,400 technologically-advanced products which meet all the requirements of designers, professionals and final users, supplying solutions which start from the foundations and reach right up to the roof top. Mapei is synonymous with innovation, and constantly creates complete product systems to answer any request. This is the real reason why Mapei is world leader in the market of adhesives, sealants and chemical products for the building industry.

ELASTIC SEALANTS AND ADHESIVES

A SERIES OF SEALANTS TO SATISFY ANY TECHNICAL AND APPLICATION REQUIREMENT OF CRAFTSMEN AND PROFESSIONAL USERS: ONE- AND TWO-COMPONENT ACRYLIC, SILICON, POLYURETHANE, EPOXY-POLYURETHANE AND HYBRID PRODUCTS.
Product Manager **Fabio Guerrini**

RESILIENT AND TEXTILE FLOORS AND WALLS

MAPEI ALSO OFFERS A WIDE RANGE OF ADMIXTURES, BINDERS AND PRE-BLENDED MORTARS FOR SCREEDS, PRIMERS, INSULATING MATERIALS, CONSOLIDATING AGENTS, AND MOISTURE BARRIERS, SKIMMING COMPOUNDS, ADHESIVES AND ACCESSORY PRODUCTS FOR INSTALLING RESILIENT MATERIALS.
Product Manager **Angelo Nobili**

WOODEN FLOORING

A RANGE OF PRODUCTS DEDICATED EXCLUSIVELY TO WOODEN FLOORS MADE UP OF ADHESIVES, BINDERS, ADMIXTURES, PRE-BLENDED MORTARS FOR SCREEDS, PRIMERS, CONSOLIDATING AGENTS AND WATERPROOFING PRODUCTS TO PREPARE SUBSTRATES AND LEVELLING COMPOUNDS.
Product Manager **Angelo Giangiulio**

CEMENTITIOUS AND RESIN FLOORINGS

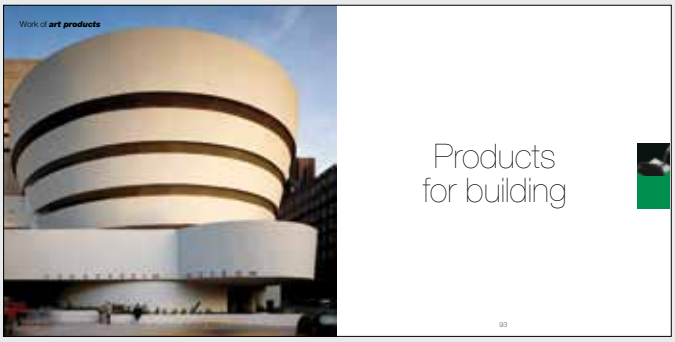
A SERIES OF SYSTEMS FOR EPOXY, POLYURETHANE AND CEMENTITIOUS FLOORING WHICH, ALLOW USERS TO MATCH FLOORS QUICKLY AND EFFICIENTLY TO THEIR REAL USE. DESIGNERS MAY CHOOSE THE MOST ATTRACTIVE FINISH WITHOUT NEGLECTING ALL TECHNICAL ASPECTS, SUCH AS RESISTANCE TO ABRASION, IMPACT, CRACKING AND AGGRESSIVE CHEMICAL AGENTS, WHILE GUARANTEEING FLATNESS AND EASY CLEANING.
Product Manager **Piercarlo Rocca**

ACOUSTIC INSULATION

MAPEI OFFERS THE MOST SUITABLE SOUNDPROOFING SYSTEMS (MAPESILENT, MAPESONIC CR) FOR CERAMIC AND NATURAL STONE FLOORING, AS WELL AS FOR FLOORS IN WOOD AND OTHER MATERIALS.
Product Manager **Antonino Munafò**

PRODUCTS FOR BUILDING

SOLUTIONS FOR THE INNUMERABLE AND VARIEGATED PROBLEMS THE BUILDING INDUSTRY HAS TO FACE ON A DAILY BASIS; PRODUCTS CREATED SPECIFICALLY FOR REPAIRING CONCRETE STRUCTURES, RENOVATING BUILDINGS OF HISTORICAL INTEREST AND STRENGTHENING AND CONSOLIDATING MASONRY WORK AND REINFORCED CONCRETE FOR EACH REPAIR INTERVENTION, MAPEI OFFERS THE MOST APPROPRIATE CHOICE OF TECHNOLOGICALLY INNOVATIVE MATERIALS AND SYSTEMS, SUITABLE FOR EVERY NEED.
Product Manager **Pasquale Zaffaroni**



STRUCTURAL STRENGTHENING

MAPEI DEVELOPED STRENGTHENING SYSTEMS TO MEET THE SPECIFIC REQUIREMENTS OF STRUCTURAL ENGINEERS, USING A COMBINATION OF POLYMER-BASED CARBON FIBRE AND GLASS FIBRE FABRICS, BASALT FIBRES, ETC. THIS LINE INCLUDES EPOXY PRIMERS, SKIMMING COMPOUNDS, STRUCTURAL ADHESIVES AND EVERYTHING ELSE YOU REQUIRE TO PREPARE AND STRENGTHEN ELEMENTS CORRECTLY AND TO APPLY PROTECTIVE, DECORATIVE COATINGS.
Product Manager **Giulio Morandini**

REPAIR OF MASONRY BUILDINGS

THE COMBINED USE OF LIME AND ECO-POZZOLAN HAS PERMITTED MAPEI TO FORMULATE A SPECIFIC RANGE OF DEDICATED PRODUCTS CALLED MAPE-ANTIQUE FOR CONSOLIDATING AND RENOVATING BRICK, STONE, TUFF AND MIXED MASONRY ON BUILDINGS, INCLUDING THOSE OF HISTORICAL AND ARTISTIC INTEREST.
Product Manager **Davide Bandera**

PRODUCTS AND PRODUCT MANAGERS

THERMAL INSULATION

MAPEI HAS CREATED THE MAPETHERM AND MAPETHERM TILE SYSTEM SYSTEMS GUARANTEEING A REDUCTION IN ENERGY CONSUMPTION IN BOTH WINTER AND SUMMER (ESTIMATED AT 30-35%), IMPROVES LIVING COMFORT AND ELIMINATES INTERSTITIAL CONDENSATION OF WATER VAPOUR IN THE WALLS OF BUILDINGS.
Product Manager **Marco Grossi**

WALL PROTECTIVE AND DECORATIVE COATINGS

THROUGH THE EXPERIENCE GAINED OVER THE YEARS, THOROUGH KNOWLEDGE OF THE FORMULATION AND PRODUCTION OF HIGHLY-PROTECTIVE, DURABLE RAW MATERIALS AND NEW, INNOVATIVE PRODUCTION FACILITIES MAPEI'S RANGE OF FINISHING PRODUCTS IS TODAY EVEN WIDER.
Product Manager **Paolo Sala**

WATERPROOFING

WITH DECADES OF EXPERIENCE ON THE INTERNATIONAL MARKET, WATERPROOFING IS A THEME WHICH MAPEI APPROACHES WITH SUCCESS BY OFFERING A WIDE RANGE OF SPECIFIC, SAFE AND DURABLE SOLUTIONS FROM FOUNDATIONS TO ROOF TOPS.
Product Manager **Dino Vasquez**

ADMIXTURES FOR CONCRETE

HYPER-PLASTICISERS, SUPER-PLASTICISERS, AIR-ENTRAINING AGENTS, ACCELERATORS, RETARDANTS, ANTI-EVAPORATING AGENTS AND FORM RELEASE AGENTS, DEVELOPED TO INCREASE THE IMPERMEABILITY, DURABILITY, STRENGTH AND MAINTENANCE OF WORKABILITY OF CONCRETE.
Product Manager **Gianluca Bianchin, Walter Nussbaumer**

UNDERGROUND CONSTRUCTIONS

THROUGH ITS UNDERGROUND TECHNOLOGY TEAM, MAPEI OFFERS GLOBAL SOLUTIONS TO ITS CLIENTS' TECHNICAL REQUIREMENTS IN THE FIELD OF UNDERGROUND CONSTRUCTIONS. APART FROM SETTING ACCELERATORS FOR SHOTCRETE PRODUCTS FOR WATERPROOFING TUNNELS AND UNDERGROUND STRUCTURES STAND OUT PARTICULARLY.
Product Manager **Enrico Dal Negro**

GRINDING AIDS FOR CEMENT

GRINDING AIDS ARE FORMULATED TO SOLVE THE PROBLEM OF AGGLOMERATION INSIDE TUBULAR GRINDING MILLS AND IMPROVE THE QUALITY OF CEMENT. MAPEI PRODUCES TWO FAMILIES OF GRINDING AIDS: MA.G.A. (MAPEI GRINDING AIDS) AND MA.P.E. (MAPEI PERFORMANCE ENHANCERS). THEIR USE ALLOWS THE OPERATING CONDITIONS OF PLANTS TO BE OPTIMISED, IMPROVING THE QUALITY OF FINISHED CEMENT WHILE OFFERING IMPORTANT ECONOMICAL ADVANTAGES IN THE RUNNING OF CEMENT PLANTS.
Product Manager **Davide Padovani**

MAPEI ARCHITECTURAL SOLUTIONS GUIDE

A fundamental tool to construct correctly, strengthening the relationship with the world of design

The *Mapei Architectural Solutions Guide* represents a new, key element in the relationship between Mapei and the world of design, a fundamental relationship which will become even more solid thanks to this initiative.
The *Mapei Architectural Solutions Guide* is a "technical community" just a click away, enabling technicians from the design sector to dialogue directly with Mapei specialists through a dedicated e-mail address (grandiprogetti@mapei.it), and construct their project step-by-step. The *Mapei Architectural Solutions Guide* is currently comprised of 17 chapters, representing 17 different macro-areas of interest which architects, designers and technical specialists from building companies and public and private bodies and organisations have to deal with on a daily basis.
It is an interactive manual, by its very nature both flexible and in constant evolution, created in such a way that each user can identify the best solution for a design problem from within an ample range of proposals, based on the experience gained over the years directly on site by the Mapei Group organisation. By running through the index of the various chapters, or typing in a keyword or the name of a specific product, you can find the appropriate *Technical Specifications* and the most suitable materials to use for a specific intervention. Knowing that a durable, sustainable intervention may only be achieved by thinking in terms of systems rather than products, has led us to preface each *Technical Specification* with detailed *Procedures* which, if followed correctly, will enable you to design and carry out your work to perfection. The rule to construct correctly dictates that a complete, detailed cycle must be supplied, starting from substrate preparation, followed by a description of the various application phases of each different material and its specific function, to enable work completed to perfection to be delivered. By following the *Procedures*, developed and perfected for the most complex, articulated work cycles, it is possible to consult each single *Technical Specification* and execute a project in its entirety. You can also immediately and quickly consult the attached Technical Data Sheet for each single product (with the main certification highlighted), and drawings of operations which are easier to represent through images. The *Mapei Architectural Solutions Guide* follows the same ideal path which we have always based our decisions on, a founding principle which places Research & Development, Training and Technical Service at the centre of every company activity. Mapei wanted to create a tool which interprets the real requirements of designers, to translate pure research into applied research, and applied research into design solutions and technical specifications. Each design theme never disregards the durability and sustainability of each intervention. Durability and sustainability are the real mainstays of Green Building, and is only made possible if the starting point is design based on Green Technology. For Mapei, commitment to the environment has always been an essential requirement in building work, and the *Guide* proposes eco-sustainable solutions which highlight the certification issued by institutes which operate by following consolidated, internationally-recognised procedures.
With this dedicated initiative, Mapei proposes itself as a partner for designers, supplying winning, durable solutions with the aim of promoting a more correct construction method, while guaranteeing highly-specialised assistance all around the world.

FIORELLA RODIO
Mapei Major Projects Division Director

GLOBAL MARKETING

Tools and operations designed to support growth

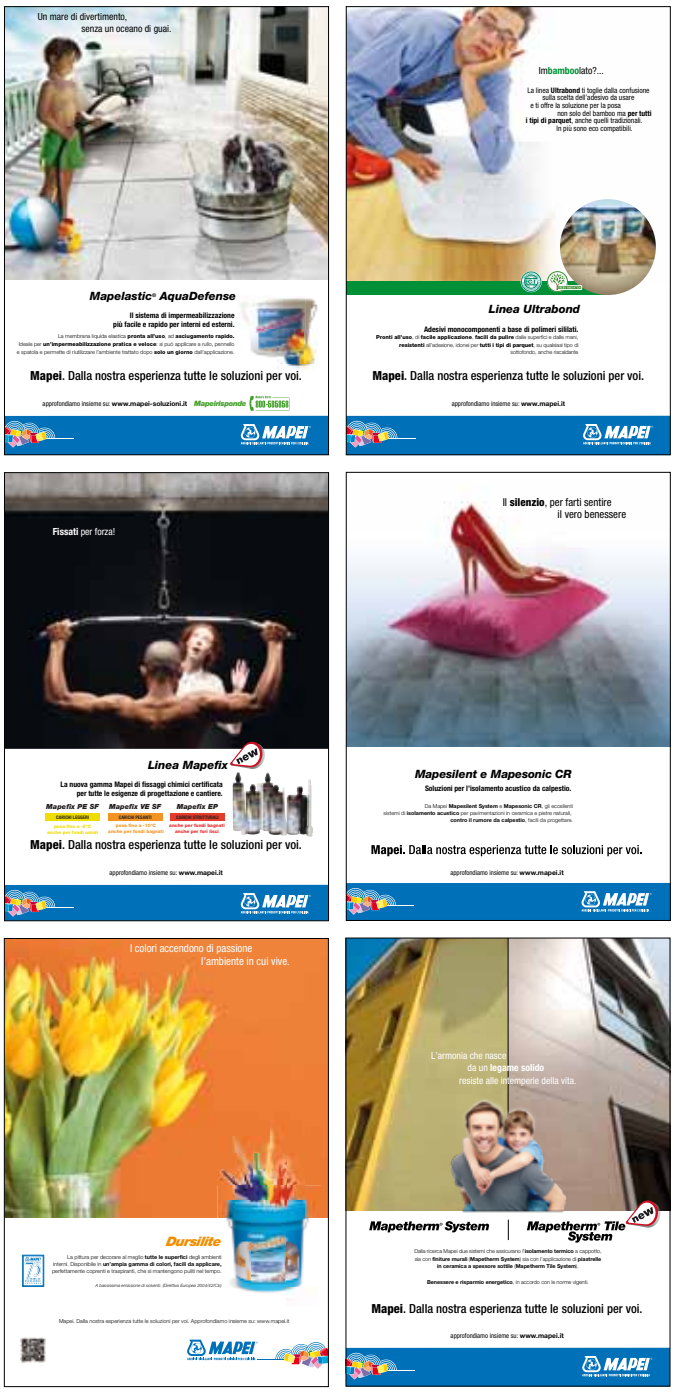
ADRIANA SPAZZOLI
Mapei Group's Operational Marketing & Communication Director

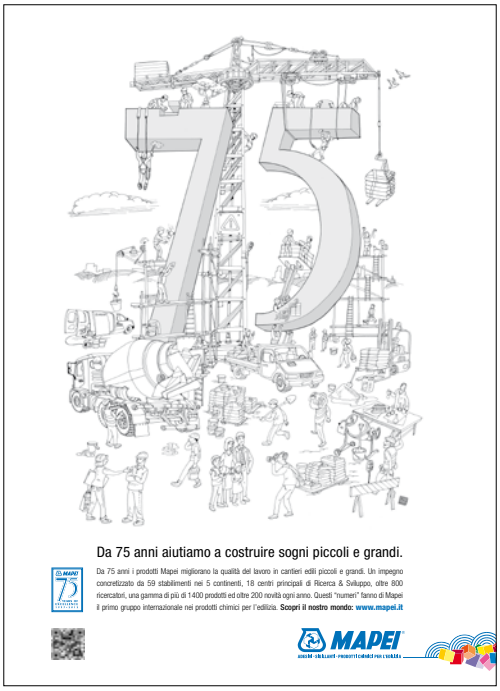
Think globally and act locally. In other words Mapei is pursuing worldwide growth on a "glocal" basis. Marketing and communication also necessarily move in this direction. And although the guidelines of corporate marketing strategy come from the Company's corporate headquarters, it is equally true that each of Mapei's 68 subsidiaries around the world has plenty of freedom to undertake their own press campaigns or decide which communication channels to operate through.

A striking example in this respect comes from our in-house magazine, which is simultaneously both truly international and also "glocal". As well as the edition published in Italian and the English version *Realtà Mapei International, Realtà Mapei* is also available in the local language for: Spain, France, UK, Ireland, Germany, Austria, Switzerland, Hungary, Czech Republic, Croatia, Serbia, Bosnia-Herzegovina, Portugal, Poland, Slovenia, Slovakia, China, Russia, United Arab Emirates and North America.

For Mapei communicating is not just a matter of passing on information, it also means, as its etymological roots in the Latin verb *communico* suggest, bringing together, getting involved and sharing knowledge.

Mapei follows a carefully-targeted marketing policy: specific strategies for certain product lines destined for selected markets and types of clients are backed up and supported by carefully studied marketing operations and tools. By following these strategic guidelines, communication constantly evolves taking advantage of all the latest means of communication without overlooking traditional methods.





The New Advertising Campaign

Mapei's 75th anniversary is not just an opportunity to celebrate an important date, it also provides the chance to focus on those targets that still need to be attained.

Mapei decided upon the kind of image it wants to project in the near future and a twin approach has been opted for. On one hand, a highly striking line drawing embodying the whole concept of "World of Mapei" and, on the other, a realistic representation based on photographic images of the various sectors of the building industry with which the Company works on a day-to-day basis on building sites all around the globe.

The Milanese illustrator, Carlo Stanga, had the idea of drawing the "Mapei Citadel", a suspended place, which is, at the same time, very real. The image in question, which is bursting with life and its own independent force, is based around Mapei products found in every single location in this imaginary place.

Alongside the original and highly artistic impact of the drawing, which appears on the front cover of this issue, it was almost inevitably decided to resort to an illustration. On one hand, to overcome the difficulty a photographic image might have had in expressing what was intended to be represented and, on the other, due to the genuine freedom of expression and powerful communicative capacity only a drawing of this nature can offer.

Just like in Renaissance images of the "ideal city" portrayed by Piero della Francesca or Raphael, there is a man at the centre of Stanga's drawing of the Mapei Citadel, specially created for the company. Man can see his destiny fulfilled in the

Above.
Mapei's institutional and product advertising campaigns are the result of a constant contact between the mother company and subsidiaries as regards both creativity and diffusion. Above, on the left, the illustration devised by the Italian illustrator Carlo Stanga for the Company's 75th anniversary.

In this page.
All Mapei packaging highlights the norms and standards for the countries where the product is sold. It also contains product identification details, application and final performance data. Technical documentation consists of tools dedicated to the choice and use of the over 1400 products from the catalogue and it is available in more than 20 languages and on www.mapei.com
Below. The general catalogue of Mapei products.

city in all its complexity.
Just as was the case with the advertising campaign based on photographic images, the designer, applier and end user are the people Mapei is really interested in. People who can make all their dreams in terms of living and lifestyle come true, thanks to the constantly innovative help provided by the Company.

A Number of Communication Tools

• *Advertising and Sponsorship*

Targeted advertising campaigns through press releases and television spots, sponsorships for high-impact projects and numerous organised events to have constant, direct contact with the client: Mapei uses every form of communication, from TV (sales promotions and advertising spots) to radio, from daily news and sports papers to specialised journals, without forgetting internet and the latest social networks.

• *Packaging*

All Mapei packaging highlights the norms and standards for the countries where the product is sold. It also contains product identification details, application and final performance data.
Along with the continuous evolution of our products, special attention is also paid to packaging, so that all the performance characteristics which single out Mapei products are guaranteed for as long as possible.
Also, the special graphics make the new packaging easily recognisable and more functional, the result of in-depth market research and in line with the expectations of those who work in the building industry.

• *Efficient communication at points of sale*
Special care is taken at sales outlets and sales points dedicated to Mapei products at authorised distributors. Eye-catching design in the company colours invite the public to come in and get to know the world of Mapei; targeted promotions are used to boost sales of leading products.

• *Mapei on line*
The Mapei website allows you to connect with all Mapei subsidiaries around the world.
Each subsidiary's website contains a section about the history of the company, corporate information about the Group and products available on the various markets, items of interest and projects references.
The layout of the website has been designed so surfers immediately find the answer they are looking for.

• *Technical documentation*
Product documentation is full of technical information, from where to use the product to technical specifications for the product. Even the price list has been designed to be a practical, easy to read work tool for salesmen. Another efficient, immediately useful tool is the "150 and more Building Solutions" manual (also available on line at www.mapei.it). It is a pocket-size volume, always within easy reach, and is a useful tool to solve a host of problems on site.

Above. Mapei participates in specialized trade shows held every month of the year throughout the world. These are ideal opportunities to meet and interact with the market and customers.
Exhibitions are for Mapei the most considerable investment in communication activities and also represent the most performing tool for the Company. They provide a chance to introduce new products and new solutions, but also to communicate Mapei's know-how by taking part to conferences, workshops, seminars and side events organized during the trade shows.

SPORT: PASSION AND COMMITMENT

In the middle. Left, the Mapei Professional Cycling Team cross the finish line at the prestigious Paris-Roubaix cycling race. Right, the Italian national football team, sponsored by Mapei, won the 2006 FIFA World Cup.

Below. The Sassuolo Calcio football team, sponsored by Mapei, playing on the pitch.

Fatigue and joy, the desire to surpass one's own limits, conscientious programming and teamwork. On the basis of these principles, the Mapei Professional Cycling Team dominated the international scene for a decade between the old and new millenniums.

"Teamwork" is the foundation stone of the Company's success, which is why Mapei organises and sponsors sports meets and events for all its work friends and partners, such as the annual Mapei Day. The first edition was held in 2005, and attracts thousands of cyclists and athletes each year. This philosophy is shared by the Group's subsidiary companies, which organise various sports events or provide sponsorship all over the world.

It is also worth remembering the victory of the Italian National Football Team at the 2006 FIFA World Cup in Germany with Mapei as the "good-luck charm". At an international level Mapei has played a leading role in the most important cycling events, by sponsoring, for instance, the UCI (Union Cycliste Internationale) Cyclo-Cross World Championships in 2008 and 2009 and, in 2011, the UCI MTB Marathon. It was also the Main and Naming Sponsor at the UCI Road Cycling World Championships held in Varese in 2008, in Mendrisio in 2009 and in Melbourne in 2010, and was the Main Event Partner of the UCI for the 2011 Road Cycling World Championships held in Copenhagen. The consolidated relationship with the UCI will also continue with the UCI Road Cycling World Championships in 2012 in Limburg (Netherlands) and in Florence in 2013.

Mapei also sponsors events, athletes and entire teams in many sporting disciplines, such as the Sassuolo Calcio football team, which was promoted to the C1 division of Italian championships for the first time in its history in 2006, and then to the B division in 2008: the reward for a team that learned how to metabolise the Company's winning philosophy.

