

la Betoniera 03

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twenty15

**/ Strong in Italy
to compete all over
the world**

- / Tbm "Barbara" has completed the first tunnel in Sicily**
- / Ingula: "Load shedding" will soon be just a memory for fifty million South Africans**
- / Welcome to Hong Kong, the Fragrant Eastern Harbor**

Ia Betoniera 03 · 2015 colophon**owned by** Csc, via Trieste 76 · Ravenna**editor in chief** Mara Cavallari**editors** Cristina Bolognesi,
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of Gökböl, the vessel that sank in front
of the Ravenna harbor in December 2014
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**Cmc has chosen to side with
the environment** with magazine
"Ia Betoniera". Indeed, the magazine
is printed on recycled, environmentally-
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while the remaining part is pure Fsc cellulose
from sustainable forests where wood
is processed preserving the ecosystem
to the fullest and implementing a controlled
cutting and reforestation policy. All this,
together with totally chlorine-free and
acid-free cellulose whitening, means
that the environment is fully respected.

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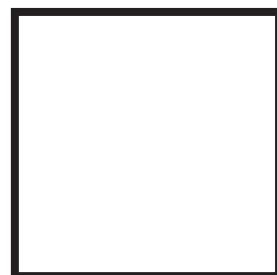
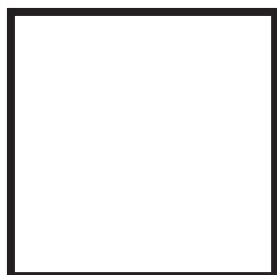
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the nationals!**Follow us**



01.a



Large projects: the crisis is not over yet

01.a Mozambique,
rehabilitation of the
Massingir dam.

01.b Alberto Morigi,
Finance Administration
& Control Management.

01.c An aerial view
of Marina di Pisa.

On September 10, Cmc's Board of Directors approved the consolidated financial statements at 30 June. A comparison of these data with figures at 30 June 2014 shows that the value of production has increased by € 89.1 million. In particular, revenues from the construction business have gone up by € 86 million, from € 485 million to € 571 million.

The Ebitda has recorded a € 16.5 million increase, from € 53.4 million to € 69.9 million. Profitability has gone up, with an Ebitda margin of 11.8%, as against 10.6% at 30 June 2014. The net profit is pretty much in line with that recorded at the end of the first six months of 2014. As to new contracts, there has been a € 78 million decrease, in spite of new important projects both in Italy and abroad, including a new country - Namibia. A comparison of the main economic, financial and capital ratios at 30 June 2015 with those at 31 December 2014 shows that orders have gone up to € 3,141.5 million as against € 2,914.0 million at 31 December 2014 and € 3,183.5 at 30 June 2014, ensuring significant production coverage for the next two years. Finally, the adjusted net financial position, has increased by € 69.6 million, from € 464.2 million at 31 December 2014 to € 533.8 million at 30 June 2015, due to the seasonality of some projects, as well as to the acquisition of the shareholdings previously held by a minority shareholder in various projects in Italy. The ratio between the adjusted net financial position and the Ebitda has increased slightly from 3.79x at 31 December 2014 to 3.84x at 30 June 2015.

Italy In Italy, which accounts for 49% of our order book at 30 June 2015, the economy seems to be gaining some momentum, after the decline recorded in 2014. According to Istat (the Italian National Institute for Statistics), Gdp for the first quarter of 2015 has grown by 0.3% as against the previous quarter and by 0.1% as against the first quarter of 2014. Again, according to Istat, Gdp for the second quarter of 2015 has recorded a 0.3% increase as against the first quarter of 2015 and a 0.7% increase as against the second quarter of 2014. Istat forecasts suggest that Gdp will grow by 0.7% in real terms in 2015, by 1.2% in 2016 and by 1.3% in 2017. Investments are expected to grow by 1.2% in 2015.

In the medium term, the infrastructure development programme announced by Italian Prime Minister Matteo Renzi includes a number of large projects, with several areas of possible intervention having already been identified. In the short term, however, the programme implementation is being slowed down by the current review of the legislation on public procurement. The new law, which has already been approved by the Senate and is currently being discussed by the Chamber of Deputies, involves important changes seeking to simplify the existing procedure, so as to avoid

the unnecessary costs associated with the frequent legal disputes and improve transparency and project quality. While awaiting approval of the new law on public procurement, public authorities have refrained from issuing new calls for tenders for large projects, with the exception of the Brennero project.

Also, there have been some important changes in the top management of Anas (the Italian National Roads Agency), our main customer, including the appointment of the new President, Gianni Vittorio Armani, and the replacement of several senior positions. As a consequence, over the last few months, Anas' activity has been significantly less intense.

Despite this difficult situation, we have been able to retain our turnover and orders share, as well as to improve our profits by seizing the opportunity to purchase some shareholdings held by minority shareholders in existing projects and choosing to tender for contracts in high-profit market niches, such as the light railway and underground railway sectors. The current order book will allow for significant revenue rebalancing over the next two to three years, following a switch from general contractor projects to traditional contracts with more frequent work progress reviews/certificates (monthly) and the consequent improvement of the medium-term net working capital. Also, we will no longer tender for governmental concessions. In fact, we intend to pull out of the existing ones. In particular, our exit from the Sat concession was finalized at the beginning of September, while our exit from the Tem concession is expected to take place in 2016.

Rest of Europe While we do not see short-term opportunities in Eastern Europe due to profitability levels below our standards for international projects, we are currently focusing on Northern Europe, especially **Scandinavia**. Further opportunities could derive from new sub-sectors, such as micro-tunneling, or from focusing on more profitable underground projects or hydroelectric projects.

Mediterranean Region and Middle East

This area offers significant opportunities for international construction companies due to the lack of infrastructures and local competitors. However, the current political instability and the recent drop in oil prices demand a very careful approach. Efforts to increase our presence in the region have resulted in the acquisition of a new major project in **Lebanon** in 2014. In this country, better economic results and lower oil prices have driven Gdp up by approximately 2% in 2014, as against 0.9% in 2013. This situation, combined with increasing international aid, could lead to more business opportunities in the near future.

Another country in which we are getting a positive business feedback is **Egypt**, where we are about to finalize negotiations with a contracting entity controlled by the local Government for the construction of two road tunnels underneath the Suez Canal. Gdp in 2015 is forecast to grow between 2.2% and 4.0% (World Bank), despite the effects of the prolonged period of political transition.

As a consequence of the temporary and partial loosening of international sanctions, we expect **Iran** to become a significant potential source of new orders. Forecasts for 2015, with low oil prices and a marginal decline in the volume of oil exports starting in July 2015, suggest that the economy will expand by 0.6% (World Bank). Last, we expect significant tendering activity in **Saudi Arabia** and in the Gulf States, where the low oil price does not appear to have produced any real effects on the rather wide program of infrastructure investments. In Algeria, we are focusing on the completion of our project, but we do not see any potential for new projects at the moment, as the country is suffering from the low oil price. In **Libya**, we are part of a consortium for the construction of a coastal motorway, but we do not expect to start the project in the short term, due to the current political situation, and therefore we have not included it in our medium-term forecasts.

Southern and Eastern Africa Kenya, one of our most recent business targets, is showing a 6% Gdp growth in 2015 from 5.4% in 2014 (World Bank). In particular, the Government has announced a significant program of dam construction, which could represent an interesting opportunity for us.

In **Mozambique**, real Gdp is expected to grow by 7.2% per year during the period 2015-2019 (The Economist), even though low raw material prices constitute a threat to the boom of investments in the mining and oil sectors. In order to best cope with the expected additional delay in the infrastructure construction program for the oil sector, we have downsized our local presence, with significant savings, and have worked to reduce our exposure with public sector customers. Our Massingir dam project is performing well, generating a positive cash flow, while amounts receivable at 30 June 2015 have decreased by approximately 10% as against 31 December 2014.

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continued from page 03

New projects will focus on private customers or contracts financed by supranational institutions. In **South Africa**, we expect a positive growth trend, despite the low oil prices and the problems linked to energy scarcity, low raw material prices, and the expected gradual tightening of the monetary and fiscal policies. Our large project in the area is almost complete and our customer Eskom has allocated some € 80 million on account of disputed claims, which were partly paid up during the first six months of 2015. The recent devaluation of the Rand has not affected our results, as part of our consideration is settled in Euros and the Rand is normally used to pay for local purchases. Closely dependent on the South African economy, **Swaziland** is another country in the region that offers new business opportunities, as proven by the negotiations that are currently taking place for the development of a new shopping center.

Namibia, which is less exposed to the volatility of raw material prices, is experiencing a period of constant growth, with Gdp increasing by more than 5% a year from 2009. We expect to expand our presence in the country, with projects for private customers, such as the industrial plant acquired in the first quarter of 2015. In **Angola**, the Government, concerned for the drop in oil prices, has slowed its investments in large infrastructural projects, while awaiting to solve its internal deficit problems. Our operations for the construction of the Luanda-Soyo highway, which restarted in July 2014, saw Sace, the Italian export credit agency, supply a guarantee for a € 164 million loan to the Angolan Ministry of Finance for the completion of the project. Despite this, the Government has decided to limit its yearly expenditure on the project.

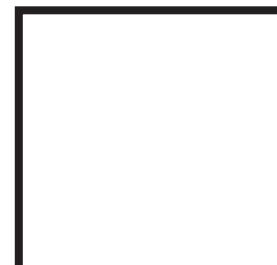
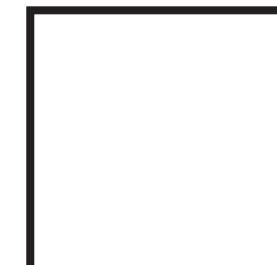
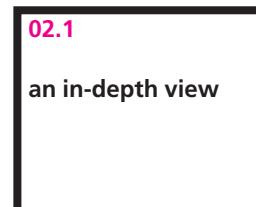
Asia In Asia, we are working on projects in **Singapore**, in the Shanxi province in **China**, in **Nepal**, and in **India**. In Singapore, where a 2.5% Gdp growth is expected in 2015 (Ing), we are successfully completing the construction of two sections of the local underground and we are now in a better position to take advantage of the underground investment program announced by the local Government. In the Shanxi province, real Gdp grew by 9.7% in 2014 (Deutsche Bank), although a lower growth rate is expected for 2015. The recent devaluation of the Renminbi has had limited effects on our figures, based on a Eur/Chy contractual exchange rate of 7.0 as against a current exchange rate that has reached approximately 7.1. In addition, the majority of the local currency is used to pay for local purchases.

The Chinese Government continues to invest in infrastructural projects as a countercyclical weapon, while the deflationary effect produced by the current monetary policy could lead to lower raw material costs. In Nepal, production activities have restarted after the terrible earthquake that hit the country in April 2015. The overall effect on our figures of the temporary suspension has not been significant. In India, we are digging a tunnel for a hydroelectric plant. But the country is no longer strategic for our commercial development.

North and South America In the **United States**, we operate through two companies: **LMH** in Boston (wholly-owned, acquired in 2011), and **Di Fazio Industries** in New York (33% shareholding, acquired in 2013, with a call option for the remaining 67% in 2017). Economic indicators in the important sectors in which we operate are showing constant growth rates. MassBenchmarks indicates a Gdp growth of 1.4% for 2014 and 1.7% for 2015-2016. The local Government is undertaking significant investments in transport and hydraulic infrastructures as part of the Local Development Program.

Di Fazio operates in the "Five Boroughs" of New York, where the economy is growing and investments in infrastructures are an important part of the political agenda. We are assessing the possibility of tendering for large projects in these sectors, in JV with carefully-selected partners and the opportunity to expand in other countries such as **Canada**, with offers for underground railway projects. In South America, we are working on a hydroelectric project in **Chile**, in cooperation with Hochtief.

The acquisition of Hochtief by Spanish company Dragados has limited the possibility of creating new business partnerships and we are consequently assessing alternative possibilities to expand our presence in South America, with a particular focus on **Colombia** and **Ecuador**.



Bond: a year after

In a world where everything changes and where we are all forced to reckon with the economic crisis, how is the cooperative world adapting and what new financial instruments is it using? And what do the market and investors think of these new financing methods? These were the topics addressed during the workshop "New financial instruments for the development of cooperatives", held by Cmc during the traditional Rimini Meeting at the end of August.

The debate, moderated by **Andrea Cabrini**, Editor-in-Chief of Class Cnbc and Deputy Editor-in-Chief of MF-Milano Finanza, investigated the relationship between the cooperative model and the capital markets, with the contribution of a number of exceptional speakers.

Roberto Macri Cmc's General Manager, **Giampiero Bergami** Head of Capital Markets and Investment Banking Italy Network for Unicredit, **Gabriele Vianello** Head of Corporates for Global Markets Italia Bnp Paribas, **Andrea Mandel Mantello** Chief Executive Officer and Partner at Advicorp Plc, **Francesco Confuorti** Chairman and Chief Executive Officer at Advantage Financial.

