INTERNATIONAL

Realtà MAPEI

ISSUE 55

Year XVI - No. 55 - December 2015

2015-2016 Season's Greetings

Dear Readers

I would like to draw the year to a close with you. I hope it has been a very successful year for many of you, with as few of you as possible having problems. Of course I realise that for most people this has been a rather uncertain, low-key year, in accordance with the general economic and social climate enveloping almost all nations in a giant cloud that, fortunately, is not so gloomy for everyone.

Here at Mapei we have continued to work hard, striving to interpret the demands emerging from a context determined more by external issues than any real contingencies on the building market. In other words, your needs and our needs. This certainly means brand-new, high-performance products, but also assistance and services, like, for example, ongoing training courses for skilled workers and professionals testifying not only to our awareness of the demands of a global market posing new needs and requiring quick solutions, but also our attention to social aspects that have emerged so powerfully during this recession period.

Realtà Mapei has set out to provide an overview of all this. It wanted to offer a work tool and be a link ideally running right across the international community of quality building. And thanks to our efforts we now have even more readers.

155,000 copies of the Italian edition of **Realtà Mapei** are now published, along with 35,000 of its international counterpart. These are big numbers but that is not all; indeed, the **Realtà Mapei** network also encompasses 15 local editions printed in 170,000 copies in 16 different nations.

Mapei also has its own **regular newsletter** providing news flashes and technical updates on a weekly or monthly basis, depending on the country in question. There are a total of 50 **Mapei newsletters**, prepared by Mapei subsidiaries all over the world, sending out special messages to our virtual readers.

All of us at the various editorial staffs of **Realtà Mapei**, working for different Mapei marketing offices around the world under the supervision of the central editorial office in Milan, think about you on a daily basis, choosing subject matters, photos, news and topics we think might be of interest to you.

We would like to thank you for your attention and the patience you always show, as testified by your positive comments, sometimes together with constructive criticism and messages of encouragement to continue with this great project aimed at internationalising the culture of quality building.

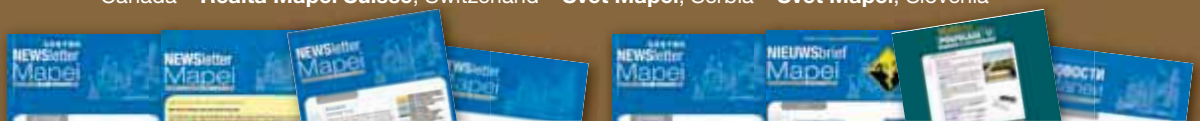
As the year draws to a close we would like to invite you to join forces with all of us, so that we can feel stronger as we face the New Year with peaceful optimism. These greetings are intended to be a message of solidarity that moves beyond the boundaries of religion, language and culture.

All of us here at Mapei hope that these New Year's greetings mean something special to you our loyal readers, a sign of our friendship and gratitude.

SEASON'S GREETINGS

and all the editorial staffs of Realtà Mapei

Realtà Mapei, Italy – **Realtà Mapei International** – **Mapei & Vous**, France – **Mapei Kronika**, Hungary – **Mapei Svijet**, Croatia – **Mapei Zixun**, China – **Mir Mapei,** Russia – **Realidad Mapei**, Spain – **Realita Mapei**, Czech Republic – **Realita Mapei**, Slovakia – **Realta Mapei Deutschland**, Germany – **Realtà Mapei Österreich**, Austria – **Realtà Mapei Portugal**, Portugal – **Realtà Mapei Americas**, USA – **Realtà Mapei Americas,** Canada – **Realtà Mapei Suisse**, Switzerland – **Svet Mapei**, Serbia – **Svet Mapei**, Slovenia



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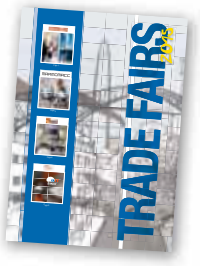
TRADE FAIRS ▶ SUPPLEMENT

This issue of *Realtà Mapei International* encloses a supplement devoted to the last edition of the main trade fairs that took place in Italy in autumn 2015.



SAVE THE DATE!

Mapei will again take part in DOMOTEX next January
Come and visit us!

DOMOTEX
16 - 19 January 2016, Hannover (Germany)
Hall 7, Stand 28

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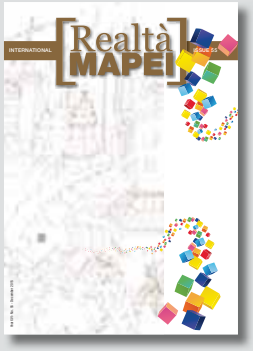

COVER STORY
Special season's greetings from Mapei to all *Realtà Mapei International* readers.

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CAPITALISING ON THE EXPO'S LEGACY

AN INTERVIEW WITH GIORGIO SQUINZI, WHO EXPLAINS WHY "IT WOULD BE A REAL SHAME TO SQUANDER THE LEGACY OF THIS INCREDIBLE ADVENTURE"

Giorgio Squinzi always had great faith in the Milan World Expo, as the President of the Italian industrialists, as an Italian and as just somebody who comes from Milan. He put everything into his role as an Ambassador for Expo 2015, because he immediately realised how the Expo could allow Italy to show the world what it is capable of. In an interview, which is partly presented here and was first published in 'Metro Expo' (a special supplement handed out with *Metro*, an independent newspaper published and distributed free of charge) by Enrica Arcangeli on 17th October, the head of Mapei took stock of this great event that has just come to a close, proudly announcing how Italy managed, on this occasion, to "show the entire world its extraordinary worth".

It was also an opportunity to point out the positive repercussions of such major events as the Jubilee and Olympics can have on the Italian economy.

Two weeks after the end of the world Expo, how do you think it panned out?

Extremely well. I immediately realised what the Expo could mean for Italy and, more as an Italian than as a businessman, I really believed in it, even when Milan had not yet finalised its bid. Confindustria (the Confederation of the Italian Manufacturing and Service Companies) also supported the project right from the beginning. And then, as somebody who comes from Milan, I am bound to be proud of what my city has shown it can achieve. The entire administration, back from when Letizia Moratti was in charge, took on the challenge with great determination and really committed to pulling it off. Expo has been a great opportunity for us to relaunch ourselves, a story with a happy ending that will not only help boost Italian manufacturing and design around the world even more, it has also managed to project a positive image of the nation. One-in-four Italians actually took part in the Expo. The world came to visit us: Heads of States, leading personalities, business people, institutions, schools, international competitors, and lots of foreign visitors. Everybody got to see close up how we have managed to create that Italian style that is the envy of so many. But that is not all. In its Report published last September, Confindustria Research Centre pointed out that the Expo was even more successful than forecast and, leaving aside its macroeconomic importance, it pays testimony to a renewed desire to spend. So our conclusion is bound to be more than positive: Expo was a success. Confindustria's Pavilion was equally successful. Fabfood, the exhibition on sustainable industrial food, is turning out to be a big hit with the general public, particularly young people and families.

As Italians and as a nation we really gave our best: so now is the time to capitalise on the fact that we have shown the world all our extraordinary worth. We need to really exploit the Expo's "legacy". It would be a real shame to squander it.

As regards this matter, what is the best way to continue the wave of positive feeling associated with the World Exposition?

It would be a crime not to redevelop the area and so we need to think of some concrete use for its structures, including those built around the site, possibly coming with a solution as soon as possible, without useless chitchat or time wasting. I hope a very clear decision-making process is set under way, so that action can be taken quickly and in the right way: it is actually a daunting project, both in terms of the space involved and as regards the effort that will be required. It would seem to me that the Italian Government is ready to help out, and we hope that the post-Expo scenario is a far cry from what happened before it.

Palazzo Italia could turn into a permanent fixture. What purposes will it serve?

It is a magnificent structure that really deserves to remain as part of the Expo legacy. Even from the outside, its shiny white outline and façades made of interwoven branches provide a perfect idea of Italian know-how and expertise: it is a highly innovative project, an incredible bio-dynamic environmentally friendly cement structure that is the product of Italian research - proving once again that Italian companies do carry out research - a futuristic structure of great visual impact. The exhibition on display inside is also a way of discovering or rediscovering, if you like, all the high-quality regional specialities coming from our nation. I have noticed that people seem to be more than satisfied when they come out: I think it is a compulsory stop for anybody visiting the Expo. A striking showcase of Italy's emotionally engaging artistic beauty and stunning landscape.

The Expo, extraordinary Jubilee and bid to host the Olympics: Major events that can really help Italy. What positive implications could they have for the Italian business world?

Lots and lots. Launch pads like these never come around twice, particularly

Made in Italy

Giorgio Squinzi, Ambassador for Expo Milano 2015

"As Italians and as a nation we really gave our best: so now is the time to capitalise on the fact that we have shown the world all our extraordinary worth. We need to really exploit the Expo's "legacy". It would be a real shame to squander it"

bearing in mind the revival period Italy is going through. As regards Expo - I will merely quote the estimates given by the Bocconi University of Milan - it will inject over 69 billion Euros into the Italian economy over the period 2011-2020, with an increase in added value equal to approximately 29 billion Euros. As regards the Jubilee, on the other hand, I recently read a study carried out by La Sapienza University in Rome that refers to an increase in GPL of between 2.1-2.4% for the capital alone, with a national impact of 0.7%. Figures which, alone, give us an idea of what events of this scope and scale mean for the Italian economy, even as regards redeveloping infrastructures, boosting tourism and culture, and generating investments.

You have been quoted as saying "over the next few decades mankind will see a boundless intellectual market of an unprecedented nature. This means the best will go where they can find the ideal living and working conditions". Is the E4Impact Foundation project based on this belief and a desire to foster ongoing cooperation between nations?

As a businessman I have tried to come up with a concrete solution to help boost local growth. I am proud of this project devised by Mapei in conjunction with two other important Italian businesses and the Cattolica University of Milan, which has set itself an ambitious goal that we really believe it: to mould the African business class of the future. As an industrialist, but above all as a European citizen, I think we need a deep, enduring alliance between our two continents: we must approach these countries in a more constructive way, not just as mere buyers or, worse still, as exploiters. I believe that creating "on-site" job opportunities is a duty we have, and this project really might create a business class capable of solving those problems Africa has been burdened with for so long. Moreover, contributing to local growth is also a way of slowing down the massive migration flows we have had to deal with over recent times.

This interview was published on 17th October on *MetroExpo*, whom we would like to thank.

TAKING STOCK OF EXPO 2015

THE EVENT THAT SAW THE CITY OF MILAN INVOLVED FOR SIX LONG MONTHS DREW TO A CLOSE ON 31ST OCTOBER

"Expo 2015 is like a bridge to the future", so the President of the Italian Republic, Sergio Mattarella, stated in his speech at the official closing ceremony of the event, "Today we are not bidding farewell, just moving on. It is the beginning of a new civic enterprise", so he concluded.

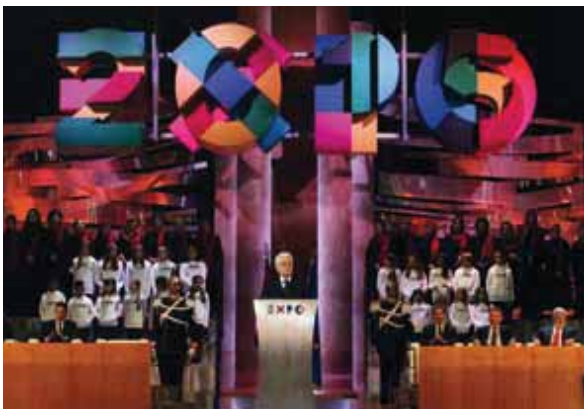
After the final visitor entered at 5 o'clock in the afternoon on 31st October, the Milan Expo drew to a close to everybody's satisfaction, despite certain initial doubts and all the last-minute rush. Alongside the Tree of Life, that was photographed more than anything else and was, perhaps, the real star attraction of this Expo, the most striking thing was the wave of human beings that flowed through the turnstiles every day: an aver-age of 116,000 people-a-day, with the highest number being 274,000 on Saturday, 10th October. A crowd of young people, adults, elderly people, families with children, coach trips, foreign tourists, schoolkids, trips organised by local churches and clubs for the elderly. Some were well-informed about the subject of this World Expo, "Feeding the Planet, Energy for Life", and ready to explore all the various issues concerning sustainable food presented in the various pavilions and clusters. Others were visiting the Expo as if it were a giant fair, where, on the same day, you could move from Israel to the United States without having to spend even one minute on board a plane.

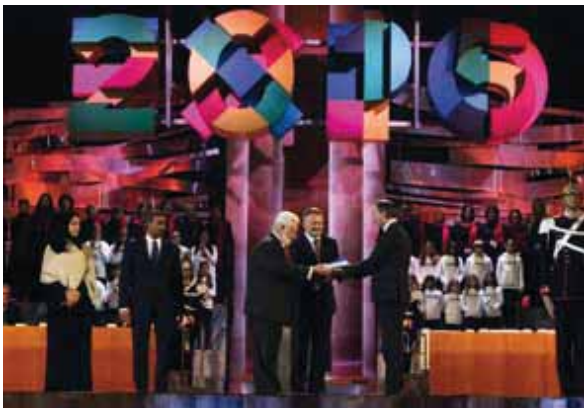
Everybody who visited the Expo learnt how different countries tackle the issue of food, as revealed in the various pavilions, some of which were a great success while others made less of an impact.

The Milan Charter, a document on the right to food signed by lots of different countries and tens of thousands of visitors, is part of this Expo's permanent legacy. There were also a couple of concrete results that it would have been extremely tricky to attain without the Expo: for the first time ever the next Stability Law of the Italian Government will include an article that makes it bureaucratically easier and more convenient for major companies to donate leftover food, rather than just throw it away, and also a law protecting farm and agricultural land.

THE CLOSING CEREMONY

It started where it all began. The Expo officially opened on the evening of 1st May in the Open Air Theatre and it closed in the same place on the evening of 31st October. This ceremony was attended by the President of the Italian Republic, Sergio Mattarella, local authorities (including the Lord Mayor of Milan, Giuliano Pisapia, and the President of the Lombardy Region, Roberto Maroni), Maurizio Martina, the Italian Minister for Agriculture with a special proxy for the Expo, the Secretary of the Bureau International des Expositions Vicente Loscertales and, of course, the real "heart and soul" of the Expo, the Commissioner of the Government of Italy for Expo, Giuseppe Sala, who thanked everybody who worked so hard to help make Expo a success, including the one hundred prison inmates involved in everyday maintenance work.





FOOD AND SPENDING

According to a survey carried out by Coldiretti, visitors spent an average of **27 Euros** per capita at the Expo site, 32% chose Italian cuisine, 25% foreign cuisine and 34% tried both. Almost 40 tons of food were salvaged by the Banco Alimentare (Food Bank) and Caritas (an Italian Catholic charity institution) and then handed out at charitable canteens.

TICKET SALES

At the final closing ceremony, Giuseppe Sala announced that a total of over 21.5 million entrance tickets had been issued after the final visitor passed through the Expo turnstiles at 5 p.m. on 31st October. The exact figure as of 25th October was **21,143,107** visitors, equal to all the inhabitants of the Lombardy, Lazio and Campania regions put together. Initial predictions of 20 million visitors had initially been greeted with widespread scepticism.

THE BUSIEST MONTH

The busiest period was the month of **October**, followed by September (with approximately 4 million visitors). This boom in the number of visitors began in August, the third most popular month (3,367,000 tickets sold), more or less on a par with June (approximately 3.4 million). Lagging behind were the months of May (2.7 million) and July (2.8 million), the month most affected by high temperatures. As regards the daily entrance figures, the record number of 272,785 was recorded on Saturday, 10th October.

STAFF AND VOLUNTEERS

20,000 workers were hired to cover the six-month period of the World Expo. Approximately 7000 of them worked during the night carrying out maintenance operations, supplying the restaurants, and taking care of cleaning and waste collection. 8000 volunteers worked on the exhibition site for free for a maximum of two weeks each. These volunteers included lots of people with ordinary jobs and, above all, plenty of high-school students "enrolled" for a day.

SCHOOLS AND STUDENTS

The Expo was visited by lots of students, ranging from primary school children to high school students, amounting to a total of over **2 million**. There were also hundreds of school trips arranged coming from all over Italy.

THE TREE OF LIFE BECOMES PART OF THE CITY "BRAND"

According to 90% of Italians and 95% of foreigners, Expo 2015 was a success. It was also a success in terms of Milan's image that has been boosted by the six-month World Expo: the city has actually become the third biggest tourist destination after Rome and Venice. According to a recent survey, Milan's symbolic landmarks now include the Tree of Life, as well as Duomo Cathedral and the Teatro alla Scala Opera House. Four-in-ten Italians consider Marco Balich's installation to be one of the city's landmarks. The percentage is lower outside the country, but that does not really matter: one foreigner in ten believes that the Tree is part of the city's symbolic heritage.

ALBERO della VITA MILANO 2015

ORGOGLIO BRESCIA

FAMOUS VISITORS

Lots of international leaders visited the Expo. Among them the President of the Russian Federation, Vladimir Putin, the US Secretary of State, John Kerry, the US First Lady, Michelle Obama, the President of France, François Hollande, the Chancellor of Germany, Angela Merkel, and lots of other prime ministers and heads of state from all over the world.

Giorgio Squinzi, President of the Mapei Group, and Cesare Puccioni, President of Federchimica (Federation of the Italian chemical industry), visiting Expo.

THE MILITARY AND LAW ENFORCEMENT

Security was one of the most pressing issues: **2300** members of the military were involved in the "Expo" and "Safe Streets" security operations, both on the site and in the city. There was only one real public order problem: the queues. Incredibly long queues to enter or visit some of the pavilions, most notably the Japanese Pavilion, where there was a 10-hour wait to get in during the final month.

TRANSPORT

Trenitalia (Italian State Railways) carried **14 million** visitors during the six months of the Expo, one million of them travelling directly to the Rho Fiera Milano Expo railway station. These were "record numbers for Trenitalia" according to a bulletin published by the Group, particularly over the last month when all seats were taken on their trains, particularly the "Le Frecce" high-speed trains. Rho railway station recorded 67% increases in traffic for suburban links around the metropolitan area every day, amounting to a total of 120 regional trains and 81 national and international trains.

WHAT WILL HAPPEN AFTERWARDS?

One year: that is the length of time that will be required to dismantle all the Expo pavilions and prepare an area of 1,000,000 m² for future usage. But what will be left of all the constructions built and visited by millions of visitors? We know for sure that the following structures will remain after the event: the Zero Pavilion, Cascina Triulza Farmstead, which will be made available to the services sector, Palazzo Italia, the Open Air Theatre, which will be used for events, the Biodiversity Park that will remain in its entirety, The Tree of Life, and 50% of the 'green' land that hosted the Expo. As far as the rest is concerned, projects envisaged for after the Expo include a Campus for the State University over an area of approximately 215,000 m². Assolombarda (Association of Lombardy companies) has also presented a project called "Nexpo", a major science-technology hub encompassing businesses, laboratories and research centres, also incorporating the new university campus. In November the Italian Government proposed its "Human Technopole" project involving the construction of a cutting-edge science centre aimed at improving human life that will take up 70,000 m² of land, 30,000 of which allocated exclusively for laboratories.

THE FATE OF THE PAVILIONS

So-called "dismantling" works on the structures that hosted the pavilions began in November and are employing about 600 workers. Most of the nations involved will be recycling, either in their home country or elsewhere, their own pavilion: the four Swiss silos will become urban glasshouses, the United Arab Emirates oasis will be relocated in Masdar City (a planned city project in Abu Dhabi), and Azerbaijan's spheres will become a centre for protecting biodiversity in the capital city of Baku. Some pavilions will be reused for social purposes and international cooperation projects: the Don Bosco Pavilion will become a Young People's Centre in Ukraine, the Principality of Monaco's containers will accommodate a Red Cross Centre in Burkina Faso, the headquarters of Save The Children will be flown off to a refugee camp in Lebanon, the Coca-Cola Pavilion will remain in Milan and be converted into a sports centre, and Austria's trees will be replanted in Alto Adige (Northern Italy). Those nations that will not be reusing their structures will in any case, in accordance with Expo's rules and regulations, have to recycle the wooden and metal parts of their pavilions. The 'Seme dell'Altissimo' sculpture has been donated by its designer, Emilio Isgrò, to Milan City Council that will be relocating it in Sempione Park in the city centre.

THE DANGER OF BEING AN "ENDLESS ENTERPRISE"

The post-Expo scenario is likely to drag on: it might be four years from the design stage to the start of building work, plus another year to carry out the preliminary project and yet another for the final project. It will then take six months to carry out environmental impact assessment and a further six months for the executive project.

EXPO LEGACY, WOMEN TAKE ACTION

On 25th November Diana Bracco, the President of Expo 2015 SpA, presented her final report on Milan Expo 2015 to the Bureau International des Expositions. As well as 160 thousand face-to-face meetings between Italian and foreign business people, Diana Bracco pointed out that the "We-Women for Expo" project, which was set up in conjunction with the Exposition, has resulted in 109 international events being organised in six months and will be an integral part of future Expos.

EXPO'S FACTS AND FIGURES

21.5 MILLION VISITORS IN TOTAL, 6.5 FROM ABROAD

2.3 BILLION EUROS SPENT BY ITALIAN VISITORS

88% OF VISITORS WERE HAPPY WITH THEIR VISIT AND **74%** BELIEVE THE EVENT WAS A SUCCESS FOR ITALY

300 OFFICIAL VISITS AND **60** HEADS OF STATE AND GOVERNMENT WERE INVOLVED

2 HOURS AND 45 MINUTES WAS THE AVERAGE TIME SPENT QUEUING

JAPAN, CHINA, KAZAKHSTAN, THE ARAB EMIRATES AND ISRAEL CREATED THE MOST POPULAR PAVILIONS

4,200 CHAIRS TO BE SALVAGED AND USED IN OFFICES AND HALLS

700 BENCHES LOCATED ALONG THE DECUMAN AND NEIGHBOURING AREAS

13,000 TREES AND **85,000** SHRUBS THAT WILL STAY ON SITE

1,100 KM OF CABLES TRAVELLING UNDER 24 KM OF INTERNAL ROADWAYS

29,000 TONS OF IRON FOR THE SCAFFOLDING USED TO BUILD THE PAVILIONS

28,000 TONS OF IRON FOR REINFORCING THE CONCRETE

250,000 PHOTOS POSTED ON INSTAGRAM SHOWING THE TREE OF LIFE

...AND MAPEI'S

65 PAVILIONS, 9 CLUSTERS AND OTHER ANCILLARY WORKS USED MAPEI PRODUCTS

THE **DECUMANO** (1.5 KM) AND **CARDO** (350 M) FLOOR SURFACES WERE PAINTED USING ASPHALCOAT TRAFFIC HB 136 PAINT IN 7 DIFFERENT COLOURS

MAPEI PRODUCTS WERE ALSO USED FOR INFRASTRUCTURES SUCH AS THE **EXPO BRIDGE, MILAN EASTERN OUTER BYPASS** AND **A36 MOTORWAY**

MAPEI HELPED WITH THE CONSTRUCTION OF STATIONS ALONG THE **M5 UNDERGROUND LINE**, THE REDEVELOPMENT WORK ON THE MILAN **DOCKLANDS** AND THE CREATION OF A NEW HOME FOR THE **PIETÀ RONDANINI** SCULPTURE

MAPEI TOOK **3.000** INTERNATIONAL OPERATORS TO THE EXPO SITE

STUDENTS FROM THE MOLINARY TECHNOLOGY AND SCIENCE HIGH SCHOOL VISITING MAPEI HEADQUARTERS

WHAT ABOUT MAPEI?

The Mapei Group supplied systems and the constant support of its Technical Assistance team during building operations, helping the contractors by providing solutions for dealing with all the problems arising on site. On the exhibition site, Mapei supplied products for the construction of 65 pavilions, the nine clusters and other works, such as the foundation slab on which the site was constructed.

The Company also contributed to works around the site (the Expo Bridge and TEEM, Milan Eastern Outer Bypass) and inside the city of Milan (the M5 underground line and the Pietà Rondanini Museum). Mapei also decided to sponsor the USA Pavilion, the 'Seme dell'Altissimo' sculpture, and the Consorzio Orgoglio Brescia, which was responsible for building the Tree of Life. Mapei was also part of the "Ecco la mia impresa" (This is my business) project hosted in Intesa Sanpaolo's Waterstone Pavilion (see *Realtà Mapei International* no. 54).

Mapei accompanied over 3000 international operators working in the building industry on tours around Expo and the city of Milan.

By joining the "Adopt a School for Expo" project promoted by Confindustria (Confederation of the Italian Manufacturing and Service Companies), Mapei chose to adopt the E. Molinari Technological Scientific High School and Industrial Technical Institute. Mapei covered the costs and expenses of the students' visits to the Expo, finishing off with a trip to the Mapei R&D Laboratories, to be followed up by training and apprenticeship courses.

In accordance with the Expo theme "Feeding the Planet, Energy for Life", Mapei promoted solutions and systems suitable for all those environments where food and drink are stored, processed, distributed and consumed (the brochure "Food. Mapei Systems for the Food and Drinks Industry" is available at www.mapeifood.it).

Mapei also supported the E4Impact Foundation's project for training new business people in Africa in a socially-impacting community-focused way by offering a Global MBA in Impact Entrepreneurship.

Everybody is now invited to Astana 2017, the capital of Kazakhstan, focusing on the issue of "Future Energy", and then the eagerly awaited Dubai 2020 "Connecting Minds - Creating the Future".

THE WATERSTONE PAVILION BY INTENSA SAN PAOLO

A GROUP OF MAPEI'S CLIENTS VISITING EXPO

IMPORTANTLY FOR THE ITALIAN ECONOMY, THERE HAS BEEN A REVIVAL IN THE TOURIST INDUSTRY OVER THE LAST YEAR, PARTLY DRIVEN ALONG BY EXPO 2015

SEE UNDER THE ENTRY FOR "TOURISM"

Global spending on tourism in 2013 sees the USA at the top of the list with 130 billion Euros, followed by Spain (47), France (43), China (39) and Italy (33). This is not a great result for Italy's image, bearing in mind that just a few years ago it was ahead of Spain and France in the rankings. To complete the overall picture, Thailand's 32 billion Euros in income from foreign tourism means it is now hot on Italian heels.

The news that Italy is the fifth tourist destination in terms of the number of international visitors and how much they spend is not bad, but it is still disappointing since Italy has been "overtaken" by countries that used to be less popular than it.

ITALY IS THE FIFTH TOURIST DESTINATION IN TERMS OF NUMBER OF INTERNATIONAL VISITORS AND INCOME

Italy's ranking is the same regardless of whether it is measured in terms of people or income: based on the number of tourists, France is in first place with 85 million visitors, followed by the United States (70), Spain (61) and China (56). Italy is once again fifth with 48 million international tourists, followed by Turkey (38). In the 1950's one in five tourists came to Italy and this was one of the most visited nations in the world. In contrast nowadays only one tourist in 23 chooses to come and visit the country.

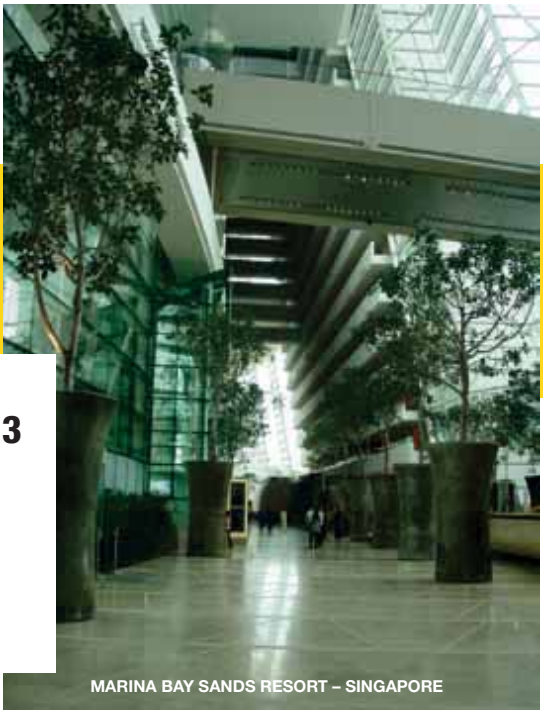
But this year something has changed, thanks – perhaps - to the Expo effect or, more likely, due to the relative improvement in the world economy. According to figures published by ENIT (Italian National Tourism Board), the number of foreign visitors choosing Italy as a holiday destination is on the rise and there has been a 5.3% increase in the number of day-trippers and 3.7% in the number of people actually staying in the country, which has had positive repercussions in terms of expenditure which has grown by +5.2%. If we look at where these visitors come from, there are now more European visitors – Germans, British, French, Spanish and Austrian -, but, most significantly, there has been a real boom in tourists from the East: as well as regular Japanese and Korean guests, there are lots of Chinese and Australian visitors.

Going back to the Expo, this time the whole of Italy has shown it can be competitive in terms of tourism and culture, and the nation can still boast one of the greatest artistic, historical and landscape heritages in the world. Not to mention all those other strong points that make Italy renowned all the world over, such as design, fashion, craft, and gastronomy. But, as Giuseppe Sala, the Commissioner of the Government of Italy for Expo Milano 2015, pointed out in a letter to the Italian newspaper *Corriere della Sera* on 7th October 2015, although Italy has successfully taken on a great challenge with this Expo, there is still lots to be done and "Innovation, safety and service are the watchwords of a more extensive project aimed at providing hospitality and tourism management up to the highest modern-day standards".

This is not always an easy path to take, because it is often difficult to fully exploit the Italian cultural heritage for reasons that are quite incomprehensible to Italians themselves. But

LE BAILLIAGE HOTEL – SALERS – FRANCE

NUMBER OF TOURISTS IN 2013
FRANCE: 85
USA 70
SPAIN 61
CHINA 56



MARINA BAY SANDS RESORT – SINGAPORE

TOWNHOUSE DUOMO HOTEL – MILAN – ITALY

SOL ALCUDIA CENTER HOTEL – PORT D'ALCUDIA – MAJORCA - SPAIN

DUSIT THANI GUAM HOTEL AND RESORT – TUMON - USA

promoting tourism - which accounts for approximately 10% of Italy's GNP and 12% of jobs on the employment front - also means improving the efficiency/effectiveness of the hospitality Italians offer their foreign guests.

THE ART OF HOSPITALITY ACCORDING TO MAPEI

Tourists visiting Italy or other countries - everywhere from cities to tourist resorts - expect to find comfortable facilities, as well as cultural tourism that meets their expectations. This "challenge" of giving guests an unforgettable experience should be the aim of all hoteliers. Combining friendly and polite staff with high standards of accommodation and comfort is an art in itself. Indeed, it is "the art of hospitality".

This means it is crucially important to invest in upgrading hotel facilities to offer increasingly attentive and demanding guests greater comfort and more competitive hotels on the global market.

