

comex

M A G A Z I N E

*Bonne Année !
Happy New Year!*

TRAVEL

Comex
present at Cité de la Mer

FILE

**The industrial
deep diving**



Issue 4
January 2009

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KEEP SMILING

You have in your hands the 4th issue of the Comex magazine, which links the years 2008 as rich as it was fascinating, and 2009 that we hope will be less difficult than the analysts have predicted. This is the opportunity for me and all Comex staff to wish you and all those you hold dear, the very best for your health, happiness and achievements.

If we take into account the events which have shaken the world these last three months, the reasons to hope for a radiant near future aren't very many. But outside of the sad economy, the recession that has set in, and possible job losses, the difficulties in the industry and the environmental crisis, we can still bet on many wonderful individual and group successes during the year 2009. Including the sectors and areas of the economy where the worries are the worst. Take the automobile: The industry giants are faltering. No matter their past success or their brand image, sales of manufacturers all over the world are declining. However this is the time when this industry, which is capital to the world economy, is preparing to take the most incredible technological leap in its history, by limiting – and maybe eventually eliminating over the long term - the use of thermal motors in vehicles. On land as at sea, it will be necessary to move forward without burning fossil fuels and without emitting CO₂ to control the greenhouse effect. And without a doubt it will be in 2009 that this revolution in transport will really begin. Also in 2009, the nations are meeting in Copenhagen to decide what form the world struggle against global warming will take following the Kyoto protocol. Against adversity, mankind has already shown that it can show proof of wisdom and creativity. The hope that this will continue this year should make us begin 2009 with a smile.



Henri Germain DELAUZE
CEO

Henri G. Delauze



Big inspection for the Remora 2000

The autonomous twin-seat submarine Remora 2000 was in the Comex workshops during December to undergo a big inspection as part of the maintenance program for this undersea vehicle built at the beginning of the 90's. Like aircrafts, submersibles are in fact under strict maintenance regulations and the extreme conditions that they are subjected to in their work environment make this necessary to ensure the security of the operators. Remember that the Remora 2000, conceived and manufactured at Comex, is a submarine able to reach depths of 610 m. It is equipped with a sonar, several video cameras and an anthropomorphic manipulator created and built by Cybernetix. It can take a large range of additional equipment, depending on the nature of the assignments.

JEAN-CLAUDE BIANCO MADE A “CHEVALIER DE LA LÉGION D'HONNEUR”

Our friend Jean-Claude Bianco, the patron-fisherman from Marseille who brought up the chain bracelet of Antoine de Saint-Exupéry in his nets in September 1998, has just received the insignia of Chevalier de la Légion d'Honneur. Jean-Claude Gaudin, the senator-mayor of Marseille, presented him with this prestigious decoration during a heart-warming ceremony in the grand and magnificent stateroom of the Palace of the Pharo. His family, numerous friends, and almost everyone involved in the “Saint-Exupéry affair” in Marseille, were present at this very important occasion in the life of Jean-Claude. It was the most symbolic recognition of his major role in the resolution of one of the last historic mysteries of the 20th century, that of the disappearance of the famous writer and pilot Antoine de Saint-Exupéry, the 31st of July 1944 on board his plane Lightning. By finding this chain bracelet,

not only was the identification of the plane off the coast of the calanques confirmed, but also the identity of the German pilot who shot down the author of “The Little Prince”, that morning, between Marseille and Cassis, was discovered. Comex is all the more proud of this distinction as it was to Henri-Germain Delauze that Jean-Claude Bianco entrusted the chain bracelet to as soon as it was found, hoping that it would lead our vessel, the Minibex, to the lost Lightning. Thanks to fragments of the wreck discovered by Luc Vanrell, among which the strange Messerschmit engine which led to the discovery of the German pilot who was St Exupery's victor, the circle was closed. This medal also rewards the perseverance and the courage of a man unfairly dragged through the mud for six years, the time it took for the historical proof to finally show that his truth was THE truth.

