M NEWS
MARTIFER GROUP

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MARTIFER
GROUP

ITER

The largest nuclear fusion energy project worldwide

ENTREVISTA

Hugo Camacho, COO of Martifer Metallic Constructions

RESEARCH AND DEVELOPMENT

Innovating solutions for new architectonic challenges

MARTIFER METALLIC CONSTRUCTIONS

Shipbuilding and shiprepair at cruise speed

MARTIFER RENEWABLES

Windart -The world's highest contemporary art project

SU SUMMARY

MNEWS
MARTIFER GROUP

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PERIODICITY
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TRANSLATION
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COVER

ITER

The largest nuclear fusion energy project worldwide

2016 - A YEAR FULL OF ENERGY

Jorge Martins
Vice-President of Martifer Group and CEO of Martifer Renewables

> “...there is the need for a light and flexible organization with the right competences, which are valued by the market, without disregarding productivity but focusing on cost.”

2016 was the year of Âncora wind parks completion, participated by Ventinveste (172 MW). It is worth having a closer look at the long road that took us here. In 2007, Vestinveste won phase B of the public tender for the award of wind generation power and together with Senvio (REpower at the time), Martifer Energia and Efacec and a few additional suppliers, it undertook to make productive investments that would allow manufacturing the wind turbines, towers and blades, as well as the building the farms and the corresponding logistics.

The 2008 financial crisis led to the end of access to credit and the projects stopped until Portugal would get back into the financial markets and be able to obtain funding again. Of the 400 MW contracted, Ventinveste had already built 12 MW of the Vale Grande project, and sold 216 MW to EDP in 2015 and this year it concluded the remaining 172 MW in a project we called Âncora, which gathered Ventinveste and Ferrostaal.

There is no doubt that this is the biggest project in which Martifer Renewables has participated; an addition to all the other projects in which we had the opportunity to be present in countries such as Spain, Poland, Romania and Brazil. In 2016, we also sold more than 280 MW of solar energy in Brazil, to be added up to 246,5 MW of wind energy previously built and sold.

With the conclusion of the projects in Portugal, we are now facing the challenge of entering new markets, being that in Latin America there is the possibility of expanding, namely to markets such as Argentina and Colombia.

2016 was also marked by the sale of 100% of Martifer Solar to Voltalia, and thus the Martifer group is now focused on two business areas: Metallic Construction, which includes aluminum and naval construction and repair with the Navalria shipyard at Gafanha da Nazaré and the one of West Sea in Viana do Castelo, and renewable energies, now solely through Martifer Renewables.

We would like to highlight the Naval area's success which together with Renewables have generated cash flow allowing the needed liquidity to overcome the construction crisis.

Despite the fact that these two areas show stability, with the 2017 order book and projects that allow consolidating these businesses, Martifer Construções shall face the huge challenge of continuing to adapt to the reality of an unstable construction sector in which survival comes though price competition. To achieve this, there is the need for a light and flexible organization with the right competences, which are valued by the market, without disregarding productivity but focusing on cost.

To have a competitive price, we can only have what is essential and rule out what the client does not value, and above all what he is not willing to pay for.

The road is not an easy one as we know that in Portugal there is no market in the construction sector, which is still fighting to survive and that the financial sector is still shaken, but we shall only find solutions if we move forward.

THERE AREN'T MANY COMPANIES IN THE WORLD WITH MARTIFER'S TECHNICAL CAPACITY

INTERVIEWING HUGO CAMACHO, COO OF MARTIFER METALLIC CONSTRUCTIONS

Hugo Camacho has more than 15 years of experience in the construction sector. With a reference portfolio in several geographies, he is currently Martifer Metallic Constructions COO. In an interview, he told us about the Group's vision, the construction sector and the current economic context.

MNEWS | Martifer is currently present in several markets with different features. Which is currently, the most demanding market from an operational point of view? And which one has given rise to fewer difficulties?

HUGO CAMACHO | There are currently many differences between the different geographies where Martifer operates. In Europe, the "greater comfort/socio-political stability" goes hand in hand with the greater commercial aggressiveness and technical demand, and this makes us work with very narrow operational margins. Countries like Angola and Saudi Arabia make our management teams strongly adjust to the local reality that is very different in terms of habits and customs, be they social or related to work.

All our clients are aware and acknowledge that we have a strong ability to mobilize and adapt to very different work environments. This has been one of Martifer's strongest pillars, besides it huge capacity and technical knowledge.

MN | Which are currently the main challenges of Martifer Metallic Constructions operational activity?

HC | As a company, we are part of the construction sector, one of those in greater recession and greater difficulties in this last world economic crisis. The constant market contraction in which we operate made us carry out major reductions and adaptations within our costs structure.

As a macro strategy, we have decided to refocus our activities in the Martifer core and genesis, i.e., metal-mechanic constructions.

One of the biggest challenges is still guaranteeing ongoing work in geographies/clients which whom we are able to work in a healthy way and in a win-win situation.

MN | Within its strategy, the group has defined its aim: improving its operational efficiency, mainly at Martifer Metallic Constructions. What has been done to achieve that improvement? What remains to be done?

HC | DIn 2016, we realigned our teams, strengthening our management and control capacity, which are elements constantly related to our huge know-how.

Pursuing our strategy of centralization in our core activity, steel structures and aluminums, we have reinforced our commercial and production activity related to two products with higher profitability, aluminum and the construction of wind towers.

We expect he aluminum sector, within which we have been growing in terms of volume and results, to represent 30 to 40% of the metal-mechanic sector business volume already in 2017. We strongly believe that together with the naval sector, which has also been growing strongly and steadily, aluminum will be one of the strongest anchors in the near future.

In 2015 and 2016, we resumed the production of wind towers and we currently have one of the best factories in Europe with high levels of satisfac-

> "In the steel structures sector, despite the severe European and world crisis, we have been able to find specific "niche" markets in which we have developed extremely interesting projects based on a strong relationship with our clients."

tion/acceptance by our clients, which reflects in the ongoing award of new projects. In this sector, we are aware that we will always have to face our competitors from geographies such as China are able to import finished product at much lower prices than our production costs as they wrongly protected by the anti-dumping law on raw materials import.

In the steel structures sector, despite the severe European and world crisis, we have been able to find specific "niche" markets in which we have developed extremely interesting projects based on a strong relationship with our clients.

The performance of the Angolan geography is a good example. In 2016, despite the growing market difficulties, we expect to reach about 40 M€ of projects, being that we have developed important projects such as the Sodiba beer factory, and we believe that these will be a platform for new and interesting projects in 2017.

In Saudi Arabia, a market where there has been a contraction/realignment of the economy ordered mainly by the current oil barrel price and its geographic location, we continue to be recognized for our huge technical capacity, and this was the reason why, in 2016, we were awarded two new projects, a steel structure bridge (our third in the country) for the Riyadh metro and the rehabilitation of a mall in Riyadh, an extremely complex project totaling more than 10 MUSD.

MN | Is is possible to explain a project's process at Martifer in a simple manner?

HC | We currently work in a more integrated way with all departments fully involved in every project from their most embryonic phase. From an early stage, production (project production and management) and the remaining support departments (technical, purchase and quality) help our sales persons in assessing a new project.

We currently have projects which were awarded during the first phase, only as a project development and directly to the end customer, and then, later, we shall integrate the general contractor's team when it will be chosen by the end customer.

With regard to the development of any project and despite resorting to subcontracts when there are production peaks or as a result of commercial strategy, we still have full capacity to develop all the activities in house, from the technical assessment to the structural or any other calculation development to the preparation/modeling, production and assembly.

Overall, all the projects we are currently developing include the project's execution, whether it is the most simple calculation of steel structures connections or the full development of all the project's solutions, being that in many cases there is also the execution of the most different and complex mockups lab trials at full scale to validate all the

> "Any part to be applied in a project is numbered at an early age to be easily identified during the entire execution process as if in a puzzle."

projects' requirements.

Then and in tandem, we develop all the project's preparation, resorting to several 3D design software which generate different drawings for the client's approval of the project's solution, as well as production and assembly drawings.

Our entire value chain, from the project to the assembly, is duly integrated and supported by management systems allowing the perfect integration of all departments. Any part to be applied in a project is numbered at an early age to be easily identified during the entire execution process as if in a puzzle.

The project/technical department also participates actively in the definition of the best methodology for the project assembly with the work Management, always keeping in mind the client's highest quality and safety requirements as well as fulfilling the projects strict budget.

Manufacture and assembly are almost fully executed in house. When subcontracted, they are closely coordinated by the Martifer teams so that deadlines and quality for which Martifer are recognized by its clients are always ensured.

MN | You have been with Martifer for several years. What do you think of the company's evolution? What has changed and what has remained with regard to the company culture throughout the years?

HC | I believe our technical capacity and resilience to face new and tougher challenges are two of the strongest features defining Martifer.

Throughout the years, and despite huge adversities, we have been able to maintain many of those who have grown with Martifer and that currently support it irrefutably.