In Italy, the fiscal bonus for renovating hotels (Italian Legal Decree 31, May 2014, referring to new measures concerning the safeguarding of the cultural heritage, development of culture and relaunching of tourism) and the tourist seasons (both summer and winter) provide the chance to really enhance accomodation facilities.

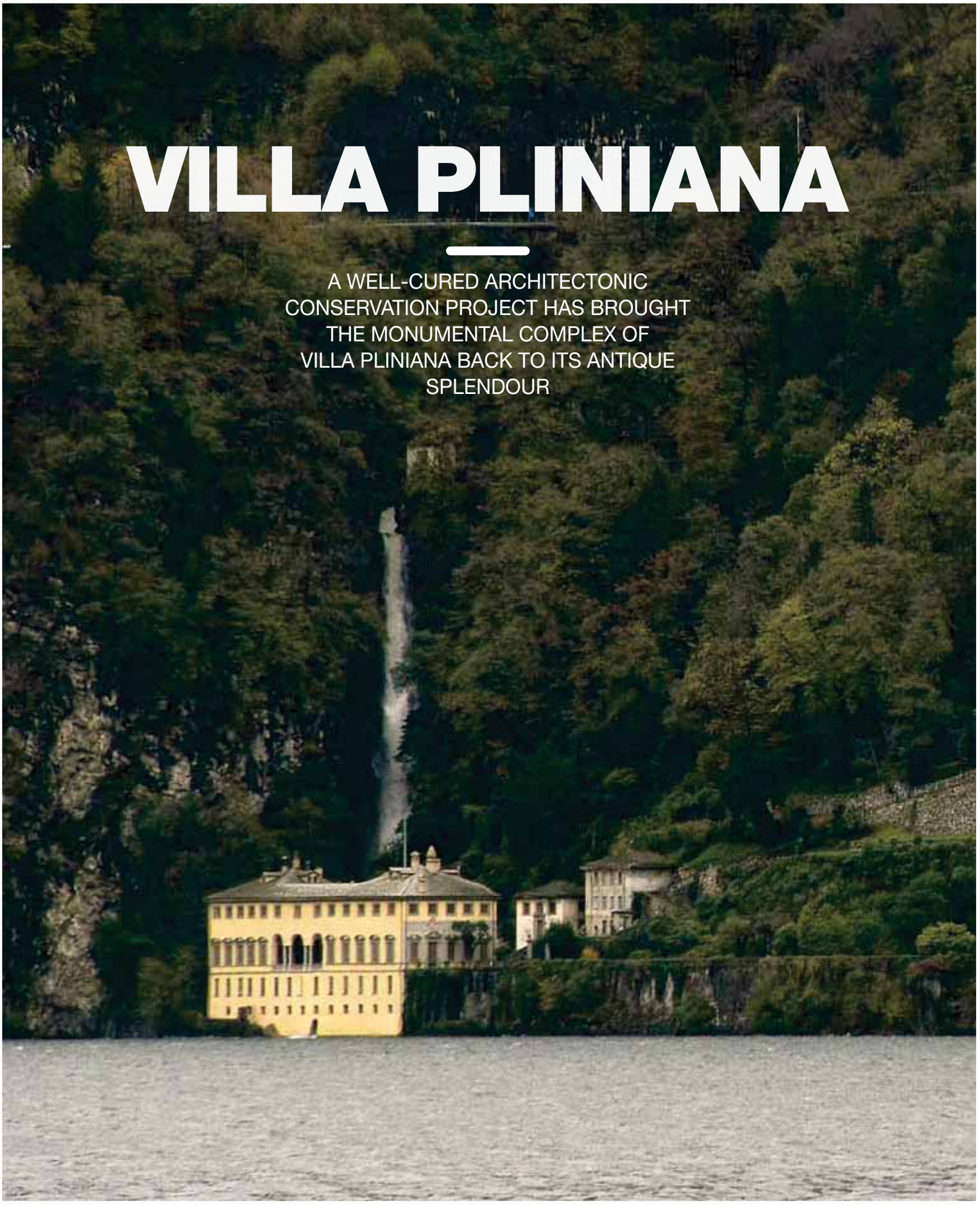
Drawing on the experience it has gained in the hospitality sector, exemplified by both Italian and international projects, Mapei can supply systems and solutions meeting the specific needs and demands of both hotel owners and guests.

Mapei provides architectural designers, contractors and building companies with systems and solutions for the most miscellaneous operations:

- waterproofing terraces, balconies and swimming pools
- thermal insulation and finishing
- repairing façades and renovating both indoor and outdoor spaces
- building floors and soundproofing
- spas and wellness facilities, the food and beverage industry
- reception areas
- underground car parks.

VILLA PLINIANA

A WELL-CURED ARCHITECTONIC CONSERVATION PROJECT HAS BROUGHT THE MONUMENTAL COMPLEX OF VILLA PLINIANA BACK TO ITS ANTIQUE SPLENDOUR



LEFT. A view of Villa Pliniana from the Como Lake. The waterfall and several of the units of the complex are visible in the background.
RIGHT. Emilio Ottolenghi, with his wife Nicoletta, at Villa Pliniana. Giorgio Squinzi, Arianna Ottolenghi, Guido Ottolenghi and Adriana Squinzi attended the gala to inaugurate the Villa after renovation works.

After years of waiting, restoration work on the Villa Pliniana complex in Torno, one of the most antique and picturesque villas on Lake Como (Northern Italy), has finally been completed and the Villa was officially inaugurated at the beginning of September 2015. Work started at the end of the 1990's by consolidating and make the foundations structurally safe, followed by a rebuild of the roof and façades. This phase was completed at the beginning of 2000, along with work on the access road to bring it up to date. It then took five years to design the conservation work, followed by two years of intense work and continuous contacts with the local Heritage Authority. At the beginning of 2004 the owners started considering various uses for the Villa, including turning it into a hotel, but in the end they decided to transform it into a luxury resort. The aim was to make Villa Pliniana – which, apart from the main central body, includes a further seven structures in the park, such as the Shelley House, Plinii House and the Da Vinci Refuge – a residential complex which will also host events, in keeping with its artistic and historical heritage.

IN THE BEGINNING THERE WAS THE SPRING

"A gushing spring that ebbs and flows every hour", is how it was described by Pliny the Elder in *Naturalis Historia* in the 1st century AD. The land on which the Villa was built in the 16th century was already well known in the classic period thanks to its intermittent spring (called "Pliniana") which ebbed and flowed three times a day. In fact the Villa takes its name from the spring which, in its turn, was called after both Pliny the Elder and Pliny the Younger (Gaius Plinius Secundus and Gaius Plinius Caecilius Secundus) who were the first people to study the spring and its strange, intermittent water flow. The waterfall next to the Villa has a spectacular drop of around 80 m which is only visible from the Villa or from the lake. Its strange flow is probably due to the presence of a natural siphon in an underground cavity: when the water reaches a certain height inside the cave it is discharged towards the outside. Its flow then gradually slows down until the water builds up inside and it overflows again. Even Leonardo da Vinci went to Torno during his first stay in Milan (1482-1500) to study this mysterious phenomenon. Over the years many other scientists, including Paolo Frisi, Lazzaro Spallanzani and Alessandro Volta, visited the spring to study its flow.

THE HISTORY OF VILLA PLINIANA

Villa Pliniana – which sits in an isolated position at the foot of a mountain and is accessible only by water, except for a footpath that connects it to the town of Torno – has been the subject of tales and legends over the years, which were also rooted in the past and the first owner of the Villa, the aristocratic Giovanni Anguissola from Piacenza who, according to local legend, took part in the assassination of the nobleman Pier Luigi Farnese in 1547. The context of the Villa, surrounded by natural parkland with a sheer cliff under which it was built, have certainly helped to give it an air of mystery and great charm. The English poet Shelley, who mentioned the Villa in one of his poems, was so fascinated that he tried to buy it, but then withdrew his offer, frightened off by its renovation and maintenance costs. In 1573 the Governor of Como, Count Giovanni Anguissola, bought the land along the eastern bank of the Como section of the lake and, in the space of just three years, constructed the current building. Five years later the Villa was inherited by his nephew Giulio, who in 1590 decided to sell it to Count Pirro Visconti Borromeo. The Count redecorated the Villa to make it more welcoming and sumptuous, whereas his heirs let it fall into a state of desolating abandon and, in 1676, sold it to Francesco Canarisi. Under the guide of the Canarisi family the Villa went through its period of maximum splendour. It was enriched with commemorative stones and portraits of the antique members of the Canarisi family, and during the 18th and 19th centuries it hosted many illustrious guests such as Joseph II of Austria, Napoleon, Stendhal, Alessandro Volta, Bellini, Gioacchino Rossini, Lord Byron, and the Italian authors Ugo Foscolo and Antonio Fogazzaro, who took inspiration from the Villa to write his novel *Malombra*. In 1942 the film director Mario Soldati used the Villa as a backdrop for the film of the same name. At the beginning of the 19th century Francesco Canarisi decided to sell all the family properties and Villa Pliniana was bought by Prince Emilio Barbiano of Belgioioso. Upon his death, the entire complex went to Marquese Lodovico Trotti-Bentivoglio and, in 1890, to the Valperga family from Masino, who then sold it again in 1983 to the current owner after transferring the furniture to rooms in the Castle of Masino in Piedmont (Northern Italy), now owned by FAI (Italian National Trust).

THE ARCHITECTURE AND STYLE OF THE VILLA

Because of the architecture and style of the Villa, for many years its design had been attributed to Pellegrino Tibaldi or Galeazzo Alessi. A number of years ago, however, after the discovery of some old documents, the most reliable hypothesis was that the architect of Villa Pliniana was Giovanni Antonio Piotti from Vacallo. The Villa, built around the intermittent spring, sits in a cove on the eastern edge of the town of Torno.

PHOTO 1. The substrates of the external terrace were treated with PRIMER SN before being waterproofed.
PHOTO 2. The drains were sealed with MAPEBAND SA tape.
PHOTO 3. The substrates of the external terrace on the ground floor of the Villa were waterproofed with PURTOP 1000.
PHOTO 4. The structure of the spiral staircase was strengthened with products from the MAPEWRAP system.
PHOTO 5. A detail view of the painted dome above the spiral staircase.
PHOTO 6. View of the reception room on the noble floor.
PHOTO 7. Waterproofing the retaining walls using PLANITOP HDM MAXI fibre-reinforced mortar and MAPELASTIC FOUNDATION mortar.

The façade is interspersed with four rows of windows: those on the main floor of the Villa have small split tympana above them. The noble floor overlooks the lake and is made up of two bodies characterised by large reception rooms separated by a Doric lodge, with three arches supported by twin columns. Just above the level of the lake there is a long, airy, well-lit corridor with square, windowless openings, where you can gain access to the cellars, whose foundations sit directly on the rocks below. Immediately below the first floor, an arched opening allows the water from the Plinian spring to flow out. Behind the lodge, just beyond the courtyard, the intermittent spring flows through a small gap in the sponge rock which covers the rock-face upstream of the Villa. After transferring the furniture to Masino in 1983, the Villa stood empty and uninhabited, but photos of the time show the splendour of the decorations and

IN THE SPOTLIGHT

MAPE-ANTIQUE STRUTTURALE NHL

It is a pre-blended cement-free mortar in powder form for render and masonry work, made from natural hydraulic lime (NHL), Eco-Pozzolan, natural sand, special additives, micro-fibres and glass fibres. It is used for rendering old stone, brick, tuff and mixed walls; for making "reinforced" mortar and installation joints for consolidating and renovating weak walls; for pointing between elements on walls, including walls with a natural-finish; for load-bearing and buffer walls or for rebuilding old walls. It can contribute up to **3 points** to obtain the **LEED** certification for eco-sustainable buildings.

furniture. The coffered ceiling in the first reception room on the main floor and the strip of fourteen paintings in the style of the 17th century are a reminder of the first owners of the Villa and its antique splendour.

A LONG, COMPLEX RENOVATION PROJECT

The first step in the renovation work was to carefully map out the entire structure using laser scanners and to film the structure, right down to the smallest, hidden details, to carry out a thorough diagnostic examination. Guided by the architect Luciana Bassan, two companies, one from Bergamo (Northern Italy) and one from Ravenna (Central Italy), spent many months working on the site to renovate the run-down buildings and make them structurally safe, but without modifying their characteristics, main service equipment, surfaces or actual sizes, and paying particular attention to the issue of energy consumption. The intermittent spring was protected and enhanced and the buildings that form part of the Pliniana complex maintained their residential status, with four suites created in the Villa and three apartments in the external buildings. The noble floor and the deconsecrated chapel are now used to welcome guests, as meeting rooms for the authorities or VIPs and for events, while on the remains of an external building a swimming pool was built within a structure that is perfectly integrated with its surroundings. Renovation of the paintwork and the stone and wooden features, restoration work on the noble floor, and the return to a spiral staircase have all helped maintain and enhance the historical and artistic value of the Villa and its surroundings. Amongst the services offered by the Villa there is a spa centre with a swimming pool, an underground car-park, a multi-media salon, a landing surface for helicopters and a jetty for boats and public ferries. The Villa is protected and covered by architectural, hydrogeological and landscaping restrictions and all the work was carried out by working closely with the Architectural Heritage and Landscape Authority of Milan.

MAPEI INTERVENTION

Within the framework of the renovation work, all the contractors' decisions regarding the technical solutions for the Villa were taken jointly with the local Architectural Heritage Authority and carried out with the maximum attention to safeguard the Villa's historical value and comply with the new requirements in view of its new area of use. Some areas of Villa Pliniana were suffering from damp, along with water seepages into the areas below ground level. To solve these problems, the contractor and designer decided to contact Mapei Technical Services, who carried out a series of site surveys and an analysis of the substrates and materials in order to propose the most suitable products and systems for a long-lasting, successful intervention.

First floor below ground level. The walls of the area on the first floor below ground level that sit against the hill rising at the back of the Villa are made from rock. To eliminate the water seepage in this zone in particular, the solution proposed included the application of PLANITOP HDM MAXI two-component, high-ductility, fibre-reinforced, pozzolan-reaction mortar. This product was applied together with MAPENET EM40 pre-impregnated, alkali-resistant glass fibre mesh to form a layer of reinforced structural render on the surfaces suffering from this

ABOVE. View of the fountain in the internal courtyard of the Villa.

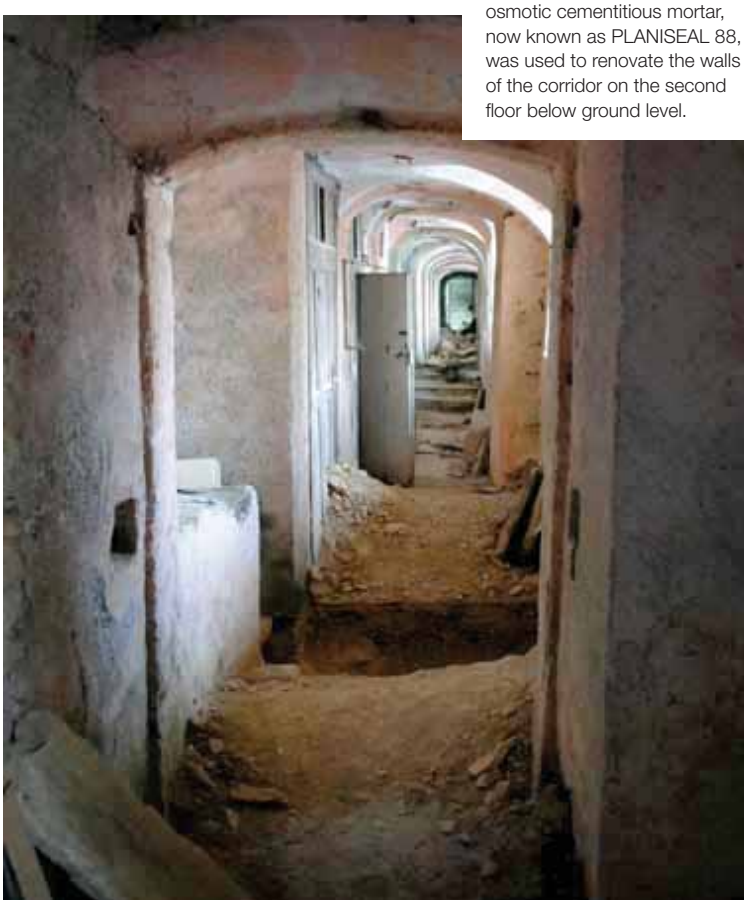
problem. Apart from its high adhesion strength, once hardened this product forms a compact layer which is impermeable to water but remains permeable to water vapour.
After mixing and applying the mortar, a channel was formed at the base of the wall to help contain and guide the flow of water and droplets formed by condensation. After fastening the drain for the channel in place and allowing the previously applied render to properly cure, a waterproofing layer was applied on the surfaces using MAPELASTIC FOUNDATION two-component, flexible cementitious mortar, specifically developed for waterproofing retaining walls. Two coats of MAPELASTIC FOUNDATION were applied with a roller to form a final layer 2-3 mm thick. Before applying the mortar, the surface was treated with PRIMER 3296 consolidating acrylic primer. Other areas were waterproofed with MAPEPROOF LW bentonite waterproofing sheets ideal for use on horizontal and vertical structures below ground level with a maximum water table of 5 m. MAPEPROOF LW sheets were applied and fastened to the walls with MAPEPROOF CD washers and IDROSTOP B25 hydro-expanding bentonite jointing material for sealing construction joints. The bathrooms and showers in this area were waterproofed with MAPELASTIC TURBO two-component rapid-drying elastic cementitious mortar to prevent any further water seepage.

Second floor below ground level. Cracks in the second floor below ground level were repaired with products from the MAPE-ANTIQUE line. Some masonry sections were rebuilt using MAPE-ANTIQUE STRUTTURALE NHL high-performance transpirant mortar for render and masonry work made from natural hydraulic lime and Eco-Pozzolan, which was reinforced with MAPENET EM40. The mesh was fastened to the structure with MAPENET EM CONNECTOR pre-formed "L" shaped fasteners made from alkali-resistant glass fibre and thermosetting vinylester-epoxy resin. They were bonded in place with MAPEFIX VE SF chemical anchor. The medium sized cracks in the surfaces were grouted and sealed with MAPE-ANTIQUE MC cement-free rendering mortar. To strengthen the domed ceilings, PLANITOP HDM MAXI mortar was applied over the entire surface together with MAPEGRID G 220 alkali-resistant, pre-primed glass fibre square mesh which was embedded among two layers of mortar. IDROSILEX PRONTO (now known as PLANISEAL 88) osmotic cementitious mortar was used to renovate the walls in the corridor, a product which is also suitable for contact with drinking water. The surfaces of a small ornamental fountain on the same floor were waterproofed with MAPELASTIC two-component, flexible cementitious mortar, which is used to form waterproof protective layers on concrete.

Ground floor. Waterproofing work was also required on the large external terrace on the ground floor of the Villa. For this intervention, Mapei Technical Services recommended PURTOP 1000 two-component, solvent-free, pure polyurea membrane. After removing all the detached materials and cleaning the area, PRIMER SN two-component epoxy primer with fillers was applied on the substrate to improve the adhesion of the following layer. The surface was then broadcast

with QUARTZ 0.25 while it was still wet. All the dust was then removed from the substrate and PURTOP 1000 was applied by spray with a high-pressure, bi-mixer type pump. The drains on the floor were sealed with MAPEBAND SA tape bonded with ADESILEX PG4 adhesive. The surfaces of the fountain in the internal courtyard and the entrance hall were waterproofed with MAPELASTIC TURBO.

Other newly-built areas. To waterproof the lift shaft and the new wing for the Villa built against the cliff, Mapei recommended MAPEPROOF bentonite system, which had already been used on the first floor below ground level. The structure for the spiral staircase, which connects the ground floor to the first floor, was strengthened with the MAPEWRAP system. This system is made up of glass fibre and carbon fibre fabrics which are easy to apply and provide high mechanical strength, durability and very little impact on the architecture of the building. The first step was to form an installation layer for the fabrics made from PLANITOP HDM MAXI mortar. The substrate was then primed with MAPEWRAP PRIMER 1 and levelled with MAPEWRAP 12 epoxy grout before applying MAPEWRAP 31 adhesive. MAPEWRAP C QUADRI-AX fabric was then applied over the adhesive, making sure it was laid without wrinkles. The strengthening intervention was finished off by drilling holes and anchoring MAPEWRAP C FIOCCO 12 carbon fibre cords on the lower face of each step with MAPEFIX EP385. The ends of the cords were splayed open and then impregnated and bonded in place with MAPEWRAP 31 adhesive.



BELOW. IDROSILEX PRONTO osmotic cementitious mortar, now known as PLANISEAL 88, was used to renovate the walls of the corridor on the second floor below ground level.

The ceramic covering was bonded with KERAFLEX MAXI S1 deformable cementitious adhesive with no vertical slip, extended open time and Low Dust technology, classified as C2TE S1 according to EN 12004 standards. The mosaic was bonded with white ADESILEX P10 cementitious adhesive.

Apart from the actual Villa, the complex also includes a further seven structures and a large park. In two of these – the Servants' House and the Red House – the structures were waterproofed with products from the MAPEPROOF system range and MAPELASTIC FOUNDATION. The surfaces of the swimming pool were waterproofed with PURTOP 1000 membrane. To bond ceramic tiles and grout the joints in the pool, Mapei recommended KERAPOXY anti-acid epoxy mortar, which may be used as an adhesive and as a grout.

The image in the first page and the pictures of this page were taken from the book ***La Pliniana di Torno. Storia di una villa e di un mito sul lago di Como*** by Fabio Cani, Alessandro Dominioni Editore, 2010. We thank the publisher for kindly allowing us to use them.

TECHNICAL DATA
Villa Pliniana, Torno (Como, Italy)
Design: Giovanni Antonio Piotti da Vacallo
Period of Construction: 1573-1577
Year of the Mapei Intervention: 2014
Intervention by Mapei: supplying products for consolidating, waterproofing, and installing ceramic tiles and mosaic
Client: La Petrolifera Italo Rumena S.p.A.
Architectural Design: Arplan S.r.L., Luciana Bassan and Rosario Picciotto
Works Direction: Luciana Bassan
Design and Direction for Structural Works: Enrico Maria Bandello
Design and Direction for Plants Works: Liviano De Zolt and Claudio Zambonin
Main Contractor: Temporary Association including Cantieri Edili Bergamelli and Cemi
Mapei Coordinators: Davide Bandera, Mauro Boselli, Luca Ferrari, Pasquale Zaffaroni, and Fabio Messina, Mapei SpA (Italy)

MAPEI PRODUCTS
Waterproofing structures: Idrostop B25, Mapeband SA, Mapelastic Foundation, Mapelastic Turbo, Mapeproof CD, Mapeproof LW, Planitop HDM Maxi, Primer 3296, Adesilex PG4
Waterproofing substrates in the pool and terrace: Purtop 1000, Primer SN, Quartz 0.25
Consolidating masonry structures: Mapefix EP385, Mapegrid G 220, MapeWrap 12, MapeWrap Primer 1, MapeWrap C Fiocco 12, MapeWrap 31, MapeWrap C Quadri-AX
Repairing masonry: Mape-Antique MC, Mape-Antique Strutturale NHL, Mapenet EM 40, Mapenet EM Connector, Mapefix VE SF
Installing ceramic tiles and mosaic: Adesilex P10, Keraflex Maxi S1, Kerapoxy
Renovating the walls: Idrosilex Pronto (now called Planiseal 88)

For further information see www.mapei.it and www.mapei.com

GUIDO OTTOLENGHI

EMILIO AND GUIDO OTTOLENGHI ARE JOINT OWNERS OF THE COMPANY PIR (PETROLIFERA ITALO RUMENA). FOUNDED IN 1920, ITS HEADQUARTERS ARE NOW BASED IN BOLOGNA AND HAS WAREHOUSES FOR CHEMICAL PRODUCTS IN THE PORT OF RAVENNA, AS WELL AS OTHER DEPOTS IN GENOA, ALBANIA AND TUNISIA. AFTER YEARS OF NEGLECT AND DETERIORATION, THEY DECIDED TO BUY AND RESTORE VILLA PLINIANA

RODOLFO SQUINZI FROM MILAN, THE FATHER OF GIORGIO SQUINZI, ALSO FELL IN LOVE WITH VILLA PLINIANA. YOU ARE ORIGINALLY FROM TURIN AND LIVE IN BOLOGNA; WHAT MADE YOU BUY, ALMOST FORTY YEARS AGO, A VILLA ON LAKE COMO?

It was my father who fell in love with the property when he used to go and meet up with friends at the lake, so rather than a rational decision, it was a choice based on emotions and passion.

WHAT STRUCK YOU MOST ABOUT VILLA PLINIANA: ITS HISTORY, ITS SETTING, THE APPEAL OF THE LAKE OR ITS ILLUSTRIOUS GUESTS?

I would say that, for us, its relationship with the water, the intermittent spring and the privacy it offers are the forces behind its magic, and then obviously it is immersed in history, which makes it all the more fascinating.

WHAT WAS THE CONDITION OF VILLA PLINIANA WHEN YOU BOUGHT IT?

It had been completely abandoned and left to its own devices, and became gradually worse over the years.

IN 1818 THE ENGLISH ROMANTIC POET, PERCY B. SHELLEY, WAS SO STRUCK BY THE VILLA THAT HE TRIED TO BUY IT, BUT THEN CHANGED HIS MIND WHEN HE REALISED HOW MUCH IT WOULD HAVE COST TO RESTORE AND MAINTAIN IT. IN 1983, THE YEAR YOU BOUGHT IT, DIDN'T THE SAME THOUGHTS CROSS YOUR MIND?

Not at all. We thought that, by making the Villa more accessible to modern vehicles (at the time it had just a narrow road that was inaccessible to trucks), we would have been able to carry out an excellent restoration job at a reasonable cost. The facts, however, have shown that we were overly optimistic, in terms of both costs and time. The story about Shelley is a very nice one and very instructive, because it is an example of how this property had periods of decadence and periods of glory, and that it is actually a difficult property.

AFTER MORE THAN THIRTY YEARS SINCE THE OTTOLENGHI FAMILY BOUGHT THE PROPERTY, FIVE YEARS OF WORK AND A BUDGET RUNNING INTO SEVERAL MILLIONS, SEPTEMBER SAW THE INAUGURATION OF VILLA PLINIANA IN TORNO. ARE YOU SATISFIED WITH

THE RESULT? ARE THERE ANY AREAS INSIDE THE PROPERTY THAT STILL NEED TO BE COMPLETED?
In spite of all the difficulties, the costs involved and the time required, which was unreasonably long, now that we have finally completed the work we have absolutely no regrets; quite the opposite, in fact. We are extremely proud of the result and the emotions the Villa stirs up in its visitors and of the comforts offered by a building that has been brought up to contemporary standards. The project involved the entire complex of the Villa, as well as work on the park to make it safe, which for the most part is made up of woodland, so I don't really think there are any other significant interventions to be done. From an emotional point of view the inauguration on the 5th of September, at which we had the honour of welcoming Adriana and Giorgio Squinzi amongst the guests, was a particularly intense moment.

DID YOU ALREADY HAVE A CLEAR IDEA OF HOW IT WOULD BE USED ONCE THE MAIN BODY AND THE OTHER BUILDINGS IN THE PARK HAD BEEN RESTORED, OR WAS IT A DECISION THAT MATURED OVER THE YEARS?
Villa Pliniana was built against the rocks with its foundations immersed in water. The solutions adopted in the 16th century, to connect the various floors of the Villa and the other volumes of the complex, meant it was complicated to configure a final use according to contemporary standards. It took a long time to fully comprehend the spaces and the best way to connect them. Then, once we had come to fully understand the layout, it took us a long time again before we had a clear picture of either one or several possible final uses that would be compatible with the restrictions dictated by its physical setting and standards applied to restoration work.

DEALING WITH BUREAUCRACY IN ITALY IS NOT AN EASY TASK. DID YOU ALSO HAVE PROBLEMS WITH THIS ASPECT?
Yes, and a lot, both during the first years of the project, when it seemed the local authorities were not so helpful, almost as if they wanted to expropriate the Villa, and then again from the end of the 1990's when, even though the dialogue had improved, the complexity of the norms and regulations and the number of authorities we had to deal with made the entire process excruciatingly long. I also feel that, in Como, Villa Pliniana is considered to be the property of the entire community, which means everyone has their own idea or something to criticise, so probably the local authorities were even more cautious in order to take these feelings into consideration.

IS IT TRUE THAT, AT A CERTAIN POINT, YOU WANTED TO DONATE THE VILLA TO FAI (ITALIAN NATIONAL TRUST)? AND IF SO, FOR WHAT REASON?
My father was one of the first supporters of FAI, which had been created along the lines of the British National Trust, and after the first few frustrating years of trying to obtain authorisation to restore the Villa, he spoke about it with FAI and offered to donate it. He was afraid that giving up on the project would have meant the end for the Villa and he thought that maybe FAI would have received a better reception from the local authorities. FAI, however, and probably rightly so, realised that without a consistent dowry, meaning donations that would have allowed them to restore in some way the building, for them, too, the Villa would have become a burden.

FOR CENTURIES THE ONLY ROUTE OF ACCESS TO THE VILLA WAS BY WATER, APART FROM A FOOTPATH CONNECTING IT TO THE TOWN OF TORNO. THIS FAR FROM MINOR DETAIL CERTAINLY LEAD TO AN INCREASE IN COSTS AND SLOWED THE WORK DOWN. HOW DID YOU SOLVE THE PROBLEM?
In around 1940 a steep, narrow side road that joined the local provincial road was built around 100 m up from above the Villa. One of the first initiatives agreed on with the local authorities, and maybe one of the most complex choices on their part, was to allow this road to be upgraded so that it could be used by cars and trucks. This was done in 2004, but the building site was still complex because the road is not large enough for two lanes of traffic and there are no large areas to unload materials. To overcome this problem the site requested the use of a helicopter for some of the work and four cranes working on site at the same time.

THIS MAY SEEM LIKE A FRIVOLOUS QUESTION, BUT DID THE ARRIVAL OF AN IMPORTANT STAR SUCH AS GEORGE CLOONEY TO THE SHORES OF LAKE COMO CHANGE THE OVERALL OUTLOOK AND THE DEMAND FOR LUXURY PROPERTY IN THIS AREA?
I think we must be very grateful to George Clooney because, even though he didn't make the lake more beautiful, he made it more widely known: thanks to him the magic of the lake has been acknowledged by tourists from every corner of the world and this role as an "ambassador" for the Como region has been effective, so he deserves our gratitude.

WITHIN THE FRAMEWORK OF YOUR PROJECTS VILLA PLINIANA WILL BE CLASSED AS A LUXURY RESORT. DID YOU EVER CONSIDER TRANSFORMING IT INTO A LUXURY HOTEL?
Yes, we discussed this possibility with a number of hotel chains before the design work had been completed, but the answer we got was that only larger volumes that would allow at least eighty rooms to be created could justify such a project. I get the impression that nowadays hotel chains tend to privilege privacy, and that they are more willing to consider projects similar to Villa Pliniana, but I really don't feel like opening a new site to adapt the Villa to a different type of use.