THE HISTORY OF COMEX BY THOSE WHO MADE IT

For those who are fascinated by the Comex adventure, the “seniors” have founded a sort of brotherhood “The seniors club of Comex” (CACx) which releases a magazine recounting anecdotes and talking about the “big firsts” of the company since its creation in 1961. Called The Ludion, this magazine which traces back past achievements, comes out every trimester. It can be obtained through the CACx.



www.anciencomex.com



Side-scan sonar used to map seabed

THE PROTECTED MARITIME AREAS PUT THEIR TRUST IN COMEX

Comex was chosen by the Association of Protected Maritime Areas (AAMP) to carry out readings and measurements of the habitats and marine species in the Mediterranean at depths of between 100 and 600 meters. Last August, Comex responded to the European call for tender from the AAMP to map and record the species so as to inventory the Mediterranean. Chosen the 16th of September along with the French Institute for maritime research and exploitation (Ifremer), Comex makes use of its oceanographic vessel Minibex and its equipment (sonar, multibeam echosounder, a remote operated vehicle (ROV) and a twin-seat submarine Remora 2000). For its part, Ifremer makes use of an AUV placed on board the Minibex. The first one-

week assignment took place in November on the Canyon of Lacaze-Duthier, off the coast of Port-Vendres, on the Vermeille coast (Oriental Pyrenees).

A second assignment, which took several days, took place in December on the Blanc de Blauquières and the Esquine reef, between La Ciotat and the Isle of Embiez. This assignment will continue in February. The initial readings (sonar, bathymetry, exploration, ROV and submarine) are currently being studied. The first results will be revealed to Comex readers in the next issue in March 2009. The work of AAMP in the Mediterranean and the role of Comex in the scientific campaigns will also be explained during an interview with a specialist in protected maritime areas.



Minibex already performed two missions in the Mediterranean for AAMP



A surprising species discovered near Lacaze-Duthier canyon

© AAMP

COMEX KEEPS UP THE HIGH PRESSURE

Pioneer in saturation diving, Comex has acquired an indispensable know-how in areas of high pressures from the numerous experiments conducted in all the world's seas. It holds several records and is still present in this field with its two vessels, Janus 2 and Minibex, as well as its hyperbaric experimental center in Marseille where several hyperbaric work chambers and therapeutic pressure chambers are manufactured for very exacting customers all over the world.



A diving conning tower made in Comex. Used like an elevator, it allows divers in saturation to leave the hyperbaric chamber placed on the support boat to return to the depths to work.

In the beginning it was a mandatory exercise. To define the limits of deep sea diving, this young company specialised in maritime expertise, created in 1961 by Henri-Germain Delauze, had no other choice but to focus its efforts on mastering high pressures. Almost a half century later, it has become second nature. Even if the world of professional diving is no longer its most important activity, its knowledge in the area of hyperbaric chambers and therapeutic pressure chambers, in which it specialises, is recognized all over the world. In 2009, COMEX Hyperbaric Experimental Center (HEC) and the Department of Extreme Environment Engineering (DIM) will continue to further science in this field.

Aqualung diving had existed less than twenty years when the first hyperbaric chambers appeared at the beginning of the 60's, first in the United States, then in France, where Comex had just been created. The possibilities offered by these very new technologies at the time motivated the pioneers of deep sea diving and thus brought two schools of thought.

One from Captain Jacques-Yves Cousteau who imagined people living in undersea residences set on the ocean bottom and the other from Comex who had decided to develop its tools and techniques to

“Comex invented modern industrial diving”

allow divers to go back and forth between great depths and the surface. Through use of pressurized saturation chambers at dive work sites, the divers were able to work for weeks and resurface every night to sleep on the deck of the support vessel. Comex was also the first to use conning towers as elevators, to take divers to their workplace in the same way as miners.

In the industry, it was this concept that replaced Captain Cousteau's idea, which was compelling but too expensive and risky in case of an emergency at such depths. At the end of the 60's, the rapid development of offshore petroleum was a decisive turning point for the Comex concept which experienced considerable growth in the 70's. During this period, the scientists and engineers from Comex showed a capacity for innovation, specifically in the development of the mixture of gases, which allowed the company to remain the leader in the sector of industrial deep-sea diving.

