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ATB Riva Calzoni  
Semat and Fintro  
information magazine



# Objective Canada: Starting from Site C



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## An intense year that led to growth

The challenge is significant, but we have all the tools to be successful. The market requires us to be reactive, competitive, prepared. The new industry 4.0 principles show the way to a new way of producing and organizing resources. The conviction that only united can we build something concrete and trust in people and their abilities are the principles that have guided us over the course of 2017, a year of intense work during which we sowed well and which did not take long to begin to compensate us for the effort. In fact 2018 started off on a wave of a series of encouraging news.

The first was ATB Riva Calzoni and the Oil&Gas division that has kept the Roncadelle and Marghera plants very busy with the manufacturing of components for two major projects, TCO and Dangote. On the Large Hydro side, the acquisition of the contract in Canada for BC Hydro gave a positive boost to the company, projecting it onto a growing market, which in recent years has been pursued with great determination. We

will have to be good at developing it further, participating in and winning other tenders in the North American area. The visit by EDF and Orano top management a few days ago confirmed that we are also doing well in the nuclear sector and that at this stage we are satisfying the customer's requirements. This also means that the introduction of the lean manufacturing philosophy, first tested on cask manufacturing and progressively expanded to other divisions, is optimizing the way we produce, reducing inefficiencies and unnecessary activities, and fortifying ATB Riva Calzoni's corporate culture. This is thanks to the commitment of all those involved in the change, from the offices to the factory. This new "revolution" spurs us to be proactive in resolving the problems, dynamic and tough not only in emergencies.

We are also continuously growing in the field of renewable energy: Hydro Energia, acquired just over a year and a half ago, has reached the goal of closing the year on 31 December with balanced accounts. We are making investments in development and

research and at the moment we can count on an excellent order book, particularly in Italy and Albania. Now the goal is to bring the company back to profit and put ourselves forward in other markets: South America, Asia, and North Africa. 2018 will be decisive for the definitive start of the Wind division, reassured by the good performance recorded by the five 60 KW turbines installed in Italy and the 500 KW in service in Scotland.

The sales force wants to cross the borders of the Italian peninsula, to access those countries that are rewarding renewables with state incentives beneficial for private individuals willing to invest. Among these is, for example, Brazil where targeted sales initiatives will be concentrated in the coming months. The evolution of the Ilva negotiations on the table will have a decisive role in the future performance of the Group and of Semat Spa. In Taranto we have been and are holding firm, but now we are ready to hand over deliveries that with the entry of Arcelor Mittal will give new breath to the entire market. However, those prospects have meaning well beyond financial figures and future expectations: our strength, the real added value we provide are the men and women who put their effort and passion into what they do on a daily basis. I would like to convey to them my pride in belonging to and working together in this Group.

**Sergio Trombini**

*Chairman FINTRO Group*



# Objective Canada: Starting from Site C

*ATB Riva Calzoni was chosen by BC Hydro as a supplier for the construction of a hydroelectric plant at Fort St John, British Columbia*





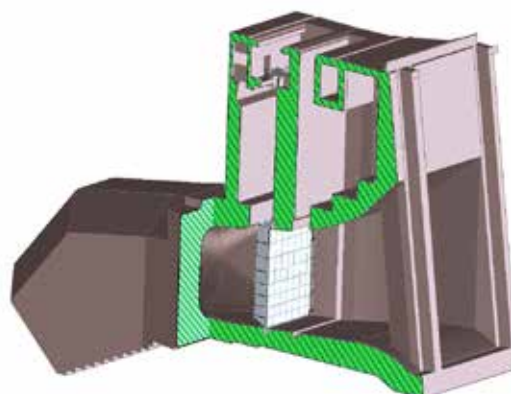
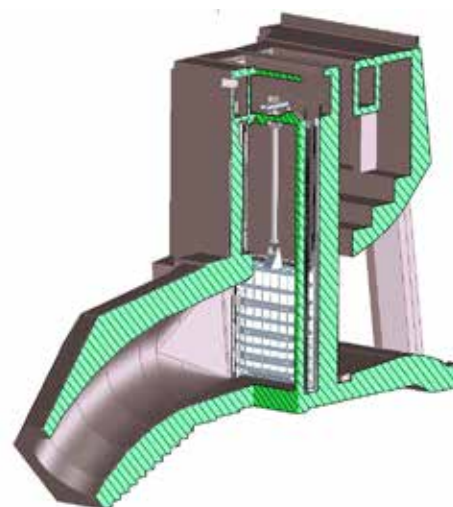
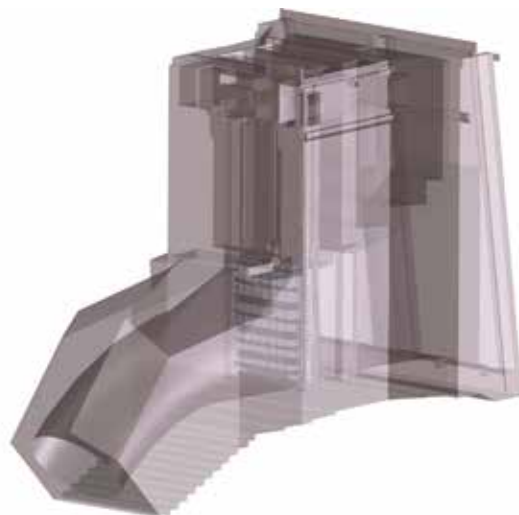


