



S M A R T T E X T I L E S

France's Hospital Journal "HOSPITAL PARTENAIRES" reports on how a collaboration between Decitex and the infection prevention team at Toulon hospital succeeds in breathing new life into hospital cleaning.

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Toulon Hospital: bio-cleaning of floors with water

« Toulon - Sainte Musse will be the first hospital in France to use water and microfiber only to bio-clean its floors. »

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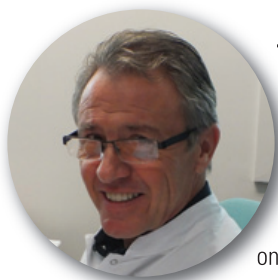
Interview of Dr Michel Brousse, Head of the Hygiene Department, Chairman of the Nosocomial Infections Control Committee.

The hospital hygiene Department...

Michel Brousse: Each hospital structure must have a hygiene operational team made up of one hygienist doctor for each 800 beds and one hygienist nurse for each 400 beds. As CHITS has a capacity

of over 1,200 beds, our department includes 1.5 full time equivalent (FTE) hygienist doctors and 3 FTE hygienist nurses. The role of these professionals is to master the infection risk in terms of environment, buildings, professionals and of course patients. This is about a priori (procedures, mapping, etc.) and a posteriori risk management. Unfortunately as there is no such thing as zero risk, one of our missions is to best

manage adverse events to prevent them from happening again. We therefore duly record the health care connected infection and analyse it to define the procedures and resources to implement to prevent infectious risks.



Why did you opt for this type of bio-cleaning?

M.B: This technique is the result of a sustainable development approach with the objective of significantly reducing the consumption of detergents and disinfectants at the hospital which are harmful for the environment. In 2003, when the hospital was being designed, I was considering an environmentally friendly bio-cleaning concept. This reflection has led me to opt for soft floors when designing the Sainte-Musse hospital. When the new hospital opened in 2012, this bio-cleaning was implemented in the intensive care unit. With this technique, we are replacing a chemical action by a mechanical action. A microfiber is an artificial or synthetic fibre, approximately 100 times thinner than a hair, with a weight of 1 g for 10 km, and an electrostatic force. Thanks to combined mechanical, capillary and electrostatic forces, it picks up a germ from a texture and captures it until the fiber is washed at a high-temperature. The term disinfection does not qualify the killing of the bacteria but a temporary result that eliminates or kills micro-organisms. This technique is fully compliant with the European standards that govern the bactericidal and fungicidal activity.

How is this microfiber used for cleaning?

M.B: Certain methods that we used in the past and which used cotton and detergents, have led to the formation of a mould film on the floors of the operating theatre. Today, as far as cleaning is concerned, we use a dry, single use microfiber for dusting, before using a wet microfiber to clean the rooms. With this method, we collect nearly 100% of the dust and bacteria, results which are slightly higher than with regular disinfectants without making this floors sterile areas. This method has been used exclusively for our intensive care unit for the past 3 years. The sampling made after two years of using this method have shown that there has been no modification on floors at the bacterial level or at the level of our bacterial ecology in our patients.

The clean microfibers are identified by department and given back after cleaning. Today, one of the most significant obstacle to the development of this method remains the culture of the hospital hygiene professionals who, for years, have been trained on using detergents and chemical disinfectants. Every night, we also use steam as a disinfection solution. This concept of short life microfiber is a solution produced by Decitex, a company specialised in the hospital sector. They have fully cooperated

with the hospital hygiene team during the implementation of this new method.

How did you choose the floors?

M.B: We have selected the solution offered by the Gerflor group even though my initial choice was the homogeneous, 2-mm soft floors from Tarkett. This solution would have allowed us to smooth out and polish floors further at each use. Gerflor proposed a similar floor, developed especially for our hospital, a solution they actually called "Sainte-Musse".

Has this method led to economies of scale?

M.B: Without being able to give you the actual figures, microfiber is clearly much cheaper than cotton fibre. So I would not be surprised if the hospital made savings thanks to this new cleaning technique. In addition, the fact that the microfiber can only be used with a specific system of self-fastening micro-mops reduces theft. We save first and foremost on the weight of our mops that are washed by our service provider, since our microfiber mops weigh 10 times less than our old cotton mops.

What are the benefits of this method for cleaning professionals on a daily basis?