SINCE 2002, IN COLLABORATION WITH TORNO TOWN COUNCIL, THE VILLA WAS OPEN FOR VISITS ONCE A YEAR. THESE VISITS WERE SUSPENDED WHILE THE RESTORATION WORK WAS BEING CARRIED OUT. DO YOU THINK YOU WILL START THESE VISITS AGAIN?
Yes I do, and we are in talks with the Council to define a format for the visits, or to organise an open event for the general public, obviously in line with the new layout of the Villa. The collaboration with the local Council started on a voluntary basis and has been met with a lot of interest: this passion for Villa Pliniana is a wonderful part of its heritage and must be preserved, just like the Villa itself.

ARCHITECT LUCIANA BASSAN, WORKS DIRECTOR AND PARTNER OF STUDIO ARPLAN, DEVISED THE RESTORATION DESIGN FOR VILLA PLINIANA

LUCIANA BASSAN

THE REDEVELOPMENT OF VILLA PLINIANA WAS FAR FROM SIMPLE AND THERE WERE CERTAINLY DIFFICULT MOMENTS. COULD YOU TELL US SOMETHING ABOUT THESE MOMENTS AND THEIR CAUSES?

The value and fragility of the building; but above all the wooden features, the stucco work and the paintwork meant we had to take the utmost care, especially when we were excavating into the rocks near the Villa and the spring during construction work for the lift that runs from the car-park to the first floor below ground level, and then again during the excavation work inside the building to create the connections running horizontally and vertically. The respect and passion for the renovation project we were facing acted as a guide to make us more prudent and to pay the utmost attention, with incredible skill and expertise of the people working on site.

THE RENOVATION WORK WAS PARTICULARLY COMPLICATED BECAUSE OF THE NUMEROUS PROBLEMS POSED BY THE SITE ITSELF. WHAT WORRIED YOU THE MOST: ITS VICINITY TO THE LAKE OR THE LACK OF AN OVERLAND ACCESS ROUTE?

Undoubtedly the difficulty in reaching the site by land and having to travel along just a narrow road with very little space to manoeuvre. In fact site organisation and logistics, with around 60 people at work for the entire duration of the site, meant that the contractors had to be highly committed and very flexible, as well as show their willingness to be coordinated.

THE VILLA IS COVERED BY PRESERVATION ORDERS TO SAFEGUARD ITS GEOLOGICAL AND MONUMENTAL INTEGRITY AND TO PROTECT THE LANDSCAPE. WHAT IS MORE, AS DESIGNERS YOU OPTED MOSTLY FOR A CAREFUL RENOVATION OF THE EXISTING BUILDING AND FEATURES. WHAT KIND OF RELATIONSHIP DID YOU HAVE WITH THE LOCAL HERITAGE AUTHORITY?

We dealt with a number of different people from the local Heritage Authority during the long approvals process, and I must say that we built up a good relationship with all of them, which was undoubtedly due to the importance of Villa Pliniana for the lake area and for the surrounding region. This meant that all of us, local authorities included, were highly concentrated and motivated in restoring Villa Pliniana to its original architectonic and decorative splendour. During the final phase of the design work in particular, and again during the actual work

on site, alongside us we had the architect Maria Mimmo, responsible for that area, who was available to help at every step and gave her full backing whenever we had to make choices.

THE CLOSE RELATIONSHIP BETWEEN VILLA PLINIANA AND WATER IS THERE FOR EVERYONE TO SEE, FROM THE INTERMITTENT SPRING THAT MADE IT SO FAMOUS TO THE WATER OF THE LAKE JUST BELOW THE VILLA. ITS PROXIMITY TO WATER, HOWEVER, ALSO LEADS TO PROBLEMS WITH DAMP. HOW DID YOU TACKLE AND SOLVE THESE PROBLEMS?

Rather than the presence of the spring itself, it was the fact that the Villa and the other buildings had been constructed so close to the rocks that caused us most problems with damp.

We tackled these problems by adopting physical solutions, such as counterwalls, drains and better ventilation, in combination with high performance, technologically advanced materials developed by Mapei and the support of Mapei technicians, who worked alongside us to help select the right products and then to ensure the most suitable application procedures. And I firmly believe this support was, and is, fundamental in guaranteeing that the intervention was complete and decisive.

THE RUNDOWN BUILDINGS ON THE SITE HAD TO BE MADE STRUCTURALLY SAFE BEFORE BEING RENOVATED, WITH THE OBLIGATION TO MAINTAIN THEIR CHARACTERISTICS, THE ORIGINAL FRAMEWORK, THE SAME SURFACE AREAS AND THE SAME SIZES. THAT WOULD BE QUITE A CHALLENGE FOR ANY DESIGNER; WAS IT FOR YOU?

Absolutely. There are restrictions covering the entire 7 hectare site and every intervention, including the technological ones, had to be approved by the local Heritage Authority. The design solutions we came up with to position and run the technological equipment, and the way it was distributed to meet certain functional requirements, were the result of a coordinated study by all the experts in our team. And it was only by working together, with the support of the Heritage Authority, that we managed to find the least obtrusive and most highly evolved solutions, because to get the best out of the spaces of the Villa meant we also had to ensure they offered the highest standards in comfort.

PRESERVATION OF THE BUILDING'S ARCHITECTONIC CONTEXT AND ADVANCED TECHNOLOGY WERE COMBINED RIGHT FROM THE VERY START OF THE PROJECT. DID THE EVOLUTION OF THE MATERIALS RECOMMENDED BY MAPEI TECHNICIANS TO CONSOLIDATE AND RENOVATE THE COMPLEX INFLUENCE ANY OF YOUR DESIGN SOLUTIONS?

Our decision at the start of the project to work alongside a partner such as Mapei proved to be a winning choice, because Mapei technicians' experience and professionalism, along with the advanced technology of the products, allowed us to identify which were the most suitable solutions to adopt, safe in the knowledge that we would achieve a great end result.

TO ROUND OFF THIS INTERVIEW, AFTER SUCH A LONG, CHALLENGING AND COMPLEX PROJECT SUCH AS THE ONE FOR VILLA PLINIANA, DO YOU FEEL READY FOR ANOTHER BUILDING SITE IN THE RENOVATION SECTOR, OR WOULD YOU RATHER WORK ON A MORE "MODERN" BUILDING?

I must say that Villa Pliniana is unique, as was the experience of being involved in its renovation, and that Italy's architectonic and artistic heritage is a wonderful testing ground for any architect, but I believe that every project, whatever it may be, is an exciting challenge with which to measure yourself and push yourself beyond your own limits.

» THE PROBLEM OF DAMP WAS TACKLED WITH MAPEI THAT ALLOWED US TO IDENTIFY THE MOST SUITABLE SOLUTIONS

THE PARABOLICA STAND AT THE MONZA NATIONAL RACETRACK

THE STAND AROUND THE MOST SPECTACULAR BEND AT THE MONZA RACETRACK HAS BEEN SUCCESSFULLY WATERPROOFED

Monza National Racetrack, situated north of Milan, was built in 1922 in the Monza Royal Park, the largest in Europe. Monza Racetrack is one of the oldest and most historic circuits, along with the Indianapolis Motor Speedway in the USA (1909) and the Bugatti circuit in Le Mans (France), and is the fastest track on the F1 calendar (Ferrari F1/2004, average speed 260.395 km/h), which is why it is known as "The Temple of Speed".

"Since the year it was built in 1922, Monza Racetrack is not only a racing circuit; it is also a part of our territory's history, of Italy's history, and is part of our national heritage", declared recently the President of the Automobile Club Milano, Ivan Capelli.

After going through a rocky period in recent years, the new management of the circuit has clear objectives for its re-launch: to organise more sporting, cultural, entertainment and fun events; to increase use of the track and congress areas; to create permanent attractions and commercial operations. The aim of all these initiatives is to revitalise the circuit and increase the number of visitors over the whole season to bring the balance books back into positive figures, with turnover back to the levels achieved in 2013, and go into 2016 with double-figure growth.

From when it was first built until today, the F1 Italian Grand Prix, organised by the Automobile Club Milano, has been held here almost every year.

The Parabolica spectator stand, which takes its name from the famous bend where it is located, was built in the 1980's, and every year thousands of lovers of motor sports enjoy some of the most spectacular views of Grand Prix racing from this facility.

Along the straight leading up to this long, right-handed variable bend the cars reach speeds of up to 330 km/h. They then brake just after the artificial grass on the left at the 100 m board, drop down into fourth gear at around 180 km/h, reach

ABOVE. View of the Parabolica Stand, with more than 2,000 seats for spectators, after completion of the renovation works.

PHOTOS 1 and 2. The concrete repair intervention was carried out with MAPEFER 1K and PLANITOP SMOOTH&REPAIR.
PHOTO 3. Cracks in the concrete surfaces were filled with EPORIP and fillet joints were sealed with MAPEFLEX PU45.

the apex at the entrance to the bend and then go through the final part in full acceleration towards the outside part of the track to reach the final straight at really high speeds.

WATERPROOFING FOR THE PARABOLICA STAND

The Parabolica Stand, with more than 2,000 seats for spectators, was built with a roof over around three quarters of its surface to protect it from atmospheric agents. Over the last thirty years there have been several seepage problems into the areas under the stand and, over the years, various interventions have been carried out to try and eliminate the problem, but without long-lasting results.

As part of a more complex redevelopment programme for the circuit, renovation work was carried out on the Parabolica Stand in 2015 to create a hospitality area under the stand for the F1 Grand Prix and other racing events, and to turn it into an area open to the general public, with play areas and inflatable structures for other periods.

Mapei was also there to help with this project. After several site surveys and after removing the seats, work got under way by sandblasting the entire area. The concrete was repaired using MAPEFER 1K one-component, anti-corrosion cementitious mortar for steel reinforcement rods and PLANITOP SMOOTH & REPAIR R2-class, rapid-setting shrinkage-compensated, thixotropic, fibre-reinforced, cementitious mortar for repairing and smoothing concrete. Cracks in the concrete were filled

PHOTO 4. Applying PRIMER SN.
PHOTO 5. The entire area of the stand was then waterproofed with PURTOP 1000 two-component, solvent-free, pure polyurea membrane.
PHOTO 6. The stand and the steps were painted with MAPECOAT PU15 two-component, aliphatic polyurethane finish.

IN THE SPOTLIGHT

PURTOP 1000

It is a two-component, solvent-free pure polyurea membrane applied by spray with a high-pressure, bi-mixer type pump.
PURTOP 1000 is suitable for waterproofing membranes on storage tanks, basins and hydraulic works in general as well as for the type of structure that requires a high-performance waterproofing membrane. It is suitable for waterproofing both new and old structures. It forms an excellent bond and may be applied on various surfaces (concrete, metals, etc.) to create a strong, flexible, continuous membrane. It ensures immediate waterproofing and sets to light foot traffic after 5-10 minutes.
PURTOP 1000 is solvent-free and with "no VOC" (volatile organic compounds).

with EPORIP two-component, solvent-free, epoxy adhesive and fillet joints were sealed using MAPEFLEX PU45 polyurethane sealant and adhesive with a high modulus of elasticity, before applying PRIMER SN two-component epoxy primer with fillers.
The entire area was then waterproofed with PURTOP 1000 two-component, solvent-free, pure polyurea membrane, which was applied using a bi-mixer spray to form an even, continuous membrane around 2 mm thick.
Once this operation had been completed, the stand was painted grey, apart from the bottom of the steps to the stand which was painted yellow. The product used for this operation was MAPECOAT PU15 two-component, aliphatic, polyurethane finish resistent to wear and ultra-violet rays.
This was Mapei's final touch on yet another iconic symbol of world class sport.

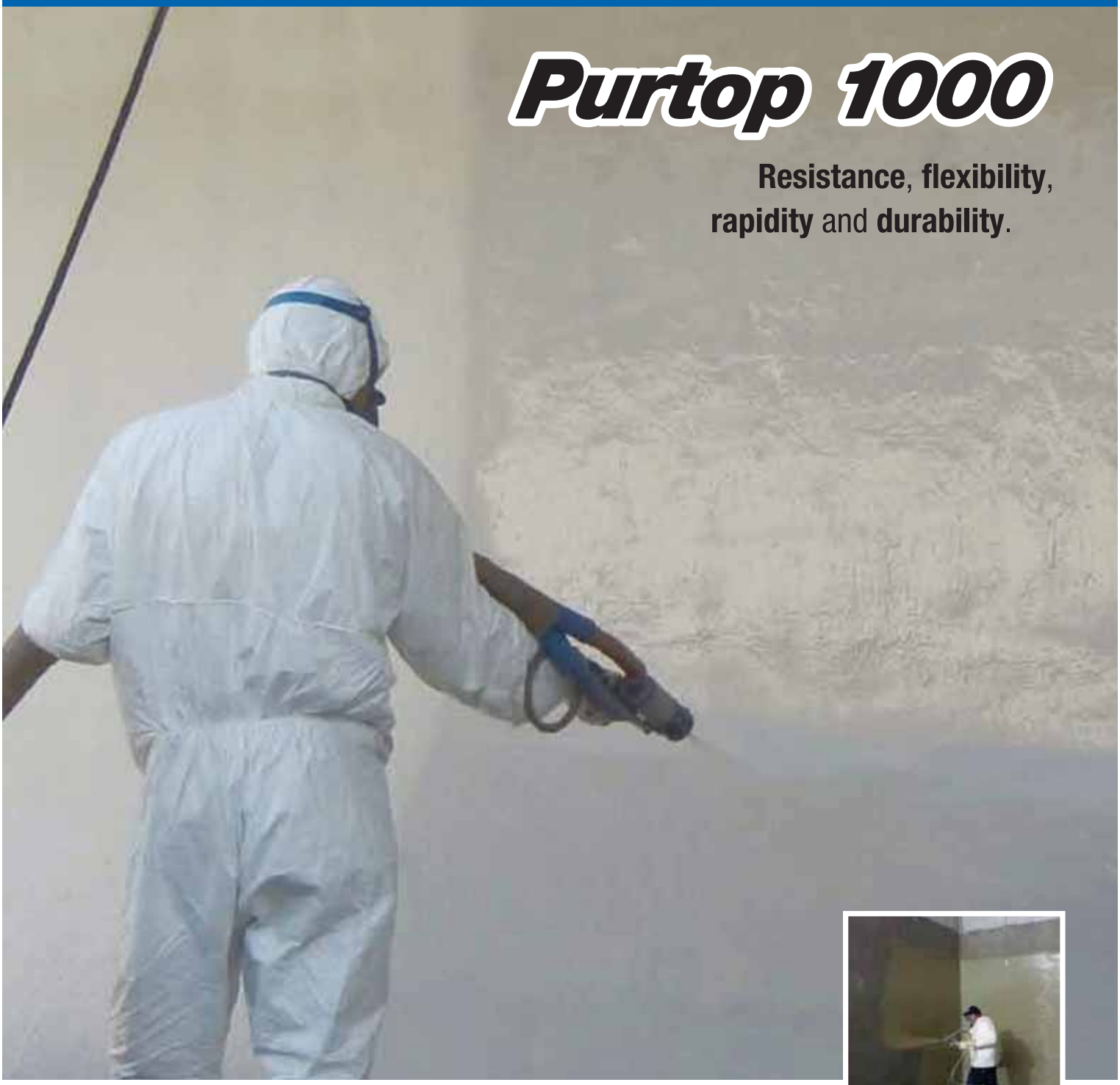
TECHNICAL DATA
The Parabolica Stand at the Monza National Racetrack, Monza (Italy)
Year of Construction: 1922
Design: Alfredo Rosselli
Period of the Intervention: 2015
Intervention by Mapei: supplying products for repairing concrete and waterproofing and finishing the surfaces
Client: Autodromo Nazionale di Monza
Works Direction: Pozzi, Tremolada
Concrete Repair and Waterporoofing Contractor: Ranghetti Art Proget Srl
Mapei Coordinators: Fabio Messina and Dino Vasquez, Mapei SpA (Italy)

MAPEI PRODUCTS
Repairing concrete: Mapefer 1K, Planitop Smooth & Repair, Eporip, Mapeflex PU45, Primer SN
Waterproofing the substrates: Purtop 1000
Finishing: Mapecoat PU15

For further information see www.mapei.it and www.mapei.com

Purtop 1000

Resistance, **flexibility**, **rapidity** and **durability**.



Solvent-free, pure polyurea waterproofing membrane applied by spray. Certified for contact with drinking water in compliance with Italian Ministerial Decree 174 – 6/4/2004.

- Rapid reticulation
- Immediate waterproofing
- Structures can be put back to use within 24 hours
- Certified according to EN 1504-2
- Excellent mechanical properties
- Excellent chemical resistance
- No reinforcement required
- Durability

Product info

/mapeispa

Mapei is with you:
let's take a closer look at **www.mapei.com**

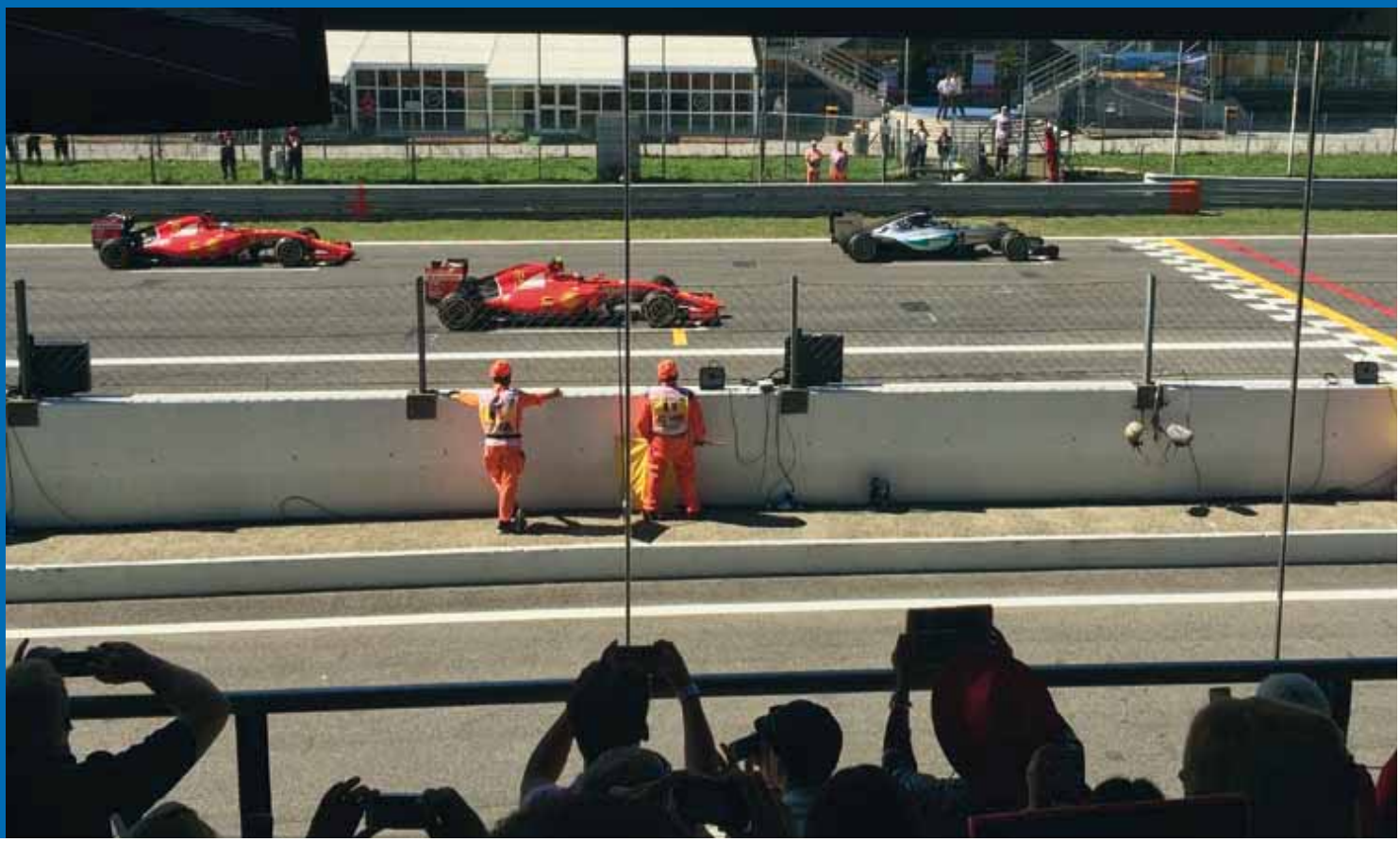
MAPEI®
ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

MAPEI AT THE ITALIAN GRAND PRIX AND THE MONZA RALLY SHOW

After acting as technical sponsor by supplying products to waterproof the Parabolica Stand, Mapei played host to numerous clients and collaborators at the Italian Grand Prix, who had the privilege of watching the race from a vantage point in the Monza Race Club suite in the Hospitality Building.

Also, from the 27th to the 29th of November, the Company was a Partner at the Monza Rally Show, whose inaugural edition dates back to 1978 when the management of the racetrack decided to open the gates of this historic circuit to rally cars. In this case too, apart from having the company's logo on all the press releases and promotional material for the event, Mapei had the opportunity to invite numerous clients during the three days of racing.

Apart from well known champions from the world of rally, famous faces at the Monza Rally included drivers from Formula One and the world of motorcycling, such as Valentino Rossi and the motocross world champion Tony Cairoli from the Red Bull KTM team, the official



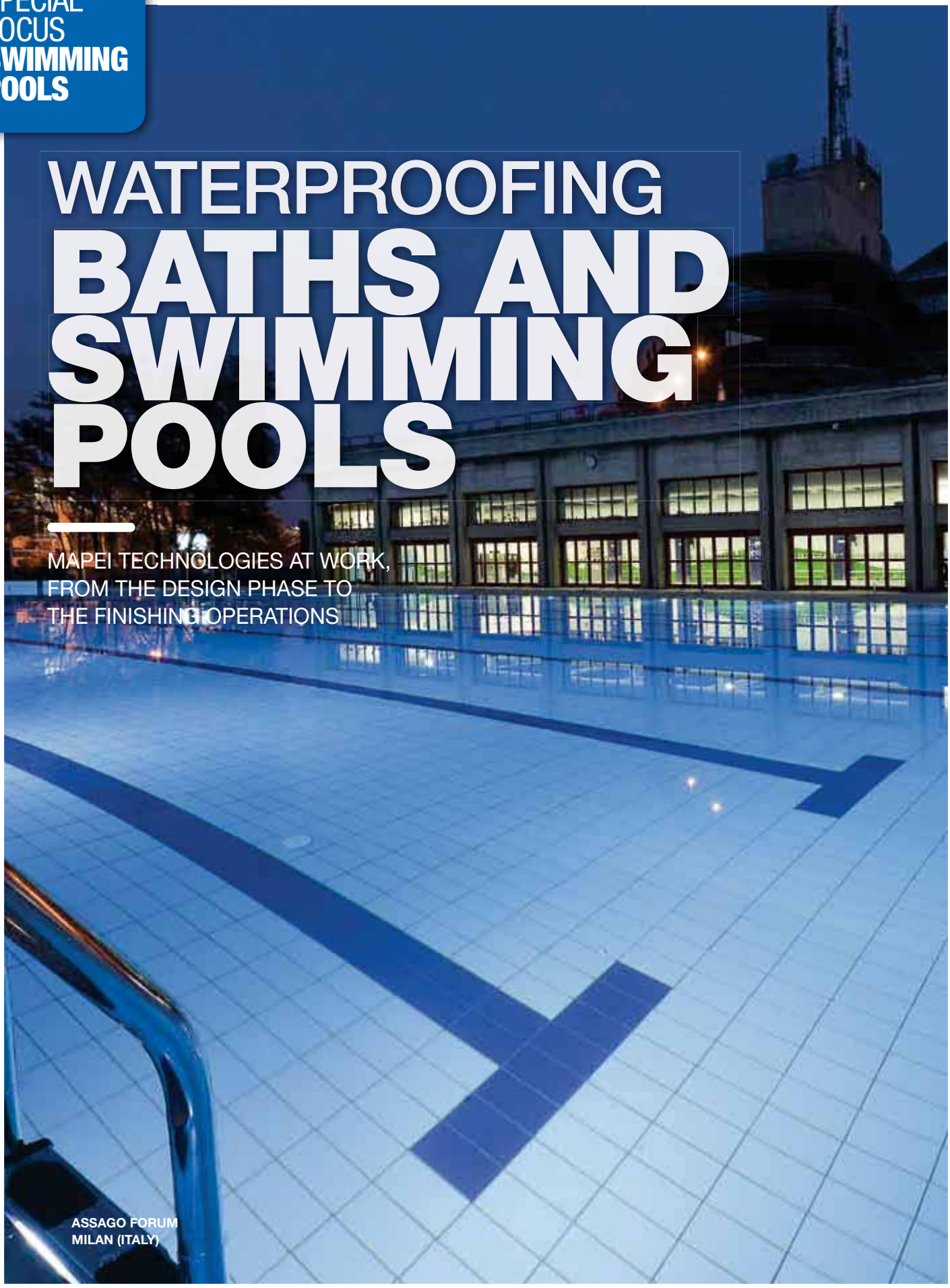
KTM team sponsored by Mapei.
A Rally which the never-to-be-forgotten champion cyclist and manager of the Italian Men's National Road Racing cycling team, Franco Ballerini, took part in several times (actually driving an entirely Mapei-sponsored car in 2009). A great athlete, who raced for the Mapei Professional Cycling Team and was always closely associated with the great "Mapei World" until he passed away tragically on 7th February 2010, while he was taking part in a rally on the roads of Tuscany where he lived.

The roar of engines in a spectacular and distinctly festive setting makes the Monza Rally Show a unique event that Mapei is always delighted to take part in, not just because it inevitably helps boost the company's image, but also out of respectful affection for one of the most symbolic locations in Italian and international sport.
An event at which Mapei is only too happy to take part; not only for the undisputed prestige for the company's image, but also for the passion for one of the symbols of Italian and international sport.

SPECIAL FOCUS **SWIMMING POOLS**

WATERPROOFING BATHS AND SWIMMING POOLS

MAPEI TECHNOLOGIES AT WORK, FROM THE DESIGN PHASE TO THE FINISHING OPERATIONS



ASSAGO FORUM
MILAN (ITALY)

Mapei offers a complete product line and product systems to perfectly build spa baths and swimming pools which are able to withstand ageing and atmospheric agents and fit the most innovative projects in this field.

THE CORRECT MIX DESIGN FOR THE CONCRETE FOR BATHS AND POOLS

Reinforced concrete structures are often used in the construction of baths and swimming pools. Since they are often in permanent contact with the water contained in the bath or pool, as well as with water in the ground, they must be waterproofed and protected from aggressive agents that could compromise their durability over the years. The correct mix design of the poured concrete is extremely important. Mapei recommends using admixtures from the DYNAMON range which is based on DPP (Designed Performance Polymer) technology, a new chemical process which, through total monomer design, allows the characteristics of the admixture to be modulated according to the specific performance requirements of the concrete employed.

PROTECTING AND WATERPROOFING STRUCTURES

When building hydraulic structures below ground level, where there is ground water, Mapei recommends waterproofing the structure using MAPEPROOF or MAPEPROOF LW bentonite sheets. For waterproofing side walls after pouring, the ideal solution is MAPELASTIC FOUNDATION, two-component, elastic cementitious mortar specific for waterproofing concrete subjected to negative and positive hydraulic lift.

SEALING

To seal any breaks in the surfaces that could potentially provide a passage for water (second pours; structural joints; pipe work; components for water recirculation units; light fittings) Mapei suggests using IDROSTOP, IDROSTOP B25 and IDROSTOP SOFT jointing products.

SUBSTRATE PREPARATION

The next step is to prepare and even out the internal horizontal and vertical substrates. Mapei suggest using PLANICRETE and TOPCEM or TOPCEM PRONTO to build the screeds. To even out the vertical surfaces, use NIVOPLAN admixed with PLANICRETE or PLANITOP FAST 330.

WATERPROOFING THE INSIDE OF BATHS AND POOLS

To waterproof slopes, fillets and breaks in the surfaces Mapei recommends MAPEBAND rubber tape, applied using MAPELASTIC or MAPELASTIC SMART mortars which feature excellent adhesion; high elasticity; excellent crack-bridging capacity and good workability.

INSTALLING CERAMIC, STONE AND MOSAIC

Mapei offers a complete line of adhesives to install ceramic and glass mosaics and special mortars to grout joints and sealants to seal expansion joints. Among the normal-setting adhesive systems one finds KERAFLEX MAXI S1; ULTRALITE S1; ADESILEX P10+ISOLASTIC; KERACRETE + KERACRETE POWDER; KERABOND+ ISOLASTIC. GRANIRAPID and ELASTORAPID are instead recommended for rapid installation of ceramic tiles and glass mosaics and ULTRACOLOR PLUS for the rapid grouting of joints. MAPESIL AC acetic silicone sealant is ideal for sealing expansion joints. To install and grout linings in environments subjected to aggressive chemical agents and to protect the waterproofing system Mapei recommends using reactive epoxy adhesives such as KERAPOXY or KERAPOXY DESIGN.

FINISHING THE INSIDE OF BATHS AND POOLS WITH ACRYLIC PAINT

Mapei proposes a specific treatment cycle for those who prefer a coloured finish in a pool or bath containing water. The cycle includes the use of MAPECOAT I 600 W two-component primer, TRIBLOCK FINISH three-component thixotropic epoxy mortar, and ELASTOCOLOR WATERPROOF acrylic paint.

For further information a technical notebook on “Waterproofing Baths and Swimming Pools” is available for download at www.mapei.it

WATERPROOFING UNDER A FOUNDATION SLAB BEFORE POURING THE CONCRETE

SEALING AND WATERPROOFING FILLETS BETWEEN HORIZONTAL AND VERTICAL SURFACES

WATERPROOFING TREATMENT FOR THE INSIDE OF THE POOLS

INSTALLING COVERINGS IN THE POOL

FINISHING THE INSIDE OF BATHS AND POOLS

SPECIAL FOCUS **SWIMMING POOLS**

AQUATICS PALACE IN KAZAN

MAPEI PRODUCTS BREATHE NEW LIFE INTO THE DIVING BOARDS AND DIVING POOL USED AT THE 2015 WORLD SWIMMING CHAMPIONSHIPS

The 15th edition of the FINA World Swimming Championships, which was held in Kazan (Russian Federation) from the 24th of July to the 9th of August, confirmed the excellent form of the Italian swimming squad: 3 gold medals, 3 silvers and 8 bronzes for a seventh-place finish in the medals table. And without a doubt, amongst the most memorable moments of the world championships were the three medals won by the Italian diver Tania Cagnotto. Battling it out for her tenth World Championship medal, along with the 25 medals already won at the European Championships, a gold medal in the 1.5 m springboard event was within reach. But the other two bronze medals won by Tania Cagnotto for the Italian squad were a wonderful surprise. The first bronze, as unexpected as it was exciting, came in the three metre springboard event, behind two invincible Chinese divers. And then the biggest surprise of all: Tania Cagnotto and Maicol Verzotto won the bronze medal in the mixed synchronised 3 metre springboard event. The setting for this incredible achievement was the diving pool in the Aquatics Palace. The sports complex in Kazan is dedicated to diving and swimming events and its diving boards and pool had been quickly renovated using Mapei products. The structure has three pools: one measuring 33.3x25 m for the diving events and two measuring 50x25 m for the swimming events.