Roberto Macri pointed out that Cmc was the first cooperative in the world to resort to the capital markets - an experience that can be useful also for other cooperatives, traditionally relying on more conventional

sources of financing. Macri also remarked that it was thanks to the issue of the € 300 million bond that he was able to undertake the optimization process that led to the creation of a more efficient company that can now compete with top international players and rely on a financial model on par with the best company cases. More in general, the workshop indicated that Italy remains a highly-attractive and valuable market, where SMEs play a key role, especially those with a strong export inclination. The debate then focused on the attractiveness of the cooperative model for international investors, concluding that this model is able to offer a guarantee of stability and increased participation in the company's business by all shareholders, as opposed to a classic private equity investment, having a generally more speculative approach.

Positioning and ranking on the market, economic and financial performances, the reference market with related growth prospects remain the key guidelines used by investors to choose their pipeline for possible investment targets.

This topic in particular was addressed, directly from London, by **Tyler Wallace**, Head of Corporate Credit for Mediterranean Bank.

A recording of the entire conference can be found on the Rimini Meeting YouTube channel.



02

02.2
an in-depth view



02.2.b



Strong in Italy to compete all over the world

From 17 to 19 September, The Palazzo dei Congressi (Conference Hall) in Ravenna hosted the conference "The internationalization of Italian companies in the construction industry". The main goal of this three-day event was to create a real opportunity for construction companies wishing to work on foreign markets and exchange ideas and information on various issues, from training and contract management to existing policies regulating the construction industry in other countries.

"Over the last few years, which have been characterized by an unprecedented crisis on the Italian domestic construction market, foreign markets have started to play a crucial role for Italian companies. In 2014 our companies abroad have recorded a growing trend for the eighth consecutive year, both in terms of turnover and as regards the number of new job orders. The Italian construction industry is one of the most important, advanced and - I want to emphasize this - most largely appreciated ones in the world". With these words **Gerardo Biancofiore, The Chairman of Ance's foreign SMEs** (Ance is the Italian acronym for the Italian Association of private construction contractors), started his speech during the first session of the conference. According to Ance's data, Italian enterprises have reached a far-reaching and close-knit presence on international markets: indeed, they are now operating in approximately 90 countries over the 5 continents, recording a constantly-increasing foreign turnover, currently amounting to over € 100 billion. The key word for SMEs is "aggregation": "The decision to expand abroad is one more reason to encourage small and medium-size enterprises to join forces, so as to become more competitive on the international markets as well as become competitive players even at market levels to which access had so far been difficult. Internationalization, however, means, above all, maintaining a strong presence in Italy - otherwise, we will become foreign companies. It is crucial for the domestic market to recover, because our country needs the construction industry".

According to **Massimo Matteucci, President of Cmc** (a group that can boast a deeply-rooted presence on foreign markets), "it can certainly be said that our decision to expand abroad was not aimed at increasing profits or reducing costs. Rather, it was driven by the need to find new markets. Talking about the internationalization of enterprises is even more meaningful today than it was in the past, simply because we live in a globalized economy and, therefore, by definition, an economy that has no geographical borders".

The analysis carried out by **Claudio Comani, Professor at the School of Engineering of Bologna University** and one of the conference speakers, is based on precise data that confirm that Italian construction companies

are growing considerably in foreign countries. "The companies' expansion is still booming" - said Prof. Comani - Since 2004 to date, the companies' global turnover has increased, despite the fact that the one related to activities in Italy has dropped by 7.2%. The companies' turnover abroad has tripled, from € 3.1 billion to € 9.5 billion in 2014 (which equals an average yearly growth exceeding 13%). If only 2013 is taken into account, the turnover abroad of Italian construction companies increased by 8.6% as against the previous year, and accounted for 60% of their total turnover, thereby reversing past trends. Such a choice is also related to the fact that in other countries, in general, laws and regulations tend to take into account (and reward) quality too, to the benefit of the best companies. The conditions needed to work and produce are simpler, clearer - even though competition is fierce."

Among the numerous presentations was a survey carried out by **McKinsey & Company**, suggesting that over the next ten years four fifths of international investments in the construction sector will concentrate in 600 cities, located in China, South America, Central Africa, India, and Australia. Italian construction companies, 70% of which work only on the European market, will therefore have to get ready to step into new markets. In some cases, "country-related risks" will require the presence of well-structured companies, duly supported by effective diplomatic representatives.

In order to gain access to new extra-European markets, stated **Trevi Spa's Chairman Cesare Trevisani**, "a supply-chain-based approach will be needed, in cooperation with the large companies acting as leaders for SMEs and suppliers, but also - as has always been the case - with the strong support of the Institutions. Our main competitors - he added - are the Chinese, who, however, use only Chinese capital and workforce. When they leave a country after working there, they do not leave anything to that country. We, conversely, integrate into the local system and community, we train personnel, we create the conditions required for the development of a cooperation between our companies and the local ones. This is possible thanks to the vital support we receive and that is now confirmed by the proactiveness of the Italian Ministries for Foreign Affairs and Economic Development, the Sace Group, Simest, Cassa Depositi e Prestiti".

Cmc's General Manager Roberto Macri too believes that the missions abroad promoted by the two Ministries, and often headed by the Italian Prime Minister Renzi, are paving the way for a stronger presence of Italian construction companies abroad. "From a financial standpoint" - said Macri - I would consider Cassa Depositi e Prestiti as the ideal leader for the technical and financial management of funds for international cooperation projects and the coordinator of EU and commercial bank

funds". In Macri's opinion, however, "in the long term, the international market will not make it if the companies are not supported by an efficient national economic system and a strong, dynamic domestic market. This is what companies are expecting now".

Mauro Lusetti, Legacoop's President, highlighted the need - for cooperatives too - to constantly increase in size and to focus on emerging markets: "We are too focused on Europe, while the countries where the fastest development rates are expected over the next 10 years are China, South America, Central Africa, India, and Australia. We have to grow in size and to cooperate closely, also with the institutions".

ABI (the Italian Banking Association)'s President Antonio Patuelli, in turn, stated: "The construction industry is a driving sector. Tax cuts on real-estate property are a positive sign for the construction market. Families know that there are many unsold properties and that prices have gone down. Interest rates on mortgages have never been so low in the history of reunified Italy: 2% variable, little more fixed. It is not a coincidence that new mortgages, in one year, have increased by 82% in the period January/July. We have also seen an increase in consumer credit (+24.3% per year in the first seven months of 2015) and a 16% increase in new business loans, in the same period". Patuelli believes the industry needs to tackle the problem of bad debts - which have risen from 8.5% in May 2011 to 27.4% in June 2015 - with determination. "Today, the right conditions exist to do just that" - commented Patuelli - both because of the climate of renewed confidence that promotes economic recovery and the existence of new tools that we didn't have before, such as the reform of bankruptcy law".

02.2.b Massimo Matteucci and Roberto Macri, Cmc's President and General Manager, respectively.

02.2.a-c-d Some snapshots from the conference.



02.2.c



03

03.1
training
by Davide Casadio

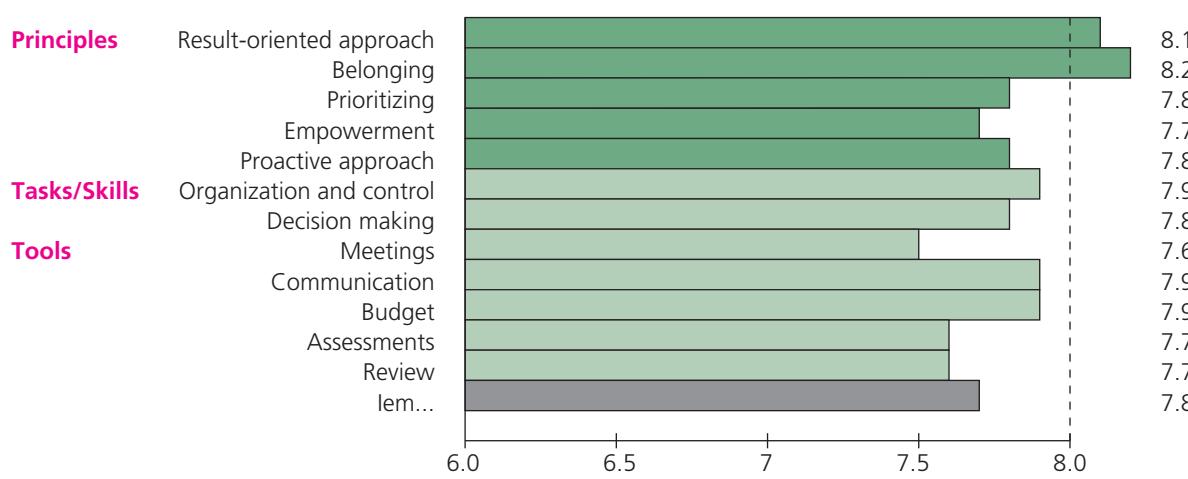
Cmc University: shifting overseas

03.1.a Davide Casadio.

03.1.a



Figure 1 - Assessment of Managerial Behaviors: 2014 Cmc



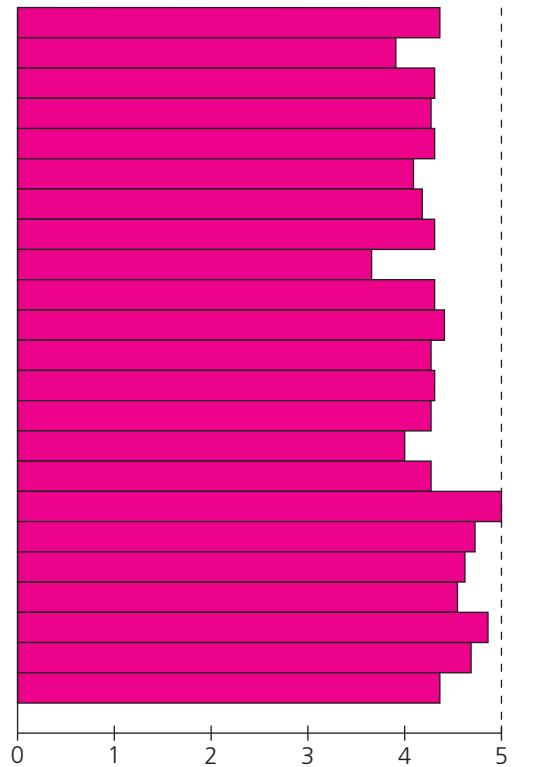
Following the meetings with Division Directories, aimed at discussing the effectiveness of tutorships, on 26 June the Teaching Committee met to review Academic Year 2014 and to plan for Year 2015 (Cmc University's 7th year of activity). It seems clear that the project is slowly shifting overseas, consistently with Cmc's general development strategy.

Professional development The state of development for 2014 confirm an excellent trend, with a development of 82%, "in line with (or exceeding) expectations".

Effective Management The assessment of professional objectives, besides outlining an encouraging managerial profile, also allows us to identify the strengths and weaknesses of our training plan. The graph (Figure 1) shows to what extent managerial behaviors have been adopted when pursuing an assigned professional objective. This Profile confirms that our strong points are Result-oriented Approach and Belonging, whereas the areas that need some improvement are: Meetings, Empowerment, Assessments and Reviews.

Figure 2 - Cmc University Appreciation Index 2014 (scale 1 to 5)

C75 Human Resources Management (Sicily ed.) - Baldacci S.
C75 Human Resources Management (Headquarters ed.) - Baldacci S.
C74 Legality Protocol (Sicily ed.) - Fioretti A.
C74 Legality Protocol (Headquarters ed.) - Fioretti A.
C68 Management of subcontractors and external resources (Sicily ed.) - Andreis I.
C68 Management of subcontractors and external resources (Maputo ed.) - Andreis I.
C68 Management of subcontr. and external resources (Johannesburg ed.) - Andreis I.
C65 Construction methods and case studies (Maputo ed.) - Bay G.
C65 Construction methods and case studies (Johannesburg ed.) - Bay G.
C65 Construction methods and case studies (Headquarters ed.) - Bay G.
C60 Budgeting as a business tool (Maputo ed.) - Morigi A.
C60 Budgeting as a business tools (Johannesburg ed.) - Morigi A.
C59 Work Order Management: an integrated approach (Sicily ed.) - Padovani R.
C59 Work Order Manag.: an integrated approach (Headquarters ed.) - Padovani R.
C59 Work Order Manag.: an integrated approach (Johannesburg ed.) - Padovani R.
C59 Work Order Management: an integrated approach (Maputo ed.) - Padovani R.
C19 Organizational Behavior (Sicily ed.) - Casadio D.
C19 Organizational Behavior (Headquarters ed.) - Casadio D.
C19 Organizational Behavior (Johannesburg ed.) - Casadio D.
C19 Organizational Behavior (Maputo ed.) - Casadio D.
C41 Effective Management (Sicily ed.) - Casadio D.
C41 Effective Management (Maputo ed.) - Casadio D.
C41 Effective Management (Johannesburg ed.) - Casadio D.