MN | AMartifer mentions its engineering capacity as one of its most differentiating elements. As a very experienced engineer, at the national and international levels, what is your opinion on national engineering when compared to international markets? What must be improved with regard to training future Portuguese engineers so that they increasingly become international references

HC | I know several markets in very different geographies and it is with great pride that I hear our clients or partners speak of the Portuguese huge technical and execution capacity.

From a more pragmatic point of view and despite our excellent civil engineering education, it is still very focused on 'pure' civil construction, with few opportunities or knowledge taught at the level of more specific areas such as the ones related to aluminum sectors.

Within Martifer, we have tried to fill this gap with ongoing internal training and specific training taught in Portugal

> "I believe our technical capacity and resilience to face new and tougher challenges are two of the strongest features defining Martifer."

and abroad, mainly in England, a market with a strong culture within this sector.

This past year, we have strongly bet in the increase of technical knowledge and diversification of our project management and technical teams. We have had ongoing training in the aluminum sector since last September; a training initiative addressed to the staff who deal with steel structures more often. This is for us not only to increase our teams' cross-sectional knowledge, but also to improve their flexibility so that we increase our ability to answer and not constantly worry about having teams specialized in steel structures and others in aluminum.

MN | CWhere do you think Martifer will be in five years?

HC | Being optimist and expecting a future with slight improvements in the construction sector, which associated with changes/adaptations that we have been carrying out can ensure a better future, we can never be disappointed and stop chasing a stricter policy and boost our productivity.

Only this way, and based on our know-how and resilience, will we be able to overcome the current and increasingly higher market realities.

I believe that based on this, we will build a better future as a company.

> "... we can never be disappointed and stop chasing a stricter policy and boost our productivity."

PROFILE

HUGO CAMACHO
38 YEARS

COO OF MARTIFER METALLIC CONSTRUCTIONS

Hugo Camacho is a Martifer Board Member since 2011 and is currently Martifer Metallic Constructions COO for steel structures and aluminum. With a degree in Civil Engineering from Instituto Superior Técnico, he has extensive experience in the project management area in several geographies.

In 2001, he started his professional journey as a trainee at Martifer Construções. He was an assistant Engineer/project manager at Mota Engil, S.A. and an assistant of Mota-Engil Madeira general management. In 2005, challenged by Engineer Carlos Martins, he took on the challenge of the Production Management in Poland. After 2 years in Poland, he came back to Portugal for a short period of time and accepted a new challenge: leading the Martifer team that build the new Dublin Airport terminal, a project completed in the beginning of 2010.

Since then, he has been taking on more and bigger responsibilities within the Martifer group and is currently the board member in charge of the metallic construction area without ever having lost his drive for actively participating in project management, as he did in the Saudi Arabia football stadium in 2013.

He believes he is a resilient person, slightly impatient and a workaholic. Traveling is also a passion and his two cities of choice are London and Rio de Janeiro.

FACING THE FUTURE WITH OPTIMISM

In 2016, the Martifer group continued to implement the Strategic Plan adopted in 2015 and completed several crucial actions, of which we highlight the following:

• Completion of the fusion of several companies which performed similar or complementary activities, thus allowing to simplify the Group's corporate structure, eliminate resources duplications and redundancies, create synergies, improve the participated companies activities coordination, optimize technical and financial resources, reduce context costs and improve the competitive capacity and the incorporating companies' solidity. Some inactive companies were also liquidated in Portugal and in the external markets.

• Disposal of several non-core assets, namely real estate assets, contributed to the reduction of the Group's debt.

• Disposal of the financial shareholding in Martifer Solar, S.A., to the Voltalia group.
After this operation, the Martifer group is still a relevant player within the renewable energies area, now solely by means of Martifer Renewables which has maintained a positive performance throughout 2016.

• Renegotiation of supply and external services, which allowed decreasing costs without changing the provisions level or quality.

• Within the human resources structure, several measures were taken to adjust the organization to the reality and challenges of each business area and geography, strengthening the naval construction and repair structure and with regard to metallic construction, by redeploying collaborators from geographies where the activity is stagnated to geographies in which the order portfolio has been growing. The Group has taken several initiatives to develop and maintain its human resources with higher potential by trying to promote know-how and multi-skilling.

2016 was particularly difficult for the construction sector and we expect 2017 to be equally challenging due to international instability. Nevertheless, we firmly believe in the ongoing action plan and the Martifer group human capital and resilience allow us facing the future with optimism.

Mário Ferreira
CEO da DouroAzul

THE JOURNEY WE NOW WANT DOES NOT TOLERATE BOARDERS

A huge part of the DouroAzul success journey was made with the certainty that we had partners who were willing to make that journey with us. These were decades of conquest, but also challenges, perseverance and answers to increasingly competitive and demanding markets.

In March, DouroAzul will baptize two more hotel ships built by the Martifer group. We will then celebrate not only the arrival of these two new ships, but also the past and the future. After 8 vessels built, DouroAzul and Martifer are much more than partners. They are a team uniting and joining efforts to build in Portugal with national raw materials, national labor and the certainty that both irrefutably contribute to the region and the country's growth.

Throughout the years, Martifer has shown that it is a synonym of trust, competence, technical and human capacity. The paths we have walked together compile years of innovation and dedication, often with tight deadlines but that were always met. This is what efficacy, organization and trust look like. It is based on this mutual trust that we move a little bit forward every year, searching for new markets, new challenges, new ways of taking Portugal across borders.

The truth is that the journey we now want does no longer tolerate boarders. Our goals and our eyes are on much bigger waters: oceans. The challenge is huge, but the future is brighter on board the expedition boat we are now building with Martifer. This new liner will undertake oceanic and river cruises in areas such as Antarctica, Chile, Amazon, among others. We are thus, designing the next decades' trends and challenges and to do so, once again, we are walking side by side.

I would like to end with an idea that has always guided me in my life. We must remember the past. We must live in the present. But we must above all, work for the future.

Mário Ferreira

> "DouroAzul and Martifer are much more than partners. They are a team uniting and joining efforts to build in Portugal with national raw materials, national labor and the certainty that both irrefutably contribute to the region and the country's growth."

INTERNATIONAL THERMONUCLEAR EXPERIMENTAL REATOR

ITER THE LARGEST NUCLEAR FUSION ENERGY PROJECT WORLDWIDE

ITER (International Thermonuclear Experimental Reactor) is currently one of the most ambitious projects worldwide.

It is a project aiming at building the largest nuclear fusion experiment reactor in the world; a magnetic fusion device designed to ascertain fusion's viability as a large scale and carbon-free source of energy, based on the same principle as the Sun and the stars. The plant, located in the south of France should start producing in 2025.

ITER will be the first fusion device to produce net energy for long periods of time. ITER will be the first fusion device to maintain the fusion for long periods of time. ITER will be the first fusion device to test integrated technologies, physical materials and regimes needed for the commercial production of fusion-based electricity.

Thousands of engineers and scientists have contributed to ITER's design since the idea from a joint international fusion experience was launched in 1985. ITER members - China, the European Union, India, Japan, Korea, Russia and the United States - are now collaborating to build and operate this experimental device.

Which benefits shall ITER bring?

The nuclear fusion experimental reactor was designed specifically to:
- Produce 500 MW of fusion power
- Show the technologies integrated operation for a fusion plant
- Obtain deuterium and tritium plasma, in which reaction is supported through internal heat.
- Test the creation of tritium
- Show the safety features of a fusion device

Atom fusion releases four million times more energy than a chemical reaction such as coal, fuels or gas burning. It also releases four times more energy than nuclear fission, the energy currently used.

It does not release carbon dioxide (CO_2) into the atmosphere, thus helping the fight against climate changes, one of the world biggest challenges in the coming years.

Its wastes are less dangerous. With

The Assembly Hall construction was Martifer's biggest challenge. With 60 meters high, 97 meters long and 60 meters wide, this building meets very demanding production, assembly and quality standards.

MARTIFER IS PART OF THIS ICONIC PROJECT'S CONSTRUCTION

Portugal is part of this construction project through Martifer's presence since 2013.

Martifer was in charge of the connections project, production and assembly of approximately 5,940 tonnes of steel structures for building 13 (Assembly Hall), 391 tonnes for building 17 (Cleaning Facility) and 343 tonnes for building 61 (Site Services). For buildings 11, 14 and 74, more than 7,000 built-in plates were supplied.

The Assembly Hall construction was Martifer's biggest challenge. With 60 meters high, 97 meters long and 60 meters wide, this building meets very demanding production, assembly and quality standards. Besides all other works that included around 2,500 square meters of railing, 4,000 linear meters and 18 cage ladders, the building's roof assembly was carried out through the Heavy Lift technique in order to make the assembly works easier and decrease the time initially foreseen by the client for the assembly.

The 700 tonne roof comprised of 11 lattices, some measuring 54,3 meters long was fully assembled on the ground and lifted all at once through a synchronized hydraulic system in a 16 hour ongoing process involving 21 individuals.