RAPID PRODUCTS FOR WORLD RECORD-BREAKING PERFORMANCE

Various Mapei products were used to renovate the towers housing the diving boards and for other work around the pool. PROSFAS, a water-based, solvent-free con-

solidator, was used in the ventilation concrete chambers. MAPESIL AC pure, mould-resistant, acetic silicone sealant was used to seal the joints between the sides and between the sides and bottom of the pool, while KERACRETE + KERACRETE POWDER adhesive system and ULTRACOLOR PLUS grout were used to bond the covering materials in certain parts of the pool and to grout the joints. For the diving boards and platform, ADESILEX P4 quick-hardening cementitious adhesive and levelling compound was used to level off the surfaces.

The layer of PRIMER SN two-component epoxy primer applied afterwards was used to create a damp proof membrane before bonding the covering materials.

ADESILEX G19 two-component, epoxy-polyurethane one-buttering adhesive, ideal for bonding resilient floors on internal and external absorbent and non-absorbent substrates, and KERALASTIC two-component, high-performance polyurethane adhesive were then used for the installation of the covering on the steps of the diving board tower and for the diving blocks.

Great diving, thanks also to Mapei's products of excellence and its decades of experience in the world of international sport.

IN THE SPOTLIGHT

ULTRACOLOR PLUS

It is an improved cementitious grout for joints, with water-repellent DropEffect and mould-resistant BioBlock technology. It is certified EMICODE EC1 PLUS and suitable for all types of ceramic. It allows to obtain uniform colour, colours resistant to ultra-violet rays and atmospheric agents, smooth, compact finished surface and easy cleaning. It can contribute up to **4 points** to obtain the **LEED** certification.

TECHNICAL DATA

Aquatics Palace, Kazan (Russian Federation)
Year of the Intervention: 2015
Intervention by Mapei: supplying products for strengthening the concrete, installing ceramic tiles and resilient materials
Mapei Coordinator: Kuznetsov Sergei, ZAO Mapei (Russian Federation)
Ceramic Installation Contractor: OOO "Azimut"

MAPEI PRODUCTS

Strengthening and levelling concrete surfaces: Prosfas, Adesilex P4
Preparing substrates: Primer SN
Installing ceramic tiles and grouting joints: Keracrete, Keralastic, Ultracolor Plus
Sealing expansion joints: Mapesil AC
Installing resilient floors: Adesilex G19

For further information on products see www.mapei.com and www.mapei.ru

IN THESE PHOTOS. Some pictures of Tania Cagnotto, the Italian diver who won the World Championships in Kazan, whom we would like to thank.

HOTEL VALAMAR ARGOSY IN CROATIA

The preliminary phases of the renovation work on the three swimming pools (one external overflow pool and two children's pools) at the Hotel Valamar Argosy in Dubrovnik (Croatia) involved removing the old ceramic tiles and repairing the surfaces with PLANITOP FAST 330 quick-setting, fibre-reinforced cementitious levelling mortar, which is suitable for both internal and external use.

MAPELASTIC two-component, flexible cementitious mortar was applied to waterproof the pools surfaces, with MAPENET 150 alkali-resistant glass fibre mesh embedded between each layer.

Alkali-resistant MAPEBAND rubber tape with felt, applied with a thin layer of MAPELASTIC, was used in several areas of the swimming pool to seal the expansion joints.

Once the mortar was dry, ceramic tiles were bonded in place with KERAFLEX high performance, cementitious adhesive with no vertical slip and extended open time for ceramic tiles and stone.

The tile joints were then grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent Drop-Effect® and mould-resistant BioBlock® technology for grouting joints from 2 to 20 mm wide.

The last step was to seal the expansion joints in the ceramic tiles with MAPESIL AC, ideal for internal and external ceramic floor and wall coverings, including those in damp areas and swimming pools.

TECHNICAL DATA
Hotel Valamar Argosy, Dubrovnik (Croatia)
Period of the Intervention: October 2013 – April 2014
Client: Valamar Hoteli Ltd, Dubrovnik
Design: Arhitektura Ćurčija Ltd, Zagreb
Main Contractor: Alfaplan Građenje Ltd, Dubrovnik
Subcontractors: Brlić Ltd, Ocinje Market Ltd, and Manitou Gradnja Ltd
Ceramic Installation Contractor: Brlić Ltd.
Mapei Co-ordinator: Zoran Špoler, Mapei Croatia d.o.o

PIAU ENGALY AQUATICS CENTRE IN FRANCE

Situated at an altitude of 1,900 m, the Piau-Engaly Aquatics Centre opened in November 2014 in the heart of the French Pyrenees. It was built on the foundations of the former chair-lift and using the old foundations helped reduce construction costs, but the existing underground areas, which had been damaged by rising damp, needed to be repaired beforehand. LAMPOSILEX hydraulic binder was initially used to stop water leaking and the surfaces in two underground service areas and the underground walls were waterproofed with IDROSILEX PRONTO PK, a cementitious mortar manufactured and distributed on the French market by Mapei France. The joints between the base and the walls in the service areas and those between the walls themselves were filled with PLANITOP 400 F mortar manufactured and distributed on the French market by Mapei France. MAPEFILL F mortar (also manufactured and distributed on the French market by Mapei France) was used for anchoring operations. The hammam and the bottom of the main pool were waterproofed with MAPELASTIC SMART cementitious mortar reinforced with MAPETEX SEL non-woven polypropylene fabric. The floors and walls substrates in the showers and changing rooms were waterproofed with MAPEGUM WPS quick-drying flexible liquid membrane. MAPEBAND PE 120 PVC tape was used to make water-tight seals in the joints between the floors and walls. The glass mosaics in the hammam were bonded with KERAPOXY and joints were grouted with the same product. The porcelain floor and wall tiles in the showers and changing rooms were bonded with KERAFLEX and grouted with KERAPOXY.

TECHNICAL DATA
Aquatic Centre, Piau Engaly (France)
Period of the Intervention: May-September 2013
Client: Aragnouet City Council
Design: Norbert Brail architect DPLG
Works Direction: CODEF engineering, SOCOTEC
Ceramic Installation Company: SOCABAT (David Lagleize)
Mapei Distributor: Toujass et Coll
Mapei Co-ordinator: Gaétan Dujardin, Mapei France

INNOPOLIS UNIVERSITY SWIMMING POOL IN RUSSIA

Innopolis, the future Russian Silicon Valley near Kazan, is the first city in the history of modern Russia to have been built from scratch. In an environment that is now home to more than one thousand people, and is considered to be the ideal place to promote the development and success of innovative projects, a sports area with a large swimming pool and a hydro-massage pool was considered a must for the university campus.

And it was right here for the construction work on these structures – a total of 8,602 m^2 – that Mapei supplied its best products. MAPEGROUT THIXOTROPIC and MAPEGROUT 430 mortars were used to smooth over and repair precast concrete elements.

MAPEFILL fluid expansive mortar was used to anchor metal components and to fill the rigid joints between the concrete elements.

MAPELASTIC was used to waterproof the substrates while KERACRETE synthetic latex rubber mixed with KERACRETE POWDER was used to bond the ceramic tiles.

The last step was to grout the tiles joints with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and mould-resistant BioBlock® technology.

TECHNICAL DATA
Swimming Pool at Innopolis University, Innopolis, Kazan (Russian Federation)
Period of the Intervention: 2013-2015
Design: ZAO "Kazan Giproniiaviaprom"
Ceramic Installation Contractor: OOO "Aqualand Co"
Main Contractors: OOO "PSO Kazan", ZAO "Kamgeszhenergostroy", ZAO " KamGesEnergoStroy"
Mapei Distributor: OOO "Avitreyd. Building Systems"
Mapei Co-ordinators: Kuznetsov Sergey and Kazakov Igor, ZAO Mapei (Russian Federation)

RUDAS THERMAL BATH AND SWIMMING POOL IN HUNGARY

The Rudas Thermal Baths is one of the most fascinating places in Budapest. Built in 1550 during the Ottoman rule of Hungary, it had maintained many of the original features of a traditional Turkish bath, such as the domed roof and octagonal pool. During the most recent renovation work a new wellbeing area was created, with four new pools, a restaurant, a Jacuzzi bath and various service rooms and areas. MAPECEM PRONTO and TOPCEM PRONTO mortars were used to make the screeds, while PLANEX (manufactured and distributed on the Hungarian market by Mapei Kft.), PLANITOP 400, ULTRAPLAN, ULTRAPLAN ECO 20 and ULTRAPLAN RENOVATION were used to skim and smooth over the surfaces. MAPELASTIC, MAPEGUM WPS, MAPELASTIC AQUADEFENSE and MAPEBAND were used to waterproof surfaces in the pools and bathrooms. The bottoms of the pools were covered with porcelain tiles bonded with KERAFLEX S1 (a product manufactured and distributed on the Hungarian market by Mapei Kft.), while glass mosaics were bonded to sides of the pools with KERABOND+ISOLASTIC adhesive system.

KERAQUICK adhesive admixed with LATEX PLUS was used to bond the larger floor ceramic tiles. One of the features that has made this Hungarian wellbeing centre even more luxurious is the large Jacuzzi installed on the roof of the building. The concrete substrates of the new structure were skimmed with PLANITOP FAST 330 cementitious mortar, before mosaics were bonded with ELASTORAPID adhesive.

TECHNICAL DATA
Rudas Thermal Bath and Swimming Pool, Budapest (Hungary)
Period of the Intervention: 2013-2014
Client: Budapest Gyógyfürdői és és Hévizei Zrt.
Ceramic Installation Contractor: Kalotherm Ltd.
Design: Péter Vékony, Nirmana Kft.
Works Direction: Viktor Ratskó
Ceramic Installation Company: Ratskó Bau Kft.
Mapei Co-ordinators: László Nagy and Gergely Garay, Mapei Kft (Hungary)

PHYSIOTHERAPY, BALNEOTHERAPY CENTRE IN HUNGARY

With the construction of the new Physiotherapy and Balneotherapy Centre in Paks (Hungary), the inhabitants of the city now have a place for spa treatments and areas dedicated to wellbeing. PLANA P waterproofing membrane produced by Polyglass (a subsidiary of Mapei) was applied in two layers over the sloping concrete slabs on the roof. It was then covered with 20 cm extruded polystyrene boards with a gravel ballast. To prevent condensation and damp in the walls, the façades were thermally insulated with MAPETHERM MW, a mineral wool based insulation system manufactured and distributed on the Hungarian market by Mapei Kft. After insulating the façades, the surfaces were treated with SILEXCOLOR BASE COAT and protected with SILEXCOLOR TONACHINO. The swimming pools substrates were levelled off with PLANITOP FAST 330 and the pipework was sealed with MAPEFILL expansive mortar. MAPELASTIC was used for waterproofing and MAPEBAND waterproofing tape was applied on the joints. The ceramic tiles were bonded with KERAPOXY acid resistant adhesive and joints were grouted with KERAPOXY CQ. All the load-bearing columns and structural members were bonded to the concrete surfaces with EPORIP epoxy resin. The substrates were levelled off with ULTRAPLAN ECO 20, while the ceramic tiles were bonded with KERAFLEX S1 (manufactured and distributed on the Hungarian market by Mapei Kft.) and the joints were grouted with KERACOLOR FF FLEX which is manufactured and distributed on the Hungarian market by Mapei Kft. In the bathrooms, ADESILEX P9 was used to bond the ceramic tiles and KERACOLOR FF FLEX to grout the joints.

TECHNICAL DATA
Physiotherapy and Balneotherapy Center, Paks (Hungary)
Period of the Intervention: 2011-2013
Client: Paksi Ipari Park Kft.
Design: Kern & Klenk Építészeti Bt., Kern Andrea, Klenk Csaba
Interior Design: Arma Bt., Frank György
Main Contractor: Strabag MML Kft
Ceramic Installation Contractor: Domino Kft.
Waterproofing Contractors: Tectum Kft., Szakszolg Kft.
Thermal Insulation Contractor: Adri-Épker Kft.
Mapei Co-ordinator: Dunai Zsolt, Mapei Kft. (Hungary)

AQUA WORLD JEDENÁCTKA IN CZECH REPUBLIC

Aqua World Jedenáctka was built in an area of Prague that is easy to reach by car and with public transport. It comprises three inter-connecting pavilions extending over an area of 76,000 m^2 and has a poly-functional gymnasium, a swimming pool, an aquatics centre for water-sports and children and a wellbeing centre with saunas and Turkish baths.

Numerous Mapei solutions were used in the construction of this important centre, from products to bond ceramic tiles in the entrance hall, in the areas around the swimming pools and in the service areas, to waterproofing products for the swimming pools, plant rooms and service areas.

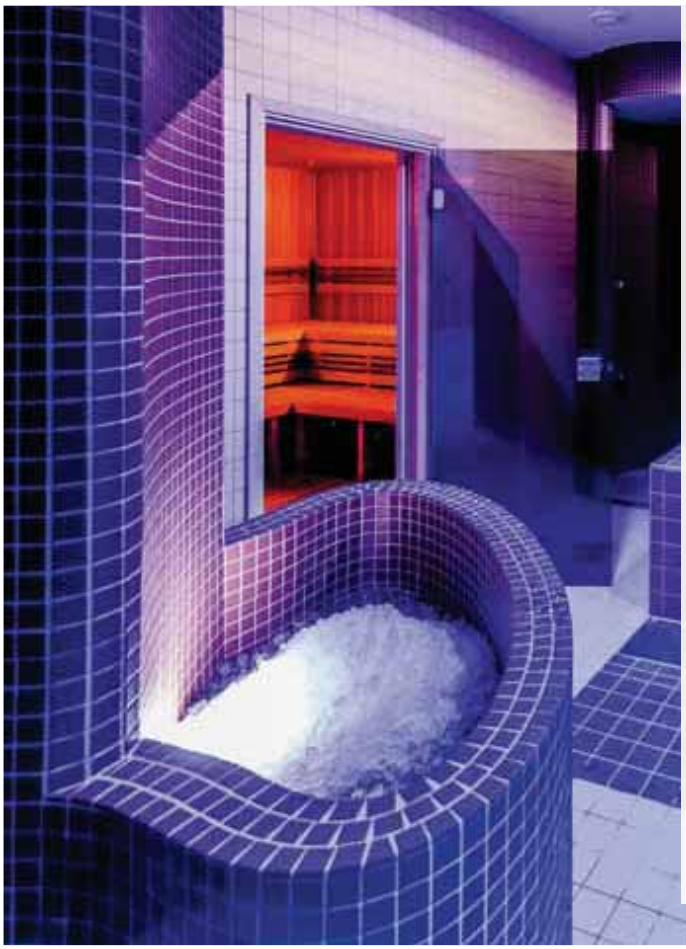
Apart from MONOLASTIC one-component cementitious waterproofing mortar, MAPELASTIC, and MAPEGUM WPS, combined with MAPEBAND alkali-resistant rubber tape with felt and MAPEBAND SA self-adhesive butyl tape were used for waterproofing work.

The substrates were treated with PRIMER G and ECO PRIM GRIP. The adhesives used to bond the ceramic tiles were ADESILEX P9, KERAFLEX EASY and KERABOND admixed with ISOLASTIC.

The expansion joints were treated with PRIMER FD adhesion promoter and sealed with MAPESIL AC.

ADESILEX PG1 RAPID two-component, rapid-setting thixotropic adhesive and EPORIP epoxy adhesive were used for the structural bonds.

KERAPOXY epoxy mortar and ULTRACOLOR PLUS polymer-modified mortar were then used to grout the joints to perfection.

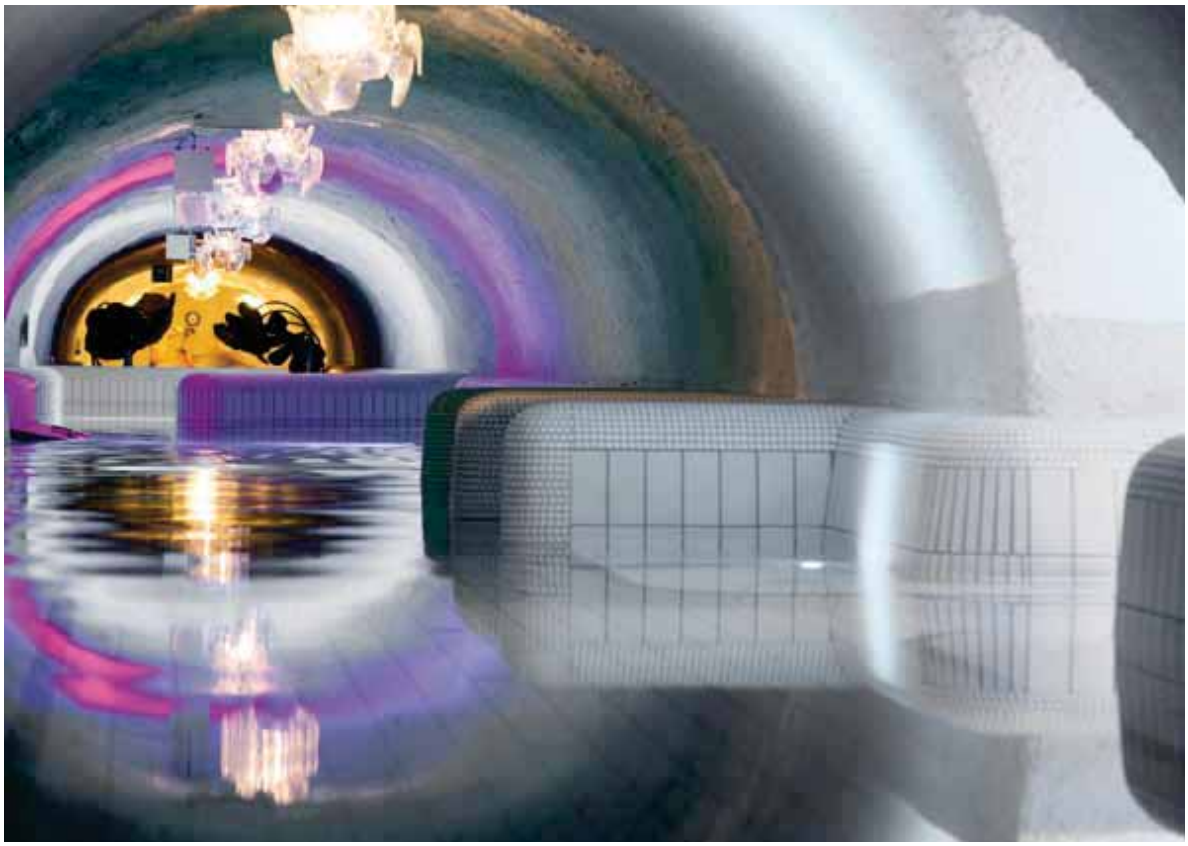


TECHNICAL DATA
Aqua World Jedenáctka, Prague (Czech Republic)
Period of the Intervention: 2013-2014
Client: Prague City Council
Main Contractor: Hochtief CZ a.s.
Ceramic Installation Contractor: Hochtief CZ a.s.
Mapei Co-ordinators: Zdenek Runštuk and Starec František, Mapei spol. s r.o. (Czech Republic)

DEMJÉN CAVE BATH AND ADVENTURE SPA IN HUNGARY

WATERPROOFING AND INSTALLING CERAMIC TILES AND MOSAICS IN THE LARGEST SPA THEME PARK IN CENTRAL EUROPE

The Demjén Cave Bath and Adventure SPA is the largest spa theme park in central Europe and is situated near the city of Demjén, in North-Western Hungary. The system comprises a series of caves 760 m long, with 1,500 m^2 of water and seven swimming pools. MAPEQUICK AF 1000 alkali-free accelerator was used in the design of the shotcrete with very rapid setting time, while MAPEGROUT 430 and PLANITOP 400 were used to repair the concrete at a later stage. The cracks were then sealed with EPOJET epoxy resin. Mapei solutions were



TECHNICAL DATA
Demjén Cave Bath and Adventure SPA, Demjén (Hungary)
Period of the Intervention: 2011-2014
Client: Demjén Termálfürdő Kft.
Main Contractor: Konstrukció Invest Ltd.
Ceramic Installation Contractor: Sajép 2001 Bt.
Mapei Co-ordinator: Beáta Helyes, Mapei Kft. (Hungary)

MAPEI PRODUCTS
Admixtures for concrete: Mapequick AF 1000
Repairing and smoothing concrete surfaces: Mapegrout 330, Mapegrout 400, Planitop Fast 330, Epojet
Anchoring: Eporip
Waterproofing: Mapelastic, Mapelastic Aquadefense, Mapegum WPS, Mapeband
Preparing the subtstrates: Primer G, Prosfas
Installing ceramics and mosaics: Elastorapid, Keraflex, Keraflex S1*, Keraflex Maxi S1, Keraquick, Adesilex P9, Adesilex P4
Grouting joints and sealing expansion joints: Keracolor GG, Keracolor FF Flex, Kerapoxy Design, MapeGlitter, Mapesil AC

*This product is manufactured and distributed on the Hungarian market by Mapei Kft.

For further information on products see www.mapei.com and www.mapei.hu

used to bond around 5,200 m^2 of wall and floor coverings. Before bonding them in place, the surfaces were levelled off with PLANITOP FAST 330 and ADESILEX P4. The existing cementitious substrates were consolidated with PROSFAS and primed with PRIMER G. MAPEBAND, MAPELASTIC, MAPEGUM WPS and MAPELASTIC AQUADEFENSE were used to waterproof the substrates in the swimming pools and bathrooms. The ceramic tiles and glass mosaics in the pools were bonded with ELASTORAPID. The ceramic tiles in the relaxation areas around the pools were installed with KERAFLEX S1 which is manufactured and distributed on the Hungarian market by Mapei Kft. KERAFLEX MAXI S1 was used to bond the ceramic tiles in the thermal caves, while the non-slip floor covering in the bathrooms was bonded to the tiles with ADESILEX P9 high performance adhesive. The tile joints in the pools were grouted with KERAPOXY CQ mixed with MAPEGLITTER in a silver shade, while ULTRACOLOR PLUS was used to grout joints in all the other areas.

THE "STRADA MAGGIORE" BUILDING SITE

THE STORY OF A ROAD TOLD BY THE TOOLS WHICH BUILT IT

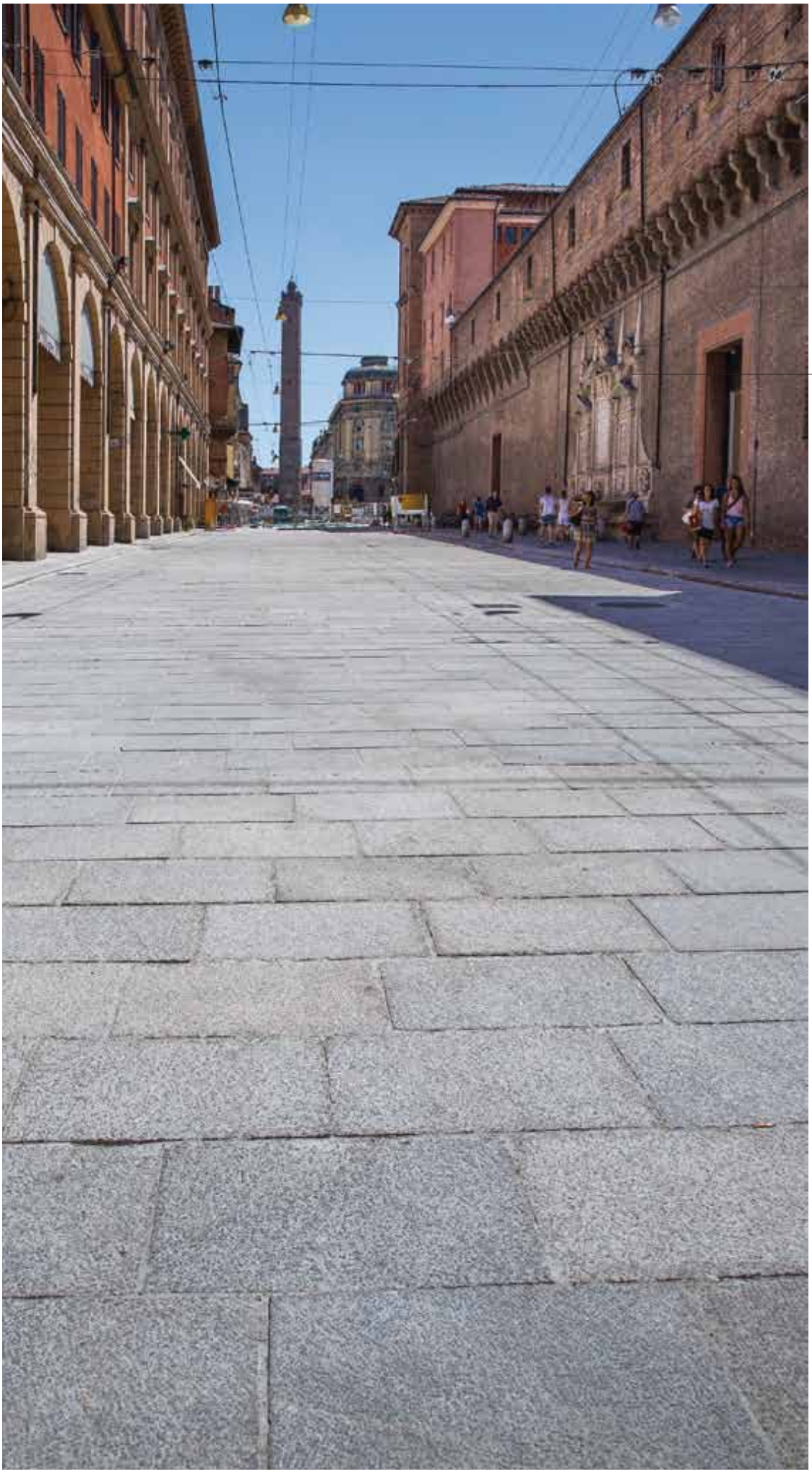
CANTIERE BOBO
BOLOGNA PER BOLOGNA

YOU NEED LOCKING UP

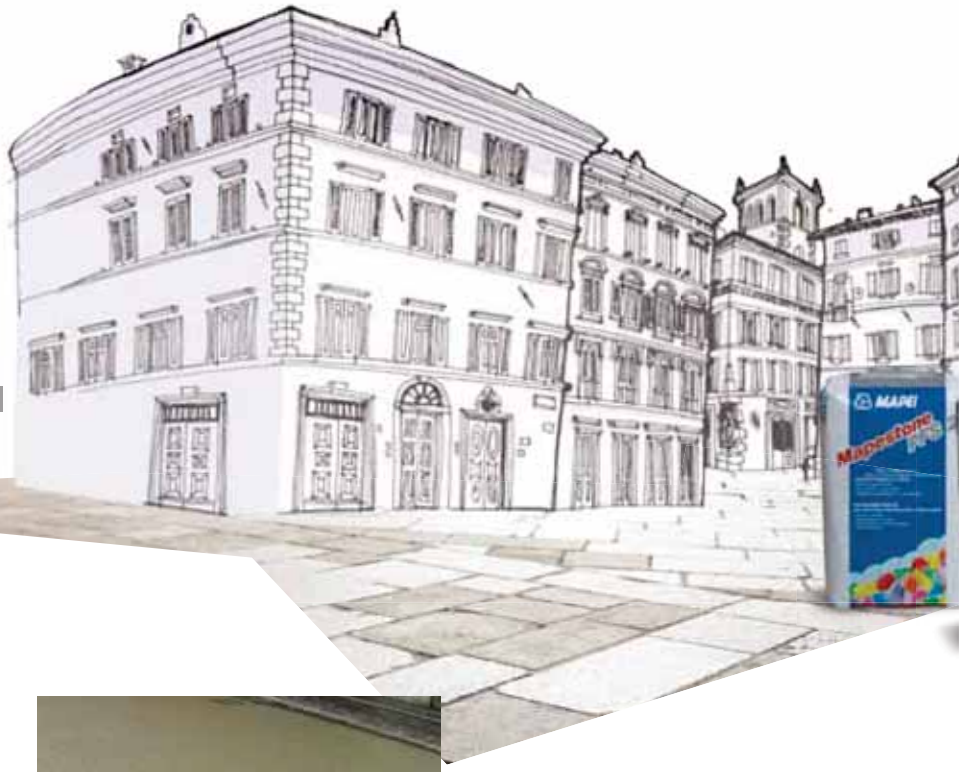
A MORTAR'S POINT OF VIEW

"They say that I am seven times stronger than the concrete used to make pillars that hold up buildings. They say that I have formidable resistance to aggressive salts and freezing weather. This all makes me seem like matter from another planet; as if I were that stuff that melts and then recombines that you can see in the movie Terminator. But all I am is mortar; okay, I am MAPESTONE TFB 60 ultra high-strength supermortar, but I am still only mortar, something that locks stone together. And you'd best not forget it. Anyway, if the ancient Romans had been able to use me to build their roads, nobody else would have got a look in. They have used me on the Bobo (Bologna for Bologna) construction site to get the maximum cohesion possible between one flagstone and another in Strada Maggiore, and I can hear the antique flagstones now as they whisper: "you make everything look so simple, little mortar", "your masters don't work as well as the Romans", "they manage to get by thanks to you", end even "of course it was all so different in the good old days, shame on you, it's a sacrilege…". Nasty little flagstones, ungrateful masochists, don't you remember how badly those Roman chisels treated you, strike after strike, pushing one stone against the other, with just really tight, narrow joints to create a solid mass effect, forcing you to match as close as possible? Sand and river gravel were the weak points. The binder was the weak point. The Romans didn't have a really sound binder but, let's get to the point; the Italians are still the best in the world at constructing roads. And if today they can count on me, it means we have always been at the forefront, right back since ancient Roman times. The mallet blows will make you sink into the support of my cradle, my gums will rise up, the wheelbarrows will pour me into the gaps until they are filled, when the bonding slurry has dried out you will be tied to me forever, I will hold you tight in the heat and in the cold, in the rain and snow, even under the weight of the wheels of the trolleybuses and cars, from here you will never move again. I am a super-mortar because you need locking up."

Comune di Bologna
T per Trasporto Passeggeri Emilia-Romagna
è Bologna



We thank the Jack Blutharsky agency and TPER transportation society for kindly allowing us to use their pictures and texts.



THE CAUSES OF DETERIORATION

MECHANICAL STRESSES

The constant passage of cars and heavy goods vehicles generate compressive stress (due to the weight of the vehicles themselves) and tensile stress (due to manoeuvres carried out by vehicles) that cause subsidence in weak and irregular substrates on which the blocks of stone that make up the road surface have been installed.

