INNOVATION AND DESIGN
THE HOSPITAL DE LA SANTA CREU I SANT PAU (BARCELONA), A GEM OF MODERNISM AHEAD OF ITS TIME

MEXICO
BENCHMARK CSSD IN LATIN AMERICA

BIOSAFETY
AN ACHIEVABLE CHALLENGE WITH THE RIGHT EQUIPMENT

MOBILE SOLUTIONS
ANYTIME, ANYWHERE
MUCH MORE THAN AN EQUIPMENT MANUFACTURER

Fifty two years ago when Antonio Matachana founded our business venture he was certain that the focus needed to be the business spirit and service to clients. At the beginning we had just a few clients but today we have thousands in more than 100 countries.

The consolidation of our internationalisation is perhaps the most evident sign of the progress experienced by MATACHANA in the past fifty years. We are no longer a Spanish company with a global presence; instead we are a multinational company that has not hesitated in moving several decision making centres outside of Europe, while always maintaining a firm commitment for manufacturing a high quality European product.

During the last decade the MATACHANA brand has positioned itself at the highest level and competes hand in hand with other large companies in the sector. We are constantly innovating and incorporating the latest infections control technology to our programme. We are creating new product ranges and consolidating the personalised service warranty, which only a family company can provide. We have also made a strong commitment to renovate and optimize the communication channels with our clients to establish closer relationships and provide even more flexibility for satisfying their needs.

All these improvements are part of the comprehensive change process we are experiencing at our organisation. However, these changes are not the only ones; many other changes are being implemented and will become effective in the following months and which we will be reporting as they occur.

One thing we are sure of is that even though we are manufacturing sterilization equipment, we were, are and always will be a company at the service of our clients; precisely as our founder determined in 1962.

From left to right:
Juan Antonio Matachana (CEO)
Arantxa Matachana (Treasurer)
Manuel Matachana (General Manager)
Different possible configurations are available for satisfying the need to provide health services outside urban areas. These measures may include a hospital in large tents or using containers similar to the ones used in the maritime transport of goods. The usual method is a combination of containers for areas requiring equipment (Surgery, ICU, and CSSD) and tents for the in-patient care areas.

The experience of the MATACHANA Group in this area is extensive since we have participated in different types of projects aimed at meeting these types of requirements. The armed forces are the main drivers of these types of solutions. Field hospitals represent an example of adapting to a hostile environment. They are completely self-sufficient units which can be installed for example, in desert areas. Mobility, and that it can be set up and removed relatively easily, are fundamental aspects of the hospital.

Using these types of solutions meets the need to deploy quickly to areas affected by natural disasters such as earthquakes or tsunamis. Areas where refugee camps are located or largely populated areas without any type of infrastructures are other examples of places where these types of hospitals are greatly needed.

The Mecca mobile hospital project (Saudi Arabia) is a solution where seven truck trailers combine to form a small hospital. The integration of the hospital was
carried out in Oslo, at the facilities of company Normeca. The trailers are extendible and once in position, they are extended laterally to increase their volume. The hospital is comprised of a hospitalisation area with 8 beds, radiology services, operating theatre with ICU and a sterilization area.

In the United Kingdom, the MATACHANA Group has collaborated with a company providing temporary sterilization services to hospitals that are currently refurbishing their Sterilization Centre. The sterilization unit installed in a truck is parked in an area adjacent to the hospital while the refurbishing work is being carried out and this way, the hospital’s Surgery can continue operating perfectly.

Sometimes the difficulty encountered in finding construction materials in remote areas requires using these types of solutions. In the city of Kapoeta (Southern Sudan), the MATACHANA Group equipped the sterilization centre of a semi-permanent hospital. In this case the implemented solution was based on a modular construction system that required an installation phase of the modules which was longer than that of a container/tent type field hospital but at a noticeably lower price.

Modular construction is being used ever more frequently and MATACHANA is working on these types of projects in order to build CSSD, Operating Rooms and Anatomical Pathology Service Centres following this concept.

THE STERILIZATION DEPARTMENT (CSSD), INSIDE OR OUTSIDE THE HOSPITAL?

This is a recurring question asked by the directors and managers of health centres, who are responsible for refurbishing the facilities or even building new hospitals. Traditionally, all cleaning, disinfection and sterilization of surgical instruments has been carried out inside the health centre. For some years now, and due to the need of some hospitals to augment their clinical services, it has been the norm for hospitals to externalise some of the general services: laundry, the kitchen, the laboratory, archiving and the sterilization department, among others; at the same time outsourcing, or not, the management of these services. Of all these services, I consider CSSD to be critical, as an addition to surgery. A hospital’s main activity is to prevent diseases and make people well, and for that is important that most people could be treated in surgery or similar rooms.

One of the advantages of locating the sterilization centre inside the hospital is its proximity to surgery. In this way, all the instruments are located inside the hospital and with proper management we can turn them around as required. That produces another important benefit: preventing the need to increase the inventory.

When physical space is not available, or when deemed necessary by the managers, we can implement mixed solutions: sterilizing instruments or medical devices considered critical as well as those with a high turnaround at the hospital point of use and/or sterilization sub-central while the bulk of materials are sterilized outside the centre.

Finally, we can make the decision to sterilize 100% of the instruments at a location outside the hospital. That has been done successfully by several leading facilities in Europe and other areas of the world: using an efficient logistics network, we can have all instrumentation ready for use in no longer than 5 or 6 hours by locating the sterilization department centre within a 30/40 km radius of the hospital.