Teaching Method "Cmc University" courses and teaching method receive high appreciation rates, with an average grade of 4.32 (on a scale of 1 to 5), showing an increase against 2013 (4.23) and, for the 6th consecutive year, even higher than the rating received by other courses in general (4.18). Our main goal for 2014, i.e. to "export" our Cmc University courses, has therefore been successfully achieved. As many as 12 editions have indeed been held in our foreign branches in Maputo and Johannesburg, 6 in Sicily - while only 5 at our headquarters (in 2013 1 course was held abroad, 1 in Sicily and 8 at our headquarters). Our Calendar for 2015 confirms this trend, with 10 foreign editions equally distributed between Southern Africa and (a new entry) Algeria, 8 editions in Sicily and only 4 at our headquarters. Classes will be held in September, October, and November, while the final exam will consist in the presentation of a written dissertation offering possible solutions to practical case studies, to be submitted no later than 2 months after the end of the course.

Tutorships 2015 Last but not least, a quick look at the data regarding our 2015 Tutorships clearly confirms that our 'center of gravity' is constantly shifting towards foreign countries: 64.2% of the 28 tutorships, and practically all of the 12 new courses are indeed being held overseas (among South Africa, Mozambique, Algeria, Chile, China, Singapore).

03

03.2
training
by Valentina Crociani



An investment in the future

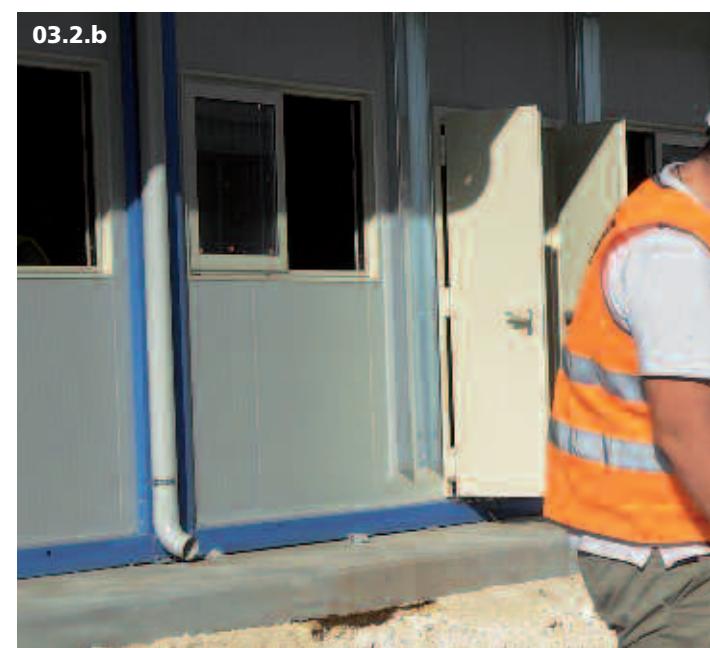
03.2.a-b Antonio Russo
at the site.

Antonio Russo is 35 years old and from Cassino (Frosinone), where he grew up and obtained a degree in Civil Engineering. He has worked for Cmc since September 2007 - first abroad, in Mozambique, as Technical Department and Site Manager, and then in Italy, where he is currently the Site Manager in the project for the construction of prefabricated structures at the Sigonella airport.

How long have you been attending Cmc University and what is your opinion of it?
I started in September 2013 and when it was proposed to me I was very happy. It was something that strongly motivated me, as this proposal shows the Company's trust in me and is an outstanding opportunity to grow culturally and professionally, for both myself and, I hope, the Company too.

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03.2.b



How would you describe this project to someone that is not involved in it or does not work for Cmc?

It is an investment in the future. The market allows us to decide whether we want to compete by lowering prices or in terms of know-how: this is up to every single company, that has to choose whether to opt for, in my view, a losing choice - as prices depend on variables companies cannot control - or to invest in training. I believe that the future and the survival of our Cooperative - both in Italy and abroad - depend on this type of decisions, i.e. on the investment in human resources and an effective organization of the resources available.

What strengths and weaknesses have you noticed?

As I mentioned, I think the main strength is motivation. Indeed, besides enriching the employees' professional and personal experience through teaching, this initiative is able to create a deep bond between the people and the Company. The only critical aspect is the limited time available. Attending the courses, studying, and reconciling all this with one's own professional and personal life is extremely challenging, especially because most of us are not based in Ravenna, and this makes things even more difficult. Moreover, I think it would be useful to involve also external professionals, more than it is currently being done.

What do you think of the contents and assessment methods?

Examination procedures could be standardized, for example by having multiple choice tests. This type of tests rewards objectivity, although it leaves less space for discussion. In any case, I think that, overall, Cmc University is working well, as regards both its contents and assessment methods.

With regard to the specific curriculum of your training plan, do you think there are any currently missing subjects that should be added to it?

If you do, what subject(s) and why? I don't think more subjects should be added; I do believe, though, that what we learn through Cmc University should contribute to earning the training credits required for the members of professional registers on a yearly basis. Since most of us are members of professional registers, I think that harmonizing these courses with those held by the registers would be a very much welcomed initiative (in fact, starting this year, a framework agreement with the Italian Register of Engineers will be in place, whereby the courses held at Cmc will be recognized, taking as a specific reference Cmc University's curriculum - editor's note).

Considering the world socio-economic scenario, what do you think are the challenges a Company currently has to take up in terms of training?

Thinking about the world scenario, the first example that comes to my mind is Mozambique, a country where most of the roads - both major and secondary ones - have been built by Cmc. Other foreign companies - now leading ones - came after us, ensuring limited costs but also a very limited added value in several sectors. Clearly, in the light of our history and experience, we are automatically excluded from this market segment, both abroad and in Italy. This is why we must keep investing in the technical sector, in which we are more qualified and experienced. I am thinking about tunneling, where competition is just starting and where we have a head start, because our know-how has strong, deep roots. Nowadays, we have to face competitors that, compared with just a few decades ago, have learnt, or are learning; that's why we have to keep focusing on training, technologically-advanced systems, and personnel management. Technical training and a flawless management of human resources are the key-solutions. Otherwise, I think it will be very difficult to keep competing in this sector, where rules and scenarios are constantly changing.

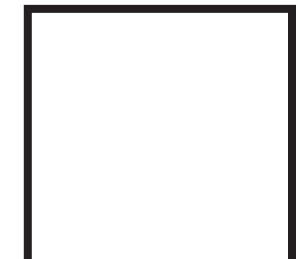
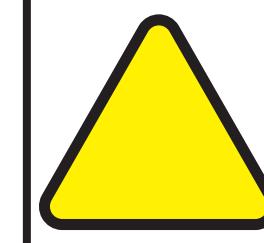
04.a



04

04

safety
by Costanzo Di Gioia



"Risk" and "Hazard": Prevention and Protection Service

The Italian Consolidated Law on Health and Safety in the Workplace sets forth very important safety obligations. Based on the Italian legislation on health and safety, the principles underlying this Law are the shared management of safety and extended control over the effectiveness and efficiency of safety measures.

The first and foremost controller is the employer, with the necessary cooperation of the entire corporate safety team. This includes executives, managers, and workers, to whom the Law assigns specific duties with regard to safety. The Prevention and Protection Service is essential for safety in the workplace. Its aim is to help the entire staff - employers, executives, managers, and workers - to implement all those procedures that make the work environment safe.

Each company establishes a Prevention and Protection Service, which, depending on the size of the company, may be structured differently; the main goal, however, is always to identify factors of "residual risk". Starting from the basic activities regarding risk assessment provided for in art. 17 of Italian Legislative Decree No. 81/2008 - specifying that the 'Employer' must compile (in accordance with art. 28 of the same decree) a Risk Assessment Document -, it should be kept in mind that assessing risk in complex organizations such as Cmc is a difficult task. Risk assessment must include "all" risks regarding the health and safety of workers, including those connected to work-related stress.

In addition to this, the Prevention and Protection Service of our head office also covers subcontractors working under Cmc's supervision and set-up consortium companies. It is quite challenging to ensure that the consortium companies follow the established guidelines and, paradoxically, 'small' construction sites feature issues similar to those faced by larger and more complex sites. That being said, it is natural to distinguish, as also specified by Leg. Decree No. 81/2008, between "risks" and "hazards".

According to art. 2 par. 1 letter r), a "hazard" is an intrinsic property or quality of a specific factor which has the potential to cause harm; while art. 2 par. 1) defines "risk" as the likelihood of reaching a potential level of damage when using or being exposed to a certain factor or substance or a combination of the two. According to this definition, risk assessment in a setting such as Cmc implies many difficulties, both in identifying all risks and in avoiding hazards. Risks are immediately detectable through risk assessment after specific in-depth training. "Residual risk" is something that then needs to be analyzed during the safety planning stage, looking for appropriate criteria to eliminate factors that may cause its increase. The key to identifying, isolating and avoiding residual risk is employing workers for whom safety culture

is an integral part of their professional development. The relationship between construction sites and the head office in Ravenna is strong; the need for the sites to develop a Risk Assessment Document stems from the corporate Risk Assessment Document, but should also take into account residual risk factors related to specific working environments. It is, therefore, the Employer's duty to apply the Prevention and Protection Service to guide his workers, including subcontractors, in developing a Risk Assessment Document that identifies all risks - even very complex ones, whose combination may generate incidents and serious injuries.

For the past 10 years Cmc has been working on developing manuals, procedures, and instructions that can be used as complementary tools for the assessment of risk and for self-monitoring purposes, with the aim of complying with the applicable legislation; this includes a stricter and more intense audit activity, as provided for by the OHSAS 18001 Standard, to which Cmc is now certified. With regard to the OHSAS 18001 Certification, Cmc - in line with its corporate policy - has chosen to use its internal Prevention and Protection Service personnel to monitor foreign construction sites.

This choice has led the Prevention and Protection Service to get to know local conditions in the various countries and to widen the application of safety regulations on an international level. The Prevention and Protection Service is increasingly involved in activities regarding the pre-qualification safety requirements needed to apply for international tenders, which often call for a safety plan tailored to the specific tender. On an international level, the person in charge of managing safety abroad is the HSEM. This figure plays a vital and strategic role, as he/she is the link between the construction site and the head office in Ravenna.

Cmc's safety structure, on a national and international level, features a large number of highly qualified people, also as a result of the growing acquisition of foreign contracts. In a nutshell, the safety in the work place and environmental protection system must include:

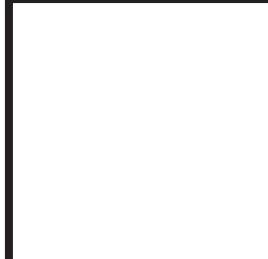
- specific training programs;
- specific strategies for the Prevention and Protection Service structure;
- a budget for investments in future resources in the safety sector on an international level;
- personnel training programs in environmental protection in order to eliminate factors that can lead to "environmental crimes".

All this is necessary to keep up with market requirements and maintain the professional flexibility we are known for in the world. The main goal of any Prevention and Protection Service, however, remains the reduction of "residual risk".



05

05.1
work in progress
by Salvatore Picone



05.1.a The entrance of the Caltanissetta tunnel.

05.1.b Pierfrancesco Paglini and Massimo Matteucci.

05.1.c Luca Segatto, Caltanissetta tunnel entrance capo imbocco.

05.1.d Group picture after the breakthrough in the first tunnel.

"Barbara" has completed the first tunnel in Sicily

The Tbm used for State Road 640 has already excavated the first four kilometers of the Caltanissetta Tunnel. "This machine is a model for Europe", said Cmc's President Massimo Matteucci. "Team work is the key to success" echoed him Project Manager Pierfrancesco Paglini.

Here are the "steps" completed by Barbara.

During the latest construction site meeting, which was held at "Empedocle2" at the end of September, Cmc's President Massimo Matteucci was very clear in his statements: "Our Sicilian Tbm - he said, with a touch of pride - should be seen as a model all over the world. We should invite here professionals from universities across the globe and show them what we are able to do here".

A first important achievement for the "mole" named Barbara - in honor of the Patron Saint of mineworkers - was the completion of the first four kilometers of the tunnel, one of the most important works in the modernization and upgrading of State Road 640 "Agrigento - Caltanissetta". The section included in the second lot is now recording an overall development of about 28 kilometers, from Grottarossa to the junction with the Palermo - Catania highway.

The excavation of the first tunnel - which runs under the hill of Sant'Elia, near Caltanissetta - was completed after a year of activities. The history of Caltanissetta is linked to the sulphur mines and to many sad memories and tragic events, to which the President of the Italian Republic Sergio Mattarella recently paid tribute during his visit to Caltanissetta on 25 September. On that occasion, Mr. Mattarella honored not only Judges Saetta and Livatino, but also the carusi, the Sicilian term for boys, that worked in the sulphur mines at the very heart of the island and were the victims of fatal accidents.