*The rendering of the hydroelectric plant under construction in Fort St John, British Columbia.  
credit photo: [www.sitecproject.com](http://www.sitecproject.com)*



In April ATB Riva Calzoni signed a contract that marked the beginning of a new path with interesting growth horizons. The agreement with BC Hydro for the construction of Site C's hydro-mechanical components officially brings the Brescia-based company into the Canadian and North American area. For four years the company will be engaged in the construction of a large 1100 megawatt hydroelectric plant, the third built along the course of the Peace River. Enrico Camparada, sales manager of ATB Riva Calzoni Large Hydro, explains "In 2015, in the face of an expanding international hydroelectric market, we took stock of the areas where we did not yet have a presence. In the last two years we have consolidated our connection with Canada organizing presentations, road shows, lunch and learn events, meeting people from many companies in the sector. Precise business development strategies have been put in place in our market analyses". Camparada emphasizes that in recent months, to increase our knowledge of the Canadian national economic system and sharpen our focus on the target, "we have participated in various tenders held by various Canadian public authorities.

This first award is the result of a long journey in which we invested with conviction. The agreement with BC Hydro is just the first, extraordinary objective that we are very proud to have achieved". An idea of the overall size of the project is offered by the details on the technical characteristics of Site C. The plant will produce about 5,100 gigawatt hours of electricity every year. This amount of electricity is sufficient to supply 450,000 homes a year. As a third project of the Peace River system, it will obtain considerable advantages in terms of efficiency, exploiting the water already stored in the Williston reservoir. This means that the site, according to estimates by BC Hydro, will produce approximately 35% of the energy produced by the nearby W.A.C. Bennett dam, with just 5% of the entire area concerned. The realization of the work is projected on the future scenario predicted by the Canadian public authority that foresees a 40% increase in the local electricity demand for the next twenty years. An increase that will correspond to an increase in the population and the economic expansion in the north-east of British Columbia. The economic benefits that Site C is bringing to the territory are also to be considered: since the construction started in 2015, the project has created many jobs. In March 2018 there