When the time comes to make this important decision, managers and other decision making centres can find support in our company. We work in different projects throughout the world, which gives us a broad perspective from which to assess the opportunities, dangers, advantages and disadvantages of each project.
In 1994, the Ministry of health of Ecuador, aware of the importance and need for the proper handling and treatment of hospital waste, carried out a study of the current situation at hospitals around the country. Upon completion of the study in 1996, a Solid Waste Handling Programme was implemented at health centres which included the training of personnel. In 1999 they began evaluating the handling of waste at health centres to date as well as the different collection methods in Quito and in at least 25 other locations around the country.

"THE IWIS PROVIDES A SOLUTION THAT CONTRIBUTES TO THE POLICIES OF MINIMIZING WASTE; A PRIORITY FOR GOVERNMENTS AROUND THE WORLD".

Based on this programme different handling methods were established inside hospitals as well as externally, of which sterilization was the main method implemented. MATACHANA offered its sterilization equipment and installed the IWIS (“Infectious Waste Integral System”) container at the hospitals of SANTO DOMINGO DE LOS TSACHILAS, BABAYOYO in LOS RÍOS and ISIDRO AYORA in LOJA.

The Hospital of Santo Domingo is a second level facility with 120 beds and provides health services to over 300,000 people in the province of Tsáchila and other village areas. It was inaugurated in July of 2012 after the provision of two million dollars by the Ministry of Health to the hospital for the purpose of remediying the deterioration of its infrastructure and lack of space for patient care among other problems. MATACHANA was awarded a contract to equip the Sterilization Centre as well as the area for treating infectious diseases with an IWIS system.

Applying current regulations, the hospital separates the waste at the generation points and transports it to the storage unit which is kept securely locked. From the storage unit, the bio-contaminated material is transported to the IWIS system that is installed outside the hospital where the waste is sterilized and subsequently shredded and compacted once it is sterile and therefore harmless. Upon exiting the IWIS, the waste may be disposed of in the same manner as the rest of the waste that is generated at the hospital.

MATACHANA’s IWIS system includes a 20’ container with all the items required for the sterilization and subsequent shredding of the biomedical waste. With a “plug and play” type design and installation, the IWIS has been specifically designed to ensure that when it reaches its final location it only requires an electrical connection, a water mains connection and piping to an existing drainage network.

The IWIS may be installed in a car park adjacent to the centre and occupies two car parking spots, making it suitable for those centres that do not have space for this service or that, having removed other systems that have become obsolete such as the incinerator, wish to begin working immediately without needing to carry out any civil works. It is also important to mention that the container is ready to be shipped by sea since it possesses the necessary certifications. All of this does not exempt from the need to maintain a local Technical Service that provides the proper maintenance for the equipment and to prevent stoppages or malfunctions that could compromise the internal protocol for handling waste. Following the example of the Hospital of Santo Domingo and included in the same project, the IWIS system has also been
implemented at the Hospital of Babahoyo, which has 120 beds and services 90,000 users in the province of Los Rios.

Subsequently, and thanks to the mediation of NORVENPRO, MATACHANA distributor in Ecuador, the Isidro Ayora Hospital in the province of Loja also purchased an IWIS system in addition to equipment for the Sterilization Centre. At this hospital with 243 beds, the IWIS containers were equipped with a freezer chamber with capacity for two containers to replace the compactor in response to the specific needs of the centre. In addition to the requirements that may be covered by the IWIS system at general hospitals, the container is designed for covering deficiencies in the handling of infectious waste in remote or areas of low population. In these areas the road infrastructures as well as the logistics of the waste management companies is insufficient and this is where a system such as the IWIS provides an easy and efficient solution for managing infectious waste.

MATACHANA with its IWIS system provides a solution that is easy to install and manage and contributes to the policies that minimise waste; one of the current priorities of most governments around the world.

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**LOGISTIC SOLUTIONS:**
**MOBILE FACILITY FOR FORENSIC MEDICINE**

MATACHANA Group’s mobile unit for forensic medicine has been designed and built inside a 40' air-conditioned container, the design of which allows corpses to be stored and preserved and forensic medical autopsies to be conducted. Its external and construction characteristics, with internationally regulated dimensions, allow for handling and shipping by sea, air or land.

The working circuit is divided into two different areas that may be used independently; the morgue, which is accessed from the end of the unit and the autopsy area, which is accessed via the door located in the centre of the container. In this way, personnel responsible for externally handling the bodies can deposit or remove the corpses from the preservation chambers without having to go inside. Once the body is placed inside the preservation chamber a single operator can carry out the entire handling process.

The autopsy area is equipped with a surgical lamp with an HD video camera and a microphone for recording images and audio.

The autopsy is carried out in the same corpse-carrying tray of the chamber where the body was deposited.

The tray can be slid to the autopsy area simply by tray transfer and using elevation trolleys.

The wall station also includes all the elements required for working with the body and subsequent sample dissection. It also incorporates a liquid vacuum, waste disposal and extractable shower for washing the body, two perforated areas for dissection with smoke extraction and automatic dispenser for formalin.

Display cases and cabinets have been installed for storing instruments and tools as well as an area for preparing, storing and analysing samples and an area for washing, disinfecting and sterilizing instruments.

The inside is thermally insulated and temperature-controlled, with two side windows that allow natural light to enter, augmented using LED lights. The design allows for quick and easy connection to the external fresh water mains and the drainage, electrical and data networks.