"Barbara's" steps The Tbm, which has a diameter of 15.08 meters and was designed to meet the plano-altimetric parameters imposed by the road layout, reached the port of Porto Empedocle from France in September 2013. The components making up the large boring machine - whose arrival was extensively covered from the local and national media and attracted many students from all over Italy - travelled on the existing State Road 640 after reaching the Sicilian coast near Agrigento by sea. There, the Tbm was temporarily stored on the quay and was then carried as an oversize load to the construction site. Its assembly took a couple of months. Excavation operations started in late June 2014, with the blessing of Caltanissetta Bishop, Monsignor Mario Russotto and in the presence

of the local authorities and the citizens, who followed the excavation works step by step thanks to a communication plan that "involved" the citizens in the activities carried out by various teams.

Advancement thrust The Epb Tmb advanced by means of synchronized hydraulic jacks directly controlled by the operator from the cabin located in the first (backup) gantry. The machine - equipped with 17 assemblies, each composed of three hydraulic jacks, totaling 51 jacks - excavates and completes the tunnel, installing lining rings. Each ring consists of eight lining segments and a key segment and is two meters long.

The most important accomplishments On 28 September 2014, only 3 months from the beginning of excavation works, the Tbm "Barbara" marked its first important achievement: one thousand meters. During the first excavation stage, from 24 June to 18 August, an advancement of 7.9 linear meters per day was recorded. A significant increase was then noticed during the second stage - from 19 August to 30 September -, with an advancement of 16.6 linear meters per day. Productivity, therefore, increased considerably. The peak daily value, however, was reached on 4 September 2014: 28 linear meters. "We can rely on many outstanding figures at our construction site - says Pierfrancesco Paglini -, professionals, engineers, and workers. In all sectors we can boast a very high professionalism and skills that we make available for our Customer, Anas, who was a strong advocate of the use of a Tbm for the modernization of State Road 640. So, here in Sicily, a region that is often known for its negative records, as Felice Cavallaro wrote on newspaper "Corriere della Sera", here is a national positive record. This "mechanized excavation Italian record" is one of the many sources of pride for the Ravenna-based Cooperative. On the "Agrigento - Caltanissetta" project too Cmc is experimenting a Legality Protocol, aimed at monitoring contracts, the hiring of personnel, and access to the construction sites, whose implementation is supervised by the University of Palermo in cooperation with the Prefectures.

Works continue... Following the completion of the first tunnel, the Tbm will be dismantled and reassembled to excavate the remaining 4 kilometers. In the meantime, works are ongoing along the entire route. The main works included in the Caltanissetta lot are the following: construction of 6 interchanges (4 of which already existing and 2 new ones to be built), 5 artificial tunnels, 4 natural tunnels (3 of which will be excavated by traditional methods), 13 overpasses, as well as several minor works.

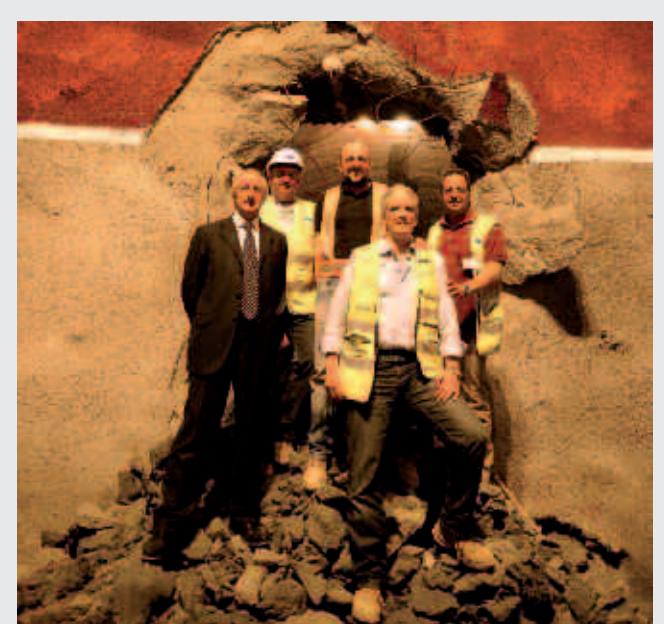
The "twin" tunnels of State Road Ss 640

The diaphragm wall of the left tube of the "Papazzo" tunnel was broken through in August.

At the height of summer, on 4 August in the afternoon, the diaphragm wall of the left tube of the "Papazzo" natural gallery was broken through.

Exactly two months after the breakthrough of the diaphragm wall of the first tube, another important ceremony was thus held at Cmc's construction site in Caltanissetta. Excavation works for the two tunnels, totaling approximately 760 meters in length, have now been completed.

The ceremony was attended by the workers that took in the tunnel excavation over the previous months.



05.2.a-c Minister Delrio with Massimo Matteucci during their visit in Catania.





05

05.2
work in progress

Minister Delrio visits the construction site in Catania

On 25 July, during one of his many trips to Sicily, the Italian Minister for Infrastructures Graziano Delrio visited Cmc's site for the construction of the Misterbianco-Catania Underground.

Cmc representatives - among others, President Massimo Matteucci and Technical Manager Pierfrancesco Paglini - described to the Minister all the activities carried out so far and further development plans for this project, particularly as regards the two lots managed by our Cooperative.

More specifically, the 1st lot implies the extension of the railway line in the Catania metropolitan area, from the Central Station to the airport. The 2nd lot includes the upgrading and conversion of the Circumetnea railway line in the urban areas of Catania and Misterbianco and of the sub-metropolitan leg up to Paternò.

During his visit at the site, Minister Graziano Delrio emphasized the importance of public works in Italy and of the works currently under construction. He also stated that Catania is "the symbol of a successful southern Italy" and that a metropolitan transportation system capable of anticipating the needs of large cities is currently under development, in this area as well as in the northern regions.

The project for the Stesicoro-Airport metropolitan leg is part of the upgrading and conversion of the railway line that started from the Circumetnea railway link, which will connect Catania city center to the

Fontanarossa airport, also allowing for the modal interchange with other means of transport (RFI railway lines, coach services, private vehicles).

The first structural lot includes the construction of civil works related to the line and station tunnel. The Giovanni XXIII - Stesicoro leg is currently under construction. The route deviates considerably and runs far from the Roman Amphitheater in Piazza Stesicoro, thereby ensuring no impacts due to vibrations, both during construction activities and once the system is operating. The first station, named San Domenico, will serve the final part of Via Plebiscito, Villa Bellini, some university schools, and Piazza Dante, where the Benedictines monastery is located - the seat of the School of Humanities of the University of Catania.

The route then reaches the station named Vittorio Emanuele, which will serve the hospital Vittorio Emanuele II, and subsequently the station that completes the first lot.

The 2nd lot implies the extension of the current Underground that runs through Catania city center, with a 3.9 km tunnel that will connect Catania north-western suburban districts to Misterbianco commercial and urban area. This lot also includes the construction of the two relevant stations along this leg - i.e. the Fontana Station, which will connect the "Garibaldi" hospital to the areas of the city and province served by the Circumetnea railway line, and the Monte Po' Station, which will serve the districts south of the Misterbianco industrial and commercial area.



Visit to the Tbm used for State Road Ss 640

On 30 July **Mauro Lusetti**, the national President of Legacoop, and **Giovanni Monti**, the Emilia Romagna regional President of Legacoop, visited the construction site of state road Ss 640.

Legacoop top management was accompanied by Cmc's President **Massimo Matteucci** and **Pierfrancesco Paglini**, the General Contractor's Project Manager. Mr. Paglini described the activities carried out as part of this project, providing details on the excavation method used for the tunnel that runs under the hill of Sant'Elia. He also illustrated the overall development of the project, which will include 5 artificial tunnels, 4 natural tunnels, 13 overpasses, 10 flyovers, and 1 railway viaduct.

A code of ethics for workers

A Code of Ethics for all workers in Sicily, not only those at Empedocle2, was presented on 17 September during a training course organized by initiative of the Organismo di Vigilanza del Contraente generale (General Contractor Surveillance Agency) and held by Dems (the Department for European Studies and Integration) of the University of Palermo. The Code of Ethics establishes a series of principles which must be at the basis of any activity carried out by enterprises and staff members (professionalism, entrepreneurship, legality, honesty, transparency, reliability, equality, impartiality, loyalty, fairness, and good faith) and which must inspire and guide the actions and behavior of the Company, its employees, and of all those who cooperate in the work taking place at "Empedocle2".

The training was attended by the Prefectures and the Contracting Authority, as well as by Cmc's Vice President Alfredo Fioretti:

"I am very satisfied with this initiative because it is in line with many other initiatives Cmc has organized throughout the years. I believe that spreading knowledge regarding standards and regulations encourages people to respect them and this is why Cmc invests in the lifelong training and professional growth of its members and workers, so that they can achieve a higher level of awareness and qualifications". "I'm also honored - added Fioretti - by our long-standing cooperation with Dems, which I personally and sincerely hold in high esteem".

New Orders

During Italian Prime Minister Matteo Renzi's latest visit to Nairobi, Sace, Intesa Sanpaolo and Bnp Paribas announced the finalization of a € 306 million loan for a project in Kenya. Cmc, who will take on the project on behalf of the **Kenyan** government, was represented at the signing of the contract by General Manager Roberto Macrì, and Africa Austral Division Manager, Paolo Porcelli. In addition to construction of the Itare Dam, the project includes a water treatment plant and pipelines to transport water to the surrounding areas.

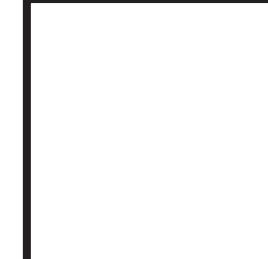
The government of **Zambia** has signed a \$ 35.5 million contract with Cmc for the construction, rehabilitation and extension of the Lusaka Bombay drain. Zambia's Secretary to the treasury Fredson Yamba signed the contract and underlined that funding (\$ 355 million) was granted by the US Government through the Millennium Challenge Corporation program. The project will expand the Northern and Southern portions of Lusaka Bombay's drain system to improve access to and the reliability of water supply and sanitation in both urban and peri-urban areas.

In the **US**, where Cmc has been present since 2011 through its wholly-owned subsidiary **LM Heavy Civil Construction**, we have recently been awarded a € 48 million contract for railway infrastructural works in the Boston area, more specifically bridge and viaduct rehabilitation.

In New York, **Difazio** Industries (33% shareholding) have been awarded new projects worth € 42 million in Staten Island and Manhattan for underground utility works and the construction and maintenance of the sewerage network.

Cmc is also due to commence works on the new Cornubia interchange in **South Africa**, a project valued approximately 284 million Rand (about € 21 million), which should last 18 months. The project is part of the construction of new infrastructures for the IRPTN (Integrated Rapid Public Transport Network) and is located about 15 km from Durban and about 14 km from King Shaka Airport. The contract also includes the construction of a new overpass, the Cornubia Boulevard Bridge, which will guarantee access to the future Cornubia development. Three access ramps have been designed, 2 inland with respect to the N2 national highway, and a third external one, on the sea side.

05



"Load shedding" will soon be just a memory for 50 million South Africans

05.3.a-b Details of the Burgher Memorial, in honor of the fallen in the Anglo-Boer War.

05.3.e-g The breathtaking landscape near Ingula.

05.3.c Andrea Bacheca.

05.3.d-h-i Details from the Ingula construction site.

Halfway between Johannesburg and Durban, a stone's throw from the Drakesberg mountains, and surrounded by fields that, in the late 1800s, were the scene of the bloody Anglo-Boer War, lies the Ingula construction site.

This project, called *Ingula Pumped Storage Scheme*, is being carried out for Eskom, South Africa's electricity supply company, across the two provinces of KwaZulu Natal and Free State and has now reached its final stage.

The project started 6 years ago, when a team of technicians from all over the world embarked upon an enterprise of major importance for the entire country. These technicians did not arrive riding on a horse or carrying rifles, as had happened in the same land over 100 years before, but, rather, they carried technologically-advanced equipment and, most important of all, the most powerful "weapon" in the world: knowledge. This weapon was made available to the benefit of a people that for too many years had endured the rule of the "Law of the strongest".

Proudly, but also with the sadness that comes with the end of a project, the personnel that over the last 6 years has lived here and taken part in one of the largest projects ever carried out by Cmc, can now celebrate the completion of the Ingula hydroelectric plant - the dream of the South African people.

Several European companies, including the Italian Cmc and Impregilo, are completing this huge work, which should - at least partially - contribute to relaunching an economy that over the last 5 years has suffered a severe slowdown due to a lack of power supply.

At the beginning this looked like an impossible challenge; but then, what on paper looked like madness from an engineering standpoint, gradually started to take shape. Inside an apparently inaccessible mountain, tunnels (incredibly long tunnels), then caves as high as cathedrals, and finally shafts were excavated - all pieces that came together to form a huge puzzle.