DE-ICING SALTS AND FREEZE/THAW CYCLES

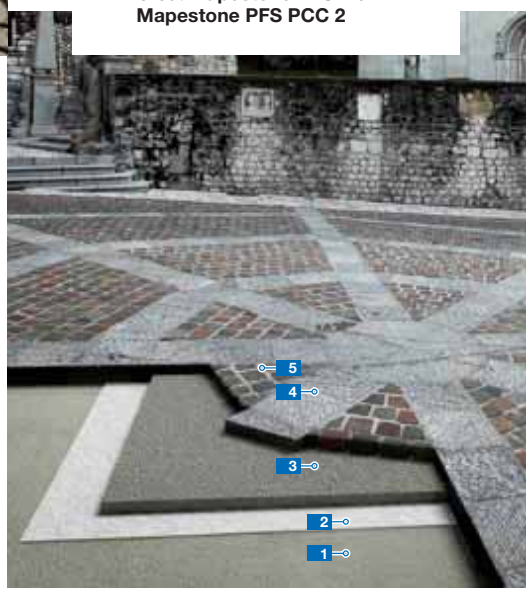
There is a contrast between the high amount of heat generated when using de-icing salts (calcium and sodium chloride) and brusque cooling down due to low surrounding temperatures. This alternation in temperatures, combined with freeze/thaw cycles (with stresses caused by water cooling down and turning into ice), causes contraction, expansion and crumbling, which in turn deteriorate the joints and substrate.

DESIGN AND INSTALLATION

Modern stone road surfaces must be developed and then designed as structures that are meant TO LAST over the years, similar to any other vertical structure. With this in mind, choosing the most suitable installation system is fundamental. Also, using only expert workers qualified in the installation of stone is a key factor to ensure that this type of system is installed correctly. If unsuitable installation systems or methods are chosen, the service life of stone road surfaces will be shortened.

PRODUCT SYSTEM

1. Concrete
2. Non-woven fabric
3. Thick bed mortar **Mapestone TFB 60**
4. Porphyry and interlocking stone
5. Grout **Mapestone PFS 2** or **Mapestone PFS PCC 2**



THE MAPEI SOLUTION

WHERE TO USE

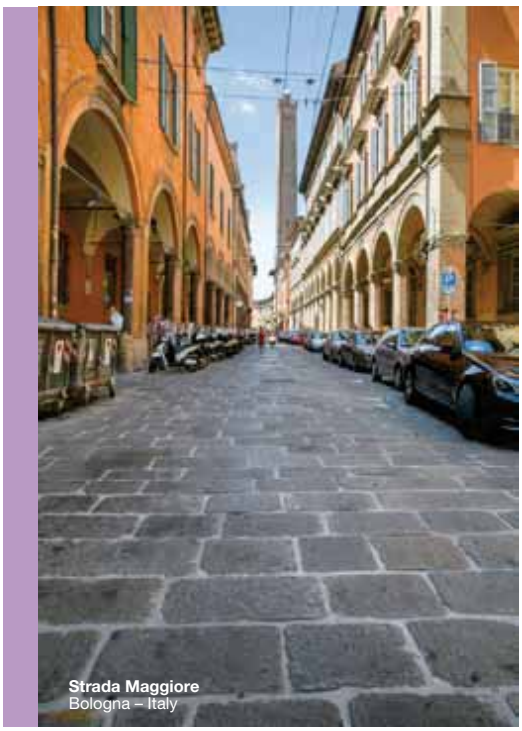
Mapestone System is used to make architectural stone floors (made from cubes, kerbstones, cobblestones, slabs and blocks). When it is not necessary to meet the requirements for exposure class XF4, joints may be quickly grouted with KERACOLOR PPN.

MAPESTONE SYSTEM

MAPESTONE SYSTEM represents a "turnkey" solution to obtain durable, long-lasting stone surfaces resistant to freeze-thaw cycles. Mapei has specifically developed pre-blended cementitious products with exceptional mechanical and physical-chemical characteristics suitable for areas exposed cyclically to wet and dry periods, as described in exposure class XF4. These are cementitious products which need only to be mixed with water, made from special binders and selected aggregates, to make architectonic stone flooring which is suitable for vehicles. MAPESTONE TFB 60 is a pre-blended powder mortar, particularly suitable for making screeds and installing stone. MAPESTONE PFS 2 and MAPESTONE PFS PCC 2 are pre-blended powder mortars for grouting joints. The combined use of these products creates a long-lasting monolithic structure.

Piazza Duomo
Milan - Italy

Piazza Duomo
Milan – Italy


Strada Maggiore
Bologna – Italy

City Square
Zagreb – Croatia

Public Square
Volpedo, Alessandria - Italy

ADVANTAGES OF THE SYSTEM

SAFETY
Prevents wear and tear, often the cause of accidents.

DURABILITY
Withstands the rigours of the most intense road traffic.

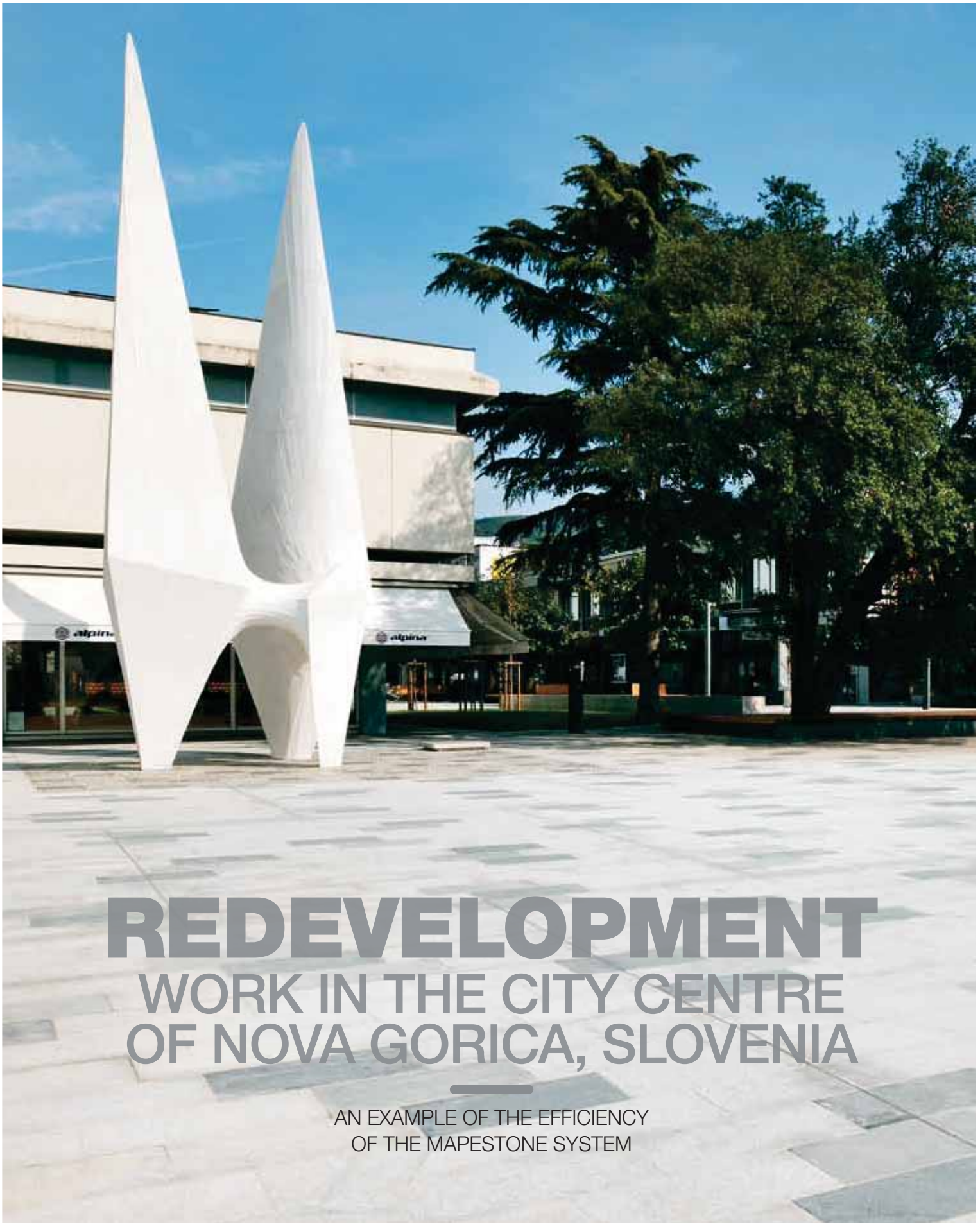
TECHNICAL ADVANTAGES
- High mechanical strength
- Homogenous, uniform product
- Resistant to freezing weather and de-icing salts

Which means
DURABLE, LONG-LASTING SURFACES

ECONOMIC ADVANTAGES
- Highly durable finished work
- Reduction in maintenance and/or repairs
- No waste of material
- Less time required for road surfaces

SOCIAL ADVANTAGES
- Lower maintenance costs
- Less noise
- Less disruption for inhabitants
- Fewer accidents (due to falls from bikes, mopeds and broken heels)

LOGISTIC ADVANTAGES
- Reduction in amount of waste and obstacles due to road-works
- Low impact on the environment
- Easy to clean



REDEVELOPMENT

WORK IN THE CITY CENTRE OF NOVA GORICA, SLOVENIA

AN EXAMPLE OF THE EFFICIENCY OF THE MAPESTONE SYSTEM

PHOTO 1. Casting the new reinforced concrete substrate.
PHOTO 2. MAPESTONE TFB 60 pre-blended mortar was supplied in silos which made mixing with the right amount of water much simpler.
PHOTO 3. Application of bonding slurry made from PLANICRETE synthetic latex rubber, water and Portland cement. This slurry penetrates deep into the fresh mortar and guarantees excellent adhesion.

Nova Gorica is the tenth largest city in Slovenia with a population of around 32,000 inhabitants. A new urban plan for the city was drawn up by the architect and town planner Edo Ravnikar. The first stone was laid in 1948. Ravnikar's original plan was modified a number of times, which can be seen in the varied city centre: the streets in some areas were asphalted over, while those of other areas were covered with either slabs of concrete or blocks of granite. In 2011, Nova Gorica City Council issued a new project to renovate the city centre.

WORK GETS UNDER WAY

The designers were looking for a simple, efficient solution, one that had already been tried out and provided by one single supplier. Collaboration with engineers and technicians from Mapei started right at the beginning of the design phase. The designers and potential contractors carried out a survey of various squares where the MAPESTONE system by Mapei had already been used, such as Piazza del Duomo in Gemona del Friuli in Northern Italy.
Mapei Technical Services then made a sample identical to the surface that had been chosen for the centre of Nova Gorica.
Afte carrying out a series of tests on the sample, installation of 8000 m^2 of stone floorings got underway. The first step was to repair all the pipework for the water, gas and district heating systems.
The next phase was to install 15 cm thick reinforced concrete substrates with expansion joints, followed by sheets of non-woven polypropylene fabric to realize an unbonded flooring.

INSTALLATION WITH MAPESTONE TFB 60

Installation was carried out using MAPESTONE TFB 60 pre-blended mortar with a plastic consistency. This mortar, which has high mechanical strength (C 50/60) and contains aggregates up to 2.5 mm, complies with the requirements of UNI EN 206-1:2006 standard for exposure classes XF3 and XF4, guaranteeing resistance to freeze-thaw cycles in presence of de-icing salts. The mortar was supplied in silos to make it easier to mix with the right amount of water.
MAPESTONE TFB 60 was applied in layers around 7 cm thick over all the surfaces and, where the stresses were lower, in layers slightly more compact. In total, more than 900 tonnes of dry mortar were required.
Slabs of light, medium and dark grey flamed granite measuring 35x70x6 cm were then installed. Part of the covering included precast concrete elements measuring 70x150x15 cm, inlaid with blocks cut in a "cat-head" pattern.
The solid steps and fountain were made from Repen stone from the Marmor Sežana quarry. The blocks of stone were installed on the reinforced concrete slab using MAPESTONE TFB 60.
The fountain was made from nine large blocks of stone that had been finished in various patterns.

PHOTO 4. Installing the stone slabs on the bonding slurry spread over the fresh, compacted screed. Each single block had to be tapped into place with a rubber mallet.
PHOTO 5. The stone joints were grouted with high strength MAPESTONE PFS2 pre-blended mortar (C 45/55) which is resistant to freeze-thaw cycles and de-icing salts.

THESE PHOTOS. Sealing the expansion joints:
PHOTO 6. The expansion joints in the substrate were in the same position as those in the stone covering.
PHOTO 7. Inserting MAPEFOAM closed-cell, extruded foam polyethylene cord.
PHOTO 8. Protecting the surfaces alongside the expansion joints with a masking tape and applying PRIMER M.
PHOTO 9. Once the PRIMER M had dried, the joints were sealed with MAPEFLEX PU45 polyurethane sealant.
PHOTO 10. Smoothing over the MAPEFLEX PU45 sealant.
PHOTO 11. Removing the masking tape.

INSTALLATION OF OTHER FLOORINGS

A similar technique was used to install the other types of coverings (granite, Repen stone, precast concrete, etc.).
A 5 cm thick layer of MAPESTONE TFB 60 mortar was applied over non-woven fabric. This was then compacted to reach the required level of thickness and more mortar was added.
A layer of bonding slurry made from PLANICRETE synthetic latex rubber, water and Portland cement at a rate of 1:1:4 was then applied over the fresh, compacted screed of MAPESTONE TFB 60 mortar. This type of slurry guarantees excellent adhesion to the stone, penetrates deep into the MAPESTONE TFB 60 mortar and guarantees excellent adhesion.
Each single block of stone had to be tapped into place with a rubber mallet.
The joints were then grouted with high compressive strength MAPESTONE PFS 2 pre-blended mortar (C 45/55), which is also resistant to freeze-thaw cycles and de-icing salts (exposure class XF4).

SEALING EXPANSION JOINTS

All the expansion joints on the surface had to be in the same position as those on the reinforced concrete substrate. To obtain the correct depth for the joints, 10 mm diameter MAPEFOAM closed-cell extruded foam polyethylene cord was inserted in the joints. This helps stop the sealant (in this case MAPEFLEX PU45) adhering to the bottom of the joint and also calibrates the depth of the sealant, which is normally equal to the width of the expansion joint.
Before applying the MAPEFLEX PU45 elastic sealant, a coat of PRIMER M was applied to improve adhesion. Apart from the expansion joints, MAPEFLEX PU45 was also applied in the fillet joints between the plant service equipment, the steps and the various features in the square. This sealant is designed to withstand movements when in service of up to 20% the average width of the sealed joint.
The redeveloped city centre was officially inaugurated in August 2014. The Nova Gorica City Council achieved a grand piece of work, with a new, well-balanced urban area in the centre of the city that is highly appealing for both the inhabitants and those visiting the city.

This article has been taken from issue no. 30 of *Svet Mapei,* the magazine published by our Slovenian subsidiary Mapei d.o.o., whom we kindly thank.

TECHNICAL DATA

Nova Gorica City Centre, Nova Gorica (Slovenia)
Year of the Intervention: 2014
Intervention by Mapei: supplying products for renovating city floors
Client: Matej Arčon, Nova Gorica City Council
Investment Direction: Vladimir Peruničič, u.d.i.a.
Works Direction: Domen Mozetič, u. d. i. a., Materia, d.o.o.
Project Design: Domen Mozetič, Simon Kerševan, and Grega Klemenčič (Materia, d.o.o.); Polona Filipič, Peter Šenk, Marko Pretnar, and Primož Špacapan (Studio Stratum)
Site Direction: Valter Figar, u.d.i.g., Edil inženiring, d.o.o.
Stone Installation Contractor: Marmor Sežana, d.d.
Installation Director: Aleksander Burkelca, Marmor Sežana, d.d.
Mapei Coordinator: Luka Božič, d.i.g., Mapei d.o.o (Slovenia)

MAPEI PRODUCTS

Installing and grouting natural stone: Mapestone PFS 2, Mapestone TFB 60, Planicrete
Sealing expansion joints: Mapeflex PU45, Mapefoam, Primer M

For further information see www.mapei.com and www.mapei.si

Mapestone System

The ancient Romans would have loved it.

If the ancient Romans had known about the innovative **Mapestone System** they would have used it straight away. Being expert road builders, they would have immediately recognised its superior installation efficiency and the added strength it provides for porphyry and interlocking stone slabs. Created to guarantee **durability**, compared with conventional systems it **offers more resistance** to stresses from the heaviest traffic, freezing weather conditions and de-icing salts. The intelligent choice to cut down on maintenance costs. **Time goes by but Mapestone remains!**

ADVANTAGES OF THE SYSTEM

SAFETY

Prevents wear and tear, often the cause of accidents.

DURABILITY

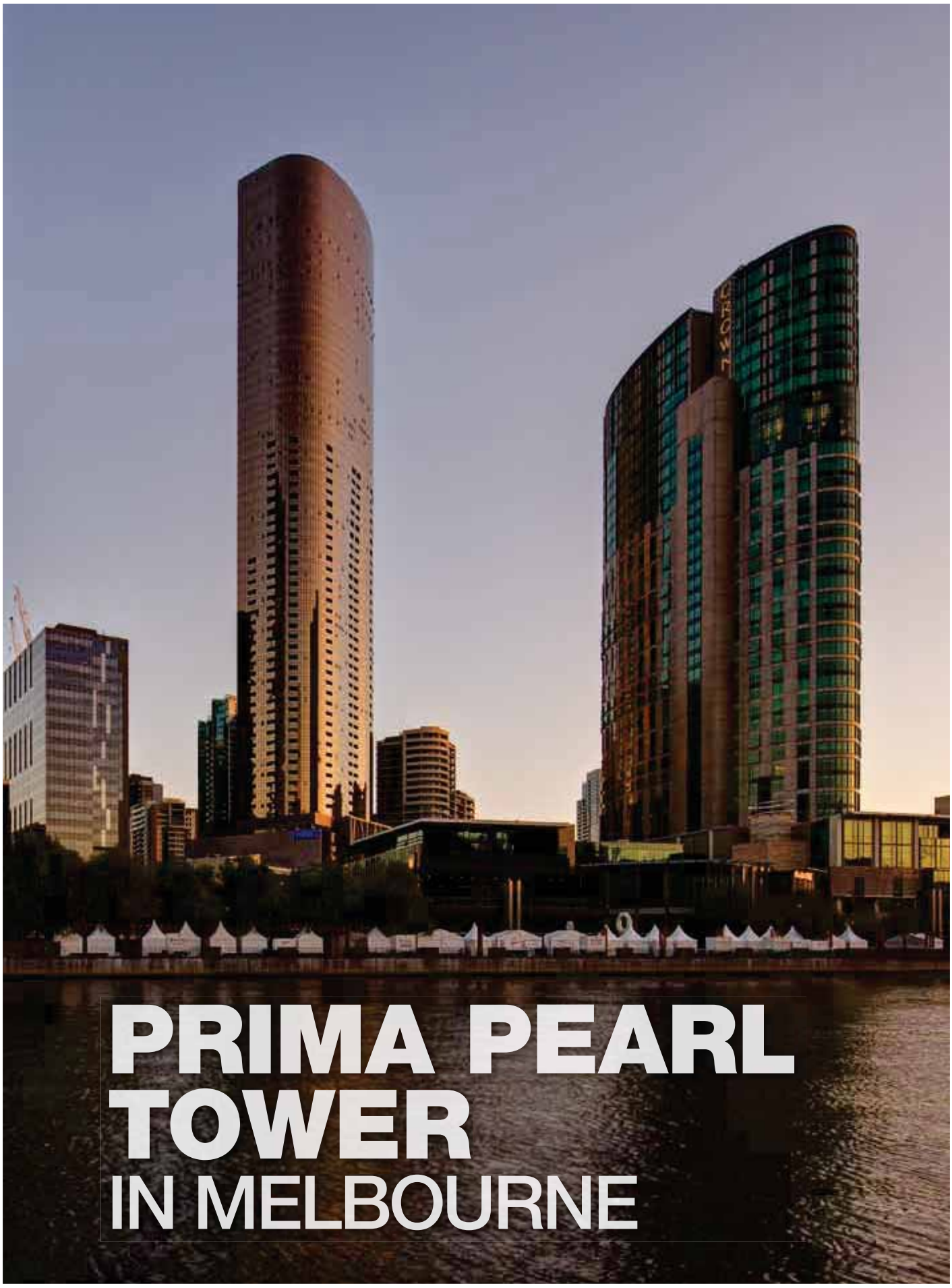
Withstands the rigours of the most intense rood traffic.

Product info

/mapeispa

Mapei is with you:
take a closer look at **www.mapei.com**

MAPEI®
ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING



PRIMA PEARL TOWER IN MELBOURNE

THE BUILDING THAT HAS SET A BENCHMARK FOR HIGH RISE RESIDENTIAL TOWERS IN AUSTRALIA WAS COMPLETED WITH MAPEI PRODUCTS

At 256 metres tall, Prima Pearl Tower is the second tallest residential tower in Melbourne and the fifth tallest building in Australia. It comprises 72 levels that include two lobbies, 10 levels of car parking podium for 577 cars, two levels of amenities such as the Sky Lounge at level 67, 57 levels of residential apartments and two levels of building services.

The Tower, completed in early 2015, has set a benchmark for high rise residential towers in Australia, providing a level of amenity previously unseen outside the world's most luxurious hotels. It boasts an elegant curved bronze façade that comprises over 8500 panels of high performance glazing in a variety of sizes. The high tech double glazed panels ensure reduced heating and cooling costs and have earned the project a 7.1 star energy rating.

The Prima Pearl apartments have been designed to capture spectacular views across the Melbourne city skyline. Floor to ceiling glazing allows plenty of natural light flow into the central living spaces and bedrooms. Each apartment is finished in the highest quality fixtures and fittings to provide an enduring sense of quality and style whilst being easy to maintain.

THE MAPEI'S INTERVENTION

The installation company Baron Forge were commissioned to install over 23,000 m^2 of ceramic tiles and stone slabs in the apartments, swimming pools, steam rooms, balconies, planter boxes and public areas. Installation works were carried out by using Mapei systems.

MAPELASTIC SMART two-component, high-flexibility cementitious mortar was chosen to waterproof external areas due to the product's durability and long term performance properties. MAPELASTIC AQUADEFENSE ready-to-use, ultra quick-drying, flexible liquid membrane was selected to waterproof internal areas in the bathrooms and other wet areas due to the product's quick curing properties, allowing for faster turnaround of tiling apartments.

2 mm acoustic underlay was installed in all apartments using ULTRABOND ECO 350 acrylic adhesive in water dispersion with very low emission level of volatile organic compounds (VOC) to guarantee a solid and reliable installation of acoustic matting. 600 x 300 mm porcelain tiles were bonded to the acoustic matting on the floor in all apartments using KERABOND PLUS adhesive mixed with ISOLASTIC 50 latex in the wet areas (N.B these products are both manufactured and distributed on the Australian market by Mapei Australia), while KERAFLEX high-performance cementitious adhesive with no vertical slip and extended open time was used to bond the tiles on all other floor areas.

TIXOBOND FINE S1, which is also manufactured and distributed on the Australian market by Mapei Australia, was the choice of adhesive to install the porcelain and mosaic tiles on the walls. All the floor and walls joints in the apartments were grouted using KERACOLOR FF pre-blended, high-performance, polymer-modified cementitious grout due to the product's water resistant properties.

PHOTO 1. In the bathrooms waterproofing work was carried out with MAPELASTIC AQUADEFENSE.
PHOTOS 2 and 3. The surfaces of the pools were waterproofed with MAPELASTIC SMART; ceramic tiles were installed with KERAFLEX and joints were grouted with ULTRACOLOR PLUS.
PHOTO 4. For further comfort, an acoustic underlay was laid in all apartments with ULTRABOND ECO 350.
PHOTO 5. In the apartments ceramic tiles were installed with KERAFLEX and joints were grouted with KERACOLOR FF.

The surfaces of both the 25 m swimming pool on Level 9 and the Infinity Edge Pool in the Sky Lounge on Level 67 were waterproofed with MAPELASTIC SMART. The 48 x 48 x 6 mm ceramic mosaics were installed in the pools using KERAFLEX adhesive while joints were grouted with ULTRACOLOR PLUS high-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent DropEffect® and mould-resistant BioBlock® technology. This grout was specifically chosen for this project for its durability in immersed conditions.
MAPESIL AC pure, mould-resistant, acetic silicone sealant with BioBlock® technology was used as the expansion joint sealant due to its mould and mildew resistant properties, ease of use and array of colours available to match the ULTRACOLOR PLUS grout range.
The Infinity Edge Pool has panoramic views of Port Philip Bay, Albert Park Lake and the Dandenong Ranges. The area is complete with day spa facilities including sun lounges, spa, sauna and steam room. The walls

TECHNICAL DATA
Prima Pearl Tower, Melbourne (Australia)
Period of Construction: 2003-2005
Period of Mapei's Intervention: 2013-2015
Intervention by Mapei: supplying products for waterproofing substrates, installing ceramics and stone materials, installing resilient materials, grouting joints and sealing expansion joints
Main Contractor: Brookfield Multiplex
Design: Disegno Australia
Project Management: PDG & Schiavello
Ceramics and Stone Installation Contractor: Baron Forge
Mapei Coordinator: Paul Buckley, Mapei Australia Pty Ltd

MAPEI PRODUCTS
Waterproofing the substrates: Mapelastic Smart, Mapelastic Aquadefense, Planicrete SP*
Rendering the walls: Nivoplan
Bonding resilient materials: Ultrabond Eco 350
Bonding ceramic and stone materials: Kerabond Plus*, Isolastic 50*, Keraflex, Keraquick, Tixobond Fine S1*
Grouting joints: Keracolor FF, Keracolor GG, Ultracolor Plus
Sealing expansion joints: Mapesil AC

*These products are manufactured and distributed on the Australian market by Mapei Australia Pty Ltd

For further information on products see ww.mapei.au and www.mapei.com

and floors surfaces in the steam rooms were also waterproofed with MAPELASTIC SMART. The ceiling and walls were covered with 100 x 15 mm ceramic mosaics using TIXOBOND FINE S1, while joints were grouted with ULTRACOLOR PLUS and MAPESIL AC was applied to the expansion joints.

IN THE SPOTLIGHT

MAPELASTIC SMART

It is a two-component mortar based on cementitious binders, fine-grained selected aggregates, special additives and synthetic polymers in water dispersion. MAPELASTIC SMART is used to protect new concrete structures, concrete structures repaired using special mortars from the MAPEGROUT or PLANITOP ranges, renders with hairline cracks and cementitious surfaces in general which, being subject to vibrations, may suffer from cracking, and for waterproofing hydraulic projects such as channels and faces of dams and swimming pools, basins, storage tanks, balconies and terraces. It can contribute up to **3 points** to obtain the **LEED** certifications.

ARIA HOTEL IN BUDAPEST

AN ANCIENT PALACE REDEVELOPED AS A BOUTIQUE HOTEL THANKS TO MAPEI PRODUCTS

Aria Hotel is an eclectic building completed in the second half of the 19th century in Budapest (Hungary). Prior to its latest renovation, a detailed architectural survey was undertaken, because the building was repeatedly remodeled during the last century. Architects also made a concerted effort to research the archives but surprisingly only recovered few data about the history of the structure. Even the name of the original designer remains unknown, and earlier refurbishments are largely undocumented except for a limited number of reports. The available design plans mostly represent the 1989 conversion of the building into an office block.

As a result of this transmutation, nearly all original design elements got lost with the exception of those in the doorway and the arched staircase, as well as some façade adornments and metal structures.

The main criterion for preparing the latest renovation intervention was to preserve remaining architectural value. The original façade ornamentation was reinstated, and also the doorway and arched stairways regained their old splendor. The renovation cost 2.5 billion HUF (over 8 million Euros) and turned the building into a thematic hotel. The theme is music: room interiors evoke various music genres and music artists (e.g. Maria Callas, Bach, The Beatles, Frank Sinatra, etc.). Even the names of apartments honor famous music composers and performers. The effect is truly multi-faceted, and pleases the eyes as well as the ears.

KERALASTIC AS THE KEY PLAYER IN THE HALL

The floor substrate in the hall of the hotel to be covered with thin, large-sized ceramic tiles was of very poor quality. After several surveys and tests, Mapei Technical Services recommended consolidating it with PROSFAS water-based, solvent-free consolidator with high penetration properties. Subsequent tests were more satisfactory, and ceramic tile installation work could follow. The cracks in the concrete floor had to be repaired and EPORIP two-component, solvent-free, epoxy adhesive was chosen as the best solution available on the market. The ceramic floors of the hall looks like a piano keyboard with an undulating pattern. Tiles were bonded with KERALASTIC T two-component, high-performance polyurethane adhesive.

The installation of ceramic tiles on floors and skirtings in other areas was carried out with KERALASTIC T adhesive, which is particularly suitable for floor surfaces subjected to heavy traffic.

INSTALLATION WORKS IN THE WELLNESS UNIT, ROOMS, AND LIBRARY

The tile joints in the steam cabin of the wellness unit were grouted with KERAPOXY CQ two-component epoxy grout, after the tiles had been bonded with KERAFLEX LIGHT S1, which is manufactured and distributed on the Hungarian market by Mapei Kft.. All the joints in the tiled surfaces in the corridors, as well joints

LEFT. External view of the Aria Hotel in Budapest.
IN THIS PAGE. The floor in the hall features a piano keyboard pattern, with ceramic tiles bonded with KERALASTIC T.

LEFT. In the corridors, floor substrates were levelled with ULTRAPLAN RENOVATION, before the textile covering was bonded with ULTRABOND ECO FIX.
RIGHT. The surfaces in the bathrooms were first waterproofed with MAPEBAND, MAPEGUM WPS and MAPELASTIC, then ceramic tiles were bonded with KERAFLEX LIGHT S1 (distributed on the Hungarian market by Mapei Kft).

IN THE SPOTLIGHT

ULTRABOND ECO FIX

It is a solvent-free adhesive based on acrylic resins in water dispersion, formulated as an easily trowelable light cream paste, for application by roller, brush or trowel. When dry, the ULTRABOND ECO FIX film remains permanently tacky, even after repeated removal and successive relaying of the floor tiles, it is therefore possible to remove or substitute the flooring easily. It is ideal for non-permanent bonding of resilient and textile floors with dry-lay floor tiles. ULTRABOND ECO FIX can contribute up to **4 points** to obtain the **LEED** certifications.

in the wall and floor surfaces around the pool were grouted with KERACOLOR FF FLEX (a grout which is manufactured and distributed on the Hungarian market by Mapei Kft.), whereas expansion joints were sealed with MAPESIL AC pure, mould-resistant, acetic silicone sealant .