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INTERVIEW

"OUR OBJECTIVE IS TO OFFER THE SAME QUALITY OF SERVICE AT ANY LOCATION AROUND THE WORLD"

RAFAEL PEPÍN
TAS Manager MATACHANA GROUP

HAS THERE BEEN A CHANGE IN THE WAY MATACHANA GROUP CUSTOMERS USE MAINTENANCE?

In some European countries for several years now, the selling of equipment is associated with a maintenance contract that may last for its entire service life. However, primarily other southern and eastern European countries do not share this same philosophy. With respect to the Spanish market we have progressed from levels of 5% ten years ago to 90% nowadays.

WHAT WOULD YOU SAY DIFFERENTIATES THE TAS DIVISION OF THE MATACHANA GROUP FROM THAT OF OTHER COMPANIES?

I sincerely believe that for over 50 years now our company has been much more concerned about the provision of technical services than our competitors and we have invested a large amount of economic as well as human resources in developing these services.

Currently the provision of maintenance is a differential service that is of great value to the client.

This results in a service of unparalleled involvement and dedication to our clients. Any call made by a client to the TAS division of the MATACHANA Group is immediately answered and our technicians work hard and involve themselves personally to resolve the issue as soon as possible, regardless of the location or the magnitude of the problem.

THE INVOLVEMENT OF THE TAS IN ALL PHASES OR AREAS OF THE COMPANY IS INCREASING EVERY DAY...

The TAS participates to a greater or lesser degree in all the processes; from designing the machine based on our great knowledge about the client and its needs, and the difficulty of installing on location, etc., to our involvement with the sales personnel and commissioning of the equipment.

WHAT DO CUSTOMERS EXPECT FROM A TAS DIVISION LIKE THAT OF THE MATACHANA GROUP?

Customers want to prevent unnecessary malfunctions and stoppages for different reasons: to increase the availability of the machines; because it is less expensive than carrying out repairs; because the end user is confident about the equipment; and because productivity increases, among others. At MATACHANA we are highly trained in the technical aspects via on-line training, which results in highly efficient technicians; in other words, they are able to resolve any problem in a short period of time and at a reasonable price.

COMPANIES ARE NOT USUALLY PRONE TO SIGNING COMPREHENSIVE MAINTENANCE CONTRACTS; HOWEVER THE MATACHANA GROUP SUPPORTS THIS FORMULA.

It is true however that in the past companies were somewhat concerned about signing maintenance contracts because they feared incurring high costs and the risk of that investment not being cost effective, but nowadays the client knows that for a fixed yearly price MATACHANA will resolve any problems that may arise regarding the equipment. This practice also guarantees the functioning of the equipment for many years. This type of contract includes preventive maintenance, corrective maintenance, spare parts, validations and industry inspections for the sterilizers as required.

WHAT IS THE KEY TO SMOOTH OPERATION OF THE TAS DIVISION OF THE MATACHANA GROUP?

In the TAS division management is very important. We equipped ourselves with the procedures and technology to be able to offer a better service without increasing the price.

We have our own logistics department for managing warehouses, stocks, prices, etc. Our warehouse
includes stock of more than 50,000 spare parts, all of which are perfectly documented. Thirty years ago we were not using information systems and today, we still have documentation and spare parts for machines that are no longer sold. Some of the parts we have should be in museums.

“WE HAVE EQUIPPED OURSELVES WITH THE PROCEDURES AND TECHNOLOGY TO OFFER A BETTER SERVICE WITHOUT INCREASING THE PRICE.”

WILL THIS EXTENSIVE STOCK OFFER GREAT AGILITY FOR RESOLVING PROBLEMS?

Indeed. We never say that we do not have a part. Having many spares available allows us to resolve malfunctions in a timely manner.

Our technicians carry a set of spare parts in their mobile units which is based on our experience regarding the parts that have been more commonly replaced in recent years and the distributors have sufficient stock available too. Nevertheless, by means of a quick transport service, any accessory can be shipped within 24 hours to any part of the world.

IS INTERNATIONALISATION THE MAIN CHALLENGE THE COMPANY WILL BE FACED WITH IN THE FUTURE TO STANDARDIZE A SERVICE QUALITY GUARANTEE?

Yes, especially because the purpose of our company is to offer the same quality of service in any country. Even though the requirements, concerns and criteria present in the different geographic areas where we are present are very different, from MATACHANA we guarantee an effective and quick solution in any part of the world.
Infection Control departments and processes are complex in all hospitals worldwide and require well trained specialists and knowledge, but in developing countries, like China, CSSD departments are still levels below their counterparts in Europe.

Current situation in China is that National Disinfection Organisms are making efforts to develop this knowledge and professionalism in Chinese CSSD in order to increase infection control standards, this is the reason why they are open to learn from developed countries.

MATACHANA started its activity in China around 10 years ago. Since that time one of the main difficulties in Chinese market has been to extend its knowledge inside CSSD and Infection Control departments in Chinese hospitals and train them to understand the principles of LTSF as a good alternative in many suitable scenarios.

LTSF was born long time ago as an alternative technology for low temperature sterilization in order to sterilize temperature-sensitive products. Alternative would be a good word to apply also for China because at this moment LTSF is offering new options to its Infection Control Departments.