Once the excavation phase was over, it was time to build: to line the tunnels and the shafts, but - above all - to create the areas where the turbines, generators, and transformers would be installed. The engine room is an over 180 m long, 25 m wide, and 60 m high cave, while the room that will host the transformers is a 175 m long, 15 m wide, and 50 m high cave. Both civil works were completed in 2014. After being handed over to the Customer, they were made available to the Generator and Transformer Units installers, who have been working hard to make sure the turbines will start running, allowing power to reach the Power Substation, as soon as CMI (the Consortium formed by da Cmc, Impregilo and Mavundla) opens the valves and gates and starts flooding the tunnels.

Indeed, in mid-October the outlet bypass valves will be opened to flood the tailrace tunnel and surge chambers. Two months later the same will be done with the 2 headrace tunnels and the related surge shafts.

In order to meet the Customer's requirements, but, mainly, the needs of the South African people, who has experienced first-hand what living with constant Load shedding means, the tunnel flooding dates have become crucial milestones that must be met by all means.

Therefore, measures are being taken to speed up works, by implementing a very tight schedule (working on two shifts, working all weekends, including Sundays) and overlapping different critical activities. Works are being carried out at the same time as other Contractors - Voith, Abb, Siemens - and interfacing requires constant monitoring by the Customer so as to prevent any delays by one company from having an impact on the activities of another company, which would lead to further delays in the "commissioning" phase.

The word "Load shedding", which at the moment is extensively being used by all South African media, will then disappear from the South African journalists' jargon, and will become just a memory for 50 million South African citizens.

CMI - who is responsible for civil works - still has to complete the activities related to closing access to the tunnels, installing hydraulic-mechanical equipment in the tailrace surge chambers, and covering the headrace surge shafts.

By the end of the year the water of the two, upper and lower, reservoirs will flow freely through the tunnels. Power house testing and commissioning will then start, including the synchronization of the power distribution network.

The flooding of the tunnels will mean the END of the project for many of those who have worked and lived part of their lives at this site. Indeed, once the tunnels are flooded, the various facilities (workshops, offices, and camps) will start being dismantled, and the site areas used during construction will be restored to their previous state.

The labor force will go back to their countries of origin, feeling incredibly proud for having made this possible.

And even those who during the construction phase were just unskilled workers from the land of the Zulu warriors will one day be able to tell their grandchildren that there, where once stood a hard rocky mountain, he contributed to making those holes, where highly qualified engineers from far-away countries installed highly sophisticated machines that now allow his grandchildren to watch TV and read books at night, just like millions and millions of other children.

05.3.c



05.3.d



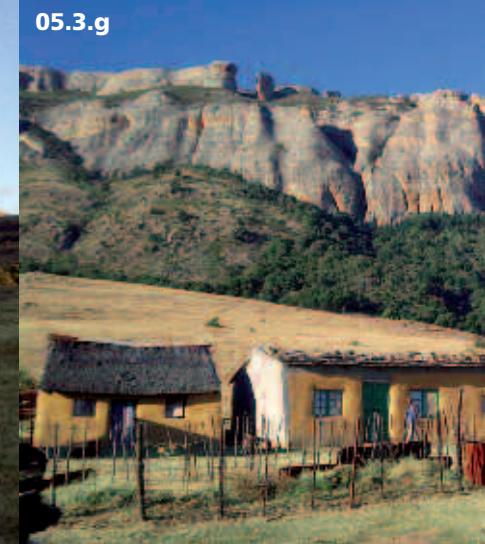
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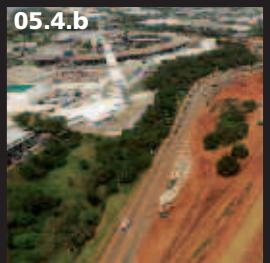


05

05.4

work in progress
by Cristiana Bolognesi

05.4.b



05.4.a



We met with Paolo Porcelli, Cmc Africa Austral's Division Manager and asked him three questions to help us gain some insight on the situation in Southern Africa.

As Andrea Bachecca describes in the article featured beside, the Ingula construction project is coming to an end; what are your final considerations regarding this project, not only from a technical standpoint but also in terms of human resources? The Ingula project has definitely been a highly valuable experience for our Cooperative and for all the members of staff who actively took part in the various stages of construction. In my opinion, thanks to this project Cmc has proven that it has all the technical, organizational, and commercial skills needed, no less than other large international companies; it also did an outstanding job taking on the not easy role of Leader of the winning consortium. During the construction of this huge work, the management and coordination of human resources was especially important: suffice it to think that over 3,000 people overall, coming from 25 different countries, worked at the site as technicians, laborers, and managers.

Through the years, we have managed to blend people with different cultural and professional backgrounds and created a strong, efficient team. Anyone who has been lucky enough to take part in the organization and operation of this site will bear memory of a very unique experience. The Cmc staff members who participated in the project, even if only for a short time, know that it has become a landmark in terms of size and organization, as well as for the technical-operational difficulties that were faced and overcome.

What does the future hold in South Africa and, in general, in Southern Africa? The Republic of South Africa continues to be the nation of reference for our Southern Africa Division, although the country's general growth has slowed down considerably and, consequently, so has the implementation of the country's agenda for the creation of new infrastructures. Our stable presence in this country has allowed us to seize some new opportunities in bordering states; one good example is the recent project acquired in **Zambia** for the rehabilitation of the drainage system in the city of Lusaka, a project funded by the US government. We should also shortly be commencing work in **Namibia**, another very interesting Sub-Saharan nation, where Cmc has won the bid for the construction of a large hot-rolling mill for the production of armor rods. **Mozambique** is still going through a downward phase, although the new government seems to be adopting a different approach regarding the country's financial troubles, the cause of Cmc's strong exposure.

There are unfortunately further delays in the hydrocarbon sector due to the uncertainty of the world's current energy situation; recent discoveries of other large deposits of natural gas by Eni in Egypt may cause

international investors to rethink their investments. The recent review of Cmc's industrial plan in the country led to a strong reduction of the fixed costs incurred by our local offices, with the aim of becoming leaner and more flexible should the market offer new opportunities. In **Kenya**, the Italian Prime Minister Matteo Renzi and the Kenyan President Kenyatta presided the signing of the agreement for our recent acquisition of the Itare dam; this project will allow us to begin working in a country that is by many considered as the gateway to the rest of Eastern Africa. For Cmc this means the possibility of gaining access to a whole new series of opportunities in this area.

What does the Cooperative's future look like, considering that its activities and profits are gradually and constantly shifting abroad? Cmc's recent growth has occurred mostly abroad, mainly because of the European crisis and of the situation in Italy in particular; our long-standing experience has certainly helped us develop our business overseas, thereby allowing the Cooperative to endure difficult times in its home country.

However, we must not forget that Cmc continues to be an Italian company and that this is our main strength and the basis for our success abroad. The expertise Cmc has developed through the years in Italy has allowed and continues to allow us to work overseas with success; our presence in the international markets is supported by the fact that we continue to offer a high-quality, technologically advanced Italian product. I am also convinced that, if not now, the situation in Italy will slowly begin to improve, offering our Cooperative many new opportunities; in the meantime, I believe we must continue to seize the opportunities offered by the international market, diversifying our activities in order to reduce corporate risk. In its approach to the overseas market our Cooperative has implemented a successful internationalization process, which mainly entailed adapting the company to different non-Italian markets; however, I also believe that we now need to focus our attention on embedding the Company in the host countries, which means concentrating our efforts on taking whatever actions are needed to make our Cooperative effective and compatible with the local market. Mainly, I'm referring to a more extensive employment of local human resources in key positions and to our participation in locally registered companies.

The Cooperative wishes to remain a standard of reference in all those markets that show interesting prospects of growth and development. In order for this to happen, we must blend into the territory, creating "cosmopolitan" organizational and production structures, starting with our most promising team members who, with proper training and investment on our part, will be ready to take on leading roles. I believe that combining advanced technological solutions and high quality products with a localized international structure is the winning recipe for our success overseas!

05.4.a Paolo Porcelli,
Cmc Africa Austral's
Division Manager.

05.4.b Lo svincolo di
Edgecombe che Cmc
sta costruendo in Sudafrica.

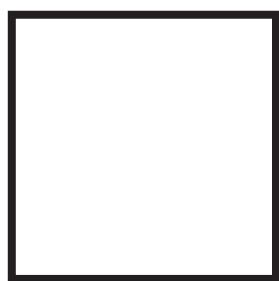
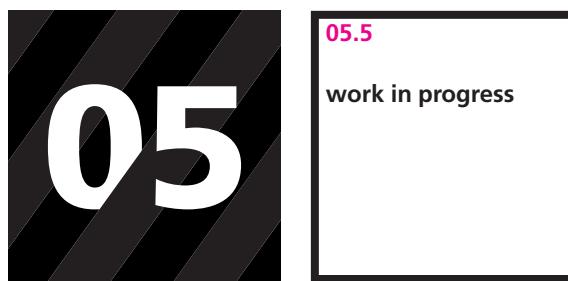
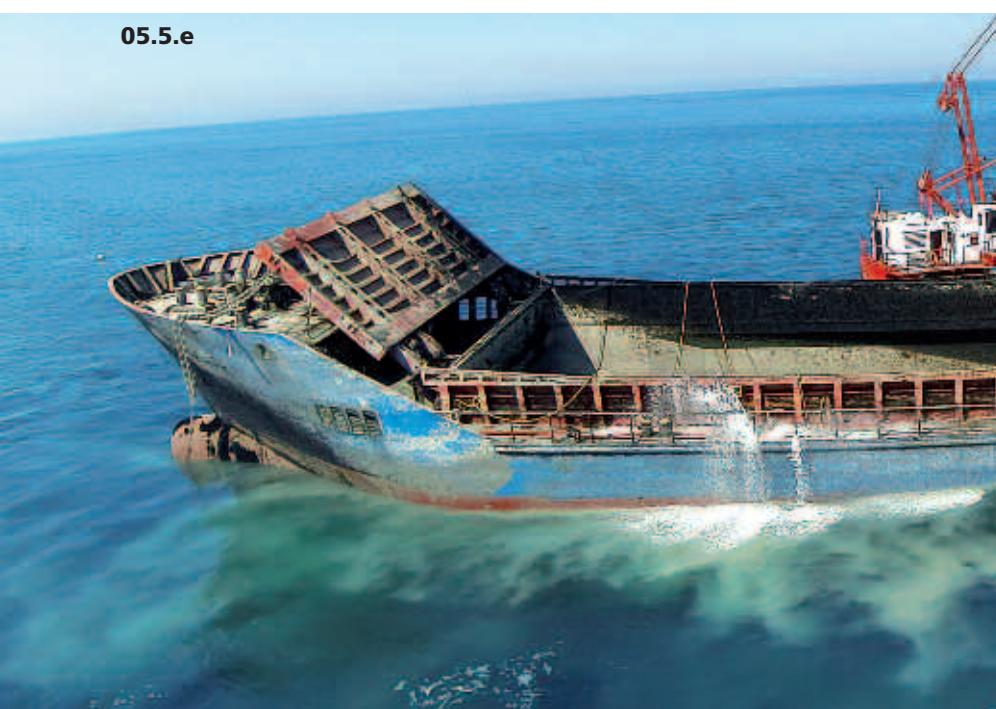
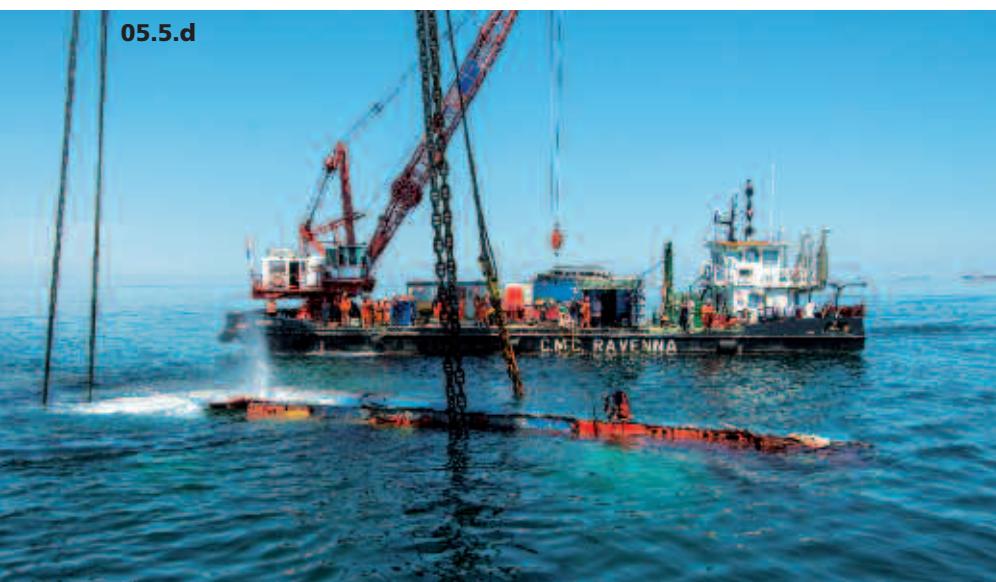
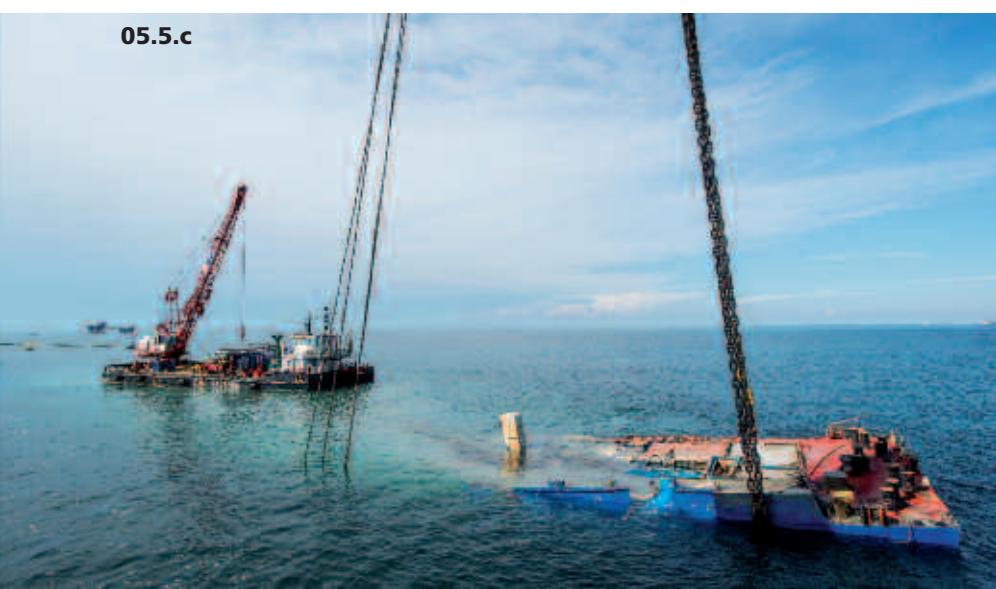
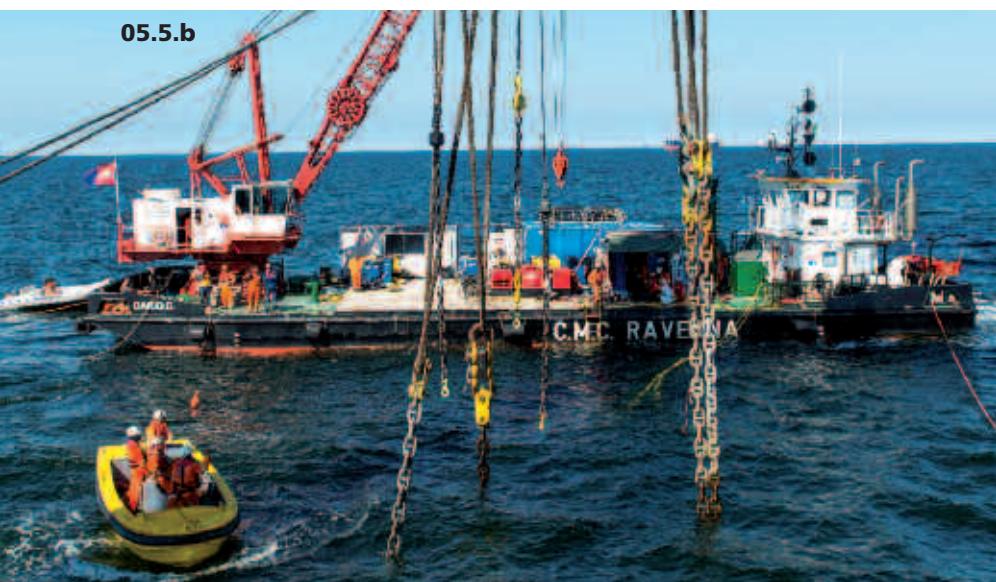