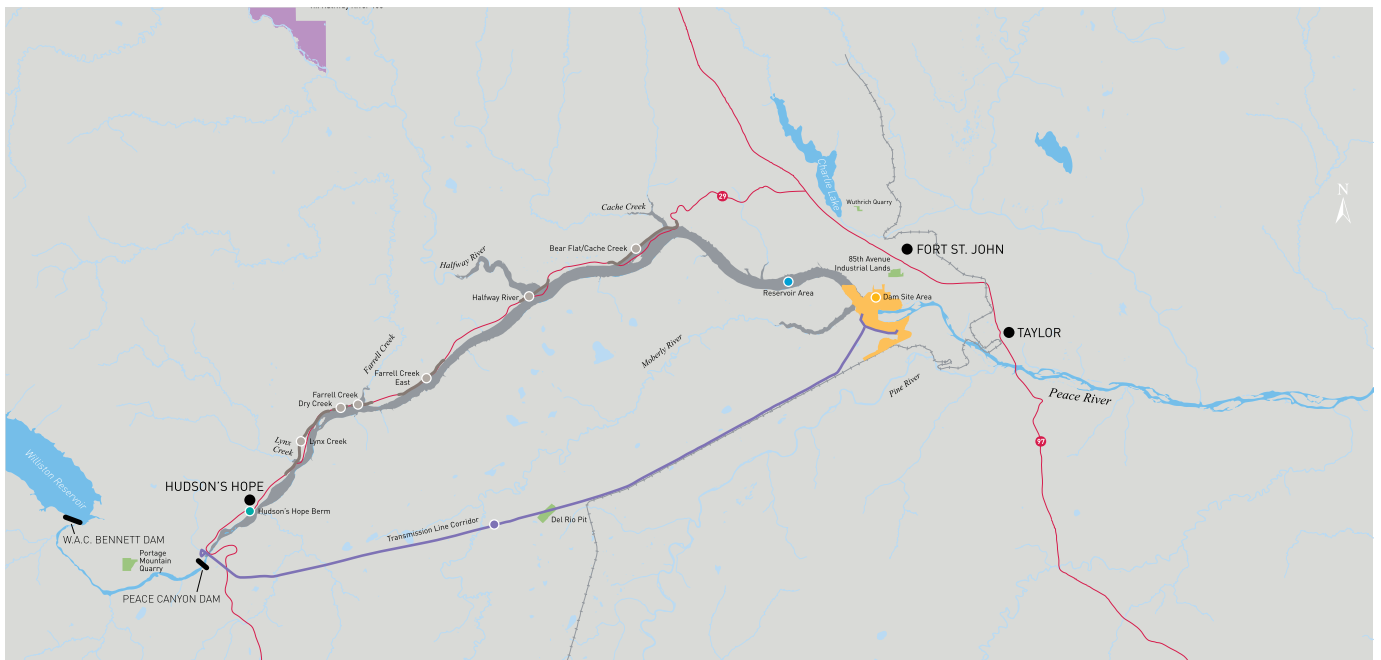
*Rendering of the Site C Intake Gate*

were already more than 2,000 workers on site and many others will be added in the coming months. In this overall framework, ATB Riva Calzoni was chosen by the client for the supply of the entire HME Package: from the engineering of the hydro-mechanical parts to their production, from transport to the site to supervision in the final installation and commissioning phase. Considering the size of the order Camparada adds “We have organized locally to best meet every operational step. A subsidiary has been set up, ATB Riva Calzoni HydroCanada Inc, based in Vancouver, which will have the task of following the project step by

step, but in a broader perspective will serve to meet the needs of the entire geographical area in general”. BC Hydro expects the works to be complete in 2024.

Meanwhile the civil works and the excavations on the north and south banks of the Peace River continue on the site. As regards ATB Riva Calzoni, the engineering phases began with the signing of the agreement. The first deliveries of the components, which will be built primarily in the Roncadelle workshop, have been scheduled to start in the summer of 2018, but most will take place between 2019 and 2020. Furthermore, for the entire

two-year period 2022-2023, ATB RC will have to supervise the installation and commissioning of the hydro-mechanical equipment. During the design phases, in collaboration with the University of Lausanne, laboratory tests will be performed on a scale model that will be used to verify the correct operation of the main equipment and analyze its dynamic behavior, simulating the most severe operating conditions.



BC Hydro is a Canadian state-owned company founded in 1860. Today the utility produces and distributes electricity to 95% of the population of the province of British Columbia, a geographical area inhabited by over four million people. The first hydroelectric plant designed by BCElectric, inspired by an idea of the financier Robert Horne-Payne and Frank Barnard, was constructed in 1898 with funds coming from England. In 1928 the control of the company passed to the Power Corporation, based in Montreal. Twenty years later, the govern-

ment formed the BC Power Commission, a state-owned company that is credited with having extended the electricity grid to rural or more isolated areas of the province, constructing new power plants, and upgrading the transmission systems. To facilitate the development of the projects on the Peace and Columbia rivers, in 1961 the provincial government acquired BC Electric, then merged it with the Power Commission to create a new Crown Corporation: the British Columbia Hydro and Power Authority, better known as BC Hydro. The company ex-

perienced a period of significant growth in the 1960s and 1970s. In the following decade it invested heavily in research and development, IT services, and focused on the construction of new generation plants. In the new millennium BC Hydro has worked to raise awareness of environmental protection and encouraged the use of clean energy to meet the growing demand for electricity in British Columbia.

credit: [www.sitecproject.com](http://www.sitecproject.com)



# Dangote takes shape in the Marghera plant

*The production of the two reactors for the first private Nigerian refinery is well under way*



The structure of the two reactors commissioned by DangoteRefining Ltd is progressively taking shape and today occupies one of the spans of the ATB Riva Calzoni factory in Porto Marghera. One hundred and ten meters of low-vanadium steel, for a total weight of 3,200 tons. Seeing this huge component stretched out on the row of supports is an impressive sight. Considering the progress of the work, it can be said that the manufacture of the two components, among the largest ever produced in the world, is now well underway. In recent weeks the first pressure vessel was completely assembled.

"Between May and June the final tests, localized heat treatments and hydraulic

tests will be carried out. At this rate, the manufacture, currently at 80%, should be completed by July" explains Gabriele Campigotto, ATB Riva Calzoni production manager. On the other hand, the two sections that will comprise the second UOP mild hydrocracking reactor are being assembled as the internal hardening has just been completed. Campigotto continues "After the application of the rings on the build up we will continue with the closing junction". The works, in this case, are scheduled to be finished August, after completing all the final tests. "Everything is going according to schedule and at the moment we are in line with the schedule established by the customer" notes Riccardo Rossi, project

manager who is supervising the Dangote project for ATB Riva Calzoni. Once finished, the equipment will be transported from the plant to the quay with special trailers to be loaded on heavy load carriers.

*on the right:  
The assembly works and final tests on the  
two pressure vessels continue.*





## The petrochemical complex

By 2019 the first private refinery in Nigeria managed by Dangote Refinery, one of the group of companies headed by the African millionaire Aliko Dangote, will be in operation. Babajide Soyode, the technical adviser of the patron, announced it to the news agency Apa. The project is outstanding: it is the largest petrochemical complex ever built, with the second urea-based fertilizers unit in the world, and a 1,100-kilometer

subsea pipeline system. It is a pipeline capable of transporting 3 billion cubic meters of oil per year. When it is fully operational by DangoteRefinery, the complex currently under construction over 2,000 hectares inside the Lekki Free Trade Zone (located to the east of Lagos city) will have an output of approximately 650,000 barrels of oil per day. The structure will have a direct outlet on the Atlantic Ocean and will be

equipped with a petrochemical plant for the production of polypropylene and with a power plant to generate the energy necessary for its operation. In addition to the primary refining units, it will also have the FCC, DHT and CCR processes required for processing heavy crude oil from the West African fields.