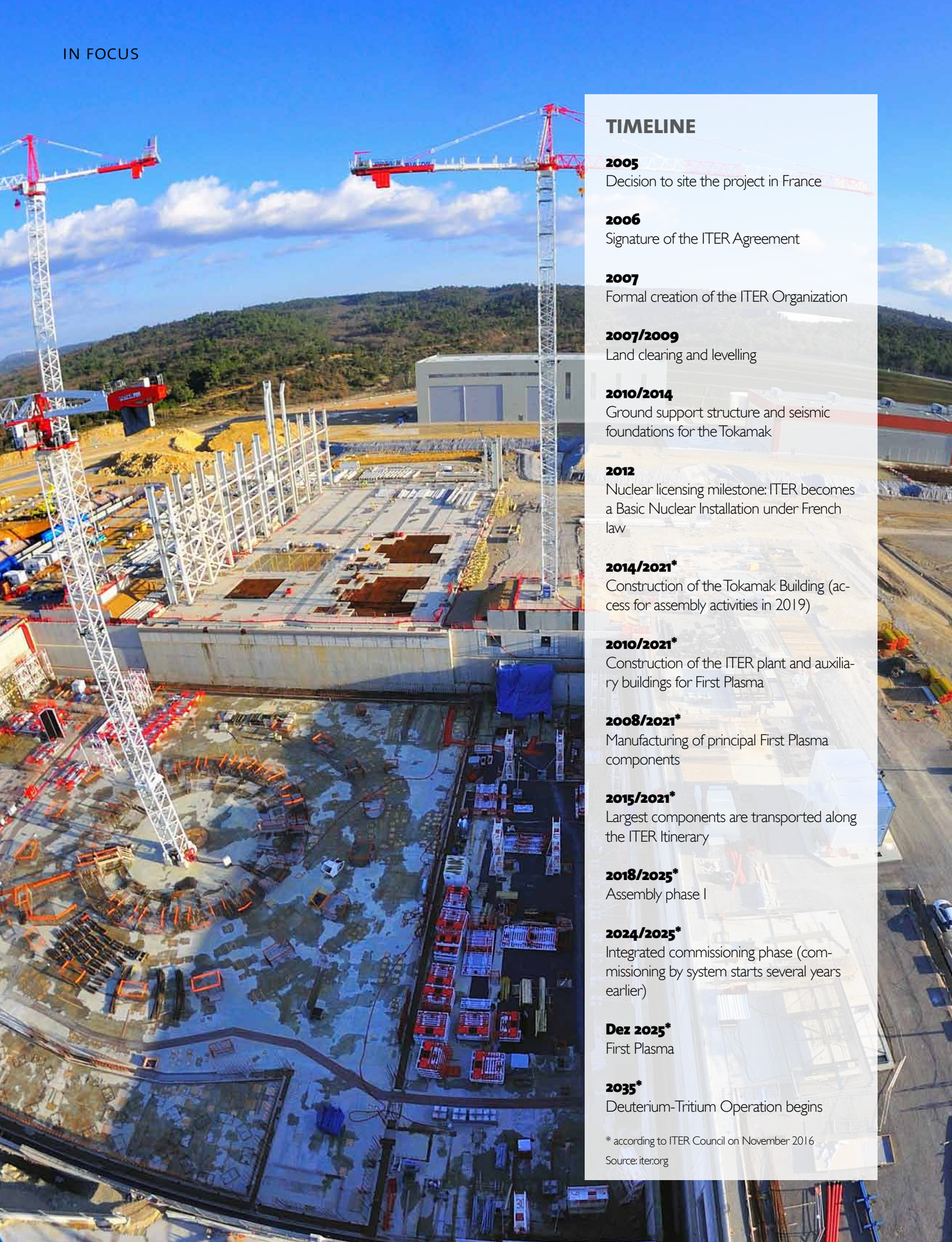
Another special feature of this building is that it is equipped with 2 overhead cranes weighing 1500 tonnes. These overhead cranes are supported by 20 track girders weighing 21 tonnes each assembled at 40 meters high.

Completing a project with the importance of ITER shows Martifer's capacity to build iconic projects with high technical requirements.

the current nuclear energy, nuclear wastes remain dangerous for thousands of years, being thus that its correct storage is essential. In fusion, wastes are dangerous for a period from 50 to 100 years.

Fusion makes it impossible for accidents such as the one of the Japanese plant of Fukushima to happen, as in the case of process interruption, the fusion reactor quickly cools down and the reaction is interrupted, states ITER.

This energy lower production costs are also one of its advantages.



TIMELINE

2005
Decision to site the project in France

2006
Signature of the ITER Agreement

2007
Formal creation of the ITER Organization

2007/2009
Land clearing and levelling

2010/2014
Ground support structure and seismic foundations for the Tokamak

2012
Nuclear licensing milestone: ITER becomes a Basic Nuclear Installation under French law

2014/2021*
Construction of the Tokamak Building (access for assembly activities in 2019)

2010/2021*
Construction of the ITER plant and auxiliary buildings for First Plasma

2008/2021*
Manufacturing of principal First Plasma components

2015/2021*
Largest components are transported along the ITER Itinerary

2018/2025*
Assembly phase I

2024/2025*
Integrated commissioning phase (commissioning by system starts several years earlier)

Dez 2025*
First Plasma

2035*
Deuterium-Tritium Operation begins

* according to ITER Council on November 2016

Source: iter.org

100,000 kilometres

100,000 kilometres of niobium-tin (Nb3Sn) superconducting strands are necessary for ITER's toroidal field magnets.

104 kilometres

The heaviest components of the ITER machine will be shipped to the nearest Mediterranean port and then transported along 104 kilometres of specially modified road known as the ITER Itinerary.

115,000 visitors

The latest figures are in: 115,000 people have visited the ITER site since work began in 2007 to clear and level land for the future scientific installation.

150 million °C

The temperature at our Sun's surface is 6,000°C, and at its core -15 million°C. Temperature combines with density in our Sun's core to create the conditions necessary for the fusion reaction to occur.

23,000 tonnes

The ITER machine will weigh 23,000 tonnes.

42 hectares

The main feature of the 180-hectare ITER site in Saint Paul-lez-Durance, southern France, is a man-made level platform that was completed in 2009. This 42-hectare platform measures 1 kilometre long by 400 metres wide, and compares in size to 60 soccer fields.

60 metres

The Tokamak Building will be slightly taller than the Arc de Triomphe in Paris. Measuring 73 metres (60 metres above ground and 13 metres below), it will be the tallest structure on the ITER site.

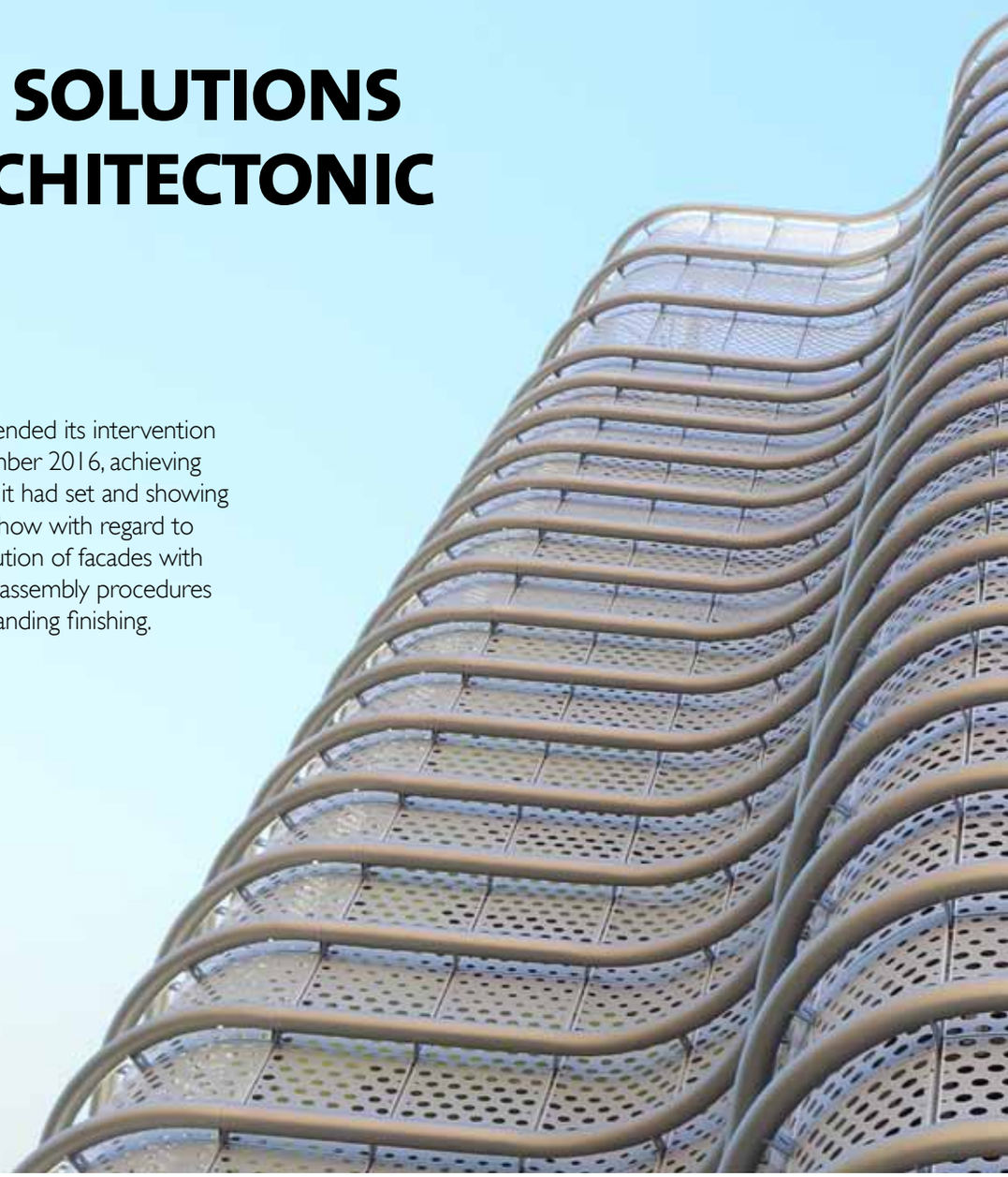
840 cubic metres

The ITER Tokamak will be the largest ever built, with a plasma volume of 840 cubic metres.