In the rooms located upstairs, PRIMER G, ULTRAPLAN RENOVATION (a self-levelling smoothing compound which is manufactured and distributed on the Hungarian market by Mapei Kft.), MAPEGUM WPS, MAPELASTIC and MAPEBAND were used to treat and waterproof the substrates while KERAFLEX LIGHT S1 (which is manufactured and distributed on the Hungarian market by Mapei Kft.) was used to bond ceramic tiles.

In addition, a total of 1200 m² flooring surface in the rooms and corridors was covered with textile materials bonded with ULTRABOND ECO FIX adhesive. The 50 m² floor of the library was covered with wood installed with ULTRABOND P913 2K two-component, epoxy-polyurethane adhesive.

TECHNICAL DATA

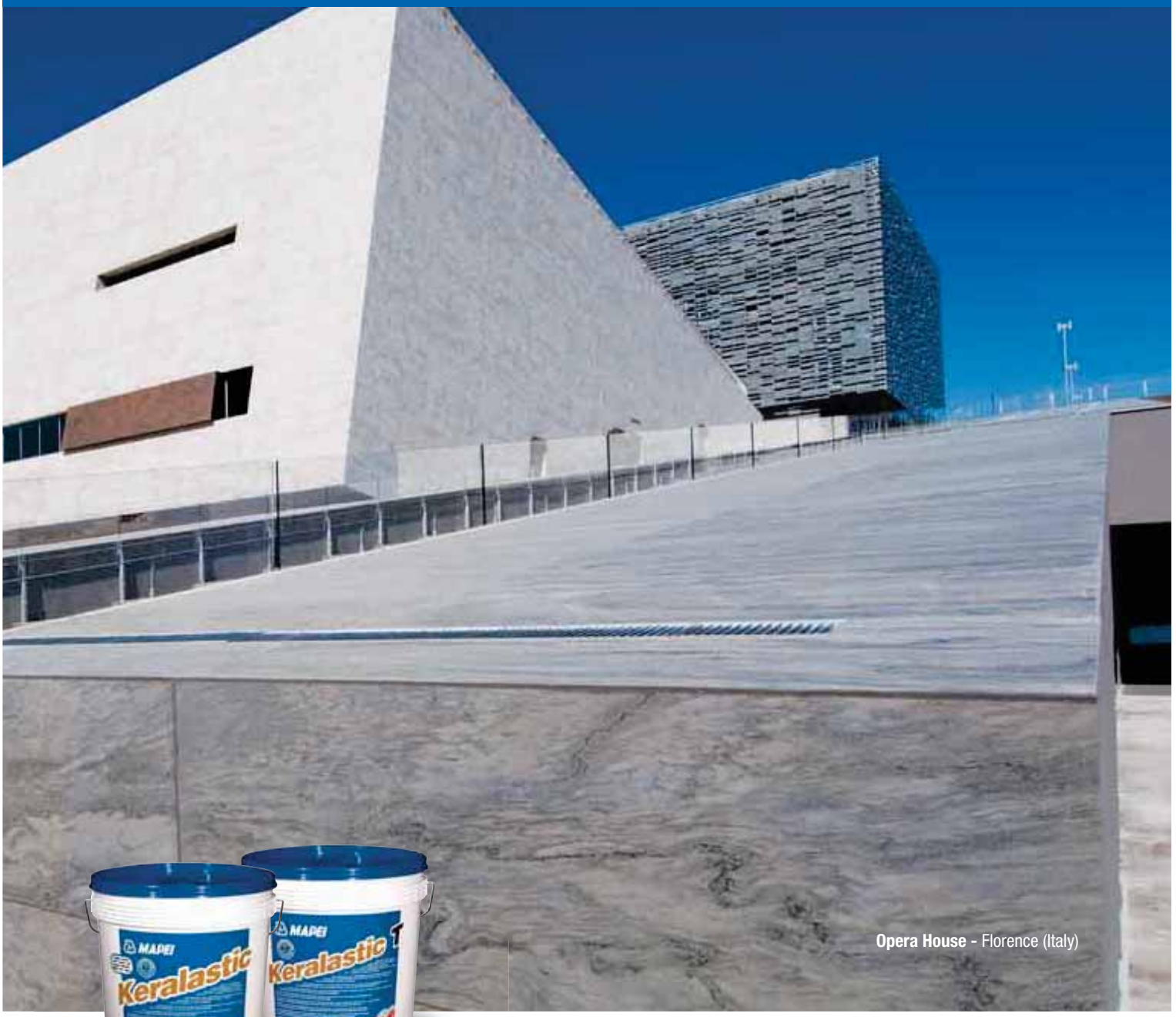
Aria Hotel, Budapest (Hungary)
Period of Construction: late 19th century
Period of the Intervention: 2014-2015
Intervention by Mapei: supplying products for preparing and waterproofing the substrates, and for bonding ceramic tiles, textile and wooden coverings
Design: Zsolt Szécsi, Zoltán Varró
Developer: Varró Design LLC
Client: Ik Hotels, Henry Katan
Main Contractor: Laki Zrt, Citadell SK
Mapei Distributor: B+M Hungary Kft.
Installation Contractor: Dian Studio Kft.
Project Manager: Norbert Szabó
Mapei Co-ordinators: Zsolt Lakatos and László Nagy, Mapei Kft. (Hungary)
Photos: Gyorgy Darabos

MAPEI PRODUCTS

Preparing the substrates: Eporip, Primer G, Prosfas, Ultraplan Renovation*
Waterproofing the substrates: Mapeband, Mapegum WPS, Mapelastic
Bonding ceramic tiles: Keralastic, Keralastic T, Keraflex Light S1*
Grouting joints: Keracolor FF Flex*, Kerapoxy CQ, Ultracolor Plus
Sealing expansion joints: Mapesil AC
Bonding textile coverings: Ultrabond Eco Fix
Bonding wooden floors: Ultrabond P913 2K

*These products are manufactured and distributed on the Hungarian market by Mapei Kft

For further information on products see www.mapei.hu and www.mapei.com



Opera House - Florence (Italy)

Keralastic / Keralastic T

Keralastic, two-component, high performance, **polyurethane adhesive** for ceramic tiles and stone material, also available in thixotropic version (**Keralastic T**).

CE EN 12004

R2 R2

- Easy workability
- **Perfect adhesion on all surfaces** used in building
- If applied in a continuous layer, **it ensures perfect waterproofing** before installing tiles with the same product
- **High deformability**
- Hardens by chemical reaction without shrinkage until it becomes **highly resistant**
- **Keralastic T** features highly thixotropy: **it can be applied vertically without slump** and without letting even **large tiles** slip. **Keralastic T**'s performances and slipping strength are in compliance with EN 12004.

APPLICATION

Product Info

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ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

MARGARET COURT TENNIS ARENA IN MELBOURNE

MELBOURNE PARK WILL REMAIN THE HOME OF THE AUSTRALIAN OPEN FOR GENERATIONS, THANKS TO A MULTI-MILLION DOLLAR TRANSFORMATION OF THIS WORLD CLASS SPORTING PRECINCT

The redevelopment of Melbourne Park aimed to cater for the growing popularity of the Australian Open tennis tournament and to establish Melbourne and Olympic Parks as an unbeatable sports and events precinct. Aside from the Australian Open, Melbourne and Olympic Parks is one of the biggest sports and entertainment complex in the world, hosting around 600 events and attracting more than two million people.

The redevelopment placed a strong emphasis on the comfort of patrons, with more open space and shade, increased seating capacity, better connections to public transport and the city, and easier movement into and within the precinct.

In the latest redevelopment phase at Melbourne and Olympic Parks, Margaret Court Arena (MCA) has been given a complete transformation to create the precinct's third all-weather arena. This particular venue was formerly known as Show Court One, but was renamed on the eve of the 2003 Australian Open to honour the retired Australian tennis player Margaret Court, who has won more Grand Slam titles than any other player in history, either male or female.

The design team, NH Architecture + Populous, was appointed by Major Projects Victoria on behalf of the Victorian Government to complete the 183 million dollar redevelopment. The

Photo courtesy by John Gollings

project was completed late last year in time for the 2015 Australian Open. The new MCA includes an innovative retractable roof, seating for 7,500 spectators and concourse connectivity to the adjacent Rod Laver Arena. A significant part of the challenge was to manage the construction to enable Margaret Court Arena to be used during the Australian Open each January during the three year construction period. Furthermore the construction had to minimise disruption to the adjacent Rod Laver Arena and the over 50 events it hosts each year.

The primary function of the redeveloped Margaret Court Arena is to stage major matches of the Grand Slam tournament, but the multi-purpose venue will also host netball, basketball, major concerts and entertainment events. Its operable roof is the fastest closing roof in Australia, able to shut completely in less than five minutes enabling Margaret Court to become a functional all-weather boutique venue for a busy all year round schedule.

The project sets a new benchmark with its sustainability initiatives: it is the first Gold LEED accredited sports venue in Australia. Water consumption has been carefully considered and sustainable strategies adopted to reduce potable water consumption. Enabling works have provided the infrastructure for rainwater harvesting and treatment facilities which include a 4.5 ml storm water retention tank to capture rainwater from the new roof. Preliminary calculations demonstrate an overall reduction of 45% in water use against conventional arena design water efficiency measures.

RAPID AND EFFICIENT INSTALLATION OF BLUESTONE AND GRANITE PAVERS

As a long-standing Mapei customer, DeFazio Tiles and Stone were awarded the contract to install over 7000 m² of 300 x 300 mm granite and bluestone pavers in and around the Margaret Court Arena. Prior to commencing work, DeFazio commissioned Mapei to perform pullout tests on the installation system proposed. It was extremely important to select an installation system that would not only perform well but would also meet strict deadlines critical to the success and handover of the project. Tests exceeded expectations and the installation of the bluestone and granite pavers commenced.

An existing polyurethane membrane (that was installed some years ago) was repaired to remove its loose and flaky condition. The area was cleaned to ensure it was free from dust and debris. MAPEPRIM SP two-component, solvent-free primer for smoothing compounds and adhesives was applied over the top of the repaired polyurethane waterproofing membrane, prior to

LEFT. Stone materials were installed in and around Margaret Court with Mapei products.
BELOW. The Mapei system proposed included KERAQUICK and KERAPOXY.

IN THE SPOTLIGHT

KERAPOXY

It is a two-component, very low emission level of volatile organic compounds, epoxy-resin-based product made with silica sand and special components.
It is a reaction resin (R) grout (G), classified as RG in compliance with EN 13888 grout, available in 23 colours, for joints of at least 3 mm.
It can contribute up to **4 points** to obtain the **LEED** certification and contribute valuable points towards **Green Star™** certified projects.

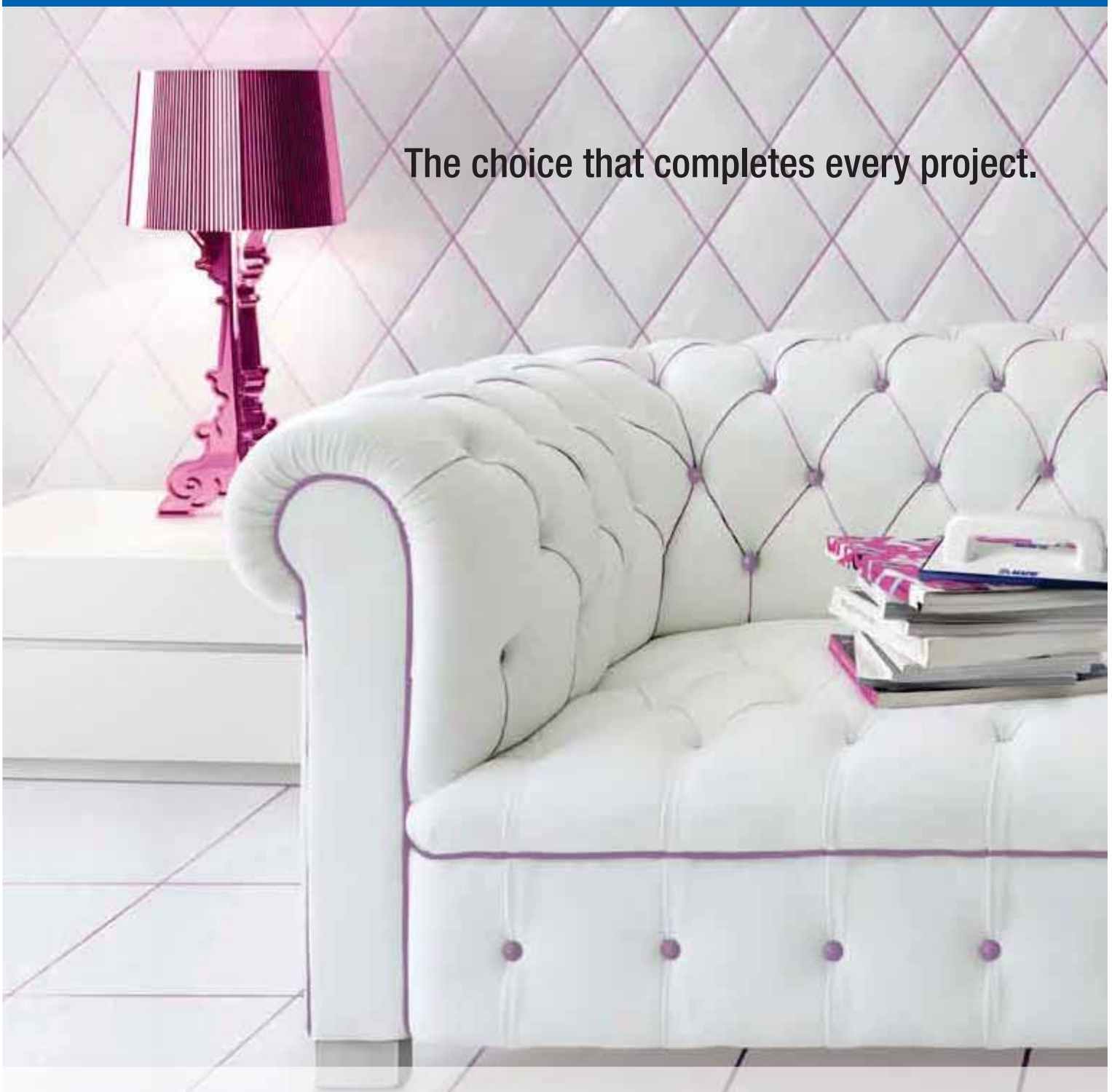
the installation of the bluestone and granite pavers.
The sand and cement bed was treated with PLANICRETE SP (a multi-purpose latex which is manufactured and distributed on the Australian market by Mapei Australia) to ensure an efflorescent-free paving installation. PLANICRETE SP was mixed in a 1:1 ratio with water and neat cement and applied to the concrete screed.
MAPELASTIC SMART two-component, high-flexibility cementitious mortar was applied over the substrate which acted both as a waterproofing membrane and efflorescence barrier. MAPECEM QUICKPATCH (a high-performance, high flow patching compound which is distributed on the Australian market by Mapei Australia) was also utilised to repair any deficiencies in the substrate as well as forming ramps to the tennis courts from the walkways.
With the importance of this project being completed prior to the Australian Open in January, KERAQUICK deformable cementitious adhesive with no vertical slip and extended open time was the perfect choice. KERAQUICK is not only a high performance adhesive but it is also quick-setting and develops a high bonding strength within 2-3 hours, perfect for rapid tile and stone installation projects.
Joints in internal paved areas were grouted using KERACOLOR FF pre-blended, high-performance, polymer-modified cementitious mortar with water-repellent DropEffect® technology for joints up to 6 mm wide, while in the external paved areas joints were grouted with KERACOLOR GG pre-blended, high-performance polymer-modified cementitious mortar for grouting joints from 4 to 15 mm wide.
300 x 300 mm granite stones were also installed on the metal staircases inside the stadium using KERAPOXY adhesive. KERAPOXY is a two-component, high-performance, anti-acid epoxy mortar and adhesive with no vertical slip for laying and grouting ceramic tiles and stone material.

TECHNICAL DATA
Margaret Court Tennis Arena, Melbourne (Australia)
Period of the Intervention: 2014
Intervention by Mapei: supplying products for preparing and waterproofing the substrate, for the installation of stone materials and for grouting joints
Client: Victorian State Government
Design: Populous and NH Architecture
Works Direction: Major Projects Victoria
Main Contractor: Lend Lease Corporation Limited
Stone Installation Contractor: DeFazio Tiles and Stone
Mapei Coordinator: Paul Buckley, Mapei Australia

MAPEI PRODUCTS
Preparing the substrates: Mapeprim SP, Planicrete SP*, Mapecem Quickpatch*
Waterproofing substrates: Mapelastic Smart
Installing stone materials: Keraquick, Kerapoxy
Grouting joints: Keracolor FF, Keracolor GG

*These products are distributed on the Australian market by Mapei Australia

For further information on products see www.mapei.com and www.mapei.au



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DURABLE AND STRONG

WIDE RANGE OF COLOURS

A range of high-quality, highly-functional grouts rich in colour for internal and external use.

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- Very low emission level of volatile organic compounds (VOC)
- Certified according to the most strict international standards
- Ideal for all types and formats of floors and walls: ceramic, terracotta, stone, mosaics and metal.
- Available as cementitious, paste and epoxy grout

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RWANDA

"THE LAND OF A THOUSAND HILLS" IS REVIVING THANKS PARTLY TO ITS WOMEN

SOROPTIMIST ITALY'S WORK IN RWANDA

Looking down from Des Mille Collines Hotel I can see the lights of Kigali illuminating the undulating outline of the city and skyline of the new business centre before fading into the hovels out in the suburbs. Over one million people live in the capital of Rwanda, a nation which is now booming, driven along by a world market looking for new outlets and new opportunities in Africa. It is convenient to do business here: Rwanda has lots to offer as the Chinese soon realised! Faded but still extremely eloquent photos of the Memorial Museum to the 1994 Genocide now seem to belong to a very distant past, an atrocious moment in history that the nation would now like to forget. The "lanky" Tutsi, who were supposed to be squashed like "cockroaches", are gradually taking over key roles in society, the economy and politics again, starting with the President of the Republic, a certain Mr Paul Kagame, who was re-elected with a huge majority and is now more firmly in power than ever.

The new economic miracle, which underpins Rwanda's renaissance, will perhaps manage to strengthen the social fabric, repairing and sealing old wounds and lacerations. Women are leading players in these changes, they are fighting in the front line of a new but no less bloody battle for justice, emancipation and human rights. Drawing on all their ancient knowledge and acumen, it is they who are managing to reconcile old traditions with change. Moving on from a traditional society in which the Queen Mother was almost more important than the King, todays' Parliament has slightly more female members than male members: the only case of its kind in the entire world! Thanks to women's labours, even the green hills of Africa are blossoming once again: tea, coffee, rice, bananas and pyrethrum flowers decorate the natural tapestries of the valleys and terraced slopes of ancient volcanoes.

Rwanda's modern, advanced legislation and a constitution that allows women to own or inherit the land they work, an exception in Africa, place this nation at the cutting-edge once again.

We talked about this with Eugenie Nyiramajioro, a lawyer and member of the Kigali Soroptimist Club responsible for assessing the conformity of Parliamentary work and legal texts on individual rights, particularly those of women.

It is worth pointing out that both I and Eugenie belong to the Soroptimist International, an NGO operating in over 130 countries and striving to promote women and safeguard human rights, particularly those of women. Soroptimist International Italy is engaged in professional training and has developed a project to revive traditional craft enterprise: weaving natural fibres, a technique that used to be widely practised in the country, has led to the creation of elegant jewellery unique of its kind. It is made by the skilful hands of Rwandan craftswomen under the supervision of young Italian designers. The north and south of the planet come together in the "Atelier Rwanda" project in the name of cooperation and the development and exchange of reciprocal know-how and knowledge.

This view is also held by Eugenie, who firmly believes that Education and Train-

ing are the real key to progress and the rebuilding of the nation. Civil society in Africa is on the move and women are actively involved, particularly in Rwanda, where, after the genocide, they found themselves brutally alone. Eugenie's words call to mind what a great African leader, Aminata Traorè, Mali's Minister of Culture from 1997 to 2000, used to say: an alternative Africa is only possible if we take advantage of and exploit the skills of all Africans, women in particular, only if "we de-colonialize our own and Africa's imagination".

A similar message is also being sent out by the "Women for Expo" project which has provided plenty of opportunities for African women to interact with other women in the name of sustainable growth, not just for Africa. Women do, indeed, have a very special bond with the environment, as Wangari Maathai from Kenya once said, the first African woman to win the Nobel Peace Prize, and violations of women's rights actually accentuate environmental degradation and decay. Diana Bracco, a member of the Soroptimist D'Italia Club Milano Fondatore, has also acknowledged the importance of a project being promoted by the Soroptimist Club of Emilia Romagna ("A mill for Mali's women"), which was showcased in the Women for Expo spaces.

The "Atelier Rwanda" project, devised back in 2009, has set itself goals that Mapei is also pursuing, together with other partners, such as the E4Impact Foundation for Africa: on-site training

provided thanks to a working partnership with Italian Universities, the IUAV University in Venice and KIST for Soroptimist in Kigali and Cattolica University for Mapei.

Soroptimist's sources are not just economic, it also offers….. ideas, skills to be applied to "model projects" that also reflect our own principles. The strength of "Atelier Rwanda" lies in the network with local Soroptimist organisations, which are responsible for constantly monitoring the project, helping the craftswomen and supervising and controlling product quality.

Rough, gnarled hands produce minor masterpieces woven out of local fibres. Here craft really does become art and the most beautiful items have rightly been "showcased" in prestigious locations: such as the Rwanda Pavilion at the 2010 Venice Biennial of Architecture, the Galleria del Costume exhibition spaces in Palazzo Pitti in Florence, Butare Ethnographic Museum, the most important in Rwanda, and even famous old Florian Caffè in Piazza San Marco in Venice! Ancient knowledge and a cultural heritage worth preserving: this is the challenge that Soroptimist has so successfully taken on by financing the project and encouraging "contamination" between the concepts of Italian designers and innate skills of craftswomen. Finding new market outlets is the challenge now facing the newly established cooperative of craftswomen. Art, which was once confined to the king and his court and was in danger of vanishing forever, is now "safe" thanks to all those who, like Soroptimist, have shown faith in the value of women! The intangible heritage of the Rwanda people has not been lost in the tragic meanders of recent history that threatened to permanently blow away the memory of an entire nation... An exact replica of the king's traditional hut has been reconstructed in Nyanza in the city of Butare, the nation's cultural capital: a masterpiece of architecture made of woven natural fibre.

Wilma Malucelli. Past President of Soroptimist International Italy.

SOROPTIMIST INTERNATIONAL ITALY

Soroptimist International is an association of women highly qualified in their professions, that acts through projects for the promotion of human rights, a better condition of the status of women and the acceptance of diversities. The term Soroptimist derives from the Latin words *soror* (sister) and *optima* (excellent). Soroptimist International was born in the USA in Oakland in 1921 and is today present in 125 countries with more than 3000 clubs with a total of about 90.000 Members.

Each member represents in her own club a different professional cathegory. The local clubs are grouped in national Unions. The Unions are grouped in four Federations: The Americas, Europe, Great Britain and Ireland, SW Pacific. The European Federation includes more than 1200 Clubs in 57 countries. The Federations report to Soroptimist International, headed by the International President.

The first Club in Italy was founded in Milan in 1928. The Italian Union was formed in 1950 and, in 2011 it had 140 Clubs with about 6000 members.

Soroptimist is represented at important Agencies of the United Nations: ECOSOC (Economic and Social Council), UNESCO (United Nations Educational, Scientific & Cultural Organisation), ILO (International Labour Organization), WHO (Wolrd Health Organization), FAO (Food and Agriculture Organization), UNIDO, United Nations Industrial Development Organization, UNHCR (United Nations High Commission for Refugees), UNICEF (United Nations Children's Fund), UNEP (United Nations Environment Programme) and at OECD (Organization for Economic Cooperation and Development) in Vienna.

For further information see www.soroptimist.it

E4IMPACT FOUNDATION

A FOUNDATION HAS BEEN SET UP TO TRAIN THE AFRICAN BUSINESS PEOPLE OF THE FUTURE

Ongoing operations that will continue over time and be capable of contributing to local growth, thereby slowing down the migration flow from Africa. All this while supporting a business culture that will bring about growth in Africa through a major alliance with African universities to develop community-focused services for training a new generation of business people.

These are the aims of the E4Impact Foundation (an abbreviation standing for "Entrepreneurship for Africa") that was officially presented in Milan on 16th September.

The launch of the new Foundation was attended by delegates representing the founding members: Letizia Moratti (Securfin), Giorgio Squinzi (Mapei), Pietro Salini (Salini-Impregilo), Franco Anelli (Rector of the Università Cattolica del Sacro Cuore of Milan), and the Professor of Business Economics at the Università Cattolica Mario Molteni (Always Africa Association).

E4impact Foundation intends to pursue its mission by training new business people through a master's degree in business management and administration (a Global MBA in Impact Entrepreneurship) organised in partnership with local universities and co-ordinated by the Università Cattolica del Sacro Cuore.

The MBA will provide those involved with an education focusing on results, helping them in three separate realms:

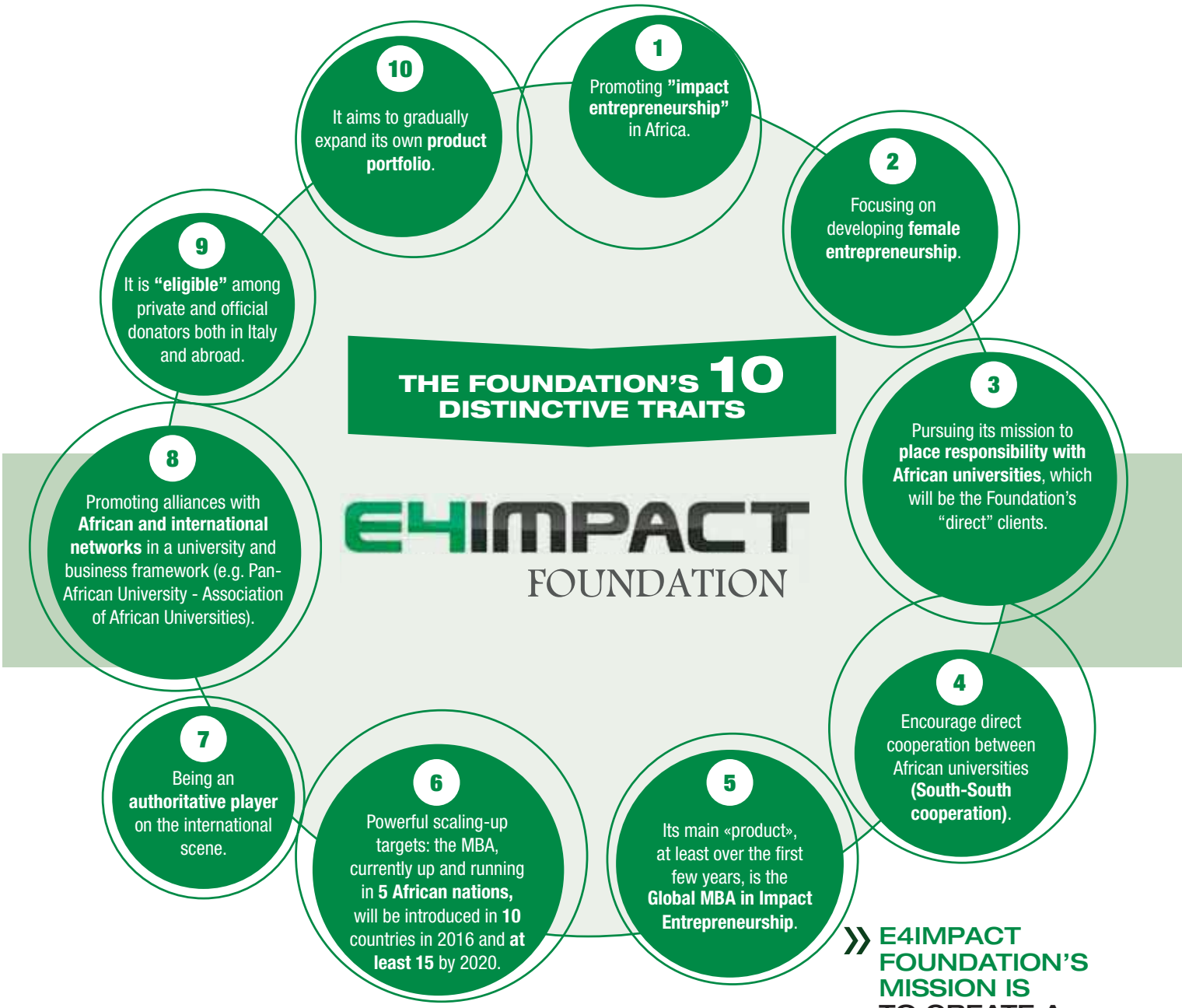
- turning a business idea into a business plan;
- developing the business tools and skills required for man aging a new business;
- creating solid partnerships with investors, suppliers and clients.

The Master's degree is already up and running in Kenya, Uganda, Ghana, Ivory Coast and Sierra Leone and, as the organisers have pointed out in a footnote, "has resulted in the training of 130 business people, while a further 190 are currently being trained". The Foundation plans to introduce the Master's course in at least 16 African nations by 2020. Important results of notable economic impact are expected by 2022: over 3000 business people are expected to have been trained, particularly young people and women, 500 new businesses established and thousands of new jobs created.

The Foundation - which is an offshoot of the E4impact (Entrepreneurship for impact) project that was set up in Africa in 2010 by ALTIS (the Postgraduate School Business & Society of the Università Cattolica del Sacro Cuore) - was presented internationally at the General Assembly of the United Nations on 24th September 2015 as one of the "legacies" of Expo 2015 held in the city of Milan.

"At the end of the Expo – so Letizia Moratti noted - the Foundation will be able to draw on further resources through the transfer of funds from the Fondazione Milano per Expo Foundation, as stipulated by the President herself, Diana Bracco". Indeed, the funds for the Expo were transferred to the E4Im-

ABOVE. The founding members of the E4Impact Foundation: Letizia Moratti (Securfin), Giorgio Squinzi (Mapei), Pietro Salini (Salini-Impregilo), Franco Anelli (Rector of the Università Cattolica of Milan), and the Professor of Business Economics at the Università Cattolica Mario Molteni (Always Africa Association).



pact Foundation after the Expo closed.

"We believe in the importance of training the business people of the future, who will be able to contribute to long-term structural growth in Africa", so Pietro Salini – Chief Executive Officer of Salini-Impregilo, the industrial group that owns much of its success to its contracts in Africa - stated, adding that "training new local business people allows us, as a company, to be able to count on a new group of local suppliers of the highest calibre who we would like to be involved in our projects. We will create job opportunities for them and guarantee quality products at lower costs for all our contracts".

The partners of the Foundation also include Mapei, which sees Africa as fertile ground for growth. "As a businessman and also a member of society - so the President of the Mapei Group, Giorgio Squinzi, explained - I hope there will be a deep and long-lasting alliance between Europe and Africa: we have to operate over there in a more specific and constructive way, not just as buyers or exploiters. Creating jobs on-site is a duty of ours and this project will help create business people capable of solving those age-old problems that have always afflicted Africa.