# A trip through the Sannazzaro de' Burgondi worksite

*In the workshop set up in the refinery, works are being carried out on projects commissioned by Eni for the expansion of the plant*

Rain and mist envelop the day in a palette of gray and soft tones. We are in the middle of the Po Valley, between the banks of the Po and Ticino rivers, immersed in a landscape which, with the changes of the seasons, alters the weather and the moods of those who pass through it. On the sides of the road the wide perimeters of cultivated

green extend into the horizon of the countryside. On the road we meet a man who is pushing a cart of wood to one of the farms scattered around the town. Something of the ancient industriousness, of the peasant essence of this land has remained intact. The silent farming follows the flow of the Great River. But since 1963 the economy of Sannazzaro de' Burgondi

gravitates around the processing of oil. Ever since Enrico Mattei, in the thrust of post-war reconstruction, decided this territory with a rural vocation should host one of the most efficient refineries in Europe. The small town in the Province of Pavia was also chosen for its strategic role: positioned along the Central European oil pipeline route, the one connecting the



*The assembly phases of one of the sheds on the area granted by Eni.*



Genoa terminal with French Switzerland, and within the Milan-Turin-Genoa business triangle. Today in Sannazzaro ATB Riva Calzoni is engaged in two projects that will lead to the expansion and implementation of the refinery. The first job, on behalf of Eni Spa, concerns the design, construction, and supply of a D2301n reactor that will serve to increase the refinery's potential, which is currently able to produce more than 10 million tons of crude oil every year. The second job, commissioned by Eni Progetti, will require the engineering and manufacture of two separators to be installed in the so-called EST section (Eni Slurry Technology), an annex of the refinery created in 2013, which using an innovative technology recovers the processing waste to obtain pure products such as naphtha, valuable middle distillates, and diesel oil.

The particularity of this job, which as recalled by Salvatore Poddighe, Oil & Gas sales director of ATB RC, "consolidates a relationship with Eni which began more than ten years ago", is all about logistics. The transport limits in force on Italian roads with regard to exceptional loads have forced the company to find an alternative solution that would allow the intervention to be carried out in compliance with the schedule established by the customer. "We have set up a temporary workshop, equipped with machinery for assembling the shells directly on site," explains Riccardo Rossi, project manager for ATB Riva Calzoni. The reactors, manufactured in section at Roncadelle, will be finished (section welding, heat treatments, hydraulic test, painting, final tests) in Sannazzaro, a few hundred meters from where they will be installed. Having completed the preparation of the plant, in mid-April the welding activities began.



## The site

*The Sannazzaro refinery is more or less twice the size of the municipal territory of the two towns that host it: Sannazzaro De Burgondi and Ferrero Erbognone. Entering the main entrance and following the main road that crosses it, between storage and production facilities is the temporary yard that ATB Riva Calzoni set up in January 2018 to simplify the assembly operations of the components and that will remain active until the beginning of 2019. Gabriele Campigotto, ATB Riva Calzoni director of production explains that "we are working in an area assigned by Eni. We equipped it with a platform with tracks where we installed two sets of pipe wrenches, 1000 tons each, a submerged arc welding machine able to meet the welding specifications, and all the necessary equipment for the successful outcome of the junctions. The site is organized with three sheds and containers allocated as offices, inspectors' room and visitors area, a small warehouse, and an area for the generators to produce electricity".*





# Uganda: Work on the HPP2 hydroelectric plant begins

*The branch is operational: The onsite office on the shore of the Achwa river, in Northern Uganda is open.*

It takes seven to eight hours to get there by car from the Entebbe airport. Along the trip it is possible to enjoy the landscapes of the Great African Lakes region: plateaus, mountains and reserves, natural parks, savannahs. To reach the far north of the country, almost up to the border with South Sudan, you must drive over the Acholibur- Gulu- Olwiyo Road, 167 kilometers of paved road connecting the cities of Acholibur, Gulu and Olwiyo. Halfway along, where the road meets the Achwa river, the dirt road crosses the bed of the river.

Another half hour by jeep to get to destination. That, is, the HPP2, in the Pader district (North Uganda), the site on which Pac Spa has been working for a couple of years on the construction of a hydroelectric plant, one of the five that our client, Arpe LTD, has planned to build in that area in the coming years. With respect to the ATB intervention, Riva Calzoni was assigned for the design, construction, transportation and installation of all the

hydro-mechanical equipment of the 42 megawatt hydroelectric plant with a capacity of 281 GWh annually. Giuliano Garavelli, project manager for ATB RC, at Achwa to set up the onsite office explains that "in order to properly operate in Uganda, we had to open a branch that will carry out the assembly part directly onsite. The team is made up of about thirty people: Italian expatriates, some colleagues from our Colombian branch and local staff". The job order includes sluice gates, debris removers, banks and accessories, components produced in the Roncadelle and Medellin plants.