Source: iter.org

TOWER 30 - MADRID

INNOVATING SOLUTIONS FOR NEW ARCHITECTONIC CHALLENGES



TOWER 30

Tower 30 is an office building located next to M30, a highway surrounding the city of Madrid. Built in 1998, it was recently remodeled with a project from the architects' office António Ruiz Barbarin and facades consulting from ENAR - Envolventes Arquitectónicas. Martifer's client was Hill International (property manager) and Martifer was the general contractor of the project which included building the tower's second skin.

Comprising approximately 6,000 aluminum plate trays supported by a steel and aluminum structure created specifically for this project, it comprises 4,000 meters of round tube, forming rings in the building's 14 floors.

Martifer ended its intervention in September 2016, achieving the goals it had set and showing its know-how with regard to the execution of facades with complex assembly procedures and demanding finishing.

4 000 METERS OF ALUMINIUM TUBE, WITH 200 MM OF DIAMETER

APPROXIMATELY 6 000 SQM OF ALUMINIUM PERFORATED PLATES TRAYS, WITH 3 MM THICK

> "The production and assembly of facades requires light solutions in which details guarantee the aesthetic that meets the projects architectonic requirements."

LIGHTER, FASTER AND CHEAPER

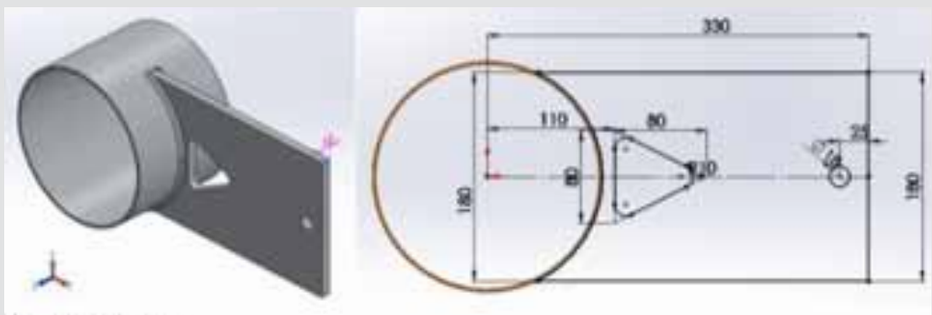
Day after day, Martifer seeks to guarantee greater quality and profitability of its projects. To achieve its aims, its bet on innovation within the research and development process is a priority. The production and assembly of facades requires light solutions in which details guarantee the aesthetic that meets the projects architectonic requirements.

Aware of aluminum facades evolution, for the Tower 30 project, the projects' technical team faced a few challenges: tight execution deadlines, the need for production simplification and the need for a light structure that would quickly be assembled.

Through and in-depth study, aluminum welding allowed reducing production costs, creating lighter connections, and thus highlighting a less accessorized structure and making the structure assembly on site easier.

ORIGINAL LINK CHANGE SCHEME FOR THE PROPOSED CONNECTION

INITIAL CONCEPT: Main connection with bolted perimeter tube



FINAL CONCEPT:: Connection with welded perimeter tube

STRUCTURAL ALUMINUM WELDING

Structural aluminum welding demanded thoroughness, insight and ongoing research. This king of welding is known for being highly complex and difficult to perform in order to meet the Eurocode guidelines.

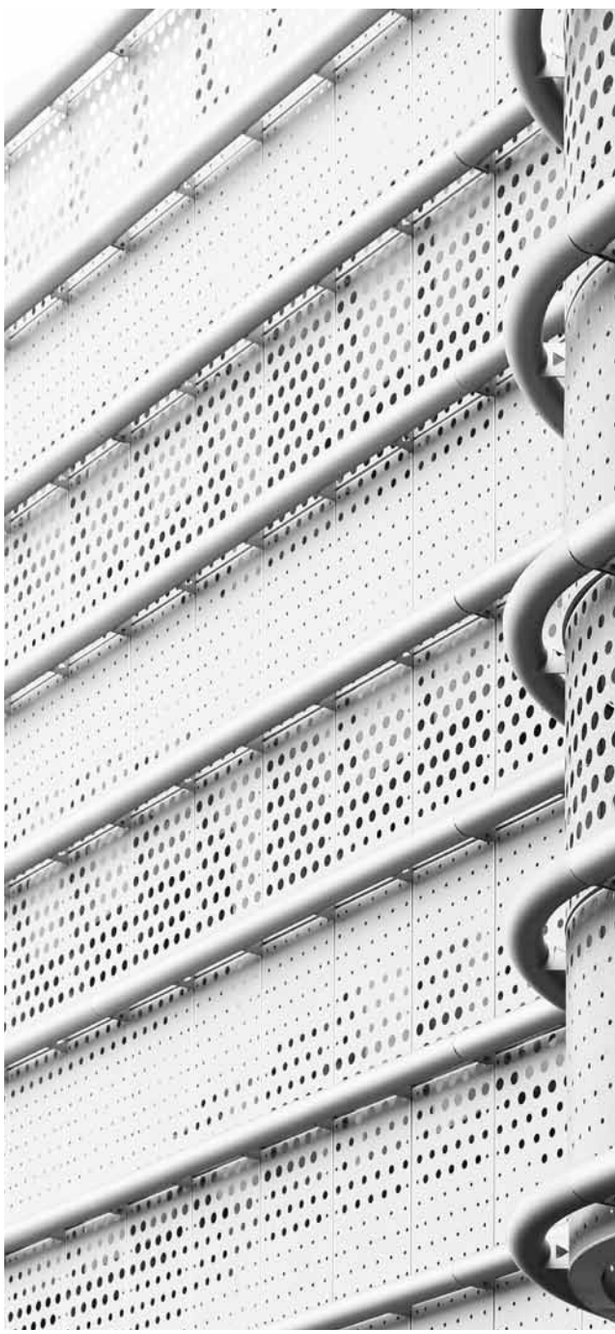
Martifer's Welding Coordination initiated the process by developing all phases related to the welded connection definition and then technical analysis was carried out by the Project Management. Several trials were conducted to test the operational application of the MIG-pulsed, semi-automatic and automated welding process. Tests on aluminum plates were also developed with linear welds and circular welds using the same alloy that was later used on the site and the same types of parts.

The chemical analysis of the material to be welded, its fluctuations and the influence of the chemical elements on aluminum 6000 were fundamental to make adjustments to the operational execution of both processes.