THE SAGA OF HYPERBARIC OXYGEN

Hyperbaric oxygen chambers (HBO) for hospitals were mostly developed in Holland in the 70's, with the Professor Boerema. Experiments on pressure had been previously carried out by Paul Bert, a French physiologist, who did a

DOSSIER : CAISSONS



-701_m

This is the depth reached by Theo Mavrostomos who remains “the deepest man in the world”.



Within COMEX Hyperbaric Experimental Center control room, in Marseille

number of trials on himself and animals at the end of the 19th century to determine the toxicity of oxygen. We were at this time however very far from imagining that oxygen could be used to take care of people. The first one to have an intuition and to lay down the experimental principals was Professor Boerema, father of the modern HBO. Renewed interest in hyperbaric oxygen, which Boerema was at the origin of, allowed the rapid discovery of the therapeutic properties of the gas, which greatly increases the effectiveness of antibiotic treatments against certain resistant germs in an ambient environment.

“ Comex has delivered more than 200 hyperbaric chambers across the world. ”

A LONG AND FRUITFUL HISTORY

Comex first hyperbaric experimental center (HEC) was transferred from Joseph Vidal street, in Marseille, to its current location on Ocean Boulevard in 1969. Immediately upon arrival in its new location, a long series of experimental very deep sea dives with helium were carried out. This clearing work reached its peak in 1972 with Physalie VI, which made it possible to reach depths of 610 meters. Two years later, Sagittarius VI repeated this feat with a 50 hour stay in this extreme depth.

An extension of this scientific success, the Janus program was launched to validate, at sea, the results obtained at the HEC. In 1977, Comex test divers reached a depth of 501 meters in full water with a helium oxygen mixture to 5% nitrogen. Baptised Janus IV, the goal of this diving record was to prove to petroleum companies that it was possible to send work teams to these depths with helium. The researchers had to face another challenge: controlling underwater pressure syndrome (SNHP) a physiological symptom discovered by Comex in 1968, under the authority of Professors Naquet and Brauerand and Dr. Xavier Fructus. Causing divers to have uncontrollable trembling, SNHP seemed to be the main obstacle to working in great depths. To make it disappear – or at least minimise it – the scientists from Comex explored several avenues, such as the slowing down of divers’ compression speed, unfortunately without results. The symptoms continued to gradually appear from 300 m and become crippling around 500 m. To overcome this difficulty, Comex began an experimental program of a mixture with hydrogen, which also had the advantage of making the gas mixture lighter and easier to breath. This was the origin of Comex’s final adventure in deep-sea diving. At the end of the 60’s, company scientists had already thought of it, going as far as testing hydrogen mixtures during the Hydra I and Hydra II experiments, in 1968 and 1969, before focusing their research on helium. Twice as light, hydrogen reappeared at the end of the Janus program and was quite rapidly able to control the appearance of SNHP in divers. The only drawback: in a gaseous state, hydrogen is not only explosive, in presence of a small percentage of oxygen,



Entirely refurbished, the COMEX hyperbaric chamber of Sainte-Anne Military hospital, in Toulon, is operating again in brand new surroundings.



TWO TYPES OF CHAMBERS

There are two different kinds of hyperbaric chambers: The saturation chamber and the therapeutic chamber. The first is almost exclusively used for offshore professional diving. The second is essentially used in hospitals to administer oxygen under pressure to a patient for therapeutic treatment. The objectives are different but the running principal of these two types of chambers is identical. It is a tube (or a sphere) in hermetically sealed iron, where a pressure equal to the depth we want to reach is artificially created, by pressurizing the whole with air or a mixture of gases. The diver or the patient comes in through a double entrance security door that is closed again before beginning the pressurization. He comes out after an opposite phase, which consists of progressively depressurizing the hyperbaric chamber to bring it back to atmospheric pressure.

but it also has a narcotic effect which is very unpleasant for divers. When the Janus program began again in 1982, it was able to overcome these difficulties and get over a new hurdle in reaching extreme depths. In 18 years of work and experiments at sea and at the HEC, Comex test divers broke new records. During Hydra VIII, they would reach –at sea– the depth of 534 meters, before going over 700 m in the hyperbaric chamber of the HEC, during the Hydra X in 1992. Since then, Theo Mavrostomos remains “the deepest man in the world” at 701 m.