In addition to supplying all the equipment, the company also assisted the customer in basic engineering studies on the functionality of the system, the installation of controls, the hydraulic and electrical parts to be carried out onsite. Mr. Garavelli adds that "in this first phase of the work the branch structure was put into operation with the assignment of some key positions: Human Resources

manager, Procurement manager, Health and Safety Executive, and with the arrival of the first crew from abroad, we started the assembly operations.

A part of the civil works carried out by Pac Spa has already been completed, it is a matter of completing the part that belongs to us. The construction of the water supply channel that conveys the water from the Intake to the Forebay is at 50%. The construction of the Forebay, where the sluice gates will be installed, is at its beginning, while the power house is at a good point, where the turbine and the discharge banks will be installed". At the moment the personnel of ATB Riva Calzoni is assembling the fixed parts of the gates of the Weir and Intake banks





*The progress of the civil works of HPP2 curated by Pac Spa.*



*The power house in which the turbine exhaust pipes will be installed.*



*An aerial view of the site on which the Arpe LTD hydroelectric plant will be built.*

# Lean Production for an intelligent and efficient factory

*Since November 2017 ATB Riva Calzoni is aiming for a new management model: increased efficiency, less waste, greater problem-solving capacity.*



*The morning meeting to review production progress.*

**O**ptimize the work, in the workshop and in the offices, from estimating through the delivery of the finished piece.

Increase the efficiency of the procedures to eliminate yield losses, waste, and reduce delays. These are the macro objectives, the focal point of lean manufacturing, that essentially support the content of the many posters affixed to the walls of the Obeya Room, in Japanese "the big room".

In November 2017 ATB Riva Calzoni began applying new organizational principles that will revolutionize its process management models.

With the support of Staufen consultants, the company is focusing on the application, in this initial phase in the nuclear division, of the concepts and tools offered by so-called lean production. "Lean thinking is a real philosophy of business management, a set of principles, methods,

and techniques for the management of operational processes, the goal of which is to increase the value perceived by the end customer and reduce waste" remarks Marina Archetti, Lean Engineer for ATB Riva Calzoni. "The approach to lean thinking must be interpreted as an opportunity for radical change, a new way of reasoning that affects not only the operational aspect, but also and above all the corporate culture".



The process, which began in earnest at the beginning of 2018, has involved all levels of the company. The initial projects were anticipated by the drafting of a value stream map, to describe the initial situation in detail, and a series of initial analyses, interviews with department managers, project managers, project engineers, and designers. "We started with production to think about a structured system of order management from the point at which the forged parts enter the workshop to when the finished components come out" explains Laura Marzollo, Quality

Assurance Engineer for ATB Riva Calzoni. The progression of the manufacture of nuclear orders is indicated in a board displayed in the mechanical department. "The level of efficiency is displayed next to the machines. Every morning a meeting is held to verify the progress in production, review the activities of the previous day, and identify those to be carried out during that day" adds Marzollo.

The same method is now guiding other projects also: Pama management to increase machine performance, avoid

waste, and schedule maintenance; welding management, to monitor the performance of welding machines; global management of the order, that is, from the moment the proposal arrives to when the piece is shipped, through all the functions of the sales and procurement office. After the experimentation in the nuclear sector "Chairman Sergio Trombini has decided to extend lean production to all the other divisions, starting from Oil&Gas and Large Hydro. This will involve a reorganization of the production engineering departments of these sectors as well" specifies Marzollo.



from left: Laura Marzollo, Marina Archetti, Luca Cotti Piccinelli, Gianluca Richiedei and Moreno Ghelfi.

In February another project began, Ideal Plant, for the design of an ideal factory layout. Starting at the end of April we will begin to think about problem solving, she concludes, "that will concern the resolution of the critical issues, searching out the root causes, to identify and eliminate them to make sure that the problem does not recur".

*Lean thinking is a true business management philosophy. The set of principles, methods, and techniques for the management of operational processes are intended to increase the perceived value by the final customer and reduce waste and costs. The approach to lean thinking is an opportunity for radical change, a new way to see things not just from an operational standpoint, but also with regard to corporate culture*



# Hydro Energia: A first year of successes

*The company increases orders, invests in turbine improvements and in smart operation*



It is a good time to analyze Hydro Energia's results, and not just from a strictly financial standpoint. Over the last 18 months the company, acquired 100% by ATB Riva Calzoni in September 2016, has implemented an overall development plan that involved the internal organization of the company, the product itself, and the business strategies adopted in the different markets. Elmondo Presutti, Chief Executive Officer of Hydro Energia is the first to make an initial analysis of the results achieved in 2017. He comments that "We have behind us a year and a half of successes in which we have practically doubled our order volume with 24 million in new orders, consolidated our position in Italy, and strengthened relations with the main Italian multi-utilities". Targeted marketing and calibrated sales strategies have returned reassuring results even on foreign markets. "The company has also strengthened its business structure through the ATB Riva Calzoni sales network, now present in 26 countries. We have worked hard on the promotion of the brand and our capabilities in the small hydro sector also through our participation in events and international

fairs in Latin America, South East Asia, Africa, the Balkans and Eurasia." From the operational point of view 2017 was a positive and encouraging year. In total, nine hydroelectric power plants were installed, ranging from 0.3 to 5.0 MW, six built and commissioned and another three revamped.