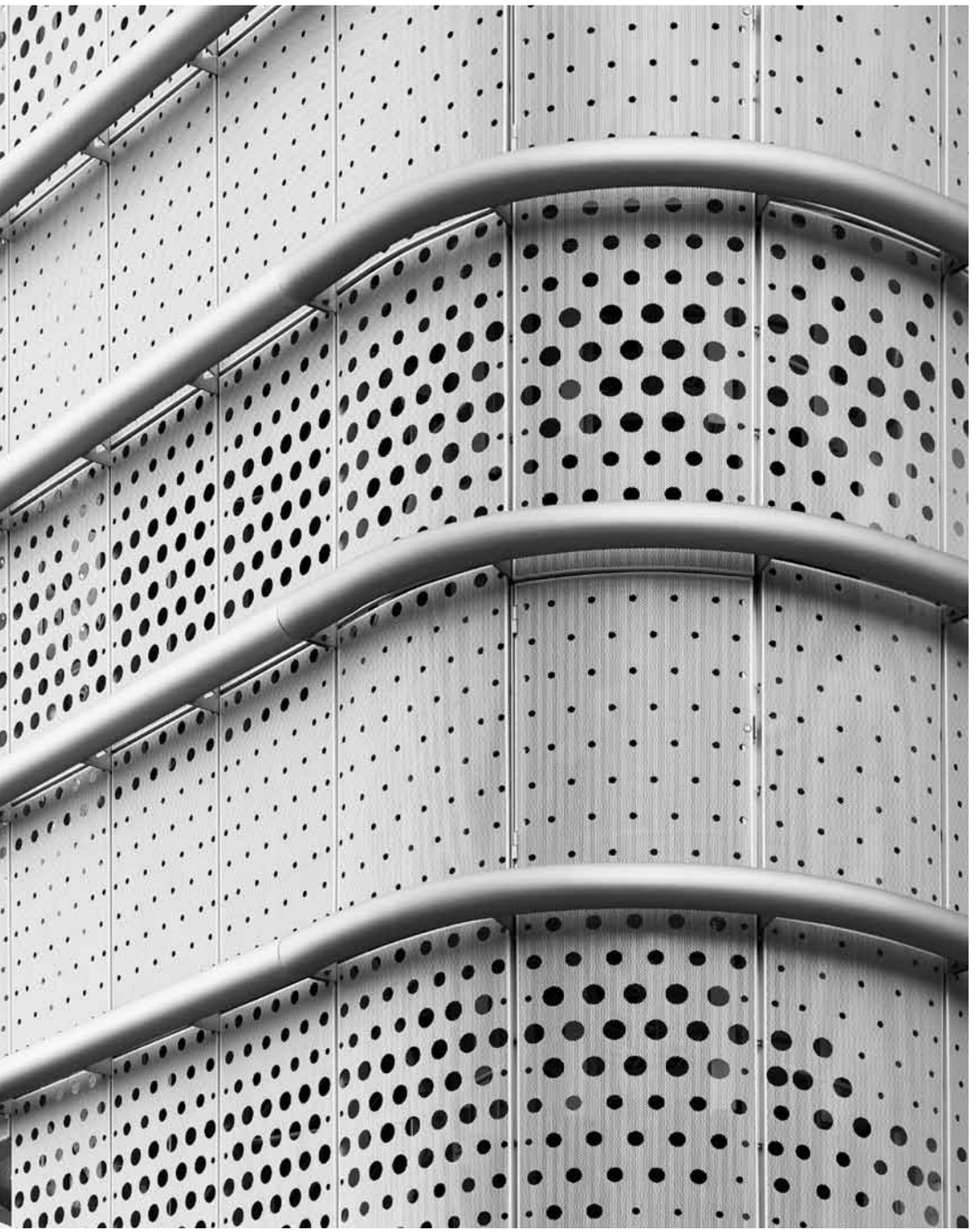
After adjusting the execution mode, and accounting for the fluctuation of parameters and environmental conditions, several non-destructive trials were carried out to characterize the welding areas (molten area and thermally affected area). This analysis allowed monetizing and maximizing the production process and thus achieving the proposed aims.

These tests were conducted using visual inspection, penetrating liquids and mechanical trials in accredited laboratories. The aim was to guarantee the final and global welding quality with regard to physical and morphological features that influence the welded connection resistance. The influence related to the MIG pulsed welding process applied to 6000 aluminum alloys structural welds is important but the envelope has its weight and must be accounted for.

The sensitivity of 6000 aluminum alloys welding is very high and the major risks are welding porosities and cracking. Overcoming these issues demands very rigorous works execution.



“Structural aluminum welding demanded thoroughness, insight and ongoing research. This king of welding is known for being highly complex and difficult to perform in order to meet the Eurocode guidelines.”



ALUMINUM WELDING CERTIFICATION

The Welding Coordination in collaboration with an external entity, a partner in this project for the supply of welding consumables and components, have developed a training initiative for the collaborators involved in this project.

Trainees produced several parts welded using monopass techniques in linear and circular corner welds in the ascending vertical and horizontal welding positions. The training initiative ended with an exam on the welders' qualifications pursuant to standard EN 9606-2.

This training project demanded the acquisition of very advanced welding machines appropriated to the process and tools that were adequate and adjusted to the aluminum alloys sensitivity to avoid physical damages and contaminations.

This is a certification that allows executing future projects which include this requirement.

GP GLOBAL PRESENCE

RENEWABLE ENERGY

WORLDWIDE PROJECTS

COLOMBIA

PROJECTS UNDER DEVELOPMENT

25 MWP (SOLAR)

ARGENTINA

PROJECTS UNDER DEVELOPMENT

150 MW (WIND)
150 MWP (SOLAR)

BRAZIL

PROJECTS UNDER DEVELOPMENT

250 MW (WIND)
1 500 MWP (SOLAR)

PORTUGAL

PROJECTS UNDER DEVELOPMENT

16,8 MW (WIND) - 8 WTG

PROJETOS IN OPERATION

SPEE 2: 12,6 MW (WIND)
6 TURBINES

SPEE 3: 6,3 MW (WIND)
3 TURBINES

VALE GRANDE: 12,3 MW (WIND)
6 TURBINES

PROJETO ÂNCORA: 171,6 MW (WIND)
84 TURBINES

SPAIN

PROJETOS IN OPERATION

EUROCAB (6 SOLAR PARKS): 7,23 MWn (SOLAR)

ROMANIA

PROJETOS IN OPERATION

BABADAG I E BABADAG II: 42,0 MW (WIND)
20 TURBINES

POLAND

PROJECTS UNDER DEVELOPMENT

196,8 MW (WIND)
8 MWP (SOLAR)

MARTIFER METALLIC CONSTRUCTIONS

WE'VE BEEN BUILDING

LONDON, UNITED KINGDOM

BATTERSEA

The Battersea electric plan started being built in 1933 by Giles Gilbert Scott and after a few decades of operation, it stopped generating power in 1983.

Located in the south margin of the River Thames, in Battersea, central district of Southeast London, it was abandoned for 30 years and became one of the city's most iconic tourist attractions.

Its popularity is partially due to having been the cover of the Pink Floyd Animals album and for having been seen in the movie "Help" by the Beatles.

The aim of the ambitious project of rehabilitation is to transform Bettersea in a commercial attraction with apartments, stores and leisure areas.

Martifer is responsible for supplying and assembling 1,800 sqm of glass facade with vertical silicone joint, 750 sqm aluminum panel facade, 50 sqm of aluminum and fire doors, 220 sqm of glass safety railings with Glass Fin fastening system with stainless steel swivel joints, 160 sqm of glass sunshades, 700 sqm of stainless steel and blades coatings, 50 sqm of stainless steel gates, 900 sqm aluminum roofs and 300 sqm of insulation and stone coatings.

LIVERPOOL AND BIRMINGHAM, UNITED KINGDOM

ROYAL LIVERPOOL UNIVERSITY HOSPITAL AND MIDLAND METROPOLITAN HOSPITAL

These past years, Martifer has been collaborating in the construction of important health infrastructures in the United Kingdom.

The new Liverpool hospital was build next to the old building that was demolished after the end of the project. Martifer was responsible for the production and installation of 10,500 sqm of modular facade of which 3,000 sqm in glass and 7 500 sqm in composite panel.

The hospital has been providing care services for 150 years and it is the most important hospital in Liverpool. It shall now have modern facilities with 646 beds, 18 amphitheaters and 23 clinical units and wards.

The New Midland Metropolitan Hospital project is one of the most innovating health facilities infrastructures projects in the United Kingdom. Located in Sandwell, west of Birmingham, it covers more than 6,76 hectares and shall start operating in 2016.

Designed by the Edward William Architects office, this hospital has 3 floors: the upper floor comprises the nursing areas, the middle one includes the clinical areas and the lower floor the parking areas.

Inside, there are many squares and gardens providing natural lighting for most facilities.

Martifer has been part of the project since July 2016 and it is responsible for the supply, transport and assembly of 16,500 sqm of the podium' modular facades with terracotta and wood coatings.

PARIS, FRANCE

FORUM LES HALLES

After 6 years of project, Les Halles Forum was inaugurated in the heart of Paris. Martifer concluded its intervention in the project in February 2016 and another project in which we intervened is now becoming an ex-libris of one of the most important European capitals.

PARIS, FRANCE

PARIS - ASIA

Located in the French capital, next to the Charles de Gaulle airport, the Paris-Asia Business Center is a business complex with approximately 200,000 sqm, dedicated to import/export activities with Asia.

It is a trade meeting point aiming at strengthening local and international development projects.

Martifer is responsible for the supply, transport and assembly of aluminum and glass facades for 22 trade and restaurants buildings with a total facade surface area of 14,500 sqm.

BORDEAUX, FRANÇA

MECA

Maison de L'économie Creative et de la Culture en Aquitaine

Martifer is a key part of the consortium that includes GTM Batiment Aquitaine (consortium representative), Soletanche, SIDF, Cobarec, Coveris and Freyssinet.

Within this project, Martifer is responsible for the supply and assembly of about 790 tonnes of steel structures and 2,722 sqm of deck plate.

The new building shall generate energy in the Acquitaine region, and hosts three cultural entities: ECLA - Écrit Cinéma Livre Audiovisuel, FRAC - Fonds Régional d'Art Contemporain and OARA - Office Artistique de la Région Aquitaine.

LUANDA, ANGOLA

SODIBA FACTORY

O projeto de construção da nova fábrica de produção de cerveja e engarrafamento de água do Bom Jesus, em Catete, pertencente ao grupo SODIBA - Sociedade Distribuidora de Bebidas de Angola, Lda. é o primeiro grande projeto de construção industrial que a Martifer desenvolve de raíz, no país.

Como empreiteiro geral, a Martifer esteve envolvida no projeto desde o início. Foi responsável pelo desenvolvimento do projeto de execução, a partir do *layout* industrial fornecido pela Sodiba, bem e pelos estudos geotécnicos e topográficos, assegurando a sua coordenação com a empresa Triede - Consultoria e Projetos de Engenharia Civil, nas mais diversas especialidades, enquanto desenvolvia a construção do complexo.