Contributing to local growth is also a way of slowing down migration flows and we certainly identify with this project: Europe's future is closely tied to Africa's".

Mapei currently operates in Africa with just two "extreme" production units in Egypt and South Africa, but short-term goals include opening a further four-five manufacturing plants drawing on local labour. "And for our Group too - so Squinzi emphasised - being able to rely on a competitive network of local suppliers will certainly be beneficial; greater business skills and expertise would certainly provide notable benefits and "returns" for everybody".

The creation of this Foundation "is a tiny step in the right direction with a view to slowing down immigration and preventing people from having to flee from dramatic situations", so Letizia Moratti concluded, explaining that this could be the way "to create openings for Italian businesses that see Africa as an opportunity and not a problem".

» E4IMPACT FOUNDATION'S MISSION IS TO CREATE A MAJOR ALLIANCE WITH AFRICAN UNIVERSITIES TO DEVELOP A NEW GENERATION OF BUSINESS PEOPLE WITH SOCIAL IMPACT

TRAINING UP IN THE NORTH

A NEW TRAINING CENTRE FOR CUSTOMERS AND BUSINESS PARTNERS IN NORDIC AND BALTIC COUNTRIES LOCATED AT THE MAPEI AS HEADQUARTERS IN NORWAY

Mapei has been operating in northern Europe since 1999, when it acquired the Norwegian company Rescon based in Sagstua (not far from Oslo) that was first established in 1976, was equipped with innovative technology and had an excellent manufacturing output and efficient corporate management system.

After being renamed Rescon Mapei AS in 2000, the new subsidiary continued to supply cutting-edge products for constructing underwater buildings and concrete offshore oil drilling platform, digging tunnels, building bridges, preparing substrates and laying various types of floors (ceramics, resilient materials, wood, cementitious and resin). This enabled the company to acquire notable market shares in Nordic countries, particularly for supplying plastic thermosetting materials, special cementitious mortars and admixtures for concrete.

Since then the Group has made considerable investments in this subsidiary and in the market in Nordic countries, resulting in global growth in terms of sales, facilities, human resources and acquired market shares.

From 2003, when the Mapei distribution centre for Nordic countries first opened, the distribution network has been reinforced, special facilities have been opened in Sagstua and other northern European countries, and working partnerships have been set up with distributors in Denmark, Iceland, Estonia and Lithuania.

A new Research & Developments Laboratory, a new manufacturing plant for admixtures for concrete and a centre for testing shotcrete accelerators (see *Realtà Mapei International* no. 37) were all opened in October 2007.

Mapei AS's Research & Development laboratory, one of 18 belonging to the Group, consists of three separate sections, each devoted to research work into a specific type of product: thermosetting

plastics and polymers, cementitious materials, and admixtures for concrete. Equipped with cutting-edge instruments and incorporated in a network of Norwegian research centres of the highest calibre, it enables the development of increasingly innovative and safe solutions, partly thanks to a close working relationship with the Mapei Research & Development Centre in Milan. The section devoted to admixtures for concrete is, in itself, one of the most technologically advanced research centres into concrete in any Nordic nation. It can make precision measurements of the rheological properties of fresh concrete using such modern tools as the ConTec Viscometer 5. The other sections of the laboratory concen-

IN THE FACING PAGE. Mapei has various subsidiaries, agents, distributors, a manufacturing plant, and a Research & Development Laboratory operating in Nordic and Baltic countries.

TOP OF THE PAGE. The Mapei AS plant in Sagstua, Norway, is the Group's biggest manufacturing plant in the Nordic countries.
ABOVE. The new Mapei AS training centre: a 900 m² facility built using different Mapei products.

BELOW AND RIGHT. The Mapei Research & Development Laboratory in Sagstua, a cutting-edge facility part of a network of research centres of the highest calibre in Norway. It includes three sections devoted to plastic thermosetting products, cementitious materials and admixtures for concrete.

ABOVE. The new Mapei AS Training Centre officially opened on 13th October. After the official speeches, there was a trip around the manufacturing plant, R&D Laboratory and Customer Centre.

trate on developing products guaranteeing excellent quality and adaptability to the weather conditions in northern countries, constantly focusing on sustainability and compliance to both international and local standards.

In October 2011 the subsidiaries of the company in countries on the Scandinavian peninsula officially changed their names to fall more closely in line with the Group even in terms of image and brand. The Norwegian company Rescon Mapei AS took on the name Mapei AS, the Swedish company Rescon Mapei AB became Mapei AB, and the Finnish company Rescon Mapei OY became Mapei OY.

Since then these subsidiaries have grown constantly over the years, continuing to design and launch exceptional products onto the market for dealing with "extreme" building site issues, due to the peculiar climatic and geological conditions in Nordic countries.

Sales results have also been more than satisfactory: Mapei's sales in Nordic and Baltic countries have grown by over 500 million Norwegian crowns (over 53 million Euros) since 2003, with excellent trends every year. Figures are expected to exceed the threshold of 700 million crowns (75 million Euros) in sales this year, while sales in all Nordic and Baltic countries amounted to 640 million crowns (approximately 68 million Euros) in 2014.

A new Quality Control Laboratory was also completed at the manufacturing plant in Sagstua this year.

The Mapei Group employs 220 staff in the Nordic and Baltic nations and plans to reinforce its leadership on the market for all its product lines throughout the entire region.

TRAINING TO THE FORE

To achieve such ambitious goals, Mapei can boast highly qualified human resources, cutting-edge products and technology, a functional distribution network, an ultramodern R&S laboratory, and an efficient manufacturing plant. Training also plays a key role and Mapei has always paid very careful attention to this factor.

That is why a new training centre was recently opened at the offices in Sagstua. AS Trond Hagerud, the General Manager of Mapei AS and Mapei operations in the Nordic & Baltics countries, pointed out, "It is not so that we haven't been focusing on training before. On the contrary, training of customers and our own employees has always been a prioritized and major activity. But, with the new training center we get space and appropriate facilities for this important activity.".

The building in question covers an area of 900 m^2 and required an investment of approximately 30 million Norwegian crowns (over 3 million Euros). The facility, built using all kinds of Mapei solutions (ranging from admixtures for concrete to special finishing materials for the façades) allows Mapei AS to carry out and extend its training for Mapei business customers and partners in all the various Nordic and Baltic nations. The new Mapei training centre is located just 45 minutes from Oslo Airport and just over an hour's drive from the city.

The new facility will be used for training activities on various issues connected with a wide range of building operations, providing support for using Mapei products and systems, and supplying information about all the benefits they offer in terms of quality and sustainability.

All this for the purpose of meeting customers' needs. As Trond Hagerud emphasised: "the investments and the positive development give us capacity and resources to help our customers with the products and competence they need for their building projects and fulfilling the requirements of the installer as

well as the owner or the user of the building. We have great respect for the fact that building a home is one of the most important things we do in our life." Mr. Hagerud is convinced that, thanks to the new training centre, Mapei will become an even better partner for its Nordic and Baltic customers.

A DAY OF CELEBRATIONS

Lots of Mapei customers, partners, suppliers and staff attended the official opening of the new training centre in Sagstua on 13th October, along with journalists and local authorities, such as the Mayor of Nord Odal (the borough where Sagstua is located). They were also joined by Marco Squinzi and Veronica Squinzi, respectively the Mapei Group's Director of Research & Development and Internationalisation and Global Development Director, Luciano Longhetti, the Group's Manager of Strategic Planning, Roberto Boselli, the Group's Production Operations Director, Flavio Terruzzi, Mapei SpA'S Corporate Export Department Director, Lorenzo Pastore, Mapei SpA's Corporate Export Manager for Nordic countries, and Andrea Garetto, Mapei's Corporate Controlling & Internal Audit Director.

The official opening day began with a glass of Prosecco for everybody and a musical performance by the famous Norwegian pianist, Andre Hæhre, accompanied by the opera singer Eva Vemundsberget. It was then time for the official speeches, starting with Trond Hagerud's, who described Mapei's operations in Nordic and Baltic countries and thanked all the customers for their support and Mapei staff for all their hard work. Hagerud emphasised the role played by Jan Roger Broen in particular, the manager of the Sagstua plant, who was in charge of the project to build the new centre.

Special thanks also went to the authorities, who authorised the purchasing of the land on which the new training centre now stands and allowed it to be built in record time: "Nord Odal really is an ideal area for Mapei", so Mr Hagerud concluded.

Veronica Squinzi and Marco Squinzi then took the stage and expressed their delight at the various goals already achieved by the Nordic and Baltic subsidiaries and noted that the Group would be expecting even greater things from them in the future.

Jan Roger Broen talked about the various Mapei products and systems used for building the new centre, thanking the architects, builders and other partners for their help.

An architect from Fornæs & Bunes, the firm in charge of the design project, and a delegate from the construction company, Ø.M. Field, also gave short speeches.

After some quick refreshments, the new training centre was officially opened with the cutting of the ribbon and the latest Mapei AS video was shown to everybody in attendance, clearly highlighting how Mapei products adapt so well to the distinctive climate of Nordic regions and contribute to the quality of life of their inhabitants.

Guests then got the chance to visit the Mapei AS Customer Centre, manufacturing plant, and Research & DevelopmentLaboratory in Sagstua.

TROND HAGERUD
The General Manager of Mapei AS and Mapei operations in the Nordic & Baltics countries gave an official speech on the opening day, thanking everybody in attendance, the staff and local authorities.

MARCO SQUINZI AND VERONICA SQUINZI,
respectively the Mapei Group's Director of Research & Development and Director of Strategic Growth and Internationalisation.

JAN ROGER BROEN
The Manager of the Sagstua plant was in charge of the building project for the new training centre.

IN THESE PICTURES.
Below: Peter Fekete, Mapei Marketing Manager Nordic and Baltic countries, talking to guests in the new auditorium and demonstrations area.
Right: the official speeches and the musical performance.

THE PROJECTS UP IN THE NORTH

IN NORDIC AND BALTIC COUNTRIES MAPEI WAS INVOLVED IN SEVERAL BUILDING PROJECTS FOR CONSTRUCTIONS OF DIFFERENT USE: OFFICES, HOTELS, MUSEUMS, THEATRES, AIRPORTS, TUNNELS, BRIDGES, LIBRARIES, WELLNESS FACILITIES, OIL AND NATURAL GAS PLANTS. SOME OF THEM ARE PORTRAYED IN THESE PAGES

GARDERMOEN AIROPORT, OSLO - NORWAY

When building this ultra-modern airport, Mapei admixtures for concrete such as MAPETARD R*, MAPEFLUID HP-SF*, and MAPEAIR L* were used in the control tower. In the main terminal, on the other hand, strengthening injections under the pillars and repair interventions were carried out using MAPECOAT I*, SLIMP 1000*, CONPLAN KF*, MAPEPOXY BI*, REDIREP 45 RSF*, HURTIGFLIKK*, RESFOAM S* and WALLGARD GRAFFITI BARRIER.

TELENOR FORNEBU, OSLO - NORWAY

Mapei contributed to the building of this highly modern complex hosting the offices of the Norwegian telephone company Fornebu. The project aimed at creating Scandinavia's leading innovative work place, while ensuring that the new headquarters stimulate creativity and innovation. It was also supposed to be highly aesthetic and easily adapt to changing requirements without relevant expenses. Mapei supplied products for prearing the floor substrates and installig wooden floors such as UNIPLAN T*, CONPLAN R*, PRIMER CP*, CONPLAN KF*, MAPEPRIM F*.

STATOIL'S SNØHVIT PROJECT, **BARENTS SEA - NORWAY**

Snøhvit is the first offshore development in the Barents Sea. Without surface installations, this project involves bringing natural gas to land for liquefaction and export from the first plant of its kind in Europe and the world's northernmost liquefied natural gas facility. The subsea production facilities stand on the seabed, in water depths of 250-345 m. This output is transported to land through a 143 km pipeline. Building this project required the use of several Mapei products such as MAPECURE*, REDIREP*, ZINKBOLT*, NONSET*, MAPEPOXY LR*, MAPEPLAST P*, MELSTAB*, MAPEFLUID RN15*; MAPETARD R*, MAPEAIR 25*.

NOAH'S ARK - GLOBAL SEED VAULT, **SVALBARD ISLANDS - NORWAY**

The biggest phytogenetic bank in the world was opened on the Svalbard Islands in Norway in 2008. We are talking about the Global Seed Vault holding duplicates of unique varieties of the world's most important crops. Inaugurated on the 26th February 2008, the gene bank received about 200,000 types of seed, although its total capacity is of around 4.5 million samples, for a total of around 2 billion seeds. It was built inside a frozen mountain: the permafrost and rock will keep the genetic material stored in a vault frozen and protected without using electricity. Mapei was involved in this important building project destined to defy time, supplying admixtures for concrete and products for underground constructions.

ØRESUND BRIDGE, **ØRESUND STRAIT - SWEDEN-DENMARK**

The Øresund Bridge is a double-track railway and motorway bridge across the Øresund strait between Sweden and Denmark. It is the longest combined road and rail bridge in Europe, and connects Copenhagen, the Danish capital city, and the major Swedish city of Malmö. It connects the road and rail networks of the Scandinavian Peninsula with those of Central and Western Europe. The official inauguration took place on 1st July 2000, with Queen Margrethe II, and King Carl XVI Gustaf as the host and hostess of the ceremony. To complete the bridge, Mapei products such as primers and coatings were used to treat and protect its surfaces.

ATLANTIC ROAD, MØRE OG ROMSDAL - NORWAY

The Atlantic Road is a spectacular stretch of road in the Møre og Romsdal region, the Western area of Norway. It is 8.3 km long and has 7 bridges. The concrete on four of the bridges was repaired and their surfaces were treated using various products supplied by Mapei.

BJØRVIKA TUNNEL, OSLO - NORWAY

The Bjørvika Tunnel, part of the E18 European highway which connects Northern Ireland to Russia, runs through the city of Oslo. It is a submerged tunnel which required highly-complex site work, and Mapei supplied products to repair the concrete, to anchor elements, to inject resins and admixtures for concrete.

OPERA HOUSE, OSLO - NORWAY

The home of the Norwegian National Opera and Ballet and the National Opera Theatre, the Oslo Opera House rises in the ex-docks area on the peninsula of Bjørvika, at the start of the fjord overlooked by the capital of Norway. The theatre, which the Norwegian people have been waiting for for more than one hundred years, was inaugurated by King Harald V in April, 2008 and is the largest cultural centre built in Norway since 1300. Construction started in 2003 and was completed five years later. The execution of the project was particularly complex with more than 50 companies being involved. The building is completely covered with white marble from the quarries in the Apuane Alps, apart from a strip at the base of the building made using local granite. Mapei products were used for installing and grouting mosaics and tiles, to repair the concrete and to anchor elements.

EKOFISK OIL FIELD, **NORTH SEA - NORWAY**

Located in one of the most important oil deposits in Norway, the Ekofisk oil field is approximately 280 km from the city of Stavanger. Structural strengthening was carried out on the sections below sea level on one of the platforms in 2008. Mapei supplied DYNAMON SP-3* and RESCON T* concrete admixtures and MAPEFILL N* mortar for anchoring.

NATIONAL LIBRARY, **RIGA - LATVIA**

Designed by the Latvian-American architect Gunnar Birkerts, the building of the Gaismas Pils, or Castle of Light, hosting Riga National Library, is characterised by its asymmetric surfaces with transparent glass inserts set in steel frames which reflect onto the River Daugava. The building's 13 floors can house around 4 million antique and modern books, newspapers, photographs and videos. Products from the MAPEWRAP SYSTEM line were proposed to repair and strengthen the reinforced concrete structure. Around 6,000 m^2 Canadian maple flooring were bonded with LIGNOBOND after applying PRIMER KL on the substrates. The wooden floor was then varnished with ULTRACOAT HIGH TRAFFIC.

SÖDRA LANKEN TUNNEL, **STOCKOLM - SWEDEN**

Mapei contributed to the building of this 6 km long tunnel, which crosses the capital of Sweden from east to west, by supplying the following products: MAPEQUICK AF2000, PURGEL*, REDIREP 45 RSF*, RESFOAM 1KM, and RESFOAM 1 KM AS*.

THE THIEF HOTEL, OSLO - NORWAY

With its spectacular location on a small island in Oslo, the hotel is able to steal its guests away from everyday life. In the bathrooms floor and wall substrates were waterproofed with MAPEGUM WPS, before bonding ceramic tiles with MEGAFIX* adhesive. The surfaces of teh bathtubes were treated with PRIMER G, before bonding mosaics with MEGAFIX WHITE* and sealing the joints with MAPESIL AC. Natural stone floors were bonded in the hotel's lobby, on the stairs and on the walls and floors of the toilets with MEGARAPID 2K*. Ceramic tiles were laid on walls in the kitchens and dressing rooms with MEGAFIX*. In the luxurious spa MAPEGUM WPS was applied on wall, floor and ceiling substrates, before bonding natural stone slabs on walls and floors with MEGARAPID 2K, mosaics on walls with MEGAFIX WHITE, and ceramic tiles on walls and floors with MEGAFIX. All joints were grouted with KERAPOXY.

ZARA SHOWROOM, OSLO - NORWAY

For the new Zara store in Oslo, the flooring contractor contacted Mapei Technical Services for advice on specific systems to install the ceramic tiles on the four display floors (around 3,500 m^2 in total) which are subjected to intense foot traffic all year round. ELASTORAPID two-component, quick-setting, cementitious adhesive was selected to bond the tiles. Tile joints were grouted with ULTRACOLOR PLUS mortar. The tiles for the metal stairs were bonded with KERALASTIC T adhesive with no vertical slip, particularly suitable for bonding coverings including large tiles on vertical substrates.

PÄIJÄNNE WATER TUNNEL, FINLAND

The Päijänne Water Tunnel is the world's second longest tunnel excavated in continuous rock. The tunnel runs from Lake Päijänne to Helsinki metropolitan area and provides raw fresh water for over a million people in Southern Finland. It is 120 km long and lies at a depth of 30–100 m below ground in bedrock, with a cross section of 16 m^2 for a water flow of 10 m^3/s. Its construction started in 1972 and was completed in 1982 at a cost of approximately 200 million Euros. In 2008 it was decided to reinforce a tunnel section of 56 km long. For concrete repair works the following Mapei admixtures were used: MAPEQUICK 34 *, DYNAMON SX-N* and MAPETARD R*. DYNAMON SX-N* and MAPETARD R* were used for sprayed concrete.

COPENHAGEN METRO, **DENMARK**

Construction work is ongoing on the upcoming city circle metro line Cityringen, which will open with 17 new stations in 2018, affecting traffic in several places in the Danish capital. In return, Copenhagen will be able to present one of the world's best and most effective metros once the work is finished. The metro construction is in full swing and will continue in the years to come at 21 construction sites in Copenhagen. Mapei is contributing to the works by supplying products and systems such as MAPEQUICK CBS SYSTEM, a two-component system for cement-based grout injections.

TROLLSTIGEN CAFÉ AND GUEST HOUSE, **GUDBRANDSJUVET - NORWAY**

This spectacular complex, located between fjords and mountains in the North Western part of Norway, mixes contemporary design and breath-taking scenery. It host a café, a viewing platform, a camping, a guest house and a restaurant next to Gudbrandsjuvet, a systems of natural whirlpools flanking a 20 m deep gorge. Mapei contributed to its construction by supplying admixtures for concrete such as DYNAMON SX-N* and MAPEAIR, while MAPEFLOOR FINISH 52 W two-component, polyurethane finishing was used on cementitious floors for anti-dust and anti-oil treatment.

EDDAHALLEN AQUATIC CENTRE, **SKELEFTEÅ - SWEDEN**

This aquatic centre, with swimming pools, slides and even a pool with waves, transformed one of the smallest swimming pools in Sweden into a spa area dedicated to relaxation. For the corner pool and its surroundings, apart from supplying products for preparing and waterproofing substrates, ADESILEX P4, ADESILEX P10, ISOLASTIC, ULTRAFLEX S2 MONO* and KERAPOXY were used to install the ceramic tiles and grout the joints.

*These products are manufactured and distributed on the local markets by the Mapei subsidiaries of the Nordic and Baltic countries.

ROOF DESIGN

Contents

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- MAPELASTIC SMART
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COLOURED EXPOSED ROOFS
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- PURTOP 400 M
- PURTOP 1000

ROOF GARDENS
- PURTOP 400 M
- PURTOP 1000
- MAPEPLAN T

HIGHLY REFLECTIVE ROOFS
- AQUAFLEX ROOF HR
- AQUAFLEX ROOF PLUS HR
- MAPECOAT PU 15 HR
- MAPEPLAN T SMART WHITE

MAPEI SYSTEMS FOR ROOFS

A WIDE RANGE OF SOLUTIONS FOR ROOFS NOT USED BY VEHICLES

The evolution in contemporary lifestyles and modern architecture has transformed the concept of roofs to such an extent that they are now a combination of their primary function, to provide protection and security, and a real sense of residential value and quality of life. Roofs, balconies and terraces are becoming more like an extension of the inside of our homes: multi-functional spaces where we spend our spare time in pleasant surroundings. Mapei has always had a keen eye for the requirements of new design trends and proposes a wide range of original waterproofing systems that are ideal for use on new structures and for repairing and renovating existing balconies, terraces and roofs. Solutions that fulfil the need to guarantee reliable, long-lasting waterproofing systems that comply with the principles of certified eco-sustainability, with full respect for international programs aimed at safeguarding the environment and our health. They are briefly described in these pages. For further information there is a dedicated brochure called “Roof Design” that can be downloaded at www.mapei.it

ENVIRONMENTAL RESPONSIBILITY, DURABILITY, RESEARCH & DEVELOPMENT AND CERTIFIED PRODUCTS

Mapei's commitment to research and development pays the utmost attention to the roofing sector, due to its importance and impact on contemporary design. The aim is to supply designers with a highly versatile range of solutions to meet all their needs, which not only covers traditional aspects such as the reliability and safety of buildings, but also more innovative requirements and expectations regarding the new functions that contemporary architecture and modern living standards require for terraces, balconies and roofs of all shapes and sizes. Mapei systems allow you to intervene efficiently to provide waterproofing solutions for both new buildings and repair or renovation work on existing balconies, terraces and roofs.

Their characteristics allow designers to obtain precisely the result they were aiming for, be it a barrier against aggressive atmospheric agents or stresses (mechanical, thermal and climatic stresses) or to add extra value to the end result with a quality finish and special attention to environmental sustainability. This double commitment brought to the awarding of certifications, confirming in the roofing sector too Mapei's approach based on truthful facts and the value of experience.

MAPEI AND THE *HEAT ISLAND* PHENOMENON

The term "Heat Island" is used to define the phenomenon of an increase in temperature generated in urban areas compared with temperatures recorded in rural areas. This phenomenon leads to a number of consequences for towns and cities, such as an increase in the consumption of electricity, higher costs for air-conditioning and higher pollution levels in urban areas. To reduce the Heat Island effect, Mapei has developed a series of products and systems for the eco-sustainable building sector that may be grouped together into two macro categories:

- GREEN ROOF: products to create roof gardens and green areas;
- COOL ROOF: products characterised by their highly reflective white colour that helps reduce the surface temperature compared with a similar covering material in a darker colour.

The systems proposed by Mapei comply with current European standards covering this sector (CEN/TS 14416 and ASTM Standard E903, ASTM Standard C 1371 and ASTM Standard E 1980) and have also been tested by important research bodies and institutes.

TERRACE ROOFS

SOLUTIONS THAT DECORATE AND WATERPROOF

The extraordinary variety of solutions, colours and coatings offered by manufacturers of terracotta and porcelain tiles and concrete paving slabs allows us to create original flooring for terraces or sun-roofs according to each person's own individual taste and to suit the style of each single area, while also providing surfaces with high resistance to loads and atmospheric agents. Each type of covering material requires specific attention, depending on the slope of the surface and the method used to lay the tiles and grout the joints, in order to prevent infiltrations between the joints.

1 MAPELASTIC SMART 2 MAPEBAND 3 MAPETEX SEL

COLOURED EXPOSED ROOFS

A TOUCH OF COLOUR THAT PROTECTS

A touch of colour is often all you need to make a large roof area on a building more attractive, or to liven up existing flooring which has become dull and worn by the weather and the action of atmospheric agents, while at the same time guaranteeing a sound waterproofing layer. This type of intervention can be carried out very quickly without resorting to particularly difficult or complex operations, even on surfaces that are a tricky shape or which have complicated features. For this type of intervention Mapei has developed two different product systems that may be left exposed and, thanks to the numerous colours available, create a highly attractive coating.

1. PRIMER SN + QUARTZ 0.5
2. MAPEFLEX PU 30
3. PURTOP 400 M
4. MAPECOAT PU 15

ROOF GARDENS

A "GREEN" ROOF

The increasingly widespread attention to everything regarding the environment and eco-sustainable buildings, along with the tendency to reclaim "green" areas within urban surroundings, has led designers to look for solutions that may be adopted to create "green" roofs to be used as gardens or vegetable plots. Apart from reducing the visual impact of a building, this type of intervention provides an efficient contribution in reducing its Heat Island effect. Mapei has developed cutting edge product systems in compliance with current European standards covering this sector (CEN/TS 14416), and which have also been tested by important research bodies and institutes, in order to create green roofs with excellent waterproofing.

1. MAPEFLEX PU 30
2. PRIMER SN + QUARTZ 0.5
3. PURTOP 1000 / PURTOP 400 M
4. POLYFOND KIT DRAIN
5. MAPECOAT PU 15

HIGHLY

REFLECTIVE ROOFS

EELab Energy Efficiency Laboratory

WHITE TO REDUCE *HEAT ISLAND* EFFECT

Another method used nowadays to reduce the Heat Island phenomenon that affects urban areas, which results in them having a higher temperature compared with rural areas, is to apply systems in a highly reflective white colour. This type of system allows the surface temperature to be reduced compared with a roof covered with a similar product in a darker colour. The Mapei Cool Roof range is made up of a series of systems that have been tested by specialised institutes to define the Solar Reflectance index (SRI) for each system, in compliance with current standards (ASTM Standard E903, ASTM Standard C 1371 and ASTM Standard E 1980).

1 PRIMER FOR AQUAFLEX

2 AQUAFLEX ROOF HR

FROSINI: "OUR STAFF AND TEAM WILL KEEP ON IMPROVING"

INTERVIEW WITH THE SPORTS DIRECTOR OF REGGIANA BASKETBALL TEAM

Alessandro Frosini, since you have been the club's sports director, Reggiana basketball team has won the 2012-2013 second division championship gaining promotion to league A 1, then in 2013-2014 you won the Eurochallenge, the club's first ever international trophy, and you almost won the 2014-15 league championship. And congratulations, by the way, for your recent success in the Italian Super Cup. Do you see yourself as a miracle-maker?
No, I do not see myself as a miracle-maker. The club's increasing success is due to the hard work and enthusiasm of a boss like Stefano Landi and the joint endeavours of the new President, Maria Licia Ferrarini, and Managing Director, Alessandro Dalla Salda, who have managed to work together successfully to enable the club to keep on improving.

What does it mean to have the name 'Mapei' on your team shirts?
Mapei is one of the great success stories of Italian and international industry. We are proud to have been associated with such a prestigious brand since September 2006. The fact that Giorgio Squinzi has come to watch some of our games shows his great passion for sport.

This summer you signed Vladimir Veremeenko, Stefano Gentile, Andrea De Nicolao and Pietro Aradori. Who was your most important signing?
They were all important. These four new signings are part of a very carefully thought-out strategy, according to which both technical and human factors are key considerations in our way of operating. I would also like to point out how important it is that the Lithuanian veterans, Rimantas Kaukenas and Darjus Lavrinovic, are staying with the club.

Bearing in mind that it was a great achievement for Reggiana to reach the final round of the Championship play-offs, what will it take for the team to win the Championship without having to go to game 7? Are there any weak points that need to be sorted out?
At the beginning of the 2014-15 season the team was not expected to be in with a chance of winning such important titles as the championship. I still think we have plenty of room for improvement that will enable us to keep on compete at the highest level. When you get to the very top of the game, it becomes more and more difficult to stay there and I know from experience that you just need to be patient and keep working away. If we start thinking we have made it, then it will be difficult to achieve our goals.

Last year Reggiana performed admirably right up until the final game against Sassari. Have there been any changes to the backroom/coaching staff since then?
The start of last season was actually extremely hard work and tumultuous. The training and sanitary staff are still the same, but we have started working even more closely with the Mapei Sport

SQUAD FOR 2015/16 SEASON

	Player	Position	Birth date	Height	Weight	Nat.
4	**Aradori Pietro**	Guard	09/12/1988	194	95	ITA
6	**Polonara Achille**	Forward	23/11/1991	203	90	ITA
7	**Lavrinovic Darjus**	Forward/centre	01/11/1979	212	110	LIT
8	**Della Valle Amedeo**	Guard	11/04/1993	194	86	ITA
9	**De Nicolao Andrea**	Playmaker	21/08/1991	185	75	ITA
10	**Pechacek Adam**	Forward/centre	19/02/1995	207	105	CZ
11	**Strautins Arturs**	Guard/forward	23/10/1998	196		LAT
12	**Veremeenko Vladimir**	Playmaker	21/07/1984	208	107	BLR
13	**Kaukenas Rimantas**	Guard	11/04/1977	192	92	LIT
15	**Silins Ojars**	Forward	20/07/1993	200	95	LAT
18	**Gentile Stefano**	Playmaker	20/09/1989	191	90	ITA
	Lever Alessandro	Centre	04/12/1998	202		ITA
	Bonacini Federico	Playmaker	23/01/1999	190		ITA

AN EXPLOSIVE DECEMBER!

✔ **9/12/2015:**
Le Mans Sarthe Basket – Grissin Bon Reggio Emilia 71-78
Pallacanestro Reggiana has qualified for the second phase of the Eurocup!

✔ **13/12/2015:**
Enel Brindisi - Grissin Bon Reggio Emilia 53-79
Pallacanestro Reggiana is top of the league!

Research Centre that provided us with such invaluable support last year by carrying out testing on our athletes. Our professional players now meet with experts from the Centre on a weekly basis, studying the scientific data available and jointly working out an ideal training plan.

What is the difference between playing in the Italian championship and the Eurocup?
The most striking difference is the physical side of the game and how players use their bodies. The referees are more lenient than in the Italian championship, so we need to get used to these changes as quickly as possible. I would actually like my team to play European-style even in the Italian Championship.

REGGIANA – MILANO 80-68
(periods: 22-19, 39-33, 58-51)

Pallacanestro Reggiana: S. Gentile 14 (3/4, 2/4), Kaukenas 12 (4/7, 1/1), Aradori 10 (3/5, 0/4), Polonara 9 (1/2, 1/5), Veremeenko 7 (3/6), D. Lavrinovic 4 (0/4, 1/3), Della Valle 13 (2/3, 3/4), Silins 8 (1/1, 1/4), De Nicolao 3 (1/1 for two points), Pechacek. Coach: Menetti.