Particularly satisfying was our work in Zabzun, Borove, Denas, and Sebishte in Albania and Crava in Italy.

The idea to open the Artogne plant, specifically for renewables, proved to be a winning idea, enabling the company to start the improvement of the supply chain and procurement management, concentrating manufacturing and pre-assembly in a single location. The strongest push for the growth of the company will soon be noticeable as a result of the investment program HydroEnergia has put in motion for research and development. In fact, during 2017, technological development activities focused mainly on two areas: optimization of turbine performance and smart operation standards.

Federico Tartaro, COO of Hydro Energia





explains that “the first area was addressed along two lines, both still underway. The first is the improvement of the design and methods of application of profiles, to obtain higher yields in terms of performance or to obtain an improvement of the hydraulic behavior with respect to, for example, the critical phenomena such as cavitation resistance”. This activity was mainly based on the design and implementation of proprietary calculation tools, and on the use of CFD

(Computational Fluid Dynamics) tools to simulate the behavior of the profiles in question. “The second line concerns the engineering and preparation of a highly accurate measurement and traceability system, using the best sensor and data acquisition technologies available today to enable the validation and calibration in the field, with the maximum certainty, on a prototype operating on the engineering hypotheses”.

As anticipated, concrete progress has

been made in applying smart operation concepts. “Quality, continuity and control during operation are critical for achieving good results from hydroelectric projects”. In order to make the best use of the internal expertise in the analysis, prevention, and follow-up of the possible problems of already operational plants, a set of software tools, web-based and supported by open source logics, was developed to enable a low cost, effective, smart approach to the acquisition and



processing of critical plant parameters. Mr. Tartaro adds that “These tools, in addition to providing our technicians with effective diagnostic tools, are available for free to all Hydro Energia customers as part of the technology package developed with a simple and always accessible interface

independent of the device. The package is in fact able to make the status and trends of the plant parameters immediately available. The purpose of all of this is to bring small hydro technologies closer to the IoT (Internet of Things) paradigm in order to provide plant operators with

artificial intelligence tools for the analysis and prevention of anomalies and failures”.



## New foundations for the Pama boring machine

*The work inside the ATB Riva Calzoni industrial shed 5 was completed in just three months*

The construction of the new Pama boring machine foundations was completed in record time, working non-stop from the end of December to mid March in shed 5 of the ATB Riva Calzoni plant. The dimensions and the extent of this work, designed by engineer Raffaele Ghitti, are explained with figures by Venturino Magnolini of Semat Spa. "The work consisted of a significant demolition of the old foundations on which the new foundations were built. We are talking about approximately 850 cubic meters of concrete, 350 cubic meters from

excavations to reach the needed depth for a total of 2200 tonnes of debris for disposal".

The demolition began shortly after Christmas and at the beginning of January the works for the foundation intended to support 300 tons on the rotary plate and 100 on the machine column were begun. He added that "overall, the structure needed 1000 cubic meters of concrete, 55 tonnes of rebar and a 10 man-crew".

On March 15, in full compliance with the schedule established by ATB Riva Calzoni, the foundations were ready to

be commissioned. After the protective painting, Pama personnel carried out all the necessary checks and load tests before starting the assembly of the boring machine, which is now ready to operate.





*Works in shed 5 of the Roncadelle plant.*



*The foundation for the new machine was constructed in the same place as the old one.*

# Ongoing operations at Ilva: Maintenance, transport and new projects

*Awaiting the transfer of ownership,  
Semat continues to make progress on the interventions in the Taranto steel mill.*



While the negotiations for the sale of Ilva to AM Investco Italy (controlled by Arcelor Mittal) are still ongoing, Semat Spa continues to guarantee its operation within the plant still under extraordinary administration. In fact, the annual contracts for building and refractory maintenance, civil works and transport structures continue, which Ilva has just extended for another three months while awaiting the developments that should soon materialize with the new ownership. One of the most interesting innovations of the current transition phase is the new close collaboration with Paul Wurth Italia,

a member of the SMS Demag Group, one of the world's leading players in the design and supply of technological solutions for the steel industry. Gian Domenico Cuscela, technical director for Semat Spa at Ilva explains that "we are working with Paul Wurth Italia on the construction of two areas on which the heat exchangers for Afo 4 and Afo1 (blast furnace 4 and 1) will be installed, two systems used to recover the heat dispersed by the blast furnaces. Currently in AFO 4 we are constructing the foundations and subsections with large diameter piles with a fourteen-man crew, while the excavations are under way on AFO 1. And if everything goes







according to plan, both interventions will be completed by the end of July". In the meantime, other works are being carried out in the slag pot dumping system of the scrap iron management area for the disposal of the slag.

This project has been expanded compared to the initial contract. In fact, the entire line has been extended by around 90 meters. On the other hand, the piling works for the future construction of the showers of battery area 7-12 have just begun.