Until now, LTSF unfamiliarity did not leave many options in Chinese Infection Control departments, but now is creating a discussion about if Ethylene-oxide processes are too aggressive in terms of being potentiality dangerous for CSSD’s operators and if LTSF running cycle is cheaper and shorter. We can also find some debates in Hospitals regarding Hydrogen peroxide (with or without plasma) capability and power when sterilizing hollow medical devices, long lumens, compared to LTSF and its higher penetration efficacy.

These current discussions and the fact that CSSD responsibles are looking for new technologies to introduce in their hospitals in order to make them more professional lead Chinese Disinfection Organisms to have recently approved various standards regarding LTSF technology, not only accept International standards as before but also write their own ones.

MATACHANA as the leading worldwide promoter of LTSF technology is extremely committed to this promotion of knowledge in China.
More intelligent medical devices for new therapeutic procedures and with extraordinary perspectives for medicine are increasing their use in our hospitals, but their design and construction materials often provide a very high challenge for their reprocessing. Normally, they are thermo sensitive products, which require low temperature sterilization processes. Different technologies are available but due to their diversity, it can create difficulties when it comes to decision making.

An objective and technical criterion would be to evaluate the capability of the process to transport the sterilant to the surface or object to be sterilized, as well as its microbicide interaction in order to ensure the killing effect to the microbes and the decomposition/elimination of sterilant residues and general inanimate chemical reaction products which could cause adverse effects in the patients. Finally, it shall be also possible to monitor the quantity of the used sterilant to control and monitor properly the process steps for inactivation and for removing any of its residues left.

These three sub-processes, inherent part of any sterilization technology, must always be validated.

Since we are using a chemical substance for the sterilizing activity, one further very important aspect is to avoid pollution of the process chemicals to the working environment, and residues at medical devices and packaging materials, to guarantee the safety not only of the patients, but also of the operators and the environment. International standards and regulations as well as and manufacture compatibility statements will always help us to take a decision.

Other aspects as cycle time, operating costs or compatibility with wrapping materials are subjective criteria to be decided by each user depending on specific needs.

The use of ethylene-oxide sterilizers in the hospital has been diminishing due to the long process duration with a lengthy degassing phase and the dangers connected to the toxicity of the ethylene-oxide gas.

The LTSF*-sterilization process has been scrutinized in many research projects all over the world since more than 40 year ago. Numerous publications have shown its high microbicidal efficacy and the extraordinary penetration performance of the sterilizing agent.

This technology, embedded into a comprehensive regulatory and standardization framework that clearly describes the sterilizer, process performance, parameters for controlling, safety provisions, its monitoring and system validation, constitutes itself as an ideal candidate for the sterilization of thermo sensitive materials.

Plasma and vaporized hydrogen peroxide sterilization (HPO) have become lately popular in sterile processing departments notably for its fast cycles.

However, scientific publications and limiting statements of some manufacturers with respect to particularly challenging medical device configurations ask for specific care in validation of its performance and safety.

In addition, specific harmonized standards which can support evaluation of critical requirements are not yet available. This applies as well to biological indicators for the technology, because ISO 11138, the specific standard for bio-indicators, does not have a particular section for indicators of HPO. Thus, D-values for evaluation of sterilization performance are not comparable between different technologies due to this lack of reference.

On this background it becomes clear that the well-established steam-formaldehyde sterilization process is a re-emerging alternative to the hydrogen-peroxide-plasma process. Due to its process capabilities, LTSF-sterilization can be considered the method of choice for the sterilization of complex thermo sensitive medical devices like flexible endoscopes, to give an example.

*LTSF: Low temperature sterilization with formaldehyde
SANT PAU
ART NOUVEAU SITE
A WORLD HERITAGE ARCHITECTURE JEWEL
RESTORED TO ITS FULL GLORY

The Hospital de la Santa Creu i Sant Pau in Barcelona is one of the oldest hospital institutions in Europe. It dates from the early 15th century, when the Chapter of the Cathedral and the Consell de Cent (Council of the One Hundred) of Barcelona ordered its construction. Since its foundation, this institution has provided care and assistance to those in most need.

Its contribution to advances in medicine and science in general, alongside the continuing concern for every aspect of public health (hygiene, wellbeing and quality of life) present in the Hospital de la Santa Creu, a splendid Gothic building in what is now the Raval district, took a step forward with the construction of a second hospital (1902-1930). Designed by Lluís Domènech i Montaner and funded by the banker Pau Gil, this second facility was to be one of Europe’s loveliest and most advanced hospital constructions, standing out for its revolutionary architectural design in a hospital and its artistic value.

The Sant Pau site is one of Domènech i Montaner’s masterworks and one of the world’s Art Nouveau gems. This “city within a city” of unique heritage and architectural value for its time has crossed borders to acquire international recognition. In 1978, it was declared a national Historic Artistic Monument and, in 1997, it was recognised as World Heritage by the UNESCO, for its singular construction and artistic beauty.

After almost 80 years of operation, in 2009 healthcare services were transferred from the complex designed by Domènech i Montaner to a modern new hospital building. It was then that the Fundació Privada Hospital de la Santa Creu i Sant Pau, which is responsible for the maintenance and conservation of the monumental and artistic complex of the Art Nouveau site, started work on its rehabilitation, in one of the most ambitious heritage restoration projects of recent decades.

All the interventions were carried out according to three basic criteria: ensuring a high quality of architectural rehabilitation; turning the Art Nouveau site into a model of energy sustainability—the principal source of energy is geothermal power—and incorporating new technologies, making it a point of reference in this field.