The bond with the La Scala Theatre has deep roots in the story of Mapei. It has been a concrete reality since 1984 when Mapei became a Corporate Subscriber, and continued with Company's contribution to the renovation and restoration of the theatre, thanks to the technology of Mapei Research. Since 2008, the bond with La Scala has been reinforced even further, with Mapei becoming a Permanent Founder. The 75th anniversary of the Company's activities is another occasion to consecrate the alliance between work, the arts and culture.

AT THE CENTRE OF ARTS AND CULTURE

Mapei contributes to high-level music events and prestigious cultural institutions

The attention which Mapei has always paid to arts and culture is a cornerstone of the Company's philosophy, which has its roots way back in time, and is borne out of the firm conviction that, as Giorgio Squinzi says, "work can never be separated from the arts and passion". Mapei sponsors important cultural events, such as concerts and operas billed for prestigious international theatres (for example, the La Scala Theatre in Milan, of which Mapei is a Founding Partner since 2008).
For a number of years, Mapei has sponsored various musical events at the La Scala Theatre to raise funds for charities and scientific research. Amongst these events, worthy of mention are the annual concerts organised by the Negri Weizmann Committee and the LILT (the Italian Anti-Tumour League), and also the concerts organised by the Ladies section of the Italian Red Cross. A passion which Mapei has also injected into magnificent musical and cultural centres which have been lovingly restored with its products, such as the Petruzzelli Theatre in Bari, the San Carlo Theatre in Naples, the Guggenheim Museum in New York, the Peggy Guggenheim Collection in Venice and the "Antonio Salinas" Museum of Archaeology in Palermo. A direct line with the city of Milan, which witnessed the birth and growth of Mapei, is also the constant collaboration with the National Museum of Science and Technology of Milan, where the Company recently contributed to the creation of an area dedicated to adhesive substances.
Mapei, which has always had a special interest in the environment and is a committed supporter of the conservation of Italy's cultural and artistic heritage, is also a Corporate Golden Donor of the F.A.I. (the Italian Environment Fund), with which it has taken part in various projects, such as the renovation of Villa del Balbianello on the Como lake, the 99-Spout Fountain in L'Aquila, the San Francesco d'Assisi Wood and the Ferrari Museum in Modena, to name just a few examples. And, to confirm its international vocation, Mapei also played a leading role at Expo Shanghai 2010 and is ready to contribute to the next Expo 2015 in Milan.

HUMAN RESOURCES AT THE CENTRE OF DEVELOPMENT

Mapei's corporate philosophy aims at enhancing human resources' competences

MARCELLO BIANCHI
Mapei Group's Human Resources Director for Italy

LAURA BOSSER
Mapei Group's Recruiting, Training and Compensation Manager for Italy

Mapei's strategy for internationalisation is to maximise growth and efficiency, and not only profits, by concentrating on a mix which includes products, production capacity, technological innovation and people.

Following a corporate philosophy which targets people and how to make the most of their expertise, alongside product managers and promoters, there is considerable investment into the entire human resources aspect: from researchers, of course, to personnel from the Technical Service Department and the Sales Team, without forgetting specialists that work for our Administration, Financial and Information Technology Services, all are fully aware that they are part of a winning team which forms the real driving force of the Company. To build such a team the starting point is the constant search and integration of the best candidates from the human resources market. The Mapei brand has a very high level of appeal on the human resources market, but the search for the most talented people is also developed through partnership projects with some of the most prestigious universities, where the Company has been operating for many years, not only on real, specific cases as a basis for degree courses, but also through events organised for young graduates and final-year students, such as career days, interviews with the Company managers and workshops. Mapei is a large, global, multi-national company. Our human resources must comprehend and interact, to the best of their abilities, with the complexity of this international reality in constant growth, as wells as the special requirements of each geographical area. Since we use only locally-sourced

people to cover management positions for our subsidiaries, the Mapei corporate philosophy is divulged all over the world by a team of highly-professional, highly-dynamic people constantly on the move all over the five continents. To make sure the capillary monitoring and development process of the companies within the Group is carried out efficiently, all Mapei employees take part in high-level training courses to enable them to grow constantly, not only to gain the most advanced technical and specialist knowledge, but also to develop inter-person relations so they may interact more efficiently in different contexts and in highly-competitive environments. The aim of Mapei's growth, however, is not limited to maximising profits and pushing towards more internationalisation: Mapei has always given the same importance to paying the highest attention to themes such as health, safety and safeguarding the environment. In fact, the enormous investment into human resources is mainly characterised by important, capillary training programmes on subjects such as risk prevention and perception, improvements in the work environment and the intrinsic safety of products and production processes and respect and protection of the environment: every Mapei employee at every level of the organisation takes part in these programmes, with the aim of developing a proactive culture and knowledge regarding these themes, which form a solid basis for sustainable development in a context of advanced social responsibility.

Up to January 2012, the number of Mapei employees in Italy had reached 1,205, while the number of employees for the whole Group had reached a total of 7,500.

Left.
Mapei corporate philosophy targets people and how to make the most of their expertise. All Mapei employees take part in high-level training courses to enable them to grow constantly.

FORECAST FOR THE GLOBAL CONSTRUCTION INDUSTRY

This sector is facing dramatic changes, and different trends are expected in emerging and mature markets

FRANCESCO DORIA
Mapei Group's Market Research Manager

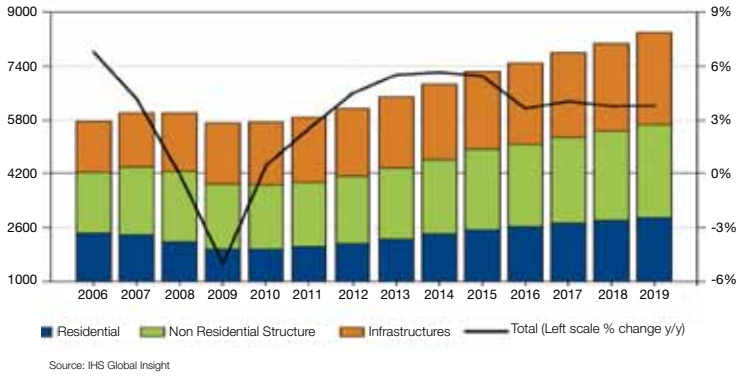
Over the last years the world's construction industry has faced dramatic changes. In the mature markets the global recession has led to a sharp downsizing of the construction sector, that currently struggles to start its recovery phase. On the contrary, in most emerging markets, construction investments kept growing during the global crisis - although at a more moderate rate - and the industry has now fully regained its strong and steady growth path.
The graph 1 shows the historical and expected trend of the global construction industry. After the 2009 deep recession and the 2010 stagnation, recovery took place in 2011, with an estimated 2.5% construction spending growth. Construction investments should increase at a higher pace up to 2015 and should then stabilize at a rate ranging between 3 and 4%.
In the following pages the construction industry trend is analysed by geographical area.

Asia Pacific - In this region the construction industry should grow on average by 6.7% per year in the 2010-2015 period. All the countries of the area enjoy a very positive forecast. Construction spending will peak in the main emerging markets but a positive trend is expected also in the major advanced economies, such as Japan, South Korea and Australia, where investments should increase on average by over 2%.
Based on the current forecast, the investment increase will spread across the three construction segments, with a stronger growth expected in the infrastructure and non residential sectors, which account for the bulk of the Asia Pacific construction industry.
In the 2010-2015 period the average annual construction investment growth should exceed 9% in China and 8% in India. In both countries high economic growth, increase in foreign direct investments and in consumer demand should provide a strong boost to the construction industry.
In the years to come, both non residential and infrastructure investments should drive the growth of Continental China and share of the construction spending. Investments in the civil engineering sector, for instance, will target heavily the Mid-West region with the aim to improve the road, railway and airport system. A strong boost to the construction sector will also come from the Chinese Social Housing Plan, that involves the construction of 36 millions of new homes by 2015.
In India the previously mentioned foreign capital inflows should prompt the much needed reform of the legal and fiscal system. The country's fast growing and young population should benefit the economy as a whole and the housing industry in particular. Infrastructure improvement is the most crucial issue for the development of the construction industry and for the growth of

the Indian economy. An inefficient transportation network is, in fact, hampering a faster economic development.

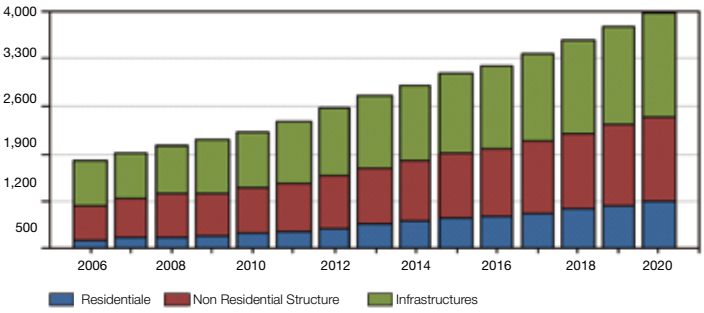
Western Europe - Among the different geographical regions, Western Europe has the worst construction forecast. Since 2008 the construction industry has faced recession and some markets have literally collapsed.
It is estimated that in 2011 the construction output suffered a moderate contraction and by 2015 the average annual growth should be very modest, ranging around 1%. In the 2010-2015 period the residential sector is expected to grow by 1.5% compared to a world's average of 5.7%. The forecast is moderately positive for Germany, France and Great Britain, whose growth should be in line with the European average. The medium term outlook is negative for the so called PIIGS countries. In Portugal, Italy, Ireland, Greece and Spain, markets hardly hit by financial crisis, further housing industry contraction (or stagnation) should be expected. On the contrary, the Scandinavian countries enjoy a positive outlook. Finland and Norway should be among the best performing housing markets in Western Europe. This view is motivated by expectations of high economic growth and strong new housing demand, motivated by rising immigration.
Up to 2015 investments in the Western European non residential sector are expected to achieve a 2% average annual growth. Germany and France should enjoy moderate growth, while the PIIGS countries should go through another recession phase. The negative macroeconomic forecast, in fact, discourages investments in the industrial and commercial sector.
Moreover, budget constraints should lead to a reduction of the investments in the public non residential sector. On the contrary, a steady economic growth should boost the non residential construction output in the Scandinavian markets, where the investment increase rate is forecasted to be well above the Western European average.
Civil engineering has the worst forecast among the three construction industry segments. This is motivated by the end of the "stimulus package" measures, that were put in place by the Western European governments to tackle recession. The end of the anti-crisis measures and the inability of the Governments to fund the infrastructure projects (due to budget cuts) should result in a steady recession of the civil engineering sector.

Graph 1



Source: IHS Global Insight

Graph 2



Source: IHS Global Insight

Graph 1. The graph shows the past and expected trend of the global construction industry by segment. The construction industry value is split among the residential, non residential ad infrastructural markets.

Graph 2. The graph shows the long-term construction industry trend by segment in the Asia-Pacif region.

Eastern Europe - The construction sector in this area enjoys a more positive forecast that in Western Europe. The industry value stagnated in 2010 but in 2011 construction spending regained a strong growth path, estimated at around 6%. The market growth has been led by Russia and Poland, that enjoy a large share of the local construction industry output. In the Russian market, the largest of the area, the investment growth should spread across the three construction industry segments. It is estimated that energy infrastructure and the non residential sector will play a crucial role in sustaining the whole construction market development. Based on the current forecast, the Polish construction industry boom should continue in the years to come. The positive economic outlook and the growth of domestic demand should sustain the expansion of both the housing and non residential sectors. Moreover, based on the infrastructure investments planned by the Polish Government, the civil engineering sector should achieve, at least in the medium term, a positive development. Over the last years, Turkey has established itself as one of the most dynamic Eastern European markets. If the country's political and economic institutions become more stable and reliable, Turkey will be one of the most relevant players of the European construction industry.

» ASIAN MARKETS WILL DRIVE THE GLOBAL GROWTH

» LATINA AMERICA WILL BECOME A HOT SPOT FOR CONSTRUCTION ACTIVITIES

Middle East and Africa - Domestic instability poses a threat to the construction sector of the region, that was hit by the the social and political turmoil spread across those markets in recent times. Before the social riots and the war in Libya erupted, the area was one of the hot spots of the world's construction industry. If the political situation stabilized and the new governments opened their markets to foreign investors, construction activity could experience a steady growth.

The infrastructure sector is the main component of the construction industry in the area and enjoys the best forecast; this is due to the ability to attract investments for the development of the energy and transportation systems. Investments in the non residential sector should also increase, due to the relocation of production plants from mature economies to some countries of the area. The growth of the residential sector depends on the ability of the governments to fund social housing plans. Investments in public housing is one of the key measures that the governments of the region should put in place to meet the growing demand for social justice.

Over the last years, Saudi Arabia has established itself as the largest construction market of the area overtaking the United Arab Emirates. The UAE was the fastest growing market of the area up to 2008, when the housing sector collapsed. The market is still far from regaining the size it had before the crisis. The positive outlook for Saudi Arabia relies on the government's commitment to infrastructure investment and its ability to support the plans with funding. Moreover, the fast growing Saudi population prompts housing and infrastructure construction. On the whole, in the years to come Saudi Arabia is set to increase its weight on the Middle Eastern and African region construction industry.

North America - After reaching its peak in 2006, the North American construction market fell dramatically for 5 years, hitting the bottom in 2011. Based on the current forecast, in 2012 the construction industry might achieve stagnation or modest recovery and a stronger growth should occur in the medium term.

The housing sector was the hardest hit by the crisis that severely affected the US market. In 2011, according to the US census, housing construction showed no sign of recovery. Given the current market conditions, the US residential sector may face moderate growth or stagnation in 2012 and a stronger increase is forecasted only from 2013 onwards. US housing construction has reached such a low level that in the medium term a market upturn should be expected. For instance, in 2006 the US housing starts hit a seasonally adjusted figure of 2.27 million, while in 2011 the figure went down to just 1/3 of the peak level.

The North American non residential sector suffered a sharp reduction in 2009 and 2010 and further contraction is estimated in 2011. Uncertainty on the US economy performance does not favor investments in industrial and commercial buildings. Provided that the country's macroeconomic climate does not worsen, the North American non residential output should grow moderately in 2012 and a strong increase is forecasted from 2013 onwards. The North American infrastructure sector has the worst forecast among the three construction industry segments. This is due to the end of the stimulus packages put in place by the governments to sustain the economy. In the years to come strict budget constraints should limit public spending on infrastructure. On the whole, up to 2015 in the countries of the area, civil engineering investments are expected to stagnate or to achieve modest growth.

Latin America - Over the last years, the Latin American construction industry has been one of the world's fastest growing ones. In the 2010-2015 period construction spending is forecasted to grow at a 7% average annual rate. Both the housing and non residential outputs enjoy a positive development, but the real engine of the construction industry growth should be the infrastructure sector.

In Latin America infrastructure spending (mainly in the energy and transportation segments) generates almost 50% of the construction industry value, the housing sector accounts for 1/3 of the overall construction output and the weight of non residential investments is below 20%. The Brazilian construction industry is by far the largest of the Latin American region, weighting for over 50% of the overall construction output.

CONCLUSIONS

Before the crisis. In 2005 Western Europe was the largest player of the world's construction industry, the Asia Pacific area weighted for over 30% and ¼ of the total construction spending came from North America. The emerging Eastern European, Latin American and Middle Eastern/African markets held just a 10% combined share.

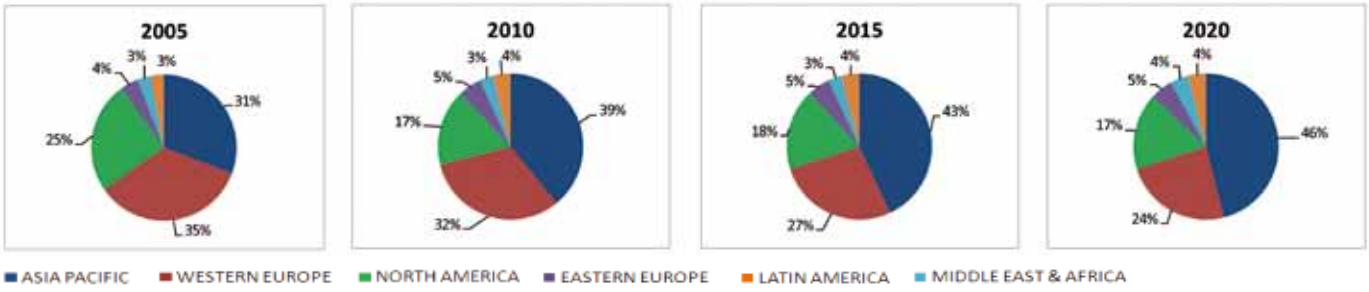
State of the construction industry in 2010. The mature economies were the hardest hit by the crisis and it is estimated that by 2010 their incidence on the construction spending had fallen dramatically. Western Europe reduced its share of the construction output to 32% while the North American market weight shrank to 17%, mostly due to the collapse of the US housing sector. Eastern Europe and Latin America slightly increased their share while the Middle Eastern & African region, also due to the UAE market fall, did not achieve significant gains. In the 2006-2010 period the Asia Pacific area enjoyed a fast growing economy and a booming construction industry, which boosted its weight on the global output to 39%, becoming the world's largest construction market.

Forecast up to 2015. As previously stated, the medium term forecast for the Western European construction market is not bright and the region is expected to reduce its weight on the world's construction spending to 27%, falling dramatically from the 32% share held in 2010. Construction spending in North America should expect a recovery phase, moderate in 2012 and strong in 2013-2015. From 2010 to 2015 the North American share of the global construction market should not face dramatic changes. Given the current trend, by 2015 the Asia Pacific region should achieve another relevant increase of its market share that should reach 43%.
In the other geographical regions, in spite of a positive construction forecast, relevant construction market share gains should not be expected.

Long term forecast. In the second half of this decade, Western Europe should face another market share reduction. The region is forecasted to be the worst performer on a global scale. On the contrary, the North American weight on the world's construction industry should not face further dramatic changes. In the long run the Asian emerging economies are still expected to drive the growth of the global construction market, achieving an average annual growth above 5%. The non Asian emerging markets should keep holding a moderate share of the global construction industry. By 2020 their combined weight should reach 13%.

Up to 2015 construction investments are expected to achieve a compound average growth rate of 11%.
In Argentina, Colombia and Venezuela, the other large markets of the area, the construction sector development should be more moderate. In Brazil, the positive economic growth perspectives, the rise in foreign investments, and the expected increase in domestic demand, should favor the growth of the different construction sector components. The 2014 World Cup and the 2016 Olympic Games, both hosted in Brazil, will require a large number of infrastructural projects and provide a strong boost to the country's construction market.

Conclusion - The charts belows show the past and expected distribution of global construction spending by geographical area.
On the whole, over the last years the global construction industry has gone through some major changes. Moreover, construction trends are expected to vary dramatically in the different geographical areas. Internationalization is of one the pillars of the Mapei strategy; the Group has, in fact, successfully participated in the global construction industry evolution, expanding its operations in all the major emerging markets, from Asia to the Middle East, from Eastern Europe to Latin America. Having a direct presence in the five continents with 68 subsidiaries enables Mapei to understand the local market demands. To successfully meet the various and dynamic local market needs, Mapei has based its strategy on specialization and research, which are aimed at developing high quality and eco-friendly products.
Due to its global presence and to its dedicated approach to the local market requirements, today Mapei is ready to successfully face the challenges and the changes that will shape the global construction industry.



Above. The charts show the estimated weight of geographical areas on the global construction industry value.

Fonte: IHS Global Insight

TRENDS IN THE ITALIAN BUILDING INDUSTRY

The current situation of the Italian construction market and forecasts for 2012

PASQUALE ZAFFARONI
Product Manager of Mapei Group's Building Speciality Line

For several years, the Italian construction market has been going through a period of deep recession which has led to a considerable reduction in its size. The economic and financial crisis has hit the Italian building industry particularly badly, with a general contraction in investments in the residential, non-residential and infrastructure building sectors.

The downturn in the Italian construction industry was also strongly felt in 2011, and exceeded 5% according to some analysts. The forecast for the output of the Italian building industry for 2012 is for another net reduction. 2012 will probably be the 5th consecutive year of recession in the Italian construction industry.

The graph below shows the trend in production of the Italian building industry in recent years. From 1995 to 2006, the construction sector underwent a period of strong growth characterised by an increase in investments. After a period of stagnation in 2007, since 2008 there has been considerable contraction in the construction industry, returning to levels similar to those recorded at the beginning of the period of expansion.

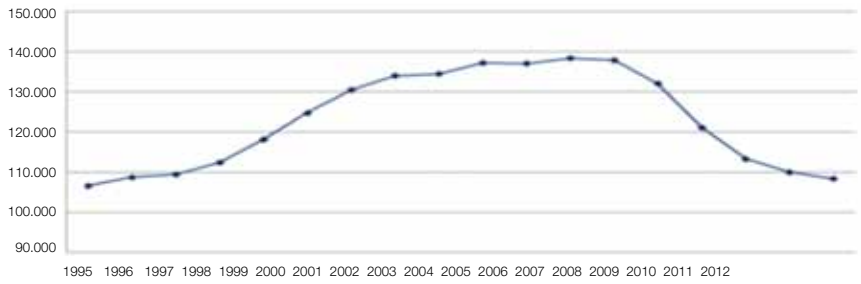
In spite of a highly negative trend over the last 4 years, the residential sector is still the main component in the Italian construction market, and accounts for half of total investments. Non-residential and infrastructure building work, on the other hand, account for less than 1/3 and 1/5 respectively of the overall total of the Italian national construction industry.

The Italian building industry is getting ever more tightly connected to the restoration sector. The value of interventions for normal maintenance and strategic maintenance work accounts for 65% of output from the construction sector, and the weight of the restoration sector is expected to continue to increase over the next few years.

Graph 1. The graph below shows the trend in production of the Italian building industry in recent years, fixed to 1995 prices in millions of Euro.

Graphs 2 and 3. The graphs shows the Italian construction sector as for the distribution of investments (graph 2) and for type of intervention (graph 3).

Graph 1



Source: Cresme, XIX Economic Report and Forecast - November 2011

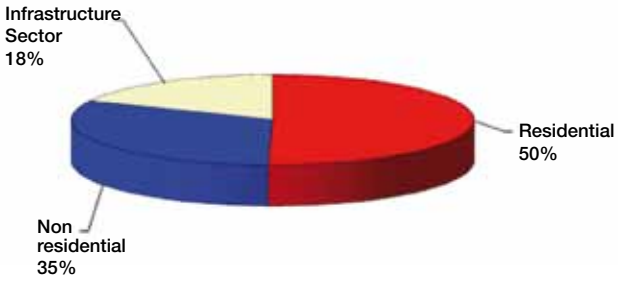
Residential Building Sector

The Italian residential sector has been going through a period of deep recession since 2008. The crisis has hit investments in the new housing sector most of all. The net output of new residential buildings also decreased in 2011, with estimates of a drop of between 7% and 8% being reported. All the indicators for the 2011 housing market highlight the persistent difficult conditions it is going through. The estimate for the number of house sales has fallen, and there has also been a net drop in the level of finance the banks have issued for investments in the residential sector. Average house prices have also fallen slightly. The residential market is also expected to fall in 2012. The size of the fall in the output of residential buildings is quite clear if we consider an analysis of the trend in the number of homes put on the market. According to Cresme Research Center, 338,000 new living units were built in Italy in 2006, while for 2012 the forecast is for just 187,000.