Mr. Cuscella adds that "we are building the foundation piles of the quenching showers, a preparatory work for the construction of the showers themselves. For this reason we are already in contact with the general contractor which will have to assign the construction of these reinforced concrete structures". The work in the steel mill in the last few months is rounded out with a further assignment: restarting the waterproofing works of the limestone storage areas in the Limestone Production Area (PCA), interrupted some

time ago due to problems with the plant operation.



# short news

## EDF in visita a Roncadelle



On 12th April 2018 a delegation from the top management of Orano and the multi-utility EDF visited the ATB Riva Calzoni offices and the plant in Roncadelle. This was a meeting organized to monitor the manufacturing progress of a new series of nuclear fuel transport containers (casks) that ATB Riva Calzoni is producing

for Orano. These casks will become part of the French electric generation and distribution group's equipment. The day started with a welcome meeting, followed by a company presentation, then a shop tour at the end of which chairman Sergio Trombini greeted the guests. Francesco Squaratti, Oil&Gas and Nuclear operations

manager, commented that "Orano and EDF expressed their appreciation. They were impressed by our industrial skills and the work we are doing on the casks. This visit confirmed the desire to continue the collaboration also in other areas".

## First TOFD tests on casks

In April ATB Riva Calzoni carried out TOFD tests for the first time on the casks constructed for the nuclear market. In fact, the legislation has recently extended the possibility of using the Time Of Flight Diffraction technique for this kind of product also. TOFD is a non-destructive ultrasonic computerized test for welds. It has the additional advantage of keeping a record of the scans carried out which is useful to compare them over the lifetime of the component. For these tests, which have largely replaced the radiographic tests used for this range of thickness

for the last twenty years, a dedicated calibration component was constructed specifically for the setting of all the instrumentation in order to validate, with a recorded procedure, the ability of the system to identify even minimal defects as required by the standard. Alessandro Filosi, quality compliance manager of ATB Riva Calzoni, explains that "the cask needs to be rotated to facilitate the continuous passage of the six pairs of probes from the calibration component to the body of the component to be tested". He also adds that the work with Stefano Quetti

and his team has been "a long process of study and research carried out within the company, in collaboration with the Italian Institute of Welding (ISS) and with the end client, both to develop the calibration component in accordance with the specifications and standards set by the client, and to prepare and implement a scanning plan suitable to test this kind of weld".



## Workforce doubled for the second intervention at Thal

The second step to extend the lifespan and upgrade the welds of three carbamate separators of a Thal plant in the city of Alibag, in the state of Maharashtra, South East India, will be completed by the end of June. The units, used for the production of urea and ammonia, were supplied by ATB Riva Calzoni in 1982. The first phase of the service ended successfully in early January. In just two weeks the lining welds worn out by the years of operation were restored. For the second step, in May, a team made up of double the number of welders, supervisors, and CND operators will work onsite for about 12 days. Nicola Terlizzi and Nicola Bibbo of the Service department of ATB RC comment that “this time we had minimal advance notice; the request for the first intervention came around Christmas, and by the first week of the year we had already organized the entire activity and logistics”. They explained that the logistical and operational support of ATB India was critical: “it enabled us to be autonomous as regards the welding equipment and for the procurement of consumables necessary for the tests”.



## Aurecon: “We are very satisfied with you”

Just a few weeks after the commissioning of the new Massingir dam in Mozambique, Aurecon, appointed by Ara Sul as the project manager for the works on the Elephant River, sent a letter expressing its satisfaction with the excellent collaboration established with ATB Riva Calzoni, chosen by CMC of Ravenna as the supplier of the hydromechanical equipment and bottom discharge. The letter points out that “the supply, installation and commissioning of the equipment was completed successfully. The works carried out by ATB Riva Calzoni are of high quality. The installation was carried out with great precision; the level of detail received from your offices met very high standards in terms of accuracy of calculation, quality of drawings, and completeness of the reports sent to us”. On behalf of the company Alan Chemaly of Aurecon South Africa LTD said he was “very pleased to have worked with a company



that enjoys an excellent reputation”. An excellent opinion that opens the door to possible future collaborations. Chemaly also writes that “we will recommend your service to other companies and

to all our contacts. We look forward to working with you again and continuing this relationship”.

**FINTRO** spa

# Financial year 2017, the recovery is good for Energy and Construction

*Economic growth had positive effects on the Group's performance: continuous turnover and encouraging prospects*



The positive signs are beginning to be noticed. The expansive phase of the world economy showed its initial effects on the overall performance of the FINTRO Group. The situation of the holding company headed by Sergio Trombini is well outlined in the financial year 2017 financial statements presented by the directors in late April 2018. It is a document that highlights the signs of recovery for the two reference markets in which the group operates. The value of production, as regards the year just ended, amounts to €170 million, about one third of which was generated in the Construction sector and the remainder in the Energy sector. Carlo Scolari, CFO of Fintro Spa highlights

that "In terms of turnover, we are more or less in line with last year. The most positive news is the reduction of debt to banks, which created some problems the previous year with the bank's rating and which has now definitely improved, from 54 to 42 million".