M.B: First and foremost, as microfiber weighs less, transporting it is easier and should also lead to less musculoskeletal problems among employees. Floors dry more quickly, which reduces the number of slips. This method reduces the risk of allergies and health issues caused by repeated and prolonged contacts with, and inhaling of, chemicals. Our department has decided to run a new analysis of troubles connected with this new method in cooperation with the health, safety and working conditions committee (CHSCT).

Would you like to spread this bio-cleaning method to all departments in the hospital?

M.B: Currently, this technique is used by all departments of the Sainte-Musse hospital. We would like to integrate the hospital of La Seyne-sur-Mer & Clémenceau. Still, the floors of the structures are different. Tiles are not really suited to this method which cannot clean the spaces between the tiles. As part of the renovation of structures, we cooperate with the technical departments and encourage the laying of soft floors that are better suited to bio-cleaning. Beyond CHITS, we collaborate with all the hospitals on the territory, including the Hyères hospital.

Is there a specific training to roll out this solution?

M.B: In a hospital, there is a compulsory training which allows us, with the assistance of representatives from the Decitex company, to explain this technique so that the teams can adhere more easily. For this training, we have the support of the ICU hospital housekeeping staff who have been using this technique for over two years. As far as sustainable development is concerned, the Toulon hospital will be the first French hospital to clean all its floors using bio-cleaning with microfiber and water. Cleaning the premises, while caring for the environment, is a true project for our hospital. To complement this technique, we use ride-on scrubber-dryers that use only water and no chemicals, and of course our steam cleaners.



Innovation and commitment at the core of Decitex's solutions

A company created in July 2000 by Guillaume Leymonerie, CEO of the 3E Concept group, Decitex specializes in the development, manufacturing and customizing of technical textile for professional wiping applications. Since its creation, the company has placed great emphasis on offering innovative products that are developed by its own teams. It has become today the 2nd largest domestic player in the very specific industry of microfibers. However, Decitex's significant growth and efficiency cannot be explained only by the very high quality of its products and its commitment to the research & development of ground-breaking solutions.

The company's Management and employees share and convey values and a philosophy that make up the identity, the heart and the driving force of Decitex. All the company's players nurture human values of sharing, listening, respecting the environment and committing to their customers and partners. These values highlighted in the professional relations outside the company, are also reflected in an operating mode that promotes employee's empowerment and exacerbated team spirit in the interest of customers.

Decitex's teams do not content themselves with offering the best suited solutions and efficiently meeting the terms of reference. They pride themselves in the most demanding standards that are specific to the company, and in their development, manufacturing, commercial, distribution and customer support approaches.

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An interview with Nils Riancho, Managing Director of Decitex



The Decitex company...
Nils Riancho : Decitex was created in July 2000 and specialises in the manufacturing of micro-fiber wiping textiles for professionals. The company has benefited from the expertise of two textile engineers, namely myself and

one of my colleagues in charge of the management of the R&D-Purchase Department. The objective of Decitex is to make textile the prime cleaning agent before chemicals. This axis has become the main guideline for most research works and innovations undertaken by its dedicated teams. Decitex facilities are located in the north of France and feature the automatic manufacturing of products cut with ultrasound. The company

also owns a production unit based in Romania with approximately 30 people who adhere to the same values as their French counterparts. Today, Decitex's main customers are the health and prescription drug industries. However, it has developed a range of products dedicated to cleaning companies and communities as well as pubs, hotels and restaurants.



What are the values highlighted by Decitex on a daily basis that characterise its philosophy?

N.R: The company's values and philosophy are symbolized and shared by means of the acronym R.E.S.P.I.R.E. ("breathe" in French). These letters allude to the main elements and elementary concept that Decitex and all its employees should observe: accountable, enthusiastic, simple, persevering, innovative, respectful and esprit de corps. In addition to the guidelines observed by all the company's players, Decitex defines itself as an innovation company. Its employees maintain the company's environmental responsibility to make it an inherent characteristic of its identity. This awareness raising and this respect for the environment at Decitex shows through its local production methods, smart product packaging, the use of the product, that requires a minimum of chemical elements and energy resources, and the recycling of the product at the end of life. These internal requirements are added to the company's already strict terms of reference. When it collaborates with hospitals, Decitex must combine the constraints of four groups of stakeholders: Users, who focus on ease of use and the visual aspect of the product; Hygienists who dwell more on performance and the compliance with standards; Buyers who are more concerned by the economic perfor-