05.3.h



05.3.i





The wreck of cargo vessel Gökböl has been recovered

Operations for the recovery of the Gökböl, the vessel that sank in front of the Ravenna harbor on 28 December 2014 following the collision with merchant ship Lady Aziza, were successfully completed in early August.

The operations were carried out by a team composed of highly qualified Italian companies: besides Cmc, Livorno-based Fratelli Neri; Marine Consulting for underwater activities; Secomar for the recovery of the bunker and residual oils that were still inside the ship, as well as the use of anti-pollution devices in the various stages; Naviravenna for the construction and on-site welding of the sheet metal needed to stop the leak; Gruppo Gesmar for harbor tugs; boatmen-mooring men and harbor pilots of the Port of Ravenna; Bambini Srl; Ciappini Renzo; shipbuilder Rosetti Marino; Italmet; Eurodocks Terminal; and the maritime agency Santi Shipping, coordinated by Smit Salvage.

During the complex recovery operations, which had started on 7 May, the companies involved were faced with unexpected technical challenges. In compliance with the applicable environmental laws and regulations, all activities - carried out under the supervision of the Italian Ministry for the Environment, the Ravenna Harbor Office, and the company Castalia ensuring the safeguard of the marine environment - started off with the recovery of bunker oils from inside the vessel, using hot-tapping. This method implied repairing the leak in the hull caused by the collision, ensuring vacuum conditions in the tanks containing the bunker oils, and removing the oils by suction, with the support of a special vessel. Once fuel and bunker oils were recovered from inside the wreck, parbuckling operations started,

i.e. the rotation of the hull - a complex operation, considering the large amount of dense clay and sand found inside and around the accommodation block, which had sunk into the sea bottom. Moreover, the unfavorable weather and sea conditions further complicated the activities, which required the hard work of a team of about 50 people, including 15 divers.

The "Italia" floating sheerleg, a 1,000-ton-lifting-capacity floating platform used to right the hull of the Gökböl, was supported by offshore tug Nos ARIES (both vessels belong to Livorno-based Fratelli Neri Spa), which performed parbuckling salvage together with the Dutch Smit Salvage.

A key role in operations was played by Cmc's self-propelled crane barge Dario D., which served as a support vessel for the divers.

Cmc was faced with such large-scale operations in the maritime sector for the first time ever. Being a general construction company operating in Italy and all over the world, we normally pursue objectives and explore markets that are very far from the "salvage" sector.

However, since Cmc owns naval equipment used in the maritime construction sector (one of the Company's core business activities), the recovery and salvage sector could become a niche offering very good opportunities, as well as a reason to professionally grow in this field too.

The wreck of the Gökböl was subsequently handed back to the ship-owner and taken back to Turkey.

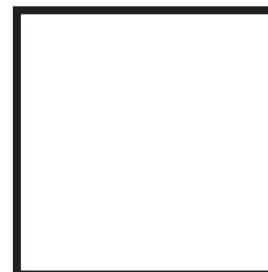
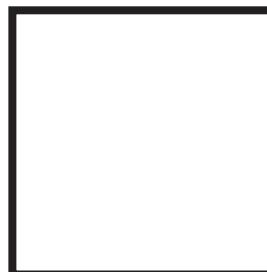
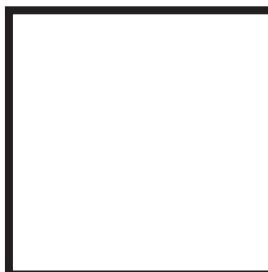
05.6.a



05

05.6

work in progress



part of the local territory to rely on a guaranteed supply source during periods of drought. Indeed, the water purification plant is connected with the Lugo network, Ravenna's NIP water purification plant, and the Adriatic section of the Acquedotto della Romagna water supply system.

The plant is fed with water from River Po, from a branch of the Emilia-Romagna canal, and has a maximum potential rate of 1,100 litres per second.

The most innovative part of the plant is the ultra-filtration system, that is the filtration of water through membranes whose mesh is so fine (0.04 microns) that it is able to separate all suspended solids, including all potentially pathogenic bacteria and spores.

The water purification process is the most modern and efficient currently available and allows to obtain extremely high-quality water purification.

The works for the construction of the water purification plant at the Via Fosso Ghiaia construction site lasted two years, involving a total of 63 companies, for an overall 26,240 man-days.

The overall cost of the works amounted to € 32,900,000, plus approximately as much for the laying of the pipelines for the local service connections.

05.6.b



The Standiana water purification plant now open

05.5.a-g Operations for the recovery of the wreck of cargo vessel Gökböl.

05.6.a-d The new Standiana water purification.

The Standiana NIP 2 water purification plant - built for Romagna Acque by a group of companies, including Cmc - opened on 25 September.

The ceremony was attended, among others, by President Massimo Matteucci.

The new water purification plant is the most important investment in the Romagna Acque-Società delle Fonti

Spa's 2011-2023 long-term plan. Connected with approximately 40 km of large-size pipelines, the plant is a key infrastructural development for the entire Romagna region, delivering a large amount of extra water (at least a potential 20 million cubic metres/year), and thus allowing to diversify supply sources, with an increased use of surface water to the benefit of ground water, and enabling a large

05.6.c



05.6.d



The New Azimut parking lot

The new parking lot in Via Guidarelli, Ravenna, opened at the end of June.

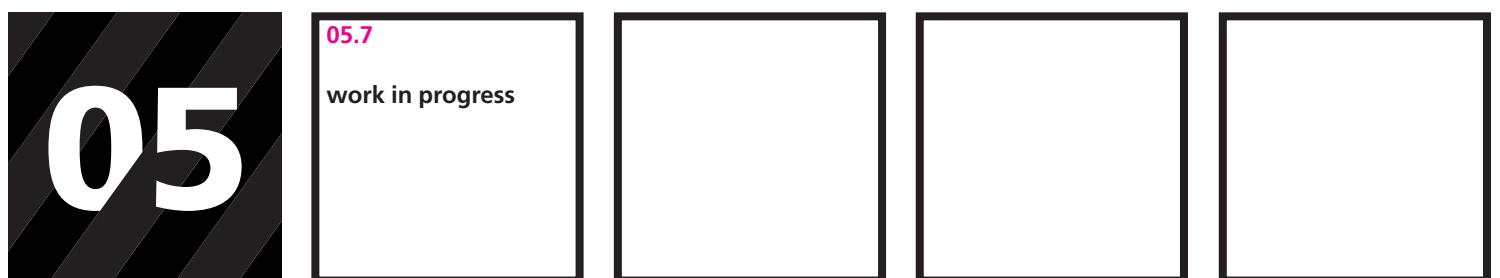
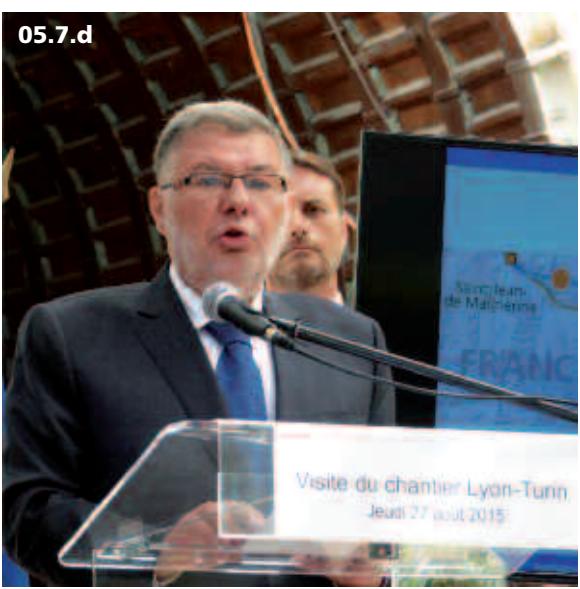
The parking lot, built by Azimut S.p.A., includes 132 parking places and will be open 24 hours a day, 7 days a week (including holidays).

The parking features a state-of-the-art prefabricated structure, with a large sheltered area on the ground floor and a mezzanine floor easily reachable via an access ramp.

The automated system has been conceived so as to ensure maximum user-friendliness: vehicles can indeed access and leave the parking lot without any paper tickets, as the car plate is simply read by a video camera.

Moreover, the very well-lit parking lot is constantly remotely monitored by a Cctv system.





05.7.a Group picture with Minister Delrio at the site in Chiomonte.

05.7.b-e Snapshots of the Minister's visit to the site in Saint Martin La Porte, France.

On 27 August, on the occasion of the bilateral meeting between Italy and France on the Turin-Lyon railway line, Hubert du Mesnil, Chairman, and Mario Virano, General Manager of Telt (Tunnel Euralpin Lyon Turin) welcomed the delegations of the two Governments in the Turin office of the Company and at the construction site for the geological survey tunnel in Saint Martin LaPorte, in Savoy.

At the end of the summit, the Italian Minister for Transport and Infrastructures, Graziano Delrio, and the Secretary of State for Transport of the French Republic, Alain Vidalies, met the personnel of Telt, in charge of building and managing the Cross-Border Section of the Turin-Lyon railway link.

Key issues of the meeting were the shared decision to settle the remaining open questions, so as to start

the Parliamentary ratification process, both in Italy and in France, of the Agreement dated 24 February 2015, as integrated by the additional protocol implementing the certification of costs and the regulation of contracts and establishing, for the first time in Europe, the same anti-mafia rules for the entire project, regardless of the nationality of the various construction sites.