The balance, exigency and cohesion of these three criteria have produced a model rehabilitation project which has become an example of heritage intervention. This delicate, labour-intensive task has been carried out with a commendable deployment of research and documentation to provide reliable information about the original configuration of the spaces, construction materials and ornamentation used.

These beautiful early 20th century buildings have become exceptional and functional work places for international institutions that develop their mandate in the fields of health, education and sustainability. The United Nations University, the World Health Organization, the Global Water Operators Partnership Alliance, UN-HABITAT with its Resilient Cities Programme; the GUNi, the European Forest Institute and Casa Àsia develop their programmes in a unique space full of history, life and culture.

Art Nouveau and modernity go hand in hand in this new phase of a complex that has been reborn with the objective of preserving and disseminating a work of incalculable value; architectural innovation closely linked with new social uses, giving a new lease of life to one of the foremost creations of Lluís Domènech i Montaner.

Communication Team. Sant Pau. Art Nouveau site
www.santpaubcn.org
In recent months, the news has been marked by the worsening of the Ebola outbreak in several African countries, and its transmission to some western countries such as Spain and the United States. This has set alarm bells ringing in society. In this article, we consider how Biocontainment units assist in studying these types of diseases and how these types of pathogens are being dealt with.

Isolation and containment is a basic biosafety principle. In this regard, the fixed or portable Biocontainment units are essential, some for the safe movement of patients and others for their treatment and monitoring, together with research into possible vaccines or alternative treatments.

The most important action measures in case of an outbreak of viral disease are: early detection, isolation of patients and containment, and provision of health and prevention information to the population on the disease and its transmission. Staff assigned to the patients’ care should be restricted as far as possible and biosafety procedures established for movement of the patients or samples.

Extreme care must be taken with the entry and exit of staff to the isolation units, the use and removal of personal protection, decontamination of spaces, surfaces and objects and their microbiological validation including safe transfer, and the effective destruction of generated waste.

The High Biological Containment Centres and Facilities are equipped with exceptional safety measures.
The established biocontainment and biosafety measures guarantee the “in vitro” or “in vivo” work with pathogens communicable by air or in the form of an aerosol. They are made up of individual rooms designed for carrying out laboratory practices with high risk biological agents capable of producing serious, very serious or fatal infection in human beings, animals or plants, so that performance of this work without the provided biosafety measures would represent an unacceptable risk.

HIGH SAFETY AND CONTAINMENT MEASURES

Entry into the laboratory is rigorously controlled and supervised. Access is not allowed without the corresponding accreditation. Once inside, all personal items and clothing must be removed before accessing the biocontained area. A series of changing rooms at the entrance and water showers at the exit ensure the mandatory decontamination of staff. Under no circumstances is it possible to remove any item from within the biocontained area and, in certain cases, from the laboratory itself without the appropriate decontamination.

The worker is thoroughly trained and informed on biosafety and documents compliance with the established standards. Strict compliance with existing biosafety procedures and personal protection measures applicable in each case are essential. Finally, and in the case of animal and plant health, each worker that leaves the Containment area is subject to special quarantine conditions.

Internationally, basically we can find level 3 and 4 facilities with variations in their design depending on whether they are intended to accommodate biological agents that solely affect humans, solely animals, both and/or plants, or if their use is for diagnostics, research with or without experimentation and production.

Nevertheless, the two main features of all of them and therefore their objectives are those of providing full sealing and the best indoor safety possible. For this, an appropriate design, the putting in place of suitable architectural measures, the implementation of useful overall engineering solutions and the installation of the corresponding barrier equipment in accordance with the risk combined with good work guidelines are fundamental in obtaining a biosafe space.

There are numerous international standards and recommendations in this regard. They are many and very varied; some are mandatory which, in too many cases, show limited understanding of biosafety and are sometimes contradictory; and others of a normative nature and therefore established as recommendations, which, incidentally, are the most widely accepted and adopted by those facilities that truly establish satisfactory biosafety criteria.

The most developed technical texts of a normative nature are, among others, the UNE-EN Standard on “containment and physical safety measures in microbiology laboratories”; and the UNE-EN Standard on “containment measures for experimentation animals” and finally, the most recent UNE-CWA 15793-2013 on Management of Biosafety and its application guide UNE-CWA 16393-2014.
The main function of the Head of Biosafety and Biocontainment of a centre is the supervision and control of all those activities intended to prevent internal contamination occurring and biological escape to the outside. For this, he or she must be able to anticipate or, failing that, urgently rectify any flaw in the control of the biocontainment facilities and develop decontamination processes and effective protection measures that nullify or minimise the consequences that arise from a biological risk.

This responsibility should result in the establishment, monitoring and supervision of an effective management and supervision of Biosafety and its practice that integrates biocontainment engineering, preparation of work procedures and management of personal protective equipment, the implementation of safe and microbiologically validateable biodecontamination processes, the control of double boundary mechanisms, air filtration, effluent treatment, internal treatment of waste, sending and receipt of biological infectious samples, access controls and training in biosafety among others.

An adequate training base is essential along with observation, the knowledge of other facilities and the exchange of experiences and, above all, as a basic and fundamental aspect, the use and prevalence of common sense in making decisions and the acceptance that biosafety starts with oneself.
At the end of 2013 and after a long public tender process, one of MATACHANA’s distributors in Mexico, company ABSTEN was awarded a contract for outfitting the 2 Ceyes* and one of the Sub-ceyes belonging to the hospital units that comprise the Civil Hospital of Guadalajara in the state of Jalisco, which is one of the most important health Centres in the Federal Republic of Mexico.