Fortunately, the contraction in investments for new houses has been partially compensated for by a small increase in the housing maintenance sector. Restoration work on residential buildings has not registered the same dramatic drop as new housing and, in the two-year period from 2010-2011, there was even a slight increase in investments.

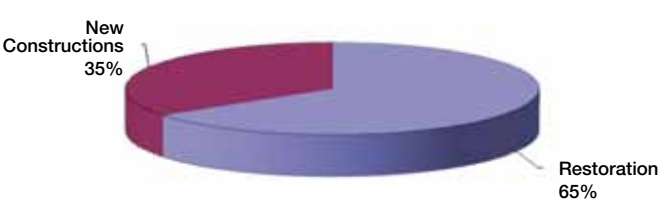
A moderate improvement in the maintenance and restoration sectors is also expected over the next few years. The current economic uncertainty and a drop in families' available income often lead to people opting for restoration work on their home, rather than buying a new one. Restoration obviously means less money is invested compared with the option of buying a new house, which is put off until conditions are more favourable. We must also consider that more than 75% of Italian families live in homes built before 1990 and that older housing obvi-

Graph 2



Source: Cresme, XIX Economic Report and Forecast – November 2011

Graph 3



Source: Cresme, XIX Economic Report and Forecast – November 2011

ously requires restoration and maintenance work. In the housing restoration market, sectors involved in reducing the consumption of energy stand out particularly for their high growth potential, due to more attention being paid by owners to saving money on the running costs of their own homes, and to the increasing value that energy certification is having on the housing market. Overall, the market for upgraded developments is destined to slow down in the mid-term period the crisis in the residential building sector and in the Italian construction industry in general.

Non-residential Building Sector

The recession in the Italian non-residential sector, which has lasted for a number of years, also continued throughout 2011. In fact, the economic crisis has discouraged investments in new buildings for industrial, logistics, commercial and office use. The trend has been particularly negative in the non-residential public buildings sector, which has felt the cut in public spending, and the schools and hospitals sectors have been particularly hit.

In 2011, the number of non-residential building transactions dropped for the 6th consecutive year. Estimates on credit released to finance investments in non-residential buildings for 2011 show a double-figure drop, similar to the drop in the three-year period from 2008 to 2010.

Uncertainty in the trend of the Italian economy,

the difficulty in obtaining credit, a reduction in families' available income and cuts in public spending are all factors which will have a negative impact on the non-residential building sector in 2012.
In the non-residential sector, investments into restoration work also showed a much better trend than for new constructions. All the main analysts agree that the real value of investments in maintenance work will remain stable, or even grow slightly. The fact that the trend in new buildings is worse compared with that of restoration work also depends on the over-production of new buildings (both for housing and non-residential) during the years of the building-boom. The possibility of the real-estate market absorbing the over-production is not favoured by the negative economic conditions, and this leads to the phenomenon of unsold buildings.

» PRODUCTION INCREASINGLY AIMS TOWARDS HIGH-QUALITY SYSTEMS

Infrastructure Sector
For this sector, it is much more difficult to make forecasts, in that budgets made by local administrations are often overspent, or there are considerable delays before projects reach the site stage. In 2011 there was a considerable reduction in output in the Italian infrastructure sector, even more so than the residential and non-residential sectors. The fall in investments was around 10%. This particularly hit the construction of new infrastructures.
Part of the Major Projects programme has been put back and there have been cuts in public spending, which together form the basis for the negative trend in the infrastructure sector. The public works market has suffered from the more rigid practices of the Italian government's Internal Pact of Stability and from cuts in local spending. Investments in infrastructure work have been falling since 2008 and, while new infrastructures were supposed to have offset part of the recession in the Italian economy and the Italian construction market, it has in fact helped worsen the crisis. The negative macro-economic scenario, and the need to respect increasingly tight budget constraints, seem to indicate that, in 2012, the infrastructure sector will be the worst hit in the Italian building industry. At the moment, it is difficult to predict when there will be a turnaround in the infrastructure sector, and it will depend on the Italian government's capacity to find the resources required to start or keep the programmes running for the high-speed railway project and other important highway and underground railway works.
To conclude, the outlook for Mapei's target markets is not very favourable. Current market conditions indicate that the production of the Italian building industry must aim increasingly towards the quality of systems, also because the abundance of what the market is offering, compared with the demand, makes the acquisitions and purchasing processes increasingly selective. Companies which do not have the capacity to innovate, specialise and aim at quality products and services will be those most hit by the reduction in market volumes. In the residential sector, renovation is going through a period of real growth.
There has certainly been a positive trend in upgrading the energy performance of buildings, and there also seems to be a fairly good demand in the infrastructure restoration market. This growth is not only in the road and highways sector, but also for hydraulic works, the production of alternative energy, etc. In the public works sector, costly solutions are very often adopted, as long as they are able to guarantee a longer service life for structures to put off further strategic maintenance work for as long as possible. Such requests come in particularly for work on roads and highways and, with this type of intervention, it is an ideal opportunity to suggest the use of innovative products. It is a very important market and, because the problems involved are different every time, they are technically demanding and stimulating, offering Mapei the possibility of improving in both quality and innovation. In fact, Mapei has always placed specialisation, research and innovation at the centre of its corporate strategy, and has always worked in close contact with the major players in the construction market.

THE TASK OF BUILDING A COUNTRY

The Ance convention celebrated the role of the building industry in the construction of nations

To describe the role and work of the building industry in the construction process of nations, and Italy in particular. That was the aim of the convention "1861 - The Task of Building the Country", organised by Ance (the Italian National Association of private construction contractors, active in public works, residential and industrial building) held in Turin on the 4th and 5th of November 2011, part of the celebrations to mark the 150th anniversary of the Unification of Italy. During the two-day convention held at the Lingotto Expo centre in Turin (Northern Italy), organised also thanks to the contribution of Mapei, Ance took a journey around the country by analysing the building work which has helped in the development of the territory and the civil society: from the process of aggregating the various territories through the construction of infrastructures, to the far-reaching socio-economic transformation due to the effects of urbanisation; from restoration work on the artistic heritage and the upgrading of the urban society, to designing sustainable cities for the 21st century. An evocative journey into the past of major construction work by the Italian building sector, to which Mapei and its 75-year story also made an important contribution, and which is still making today.

The first day of the convention, dedicated to the story of the constructions which made Italy what it is today, opened with an official welcome from the Governor of the Piedmont Region, Roberto Cota, and the Mayor of Turin, Piero Fassino, alongside the Chairman of the Piedmont branch of Ance, Giuseppe Provvisiero, and the Chairman of the Turin branch of Ance, Alessandro Cherio. This was followed by a round-table which included Giorgio Squinzi, CEO of the Mapei Group, among the participants. The second day, entitled "A bridge towards the future", was dedicated to the prospects and new challenges which await the building sector. The day was opened with a message from Emma Marcegaglia, President of the Confindustria (Italian Federation of the Chemical Industry) followed by an interview with the Italian entrepreneur Cesare Romiti. The round-table concluded with the participation of several representatives of the Italian financial, business and building world. Apart from underlining how the building industry is decisive in the overall development of national economies, the convention was also the occasion to take stock of the building sector and take a glimpse at what kind of future we can expect.

"2012 will be the fifth successive year of crisis for a sector," continued Buzzetti, "which represents 12% of Italy's GNP, and which has seen a 22% drop in investments in the same period." Which is why Ance, through their Chairman, asked the government and institutions for plans to relaunch inner cities and to programme medium to long-term urban interventions, with a strategic vision.

Giorgio Squinzi, who took part at the convention in the position of Confindustria's Head of Technical Comittee for Europe, claimed that, "Europe has got to give important answers, starting with a common welfare and fiscal policy, a shared infrastructure programme and a common European energy policy. Italy is unfairly penalised. It is the second most important manufacturing country in Europe and the second in the world for per capita value." According to Squinzi, the situation at an international level "is extremely delicate, and there are things that need to be done immediately, and others that need to be done on a medium to long-term basis. We need common fiscal, welfare, infrastructure and energy policies, otherwise the Euro will not survive." As far as Italy is concerned, Squinzi explained that, "personally, I believe Italians are unfairly penalised by international speculation. I find it unacceptable that, in spite of the fundamentals on which Italy is based, it is considered worse than Spain and a long way from Germany. So, we must act on the problem of our global image." And on the subject of image and particularly impressive work, we would like to conclude with a special mention for the book "150 Projects for Italy", presented on the first day of the convention. Apart from being a tribute to the men and companies which literally built Italy, the book gives us the chance to understand from up close how, through a series of large works and projects, Italy was modernised. And the requalification of a country's architectonic and artistic heritage is just the sort of challenge which the building sector can not shy away from. A challenge launched by Ance at the Turin convention, and one which is fully shared by Mapei, ready and more than willing to support the sector with its products and decades of experience.

THE ROLE OF ANCE

ANCE, founded in 1946, is the Italian national association of private construction contractors. ANCE, along with local and provincial associations and regional associative bodies, forms a network which represents the interests of the building sector when dealing with institutions and financial organisations involved in building work. ANCE aims at promoting and strengthening the business of the building industry. Around 20,000 companies are members of ANCE. ANCE represents the building sector at an international level, and is a member of FIEC (European Construction Industry Federation), UNICE (Union of Industrial and Employers' Confederations of Europe), EIC (European International Contractors), UEPC (European Union of Developers and House Builders), FIP (International Federation for Prestressing) and ERMCO (European Ready Mixed Concrete Organisation).

MAPEI SPORT CENTRE CELEBRATES ITS 15TH ANNIVERSARY

Cutting-edge research and performances for sports people

CLAUDIO PECCI
General Co-ordinator of Mapei Sport Research Center

On the occasion of Mapei's 75th anniversary, the Mapei Sport Research Centre celebrates its 15th birthday. Mapei Sport Research Centre is located in Castellanza (Province of Varese, Northern Italy), an international centre set up in 1996 to provide ethical and scientific support for the athletes in the Mapei Professional Cycling Team and all its other satellite teams. Initially devised by Giorgio Squinzi, CEO of the Mapei Group, who wanted "a facility capable of providing cutting-edge scientific aid for training the Mapei Professional Cycling Team, so that it could make as much progress as possible within the realms of sporting ethics and while, at the same time, safeguarding athletes' health". This idea really came to fruition when Squinzi and Professor Aldo Sassi joined forces. Sassi was General Co-ordinator untill his death in December 2012, but the Centre is going on helping a number of athletes achieve their legitimate goals. The Centre has worked right across the board over the last 15 years, providing notable scientific aid and knowledge on various different sports: cycling, football, athletics, tennis, fencing, underwater sports, motorcycling, skiing, golf and the Paralympics sports, both by providing consultancy and advice to the staff of sports clubs and also by individually following a number of both professional and amateur athletes. Research, technological innovation and commitment to daily work routines are elements which the philosophies of Mapei and the Mapei Sport Research Centre, today directed by Dr. Claudio Pecci, have in common. The desire to surpass one's own limits, conscientious programming, constant commitment and teamwork. On the basis of these principles, the Centre helped many sportspeople dominate the international scene. 15 years of satisfaction, successes and victories, not only in championship events, but also in the field of applied science. Objectives which

On the left page: assessment of the ideal aerodynamic position on a bike carried out on a cyclist at the Mapei Sport Research Centre.
In this page: Mapei Sport's studies of performance-related factors are also performed out in the field, as in the case of football teams. On the left, a test performed by a Sassuolo Fototball Team athlete.
Above, right: Aldo Sassi with the italian cyclist Ivan Basso in 2010.

have been reached thanks to the Company's philosophy and the guiding hand of Aldo Sassi who knew how to convey this philosophy to all his collaborators, and the constant support which has never been lacking from Giorgio Squinzi and Mapei. Sport has always been with the Company during its journey, helping to strengthen its image at prestigious events and Mapei Sport Research Centre has always been with the Company during its journey, conveying the message that research and development are key factors for the Company's growth. Mapei Sport Research Centre has become synonymous with excellence and is now working many sports on different levels.
Technological innovation has always been seen as an essential tool to transfer scientific know-how onto the playing field and publishing the results achieved remain the priority areas of intervention. The Mapei Sport Research Centre is also offering a consultancy service to amateur sportsmen and women, guaranteeing personal-

ized physiological evaluation systems and methods for training programs, without ever swaying from the principles of a strictly ethical approach and the safeguard of health.

Above. Aldo Sassi, Co-founder and ex-General Co-ordinator of the Mapei Sport Centre, together with Giorgio Squinzi CEO of the Mapei Group, during the 2008 edition of Mapei Day.

In Memory of Aldo Sassi

From this year, in memory of Aldo Sassi, a university scholarship has been created to assist graduates in the study and research of the Sport Science. Mapei for sport, Mapei with sport: a long-lasting commitment which will have the Company and Mapei Sport Research Centre gain new records and success.

The project is called "The Aldo Sassi Research Cheque": 10,000 Euros which, for three years, will be awarded to the best research projects by young graduates in the motor sciences. The title of the research project, which will be carried out at the Mapei Sport Centre, is "Physiological Profile of Competitive BMX Cyclists and Relative Metabolic Effort Involved in Racing".

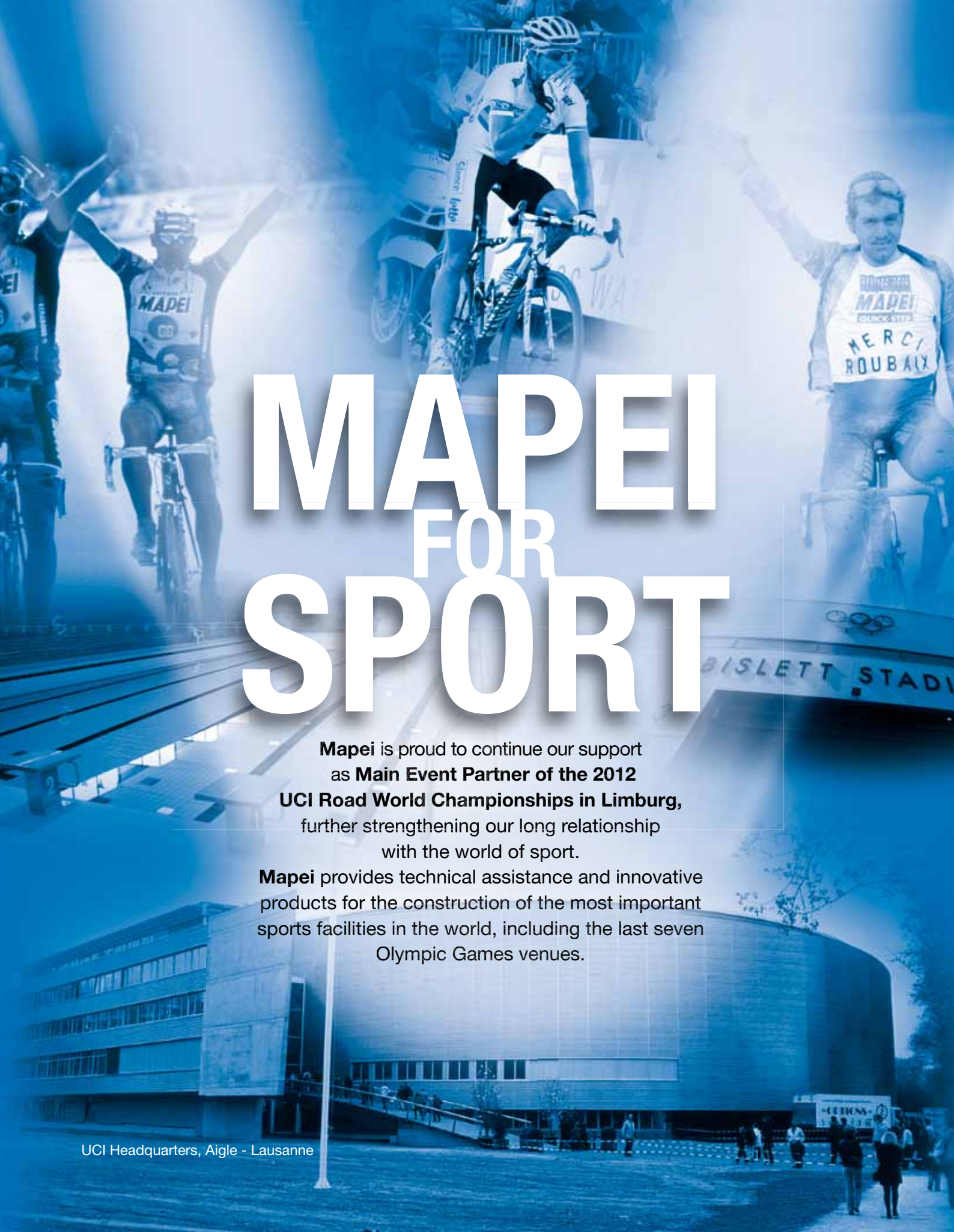
The project was presented in Milan on 25th February this year at the Mapei Auditorium in Milan, as part of 2nd Mapei Sport Research Centre Convention. The project was also mentioned in the Italian newspaper *Gazzetta dello Sport* on 12th February in an article by Luca Gialanella.

Joint sponsor of the project together with Mapei is the Giuseppina Mai Foundation belonging to Confindustria (the Confederation of Italian manufacturing and service companies) set up to provide backing for research into science. "Research applied to sport: exactly what Aldo Sassi was involved in", as Claudio Pecci pointed out in the interview for the *Gazzetta dello Sport*, going on to mention that: "the only way to come up with new solutions for sport is through study and technological innovation, and over the last 20 years Aldo was one of the forerunners in the field of scientific research applied to sport.

The disc wheels on Moser's bike in 1984, for example, opened up the way into a new era: and then heart monitors and endurance tests were some of Sassi's innovations". As regards the issue of research, Pecci explained that BMX cycling (or bicycle motocross) has been chosen because it is an Olympic discipline that is really growing in popularity internationally but there are currently no scientific studies on BMX cycling. The name of the researcher chosen to receive the grant will be announced by 15th April and then work will immediately begin in Aigle, at the UCI (International Cycling Union) headquarters in Switzerland, with the first tests on BMX racers.

THE ALDO SASSI RESEARCH CHEQUE

The Aldo Sassi research tender is sponsored by Mapei and the Mai Foundation, which aims to promote and provide input for both public and private research, encouraging dialogue and interaction between industry, the scientific world and Institutions. The cheque, worth 10,000 Euros for 3 years, will be awarded to the researcher (who graduated in the motor sciences no more than 18 months ago) whose curriculum and project is considered the most suitable. Applications must be sent in by 31st March. Further information can be found at www.fondazionemai.it



MAPEI FOR SPORT

Mapei is proud to continue our support as **Main Event Partner of the 2012 UCI Road World Championships in Limburg,** further strengthening our long relationship with the world of sport.

Mapei provides technical assistance and innovative products for the construction of the most important sports facilities in the world, including the last seven Olympic Games venues.

UCI Headquarters, Aigle - Lausanne

www.mapei.com

MAPEI®

ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

The great figures of the Mapei Group

Founded in Milan in 1937, **Mapei is today's world leader in the production of adhesives and chemical products for building**. The Group now counts 68 subsidiaries with 59 production facilities in operation over 28 countries and 5 continents, all of them provided with a Quality Control Laboratory.

The WORLD of MAPEI

2.1 Billion euros total revenue

59 Plants worldwide in the **5** continents in **28** different countries

More than **1400** Products for Building

7500 Employees of which **900** in our **18** R&D Centres

More than **20000** Tons of products shipped each day

More than **55000** Customers worldwide

INTERNATIONAL

Realtà MAPEI

ISSUE 38

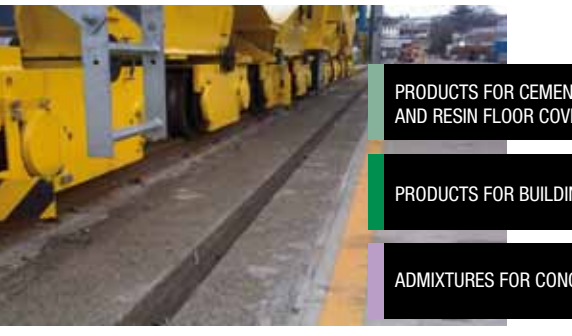
Special Feature
projects

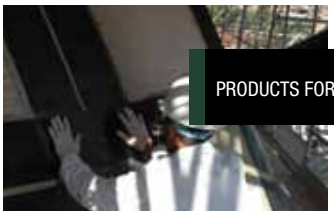
A WORLD OF PROJECTS

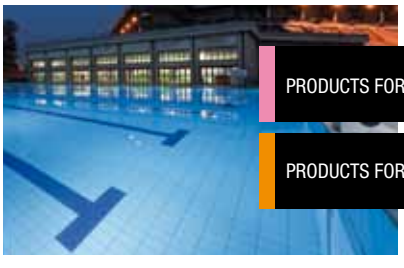
Mapei was founded in Italy, and has now become an internationally-recognised company which offers its clients highly-technological products with a highly-advantageous price/quality ratio. It guarantees the best service possible in all parts of the globe, thanks to its highly-expert employees, highly-innovative products and highly-qualified technical assistance. This is why it has become a Group with the ability to design cutting-edge solutions for all types of problems encountered on site. Since 1937, the year in which the Company was founded, prestigious projects testify the quality of Mapei. Its products have been employed all around the world, from the most talked-about, demanding building sites to the less well-known areas of everyday life. The most prestigious projects references are also available on the Company website at www.mapei.com, sub-divided according to country and type of application, to complete the technical documentation available.

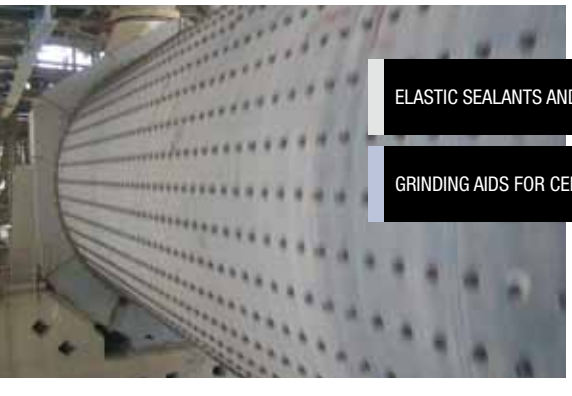
On the following pages, one finds a selection of the most important and most recent building projects for all the countries where there is a Mapei Group subsidiary, starting with Italy, headquarters of the mother company Mapei S.p.A. The chance to select them was provided by the 2011 Mapei References Grand Prix at its 10th edition: this is an annual event organized by the Company which sees the Group's subsidiaries showing the most prestigious building projects they took part in during the same year.