Ao longo do projeto, salientam-se dois grandes desafios: a coordenação da construção e das infraestruturas com a montagem do equipamento industrial de produção da cerveja e água, trabalhando segundo os padrões de construção europeus, ultrapassando dificuldades logísticas de importação de materiais e equipamentos.

Ultrapassados os desafios e depois de 24 meses, com uma área de construção superior a 33 600 sqm e 100 000 sqm de área modelada, a Martifer foi responsável por 120 000 m^3 de terra movimentada, 23 000 sqm de arruamentos, 11 000 m^3 de betão armado, 1 200 t de estrutura metálica e 32 000 sqm de revestimentos de fachadas e coberturas.

RIYADH, SAUDI ARABIA

RIYADH METRO

KING FAHD ROAD BRIDGE

Martifer started the production of the bridge structure for line 4 of the Riyadh metro in Saudi Arabia. With 264 meters long, this bridge crosses Riyadh's main highway (King Fahd Road), which represents a challenge in terms of assembly process for the Martifer team in the Middle East. A total of 2,347 tonnes of steel structure will be produced and assembled.

TANGER - KENITRA, MOROCCO

EL HACHEF VIADUCT

Martifer has finished its intervention in the El Hachef viaduct, in Morocco , the longest viaduct of the TVG section in Morocco which will connect Tanger to Kenitra.

With 3,5km long and 40 meters high at its peak, the viaduct crosses a very rough land and its technical demand in terms of construction is one of the highest ones. (EXC4 from standard EN 1090-2).

In a consortium created in 2013 with the company URSSA, Martifer was responsible for the execution of the South side of the viaduct, corresponding to 1,950 meters (36 spans, each with approximately 50 meters long) in a total of 9,500 tonnes.

Placing the bridge in its final position was a pushing process with a total of 10 launches.

FARO, PORTUGAL

FARO AIRPORT

This project's client was Mota Engil and the work owner was ANA Aeroportos and Martifer was in charge of the production, transport and assembly of 2,200 t of steel structure (pillars, ribs beams and strengthening of existing structures) and 10,200 sqm of Roofzip coatings, 3,600 sqm of facades and 2,600 sqm of composite coatings.

The Airport project is ongoing while the airport is operating, which requires extra care during the assembly.

LOULÉ, PORTUGAL

LOULÉ SHOPPING CENTRE

Ikea Centres has awarded Martifer the supply and assembly of 1,000 sqm of aluminum composite cassette panels, 820 sqm of aluminum plate trims, 4,000 sqm of rock wool coatings, 65 tonnes of steel substructures, 4,200 sqm of composite panel and aluminum three-dimensional perforated plate.

This project's specificity is the pyramid three-dimensional coating that demanded technical development for the fastening system.

The pyramids of the composite panel and perforated plate are assembled in Oliveira de Frades and transported to the site in modules.

MADRID, SPAIN

BANCO POPULAR

The New Head office of Banco Popular, in Madrid, is comprised of several buildings and its facades reflect the transparency concept. The use of light, thanks to the huge glass facades clearly shows the aim of the Ayala Arquitectos office - Transparency and Sustainability.

Martifer is responsible for the construction of this new head office auditorium facade, which is comprised of a double 2 glasses skin, each measuring 9,5 meters high and 2,6 meters long and weighs approximately 1,3 tones. Resorting to the Glass Fin system between the two facades, stability is guaranteed with only one 30 X 27 mm aluminum profile structurally glued to the glass, following the aesthetic set by the architectural project: a big glass box with the least structural element possible.

To guarantee the facade resistance, several tests were conducted in wind simulated situations, among others, thus guaranteeing its impermeability. It was the first time that Martifer installed glasses of this dimension and its handling was extremely demanding. Called Jumbo glasses, they are increasingly used in modern architecture ad their dimension requires very specific equipment as racks and suction cups.

MOIMENTA I (ÂNCORA)

PORTUGAL

No. of towers: 7

Each tower comprises 4 sections, 3 of these cylindrical with 4,30 of diameter and one conic section ending in a 2,95 m diameter. Each tower is 100m high and the 7 towers total 1,310 tonnes.

MOIMENTA II (ÂNCORA)

PORTUGAL

No. of towers: 21

Each tower comprises 4 sections, 3 of these cylindrical with 4,30 of diameter and one conic section ending in a 2,95 m diameter. Each tower is 100m high and the 21 towers total 3,930 tonnes.

3 MARCOS (ÂNCORA)

PORTUGAL

No. of towers: 19

Each tower comprises 3 sections, one of these cylindrical with 4,30 of diameter, one conic section, ending in a 2,95m diameter and one cylindrical with 2,95 of diameter. Each tower is 80 m high and the 19 towers total 2,430 tonnes.

QUINSSAINES I

FRANCE

No. of towers: 6

Each tower comprises 4 sections, 2 of these cylindrical with 4,30 and 2,95 of diameter, one conic section, ending in a 2,95m diameter and one cylindrical with 2,95 of diameter. Each tower is 100 m high and the 6 towers total 1,130 tonnes.

ENERCON

REINO UNIDO

Nº de torres:15

Each tower comprises 5 conic sections, starting with 4,77 of diameter and ending in a 2,25m diameter. Each tower is 67 m high and the 15 towers total 2,445 tonnes.

TORMYWHEEL

UNITED KINGDOM

No. of towers: 15

Each tower comprises 3 sections, one of these cylindrical with 4,00 of diameter, one conic section, ending in a 2,95m diameter and one cylindrical with 2,95 of diameter. Each tower is 64 m high and the 15 towers total 1,515 tonnes.

COOBER PEDY

AUSTRALIA

No. of towers: 2

Each tower comprises 3 sections, one of these cylindrical with 4,30 of diameter, one conic section, ending in a 2,95m diameter and one cylindrical with 2,95 of diameter. Each tower is 80 m high and the 2 towers total 256 tonnes.

IN 2016

PRODUCING WIND TOWERS FOR FOUR COUNTRIES




NAVAL INDUSTRY

SHIPBUILDING AND SHIPREPAIR AT CRUISE SPEED

The naval industry is a reference activity for the Martifer group. With these two shipping yards working in partnership, projects make an already important portfolio grow towards naval construction and repair.
West Sea and Navalvria shipping years currently have five ships under construction, the Ocean Patrol Vessels and three Hotel ships, and several repair projects.
With a sustained growth, the shipping yards already have more than 2,320 direct collaborators.

SHIPBUILDING

OCEAN PATROL VESSELS

West Sea has started an important phase of the company's naval construction history - the start of the construction in the shipyard of Ocean Patrol Vessels 3 (Sines) and 4 (Setúbal) for the Portuguese Marine.

In February 2016, the first plate cut was the start of the project. In the ceremony that marked the date, the cut was started by the Portuguese Marine Material Superintendent, Vice Admiral, who symbolically operated the cutting machine.

Several members of the Portuguese Marine were present, as well as representatives from Edisoft and West Sea.

In July, a new visit marked the beginning of the NRP Sines Ocean Patrol Vessel blocks assembly at the West Sea construction dock.

All entities congratulated West Sea and Edisoft for the progress in the works of this demanding project.

The NRP Sines Ocean Patrol Vessel, with 700 tonnes of steel is already in the blocks installation phase and has around 75 % of the blocks in the dock.

These ships specificity and complexity and the quality criteria technical requirements required enhanced efforts of qualification and answers from several teams.

The ship should be floating in April 2017.

The Ocean Patrol Vessel - NPO Setúbal installation shall start in March and it already has more than 70 % of its prefabricated blocks. It is currently in the mega blocks union phase and the pipes installation phase.

ON THE OCEAN PATROL VESSELS

The Ocean Patrol Vessels are vessels with a displacement between 750 and 2,000 tonnes used mainly in non-fighting actions. Their main missions are related to State security and authority and public interest missions. They are vessels with a huge capacity to operate in high sea and facing severe sea conditions and have considerable autonomy, which allows them to remain in seawaters for long periods without needing logistics support.