THE SUMMITS AFTER LARGE DEPTHS

The end of deep sea diving experiments in the middle of the 90's did not mean the end of the HEC. In 1997 the Comex installations welcomed the Everest operation, destined to simulate the ascension to the highest summit on the planet, with eight climbers undergoing a battery of sophisticated tests on the lack of oxygen (hypoxia) at very high altitudes.

In 2001 and 2002, the hyperbaric experimental center made it possible to validate another scientific hypothesis on the physiological effects of oxygen. Subjecting athletes to a

withdrawal of oxygen while under physical exertion, Comex doctors were able to show that this technique improved individual athletic performances and also their recovery time. Since then, the HEC continues to be regularly used for tests of equipment under pressure, like the skydiving suit of extreme skydiver Michel Fournier. It also welcomes complex experimental programs, like that of the carbon gas trappers, a technique which greatly improves the autonomy in the diving of submersibles of the French Navy.

In contrast to the underwater residences developed by Captain Cousteau, Comex invented the surface hyperbaric chambers to keep the divers, when not working underwater, at the pressure of the great depths. These techniques allowed the development of industrial deep sea diving during the 60's.



MICHEL HUGON ET PASCAL CONSTANTIN

“Military serving civilians”

A new location, modern equipment on the cutting edge of technology: The hyperbaric chamber center at the Army Instruction Hospital (HIA) of Sainte-Anne in Toulon is once again functioning at full capacity. Renovated by Comex in 2008, it has been carrying out no-incident interventions since going back into service in 2008. Dr. Michel Hugon, department head, and Dr. Pascal Constantin explain.

Comex recently moved the hyperbaric unit to a new location. Why was this done?

The chamber followed the move after the construction of the new Sainte-Anne hospital. It was a question of keeping a connection between the reception in the emergency room and the hyperbaric and diving service.

What will happen to the old location?

It will be demolished as part of a redevelopment for the Army health services.

In what areas has Comex intervened with the whole of this hyperbaric service?

It took on the responsibility of moving the hyperbaric chambers and did some coppersmith work on the chamber so it could operate under low pressure. The Comex team also set up an automatic system of supervision, with a console dedicated to simplifying its use.



CURRICULUM VITAE

Dr. Michel Hugon (left)

Chief Doctor and Chief of the hyperbaric service of HIA of Sainte-Anne, he is specialised in the health and diving medical services and is a national consultant for Army diving. He is also a diving mine clearing expert and a former Gismer deep sea diver.

Dr. Pascal Constantin

Confirmed practitioner in the Army health services (Medicine of Diving) - Hyperbaric and diving service at the Army teaching hospital of Sainte-Anne in Toulon.

He was made Chevalier de la Légion d'Honneur in 2002 and he received the War Cross with mention within the brigade, in 1990.



“ Since going back into service, around 600 sessions for chronic pathologies and about 40 emergencies for civilian divers.”

What kinds of interventions do you carry out with the hyperbaric unit?

It has two functions. It's used as an alert chamber, to deal with diving accidents with military personnel. It is also used for civilians, for urgent and chronic hyperbaric oxygenotherapy treatment.

How many interventions have been carried out since going back into service in May 2008?

Around 600 sessions to treat chronic ailments such as post radiation pathologies, sudden deafness or arteritis problems. We've also taken on about 40 emergencies concerning civilian divers, and accident victims, their cause being mostly due to not respecting diving procedures or problems of desaturation.

Can you explain how these diving accidents are handled in your service?

In the case of a hyperbaric treatment for a diving accident, we must obtain an increase in partial oxygen pressures in the blood using the recompression chamber, which works mechanically. Hence, we struggle against the direct effects, such as ischemia, and indirect, such as biological illnesses from decompression.

What is hyperbaric oxygenotherapy or HBO ?

Hyperbaric oxygenotherapy is the administration, for therapeutic reasons, of oxygen at a pressure above 1 bar. It is used for diving accidents, but also for carbon monoxide poisonings.

Is it true that oxygen becomes toxic at a certain pressure?