Summary









The Unifimm Tower

BOLOGNA - ITALY

The Unifimm Tower is located in a decommissioned industrial zone covering approximately 44,000 m² on the eastern outskirts of Bologna. This is a large building which will help modify the city skyline, and aims to become an example of environmental sustainability with LEED (Leadership in Energy and Environmental Design) certification.
The 26-storey office tower is 125 m high and comprises a 3-storey high entrance hall, three underground floors and a smaller adjacent building with various offices and services, for a total surface area of approximately 15,000 m².
In the light well – between the external glass walls – an installation system with the capacity of absorbing the high stresses generated by temperature variations and the flexibility of the substrate was employed.
Firstly, the cracks in the concrete substrate were sealed using EPORIP two-component epoxy adhesive. MAPETEX SEL non-woven polypropylene fabric was then laid using ELASTORAPID and KERABOND+ISOLASTIC adhesives. After several hours, porcelain tiles were then installed using the same adhesive. The last step was to seal the joints between the tiles using anthracite-coloured MAPESIL LM neutral silicone sealant.
On the internal surfaces of the building, after applying a coat of PRIMER G on the plasterboard walls to chemically isolate the gypsum in the joints of the panels and the cement in the adhesive, large-sized porcelain tiles were installed using ULTRALITE S1 one-component, deformable lightweight adhesive.
Various sizes of 20 mm-thick Pietra Serena stone were used for the flooring in the areas around the lifts using ELASTORAPID, in its gray shade, with the back-buttering technique.
All the joints were grouted using ULTRACOLOR PLUS.

MAPEI PRODUCTS: ELASTORAPID, EPORIP, MAPESIL LM, MAPETEX, PRIMER G, ULTRACOLOR PLUS, ULTRALITE S1.

TECHNICAL DATA

- **Period of Construction:** 2011 - in progress
- **Period of the Mapei Intervention:** 2011 - in progress
- **Client:** UGF (Unipol Gruppo Finanziario)
- **Project Design:** Studio Open Project, Bologna Impresa
- **General Contaractor:** CMB, Carpi (Italy)
- **Mapei Distributors and Laying Companies:** Linoleum Bologna Srl, Colombo Francesco & C Srl, Il Casone SpA
- **Mapei Co-ordinator:** Carlo Alberto Rossi, Mapei SpA (Italy)

South Australian State Aquatic & Leisure Centre and GP Plus Health Centre

ADELAIDE - AUSTRALIA

Built in the Australian city of Adelaide, this Aquatic Centre is the most modern and most complete ever built in Australia. It was officially inaugurated in April 2011, on the occasion of the Australian Age Swimming Championships.
The complex provides pools for top-level competitions in various water sports including diving and water polo. There is a large area dedicated to recreational and leisure pursuits, a pool with access for the disabled, a pool for small children, two spectacular slides and several pools in the spa and wellness area. The main ten lane 50 m swimming and diving pool has been constructed to the International Standards of FINA (the International Swimming Federation). Mapei Technical Service Department was asked to provide a specification and recommended products, including waterproofing of the main pool concourse with MAPELASTIC SMART, a two-component, high-flexibility cementitious mortar applied with a roller or by brush. Waterproofing of the amenities and change rooms was carried out using MAPEGUM WPS liquid membrane. The pool was built using Myrtha Pool technology (steel laminated with PVC). The pool coping, finger grips and lane markers were installed using KERALASTIC T polyurethane adhesive and tile joints were grouted with KERAPOXY DESIGN. For the other pools, the substrates were primed with MAPEPRIM SP and PRIMER G, the 20x20 cm ceramic tiles were laid using KERABOND PLUS mixed with ISOLASTIC 50 instead of water, and GRANIRAPID was used in the main walkways. To lay the white 400x200 mm ceramic tiles, TIXOBOND FINE S1 adhesive was recommended for its ultra-white colour shade. The tile joints were grouted with ULTRACOLOR PLUS while the expansion joints were sealed with MAPESIL AC.

MAPEI PRODUCTS: ISOLASTIC 50*, KERALASTIC T, KERAPOXY DESIGN, MAPELASTIC SMART, MAPEGUM WPS, KERABOND PLUS*, MAPEPRIM SP, GRANIRAPID, PRIMER G, PLANICRETE SP*, TIXOBOND FINE S1*, ULTRACOLOR PLUS, MAPESIL AC.
*THESE PRODUCTS ARE PRODUCED AND DISTRIBUTED IN THE ASIA-PACIFIC AREA BY MAPEI AUSTRALIA PTY LTD.

TECHNICAL DATA

- **Period of Construction:** 2010-2011
- **Period of the Mapei Intervention:** 2010-2011
- **Designer:** Woodhead International Scott
- **Client:** SA Department for Transport, Energy & Infrastructure
- **Contractor:** Candetti Constructions
- **Laying Companies:** AVP Commercial Pools and Commercial Ceramics
- **Mapei Distributor:** Commercial Ceramics
- **Mapei Co-ordinator:** John Francis, Mapei Australia Pty Ltd

Rhein-Main-Airport

FRANKFURT - GERMANY

With more than 50 million passengers annually and 70,000 employees, the Rhein-Main-Airport in Frankfurt am Main is the biggest and major airport in Germany and one of the most important aviation hubs in Europe.
The rapid increase of the number of passengers and the tendency to bigger and bigger aircrafts required the permanent optimisation of the existing building stock and its extension by modern new buildings. The works focused on the terminals for arrival and departure, the gate positions and the connecting passages.
The newest, meanwhile almost completed areas, are the interlocking objects terminal C and the connection corridor to the C/D pier with a total gross floor area of 70,000 m^2.
The floors in the areas used by the passengers were covered with natural stones. The stone types “granite G 640”, also called “Monte Bianco”, and, in partial areas, “Serizzo Antigorio” gneiss stone labs were applied here.
In Terminal C, in the connection corridor E2+E3, in the C/D-pier and in public toilettes Mapei products were used for laying the stone floorings. Substrates were first treated with PRIMER G synthetic resin primer. In order to ensure a long-lasting adhesion and an unique visual appearance of the natural stone slabs, they were then installed with MAPESTONE 1 adhesive, especially developed by Mapei GmbH (the German subsidiary of the Mapei Group) for laying natural stone. MAPESTONE 1 was applied with the back-buttering method. In Terminal A the same products will be used to lay stone flooring, whose joints will be grouted with ULTRACOLOR PLUS.

MAPEI PRODUCTS: MAPESTONE 1*, PRIMER G, ULTRACOLOR PLUS.
*THE PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE GERMAN MARKET BY MAPEI GMBH.

TECHNICAL DATA

- **Period of Construction:** 1936
- **Period of the Mapei Intervention:** 2008 - in progress
- **Client:** Fraport AG, Frankfurt am Main
- **Designers:** JSK-Architekten and Christoph Mäckler Architekten, Frankfurt am Main
- **Contractor:** Ed. Züblin AG, Frankfurt am Main
- **Laying Companies:** Wirth Naturstein GmbH, Lohr am Main (Germany) and M. Czapla Naturstein GmbH, Nalbach (Germany)
- **Mapei Distributors:** Baustoff Mill GmbH, Frammersbach (Germany) and Anton Schneider, Frankfurt am Main
- **Mapei Co-ordinators:** Klaus Held and Walter Mauer, Mapei GmbH (Germany)

Vann Hotel

LYSEKIL - SWEDEN

The Vann Hotel is located near the Swedish town of Lysekil, near the Gullmar Fjord marine conservation area. It was was built in the 1980s and lately renovated under the direction of architect Gert Wingårdh. The complex was designed according to environmental sustainability standards and encloses 151 double rooms, five suites, a restaurant and a six-pool spas. Mapei AB, the Swedish subsidiary of the Group, was contacted for the works on the spa pools. The pools' existing structure was made of a concrete basin with ceramics laid in thick mortar bed without waterproofing membranes. The solution was to drill all the holes for installations directly in the structure, securing watertight installation through MAPEPOXY UV-S mortar specially developed by Mapei AB for under water constructions. The edges of the pool were repaired and grouted with CONFIX concrete and MAPEPOXY-L adhesive, both distributed by Mapei AB on the Swedish market. The substrates were waterproofed with MAPELASTIC reinforced with FIBREGLASS MESH. This system was used for most of the areas, including the pools edges and the sauna surfaces. The new ceramic tiles were laid using ELASTORAPID adhesive. As the pool was to be filled with seawater, KERAPOXY grout was selected for the joints. In the some of the areas surrounding the main pool, in the showers, in the relax areas and in the bar, the concrete surfaces were treated with PRIMER G and MAPEPRIM SP, before levelling with UNIPLAN. Surfaces were then waterproofed with a system including PRIMER VT (specially formulated for the Swedish market) and MAPEGUM WPS. KERAFLEX was chosen for installing ceramic tiles on the walls while ULTRAFLEX S2 MONO was used for installation on the floors.The hotel rooms feature roofs painted in different colours matching the shades of the mortars used for the tile joints. White ceramic tiles were chosen for all the areas while different shades of ULTRACOLOR PLUS were used for grouting the joints. The same colour shades were chosen when applying MAPESIL AC for sealing expansion joints.

MAPEI PRODUCTS: CONFIX*, ELASTORAPID, KERAFLEX, KERAPOXY, MAPEGUM WPS, MAPELASTIC, MAPEPOXY-L*, MAPEPOXY UV-S*, MAPEPRIM SP*, MAPESIL AC, PRIMER G, PRIMER VT*, UNIPLAN*, ULTRACOLOR PLUS, ULTRAFLEX S2 MONO.
*THESE PRODUCTS ARE DISTRIBUTED ON THE SWEDISH MARKET BY MAPEI AB.

TECHNICAL DATA

- **Year of Construction:** 1980s
- **Year of the Mapei Intervention:** 2009
- **Client:** Vann Hotel & Spa AB
- **Designer:** Gert Wingårdh
- **Contractor** Bra Bygg
- **Works Direction :** Kristian Höglind
- **Laying Company:** Mtb Plattsättning
- **Mapei Distributor:** Göteborgs Kakelhus
- **Mapei Co-ordinator:** Jan-Erik Johansson, Mapei AB (Sweden)

Christchurch Airport

CHRISTCHURCH - NEW ZEALAND

Christchurch Airport is the main gateway for travellers to the South Island of New Zealand, allowing the region ready access to world trade and tourism markets.
The original Christchurch Airport was opened in 1960. Due to its increased traffic and importance it was decided to revitalise, modernise, and expand the existing airport and the 1st stage, involving the check-in hall, first floor retail precinct and construction of the regional lounge, was successfully completed in May 2011.
Mapei New Zealand Ltd, the local subsidiary of the Group, was requested to provide a project specification to ensure correct substrate preparation and installation of over 12000 m^2 of ceramic tiles. The majority of the floors laid in the new areas were made of artificial composite marble. GRANIRAPID, in its white shade, was decided upon as the ideal adhesive for this project.
The concrete floors were first primed utilising PRIMER G synthetic resin based primer. Ceramic tiles were then bonded with GRANIRAPID. In areas where levelling of the floors was required the ULTRAPLAN ECO ultra-fast hardening self levelling compound for floors was used.
Grouting of the tile joints was carried out using ULTRACOLOR PLUS mortar. The expansion joints were sealed with MAPESIL AC available in matching colours to the ULTRACOLOR PLUS grout that was used.

MAPEI PRODUCTS: GRANIRAPID, MAPESIL AC, PRIMER G, ULTRACOLOR PLUS, ULTRAPLAN ECO.

TECHNICAL DATA

- **Period of Construction:** 1960
- **Period of the Mapei Intervention:** July 2009 - May 2011
- **Designers:** Hassell and Warren & Mahoney
- **Client:** Christchurch City Council
- **Contractor:** Naylor Love
- **Laying Company:** Charles Norager & Son Ltd
- **Mapei Distributor:** Charles Norager & Son Ltd
- **Mapei Co-ordinators:** Darren Ballantine and Chester Becroff, Mapei New Zealand

Marriott Hotel

PUNE - INDIA

Founded in 1927 by J. Willard Marriott, Marriott International is one of the most famous hotel chains in the world and has about 3,150 lodging properties located in the United States and 68 other countries and territories.
In November 2010 Marriott Hotel announced its decision to open 6000 new hotels by 2015, most of which in South Asia, China and India (about 100).
The Pune Mariott Hotel & Convention Centre is the 50th hotel of this chain and was recently opened in the city of Pune, in western India. The hotel, which has been awarded the LEED (Leadership in Energy and Environmental Design) Gold certification, encloses the largest conference room in India.
The newly-founded Mapei India Construction Materials was involved in this project, supplying numerous products.
For the mixes to form the screeds and renders, PLANICRETE synthetic latex was added to improve the bond of the cementitious mortars.
KERAFLOOR cementitious adhesive was used to lay granite on the floors and marble on the walls, and the joints between the slabs of granite were grouted with ULTRACOLOR PLUS high-performance mortar.
Glass mosaic was laid on the walls and floors of the bathrooms using ADESILEX P10 cementitious adhesive, while the bathrooms and swimming pools were waterproofed using MAPELASTIC SMART two-component, high-flexibility cementitious mortar.

MAPEI PRODUCTS: ADESILEX P10, KERAFLOOR, MAPEBAND, MAPELASTIC SMART, PLANICRETE, ULTRACOLOR PLUS.

TECHNICAL DATA

- **Period of Construction:** 2007-2010
- **Period of the Mapei Intervention:** 2009-2010
- **Designers:** GIL arts & design Consultant, Hong Kong (PRC); Panchsil In-House Architects, Pune (India)
- **Client:** ICC Realty India Pvt. Ltd., Pune
- **Works Director:** Abhay Chrodia (Joint Director)
- **Contractor:** Panchshil, Pune
- **Mapei Co-ordinator:** Lorenzo Pastore, Mapei SpA (Italy)

Cowboys Stadium

DALLAS - USA

The Cowboys Stadium was completed in Arlington, next to Dallas, in Texas (USA) in May 2009. This stadium can host over 110,000 people. Nearly 28,000 m^2 of walls and flooring were covered with ceramic tiles and stone slabs.
Mapei products contributed to the completion of this stadium.
PRIMER L was used to prime the 18,600 m^2 of substrate which was then levelled with ULTRAPLAN 1 PLUS and ULTRAPLAN M20 PLUS self-leveling compounds.
MAPELASTIC AQUADEFENSE waterproofing membrane was used for its crack isolation properties to cover the surface.
GRANIRAPID had been specified for the stone installation. ULTRACOLOR PLUS grout in black, gray and Sahara beige shades was used to grout the joints. Color-matching KERACAULK S was used for control joints in the floors.
ULTRAFLEX LFT was used for bonding the large-size granite slabs on the floors in the lobbies.
In the "365 Entry" lobby, which is open year-round for ticket purchases and access to the Cowboys Pro Shop, the floor substrates were levelled with ULTRAPLAN 1 PLUS and treated with MAPELASTIC 400. Light gray basalt slabs were laid on the floors with ULTRAFLEX LFT. Joints were grouted with ULTRACOLOR PLUS. KERACAULK was again used for the control joints.
Glass mosaics were set on the backsplashes for the countertops in 400 luxury suites with ADESILEX P10 adhesive.

MAPEI PRODUCTS: ADESILEX P10, GRANIRAPID, KERACAULK*, MAPELASTIC 400*, MAPELASTIC AQUADEFENCE, PRIMER L*, ULTRACOLOR PLUS, ULTRAFLEX LFT*, ULTRAPLAN 1 PLUS*, ULTRAPLAN M20 PLUS*. *THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED IN THE US MARKET BY MAPEI CORP. (USA).

TECHNICAL DATA

- **Period of Construction:** 2005-2009
- **Period of the Mapei Intervention:** 2006-2009
- **Project:** HKS Architects
- **Client:** Jerry Jones
- **Works Direction:** Mark Penny
- **Contractor:** Manhattan Construction
- **Laying Companies:** JJ Flooring Design, Modern Tile, Sigma Marble&Granite, Texas Stone&Tile
- **Mapei Distributor:** American Marazzi Tile&Stone
- **Mapei Co-ordinators:** Dale Penland and Bobby Crow, Mapei Corp. (USA)

Palazzo Lombardia

MILAN - ITALY

Excavation work for the new headquarters of the Lombardy Region in Milan commenced in the Spring of 2007 and building work was completed in the Autumn of 2010. The new building has allowed the Region to unite all the offices, which were previously dotted around in various parts of the city, into one single complex. The project was made by Pei Cobb Freed & Partners along with Caputo Partnership and Sistema Duemila. The complex covers an area of 33,700 m^2 and the main structure includes a system of four curved buildings, each one with 9 storeys above ground and 3 storeys below ground level, and a central 39-storey tower in reinforced concrete, glass and steel. The tower is 161.3 metres high and is home for the political and administration offices, salons and offices used for receptions and meetings, the registry offices, the President's staff and a Region Zone used to promote the activities and services of the Lombardy Region administration. The top floors of the tower are for public use, with a restaurant and a garden terrace. The lowest buildings host cultural, entertainment and service activities. The complex includes underground parking, green areas and hanging gardens. The architectural form chosen for the entire structure was predominantly curved, with a series of circular sectors with the same radius which develop around the Città di Lombardia square. The built part of the structure comprises six interconnecting buildings: four of them are 9 storeys high, one is 7 storeys high and the last one is the tower. The six main bodies of the complex generate the 4 waves joined together in correspondence with 4 stair wells. Mapei recommended leading-edge products for smoothing surfaces and for laying resilient coverings on the floors and stairs. The sand and cement substrates were smoothed with NIVORAPID thixotropic cementitious smoothing compound. Fabric tiles were used to cover the floors of the office areas bonded with ULTRABOND ECO FIX solvent-free adhesive based on acrylic resins in water dispersion. PVC protective guards and skirtings were applied around the edges of the steps of the emergency stairs which connect the various floors using 35 mm wide MAPECONTACT reinforced adhesive strip.

MAPEI PRODUCTS: NIVORAPID, MAPECONTACT, ULTRABOND ECO FIX.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 35.

TEHCNICAL DATA

- **Period of Construction:** 2007-2010
- **Period of the Mapei Intervention:** 2009-2010
- **Designer:** Pei Cobb Freed & Partners (New York, USA), Caputo Partnership and Sistema Duemila (Milan)
- **Client:** Lombardy Region, Milan
- **Project Leader:** Henry N. Cobb
- **Project Tender by:** Infrastrutture Lombarde SpA
- **Integrated Tender:** Consorzio Torre (Impregilo, C.M.B, Consorzio Cooperative Costruzioni, Consorzio Stabile Techint Infrastrutture, Cile SpA, Costruzioni Giuseppe Montagna, Pessina Costruzioni and Sirti SpA)
- **Main Contractor:** Consorzio Torre
- **Structural Design:** prof. Franco Mola
- **Main Contractor:** Consorzio Torre
- **Contracting Pool Leader:** Impregilo SpA
- **Chairman and General Manager:** Gaetano Salonia
- **Technical Director:** Vinicio Scerri
- **Site Manager and Safety Manager:** Guglielmo Fariello
- **Works Management:** Infrastrutture Lombarde SpA
- **Works Director:** Roberta Pasinetti
- **Executive Project Co-ordinator:** Damiano Romeo
- **Head of Procedures:** Antonio Giulio Rognoni
- **Laying Company:** Liuni
- **Mapei Co-ordinators:** Angelo Nobili, Massimiliano Nicastro and Antonio Salomone, Mapei SpA (Italy)

Queen Elizabeth Hospital

BIRMINGHAM - GREAT BRITAIN

The old Queen Elizabeth Hospital was opened in Edgbaston in the late 1930s, linking hospital and academic medicine on a single site alongside the University of Birmingham. It was named after Queen Elizabeth, the Queen Mother, designed by Thomas Arthur Lodge and officially opened in 1938 by King George VI, Queen Elizabeth and Neville Chamberlain. By the 1990s, the buildings were also showing their age and becoming unfit for purpose. It was then decided to build a new, more modern hospital, with more single rooms for improved privacy, new technology and equipment and integrated services for timely care with the aim to centralise the local acute facilities to a site of over 150,000 m^2. A number of Mapei eco-sustainable products for floorings were specified. MAPEPROOF ESM solvent-free surface membrane was used as a vapour barrier on the existing floor substrate due to its fast curing properties. Substrates were then primed with ECO PRIM T, a solvent-free product with very low emission level of volatile organic compounds (VOC), to improve the adhesion of the subsequent levelling compound. LATEXPLAN TRADE a two-component smoothing compound suitable for levelling differences in thickness of between 1 and 10 mm, was then applied. The Tarkett vinyl floor covering was then installed throughout the entire facility with ULTRABOND ECO VS90 solvent free, universal adhesive with very low emission level of VOC.
The contractor completed the installation of the new floor by finishing the edging of the vinyl with ADESILEX VZ to bond the edges to the bottom of the wall. They were then capped and coved creating a finish and a surface that is aesthetically pleasing while easy to maintain.

MAPEI PRODUCTS: ADESILEX VZ, ECO PRIM T, LATEXPLAN TRADE*, ULTRABOND ECO VS90, MAPEPROOF ESM*, PLANIPATCH.
*THE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE BRITISH MARKET BY MAPEI UK.

TECHNICAL DATA

- **Period of Construction:** 2006-2010
- **Period of the Mapei Intervention:** 2009-2010
- **Designer:** Building Design Partnership
- **Client:** NHS Trust
- **Project Manager:** Les Jordan
- **Contractor:** Balfour Beatty Construction
- **Laying Company:** Tyndale Flooring Midlands
- **Mapei Co-ordinator:** Kevin Field, Mapei UK


MAPA
MAPA

Atalanta Football Club Training Ground

ZINGONIA - ITALY

At the Bortolotti Centre in Zingonia (Province of Bergamo, Northern Italy), the home of Atalanta football club got a new look: from a brand new synthetic grass pitch to the covered stands where fans can follow training matches while sitting comfortably and sheltered from rain.
Another occasion for Mapei to play a leading role, by supplying a specific adhesive for the new synthetic grass pitch at the Bergamo team's training centre.
The synthetic grass sector is in constant growth all around the world, and is one which Mapei has followed right from the very start by exploiting its decades-long experience in the installation of resilient materials to propose the most technologically-advanced installation systems.
In 2011, the synthetic grass pitch of the Bortolotti Centre, supplied by Sit-In Sport, was installed using ULTRABOND TURF PU 2K, a two-component, solvent and water-free polyurethane adhesive with very low emission level of volatile organic compounds (VOC). ULTRABOND TURF PU 2K is particularly suitable for use at low temperatures and for those installers allergic to epoxy and epoxy-polyurethane products.
It is worth remembering that this type of pitch must withstand a wide range of temperatures, depending on where it is located, such as the extremely low temperatures in north-east Europe down to less than -20°C, or in the Middle-East where temperatures can reach more than 40°C. This is why Mapei products undergo stringent testing, such as adhesion, tensile and ageing tests, to guarantee the best possible performance for the approval of pitches.