There are ships specifically designed to operate within the national exclusive economic area to carry out the following tasks:
- Maritime search and rescue
- Fisheries inspection
- Control traffic separation schemes
- Marine pollution prevention and fight
- Prevention and fight related to illegal activities such as drug trafficking, illegal immigration, weapons traffic and other illegal acts, in collaboration with other national authorities

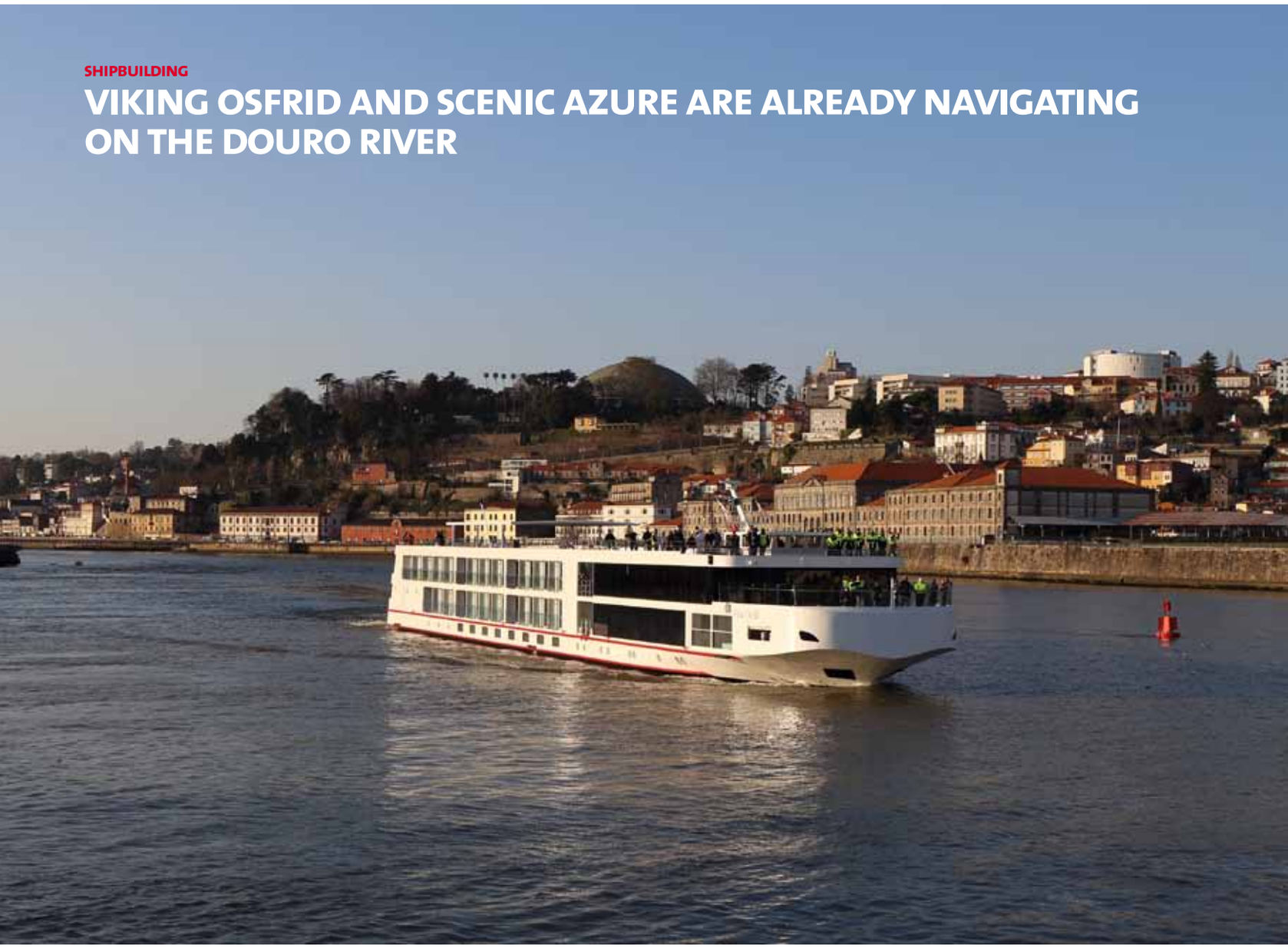
Besides the tasks mentioned, these ships are able to cooperate in:

- Low intensity military operations
- Actions arising from the declaration of the state of siege or emergency
- Humanitarian support following a natural disaster
- Territorial waters and critical areas patrol aiming at preserving the freedom of using national waters and ports
- Launching mines in defensive fields
- Transporting small military forces.

Source: Marinha Portuguesa

SHIPBUILDING

VIKING OSFRID AND SCENIC AZURE ARE ALREADY NAVIGATING ON THE DOURO RIVER



In March 2016, Viking Osfrid, the first vessel build by West Sea, was baptized. The baptism ceremony took place at the Gaia dock and Mário Ferreira (DouroAzul CEO) and Torstein Hagen (Viking River Cruises Chairman) were present.

D. António Francisco dos Santos, Oporto Bishop blessed the vessel and its godmother, the Sea Minister, Ana Paula Vitorino performed the baptism ritual.

Viking Osfrid is a very similar boat to the two hotel ships that DouroAzul put into service in March 2014, with 79 meters long, capacity of 106 passengers, 53 luxury cabins and suites and using the most advances propulsion, navigation and energy efficiency technology.

Viking Osfrid shall be operated solely by the North American company Viking River Cruises, besides several leisure saloons for the passengers, a gymnasium and a swimming-pool, a shuffleboard, an aromatic herbs garden and a panoramic area allowing an excellent view of the Douro river margins landscape, regarded as world heritage by UNESCO.

To build this vessel, Martifer used 650 tonnes of steel, five tonnes of glass, about 15 kilometers of tubes, 8 thousand liters of paint and 150 kilometers of copper cable.

In April, West Sea delivered the second ship built at its Viana do Castelo shipyard, Scenic Tours most recent hotel ship, Scenic Azure and the first to operate in Portugal and in the Douro river. The ship is 80 meters long and 11,4 meters wide and has a capacity of 96 passengers and a crew of 43.

It has an innovating noise and vibration reducing system, designated "bootge-bootge" and adopts differentiating construction systems, as for example, the panoramic cabins block located at the stern of the ship based on pneumatic silent-blocks and is fully unconnected from the main hull structure, ensuring increased comfort for the passengers.

Abroad the ship, passengers shall be able to take advantage of the hydromassage swimming-pool located in the open deck, a fully equipped gymnasium, spa and hair saloon, as well as leisure areas and terraces that will allow you to fully appreciate the beautiful Douro landscapes, among other amenities.

SHIPBUILDING

DOURO ELEGANCE, DOURO SERENITY AND EMERALD RADIANCE INCREASE THE HOTEL SHIP CONSTRUCTION PORTFOLIO

In April 2016, an agreement was signed for the construction of the new Douro Azul hotel ships: Douro Elegance and Douro Serenity. This agreement was signed by the Douro Azul chairman, Mário Ferreira and the Board Member of AICEP - Agência para o Investimento e Comércio Externo de Portugal, Luis Castro Henriques. The Prime Minister, António Costa presided the event, which was also attended by the Minister of the Sea, Ana Paula Vitorino and the Mayor of Viana do Castelo, José Maria Costa.

The construction of the two hotel ships started at the Wes Sea naval shipyards in May and later continued at Navalria. This is an exchange of synergies between these two shipyards and an added-value for the simultaneous execution of several projects, adding value and flexibility to the Martifer group naval sector.

The ships include the transformation of 312 tonnes of steel, 10,3 tonnes of glass, about 32 kilometers of tubes, 18 thousand liters of paint and 312 kilometers of copper cable.

They shall be 79 meters long and each one shall have capacity for 126 passengers.

The construction of two parts of the ships at West Sea was carried out in a record time of 10 weeks. This construction process divided between the two shipyards requires the ship parts to be sa towed along the coast from Viana do Castelo to the Aveiro Port.

This manoeuvre demanded the calculation of the parts stability, the plugging of bottom, sides and deck openings, as well as the installation of accessories

for the exit and entry manoeuvres in dock and accessories for the towing manoevre.

The hotel ships will be concluded at the Navalia shipyard with the assembly of the hull blocks. It is there that all sundry items (tubes, electricity, ventilation, air conditioning, insulation) and later, decorative materials, plastering of the external hull and paint shall be carried out. Then, followed dock trials, sea trials and delivery to the client.

West Sea is also building the Scenic Emerald for Scenic Cruises. It shall be 80 meters long and shall have capacity for 112 passengers.
The construction took place in record time. Between the beginning of the cut and the in dock installation only 2 months went by, which lead to enhanced efforts from the teams.

Sea trials and the ship delivery are scheduled for the first semester of 2017.

SHIPREPAIR

HIGHLIGHTED REPAIR PROJECTS

Strengthening the repair capacity is an ongoing aim at West Sea. It is anticipated that the activity in one of the more competitive sectors of the country continues to increase the next years with the new projects in our portfolio.

For 2016, we would like to highlight the following repair projects:

FRANCESCO DI GIORGIO

DREDGER

Length: 91,63 m
Breadth: 21 m
DWT: 8180

- Normal repair works
- Replacement of jet water tubes in the hold and the pump room
- Replacement of all the hold discharge lines
- Replacement of steel in the BB Schottel propeller closing plates
- Improvement of the two Schottel propellers
- Replacement of bottom doors sealing joints
- Steel replacement

REFORMA PEMEX

PASSENGER

Length: 131,2 m
Breadth: 27 m
DWT: 4835

- Ship and interior areas treatment and painting (from the lifeboat floor to the superstructure bulkhead)
- Sea chests and refrigerators
- Cleaning and removing bow and stern first launching poppets
- Improvement of the retractable impeller

LAURA S

CONTAINER

Length: 119,65
Breadth: 20 m
DWT: 6770

- Ship's treatment and paint
- Recovery of the two cranes' jibs
- Improvement of all electric engines, including the propeller electric engine
- Improvement of the different pumps and refrigerators
- Replacement of steel in the ballast hull and tanks
- Replacement of several pipes

TELMA KOSAN

TANKER

Length: 105,14 m
Breadth: 15,7 m
DWT: 5771

- Ship's treatment and paint
- Removal and replacement of the shafts line seals
- Helm removal and repair
- Main machine improvement
- Improvement of cargo pumps, cargo condenser and reheater
- Several works from all specific areas.