It is true. There are two levels of toxicity. One is pulmonary, from 0.5 bar, and the other is neurological, from 1.6 bar on.



CHERBOURG, CAPITAL OF THE HUMAN ADVENTURE AT SEA

Founded more than sixteen centuries ago, the city of Cherbourg is famous for its port and, more recently, the City of the Sea. Created from scratch on the disused site of the old transatlantic maritime station, this complex opened on April 29th 2002. Unique complex dedicated to the conquest of maritime species and the deep seas, filled with achievements and human adventures, it must absolutely be visited.

Located at the tip of Contentin, Cherbourg is one of the oldest cities in France. Indeed, its origins go back to the 4th century. At this period, a fortified Roman camp occupied a vast overhanging area known as Coriallo. It was here that the castle was erected and from then that the city would rapidly develop all through the middle ages. The name Cherbourg probably appeared before the end of the first millennium. The first recorded written trace is in a document from 1026. At this time, the castle of Cherbourg was one of the biggest in France. At the beginning of the 14th century, the city and the castle were surrounded by fortified ramparts. The 100 year war tore Europe apart and the castle's strategic position meant it was subjected to a long series of battles. Depending on the victories or the defeats, the city changed hands between the French and the English six times. It was not until 1450 that the French were the final victors. Two centuries of peace followed, before Louvois destroyed the castle and its fortifications in 1689. A century later—in 1783 to be precise—Louis XVI gave the port

of Cherbourg its status as a military port. The sovereign then ordered that a big dike be erected off the coast as well as three additional forts to protect and defend the harbour in case of an attack. The work would be put on hold during the revolution but would begin again in 1802, under orders of the emperor Napoleon 1st. The dike wouldn't really be completed until 1953. At this time, Cherbourg could boast of possessing the biggest artificial harbour in the world, with 1,500 hectares, an improvement after the dark times of the Second World War and the German occupation. Strategically located, the city and its port were occupied for four years by the Nazi war marines, from the summer of 1940 until the allies landing on June 6th 1944. Cherbourg was liberated 20 days after the American army set foot on the beaches of Normandy, following an extremely hard battle during which the occupiers had the time to sabotage and destroy a number of vital installations such as the maritime station or the turning bridge. After the war, the city would regain its status as a great maritime transatlantic port,



TIPS

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→ Hours

February 2 to April 30, and October 1 to December 31, except school breaks: 10 am - 6 pm
May 1 to June 30, September 1-30 and during school breaks: 9.30 am - 6.30 pm
July 1 to August 31: 9.30 am - 7.00 pm
Tickets will no longer be sold 90 minutes before closing time..

→ Prices

Off season prices

(from February 2 to March 31 and from October 1 to December 31)
Adult: 15.50 €
Child 5 to 17 inclusive: 10.50 €
Under 5*: Free

Peak season prices

(from April 1 to September 30)
Adult: 18 00 €
Child 5 to 17 inclusive: 13.00 €
Under 5* : Free

BEWARE: children under 5 do not have access to the submarine Le Redoutable for safety reasons.

welcoming hundreds of passengers everyday going to New York, Montreal, Buenos Aires... For the last 40 years the development of air transport has radically changed the face of the city, with Cherbourg again becoming a port with military activity. Notably this is where the Direction of Naval Construction (DCNS) which manufactures submarines for the French Navy and submersibles for export has been established since its origin. Nuclear submarine engine launchers (SNLE), nuclear attack submarines (SNA) and traditional propulsion submarines, like those of the Scorpene class, are manufactured by this company whose know-how is widely recognized.

THE CITY OF THE SEA, AN INCREDIBLE MUSEUM ON THE MOVE

It is most likely one of the most successful industrial reconversions in the last twenty years. The former Cherbourg transatlantic maritime station has found its youth again over the last six years after having been threatened to be torn down for a long time. Deserted after the end of the big liners, replaced by the plane in the 60's, it had been built at the beginning of the 20th century to accompany the growth of maritime transport between Europe and the Americas. Entirely renovated at the beginning of this decade, it now houses the City of the Sea, which is without a doubt one of the most beautiful museums in the world dedicated to the human adventure under the surface of the oceans.