The two Ministers, together with the Ceo of Ferrovie dello Stato Italiane, Michele Mario Elia, visited the construction site in Saint Martin La Porte, which was opened in January 2015 for the excavation of an approximately 9 km long tunnel along the same axis and having the same diameter of the future South tube of the cross-border tunnel.

On his way back to Italy, Minister Delrio also visited the Chiomonte construction site, where the Tbm has excavated over half the 7.5 km long exploration tunnel.

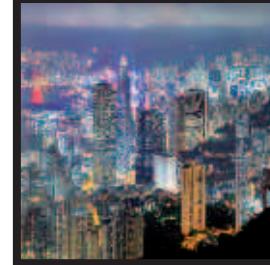
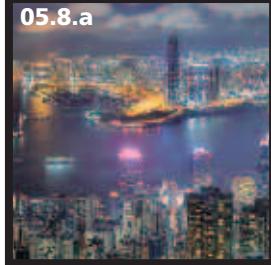
Works at the Piombino site now completed

At the Piombino site, works have now been completed and extra work has been agreed to be carried out by our temporary association of companies under the original contract, totaling an additional € 3.8 million and involving the extension of the contractual term to 31 December 2015. The new work will include primarily the construction of the related ancillary services and the adaptation of the yards to host the future ship disposal operations.



05

05.8
work in progress
by C. B.



Welcome to Hong Kong, the Fragrant Eastern Harbor

Last June Cmc expanded its borders, reaching the South China Sea by opening a branch in Hong Kong, the Special Administrative Region of the People's Republic of China.

Hong Kong, whose name literally means "fragrant harbor", has a population of seven million people, and is one of the most densely populated areas of the planet. Its citizens can boast one of the highest per-capita incomes in the world.

Hong Kong is also one of the most important international financial centers, and its currency, the Hong Kong dollar, is the eighth most traded currency in the world. Activities in this Asian country have been entrusted to Andrea Ciamei, who knows Hong Kong very well and will be the Manager of the local Branch and offices.

Hello Andrea! First of all, welcome! Please, introduce yourself to the readers of La Betoniera!

Hello everyone, my name is Andrea Ciamei and I am a geomechanical mine engineer. I am married, I have two kids, and we have been based in Hong Kong since 2010. I had already been to this city often since 2008, as part of a project supervised by the company I previously worked for, and in 2009 I decided to move here permanently, as I was charmed by its very unusual life style, characterized by a frantic pace and fast movement, and by its being constantly crowded.

What is the current situation in the construction market in Hong Kong? This City-State has always offered great commercial development opportunities. The construction sector drives its economy and has never been in recession, except for a few understandable slow moments. This area is constantly evolving and innovating. The construction market is dominated by MTR Corporation, who is in charge of managing and building new underground lines, and is recognized worldwide as an outstanding example

of fairness, precision, and management skills. The Hong Kong market has understandably quite a protectionist approach, but we hope that Cmc will soon become one of the companies to which projects are assigned: to this aim, we have already established some cooperation relations with several local companies which, we hope, will lead us to success.

This, however, is neither easy nor a short-term process, and requires not only patience and a deep knowledge of the market, but most of all a stable and visible presence. We recently concluded the registration of our new branch, keeping the human resources that were previously employed by SELI's Branch, thus being able to rely on people that are already thoroughly familiar with Hong Kong and its rules and procedures.

These two steps are crucial for any subsequent commercial activities. From now on, we will focus on actions aimed at penetrating the market of infrastructures, taking advantage of the reliable contact network we have established and of the information already collected. From Hong Kong we can also manage the Philippines market, which is currently extremely lively, where Cmc is already involved in 3 important projects.

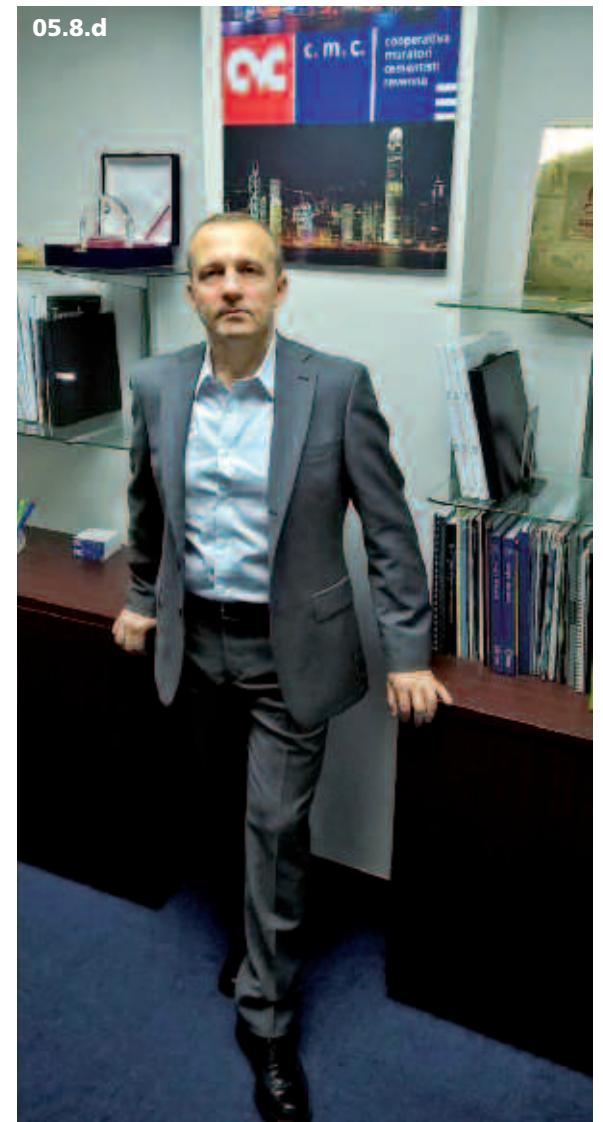
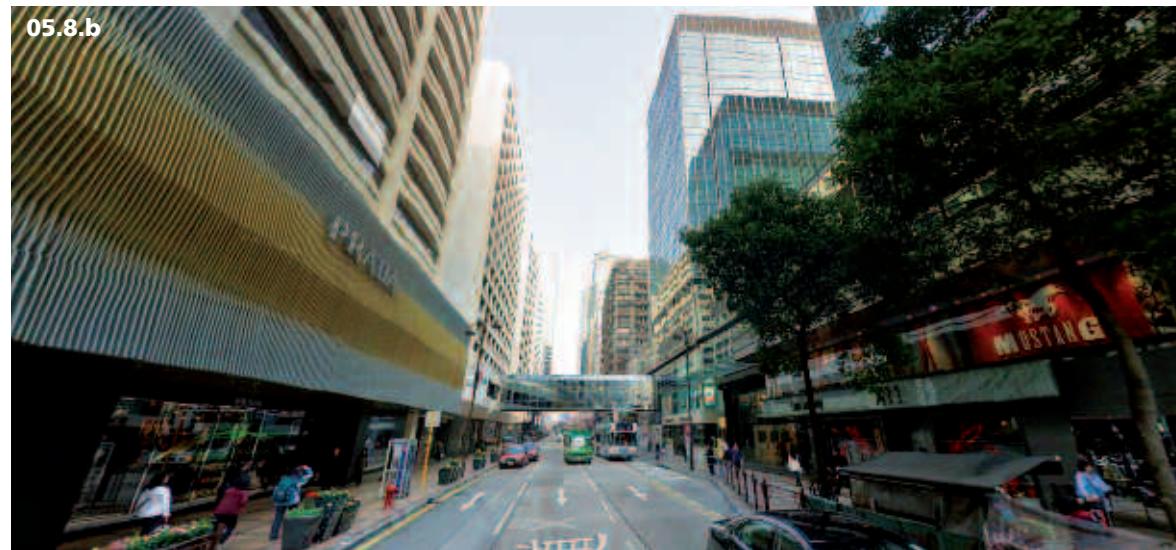
Can you already share your first impressions of our Cooperative? I was hired by Cmc just over two months ago, but my first impressions are very positive: so far I have only been in contact with people in our headquarters by phone or e-mail, and I have always found very kind and cooperative colleagues. I was extremely pleased by the personal interest shown by Mr. Macri, who came to Hong Kong and will soon be back to take part in a conference of which Cmc will be one of the main sponsors. I hope sooner or later I will be able to do the same and come to meet in person so many new colleagues in the historic Ravenna headquarters.

05.8.a A wonderful view of Hong Kong.

05.8.b The street where Cmc's offices are located.

05.8.c The new office interiors.

05.8.d Andrea Ciamei, in charge of Cmc's new branch in Hong Kong.



The façades of the Ospedale dei Castelli have been completed

Works are continuing at the building site for the construction of the new hospital Ospedale dei Castelli in Ariccia, near Rome.

Activities on the outer façades are at a very advanced stage, and finishing works in the interiors are continuing too.

The façades, including the windows, have almost been completed, the last finishes are being applied in the basement, and final works are ongoing on the ground floor too.

As regards the higher floors, utility systems are being routed and installed, plasterboard walls being erected, and footings being completed.

In the pictures: the western and northern façades.



05.9.c



05

05.9

work in progress

05.9.a



05.9.b



"Masha" has reached Turin

In Turin Cmc is currently working on the construction of the "Lingotto-Bengasi" leg of the Underground Line 1.

The Lingotto - Bengasi leg is approximately 1.9 km long and includes the construction of two stations ("Italia '61 - Regione Piemonte" and "Bengasi"), three ventilation shafts, and a 1.9 km tunnel, which will be entirely excavated by the Tbm. The pictures show the Tbm at Herrenknechtin's

headquarters in Freiburg, Germany, during the acceptance tests that were performed on 2 July. In October the Tbm, which cost around € 10 million, arrived at the construction site, where it will first be temporarily stored and then pre-assembled on the surface. At least 2 months will then be required to lower it into the shaft and complete its assembly. The name chosen for the "mole", allegedly by Turin Mayor Piero Fassino, is Masha, after the character of a famous Russian cartoon, "Masha and the Bear".

05

05.10

work in progress



05.10a

operativa Muratori e Gementisti

中国中铁工程装备集团有限公司
CHINA RAILWAY EQUIPMENT GROUP CO., LTD.

意大利C.M.C.公司与中国中铁工程装备集团有限公司
两台引水隧洞工程用岩石掘进机采购合同签字仪式



Two Tbms for Lebanon

05.9.a-c A picture of the Turin Tbm during the acceptance tests in Germany.

In the pictures, the ceremony held for the signature of the purchase agreement for 2 new Tbms that will be used in the project awarded to Cmc in Lebanon.

05.10.a-b The ceremony held in China for the purchase of two new Tbms for Lebanon.

Cmc was represented by **Ivano Andreis**, Cmc's Technical Services Manager. The Tbms are being supplied by China Railway Engineering Equipment Group (Creg), a company reporting to the Chinese Ministry of Railways. Agreement was signed on 17 July at Creg's headquarters in Zhengzhou, in the Henan Province. Besides manufacturing Tbms (approximately 50 per year), Creg builds locomotives, rolling-stock, and tunnel excavation equipment. Already supplied Tbms for projects carried out outside China in the past (Singapore, Malaysia, India, Sri Lanka), but only to Chinese contractors. This is the first time the Group has supplied a Tbm to a foreign contractor. In Lebanon Cmc has been awarded a contract for the construction of an approximately 24 km long tunnel for a water main that will supply Beirut. The contract value is around € 165 million, partly funded by the World Bank.



05

05.11
work in progress

Breakthrough at the Chinese Yindajihuan Project site

05.11.a Cmc's logo between the Italian and Chinese flags.

05.11.b The Tbm used for the Yindajihuan Project.

05.11.c Group picture for Mr. Casciaro, Mr. Liverani, ad Mr. Liang.

On 28 June the last rock diaphragm wall that separated the inlet section (excavated using an Nfm Tbm having an excavation diameter of 6.05 m) from the outlet section (completed using a Wirth Tbm having an excavation diameter of 6.21 m) of the Yindajihuan Project was broken through.

This project, which was awarded to Cmc in March 2011, is being carried out near the city of Xining, the capital city of the Chinese Province of Qinghai, and consists in the completion of a 24.2 km long hydraulic tunnel.

When Cmc joined in the project, the major Chinese company China Railways Tunnel Stock had excavated 10.4 km in approximately 6 years, leaving the Wirth Tbm stuck in a fault, with the shields totally deformed by the pressure exerted by the rock. Cmc divided the

activities to be carried out into two main parts: reassembling the Wirth Tbm inside the tunnel on the outlet side (after enlarging this latter section); and installing the Nfm Tbm, also inside the tunnel, on the inlet side, in order to speed up the works.