MOIMENTA DA BEIRA

WINDART THE WORLD'S HIGHEST CONTEMPORARY ART PROJECT

Joana Vasconcelos and Vhils were the artists invited by Âncora Wind Energia Eólica SA to sign two of the world's highest contemporary art works - the WindArt project.

The internationally recognized artists projected and designed the elements that cover two wind towers of about 110 meters high and 50 meters of span (blade), totaling 150 meters.

WindArt celebrates the construction of the Douro Sul Wind Farm, one of the biggest in Europe with 150MW of installed power in a real tribute to renewable energies.

For José Manuel Saldanha Bento, Chairman of the Board of Directors of Âncora Wind Energia Eólica SA, "energy is part of our culture and our identity – and taking about energy is taking about wind energy. Currently approximately one fourth of the energy consumed in Portugal comes from the wind. With the WindArt Project, and thanks to excellent partners, we unite energy and energy, in a celebration of the magnificence of the Portuguese culture, natural resources and landscape."

Located in Serra de Leomil, in Moimenta da Beira, the WindArt project aims at exploring the integration of wind towers in the surrounding landscape – be it human or natural - thus establishing a subtle game of interaction with it, in a perfect symbiosis and of promotion of this region.

José Eduardo Ferreira, Mayor of Moimenta da Beira stated that "Serra de Leomil has unique wind conditions in a place of extreme beauty – a transition granite region and a typical landscape of the Beira Alta region. We have no doubt that the WindArt Project shall be a milestone for our region."

Joana Vasconcelos defines the project as "a real challenge because of its unexpected dimensions and location. And probably the world's highest contemporary art project."

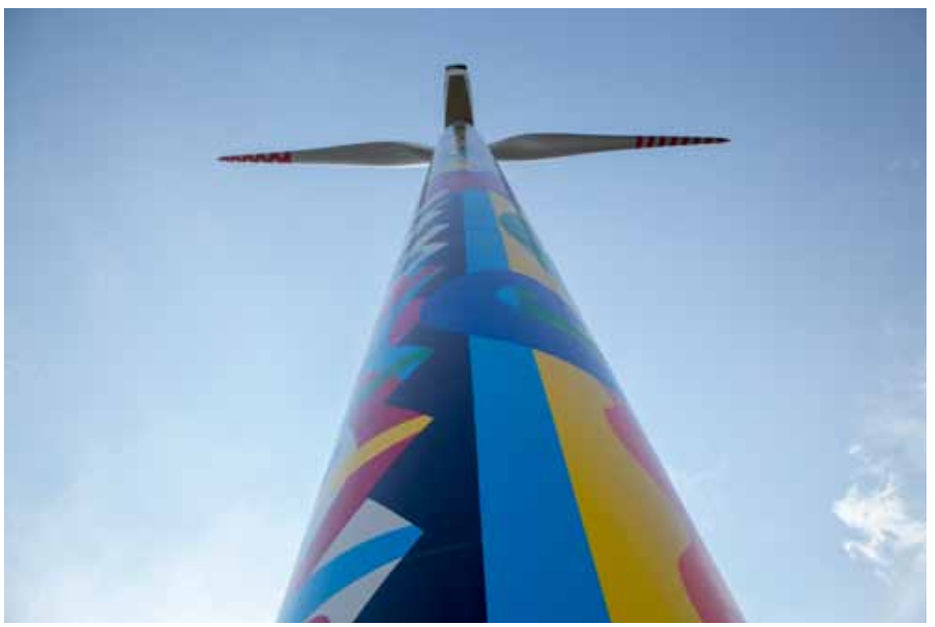
Focused on the regions' memory and culture, Joana Vasconcelos's intervention depicts an expression of love towards the town that welcomes it, translated in the huge heart oriented towards the center of Moimenta da Beira municipality. The drawing dynamism and the burst of colors refers to the energy generated by the the mountain winds, punctuated by stars that exalt altitude and the exceptional conditions to observe a clear and bright night sky.

The concept developed by Alexandre Farto, Vhils, "symbolizes the richness of the natural textures of the native tree, establishing a connection with the elements that give life and energy to the site itself". Among these graphic elements, emerges the shape of a human eye that symbolically represents a lighthouse that humanizes and lightens the surrounding space.

WINDART

The two intervened towers are part of the Douro Sul Wind Farm, from the Âncora Project that comprises 73 wind turbines for the production of wind energy. It is located in the counties of Beira, Sernancelhe, Castro Daire e Viseu.

The Âncora Project has a portfolio of 171,6 MW distributed by four wind farms located in the municipalities of Góis, Castanheira de Pera, Sernancelhe, Castro Daire, Viseu and Moimenta da Beira. Its shareholders are Ventinveste (held by Galp Energia and Martifer) and Ferrostaal.



ÂNCORA PROJECT | 2014-2016

4 WIND FARMS IN PORTUGAL

MARTIFER RENEWABLES IN BRAZIL

In August, Martifer Renováveis, a Martifer Renewables subsidiary in Brazil, agreed to sell a 60 MW solar energy project. This project is an extension of the 90 MW project that Martifer Renováveis agreed to sell to Tractebel (from the Engie group) in 2015 and is located in the municipality of Assú, in Rio Grande do Norte, in the Brazilian northeast.

Giving continuity to the development of projects in Brazil, Martifer Renováveis is preparing to expand its activity to other countries of Latin America, such as Argentina and/or Columbia.

Since 2008, when it started its activities in Brazil, Martifer Renováveis sold approximately 475MW in renewable energies projects.

Despite the political, economic, financial and social crisis in Brazil these past years, the Brazilian Government has maintained the organization of public energy auctions, and has annually contracted around 3 GW of solar and wind energy projects.

MARTIFER HONORED IN THE "ENGINEERING SOLUTIONS" CATEGORY

On November 11, Museu do Oriente [museum] was the stage of the Sapa Portugal Awards 2016 edition, hosted by Cristina Ferreira and Nilton. The Sapa Building System 2016 awards highlighted the projects which stood out in 2015 in categories as diverse as Shopping Centers, Health, Schools Rehabilitation, Places of Public Interest, Engineering, School Groups, National Hotel Business, International Hotel Business and Residential Spaces.

Martifer was honored with the "engineering solutions" award for its work in the Horizon project in Mozambique.

Sapa Building System develops Aluminum solutions for Architecture and has been working with Martifer for years.

BEST NEW MUSEUM OF CENTRAL AND SOUTH AMERICA

MUSEU DO AMANHÃ WINS AN AWARD

Museu do Amanhã was honored with the Leading Culture Destinations Award, regarded as the "Museums Oscar", in the Best new museum of Central and South America category. The award recognizes institutions and cities that have contributed to international culture by boosting cultural tourism.

The building from architect Santiago Calatrava is part of the Porto Maravilha project and is 320 meters long, 23 meters high and has 16,000m2 of built-up area.

Martifer participated in the project through the supply and assembly of approximately 3,522 tonnes of steel structure, as well as the supply of aluminum.

CIVIL ENGINEERING

CONFERENCES AT UNIVERSITY OF AVEIRO

Martifer was part of the panel's speakers at the Civil Engineering 6th edition Conferences of the University of Aveiro with Hugo Tavares, Project Coordinator. This initiative, organized by the Civil Engineering Students' Nucleus, was held on November 2,3 and 4.

This year, the issues addressed were: professional integration in the job market and execution of projects in the business world.

Hugo Tavares spoke about "Aluminum Applications in Architecture" and approached several points, from comparative analysis between using aluminum and steel, the explanation of facades types and definitions, structural schemes, types of connections, up to the main checks according to European standards.

As case study, he showed the remodeling project of Tower 30, in Madrid. In the study, he identified several elements that comprise the facade and showed the structural conception adopted to meet the architecture and structural stability requirements. Lastly, he spoke of demands related to the production and the aluminum structural welding technology used.

NEW WEBSITE

FOR FRENCH-SPEAKING MARKETS

The Martifer group now has a new site for French-speaking markets.

You will find the Group's institutional site in French at www.martifer.fr.

The Group now has this communication tool for all Portuguese, Spanish, English and French speaking markets.

STUDY TOURS

Every year, Martifer welcomes around 200 students from several national and international teaching institutions. These tours allow a greater connection between the teaching institutions and the company, and help us recruiting emerging talents and actively contribute to their training.

In 2016, two tours stood out within the scope of the Histiwin High-Strength Steel Tower for Wind Turbines research project for the construction of an alternative wind tower in which Martifer took part.

Martifer welcomed two international students' groups who went on the technical visit of the wind towers and steel structures plant and participated in a workshop. This activities program was developed jointly with Instituto para a Sustentabilidade e Inovação em Engenharia de Estruturas and its speakers were teachers from the Institution and Martifer collaborators.

MNEWS
MARTIFER GROUP

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