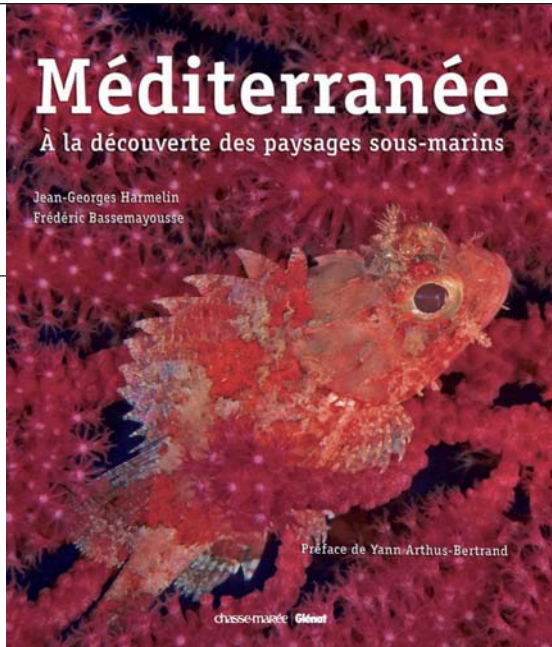
“ A pavillon
dedicated to Henri-
Germain Delauze
and Comex
adventure. ”

Immense aquariums, permanent and temporary exhibits, exceptional machines like the nuclear submarine engine launcher Le Redoutable or the bathyscaphe Archimède, have already brought in over 1.5 million visitors since its inauguration. More recently, the City of the Sea has added to its collection with a life-size model of the submarine Nautilus, from Ifremer, which took part in the discovery of the wreck of the Titanic a little more than 20 years ago, and the pavilion dedicated to the career of Henri-Germain Delauze from Comex who offered the museum most of his machines and equipment invented since 1961 in Marseille. This unique collection alone sums up a big part of the history of industrial diving and the conquest of the great depths by man.

Also, to be seen, a new attraction “We walked under the sea” that opened in February 2008. It is a fun and poetic entertainment

that will take you to the Hadale 31 base, directed by Captain Glass. You will cross training rooms where you will learn the basic communication diving signs, discover dark surroundings and experiment depth intoxication. Then you will embark on the Hadalys dynamic capsule to virtually dive down to more than 6,000 meters, to meet abyssal species such as the sea vampire, then back up in company of sperm whales. In the City of the Sea, you should learn to appreciate a subdued atmosphere, the richness of aquariums, the beauty of copies... Not to be missed: the visit of the Redoutable, the largest submarine opened to the public worldwide, first of a series of 6 SNLE operated in the Navy from 1971 to 1985. You can also get to pilot a virtual submarine, the Furtif, thanks to a very realistic dive simulator. Or discover the touch pool where kids can see and touch the fish in complete freedom.

To celebrate its first one million and a half visitors, in December 2007, the City of the Sea organized a contest with as a prize a cruise on the Queen Mary II. The two winners boarded at Cherbourg for New York on July 15th 2008 and spent 8 days on board.



SUPERB MEDITERRANEAN

This is certainly THE book of reference for scuba diving and marine animal enthusiasts.

Co-signed by the marine biologist Jean-George – alias Jo – Harmelin and the undersea photographer Frédéric Bassemayousse “Méditerranée – A la découverte des paysages sous-marins”, combines scientific precision, easy comprehension for the general public and an exceptional quality of image. It offers a sort of inventory of the Mediterranean giving an update on its current state and opening avenues for the future. Professor of marine biology at the Oceanology Center of Marseille, Jo Hamelin shares one essential virtue with Fred Bassmayousse: they are not only old acquaintances but also close friends of Comex. This is not a first endeavour for either of them, as they have already co-written a previous book “Living Sea”, in 1987. Their new opus, which is more complete and accessible, is sponsored by the National Park of Port Cros and the foreword is written by the famous photographer Yann Arthus-Bertrand, author of “The earth seen from the sky” publishing La Martinière. Please note that “Méditerranée – A la découverte des paysages sous-marins” was published with a foreword from Pr. Lucien Laubier who passed away prematurely several months ago.