**THE CIVIL HOSPITAL OF GUADALAJARA**

Its establishment, dated May 3, 1794, was carried out by Spanish cleric Fray Antonio Alcalde, Bishop of Guadalajara, who, in 1786 submitted his request to Carlos III, King of Spain at the time, to build a hospital on the outskirts of the city and consecrate it to the “Suffering Humanity”.

The current hospital complex of Guadalajara is a Public Body decentralised from the state’s public administration, is its own legal entity and with its own assets, comprised of two Hospital Units:

- Old Civil Hospital of Guadalajara
  “Fray Antonio Alcalde” = FAA
- New Civil Hospital of Guadalajara
  “Dr. Juan I. Menchaca” = JIM

The primary objectives of the hospital complex are:

- Provide health services to people not covered under social security (Seguro Popular de la Salud)
- Act as the University Hospital for the University of Guadalajara for teaching, research and extension in the health area.

The tender required the design, execution of works, installation and commissioning plus training of personnel at the 2 requested CSSDs; the Sub-central adjacent to the JIM operating rooms and the 2 CSSDs that reprocess the health care materials for the rest of the client services that exist in the Complex; one at the FAA and the other at the JIM.

The magnitude of the project entailed effective planning in the manufacturing and shipping of equipment as well as of the execution of the works at the hospital itself based on the 3D representations and perspectives generated by the Competence Center of Antonio Matachana S.A., which had to constantly adjust the plans to the unplanned changes required by the progress of the works and the appearance of sudden architectural elements that required continuous modifications in the execution plans.

During this entire period, the follow-up work carried out by MATACHANA’s Project Coordination Office has been essential.

The execution of these 3 facilities has enabled Antonio Matachana S.A to achieve the following objectives:

- Ensuring that the 3 units meet the Hospital Complex’s current and future productive needs for sterile materials, including certain increases in production or the inclusion of new surgical techniques for which the hospital must be prepared.
- Provide a design of the work areas and material circuits and aseptic personnel and without crossover, where all the details related with ergonomics and comfort of personnel is prioritized.
- Install state of the art sterilization and washing equipment that is completely compliant with international standards in order to guarantee the reprocessing of hospital products in a manner that is safe for the staff as well as for patients.

* Central Sterilization and Supply Department (CSSD)
• Achieve a perfect harmony between installed equipment, the required supplies and the energy consumption for the purpose of being environmentally sustainable and reduce the installation’s environmental impact to a minimum.

• Guarantee perfect knowledge of the equipment and processes is achieved so that the users of sterilization departments can become conscious and aware of the importance of their work and carry it out safely and with the highest quality.

TRAINING IN BARCELONA FOR STERILIZATION PERSONNEL

Prior to commissioning the Sterilization Centres in the city of Guadalajara, Antonio Matachana S.A invited the Hospital Complex’s Nursing Director and the rest of nurses and personnel responsible for the 3 CSSDs to our facilities in Barcelona for the purpose of ensuring a proper operation and use of MATACHANA equipment at both centres.

The first one of the scheduled activities was the visit to our production centre located in the city of Castelldefels (Barcelona) where our Factory Director Mr. Jose Carlos López provided a step by step description of the entire manufacturing process of our autoclaves.

The visit to the factory was a unique opportunity to become familiar with the sterilization models, thermal-disinfecting washers, ultrasonic irrigators and the rest of supplementary equipment planned for outfitting the two hospitals. During this part of the training, actual working situations were simulated, the use of the different programmes in the equipment menu were thoroughly covered and practical training was carried out using the carrying accessories that are to be used with the main equipment.

The assessment by the students was very positive and allowed the theoretical review of the concepts and the updating of knowledge to be put into practice on the equipment that was actually going to be outfitted at their hospitals.

THE IMPORTANCE OF FEEDBACK BETWEEN USERS

One of the most enriching moments for personnel from the Guadalajara Hospital Complex was the possibility of visiting different health Centres in Barcelona and its surrounding metropolitan area, which have sterilization departments that are fully equipped by our company.

The purpose of these visits was not to go into the operation of equipment and its use, instead it was to observe the organisational aspects for managing the activity and personnel, which is as important for hospital managers as is becoming knowledgeable about the machines themselves, given that the operation of its new services will be completely different than what they are accustomed to, especially if we take into account that the washing of all surgical equipment used to be accomplished 100% manually, without thermal-disinfecting washers and without separating the working areas.

MATACHANA EQUIPMENT INSTALLED AT THE HOSPITAL COMPLEX OF THE CIVIL H. OF GUADALAJARA:

• 10 STEAM STERILIZERS S1008 E-2
• 6 WASHERS MAT LD 521-2
• 3 WASHERS MAT LD 521XLS
• 3 ULTRASONIC IRRIGATORS
• 13 ERGONOMIC WORK STATIONS
• 3 DETERGENT DOSING CENTRES
During the week when the Mexican leadership was visiting us, we had the opportunity of visiting 3 Health Centres; each one with their particularities and history but with functional and organisational details that were especially interesting for our Mexican nurses, who did not stop asking questions and taking pictures of those aspects they found to be useful and which could be applied at their own units.

We would like to thank the leadership personnel from the sterilization units of the three hospitals for their warm welcome and the great attention rendered during our visits.