MAPEI PRODUCT: ULTRABOND TURF PU 2K.

TECHNICAL DATA

- **Year of Construction:** 2011
- **Year of the Mapei Intervention:** 2011
- **Client:** Atalanta Bergamasca Calcio SpA
- **Laid Materials:** synthetic grass by Sit-In Sport
- **Laying Company:** New Tennis System Srl, Caponago (Italy)
- **Mapei Co-ordinator:** Angelo Nobili, Mapei SpA (Italy)

Tennis Court at Vavassory Tennis Academy

PALAZZOLO SULL'OGLIO - ITALY

The Vavassori Tennis Academy, founded in Cividino (Province of Bergamo, Italy) in 1992 by the Italian tennis coach Renato Vavassori can boast among its first apprentices champions such as Canè, Camporese, Sanguinetti, Bertolini, Meneschincheri and Bruno. It was exactly in one of the centres administered by the Vavassori Academy in Palazzolo sull'Oglio (Province of Brescia, Italy) that the new product MAPECOAT TNS was used to rebuild the surface of one of the covered tennis courts. After cleaning the old surface, the first layer of MAPECOAT TNS was applied with a rubber trowel.
MAPECOAT TNS is made from acrylic resin in water dispersion and selected fillers which forms a flexible, moderately soft surface underfoot with excellent technical performance characteristics. It is ideal for indoor and outdoor tennis courts and multidiscipline sport surfaces. Balls bounce perfectly to guarantee quick matches, while changes in direction when running are sure and accurate, in that MAPECOAT TNS offers an excellent balance between friction and sliding. MAPECOAT TNS, available in 20 colours, has excellent resistance to abrasion, all types of climatic conditions and forms a hard-wearing, long-lasting protective layer. The substrate must be sufficiently clean, flat and strong for the loads to which it will be subjected during tennis matches and, if the surface of the substrate is powdery, it must be treated with a suitable primer. At Vavassori Tennis Academy a further three coats of MAPECOAT TNS were applied, respecting the recommended waiting times before applying each successive coat, to form a final layer with a thickness of 3 mm.

MAPEI PRODUCTS: MAPECOAT TNS.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 35.

TECHNICAL DATA

- **Year of Construction:** 1992
- **Year of the Mapei Intervention:** 2009
- **Client:** Vavassori Tennis Academy, Palazzolo sull'Oglio (Italy)
- **Works Director:** Pietro Gustinelli, Arcadia Srl
- **Laying Company:** Arcadia Srl, Morengo (Italy)
- **Mapei Co-ordinator:** Angelo Nobili, Mapei SpA (Italy)

National Stadium

BEIJING – PEOPLE'S REPUBLIC OF CHINA

This imposing, original architectural complex, which has become one of the most famous symbols around the world for the Beijing 2008 Olympic Games, was designed by the prestigious Swiss architectural studio Herzog & de Meuron, and constructed in five years for a total investment of 320 million Euros. The complex covers an area of 250,000 m^2 and may hold 91,000 spectators on three different seating levels. The stadium hosted the opening and closing ceremonies of the Games, as well as 57 different athletics events, weightlifting, soccer and baseball. The intricate structure of steel pillars, which are visible from outside, has earned the stadium its nickname of "the Bird's Nest". The roof of the stadium foreseen in the original design has not been installed because of the rising costs of the project, and also because it proved to be difficult to comply with the stringent anti-seismic safety standards. The main track for the athletics events, as well the track for warming up, the floors in the internal areas where all the people pass and for the service areas (registration area, anti-doping area, etc.) have been installed using red rubber coverings (supplied by the Italian company Mondo), and laid using ADESILEX G19 adhesive (with a quick catalyser in order to respect the extremely short times for the laying operations).

MAPEI PRODUCTS: ADESILEX G19.

TECHNICAL DATA

- **Period of Construction:** 2003-2008
- **Project:** Herzog & de Meuron (Switzerland) and China Architecture Design Institute (China)
- **Year of the Mapei Intervention:** 2008
- **Client:** National Stadium Co. Ltd
- **Mapei Co-ordinator:** Angelo Nobili, Mapei SpA (Italy)

Kodály Centre

PÉCS - HUNGARY

An investment of 7 billion Euros, a great deal of interests to satisfy, tremendous amounts of demanding work, organization and the highest degree of professional competence: this is the Kodály Center, the most significant investment of the European Capital of Culture Project in the city of Pécs. Pécs is the fifth largest city of Hungary, located about 200 km from the country capital Budapest. In 2010 Pécs has been selected to be the European Capital of Culture sharing the title together with Essen and Istanbul.
The centre covers 11,144 m^2 and hosts the one-thousand capacity concert hall, two conference halls holding up to 300 people, a ballet and large orchestra and rehearsal halls. The opportunity to design this concert and conference center was awarded to Építész Stúdió.
The laying company Majolika Ltd. used Mapei products to lay ceramic wall and floor coverings in the restrooms: for treating the substrates (PRIMER G, PLANOLIT 315, ULTRAPLAN), waterproofing (MAPEGUM WPS, MAPEBAND, MAPELASTIC), bonding ceramic tiles (ADESILEX P9, KERAFLEX S1), grouting tile joints (KERACOLOR FF FLEX) and sealing expansion joints.
The laying company Temi Ltd used Mapei adhesives for laying linoleum (ULTRABOND ECO 540), vynil (ULTRABOND ECO 380), textile (ROLLCOLL) and rubber floors (ULTRABOND ECO V4 SP) in several areas, after treating the substrates with PRIMER G and PLANOLIT 315.
Wooden floors were instead laid with ULTRABOND P990 1K after preparing the substrates with PRIMER G, PLANIPATCH and ULTRAPLAN MAXI.

MAPEI PRODUCTS: ADESILEX P9, KERACOLOR FF FLEX, KERAFLEX S1, MAPEGUM WPS, MAPELASTIC, MAPEBAND, MAPESIL AC, PLANIPATCH, PLANOLIT 315, PRIMER G, ROLLCOLL, ULTRABOND ECO 380, ULTRABOND ECO 540, ULTRABOND ECO V4 SP, ULTRABOND P990 1K, ULTRAPLAN, ULTRAPLAN MAXI.

TECHNICAL DATA

- **Period of Construction:** 2009-2010
- **Period of the Mapei Intervention:** 2010
- **Client:** Pécs City Local Government
- **Project:** Építész Stúdió Ltd. (Tamás Fialovszky, Richard Hőnich, Ferenc Keller, Benedek Sólyom)
- **Contractor:** Magyar Építő Zrt., Arcadom Zrt.
- **Laying Company:** Majolika Ltd., Temi Ltd.
- **Mapei Distributors:** Majolika Ltd., Temi Ltd.
- **Mapei Co-ordinators:** László Herczig and Szabó László, Mapei Kft. (Hungary)

Armani Hotel in the Burj Khalifa Tower

DUBAI - UNITED ARAB EMIRATES

With its 162 floors and razor-edge spire which reaches 828 metres, the Burj Khalifa Tower was designed by the Skidmore, Owings & Merrill LLP design studio from Chicago. The tower is divided into 354 residential apartments, 237 suites, a series of exclusive hotel rooms, offices, and fitness centres, a mosque and an observation terrace. Construction work on the Burj Khalifa Tower started in 2004. The plan was inspired by the form of the *hymenocallis*, a flower which is particularly loved in Dubai. Through its local subsidiary, IBS LLC., Mapei played a key role in supplying the Armani Hotel which is hosted in the skyscraper. It offers 160 guest rooms and suites, 8 restaurants, luxury shops and one spa centre. Mapei Technical Service supported the project's hotel interior fit-out contractors and recommended the use of KERAFLEX for the installation of ceramic tiles and stone material slabs on walls and floors in several areas (front of house, reception, apartments, residence, boutique offices, restaurant, etc.). Substrate preparation was carried out to certain critical areas such as the ballroom and business centre using MAPECEM for screeds, and ULTRAPLAN and ULTRAPLAN MAXI for smoothing the substrates. Tile joints were grouted with KERACOLOR FF. In the bathrooms, ULTRACOLOR PLUS grout was used for the joints. Natural stone slabs were laid on the walls of the bathrooms within the Armani Nightclub with KERAFLEX adhesive. GRANIRAPID adhesive was also used to bond the slabs on the floors to other areas, after waterproofing the substrate's wet areas with MAPELASTIC. Joints were grouted with ULTRACOLOR PLUS and KERACOLOR FF. KERAPOXY was used for grouting the joints in the bathrooms and in the kitchen. The project also included some high-quality pre-engineered wooden flooring installed with ULTRABOND P990 1K in the corridors and in the lobby.

MAPEI PRODUCTS: GRANIRAPID, KERACOLOR FF, KERAFLEX, KERAFLEX MAXI, KERAPOXY, MAPECEM PRONTO, MAPELASTIC, ULTRABOND P990 1K, ULTRAPLAN, ULTRAPLAN MAXI.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 32.

TECHNICAL DATA

- **Period of Construction:** 2004-2010
- **Period of the Mapei Intervention:** 2008-2010
- **Client:** Emaar Properties
- **Designer:** Skidmore, Owings & Merrill LLP, Chicago (USA)
- **Contractor:** Fino International Interiors
- **Mapei Co-ordinator:** Laith Haboubi, IBS (Innovative Building Solutions) LLC (United Arab Emirates)

Crowne Plaza Hotel

LIEGES - BELGIUM

The Crowne Plaza, considered to be one the best five-star hotel in Lieges, was recently restructured to combine together two buildings, Hotel des Comtes de Méan and Hotel Sélys-Longchamps. This latter construction is a listed Wallonia heritage site. It was the home of aristocratic families for years until it was bought by baron Maurice de Sélys Longchamps in 1910, who converted it into a hotel. When the baron died, the hotel frequently changed hands until it was purchased by its present owner, who began extensive restructuring work to transform it into a five-star hotel. The building work lasted two years and the hotel eventually reopened in June 2010, providing guests with 126 rooms and 15 suites located in the tower of old Hotel Sélys Longchamps.

The building covers an area of 13,000 m² and the Mapei Technical Service team was called upon to help install the wooden and textile wall and floor coverings.

The client decided to lay an oak parquet floor in the main ballroom covering approximately 400 m². First PRIMER MF epoxy primer was applied to the cementitious substrate for strengthening and waterproofing purposes; after it had dried, the oak strips were then installed in a fishbone pattern using the two-component adhesive ULTRABOND P902 2K.

The main lounge area, pub and restaurant floors were also covered with oak parquet, installed using ULTRABOND P990 1K adhesive.

Textile floors were installed in all the bedrooms using ULTRABOND ECO FIX and ULTRABOND ECO 520 adhesives which have very low emission level of volatile organic compounds (VOC). Where required, the substrate was smoothed using NIVORAPID+LATEX PLUS.

MAPEI PRODUCTS: MAPESIL AC, NIVORAPID, LATEX PLUS, ULTRABOND P902 2K, PRIMER MF, ULTRABOND ECO 520, ULTRABOND ECO FIX, ULTRABOND P990 1K.

TECHNICAL DATA

- **Period of Construction:** 16th century
- **Period of the Mapei Intervention:** 2010-2011
- **Designers:** Brisi, Goffin
- **Client:** Crowne Plaza
- **Laying Companies:** Eurobel Project and Draga
- **Mapei Co-ordinators:** Ivan Mariotti and Frédéric Bertaggia, Mapei Benelux S.A./N.V.

MY STOP Service Area

AFFOLTERN AM ALBIS - SWITZERLAND

The A4 highway section that runs through the Knonaueramt region was conceived from the 1960s onwards as a connection between the metropolitan area of Zurich and Central Switzerland. Over the years, this plan was blocked due to both political and legal reasons. With the construction of the A4 motorway through the Knonaueramt region and the completion of the Zug section, in late 2009 the Swiss Federal Government closed a gap in its national road network.

The new service area MY STOP is located in Knonaueramt, on the sunny side of the Albis mountain range. MY STOP is a modern provider of local and high-quality services for travelers and commuters using Swiss motorways. MY STOP has achieved this by developing a comprehensive service program with versatile events, its own shopping concept and its very own product lines in the food section. The MY STOP regional products, which are made by local producers in each of the regions where the rest area is located, are especially noteworthy.

The construction, which cost 55 million Swiss Francs (over 45 million Euros), consists of a 80 m long and 13 m high building and offers travelers, commuters and night owls two bistros along with a panoramic restaurant with 250 seats. The entire area consisting of 3500 m^2 of concrete underlay was constructed with Mapei admixture DYNAMON SX. At the end of the construction work, the entire sales area floor was laid with a 3-layer smoked oak parquet imitating rustic-style flooring with the aid of the adhesive ULTRABOND P913 2K, after treating the substrates with EPORIP TURBO and levelling it with NIVORAPID.

MAPEI PRODUCTS: DYNAMON SX, EPORIP TURBO, NIVORAPID, ULTRABOND P913 2K.

TECHNICAL DATA

- **Period of Construction:** 2009-2011
- **Year of the Mapei Intervention:** 2010
- **Client:** Autobahnraststätte A4 AG
- **Architect:** oos ag, Zurich
- **Contractors**: MüPa AG, Birmensdorf (Switzerland), Autobahn-Raststätte A4 AG, Affoltern am Albis (Switzerland)
- **Laying Company:** MüPa AG
- **Mapei Distributor:** SwissTEG
- **Mapei Co-ordinators:** Martin Schneider and Jens Stenzel, Mapei Suisse (Switzerland)

COOP Goods Distribution Hub

ROME - ITALY

This large distribution hub, comprising large communicating industrial warehouses and lately acquired by the Italian retailer COOP, was once used for a number of years by a transport company, after which it was left in disuse and allowed to run down.
Mapei Technical Service was invited to carry out a survey of the area and supply the products required to carry out intensive maintenance of the site, and in particular the flooring which was full of cracks and hollows.
The loose and detached parts of the concrete surface were removed and the surfaces were repaired using MAPEGROUT THIXOTROPIC mortar, specific for concrete repair.
The cracks in the flooring were then repaired with EPORIP two-component adhesive for monolithic sealing of cracks.
Once the substrate had been prepared, resin flooring was installed using PRIMER SN, QUARTZ 0.5 and QUARTZ 0.25, MAPEFLOOR I 300 SL and MAPECOLOR PASTE.
MAPEFLOOR I 300 SL is a two-component, neutral-coloured epoxy formulate for industrial floorings up to 4 mm thick, and can be coloured to suit with MAPECOLOR PASTE.
Expansion joints were sealed with MAPEFLEX PU 45, while the finish on the walls was made with COLORITE PERFORMANCE, a protective acrylic paint for internal and external use, available in a wide range of colours.
The final result was highly satisfying, and this area will now be used as a COOP goods distribution hub.

MAPEI PRODUCTS: COLORITE PERFORMANCE, EPORIP, MAPECOLOR PASTE, MAPEFLEX PU 45, MAPEFLOOR I 300 SL, MAPEGROUT THIXOTROPIC, PRIMER SN, QUARTZ 0.5, QUARTZ 0.25.

TECHNICAL DATA

- **Period of Construction:** 1990s
- **Period of the Mapei intervention:** 2010-2011
- **Designer:** P&V Progetti srl, Rome (Italy)
- **Client:** Investire Immobiliare SGR SpA, Rome
- **Works Manager:** Armando Picariello (P&V Progetti)
- **Contractor:** Ciaccia Appalti srl, Fiumicino (Italy)
- **Laying Company:** Archivio Srl, D&G Applications
- **Mapei Distributor:** Orsolini Amedeo SpA
- **Mapei Co-ordinators:** Mario Prudente and Piercarlo Rocca, Mapei SpA (Italy)

Ferrari and Maserati Showroom

VANCOUVER - CANADA

On January 11, 2011, Ferrari announced that 1750 of their cars had been sold in the United States and Canada during 2010, a 20% increase over the previous year. And Maserati sales increased 48% through November 2010. These figures supported the decision to open a new Ferrari and Maserati dealership in Vancouver since there were only four dealerships in Canada at that time.

The contractor contacted Mapei Technical Service Department for assistance with recommending the best products for the floor treatements of the three-level building.

In the first floor showroom, where the Ferraris and Maseratis are displayed, the floor needed to be faultless yet not distracting from the main attractions. For this floor, PRIMER E was applied the substrate, followed by a layer of ULTRAPLAN EASY self-levelling compound. Afterwards, an epoxy coating was applied.

The floor in the mechanics' and repair shops was also to be covered with an epoxy coating. PLANIBOND EBA was used as a bonding agent over the existing floor, followed by the application of a layer of MAPECEM 202, a fast-setting cementitious repair mortar, to achieve just the right slope.

The showroom area was extended to the second floor, with the addition of a more private area for discussing all the details pertinent to customize or personalize the customers' purchases. For this floor, PRIMER E was also applied on the substrate; and the floor was again covered with ULTRAPLAN EASY and an epoxy coating.

The third floor is used for storing vehicles and for office space.

This substrate was treated with PRIMER E, followed by the application of ULTRATOP self-levelling floor covering in its natural gray shade. With the application of ULTRATOP, a smooth, unmarked surface was created.

MAPEI PRODUCTS: MAPECEM 202*, PLANIBOND EBA*, PRIMER E* , ULTRAPLAN EASY*, ULTRATOP.
*THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE CANADIAN MARKET BY MAPEI CANADA INC.

TECHNICAL DATA

- **Period of Construction:** 2009-2010
- **Period of the Mapei intervention:** 2009-2010
- **Client:** Maserati Vancouver
- **Project Manager:** Oscar Lopez, Services LT Concrete
- **Laying Company:** LT Concrete Services Ltd.
- **Mapei Distributor:** National Concrete Accessories
- **Mapei Co-ordinators:** Dave Randall and Dave Hamilton, Mapei Canada Inc.

Linate Airport Car-Park

MILAN - ITALY

Linate Airport's new multi-storey car-park in Milan was inaugurated in February, 2011. There are three thousand parking spaces in the structure and it is connected directly to the check-in area in the airport. This work completes the reorganisation phase of the entire car-parking system, which also included the other multi-storey car-park and the long-stay car-park. The new car-park, the biggest in Milan, covers six entire floors apart from the ground floor, and has been designed with an eye on accessibility and safety.

Mapei played a leading role on site, supplying solutions and products used for the installation of the resin floorings.

The flooring company Prima Pavimenti Speciali installed the resin flooring in the car-park and, upon consultation with technicians from Mapei, selected various systems according to the type of substrate and the end use of the flooring.

On the ground floor, the choice fell on MAPEFLOOR SYSTEM 52, a 5 mm thick multi-layered, non-slip system in water dispersion also suitable for floors without a vapour barrier. The flooring was made by applying a first coat of MAPEFLOOR I 500 W and QUARTZ 0.5, a second coat of MAPEFLOOR I 500 W, MAPECOLOR PASTE and QUARTZ 0.5 and a finishing coat of MAPEFLOOR I 500 W and MAPECOLOR PASTE.

For the first 4 floors of the car-park, the choice went to MAPEFLOOR SYSTEM 32, an anti-slip, multi-layered floor coating applied at a thickness from 3 to 3.5 mm. The first coat of the system was made from PRIMER SN and QUARTZ 0.5, the second coat from MAPEFLOOR I 300 W, MAPECOLOR PASTE and QUARTZ 0.5 and the finishing coat was made from MAPEFLOOR I 300 W, MAPECOLOR PASTE and QUARTZ 0.25.

The flooring on the fifth and sixth floors, on the other hand, was painted with MAPECOAT I 24 and MAPECOLOR PASTE after treating the surface with a coat of PRIMER SN and QUARTZ 0.5.

MAPEI PRODUCTS: MAPECOAT I 24, MAPECOLOR PASTE, MAPEFLOOR SYSTEM 32, MAPEFLOOR SYSTEM 52, MAPEFLOOR I 500 W, MAPEFLOOR I 300 W, QUARTZ 0.25, QUARTZ 0.5, PRIMER SN.

TECHNICAL DATA

- **Year of the Mapei Intervention:** 2010
- **Client:** SEA Aeroporti di Milano
- **Contractors:** Coop di Costruzioni Lavoranti e Muratori di Milano, Coiver Sign & Color
- **Laying Company:** Prima Pavimenti Speciali
- **Mapei Co-ordinators:** Antonio Salomone and Alberto Arosio, Mapei SpA (Italy)

Szivárvány Cultural Centre

KAPOSVÁR - HUNGARY

In the late 1930s, József Lamping, a Hungarian architect, building constructor and public personality, designed the Town Cinema of the city of Kaposvár. Kaposvár is the get-away place for lake Balaton's holiday-goers and tourists, especially in bad weather. The building mirrors the atmosphere of the turn of the century, merging a unique eclectic style with traits typical of the Hungarian Secession while ensuring functionality. After a while, the building was used to host live concerts rather than for movies. The change in function has quite shattered the building, its condition gradually getting worse, until in 2009, the Hungarian Cultural Heritage Bureau classified it as historical monument.
The city authorities decided to refurbish the building in 2010. During the renovation intervention, the building know today as the Rainbow (Szivárvány) Cultural Center, was also extended, with a coffee bar and open-air terrace also added. It became a multifunctional cultural institute and an important part of cultural life in the city. From September 2010 it has been hosting musical events, concerts, shows, children's and puppets shows, conferences, balls, social events and movies.
In the course of renovation, Mapei products were used for building the floors of public areas, stairs and stair-heads, with a “Terrazzo-alla-Veneziana” effect.
PRIMER SN was first applied on the substrates with ULTRATOP in its black and gray shades, floor surfaces with a carpet-like look were built. Burgundy ULTRATOP was mixed with black and white marble pieces; ULTRATOP floors in gray shade were enriched by rubbles of red Tardos stone, while for building black floors, the originally anthracite colored ULTRATOP was mixed with black pigments.
The laying of the ULTRATOP cover happened in several phases due to the different colors of the surfaces. Polishing was performed in two rounds to obtain a “Terrazzo-alla-Veneziana” effect and a “polished” effect.

MAPEI PRODUCTS: PRIMER SN, ULTRATOP.

TECHNICAL DATA

- **Period of Construction:** 1930s
- **Designer:** József Lamping
- **Year of the Mapei Intervention:** 2010
- **Client:** Kaposvár City Council
- **Designer:** Arker Ltd. - Krisztina L. Balogh
- **General Contractor:** ZÁÉV Zrt.
- **Floor Laying Company:** Polírbeton Ltd.
- **Mapei Distributor:** Polírbeton Ltd.
- **Mapei Co-ordinators:** Barna Mónika and Horváth Roland, Mapei Kft. (Hungary)

Brickell Key Bridge

MIAMI - FLORIDA - USA

Located in the heart of downtown Miami, Florida (USA), and spanning 247 m, the Brickell Key Bridge provides the sole gateway to a unique triangular-shaped, 180 m^2 island, renowned by locals as a "private little paradise."

Repairing the aged, concrete Brickell Key Bridge and restoring it to tip-top shape were recent priorities for the municipal government.