“Méditerranée – A la découverte des paysages sous-marins”,
by Jean-Georges Harmelin and Frédéric Bassemayousse |
Publishing Glénat – Le Chasse-Marée | 192 pages | 39 €

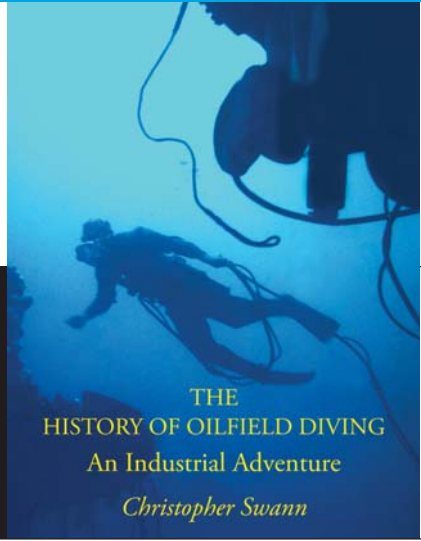
DYNASUB the champion of ultra-precise immersion lighting

The company Dynasub has just developed a new linear lighting for undersea filming for the profilers of the Oceanological Laboratory of Villefranche-sur-Mer (Alpes Maritimes). This equipment, made of two translucent cylinders- the protective glasses - placed opposite allow the particles and the zooplankton to be photographed in situ in a section of water of 20 cm by 20 cm and a thickness of 4 cm. It is made of two protective glasses equipped with electronic regulation control, as well as 42 leds of strength emitting in the red, interacting with optical correctors. These leds, used in pulse mode, generate a lighting of over 2,000 watts per millisecond. This system can also be used to take undersea photos close together.



©CNRS-LDV, Marc Piberal

A regular supplier of companies and institutions such as Ifremer, the Direction of Naval Constructions (DCNS), the General Delegation of Armament (GDA) or in this specific case, the laboratories of the National Center for Scientific Research (NCSR), the company Dynasub is located in La Seyne-sur-Mer, in the Var. It makes and commercialises high technology underwater equipment. Comex invested capital in Dynasub in September 2007 and is a 34% shareholder of this dynamic mid- sized company.



THE ONET GROUP COMEX'S NEW NEIGHBOR

The new headquarters of the Marseille-based company Onet is almost completed. It is built on a parcel of land of almost one hectare sold by Comex to Elisabeth Coquet-Reinier, president of the holding Reinier-Group Onet. Located next to the Comex headquarters on Ocean Boulevard in Marseille, this new property includes six buildings over a total surface area of 15,000 sq.m, most of which are offices. Upon their completion in February next, the employees of the Onet group will have access to a vast company restaurant, a fitness center and a day care which can also accept children whose parents work for other companies in the area. Comex would like to welcome its new friends and neighbors who will contribute to revitalize our district.

2 000

It's the volume, in cubic meters, of the trial test tank at Comex, on Ocean Boulevard in Marseille. Housing a 10 m-deep and 6 m-wide tank, it can receive a multitude of different equipment according to the type of work that needs to be carried out. It is also regularly used by film crews who need to film underwater, for example the film *Transporter II* in 2008

CHRISTOPHER SWANN WRITES THE HISTORY OF OFFSHORE DIVING

Former partner of the Comex, Christopher Swann has just published a remarkable book on the history of industrial petroleum offshore diving, a domain where the diver, photographer and writer is very well known.

Born in England, Christopher Swann spent a lot of time with the pioneers' microcosm of professional divers from the beginning, taking part in the first commercial operation in offshore with a diving bell, Purisma, in 1965 in California. Over the course of his impressive career, Christopher Swann not only worked for the Comex, but also for the undersea department of the Brooks Institute in Santa Barbara, the Harbor Branch Foundation in Florida, and the Duke University Medical Center in North Carolina. Living in the USA, he has written several books and directed a large number of films and photographic reports on the sea world and diving



© 2007 Bob Evans

"The history of oilfield diving - an industrial adventure",
by Christopher Swann | Publishing Oceanautpress, Santa-Barbara,
California, USA.

geomex