CONCLUSIONS

The execution of this project, which we expect will become 100% operational at the end of 2014, is due to the combination of a job well done and excellent planning carried out by the company ABSTEN in conjunction with the support provided by the other distributing company for Mexico EEE (Especialistas en Esterilización y Empaque SA de CV) and the different departments of MATACHANA, specifically the Competence Center and Project Coordination.

Without a doubt, the three sterilization centres will become a benchmark as far as the design, planning and technology of CSSDs in Mexico, providing quality and assistance services, which the Civil Hospitals of Guadalajara have been consistently providing for years, as attested by their national and international reputation.

And the MAT LD range continues to grow over the years with new models.

The Matachana MAT LD devices stand out for:

- Ergonomic design thanks to great flexibility and variety of its loading accessories.
- Maximum operator safety on the processes and materials to be reprocessed.
- Excellent reliability associated with optimal performance.
- Cleaning/disinfection processes and results according to EN ISO 15883.
- Environment care, both in the manufacture and in the optimization of energy, water and chemical products’ consumption.
- Monitoring and traceability of the entire process by EasyLOOK® software.

Matachana introduces the new MAT LD automatic washing and disinfection equipment, completing its ability to provide total solutions for sterile processing departments.
ARGENTINA
CORNERSTONE OF CONSTANT GROWTH
MATACHANA IN LATIN AMERICA

Through the start of the nineties, the MATACHANA GROUP, with an emerging internationalisation strategy marked by successful penetration in the main European countries, chose Argentina as the base for establishing the first headquarters outside the old continent.

21 years have passed and we continue with the same enthusiasm and professionalism; committed to providing the entire region with the latest advances that are available in the complex infection control market, focused mainly in the hospital and science sectors.

Some years of our incursion into Latin America have not been easy but the MATACHANA GROUP, which has invested in constant growth and is firmly committed to quality and providing a global service to our clients, has been able to read the different moments experienced by the market and has continuously provided comprehensive and advanced solutions to the hospital industry. Far from letting political-economic changes in the country and region condition our efforts, we have made dedication to customer service our reason for existing, investing in constant development and turning the Argentine headquarters into a technical support centre for all Latin-American countries.

At MATACHANA Argentina we understood that in a market with well-trained professionals and with a health sector that is on the path to modernisation and incorporating new technologies in the midterm, the only way to continue being a key player in the region was to deepen the close relationship with the end customer, whose loyalty we have earned. For this reason the MATACHANA GROUP is committed every day to ensuring the professionalism of its workforce, renewing its commitment to all of America. This commitment is borne out by activities such as constant economic investment as well as investment in technical training of all our personnel at our Argentina branch office.

We understand that being completely involved in the region is the only way to provide our experience directly to our end clients and distributors, and for this reason we believe that through innovation, quality and continuous technical support, we can all achieve the desired level of excellence for the competitive Health and Life Science market.

CARLOS CARRIL
Argentina Director
MATACHANA GROUP

NEW HOSPITAL OF CERDANYA:
HEALTH BEYOND POLITICAL AND GEOGRAPHICAL BORDERS

On 5th September, 2014 the Hospital of Cerdanya was inaugurated. The region, which is located in the Pyrenees on a 1200 metre high plateau, is on the border between Spain and France and is the ideal area for establishing healthcare cooperation between these countries.

Its study was the aim of a common interest project initiated by the European Union for the purpose of guaranteeing the hospital’s geographic advantage. The purpose of the study was to identify the viability of having a hospital on the border which could meet the needs of the populations of both countries.

The study reflected a first-degree healthcare need in the region and therefore in 2007 a statement of intent to cooperate in health matters was signed between the French Ministry of Health and the Minister of Health of the Generalitat, (Regional Government) of Catalonia.

The hospital is located in Puigcerdà, on the Catalan side of the region, and 2 kilometres from the French border that divides Cerdanya. The hospital will provide services to nearly 30,000 people on both sides of the border and will be capable of carrying out emergency operations, especially during the ski season. The hospital will also have a maternity unit, for which there is high demand among the population of French Cerdanya, who formerly had to travel to the distant city of Perpignan to give birth.

The medical teams are suited to this trans-border particularity since bilingual professionals have been hired who are able to speak with patients in their mother tongue.

Special agreements have been reached between Madrid and Paris to solve problems related to civil status (births and deaths of French citizens in Spanish territory) and the coverage provided by French Social Security.

This is the first hospital with these characteristics in EUROPE and following a public tender MATACHANA was the company selected as the SOLE provider of the Sterilization Centre, the endoscopy reprocessing unit and the thermal-disinfection of bedpans from the nursing units.
FAIRS AND CONGRESSES

MATACHANA, AT ARAB HEALTH, HOSPITAL BUILD AND PATIENT SAFETY

Arab Health is the largest fair and congress of the medical technology sector in the Middle East with more than 3,000 stands and 65,000 professional visitors.

The Dubai World Trade Centre (UAE) hosted the 37th edition of Arab Health in which MATACHANA made an exceptional investment, participating with a 90 metre stand to showcase the latest innovations launched onto the market this year. These include the new low temperature sterilizer 130LF; the EasyLook® software, the new personalised thermal sealers and the new washing line with the MAT LDS21XLS and the MAT LD90.

MATACHANA’s image has been strongly reinforced following this event. The Fair was a success regarding the image projected as well as the number and quality of visits.

MATACHANA also participated with a great success in HOSPITAL BUILD and PATIENT SAFETY, two events also celebrated in Dubai City, UAE.