Olimpia Milano: A. Cinciarini 8 (0/1, 2/3), Jenkins 6 (2/3 for three points), A. Gentile 9 (4/6, 0/4), McLean 9 (2/4 for two points), Macvan 6 (0/1, 1/3), Hummel 13 (4/7, 1/6), Simon 11 (1/1, 3/5), G. Lawal 6 (3/3), Lafayette (0/1 for three points), Cerella (0/3 for three points). Not used: Magro and Amato. Coach: Repesa.

Free throws: Milano 13/27, Reggio Emilia 17/23

Rebounds: Milano 38 (20 defensive, 18 offensive: Macvan 11), Reggio Emilia 26 (17 defensive, 9 offensive)

Assists: Milano 18 (A. Cinciarini, A. Gentile 6), Reggio Emilia 13 (Aradori, D. Lavrinovic 4)

REGGIANA TRIUMPHS IN ITALIAN BASKETBALL SUPER CUP FINAL

The 2015-2016 season got off to a flying start for the Reggiana basketball team: for the first time in its history the team sponsored by Mapei won the Italian Super Cup. Reggiana beat Olimpia Milano 80-68 in the grand final played at PalaRuffini in Turin. Everybody agreed that Reggiana showed much greater determination than the glorious club from Milan. The Super Cup was contested according to the "Final4" format. In the semi-final Reggiana got its revenge against Dinamo Sassari winning 79-78. The team from Sardinia had beaten the club from Emilia (Central Italy) in the final of the 2014-2015 championship playoffs. Reggiana made the decisive break in the second period of the Super Cup final against Milano, thanks to its new signing and son of a former player, Stefano Gentile. Team coach Massimiliano Menetti's men put on a devastating performance in the final quarter of the match and Amedeo Della Valle was chosen as man of the match.

ATTRACTIVE, WINNING FOOTBALL BASED AROUND RUNNING AND ORGANISATION

EUSEBIO DI FRANCESCO "REVEALS" SASSUOLO'S SECRETS AND TELLS US WHAT HIS FOOTBALL ETHOS IS BASED ON

Held up as an example and studied for the way he interprets football, highly sought-after (so they say) by the big clubs, Eusebio Di Francesco is certainly Sassuolo's most emblematic character. Not so much and not only due to the results he has achieved so far, but for the team's personality out on the pitch and its highly recognisable playing style.

Three defeats only in this year's championship: at Empoli, at San Siro Stadium against A.C. Milan and at the Marassi Stadium against Genoa. Sassuolo has been unbeatable at home and has not lost there since 29th April and, most significantly of all, has not lost against any of the big teams.

The team always surprises us (but perhaps we should not be surprised any more) with its performances, quality football and determination. Di Francesco's hand is clearly visible in its high-flying achievements.

The manager's answers to a few questions reveal the secrets behind his way of working.

What is your football ethos?

"To score goals by playing vertically: I hate sterile possession. Entertaining other people by enjoying ourselves, starting with training. Training sessions are open to the general public on Thursdays and there are no drones flying about our training ground. We do have TV cameras installed but I prefer to use my eyes, I like looking the team in the face. And I try to teach our lads to respect other players and realise the importance of giving."

What are the basic tenets of your playing style?

"Holding onto the ball, organisation and running, in that order of importance. I play with a 4-3-3 formation, which, however, can become a 4-5-1 when we do not have the ball. The great Arrigo Sacchi's ideas are still valid even 30 years on: compact and intense. Zeman is my maestro. In some sense I owe him my career.

Are there any differences between your playing style and Zeman's?

"Zdenek believes you have to attack your opponents all the time, whatever the circumstances. I believe that there are times when you do not need to try and take the ball off the other team. That is the main difference between us".

How did you become a football coach?

"It was the last thing I would ever have thought of doing. I was team manager at Roma but it was not the job for me. So I went off to run a seaside bathing resort, the 'Stella d'oro', in Pescara. Two years later the President of Val di Sangro football club offered me a job: I did not have a coach's licence, I just helped out with business relations with the big clubs, but it was an opportunity. I only really discovered the enjoyment of coaching and managing a football team when I was at Coverciano. I presented a dissertation on the 4-4-2 attacking formation and a psychology paper on the role of friends and family".

How come Sassuolo never loses against the big clubs but struggles against the smaller teams?

"Games against the smaller clubs are always tricky. You expect to win but it is never that easy. Playing against the big clubs allows us to approach the game differently, and that is the kind of football I like and that gives me so much pleasure. Subconsciously, we are much more focused against the big teams. Everybody now knows that playing against us is no walkover.".

After the first four games of the season, the owner, Giorgio Squinzi, said you were good enough to win the league.

"It was just a joke but it really hit the headlines because nothing much else was going on. But what you do not know is that we met up at the Cersaie exhibition and he said to me: 'Seeing as they took me seriously, I'm also going to take myself seriously: so I'm now genuinely asking you to win the league'.

So have you arranged a bonus for winning the league?

"Certainly not, the only bonus is for not getting relegated. We are a small club that is gradually growing, but we need to be level-headed and consistent. This is no fairy tale: we want to be a success story. A happy place where young Italian footballers can develop. This certainly isn't somewhere you come to just cash in your wages and be left alone".

What is Sassuolo's objective?

"Staying in the top league is still our main objective, which means getting at least 40 points. After that we can start thinking about other aims. But there are still plenty of big-name teams both above and below us in the league".

LEFT: On 6th December Sassuolo beat Sampdoria 3-1 in Genoa.

DREAMING COSTS NOTHING

IN ITS THIRD SEASON IN THE TOP LEAGUE OF ITALIAN FOOTBALL SASSUOLO KEEPS ON WINNING AND PLAYING WELL

After losing the Tim Cup tie against Cagliari at the Mapei Stadium on 3rd December, everybody was expecting a reaction from Sassuolo. Not just the fans but also the manager, Eusebio Di Francesco. Quite rightly annoyed after losing the tie, the manager was looking for a reaction, starting with a different attitude and approach to the game. And that is what happened. After conceding a goal in the final seconds of the match against Genoa, just three days later its cup defeat Sassuolo managed to win against Sampdoria with an almost perfect performance at the Ferraris Stadium. Francesco Acerbi opened the scoring, as he always seems to at the Ferraris (also called "Marassi") ground. Sergio Floccari then scored his second goal in as many games after hitting the back of the net against Fiorentina, and then Lorenzo Pellegrini rounded off a magnificent individual display by making it 3-0.
Sassuolo, which is now in its third season in the top league of Italian football, seems to have really grown as a team. Star players like Zaza have been replaced by equally good players like Defrel, and men of the calibre of Missiroli and Sansone just keep on getting better. The team is ready to take on anybody, even the big clubs, and has achieved some extremely satisfying results.
Sassuolo has beaten Napoli, Lazio and Juventus at the Mapei Stadium and drawn against Fiorentina. Away from home it has drawn against Roma and made life extremely difficult for A.C. Milan.
In its first season in Serie A in 2013-2014, the black-and-greens were in seventeenth place after the first twelve games of the season having conceded a total of twenty-eight goals (seven in the game against Inter Milan alone). One year later the team was in twelfth position after the twelfth game of the season having conceded sixteen goals, including another seven against Inter.
This year with just three games to go to the halfway point in the season, Sassuolo is in sixth position in the league (two points ahead of A.C. Milan and just one behind Juventus) having conceded just fourteen goals. It has the fourth best defence in the league. These constant improvements by Di Francesco's men prove that, after a few seasons of ups-and-downs, the right choices have been made.
The fact the team is now so solid means it has already reached 26 points in this year's league after just 15 matches, whereas just two years ago it took 34 matches to win the same number of points.
Another of the team's distinctive traits is the fact that so many Italian players score goals. A tradition that is being reasserted again this season. Of the 19 goals Sassuolo has scored so far in the league, 17 are by Italian players. Magnanelli, Missiroli, Politano and Pellegrini have all scored one, Berardi and Acerbi have two apiece, and Floccari, Sansone and Floro Flores have each scored three. Of the three foreign players in the squad, only Defrel has made the scoresheet with two goals to his name.
"Green for Italy" was the headline of the Italian sport newspaper *Gazetta dello Sport* on Tuesday, 8th December, summing up this Sassuolo team, whose "highest echelons" are entirely "made in Italy" and whose ideas are quite clear.
Results that can be seen not just by taking a look at the league table but also by studying the club's books, as the Managing Director, Giovanni Carnevali, emphasised: "We have managed to balance the books after years of investments; we are now determined to keep on spending just the right amount while prioritising talented Italian players".
Although Eusebio Di Francesco would (quite rightly) rather not sing his players' praises too soon, we can expect plenty of other great achievements from now until the end of the season. The last outsider to win the Italian league championship was Verona back in 1985. It is hard to imagine Sassuolo repeating that exploit, but dreaming costs nothing and is… fantastic.

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BOLOGNA FIERE CERSAIE

MAPEI, THE **MOST RELIABLE TECHNICAL PARTNER** FOR CERAMICS AND BUILDING

The most significant statistic from this year's Cersaie, the International Exhibition of Ceramic Tile and Bathroom Furnishings which ran from 28th September to 2nd October in Bologna (Italy), was the attendance of more than 101,000 visitors. As usual, the commercial side of the show was complemented by events catering for the world of architecture, interior design, installation and end consumers.

There were a total of 872 exhibitors at the 2015 show, including 319 foreign companies from 39 different countries (1 more than last year due to the addition of Sweden). At the same time the event attracted a total of 101,809 visitors (+0.8%), including 48,231 international visitors, 1,632 more than last year (47.4% of the total). The numbers of Italian visitors remained stable at 53,578.

These figures confirm Cersaie's status as a key venue for developing global business in the ceramic floor and wall and bathroom furnishing sectors and its important function as an engine for international trade.

Among the side events there was the "Tiling Town" initiative, featuring a complex ceramic installation project performed by Assoposa (Italian Ceramic Tile Layers' Association) Master Tile Layers, a demonstration by young tile layers from the vocational school of Silandro (Northern Italy), and demonstrations on new installation and laying techniques coordinated by Assoposa.

Assoposa was formed to regulate the tile layers' profession and provide training and qualification courses for those working in the sector. Mapei has always been a keen supporter of Assoposa in their quest to acknowledge the quality of work carried out by tile layers. As Technical Partner of Assoposa, Mapei supplies adhesives and accessory items for courses on installing ceramics, provides technical support and a consultancy service and takes part in debates on the subject with opinions and advice from experts and technicians.

THE MAPEI WORLD AT CERSAIE 2015

Mapei was present again this year at Cersaie, proposing rapid installation solutions for bonding ceramic tiles, systems for areas in the food and beverages industry and certified and eco-sustainable products for bonding all types of tiles, including the latest generation of tiles, large tiles and thin tiles.

In the Mapei booth in Pavilions 25-26, a number of islands were strategically located to tell the story of the Company's mission, products and systems, and explain Mapei's commitment and contribution in the construction of various pavilions and facilities for Expo Milano 2015.

INCREASINGLY GREEN ORIENTED

For the last two years, Mapei's traditional attention to the sustainability of products has been focused on its fight against "green washing", trying to enhance its transparency on environmental sustainability by creating an *ad hoc* function dedicated to the evaluation of environmental impact during the whole life cycle of products.

In 2013 Mapei joined the "Public Call for the Analysis of the Carbon Footprint during the Life Cycle of Consumer Products", promoted by the Italian Ministry of the Environment and the Protection of the Land and Sea.

Mapei, thanks to this experience, got tools and competences to measure the environmental impact of its products during their whole life cycle.

Applying the Life Cycle Assessment (LCA) methodology, the environmental impacts of many Mapei products have been evaluated by LCA, first of all KERAFLEX MAXI S1 ZERØ. The total amount of CO_2 has been measured evaluating the emission of greenhouse gases during the whole life cycle of this adhesive.

The CO_2 emitted by KERAFLEX MAXI S1 ZERØ has then been compensated by CO_2 credits certified by third-party bodies, for environmental and social projects: the product obtained the "Carbon Neutrality". KERAFLEX MAXI S1 ZERØ is the first adhesive for ceramic flooring with zero climate change effect.

But Mapei's commitment to environmental sustainability doesn't stop there. Many certified products and technologies contribute to the health and well-being of both

applicators and final users. The voluntary label EMICODE, issued by GEV (as other voluntary labels such as Blauer Engel, M1, etc.) certifies Mapei products as "very low VOC-emission products" which can guarantee a good indoor air quality.
Moreover, Mapei products can contribute to important credits in green programs for eco sustainable buildings, such as LEED, BREEAM and DGNB.

FAST-TRACK READY TECHNOLOGY FOR RAPID BONDING OF FLOOR AND WALL COVERINGS

Client satisfaction and market demands are what push Mapei to develop and produce new products and new technologies. Products developed with Fast-Track Ready technology have been designed to meet the demands of those clients who, in order to reduce costs and to keep their businesses open, need to adopt systems that allow floor and wall coverings to be repaired or replaced very quickly in shops and restaurants.
The products on offer from Mapei highlighted at Cersaie 2015 meet the needs of numerous site conditions and are suitable for a vast range of materials.
The rapid system for bonding ceramic flooring consists of rapid-drying screed mortars, adhesives, and grouts for joints.
The advantage of using products with Fast-Track Ready technology is that they dry rapidly so that floors may be open to foot traffic in just a few hours, reducing the inconvenience of areas being inaccessible.
The rapid products with Fast-Track Ready technology presented at Cersaie were ECO PRIM T, ULTRACOLOR PLUS, ADESILEX P4, NOVOPLAN MAXI, ULTRALITE S1 QUICK, MAPELASTIC TURBO, PLANITOP SMOOTH & REPAIR, PLANITOP FAST 330, ULTRALITE FLEX, MAPECEM PRONTO, TOPCEM PRONTO, NIVORAPID, GRANIRAPID, TOPCEM, MAPECONTACT RELEASE, ELASTORAPID, MAPEFIX EP 470 SEISMIC, MAPEFIX VE SF, PLANIPATCH, MAPELASTIC AQUADEFENSE + MAPEBAND, ULTRABOND MS RAPID, MAPELASTIC AQUADEFENSE and MAPETHERM FLEX RP + MAPETHERM NET.

VARIANTE DI VALICO. Mapei supplied products for building the Base Tunnel within the Variante di Valico project. 140.000 m^2 large-size ceramic tiles were bonded with KERAFLEX MAXI S1.

MAPEI: TECHNICAL PARTNER FOR MAJOR WORKS

MAPEI took part in construction work on the Variante di Valico, a massive infrastructure project to upgrade a stretch of the A1 Motorway running through the Apennine Mountains between Bologna and Firenze, by supplying the company's products, from the initial excavation work right up to the final internal finishes in the tunnels, including adhesives to bond around 140,000 m^2 of large, compact porcelain tiles (1x1 m e 1x3 m) to cover the inside wall of the Base Tunnel.
This work required an adhesive that was extremely flexible with high performance characteristics. Mapei engineers opted for KERAFLEX MAXI S1 for its easy application characteristics and for the excellent hold provided for the tiles bonded to the vertical and curved surfaces of the tunnel. KERAPOXY CQ two-component epoxy grout was used to grout the tiles. This type of grout guarantees durability, cleanability and resistance

IN THESE PICTURES. The Mapei technicians provided visitors with plenty of information about products. In the picture above, some Sassuolo football players visiting the Mapei booth while some guests enjoy an informal match.

to chemicals, mould and bacteria, thanks to the use of BioBlock® technology.

INSTALLING WOOD: ECO ADHESIVES FOR QUALITY LIVING

More and more retailers of complementary products for ceramics are proposing adhesives and solutions for installing wood. Mapei is specialised in this sector and today offers a wide range of products for installing, protecting and maintaining wooden floors. The products from the ULTRABOND ECO line have been specially formulated to respect the environment and the health of floor installers. Mapei adhesives have very low emission level of volatile organic compounds (VOC) and are certified by GEV and Blauer Engel. ULTRABOND ECO adhesives are made from silylated polymers and are solvent-free. They are suitable for installing all types of wood, including over existing flooring.

The wide range of products for wood also includes protection and maintenance systems for wood.

The water-based products from the ULTRACOAT line with no N-Methyl-2-pyrrolidone (NMP) solvent are certified and easy to apply. This line of products includes undercoats, lacquers, oils and waxes.

ULTRACOAT products have been tested at the German T.F.I. Institute and have been declared compliant with the most severe European standards for resistance to chemicals, deformability and adhesion.

ULTRATOP LOFT: MATERIC DECORATING BY MAPEI

For interior decorating Mapei proposes ULTRATOP LOFT trowel-applied cementitious paste with a modern, refined effect for indoor areas. There are two products in this line: ULTRATOP LOFT F and ULTRATOP LOFT W. The first product has a coarse texture while the second one is finer. They are used to meet the requirements of the more sophisticated clients and the more creative designers.

The next edition of Cersaie will take place from 26th to 30th September, 2016.

MAPEI TECHNOLOGIES FOR BONDING MARBLE AND NATURAL STONE

Marmomacc, the most important international event dedicated to marble, granite and natural stone, manufacturing technologies, design and training this year reached the milestone of 50 editions, held at Veronafiere from 30th September to 3rd October. The event has attracted 67,000 specialist operators, 3% more than visitors at last year's show. The international character of the event expanded even further, with international attendance up to 57% of total (+9%) from 150 countries, 5 more than in 2014. Marmomacc confirmed its status as the global centre for marble, granite, natural stone, machinery and processing technologies, thanks to the presence of 1,524 companies (occupying a show area of more than 77,000 m²), including 936 from 55 countries - with debuts by Albania, Bosnia and Herzegovina, Cameroon, Venezuela and Georgia.
There was also a positive performance as regards organised delegations, which this year came from 55 States - 11 more than the last edition. Marmomacc set a new record for the number of buyers arriving from Europe (Germany and United Kingdom in particular, followed by Spain and France), with a significant increase in visitors from the United States, Canada, India and Australia, as well as Israel, Poland and Iran; figures for incoming operators from Turkey, Russia, Brazil, China, Morocco and Egypt were consolidated.

MAPEI SYSTEMS FOR INSTALLING STONE ROAD SURFACES

As the world's leading manufacturer of adhesives and chemical products for the building industry, Mapei exhibited at Marmomacc its systems, technologies and accessory items for installing stone.
Eco-sustainable products, such as KERAFLEX MAXI S1 ZERØ adhesive with zero climate-change effect, the MAPESTONE system for installing stone floorings, and rapid products developed with Fast-Track Ready technology, were showcased on the stand.
As for the installation of stone road surfaces, the products from the MAPESTONE system have been developed to maintain their durability over the years and to resist the stress of cars and heavy goods vehicles, deicing salts and freeze-thaw cycles. This system includes pre-blended cementitious products with excellent mechanical and physical-chemical characteristics. MAPESTONE TFB 60 is recommended for screeds and installing stone, while MAPESTONE PFS 2 and MAPESTONE PFS PCC 2 are used to grout the joints between the stones. When these products are used in combination they form a strong structure that remains durable over the years, and which is resistant to wear and deterioration, often the cause of accidents.

STONE INSTALLED ON THE SYMBOLIC WORKS OF EXPO 2015

Mapei chose to participate at the Universal Exposition of Milan and interpret the main theme "Feeding the Planet, Energy for Life" by providing sponsorships and supplying products to install stone around the base of some symbols of Expo 2015. Mapei sponsored the Consorzio Orgoglio Brescia building consortium in the construction of the Tree of Life. For this iconic symbol of Expo 2015, made from wood and steel and located in the centre of Lake Arena, Mapei supplied adhesives and waterproofing products to install the stone materials on the base and waterproof the surfaces on which the structure stands.
Going into detail, the porphyry and Botticino marble slabs of the base were installed using ELASTORAPID two-component, high performance, highly deformable, cementitious adhesive with no vertical slip, which is also quick-setting and drying rapid-drying thanks to the Fast-Track Ready technology.
Mapei has always been a keen sponsor of cultural and artistic projects and chose to supply adhesives and grouts used to install the Versilys marble base of the only official work of art symbolizing the Milan Expo: the "Seme dell'Altissimo" by Emilio Isgrò. This highly-valued, fine grey marble from Monte Altissimo (Central Italy) was bonded with KERAFLEX MAXI S1 high-performance deformable cementitious adhesive with no vertical slip, extended open time and Low Dust technology. The marble joints were then grouted with ULTRACOLOR PLUS high performance grout with mould-resistant Bio Block® technology and water-repellent Drop Effect® technology.
The next edition of Marmomacc will take place in Verona from 28th to 1st October, 2016.

The Mapestone system was highlighted at Marmomacc trade fair, showing some of the building projects where it was successfully used, such as the Strada Maggiore in Bologna. alto).

A COMPREHENSIVE RANGE OF TECHNOLOGIES FOR THE CONSTRUCTION WORLD

Saie, the traditional trade fair for the building industry organised by BolognaFiere this year from the 19th to the 22nd of October, brought the 50+1 edition (the first one after last year's fiftieth anniversary edition) to an end with good results from its new format aimed at specific themes, which this year was dedicated to the Smart House concept.
With 66,630 visitors and more than 500 events (meetings, seminars, workshops and conventions) presented by highly qualified speakers, at which more than 10,000 professionals from the sector took part, the trade fair showed how it has the knack of interpreting and anticipating the changes that are required in this sector.
The President of Confindustria (Confederation of the Italian Manufacturing and Service Companies), Giorgio Squinzi, declared during his inaugural speech for Saie 2015 that "Saie has been increasingly transformed over the years into an instrument of industrial policy for our sector (…) which has been going through a period of deep crisis. This means we need to change the situation, but we must do it intelligently and honestly".

BETTER CONSTRUCTION THROUGH INNOVATIVE TECHNOLOGIES

In this edition of Saie, focused on themes such as redevelopment, energy savings and recycling – with particular focus on eco-sustainable solutions and efficient energy use – Mapei exhibited all its highly renowned experience by presenting a vast range of its most technologically advanced products.
As a qualified partner for construction companies, Mapei's large display area in Pavilions 25-26 offered a presentation of solutions for the various types of interventions carried out in the building industry: from products for structural strengthening work to systems for renovating run-down buildings; from systems with Fast Track Ready technology to carry out building and redevelopment work quickly, to waterproofing systems for areas from below ground level right up to the tops of roofs.
The Mapei stand also displayed admixtures for concrete, the MAPESOIL system for laying synthetic grass playing fields, MAPETHERM FLEX RP to complete the thermal insulation line and, last but not least, solutions to create resin and cementitious floors.

STRUCTURAL STRENGTHENING

The Mapei products showcased at Saie 2015 have been designed to prevent render and buffer walls falling during the initial phases of an earthquake, thereby increasing the time available for people to evacuate buildings.
MAPEWRAP EQ NET, a kind of anti-seismic "wallpaper" which is bonded to walls using MAPEWRAP EQ ADHESIVE, helps distribute dynamic stresses more evenly in internal and external areas.
The spotlight at Saie was also on PLANITOP HPC FLOOR, a high performance, fibre-reinforced cementitious mortar: a layer just 3 cm thick helps strengthen floor slabs without having to embed an electro-welded mesh, typically used in conventional systems.

MAPEI WATERPROOFING PRODUCTS

Amongst the waterproofing solutions proposed at Saie 2015, the highlighted products were MAPELASTIC TURBO and AQUAFLEX ROOF PLUS, specially designed for waterproofing terraces, balconies, roofs and external structures.
MAPELASTIC TURBO is a two-component, elastic cementitious mortar with Fast Track Ready technology: suitable for use all year round at temperatures as low as +5 °C, it is characterised by its high resistance to chemical attack from de-icing salts, sulphates, chlorides and carbon dioxide.
AQUAFLEX ROOF PLUS is a ready-to use, flexible waterproofing membrane with no volatile organic compounds (VOC), in compliance with the South Coast Air Quality Dept., and is also resistant to UV rays. It is recommended for waterproofing roof terraces and new and old flat roofs.

THE MESSAGE OF THE "LAUDATO SI" ENCYCLICAL ON LOOKING AFTER OUR COMMUNAL HOME

The environment, sustainability, building efficiency and cities were at the focus of Saie Smart House 2015. The opening conference on these main issues featured a speech by His Eminence Monsignor Marcelo Sánchez Sorondo, an academic, philosopher, Catholic bishop and Argentinian theologian, also renowned for being the Chancellor of the Pontifical Academy of Sciences and Pontifical Academy of Social Sciences.

In his speech entitled "The message of the ***Laudato Si'*** encyclical on looking after our communal home", Monsignor Sorondo mentioned that St Francis spoke about "integral ecology, which means developing the Earth according to its real possibilities in relation to the common good of human beings".

"It is not just a matter of respecting the environment, but also a social issue and question of justice. Ecology means keeping our home in order, something Pope Francis was keen to emphasise in his encyclical. The issue is both religious and scientific: in the former case it is an appeal to the teachings of St Francis and the importance of respecting the surrounding world, on the other hand it focuses on scientific matters, like the importance of reducing our consumption of fossil fuels and re-envisaging our cities along more inclusive lines".

This is an excerpt from Monsignor Sorondo's thoughts on the Pope's latest encyclical about respecting the environment and which, for this very reason, is called Laudato Si', something St Francis often repeated in his Canticle of the Creatures, which praises the Lord for all the wonderful creatures he has created.

It is also available in the AQUAFLEX ROOF PLUS HR version, characterised by its high solar reflectance and high thermal emittance.

PURTOP 1000 pure polyurea waterproofing membrane, which is part of the PURTOP ROOF SYSTEM, is also recommended for waterproofing roof gardens and inverted roofs, thanks to its excellent tear strength.

ENHANCING THE VALUE OF PUBLIC AND LISTED BUILDINGS

The products from the MAPE-ANTIQUE line provide a wide range of binders, mortars and renders to upgrade buildings. They are cement-free, lime and Eco-Pozzolan-based products with the same characteristics as mortar used in the past and, thanks to their special formulation, they are compatible with any type of original masonry.

To renovate and repair brick, stone, tuff and mixed load-bearing and buffer walls in existing buildings, including those in listed buildings, Mapei proposes the MAPEWALL line, made from natural hydraulic lime and reactive inorganic compounds. MAPEWALL mortars are eco-sustainable and certified EC1 R Plus by the GEV Institut for their very low emission level of VOC.

INTERIOR LIVING

For interior decorating Mapei proposes ULTRATOP LOFT one-component trowellable cementitious pastes with a modern, refined effect for indoor areas. There are two products in this line: ULTRATOP LOFT F and ULTRATOP LOFT W. The first product has a coarse texture while the second one is more fine and they are used to meet the requirements of the more sophisticated clients and the more creative designers.

To create design finishes, ULTRATOP LOFT may be applied not only on floors, but also on walls and fittings to give rooms an increased sense of continuity.

TRANSPARENT SEALANTS

A new product featured at Saie 2015 was MAPEFLEX MS CRYSTAL, the latest addition to the sealants family. Its crystalline transparency makes it ideal for sealing and bonding on all surfaces in the building industry, and is particularly recommended for bonding glass and mirrors without altering their appearance.

When used for sealing, it may be applied in cracks and gaps and in fillet and expansion joints subject to movements of up to 20%.

ADMIXTURES FOR CONCRETE

This year Mapei made its concrete technology available for the smaller consumer. In fact, its products for concrete and screeds are now available at retailers for all those who wish to obtain the best, even from the smallest of jobs.

Showcased products included the traditional MAPEFLUID N200 super-plasticising admixture and DYNAMON SX acrylic super-plasticiser, until now used only in concrete mixing plants and by large building companies.

MAPEI SYSTEMS FOR SPORTS STADIUMS

Mapei offers a truly vast range of products and solutions for this sector, with highly innovative systems and solutions to build and maintain indoor and outdoor sports stadiums and structures.

Amongst Mapei's most prestigious recent projects is the redevelopment work carried out at the Luigi Ferraris Stadium in Genoa (Italy), with the supply of the MAPESOIL system to drain the playing surface, which now complies with the highest quality standards of the top league in Italian soccer.

Within the framework of a more far reaching project to upgrade Italian football stadiums there is the restyling work on the Mapei Stadium in Reggio Emilia, the home ground of Sassuolo team's Serie A matches, which will also be used for the UEFA Women's Champions League final in May 2016.

The next edition of Saie will be held, as always, at BolognaFiere from the 19th to the 26th of October, 2016.

Some pictures of the ExpoTunnel Convention held at the Leonardo da Vinci Museum of Science and Technology in Milan on the 8th and 9th October 2015.

EXPOTUNNEL CONVENTION
INNOVATION, SYNERGY, SAFETY AND SUSTAINABILITY

Representatives of Italian excellence in infrastructure work got together in Milan during the ExpoTunnel Convention which took place on the 8th and 9th of October 2015 at the "Leonardo da Vinci" Museum of Science and Technology. The meeting was held to discuss their experiences and exchange information and was organised by Conference Service, a company from Bologna that organises trade fairs, events and congresses. The event was organised in collaboration with Società Italiana Gallerie (the Italian Tunnelling Society) which had organised a convention on "Using Ground and Underground Wisely to Avoid Environmental Disarray".

The Trade Show area of the convention came to life in the Museum cloisters, with leading companies from the sector taking part: these included Mapei, represented by specialist business unit UTT (Underground Technology Team). During the two-day ExpoTunnel Convention, Mapei UTT presented innovative systems to be used in the waterproofing field, along with its development work of high quality finished products: showcased projects included work carried out on the Red Line North Underground metro system in Doha (Qatar), and the Monte Ceneri Base Tunnel in Switzerland.

The employed Mapei technologies and products helped to guarantee that the schedule of this important international project was maintained, an important aspect of their financial and performance implications, with particular care being taken on the sustainability of the infrastructures and environmental safeguard.

The underground constructions sector is going through a period of rapid expansion, particularly in those countries where the modernisation of infrastructures is a key factor in the overall economic development.

One of the focal points at ExpoTunnel 2015 was the importance of the level of excellence provided by a number of Italian companies – with Mapei amongst them – that helped make the Universal Exposition in Milan possible.

Mapei was involved in work carried out on a number of infrastructure projects that helped the improvement and realization of the new Milan urban system. One of them was the system of bridges and viaducts for Expo 2015, an organic project inserted into the urban context of the city that created the so-called "Gateway to Milan". Apart from the infrastructure works, underpasses and the tunnels, Mapei played an important role in the construction of the walkways throughout the Expo 2015 site, as well as work carried out to build the national and corporate pavilions and clusters.

Mapei also worked on a number of projects in the Milan area, one of which was the construction of the M5 Metropolitan Railway Line through its UTT division.

Amongst the products supplied for this intervention were DYNAMON SR 1 admixture for concrete and MAPEPLAN TU S waterproofing membrane. Mapei Underground Technology Team also supplied specialised technicians during the tunnel waterproofing works.

The Convention was the perfect occasion to announce the third edition of ExpoTunnel, the Underground Technologies and Major Works Exhibition, to be held in Bologna from the 19th to the 21st of October 2016.