Overall, the group has maintained the positions acquired in the past in the various business areas. ATB Riva Calzoni has made substantial progress on the 2016 order backlog, achieving a turnover of over 100 million thanks to the excellent performance of each individual division. Beginning with Oil&Gas which, after an uncertain debut, has seen its reference market go up again since mid-2017, thanks

also to the trend of the dollar and oil prices. A combined effect that has reignited the investments of large companies. In fact, at the end of the year, the company had already acquired an order from SK Energy in South Korea. During the year, the reactors for the Malian Rapid project, commissioned by Sinopec, and Jazan, for Saipem, and destined for Saudi Arabia, were manufactured and delivered, while the activities related to the TCO and Dangote components will wrap up by the end of 2018.

The Nuclear division also faces a very encouraging scenario: in fact, the collaboration with Orano (former Areva) continues in the production of a new type



of container used for decommissioning operations. In 2017 there were new orders for €5 million, which could lead to the confirmation of supplies for over €20 million by the end of this year. And even though the hiring process of new workers in the Large Hydro sector significantly slowed down in 2017, the general picture was revived by the signing of the contract with BC Hydro that involved the entire supply of the hydromechanical parts of Site C. The construction of the power plant, now underway on the Peace River bed in British Columbia, Canada, will keep ATB Riva Calzoni busy until 2023. In the list of works already completed are the Massingir project in Africa and Ituango in Colombia. The Kamuzu worksites in Malawi, Alto Maipo in Chile, and NamTheun in Laos are still active and all preliminary activities were carried out in 2017.

The renewable sector is performing well also: with regard to wind power, five 60 kW turbines were installed in Italy. The feedback gathered from this first phase suggests that this line of business will grow over the next few years, even abroad. Significant expectations are focused on countries like Brazil, where the tariff regime is, and will be, particularly favorable for 750 kW turbines. Following the FINTRO Group's acquisition, Hydro Energia is growing again. The company located in Verbania, controlled by ATB Riva Calzoni since the end of 2016, has acquired orders in Italy, mainly from Enel, also expanding its share in foreign markets that have shown interest in small hydro turbines, primarily Albania.

Stability is the word that best describes Semat Spa in 2017: the subholding in the construction sector has continued to work in the most important steel mills in Europe, maintaining its turnover pending developments that will affect the Ilva situation in view of the transition of the ownership to ArcelorMittal. The financial statements showed a significant increase in orders at the Riva Group plants in France and Germany, while within Italy new relationships were established with Geko and Siderurgica Triestina. In Taranto, Semat made a fundamental contribution to the environmental compliance program, which should start being implemented in the Ilva steel mill in the coming months.

## General information

The data summarized in the table shows the performance of the FINTRO Group in the financial year 2017, compared with the same indicators recorded in 2016. The Value of Production achieved in the 2017 financial year is slightly lower than that recorded in the 2016 financial year (-2.7%) mainly due to the lower volume of business by the Construction Sector, which saw its activity reduced due to fortuitous situations related to its main client (ILVA in AS) awaiting the start of significant environmental compliance works at

the Taranto plant. The Gross Operating Margin (EBITDA), representative of the Group's operating capacity to produce income, was 7.0% of the value produced, thanks above all to the contribution of the Hydroelectric division of the Energy Sector which achieved positive results in the completion of important projects in South America. The Operating Income (EBIT) improved compared to the previous year both in absolute terms and percentages, having completed the provisions relating to the loans caught up in the ILVA procedure. The Group's Net Result, despite the significant impact of the losses incurred by the Malaysian subsidiary MMHE-ATB, is positive for €654,000.

The Net Financial Position, which represents the Group's total debt to the financial system, decreased significantly during the year, from 54.1 million at the end of 2016 to 42.3 million at the end of 2017, thanks to the receivables collected from customers, which have enabled the repayment of bank advances used to finance on-going projects.

At the end of December 2017, the Group employs 1,132 people.

	2017	2016
Value of production	170.023,29	174.736,70
Variation %	-2,7%	
Ebitda	11.830,46	14.741,80
Margin %	7,0%	8,4%
Ebit	6.657,78	6.041,58
Margin %	3,9%	3,5%
Net income	654,33	1.459,03
Margin %	0,4	0,8
PFN	42.342,22	54.092,98
No. of employees	1.132	1.530



## Hydroelectric Power Plant Massingir - Mozambique

photo by:



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## PHOTO CONTEST

We invite you to take part in the photo contest. Send us your pictures of the ATB and Semat projects all over the world. The best will be published on our website and on Fintro Group Magazine.

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## EXPOSITION



San Pedro Sula - Honduras - 05-09 June 2018



Charlotte, (North Carolina - USA)  
Charlotte Convention Center  
26 - 28 June 2018



Jakarta - Indonesia - 18 - 20 September 2018



Fortaleza - Brasil - 24 - 25 October 2018



Hamburg - Germany - 25 - 28 September 2018



Santiago - Chile - 20-21 June 2018



Rimini - Italy - 6 - 9 November 2018



Medellin - Colombia - 5 - 6 December 2018

Gdansk, (Poland) Amber Expo  
15 - 17 October 2018



Johannesburg - South Africa - 17 - 19 July 2018

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