PAN-AMERICAN STERILIZATION CONGRESS

MATACHANA participated in the Pan-American Sterilization Congress held in Bolivia. Nearly 1,200 people from different Latin-American countries participated in this edition. A total of 20 exhibitors attended, including MATACHANA who had a strong presence as one of the Premium Sponsors of the event.

Elena Lorenzo, Infection Control Manager for MATACHANA, was one of the speakers on the scientific programme. Her contribution regarding the highly topical subject of the dissemination of regulations for CSSD was highly valued by the more than 1,000 attendees, which included the president of WFHSS who mentioned MATACHANA’s “professionalism, quality and the greatness”.

A commercial symposium was also organised for promoting low temperature sterilization equipment with the participation of nearly 100 people. The presentation was focused on disseminating LTSF technology from a more technical point of view. This congress is one of the most important activities in the marketing plan for promoting both our company and products in Latin America.

WORLD FORUM FOR HOSPITAL STERILE SUPPLY IN PRAGUE

In October, the fifteenth edition of the World Forum for Hospital Sterile Supply (WFHSS) was held in Prague with the participation of 35 companies around the world and more than 2,000 professional visitors interested in continuing technological advances in the field of Infection Control.

As in previous editions, MATACHANA participated with a modern stand to showcase the latest advances in their equipment, with a special emphasis on the new evolution of its LTSF equipment; the 130 LF sterilizer.

LTSF technology was a source of discussion in the different scientific presentations included in the programme, where MATACHANA’s long history and high microbicide capacity for sterilizing complex medical devices was evident.

The next edition will take place in Lille, France, between the 7th and the 10th of October 2015. Since it is taking in one of our direct markets, MATACHANA will perform the special role of being a direct sponsor for the Congress. We hope that all of our clients and collaborators will attend.

PRODUCTIVE PARTICIPATION IN THE CSSA, IN THAILAND

Yearly, the Central Sterilize Supply Association (CSSA) of Thailand, headed by its very dedicated and committed president Dr. Somsak Wattanasri, MD (Board of Pediatric, Preventive medicine, FETP, WHO/HQ IHR Roster of Expert in HA) presents its national CSSA congress. This year was carried out from 25th-27th August. We participated with a lecture with the topic of “New Trends in CSSD” conducted by Elena Lorenzo, in a country looking for common standards in the Asean Economics Community zone based on current international applicable standards.

Thailand is one our main markets in SEA with an advance concept in Tourism Health Care. MATACHANA has a large number of installations in the country. Due to the high quality level of MATACHANA equipments perceived by the market in the country, our clients are mainly in the considered upper hospital level class. A good example is the ongoing installation of 8 units of MATACHANA steam sterilizers Model S1008E-2 with automatic loading/unloading system, one of the few in the country and by extension in SEA, in the new building of the Faculty of Dentistry in Mahidol University, located in Bangkok and recognized as Leading Institution in Asia in Dental Research, Education and Service with the latest technologies in place. The installation is done in two phases. The first one comprises 4 units and will be fully operative at the end of 2014.
Once again, Düsseldorf was the location where companies in the sector met for the latest edition of the MEDICA fair. It goes without saying that the MATACHANA Group could not miss the annual technology and innovation event and attended; contributing the values and experience that undoubtedly characterise us.

A stand of almost 200 m² was our showcase to the world. During four days of hard sales and technical consulting work we were able to share our latest innovations with many professionals in the sector, a clear gesture of our commitment to customer service.

A perfect and harmonious combination of product, team and image made us one of the most interesting exhibitors at MEDICA; a fair that MATACHANA ended with great success thanks to the many visitors we received, who congratulated us for the image presented and the extensive range of products presented in our comprehensive solutions; as well as for the numerous projects that were signed during the event.

Continued hard work year after year has allowed the company to become one of the leading and most valued companies in the sector at international level. Once more MATACHANA has demonstrated the company’s great maturity and experience; a result of more than 50 years of operation.

The MATACHANA Group has consolidated itself as a provider of total solutions in its two product lines: Healthcare and Life Science. We presented comprehensive solutions at MEDICA for sterile material reprocessing plants, manual washing stations, preparation and sealing tables, automatic washing equipment, steam and low temperature sterilization, automating of processes, consumables and supervisory software and monitoring equipment.

In the Healthcare Waste management area, MATACHANA showcased its spectacular IWIS (Infectious Waste Integral System) model, a complete mobile solution inside a 20’ container for handling special bio-medical waste (potentially infectious materials) with the highest guarantees.

Comprehensive pathological anatomy solutions were also presented for outfitting autopsy and dissection rooms and morgue.

As part of the Life Science line, the MATACHANA Group also offered a range of total solutions for research centres and Biosafety Laboratories, Animal Research and Industry.

Our success at this fair is undoubtedly a reflection of the hard work and effort of a committed team. Congratulations to everyone!
It wasn’t easy to improve the 130LF sterilizer but we gave it a new twist

Low Temperature Steam Formaldehyde Sterilization (LTSF) by Matachana

Why are more and more hospitals around the world using the Matachana LTSF Sterilizer? Thanks to...

- New automatic and safer dosing system
- Great performance on long lumens and flexible endoscopes
- LTSF Sterilization temperature between 60 °C and 78 °C
- Sterilizing solution containing only 2% of FA
- Efficient, safe, comprising an excellent penetration ability
- Wide material compatibility
- Low running cost
- According to EN14180 and MDD 93/42/EEC, CE marked

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