Work on the Brickell Key Bridge began with routine surface preparation that involved removing deteriorated concrete to provide a sound substrate. Before additional repair products could be placed, all exposed reinforcement rods would require immediate remediation. PLANIBOND 3C coating was applied on all exposed steel reinforcement rods in the bridge's columns, pile caps and deck to provide long-term corrosion protection.

The challenge of repairing multiple spalled areas on a horizontal bridge deck was easily met with fast-setting PLANITOP 18 repair mortar.

To address these vertical and overhead repair needs on the underside of the bridge's deck, beams and column caps, PLANITOP XS repair mortar was relied upon. In areas requiring large quantities of material, like the underside of the deck, PLANITOP XS was easily spray-applied.

PLANITOP 15 was chosen for use in a form-and-pour application for repairing the pile caps.

After the deck was properly shotblasted, two coats of PLANISEAL TRAFFIC COAT epoxy coating, in its black shade, was applied the surface, and an aggregate was spread over it, to provide long-term durability and waterproofing properties.

MAPEI PRODUCTS: THE PRODUCTS MENTIONED IN THIS ARTICLE - PLANISEAL TRAFFIC COAT, PLANITOP 15, PLANITOP XS, PLANITOP 3C, PLANITOP 18 – ARE MANUFACTURED AND DISTRIBUTED IN THE US MARKET BY MAPEI CORP. (USA).

TECHNICAL DATA

- **Year of Construction:** 1947
- **Period of the Mapei Intervention:** 2010 - 2011
- **Client:** City of Miami (USA)
- **Designer:** Metric Engineering, Miami
- **Contractor:** Fibrwrap Construction
- **Mapei Distributors:** Construction Materials, Riviera Beach; White Cap Construction Supply, Pompano Beach; E&E Construction Supply, Boca Raton
- **Mapei Co-ordinator:** Kevin Smith, Mapei Corp. (USA)

Malpensa Airport Cablestay Bridges

MALPENSA - ITALY

The most admired architectonic structure for passengers arriving or departing from the Malpensa "City of Milan" airport, one of the three airports serving the city, and the second most important in Italy for volume of passengers after Rome's Fiumicino airport, are the two cablestay bridges built between 1994 and 1997. The two bridges and access viaducts to Terminal 1 have been in service since the new airport was inaugurated in 1998, and after more than 10 years of continuous use, were in need of maintenance work.

The aim of the maintenance work was to guarantee full efficiency and durability of the bridges along the access ramps to Terminal 1, and to upgrade the bridges with a facelift. After a series of on-site surveys and a careful analysis of the bridges, the most suitable materials to solve the various problems of these structures were identified.

To protect the bridges and increase their durability over the years, light-coloured MAPELASTIC cementitious mortar was chosen for its properties of crack-bridging and flexibility, perfect for covering defects. In areas of more relevant damage, after removing the affected material, the steel reinforcement was treated with two coats of MAPEFER 1K. According to the thickness of the areas which then needed to be reconstructed, two different products were applied: MAPEGROUT EASY FLOW GF one-component, fibre-reinforced thixotropic mortar was used where more thickness was required, while MAPEGROUT LM 2K two-component, thixotropic cementitious mortar was recommended for all the other areas.

After spraying on a 2/3 mm thick coat of light-coloured MAPELASTIC, work was then completed by applying two coats of ELASTOCOLOR PAINT. Upon specific request of the designer, the formula for the ELASTOCOLOR PAINT was specially modified by adding anti-mould and anti-mildew admixtures to guarantee that north-facing exposed surfaces have durable protection over the years, and to prevent the formation of micro-organisms.

MAPEI PRODUCTS: MAPEFER 1K, MAPEGROUT EASY FLOW GF, MAPEGROUT LM 2K, MAPELASTIC, ELASTOCOLOR PAINT.

TECHNICAL DATA

- **Period of Construction:** 1994-1997
- **Designer:** Francesco Martinez y Cabrera
- **Period of the Mapei Intervention:** 2011
- **Designer:** Piergiorgio Malerba
- **Client:** SEA Aeroporti di Milano
- **Works Direction:** Eugenio Cornaggia and Giordano Paracchini, SEA
- **Contractors:** I.M.G. Srl (Milan); Martin Srl Tecnologie Applicate all'Edilizia (Milan)
- **Mapei Co-ordinators:** Massimo Seregni, Vito Pedretti, Paolo Puricelli, Paolo Banfo, Gianluca Brichese and Alessandro Presotto, Mapei SpA (Italy)

Hellenic Petroleum Oil Refinery

ELEUSINA - GREECE

The Hellenic Petroleum company is a public sector company which holds the leadership in the oil market in Greece. Beside an existing oil refinery, a new premise has been constructed near the city Eleusina, West Attica.
The project involved mainly metal structures, mechanical engineer works and many pumps. The large-size pumps were installed over concrete bases and the gap between the metal bearing plate of the pump and the concrete base was filled using the PLANIGROUT 300, applied by pump.
PLANIGROUT 300 is a three-component mortar based on epoxy resin, selected well-graded aggregates and special additives. After preparation, it hardens by means of chemical reticulation without shrinking, and is transformed into a compound with exceptional bonding strength and chemical and mechanical resistance characteristics. After hardening PLANIGROUT 300 is durable and may be used for both internal and external applications.
The project was completed in two phases, A and B. During phase A 140 tons of PLANIGROUT 300 were used in 7 pump bases.
Another 40 tons of PLANIGROUT 300 were used for the remaining pump fixing applications.

MAPEI PRODUCT: PLANIGROUT 300.

TECHNICAL DATA

- **Period of Construction:** 2010-2011
- **Year of the Mapei Intervention:** 2011
- **Project:** Technical Reunidas
- **Client:** Hellenic Petroleum
- **Contractor:** Aktor
- **Works Director:** Kararakis
- **Mapei Distributor:** Alto
- **Mapei Co-ordinators:** Giannis Koropoulis and Panagiotis Antonopoulos, Mapei Hellas (Greece)

Liebherr Manufacturing Plant

DZERZHINSK - RUSSIAN FEDERATION

The Liebherr family business was established in 1949 by Hans Liebherr. Today Liebherr is one of the world's leading manufacturers of construction machinery and supplier of innovative products and services in numerous fields. Over the years the family business has grown into a group of companies, employing a workforce of 32,979 in more than 120 companies on all continents. In 2008 the Liebherr Group launched a project for construction of the first Liebherr production facility for construction machinery in Russia. The site is in Dzerzhinsk, in the Nizhniy Novgorod Region; the plant area is about 120 hectares. It manufactures and assemblies construction machinery such as earthmoving machinery and tower cranes, as well as hydraulic components, gear boxes and steel structures. MAPEFILL 10, ready-to-use powdered anchoring grout, manufactured by ZAO Mapei (the Russian subsidiary of the Mapei Group), was used for anchoring and for the installation of steel columns. MAPEFILL 10 is composed of cement, graded aggregates and special additives with an expansive agent formulated by the Mapei R&D laboratories. When mixed with water, it is transformed into a fluid grout without segregation that is able to fill intricate spaces. MAPEFILL is characterized by a total absence of shrinkage and develops very high early flexural and compressive strength. Thanks to its aggregate's increased size, MAPEFILL 10 allows grouting with large thickness. Beside, MAPEGROUT THIXOTROPIC fibre-reinfoced, controlled-shrinkage mortar and EPOJET two-component, super-fluid epoxy resin were used for the treatment of cracks in monolithic concrete structures and KERACOLOR SF for grouting ceramic tile joints in the showers in the administration building.

MAPEI PRODUCTS: EPOJET, KERACOLOR SF, MAPEFILL 10*, MAPEGROUT THIXOTROPIC.
*THE PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE RUSSIAN MARKET BY MAPEI GMBH.

TECHNICAL DATA

- **Period of Construction:** 2008-2011
- **Period of the Mapei Intervention:** 2009-2011
- **Client:** Liebherr-International AG
- **Contractor:** Renaissance Construction
- **Laying Company :** Renaissance Construction
- **Mapei Distributor:** OOO Spets Auto Trance
- **Mapei Co-ordinator:** Aleksandr Dmitrikov, ZAO Mapei (Russian Federation)

Photo by ©Archidev

Espace du Spectacle Vivant Theatre

BRESSUIRE - FRANCE

This modern theatre was recently constructed in the town of Bressuire, in western France. With a total surface area of 1,350 m² and seating for 350 spectators, the aim of this large building dedicated to culture and the arts is to animate and revitalise the town centre. The architectural form of smooth, curved lines, its flame-red colour and the contrast of light and shadows playing on the glass façade integrate perfectly and enhance its urban surroundings by creating movement. Inside the building, spectators are welcomed by the clean lines of the theatre itself.

More than 1,500 m³ of concrete were used to construct the theatre, with about half composed of conventional concrete and the other half of self-compacting concrete. Mapei supplied DYNAMON SR3 for the self-compacting concrete, a superplasticisizer ideal for the demanding on-site requirements, which included the construction of a 14 m high concrete structure filled with casts of 45 m³ of concrete at a time. To guarantee the quality and soundness of the concrete, therefore, it had to be highly fluid without the risk of segregation, as well as guaranteeing long maintenance of its rheologic properties. DYNAMON SR3 is a superplasticisizer with low water/cement ratio, guaranteeing long slump retention, high workability: the ideal solution for this project.

Special care had to be taken when casting the concrete. The construction company chose to pump the concrete along a 13 m hose with a slide positioned in the formwork to prevent the concrete dropping to the bottom. The pumping speed was regulated according to the height of the walls and to prevent the formwork from opening under the weight and pressure of the concrete.

Part of the structure was then glazed while the other part was covered by the red-coloured structure which gives the theatre its singular, evocative form.

MAPEI PRODUCT: DYNAMON SR3.

TECHNICAL DATA

- **Period of Construction:** 2010-2011
- **Period of the Mapei Intervention:** 2010-2011
- **Client:** Federation of Coeur du Bocage City Councils
- **Designer:** Archidev
- **Contractor:** EGDC
- **Works Direction:** Dominique Denis
- **Building Site Direction:** Daniel Bernard
- **Concrete Supplier:** VM Beton
- **Mapei Co-ordinator:** Sthépane Giraudeu, Mapei France

Turin-Milan-Salerno High-Speed Railway Line

ITALY

Since December 2009 the Turin-Milan-Salerno high-speed railway line runs for almost 1,000 km and includes 145 km of tunnels, 780 km of new lines and connections, 516 viaducts, bridges, trenches and embankments.The Milan-Turin stretch includes large reinforced concrete structures for the connections to the old network, bridges and viaducts. Mapei supplied the following admixtures: DYNAMON SR1, DYNAMON SR2, DYNAMON SR3, DYNAMON SR4 and EXPANCRETE. DYNAMON SP1 and DYNAMON SP3 were used in the concrete for the beams on the viaducts. Mapei proposed MAPELASTIC+MAPEBAND TPE waterproofing system to protect reinforced concrete underpasses with technical equipment. The intervention also included the use of ADESILEX PG1, MAPEGROUT BM and ADESILEX PG4. Along the Milan-Bologna stretch, for the concrete structures Mapei supplied DYNAMON SR1, DYNAMON SR3, DYNAMON SXT1, DYNAMON SXT2, MAPEFLUID X404 and MAPEFLUID R114. Bologna Central Station was included in this project, where an underground station with four railway lines was built for the exclusive use of high-speed trains. Mapei was involved in waterproofing the main floor slab, foundation pad and walls by supplying MAPEPROOF, MAPELASTIC FOUNDATION, MAPEPROOF CD, IDROSTOP B25 and MAPEPROOF SWELL. Along the Bologna-Florence stretch, concrete elements and structures were built with Mapei admixtures, such as MAPEFLUID N100, MAPEFLUID R104, DYNAMON SR3, DYNAMON SXT3, DYNAMON SXT1 and DYNAMON SP1. Along the Rome-Naples stretch reinforced concrete structures were required to construct tunnels, bridges, viaducts and for where the new line crosses the old lines. Mapei supplied MAPEFLUID R104, MAPEFLUID X404 and EXPANCRETE.

MAPEI PRODUCTS: ADESILEX PG1, ADESILEX PG4, DYNAMON SR1, DYNAMON SR2, DYNAMON SR3, DYNAMON SR4, DYNAMON SP1, DYNAMON SP3, DYNAMON SXT1, DYNAMON SXT2, DYNAMON SXT3, EXPANCRETE, IDROSTOP B25, MAPELASTIC, MAPEGROUT BM, MAPEFLUID X404, MAPEFLUID N100, MAPEFLUID R104, MAPEFLUID R114, MAPELASTIC FOUNDATION, MAPEPROOF, MAPEPROOF CD, MAPEPROOF SWELL.

TECHNICAL DATA

- **Period of Construction:** 1996-2010
- **Period of the Mapei Intervention:** 1996-2010
- **Client:** CAV.TO.MI.
- **Main Contractors:** Astaldi Spa, IRICAV 1, Mosconi, Stradaioli, Capuano, Edilconglomerati, Eropea 92, ASG, CEPAV 1, CAVET
- **Concrete Mixing Works:** Elmit, Calcestruzzi SpA, Unicalcestruzzi, Betonrossi, Cosmocal, Cogefa,
- **Mapei Co-ordinators:** E. Erali, G. Bianchin, A. Rossetti, P. Lattarulo, F. Maltoni, S. Broggio, A. Siboni, P. Zaffaroni, P. Banfo, V. Pedretti, A.Melotti, D. De Micheli, D. Vasquez and C. Campinati, Mapei SpA (Italy)

HDB Public Housing

SINGAPORE

The Housing and Development Board (HDB) is a statutory body of the Singapore Ministry of National Development formed in 1960 to solve the problem of housing shortage. The priority was to build low-cost housing to encourage people to move into these units. At present, about 80% of the population live in HDB flats. In the 1990s, HDB started to focus on enhancing the flats. One of the programs was to enhance the void decks rectangular columns. HDB's specifications call for the columns to be enhanced with two vertical C – wraps around the thinner section of the column, followed by three horizontal wraps around the rectangular columns. Mapei worked with Utraco Pte Ltd, a specialist concrete repair contractor, and was finally secured the project after passing all stringent tests as well as having good local track record. The MAPEWRAP G UNI AX 900 system was proposed for the job. It consists of MAPEWRAP G UNI AX 900 uni-direction E glass fabric, MAPEWRAP PRIMER 1 SP and MAPEWRAP 31 SP saturant. Works commenced in February 2011 and were completed at the end of 2011. Firstly, existing paints and service ducts/cables attached to the columns were removed. All corners were rounded to prevent stress concentrations and to allow ease of wrapping of the fabrics. Internal corners were filled with shrinkage-compensated angle fillets. The MAPEWRAP G UNI AX glass fabrics were cut to size and arranged accordingly to the sizes. The three horizontal layers in this case were added and cut as one length. MAPEWRAP PRIMER 1 SP was then applied onto the substrate. The pre cut glass fabric is saturated with MAPEWRAP 31 SP using a saturating machine. While the primer is still tacky, the first of the two vertical layers is laid. Trapped air is removed using a squeezee. The second vertical layer is then applied and the trapped air removed. The presaturated fabric is then allowed to set. After the setting of the vertical wraps, the horizontal wraps were laid. The three wraps were applied in one operation. Trapped air was then removed. While the saturant was still tacky, sand was broadcasted onto it to act as a mechanical key to receive the plasters. The completed plasters were then skim coated and finished with paint.

MAPEI PRODUCTS: MAPEWRAP G UNI-AX, MAPEWRAP 31 SP*.
*THE PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE SINGAPOREAN MARKET BY MAPEI FAR EAST.

TECHNICAL DATA

- **Period of Construction:** 1960s
- **Period of the Mapei Intervention:** 2011
- **Designer:** Housing & Development Board (HDB)
- **Client:** Housing & Development Board (HDB)
- **Mapei Distributor:** Ultraco Pte Ltd
- **Mapei Co-ordinator:** Rodney Heng, Mapei Far East (Singapore)

Basilica of San Bernardino

L'AQUILA - ITALY

The Basilica of San Bernardino is located in the heart of the ancient part of L'Aquila, and crowns a sweeping, monumental stairway with a spectacular visual impact running from Piazza Bariscianello to the building. The violent earthquake which hit L'Aquila on the 6th of April, 2009 damaged the apsidal face of the building, and partially destroyed the antique bell-tower. The tambour of the dome, the longitudinal walls and the surrounding complex of the convent were also severely damaged.
After completing a thorough analysis and survey of the area, strengthening and restoration work on the dome and tambour started in January 2010, with the following main steps:
• infill of the large cracks on the inner faces using PLANITOP HDM RESTAURO applied with a robotic sprayer;
• infill of the large cracks on the outer faces (using PLANITOP HDM RESTAURO, MAPE-ANTIQUE STRUTTURALE NHL and MAPE-ANTIQUE I) and reconstruction of the external layers on the cupola with bricks and strips of carbon fibre fabrics (MAPEWRAP C UNI-AX and MAPEWRAP C QUADRI-AX);
• resealing the cracks on the outer faces of the tambour and repairs to the cracks and reconstruction of the arched sections of the large windows using MAPE-ANTIQUE I, MAPE-ANTIQUE F21, MAPE-ANTIQUE STRUTTURALE NHL and PLANITOP HDM RESTAURO);
• reintegration of the masonry of the tambour by injecting lime-based mortar (MAPE-ANTIQUE I);
• restoration of the inner and outer faces of the cupola by tacking the micro-cracks (MAPE-ANTIQUE I and MAPE-ANTIQUE F21), applying reinforced render (PLANITOP HDM RESTAURO and MAPEGRID G220) and carbon fibre fabrics (MAPEWRAP C UNI-AX).

MAPEI PRODUCTS: MAPE-ANTIQUE STRUTTURALE NHL, MAPE-ANTIQUE I, MAPE-ANTIQUE F21, MAPE-ANTIQUE STRUTTURALE NHL, MAPEGRID G220, MAPEWRAP C UNI-AX, MAPEWRAP C QUADRI-AX, PLANITOP HDM RESTAURO.

TECHNICAL DATA

- **Year of Construction:** 1472
- **Period of the Mapei Intervention:** 2010-2011
- **Client:** Lazio- Abruzzo-Sardegna Public Works Authority
- **Designer:** Paolo Rocchi
- **Works Direction:** Giuliano Genitti
- **Contractor:** ICIET Engineering Srl, Castelli (Italy)
- **Mapei Co-ordinators:** Renato Soffi, Corrado Villa Presutti, Giulio Morandini, Marc Taccone and Luca Consorti, Mapei SpA (Italy)

Santiago Bernabeu Stadium

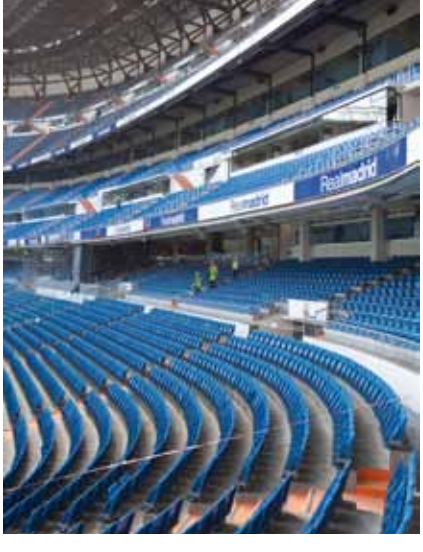
MADRID - SPAIN

This stadium, located in Madrid, has been hosting the Real Madrid football team matches since 1947. Renovation works were lately carried out to increase the capacity of the amphitheater-shaped seating area. To support the increased load, the appointed design studio designed a carbon fibre reinforcement for the 88 beams that support the weight of the amphitheater.
The work included the installation of two CARBOPLATE pultruded carbon fibre plates on both sides of the beams with ADESILEX PG1 two-componet, rapid-setting thixotropic adhesive. At the ends of the carbon fibre plates a metal plate was laid, again bonded with ADESILEX PG1.
MAPEGROUT T40 medium-strength fibre-reinforced thixotropic mortar was used for concrete repair before installing CARBOPLATE. PLANITOP 430 mortar was used for repairs on the stadium's external surfaces.

MAPEI PRODUCTS: CARBOPLATE, ADESILEX PG1, MAPEGROUT T40, PLANITOP 430.

TECHNICAL DATA

- **Period of Construction:** 1944-1947
- **Period of the Mapei Intervention:** May 2011 - August 2011
- **Designers:** Calter Ingenieros, Ines Ingenieros
- **Client:** Real Madrid CF
- **Contractor:** FCC Construcción
- **Mapei Co-ordinators:** Hugo Santos and Eugenio Vigueiras, Ibermapei (Spain)



FNB Stadium

JOHANNESBURG - SOUTH AFRICA

The First National Bank Stadium in Johannesburg, better known as the FNB Stadium, is the structure which hosted the opening match and the final during the 2010 World Cup. Built in 1986, the stadium was renovated and its capacity was increased for the occasion. The designers came up with a plan to partially demolish the stadium and add various structural features, such as extending the structure's upper tier and increasing the stadium's capacity. The stadium now has a restaurant for 300 diners, two VIP suites, eight television studios, an underground car-park, 32 turnstiles, 71 kiosks for beverages and souvenirs and a football museum. The structure is composed of reinforced concrete profiles which support the two levels of terraces and the gallery, connected together by steps. The external shell is characterised by a mosaic of cement with reinforced glass fibre panels in a range of eight different colours and two different textures. These are interspersed at irregular intervals by glass cut outs. A truss-supported roof surrounds the whole stadium. Areas which required strengthening were repaired with steel brackets using ADESILEX PG1 and ADESILEX PG2 adhesives for structural bonding. Concrete sections where corrosion and deterioration occurred were scoured out and cleaned with high pressure water. If any reinforcing steel was exposed as a result of this process, it was treated with MAPEFER 1K mortar. MAPEGROUT FAST-SET mortar was applied in layers ranging from 25 mm to 30 mm. Some damaged areas also required the use of MAPEGROUT HI-FLOW grout. Blow holes in concrete surfaces were filled with PLANITOP 100 skimming mortar. Some of the vertical and horizontal joints were sealed with MAPEFLEX PU45. MAPEBAND TPE tape was used for flexible sealing and waterproofing of expansion joints and fissures in between sections of the stadium precast panels. The tape was bonded with ADESILEX PG4 adhesive. EPOJET and EPOJET LV were used for injection of cracks. EPORIP was used to bond old and new concrete areas together. PLANITOP 430 mortar was used to repair and level surfaces outside of the suites.

MAPEI PRODUCTS: ADESILEX PG1, ADESILEX PG2, ADESILEX PG4, MAPEFER 1K, MAPEFLEX PU 45, MAPEGROUT HI-FLOW, MAPEGROUT FAST-SET, MAPEBAND TPE, PLANITOP 100.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 32.