In the section under Cmc's responsibility, the breakthrough was achieved after excavating 400 thousand m³ of rock, pre-fabricating and installing 66 thousand m³ of concrete lining segments, overcoming 19 very complex faults, crossing several sections where methane gas was present, excavating some granite sections that caused a quick wear and tear of the cutters, and upgrading the dewatering systems, so as to effectively manage any flooding caused by the unexpected presence of large amounts of water. The breakthrough in this Yindajihuan Project will grant the city of Xining (Qinghai Province) access to drinking water by the end of 2015.



05.11.b



05.11.c



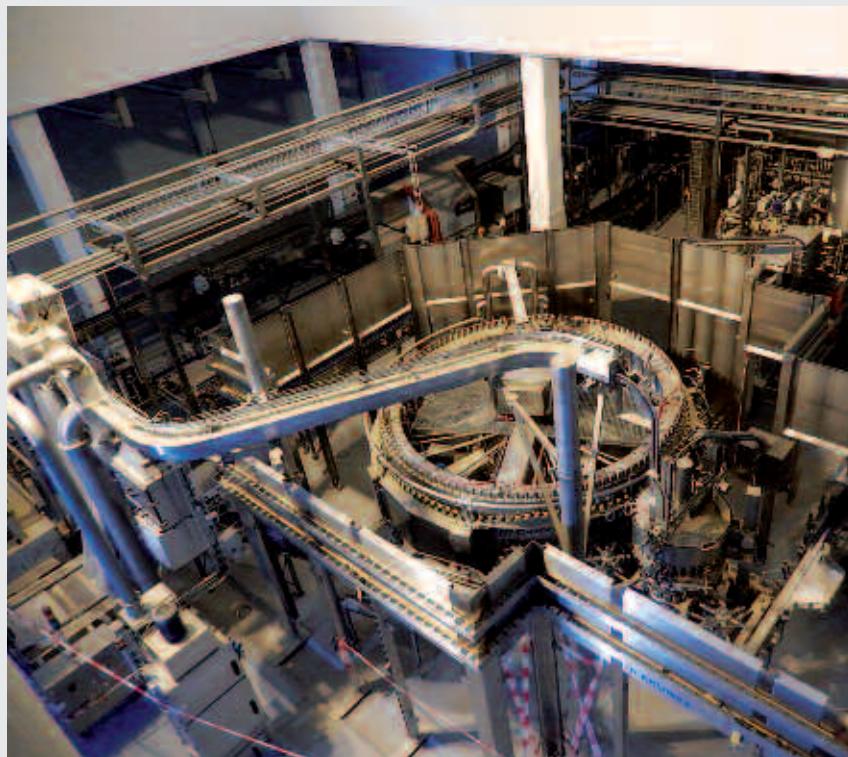
"Final stretch" for the Coca Cola plant

The project for the construction of the **New CocaCola Bottling Facility in Mozambique** is about to be finished.

The facility should start production in early 2016.

Here are some figures regarding this project, which started in 2014:

- initial contract value: US \$ 40.5 million;
- variations in contract value: approximately US \$ 4.3 million;
- piling works: 9,800 linear meters;
- reinforced concrete: 16,600 m³;
- iron for reinforced concrete: 1,120 ton;
- metal frames and structures: 1,200 ton;
- block walls: 17,000 sq. m;
- plasterboard walls: 1,800 sq. m;
- ceramic lining and floors: 5,200 sq. m;
- outdoor concrete floors: 3.400 sq. m;
- outdoor floors in self-locking tiles: 13.000 sq. m



An important donation in Chiomonte

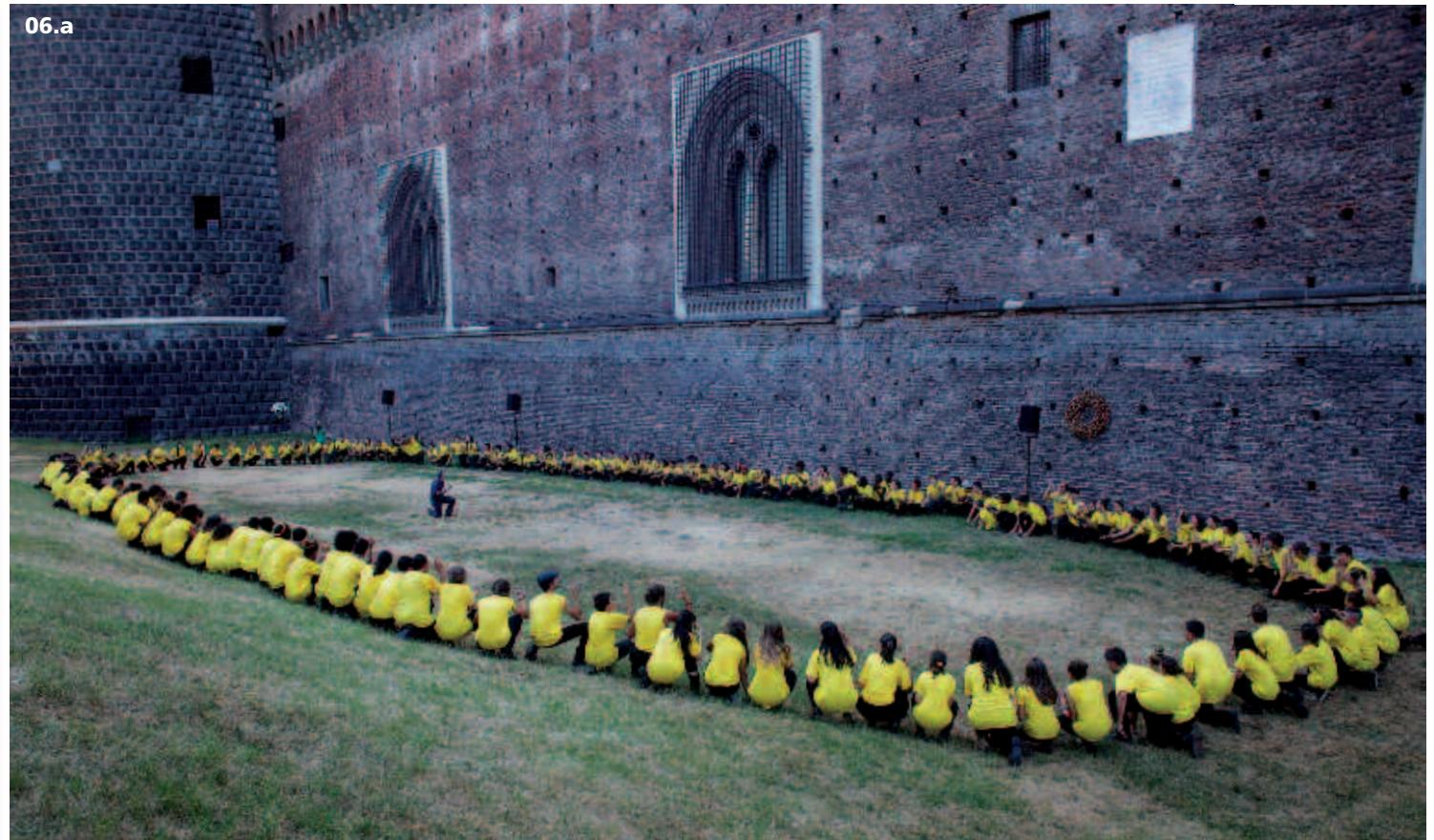
The Consortium Company Venaus, composed of Cmc, Strabag and Cogefis and currently working on the excavation of the exploration tunnel "La Maddalena", donated some educational material for children to the Chiomonte day-care center.

This center will also serve the families of the Company's workers at the construction site.

This initiative has been supported by the non-profit organization Imprend'oc and by Chiomonte Town Council, and is a tangible sign of the attention that Venaus Scarl devotes to the local community.



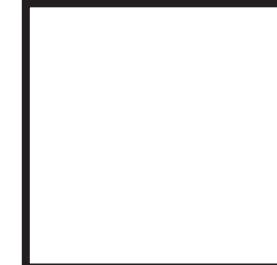
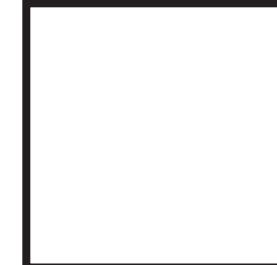
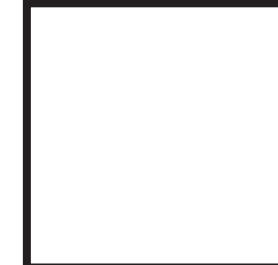
06.a



06

06

you and us



Heresy of Happiness in Milan

06.1.a A snapshot from the show in Milan.

Two hundred boys and girls aged between 7 and 20 years and coming from Sicily, Romagna, Milan, Sardinia, Senegal, and Belgium read the most rebellious, vital, and enthusiastic verses by young Mayakovski in their own style, thereby creating a unique theatre show.

Eresia della felicità (Heresy of Happiness) is the title of the unusual show that was put on stage every day, from 21 to 25 July 2015, in the moat in front of the entrance

of Milan Castello Sforzesco - an event set up by children and teenagers of different ages and from various cultures, and using different dialects and languages, who worked for months on the verses written by the Russian poets in his youth. Eresia della felicità is a project conceived by Marco Martinelli, a director and the founder of the Teatro delle Albe. The project was first put on stage a few years ago at the Festival di Sant'Arcangelo and was now set up in Milan too thanks to the Olinda association and, among others, the support of Cooperative Cmc.



Catania: the "Salvatore Fazio" awards ceremony

This year's awards ceremony in memory of Salvatore Fazio, an initiative Cmc has supported since its very first edition, was held on 10 June in Catania, at the University Department of Civil Engineering and Architecture.

Mr. Pierfrancesco Paglini, on behalf of Cmc, handed the first award to young engineer **Claudio Fiumara**, who graduated from the University of Reggio Calabria with a thesis entitled "*Modellazione del comportamento dei geosintetici applicati ai rilevati in terra rinforzata*".

Moreover, the Commission assigned four mentions of honor

to the theses written by engineers **Gaetano Coco** ("*Analisi dinamica Fem di paratie vincolate a mensola*", supervisor Prof. E. Motta, University of Catania), **Romina Giattino** ("*Stabilizzazione con cemento di un'argilla caolinica*", supervisor Prof. A. Federico and Prof. C. Vitone, Polytechnic of Bari), **Raffaella La Guidara** ("*Studio del comportamento passivo di un terreno in campo tridimensionale*", supervisor Prof. E. Motta, University of Catania), and **Angelo Sanfilippo** ("*Modellazione Fem di un muro in vera grandezza realizzato nello stabilimento della Maccaferri in Brasile*", supervisor Prof. M. Maugeri, University of Catania).

During the ceremony, hosted by Salvatore Picone, tribute was paid to Salvatore Fazio by his father, Pietro, who is a member of the Commission, and by Salvatore's colleagues and friends, among whom were Costanzo Di Gioia and Giorgio Comandè.

07

07
social activities

07.a

Fun and prizes at Polisportiva Cmc's event

07.a-b The Fogli Memorial.

07.c-f Memorable moments at the party.

On Saturday, September 19, 150 people met at the Wave beach club in Punta Marina for Cmc's sports club's traditional party.

Like in past editions, dinner was followed by an exciting round of SiLaDo, a fun group musical challenge which saw the triumph of team Nonna Papera (led by Angela Vincenzi).

The 8th edition of the Beach Tennis tournament **Memorial Gianmauro Fogli** was also held on Saturday.

The doubles team Marco Morigi - Maurizio Monte was awarded 1st place, Marco Valdifiori - Mauro Buldrini came in 2nd, and 3d place went to Gianni Contessi - Gianluca Batello. A rich selection of photos is available on Cmc's Flickr page.



07.c



07.b



07.d



07.e



07.f

Colleague Federico Blanc makes the Nationals!

Federico Blanc, a colleague working at Dce, has been playing Sitting Volleyball only since last January, but he has already managed to land the Italian National team and to play at the European Championships in Germany. We asked him to tell us about his experience:

"I started to play Sitting Volleyball on January 29 this year; I was in the locker room, I removed my prosthetic leg, put on my shorts and t-shirt, and made my way to the gym using my crutches. From that day on, I trained every week with perseverance and determination, and the results came soon enough! In early July I participated in the Italian Men's National Sitting Volleyball Meeting held in Parma at the "Pala Raschi",

one of shrines of volleyball in the 80s. It was an amazing feeling, almost impossible to describe! There were many "unbeatable" young men who rose to the challenges they faced in their lives with strength and sacrifice, so much so that they are now among Italy's best Sitting Volleyball players.

This is an amazing and noble sport because it allows both disabled and able-bodied people to sit and play as equals, without the need for aids or prostheses or other special equipment! This ensures a level of integration and competition that few sports provide in such a simple, effective and direct way.

After participating in that meeting and in others, in early October I was asked to take part, together with 12 other athletes, in the European Championships in Warendorf, Germany. Unfortunately we lost 3 matches out of 3, but that's certainly not going to stop us; we're going to keep training and sweating down at the gym!"

... and we are going to keep rooting for you, Federico!