TECHNICAL DATA

- **Period of Construction:** 1986-1989; renovation and new construction: 2007-2010
- **Period of the Mapei Intervention:** 2008-2010
- **Designers:** Boogertman Urban Edge + Partners, Populous
- **Client:** City of Johannesburg
- **Works Director:** Chris van Joorsveldt
- **Contractors:** Grinaker-LTA/Interbeton, Karrena Africa
- **Mapei Distributor:** Engineered Concrete Systems
- **Mapei Co-ordinator:** Pieter Aucamp, Mapei South Africa (Pty) Ltd, and Derek Bornemann, Mapei SpA (Italy)

Hotel Excelsior

BELGRADE - REPUBLIC OF SERBIA

Hotel Excelsior Beograd was constructed in 1921 and opened on the 15th March, 1924. Initially, it was intended as a clinic, but during the construction it was re-projected into a hotel. Due to historical and political events the Hotel was used for many different purposes. During World War II it housed the German General Staff, and from 1945 to 1948 it was used to accommodate the Ministry of Agriculture and Forestry. It was only returned to its original function in 1948 when it changed ownership, from private hands to an ownership by employees. The Hotel has been privatized in February 2008. Foreign and Serbian authorities, princes and princesses were frequent guests in the mid 20th century. It was also used for lengthier stays by many famous Serbian authors: Nobel Prize winner Ivo Andric, Milos Crnjanski, Vasko Popa, as well as athletes, actors, singers and other celebrities.

Mapei products were supplied during the renovation intervention for both internal and external areas. The external façade was restored in order to bring it back to its 1920s Belgrade charm. After cleaning it, MAPE-ANTIQUE INTONACO NHL was used for rendering some sections of the façade; the final protection and decoration of these areas has been carried out with SILANCOLOR PAINT, after treating the surfaces with SILANCOLOR PRIMER. Floor screeds in the bedrooms and suites were built with TOPCEM. MAPELASTIC was used to waterproof the substrate in the bathrooms of the rooms and suites, before installing ceramic tiles on the floors with ADESILEX P9 and on the walls with KERABOND T. Tile joints were grouted with ULTRACOLOR PLUS. Granite tiles in the entrance hall were installed with KERAFLEX MAXI S1.

Before the installation of textile floor coverings in corridors the substrate preparation was done with NIVORAPID and LATEX PLUS, or ULTRAPLAN ECO.

For the waterproofing of underground concrete surfaces MAPELASTIC FOUNDATION was used.

MAPEI PRODUCTS: ADESILEX P9, KERABOND T, KERAFLEX MAXI S1, LATEX PLUS, MALECH, MAPE-ANTIQUE INTONACO NHL, MAPELASTIC, MAPELASTIC FOUNDATION, NIVORAPID, PLANITOP 200, SILANCOLOR PAINT, SILANCOLOR PRIMER, TOPCEM, ULTRACOLOR PLUS, ULTRAPLAN ECO.

TECNHICAL DATA

- **Period of Construction:** 1921-1924
- **Period of the Mapei Intervention:** 2009-2011
- **Project Reconstruction Author:** Bojana Djurovic
- **Client:** Excelsior A.D.
- **Project Manager:** Miodrag Dzunic, Zafiris Lampadaridis
- **Contractor:** Permont d.o.o.
- **Laying Companies:** Aris d.o.o. Zippro d.o.o. Energoel d.o.o.
- **Mapei Distributor:** UC Partizan d.o.o.
- **Mapei Co-ordinators:** Nebojsa Janic, Mapei Beograd (Republic of Serbia)

Antonino Salinas Regional Archaeological Museum

PALERMO - ITALY

The Antonio Salinas Regional Archaeological Museum in Palermo has one of the richest collections of Punic and Greek art in Italy, as well as numerous relics tracing a large part of the history of Sicily. It is dedicated to Antonio Salinas, the renowned archaeologist and numismatist from Palermo. In 2009, the museum was closed so that restoration and modernisation work on the structure and exhibition areas could be carried out.

The main load-bearing structure of the building is made from mixed masonry and was restored using MAPE-ANTIQUE RINZAFFO, MAPE-ANTIQUE RINZAFFO MC and MAPE-ANTIQUE RINZAFFO NHL. The finishing operation, which also included the cloisters and the portico, was carried out by applying SILANCOLOR BASE COAT and two coats of SILANCOLOR TONACHINO mixed with dark-coloured aggregate.

The load-bearing structure of the main hall was treated with MAPE-ANTIQUE NHL and finished with SILEXCOLOR BASE COAT, SILEXCOLOR TONACHINO and SILEXCOLOR MARMORINO. The ceiling was finished using QUARZOLITE PAINT.

PLANITOP 200+MAPENET 150, PLANITOP 530 and PLANITOP 560 were used on the internal walls where the render was still intact and enclosing chases; they were then finished off with DURSILITE and QUARZOLITE PAINT.

For the portico, after the restoration work with MAPE-ANTIQUE RINZAFFO, MAPE-ANTIQUE MC and MAPE-ANTIQUE NHL on the mixed masonry, it was finished with QUARZOLITE PAINT, SILANCOLOR BASE COAT and SILANCOLOR TONACHINO 0.7 mm. On the floor of the portico, terracotta tiles were installed using KERABOND T and the joints were grouted with KERACOLOR.

All the internal surfaces were covered with marble slabs bonded with GRANIRAPID.

MAPEI PRODUCTS: GRANIRAPID, KERABOND T, KERACOLOR, MAPE-ANTIQUE RINZAFFO, MAPE-ANTIQUE MC, MAPE-ANTIQUE NHL, MAPENET 150, PLANITOP 200, PLANITOP 530, PLANITOP 560, SILANCOLOR BASE COAT, SILANCOLOR TONACHINO, SILEXCOLOR BASE COAT, SILEXCOLOR TONACHINO, SILEXCOLOR MARMORINO, QUARZOLITE PAINT.

TECHNICAL DATA

- **Year of Construction:** 1598
- **Period of the Mapei Intervention:** 2010 in progress
- **Client:** Sicily Region Council
- **Designer:** Stefano Biondo
- **Works Direction:** Stefano Biondo
- **Contractor:** Sanfratello Costruzioni Srl
- **Laying Company:** Sanfratello Costruzioni Srl (Palermo, Italy)
- **Technical Direction:** Alessandro Di Bennardo
- **Mapei Distributor:** Ric.co. Rappresentanze S.n.c. (Palermo)
- **Mapei Co-ordinators:** Achille Carcagnì, Davide Bandera, Ezio Vallone, Fiorella Rodio, Rocco Briglia and Salvatore Costa, Mapei SpA (Italy)

Charles Bridge

PRAGUE - CZECH REPUBLIC

The Charles Bridge is the oldest standing bridge over the river Vltava in Prague and it is the second oldest preserved bridge in the Czech Republic. Its construction was finished in 1402.The bridge was attacked by floods many times, but managed to withstand them. Building investigation in 1966-1967 revealed that the bridge was endangered especially by small cracks which allowed ingress of rainwater with soluble salts used for the winter pavement maintenance.

The upper construction repair started in August 2007 and took approximately 3 years.

Mapei participated in this project since 2005. Two different aspects were solved in the first phase of the bridge pillars repair: the first one was the choice of the appropriate formula of the mortar to be used under water-level, which would have met the requirements for the permanent contact with water, high abrasion resistance and sufficient strength. A wall made of steel casing was built up around the pillars in order to increase their protection and resistance and MAPEGROUT T60 mortar was used for the repairs. The second aspect was to find the substitution of the original historical mortar for walling and grouting of the sandstone masonry above water-level. Hydraulic binder MAPE-ANTIQUE LC for light-coloured dehumidifying lime and Eco-Pozzalan-based mortars, was used in this case. MAPE-ANTIQUE I Eco-Pozzolan-based hydraulic binder was also used for the repair by injection of some sections in the bridge pillars.

The second phase consisted of the complete removal of the original bridge deck, bridge drainage, mounting the electricity distribution cables for bridge lighting, casting a new bridge deck construction including paving and enclosure wall repairs.

In 2008 the Czech association STOP (Association for the Historical Monuments Preservation Technology) asked for Mapei presentation at its conference in Prague. Giulio Morandini, Product Manager for Mapei Structural Strengthening Materials Line and Jiří Zadorožný, Head of Mapei spol. s r.o.'s the Czech subsidiary of the Mapei Group Technical Service Department performed the presentation together.

MAPEI PRODUCTS: MAPEGROUT T60, MAPE-ANTIQUE LC.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 32.

TECHNICAL DATA

- **Period of Construction:** 1357-1402
- **Period of the Mapei Intervention:** 2005-2010
- **Client:** Prague City Council
- **Technical Survey:** Mont McDonald
- **Contractors:** SMP CZ a. s. and AVERS, spol. s r.o.
- **Mapei Co-ordinators:** Zdeněk Runštuk, Jiří Zadorožný, Pavel Jarolìm (Mapei spol. s. r.o., Czech Republic), Giulio Morandini and Pasquale Zaffaroni (Mapei SpA, Italy)

Gatun Locks at Panama Canal

PANAMA

Built from 1904 to 1914 and serving as a key conduit for international shipping and trade, the Panama Canal joins the Atlantic and Pacific Oceans. Stretching for over 3 km, the Panama Canal locks limit the maximum size of vessels that can pass through the canal. In order to accommodate more and larger ships to use the Panama Canal, work is underway to double its capacity. Currently under construction is a second, significantly wider canal, with locks larger in size than those of the original. The new canal, to be completed in 2014, will accommodate much broader-beamed vessels. The initial repair involved a 100-year-old, massive concrete column-like divider that serves as both a baffle and structural framework for two flow-control gates that function to fill and empty water between the locks. The "cut water" column repair itself was located 30,5 m below ground level in the center of a giant concrete "pipe" with a 9.14-m diameter. Before repairing the concrete void, the 100-year-old substrate had to be repaired. In order to successfully repair a massive-sized column located 30.5 m below ground level, Mapei's technical experts made the decision to accomplish the "form-and-pour" installation by batching the materials on the surface and delivering the self-consolidating concrete mix to the repair site using tremie placement techniques. A design mix consisting of PLANITOP 15 repair mortar extended 100% with washed gravel was combined in a concrete-type mixer. Maximum extension was used, in conjunction with the addition of 0.35% MAPECURE SRA, in order to reduce potential for shrinkage and micro-fissuring. The mix was then poured into a large hopper and gravity-fed all the way from above ground to the placement site. The void repair was accomplished using 3 individual placements, with minor adjustments made to the repair mix as required. Being able to avoid any risk of segregation and to maintain consistent rheology while mixing every 55-lb. sack of PLANITOP 15 with equal parts of gravel, as the mortar was gravity-fed such a long distance, was key to successfully repairing this colossal concrete void. After 2 to 3 days of pouring the PLANITOP 15 mix, the forms were removed.

MAPEI PRODUCTS: MAPECURE SRA, PLANITOP 15*.
*THE PRODUCT IS MANUFACTURED AND DISTRIBUTED IN THE AMERICAS BY MAPEI CORP.

TECHNICAL DATA

- **Period of the Construction:** 1904-1914, extended in 2010-2014
- **Year of the Mapei Intervention:** 2010
- **Client:** Panama Canal Authority
- **Works Direction:** Humberto Bal
- **Contractor:** Panama Canal Authority
- **Mapei Distributor:** Elmec, Panama City
- **Mapei Co-ordinator:** Tom Lundgren, Mapei Corp. (USA)

FramMuseet

OSLO - NORWAY

The FramMuseet in Oslo recounts the history of Norwegian polar expeditions. It is located on the peninsula of Bygdøy and inside there is just one ship, the Fram, used for three famous expeditions in the Arctic and Antarctic Oceans. The museum was inaugurated in 1936, and since then it is possible to visit the inside of the Fram along with all its equipment and objects.
The museum was renovated in 2010 and the works included the application of a thermal insulation system for the external walls.
The MAPETHERM system was used for this purpose. Before carrying out its installation, the old covering on the wall had to be completely removed. MAPETHERM AR1 one-component, cementitious mortar was used to bond and smooth over the insulating panels. An even coat of this product was applied over the entire surface of the insulating panel with a notched trowel, apart for a 2 cm wide strip around the perimeter, to avoid the adhesive flowing into the joints between adjacent panels and forming a thermal bridge due to its higher conductivity.
MAPETHERM PROFIL aluminium angle irons with incorporated glass fibre mesh were then applied around all the corners. Before laying these elements, a layer of MAPETHERM AR1 was applied around the corners, and then the MAPETHERM PROFIL was laid onto it so that the adhesive could flow through the holes in the element.
24 hours after bonding the panels, they were smoothed over using MAPETHERM AR1. While this layer was still fresh, MAPETHERM NET alkali-resistant glass fibre mesh was laid on the layer. After a further 24 hours, a second layer of MAPETHERM AR1 was applied to form an even layer and to completely embed the mesh.
Then, after several days, the surface was finished off using the SILEXCOLOR system.
The façades were initially treated with SILEXCOLOR PRIMER to even out the absorption of the successive coating. Once the primer was completely dry, the façade was treated with 0.7 mm grain size SILEXCOLOR TONACHINO mineral coating.

MAPEI PRODUCTS: MAPETHERM AR1, MAPETHERM NET, MAPETHERM PROFIL, SILEXCOLOR PRIMER, SILEXCOLOR TONACHINO.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 35.

TECHNICAL DATA

- **Year of Construction:** 1936
- **Designer:** Riksantikvaren
- **Year of the Mapei Intervention:** 2010
- **Client:** Norsk Maritimt Museum
- **Contractor:** Furuseth Entreprenor
- **Mapei Co-ordinator:** Stein Age Lysgard, Mapei AS (Norway)

Via Ampère Apartment Block

MILAN - ITALY

Forever at the forefront in the construction world, Mapei has always anticipated trends with solutions as innovative as the market requires.
An example of this foreword-thinking is MAPETHERM TILE SYSTEM, the thermal insulation system which makes it possible to apply ceramic and natural stone coverings, and large-size, thin tiles in particular.
With MAPETHERM TILE SYSTEM, thin porcelain tiles up to 500 x 1000 x 3.5-4.5 mm in size and up to a height of 20 metres may now be safely installed on layers of extruded and expanded polystyerene panels on façades.
And this is exactly the system used on a new apartment block at 57 Via Ampère in Milan. Once the insulating panels had been bonded in place, PLANITOP HDM MAXI, a two-component, high-ductility, pozzolan-reaction mortar was applied on them. This structural render was reinforced with MAPEGRID G120 alkali-resistant glass fibre mesh, inserted and embedded between two layers of PLANITOP HDM MAXI.
KERABOND+ISOLASTIC, a two-component, improved-adhesion, highly-deformable cementitious adhesive system with extended open time, was used to bond the porcelain tiles supplied by Cotto d'Este of Sassuolo (Province of Modena, Italy).
ULTRACOLOR PLUS high-performance polymer-modified mortar with water-repellent DropEffect® and anti-mould BioBlock® technology was used to grout the joints.
The expansion joints were then sealed using MAPESIL LM, a solvent-free, neutral silicone sealant with anti-mould BioBlock® technology.

MAPEI PRODUCTS: KERABOND, ISOLASTIC, MAPEGRID G120, MAPESIL LM, PLANITOP HDM MAXI, ULTRACOLOR PLUS.

TECHNICAL DATA

- **Year of Construction:** 1960s
- **Year of the Mapei Intervention:** 2011
- **Client:** Impresa Pirovano (Monza, Italy)
- **Designer:** Studio Architettura Massimo Paladini (Sondrio, Italy)
- **Works Direction:** Studio Architettura Massimo Paladini
- **Contractors:** Impresa Claudio Meraviglia, Berbenna Valtellina (Italy); Woodline Snc, Concorezzo (Italy)
- **Laying Company:** 2Emme Srl, Lissone (Milan)
- **Mapei Co-ordinator:** Roberto Orlando, Mapei SpA (Italy)

Monastery of Jesuit Fathers

STARA WIEŚ - POLAND

The Church and Monastery of Jesuit Fathers complex in Stara Wieś (Poland) date back to 1698. Lately, renovation works were carried out using funds from the European Union.
The restoration works began in 2010 with and included repairs of damages caused by age and improper repairs using cementitious plasters, non-permeable paint coatings, ecc. The walls were damaged by capillary rising damp and improper functioning of drainpipes and gutters. Restoration started with the removal of the old plaster layers, the repair of damaged wall sections and then the injection of grouts between bricks. Mapei products of the MAPE-ANTIQUE range were used for renovating the whole façade.
The filling of damaged wall elements and grouts between bricks was carried out by MAPE-ANTIQUE STRUTTURALE NHL, characterized by proper rheological proprieties and excellent compression strength. It has an extremely low rate of hygrometric shrinkage which drastically reduces the risk of the formation of cracks in the mortar. It also has good resistance to aggressive chemical and physical phenomena.
The chemical barrier against rising damp was carried out by injection of MAPESTOP PL, a ready to use, hydrophobic, vapour permeable, solvent free, colourless micro emulsion of silanes and siloxanes, especially developed for the Polish market.
The dehumidifying plaster was carried out by the using the MAPE-ANTIQUE system, composed of MAPE-ANTIQUE RINZAFFO as base plaster to enhance the adhesion of the next coatings; MAPE-ANTIQUE MC salt-resistant dehumidifying render for repairing old masonry; MAPE-ANTIQUE FC fine-grained skimming mortar for smoothing the surfaces; SILANCOLOR TONACHINO transpirant, water-repellent, thick-layered siloxane coating for ensuring a protective and decorative coating. The use of SILANCOLOR TONACHINO made it possible to obtain a proper color of the façade, which was established taking into account the results of the on the analysis of the original plaster's color.

MAPEI PRODUCTS: MAPE-ANTIQUE FC, MAPE-ANTIQUE MC, MAPE-ANTIQUE RINZAFFO, MAPE-ANTIQUE STRUTTURALE NHL, MAPESTOP, SILANCOLOR TONACHINO.

TECHNICAL DATA

- **Period of Construction:** 17th century
- **Period of the Mapei Intervention:** 2010-2011
- **Client:** Monastery of Jesuit Fathers in Stara Wies
- **Works Direction:** Tomasz Ptak
- **Contractor:** Polbud Tarnow (Poland)
- **Laying Companies:** Izopol Tarnow (Poland)
- **Mapei Co-ordinators:** Jerzy Siwek and Krzysztof Pogan, Mapei Polska Sp. z o.o. (Poland)

Pastificio Cerere Studios

ROME - ITALY

Built in Rome in 1905, the Pastificio Cerere (Cerere Pasta Works) was the oldest factory in the San Lorenzo District, and one of the most important examples of "industrial archaeology" in the Rome area. Pasta was manufactured in this complex of buildings and courtyards up until 1960, whereupon it became a renowned meeting place in Rome from the end of the 1970s to the beginning of the 1980s for artists and lovers of the arts. Today, the entire works have been transformed into lofts which have become studios for painters and sculptors. The Fondazione Pastificio Cerere (Cerere Pasta Works Foundation), founded in 2004, integrated two distinct groups of artists: those from the "San Lorenzo Group" and the new nucleus of artists residing in the former Pastificio Cerere. Restoration work on the complex started in 2009, and Mapei has been closely involved right from the initial diagnostics phase.

The work included restoration of the antique render using MAPE-ANTIQUE MC and MAPE-ANTIQUE FC, strengthening of the parapets on the terrace and the application of structural render made from MAPE-ANTIQUE STRUTTURALE NHL on the old bricks, many of which had become detached over the years. The walls of the internal courtyard were painted with SILANCOLOR BASE COAT and SILANCOLOR PAINT. The same product system was also used out to strengthen and reconstruct several decorative friezes and the wording "Pastificio Cerere".

The flooring for the overhead walkways, which in the past when the works were still in production connected the two buildings together, was built with MAPEFLOOR PARKING SYSTEM, and SILANCOLOR TONACHINO used to finish off the façades.

The dormer windows below the terrace were waterproofed with MAPELASTIC and MAPELASTIC SMART, and were then painted with ELASTOCOLOR PAINT in the same colour as the SILANCOLOR TONACHINO. A complex intervention which, as befitting the site and thanks to Mapei, could only be completed to perfection.

MAPEI PRODUCTS: ELASTOCOLOR PAINT, MAPE-ANTIQUE MC, MAPE-ANTIQUE FC, MAPE-ANTIQUE STRUTTURALE, MAPEFLOOR PARKING SYSTEM, MAPELASTIC, MAPELASTIC SMART, PLANITOP 200, SILANCOLOR BASE COAT, SILANCOLOR PAINT, SILANCOLOR TONACHINO.

TECHNICAL DATA

- **Year of Construction:** 1905
- **Period of the Mapei Intervention:** 2009-2011
- **Client:** Fondazione Cerere
- **Designer and Works Manager:** Sergio Cabiddu
- **Laying Company:** Edilben Snc (Rome - Italy)
- **Mapei Distributors:** Edil Novelli Srl (Rome) and MisterMac (Rome)
- **Mapei Co-ordinators:** Renato Soffi and Mario Schirò, Mapei SpA (Italy)

Outdoor Swimming Pool at Assago Mediolanum Forum

MILAN - ITALY

A regulation-length 50 metre Olympic swimming pool was built at the end of the 1980s in the Mediolanum Forum in Assago, a multi-functional structure on the outskirts of Milan hosting sporting events and concerts. However it had never been used and, over the years, the condition of the pool had severely deteriorated. The owners recently decided to renovate the entire swimming pool structure and open it to the public. Renovation work started by cleaning the substrates and protecting the steel reinforcement rods with MAPEFER 1K. The surfaces were then repaired using MAPEGROUT 430 and the portholes edges were sealed with MAPEPROOF SWELL. The gaps around the pipe-work were waterproofed using IDROSTOP B25 cord, while MAPEBAND TPE tape was chosen for the structural joints, bonded in place using ADESILEX PG4 epoxy adhesive. After applying MAPEBAND on the overlaps between the horizontal and vertical surfaces, the walls of the pool were waterproofed with two layers of MAPELASTIC cementitious mortar, with MAPENET 150 glass fibre mesh embedded between the two layers to increase its flexibility. The bottom surfaces of the pool were waterproofed with two layers of MAPELASTIC SMART and with MAPETEX SEL macro-holed, non-woven polypropylene fabric. Clinker tiles were installed inside the swimming pool using KERAFLEX cementitious adhesive, while KERABOND was used to install them around the edges of the pool. The joints of the pool surfaces were grouted with KERACOLOR GG, while expansion joints were sealed using MAPESIL AC. To guarantee better adhesion, PRIMER FD adhesion promoter was applied around the edges of the tiles before installing them. The structural joints were waterproofed with MAPEBAND TPE tape, and then sealed by inserting MAPEFOAM polyethylene cord into the joints and then filling them with MAPESIL AC selant.

MAPEI PRODUCTS: ADESILEX PG4, IDROSTOP B25, KERABOND, KERACOLOR GG, KERAFLEX, MAPEFOAM, MAPESIL AC, PRIMER D, MAPEBAND TPE, MAPEFER 1K, MAPEGROUT 430, MAPELASTIC, MAPELASTIC SMART, MAPENET 150, MAPEPROOF SWELL, MAPETEX SEL.

TECHNICAL DATA

- **Period of Construction:** late 1990s
- **Period of the Mapei Intervention:** 2011
- **Client:** Assago Forum
- **Laying Company:** La Maison's
- **Mapei Distributor:** Edilsolari, Milan (Italy)
- **Mapei Co-ordinators:** Fabio Messina and Antonio Salomone, Mapei SpA (Italy)

Ferrari World Park

ABU DHABI - UNITED ARAB EMIRATES

Ferrari World theme park is located on the island of Yas in Abu Dhabi. The indoor area open for public use spreads over an area of 86.000 m^2, and offers the chance of a multi-sensorial experience for adults, children, families, fans and adrenalin seekers alike. More than 25.000 m^2 of surfaces were waterproofed in the fountains, tanks, water features, planters and other damp surfaces with MAPELASTIC SMART reinforced with FIBREGLASS MESH and MAPETEX SEL. ELASTOCOLOR WATERPROOF paint was applied on the treated surfaces. MAPEBAND was used to seal and waterproof the corners and edges between adjacent walls and joints between walls and floors. MAPEBAND TPE, bonded with ADESILEX PG4, was used to seal and waterproof the expansion joints. MAPEFLEX PU50 SL was chosen to seal the expansion joints in the water features below MAPEBAND TPE. MAPEGROUT ME 06 was used to seal around the openings provided in the floor of the water features to allow for the installation of water pipes and floor drains. Inside the tanks artificial rocks made from fibre-reinforced concrete were used to dress a metal frame which had been anchored to the base and sides of the tanks with bolts. MAPETEX SEL was applied around the anchorage points to guarantee continuity in the waterproofing layer. The metal bases of the frame were first coated with ADESILEX PG4 covered with a layer of quartz sand to improve the bond of MAPELASTIC SMART, which was applied afterwards. MONOFINISH was used to even out irregularities on several walls before laying wallpaper with ADESILEX MT 32. PVC tiles were used to floor the entrance area for the games area. The substrates were treated with PRIMER G, then smoothed over and levelled off with ULTRAPLAN MAXI. Mapei also supplied products for laying porcelain, marble and glass mosaic in the corridors, toilets and water features: KERAPOXY ADHESIVE, KERAFLEX MAXI and KERABOND T adhesives and ULTRACOLOR PLUS,

MAPEI PRODUCTS: ADESILEX MT32, ADESILEX PG4, ELASTOCOLOR WATERPROOF, MAPEBAND, MAPEBAND TPE, MAPEGROUT ME06*, MAPELASTIC SMART, MAPENET 150, MAPETEX SEL, KERABOND T, KERACOLOR FF, KERAFLEX MAXI, KERAPOXY, KERAPOXY ADHESIVE, KERAPOXY DESIGN, MAPEFLEX PU50 SL, MONOFINISH, PRIMER G, ULTRACOLOR PLUS, ULTRAPLAN MAXI.
*THE PRODUCT IS MANUFACTURED AND DISTRIBUTED ON THE UAE MARKET BY IBS L.L.C.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 35.

TECHNICAL DATA

- **Period of Construction:** 2008-2010
- **Period of the Mapei Intervention:** 2009-2010
- **Client:** Aldar Properties PJSC
- **Project:** John Robertson Architects (USA), Benoy Architects (Great Britain), Ramboll (Denmark)
- **Contractor:** Aldar Besix (EAU)
- **Laying Company:** DEPA (EAU)
- **Works Direction:** Fara Abaspour (DEPA)
- **Mapei Co-ordinators:** Tarana Daroogar, Mohammed Qunber, Daniele Spiga - IBS L.L.C. (UAE); Enrico Geronimi, Mapei SpA (Italy)

Mediterraneum Aquarium Car-Park

ROME - ITALY

A second tourist hub has been planned for the EUR district in Rome, to turn this into an important museum and congress hub, with new architectural complexes such as the "Cloud" congress centre by Fuksas, the Renzo Piano Centre and the Mediterraneum Aquarium. The aquarium is currently under construction, and nearby a multi-storey, underground car-park has been built with 700 parking spaces, which are also available for use by the local residents. The surface parking area in Piazza Terracini, facing the EUR Palasport underground railway station, was inaugurated in 2011.
And it was exactly for the surfaces in this large car-park that Mapei supplied its waterproofing products. It was a particularly complex job, because this type of waterproofing system must guarantee durability and hold under the severe chemical-mechanical stress from freeze-thaw cycles, fuel and oil dripping from vehicles and the abrasive action of tyres when vehicles are turning. Mapei Technical Service proposed PURTOP 600 for this particular project, a polyurethane membrane applied after thoroughly cleaning and priming the substrate with PRIMER SN.
PURTOP 600 is a two-component, solvent-free, modified polyurethane resin, neutral in colour and is applied using a high pressure industrial bi-mixer unit with flow and temperature control, preferably with a self-cleaning gun.
Thanks to its exceptional tensile and tear strength and high crack-bridging properties, after reticulation (approximately 2 minutes) the product forms a continuous waterproofing coating which adapts to any shape of substrate without cracking.
The designers, contractors and Works Direction were so impressed by the excellent performance guaranteed by PURTOP 600 that it will also be used to waterproof the flat roof on the new Mediterraneum Aquarium.

MAPEI PRODUCTS: PRIMER SN, PURTOP 600.

TECHNICAL DATA

- **Period of Construction:** 2009-2011
- **Period of the Mapei Intervention:** 2010-2011
- **Client:** Mare Nostrum Romae Srl
- **Designers:** Studio Ricciardi, eng. Mezzadri, eng. Gallese
- **Works Direction:** eng. Ricciardi, arch. Amatilli
- **Contractor:** Roma 2000 Srl
- **Laying Company:** Tecno Pro.Ve.R Srl, Sabaudia (Italy), Fabrizio Scarton
- **Mapei Co-ordinator:** Mario Monardo, Mapei SpA (Italy)

Asset Banca

GUALDICCIOLO - REPUBLIC OF SAN MARINO

Located in the Republic of San Marino, the local branch of Asset Banca banking institute decided to build a modern building for its new headquarters using advanced technology, created with eco-sustainable design criteria.
The particular morphologic layout of the ground and certain logistics problems led to choose the top-down technique to build the part below ground level. The building is constructed below ground level starting from the upper part and working progressively downwards to the lower part.
Waterproofing through the thickness of the floor slabs had to be carried out right from the start of construction operations, by positioning a portion of L-profile MAPEPROOF bentonite sheet between the retention walls and horizontal floor of the excavation. Polyethylene sheets were laid down starting from the top, making sure that the edges overlap by at least 10 cm, and were then fastened in place with washers and MAPEPROOF CD polyethylene washers every 30 cm.
MAPEPROOF MASTIC bentonite paste was used for sealing all the elements which pass through surfaces; MAPEPROOF SEAL for filling voids and cavities in the horizontal surfaces before laying the MAPEPROOF bentonite sheets; MAPEPROOF CD polyethylene washers for fastening the bentonite sheets on the horizontal and vertical surfaces and IDROSTOP B25 waterstop profile.
The vertical concrete walls to confine the bentonite sheets were made by adding VISCOFLUID SCC/10 and DYNAMON SX admixtures.

MAPEI PRODUCTS: IDROSTOP B25, MAPEPROOF, MAPEPROOF MASTIC, MAPEPROOF SEAL, MAPEPROOF CD, DYNAMON SX, VISCOFLUID SCC.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 34.

TECHNICAL DATA

- **Period of Construction:** 2009-2012
- **Period of the Mapei Intervention:** 2009-2010
- **Project:** M. Dellaros, L. Foschi, A. Gazzoni, Antao Progetti (Republic of San Marino); S. Bernardi and eng. M. Mancini
- **Client:** Asset Banca SpA, Republic of San Marino
- **Works Directors:** R. Ragini and M. Dellarosa; for the structural intervention: S. Bernardi
- **Contractor:** Sedi S.a., Serravalle (Republic of San Marino)
- **Laying Company:** Tecnoisolamenti, Monteroberto (Ancona, Italy)
- **Mapei Distributor:** I.E.C., Galazzano (Republic of San Marino)
- **Supplier of Mapei Admixtures:** ICAS (Republic of San Marino)
- **Mapei Co-ordinators:** Dino Vasquez, Andrea Melotti, Fabio Costanzi and Fabrizio Maltoni, Mapei SpA (Italy)

Jardim da Serra Tunnel

MADEIRA - PORTUGAL

The new road which connects the small village of Jardim da Serra to the larger town of Estreito de Camara de Lobos in the Portuguese island of Madeira was inaugurated in 2011. Camara de Lobos is one of the eleven boroughs which make up the archipelago of the autonomous region of Madeira in Portugal, and is an important centre for social, commercial and tertiary infrastructures. There are also vast vineyards in and around Camara de Lobos, where grapes are cultivated for the production of the famous Madeira wine. The overall length of the road is 2.7 kilometres, and it was commissioned by the local Regional Secretary for Public Infrastructures to improve the efficiency of the road network in the region.

The infrastructure comprises 3 tunnels – 215 m, 1253 m and 1154 m long respectively – two emergency tunnels, three roundabouts to link the new road with the existing roads, and a viaduct.

Mapei also took part in the construction of the road: in fact, the Mapei Technical Service Department recommended the use of MAPEPLAN TU 20P, a PVC-P synthetic waterproofing membrane, as a fluid barrier during the waterproofing operations on the tunnels.

Thanks to its special formulation, MAPEPLAN TU 20P can accomplish different waterproofing requirements and the presence of the two-color signal layer (orange/black) allows to highlight any holes or tearing of the membrane during the placing phase.

MAPEPLAN TU 20P, due to the high standard production level, performes both good mechanical properties and workability and welding characteristics. It also features high resistance to permanent pressure, to root action and to low temperature.

MAPEI PRODUCT: MAPEPLAN TU 20P.

TECHNICAL DATA

- **Period of Construction:** 2010-2011
- **Period of the Mapei Intervention:** 2010-2011
- **Designer:** Coba
- **Client:** Estradas da Madeira
- **Contractor:** Tecnovia Madeira, SA and Canàrio L.da
- **Mapei Co-ordinator:** Arnaldo Sousa, Lusomapei (Portugal)

C Line of Rome Metro

ROME - ITALY

The new C Line of Rome Metro is 25.5 km long and includes 29 stations, 3 of which interchange stations with the existing A and B Lines. For this project, 4 TBM-EPB (Tunnel Boring Machines - Earth Pressure Balance) were built by Herrenknecht.
In order to advance the EPB machines need a conditioning agent injected at the boring face.
POLYFOAMER FP, a liquid foaming agent based on biodegradable anionic surfactants combined with natural polymer, was used for this purpose.
As the machine advances, because of the difference in diameter between the shield of the TBM and the diameter of the precast concrete rings, it was inevitable that an annular gap was formed. This gap was approximately 15 cm thick, and had to be completely filled as quickly as possible. Metro C used the “two-component” injection system.
The filler mixture is made up of component A, a super-fluid cementitious material which is very easy to pump. To guarantee that the workability of the mixture is maintained for up to 72 hours after mixing, it is necessary to add MAPEQUICK CBS SYSTEM 1, a liquid retarding admixture with a plasticising effect. Component B, made from MAPEQUICK CBS SYSTEM 2 liquid activator admixture, is added to component A just before the mixture is injected into the annular gap. MAPEQUICK CBS SYSTEM 2 annuls the effect of MAPEQUICK CBS SYSTEM 1 and causes the gelification of the mix almost immediately.
MAPEBLOX T tail-seal grease was used to seal the brushes on the tail of the shield and prevent the inflow of the two-component mortar into the area where the TBM is working.
MAPEFILL expansive fluid mortar was used for anchoring work at the Malatesta station site, PLANITOP T two-component cementitious mortar for finishing the concrete used the pre-cast concrete segments, and MAPEGROUT BM two-component mortar to restore some of the pre-cast concrete segments which had been chipped and in areas where portions of concrete had detached.

MAPEI PRODUCTS: MAPEBLOX T, MAPEFILL, MAPEGROUT BM, MAPEGROUT COMPACT, MAPEQUICK CBS SYSTEM, PLANITOP T, POLYFOAMER FP.

TECHNICAL DATA

- **Period of Construction:** 2008-in progress
- **Period of intervention:** 2008 - in progress
- **Client:** Roma Metropolitane
- **Works Director:** Enrico Molinari
- **Construction Manager:** Franco Concio
- **Site Manager:** Tommaso Paolini
- **Main Contractors:** Metro C S.c.p.A., a consortium of the following companies; Astaldi, Vianini Lavori SpA, Ansaldo Trasporti - Sistemi Ferroviari, CMB-Cooperativa Muratori e Braccianti di Carpi and Consorzio Cooperative Costruzioni
- **Mapei Co-ordinators:** Alessandro Boscaro, Mapei UTT, and Leonardo Butò, Mapei SpA (Italy)

E 18 Muurla-Lohja Section

UUSEEMAA - FINLAND

After leaving Norway, the E18 runs through Sweden to reach Finland, the last leg of its journey before arriving in Russian territory. Between the cities of Turku and Helsinki, along the stretch between Muurla and Lohja, 50 kilometres of motorway have been constructed with 4 lanes, 2 lanes for each direction. This part has been sub-divided into three parts: Muurla-Lahnajärvi (Finnra, the Turku region and various local boroughs in the area); Lahnajärvi-Oittila (Finnra, the Uusimaa region and various local boroughs in the area); Oittila-Lempola (Finnra, the Uusimaa region and various local boroughs in the area).

The work involved stripping rocky areas, removing a large quantity of rocks and earth and building containment and ballast walls. Seven tunnels were also built, with a total length of more than 5 kilometres.

During construction work, particular care was taken to respect the local environment around the highway network, by protecting the underground water and using highly-efficient barriers to reduce noise.

There is also a sophisticated data-collection system which gathers information about traffic and road conditions, constantly informing an operations centre so they may quickly intervene if there are potential hazards or problems for traffic.

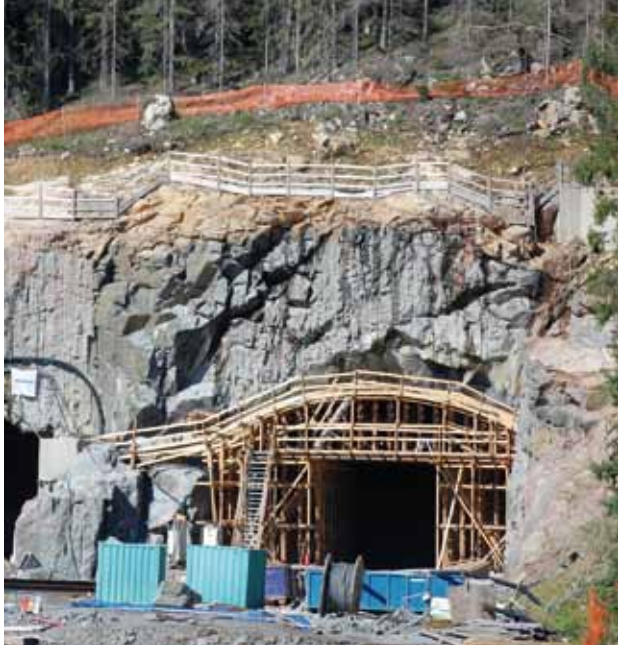
The Technical Service Department from Mapei OY, the Finnish subsidiary of the Mapei Group, was contacted to coordinate the contractor building the tunnels, and technicians recommended the use of REDIREP 45 RSF mortar for concrete repair and MAPEQUICK AF 2000 alkali-free accelerator for shotcrete.

MAPEI PRODUCTS: MAPEQUICK AF2000, REDEIREP 45 RSF*
*THE PRODUCT IS DISTRIBUTED ON THE FINNISH MARKET BY MAPEI OY.

FOR FURTHER INFORMATION SEE REALTÀ MAPEI INTERNATIONAL N. 37.

TECHNICAL DATA

- **Period of Construction:** 2006-2008
- **Period of the Mapei Intervention:** 2006-2008
- **Client:** the Finish Road Administration
- **Project Development:** Ykkostie OY
- **Works Direction:** Mauri Ketonen
- **Contractors:** LemCon Oy, Skanska Infra OY
- **Mapei Co-ordinator:** Laura Halonen, Mapei OY (Finland)



Arroyo Maldonado Tunnels

BUENOS AIRES - ARGENTINA

A few years ago, the Buenos Aires City Government commissioned an important hydraulic project to drastically reduce the flooding which periodically hits the city of Buenos Aires and the surrounding areas. It is called the Arroyo Maldonado project, and includes two tunnels with a diameter of approximately 6.50 metres, running from the south-west to the north-east of the City, to capture rainwater and channel it towards the Rio de la Plata River. Starting in September 2009, the shorter of the two tunnels was completed in around 350 working days, while the longer one was completed by the end of 2011.

Mapei UTT (Underground Technology Team) was constantly present on site, ensuring high-level technical support, especially for the ground conditioning, the back-fill grout injection behind the rings and the use of tail seal grease in the TBM (tunnel boring machine). The ground excavated by the TBM must be conditioned using special foaming agents, injected at the front of the TBM, that gives the ground a plastic and low permeability consistency. By choosing the most appropriate product (POLYFOAMER FP), the boring machine progressed quickly, with excellent daily and monthly production rates. MAPEQUICK CBS SYSTEM 1 and MAPEQUICK CBS SYSTEM 2 liquid admixtures for the two-component mix injected to fill the empty space behind the shield, avoiding the risk of surface subsidence. MAPEBLOX T grease was used to seal the tail shield brushes of the TBM and to prevent the unwanted ingress of water, ground, grout, etc. into the working environment.

MAPEI PRODUCTS: MAPEBLOX T; MAPEQUICK CBS SYSTEM 1, MAPECQUICK CBS SYSTEM 2, POLYFOAMER FP.

TECHNICAL DATA

- **Period of Construction:** August 2010 - December 2011
- **Period of the Mapei Intervention:** September 2009-late 2011
- **Designer:** Geodata
- **Client:** Buenos Aires City Government
- **Contractor:** Ghella SPA Suc. Argentina
- **Mapei Co-ordinators:** David Glaham, Mapei Argentina; Enrico Dal Negro, Mapei SpA (Italy)

Guglielmo Marconi Airport

BOLOGNA - ITALY

The Guglielmo Marconi airport, the most important hub in the Emilia Romagna region (Central Italy) with a single three-storey terminal and 2.8 km runway, was recently expanded.
To handle the increasing volume of air traffic, the airport management decided to extend the parking areas for the planes by constructing approximately 29,000 m^2 of new service areas made from 7.5x7.5 m concrete slabs with a thickness of 35 cm.
To construct the new concrete flooring, 11,000 m^3 of high quality concrete was produced made from IIB-S 42.5R cement and DYNAMON SR 914 super-plasticiser.
The finishing of the conglomerate flooring was designed to provide a non-slip surface and to prevent direct sunlight and winds causing water to evaporate off too quickly. MAPECURE CA film-forming curing compound was used for this purpose.
To allow for thermal deformations and structural movement, the contractor formed a network of 8,000 m of expansion joints with a layout of 7x7 m and an average section of 10x10 mm. After cleaning the joints, MAPEFOAM closed cell polythelene foam cord was pressed into the gaps between the slabs to calibrate the depth for the sealant and to prevent it sticking to the bottom of the joint. The sides of the joints were then immediately brushed with a coat of PRIMER AS to improve the adhesion of the sealant and to consolidate the absorbent surface of the cementitious conglomerate. Once the primer had dried, the joints were filled by pouring in MAPEFLEX PU50 SL, an elastic sealant resistant to occasional chemical attack and ideal for floors subject to intense traffic.

MAPEI PRODUCTS: DYNAMON SR 914, MAPECURE CA, MAPEFLEX PU50 SL, MAPEFOAM, PRIMER AS.

TECHNICAL DATA

- **Period of Construction:** 1980s and 2007
- **Period of the Mapei Intervention:** 2010
- **Designer:** Domenico Terra, Guglielmo Marconi Airport Technical Department
  Client: Aeroporto Guglielmo Marconi di Bologna SpA, Bologna (Italy)
- **Works Director:** Domenico Terra
- **Contractors:** Rti Consorzio Cooperative Costruzioni Ccc soc. coop, Consorzio Ravennate delle Cooperative di Produzione e Lavoro, Durocem Italia SpA, Seep PD Srl
- **Laying Companies:** Durocem Italia SpA, Cavola di Toano (Italy), Seep PD Srl
- **Concrete Supplier:** Livabeton Calcestruzzi Preconfezionati SpA, Calderara di Reno (Italy)
- **Mapei Co-ordinators:** Carlo and Carlo Alberto Rossi, Davide Demicheli, Fabrizio Maltoni and Claudio Menabue - Mapei SpA (Italy)

Holcim Cement Production Plants

PUTTALAM AND RUHUNU - SRI LANKA

Sri Lanka is an island located off the southern tip of India, famous for its lush tropical forests, white beaches and diverse landscapes. The country's origin dates back all the way to the 6th century B.C, when it was founded by the first Sinhalese arrivals. After years of Portugese, Dutch and British rule, Sri Lanka regained its independence in 1972. The island has been then scarred by a long and bitter civil war after its independence. Ethnic tensions between the Sinhalese majority and the Tamil minority in the Northeast sparked an inevitable civil war fought between the Liberation Tigers of Tamil Eelam (LTTE) and the government. In May 2009, the LTTE was defeated. Since then, the government has undertaken massive reconstruction and development projects to reconstruct its economy. The construction industry was the chief beneficiary. Demand for cement is expected to grow 7% in 2011. Cement manufacturing in Sri Lanka is dominated by the multinational cement manufacturer Holcim. Holcim's entry into the country was in 1996 after its acquisition of the state-owned Puttalam cement company. In March 2010, the Factory Manager of the Ruhunu plant contacted the Grinding Aids Division at Mapei Far East, in Singapore because Holchim was looking for alternative suppliers of grinding aids. Mapei sent its MA.G.A./C208 grinding aid for the mill trial in mid July 2010 at the Ruhunu plant, subsequently, in September 2010 at the Puttalam plant. The tests were successful and the client was satisfied that MA.G.A./C208 could improve production and cement quality. Furthermore, Mapei was able to provide Holcim with reliable and dedicated service through prompt technical support, sales-service and delivery reliability.

MAPEI PRODUCT: MA.G.A./C208.

TECHNICAL DATA

- **Year of Construction:** 0000
- **Period of the Mapei Intervention:** 2010
- **Client:** Holcim Sri Lanka
- **Contractor:** Ultraco Pte Ltd
- **Mapei Co-ordinator:** Michael Yeoh Huat Hing, Mapei Far East (Singapore)

Dear Readers, the magazine is not finished!

We have decided to devote one cover of this issue (and more) to all the major building projects testifying to our work around the globe, thanks to our successful partnerships with the people involved in designing, carrying out the work and distributing our products.

Turn the magazine the other way round and enjoy your reading!