mance as well as the replenishment capacity and the responsiveness of the company; and, finally, Commercial Laundries who must find suitable solutions in terms of life cycle, product stability, and logistical redistribution within the hospital. The compliance with these requirements and the values conveyed by Decitex is ensured through its innovation actions, its team spirit and the emphasis put on the empowerment of its employees. To ensure the full efficiency of my management methods, we can rely on high-performance, self-sufficient teams. Our employees must understand the main aspects of our activity and be capable of learning from their mistakes to become more and more self-sufficient.

What are the solutions offered by Decitex to health care facilities?

N.R: The company has been privileged to be able to mutually collaborate with specialists within health care facilities for 15 years now. In this industry, our products and our offer not only meet the demands of our customers, they innovate thanks to our teams' research work leading to patents application and providing a true added value to all solutions. In addition to this approach aiming at making textile the prime cleaning agent before chemicals, the use of Decitex products should be intuitively unders-

stood by its users. Therefore, they meet user-friendliness and ease of handling criteria. They should also be understood in the distribution system that the company is delivering in cooperation with its partners. The latter must fully understand the global message conveyed by the range of products. Decitex meets these characteristics through the development of simple and fun marketing, focused on learning about the products. Its explanatory packaging solutions feature part of instructions detailed in the product-related technical sheets and documentation. In addition to these solution-related approaches, Decitex ensures the implementation of specific, customised protocols depending on the type of hospital user. It adapts protocols and the product explanatory documentation to the premises to be cleaned and the situations of users. Implementing a colour code has allowed users to differentiate and easily identify solutions. The implementation in identified areas promotes the prevention of cross contamination and encourages the observance of constraints corresponding to the areas cleaned (Public spaces, patients' rooms, operating theatres, etc.). Single use or with very short life products eliminate risks of contamination due to an incorrect treatment of the solution after use, while preserving its efficiency.

In the health sector, what are the issues you are facing and how do you cope with them?

N.R.: Our prime motive in making the textile the principal cleaning agent instead of reliance on chemicals, was quickly confronted with the significant issue of the absence of performance standards in the textile industry. Decitex had to adapt the validation method for textiles to be comparable with the standards for chemical efficacy in cleaning and decontamination. Our team worked more particularly on the compliance to agro food standard EN 13 697, which is much stricter than hospital standards. This regulation was therefore adapted to Decitex's textile products and solutions. Experiments made on strains of *Staphylococcus Aureus* under soiled conditions and on 10 sqm of vinyl flooring, have shown a reduction in the microbial contamination by more than 4 logs, achieved only with the addition of water to the textile. The test method also made sure that the textile was not just moving the bacteria elsewhere. These tests were carried out with the assistance of IRM, an independent laboratory, and Cofrac. These scientific tests were necessary to reassure hygienists and prove to them that patented microfiber textiles solutions used with water could be as efficient as chemical disinfectant agents and cotton products.

What are the benefits of microfiber?

N.R.: As Decitex is a unit of measure for yarn numbering, the name of the company comes from the very definition of microfiber. This textile weighs less than 1 gram for 10 kilometres of yarn (100 times thinner than a hair). Such a thin yarn provides mechanical force, and a higher number of passes on any given point of the surface. It is therefore easier to completely remove soil and bacteria and trap them within the microfiber. Decitex's objective is to guarantee the highest percentage of microfiber in its floor cleaning mops and ensure they still glide easily. The 'Ultimate' patents recently applied to the whole range of microfiber mops help reach this objective.

What are the economies of scale achievable by health care facilities using your solutions?

N.R.: Decitex solutions do not necessarily imply direct savings with cheaper products. The economy is achieved by design and method of application. A good example is the planned short term use of Dispomop®3D & Ultimate 3D. This system can lead to significant cost reductions for the user. The investment in these

textile solutions is, for example, much more efficiently written off through reduced costs in cleaning and maintenance. As 3-D technology produces lighter-weight products, a 5-kg washing machine can contain 250 items, so microfiber mop maintenance costs are divided by ten compared with regular mops. The Toulon (France) hospital fully equipped with these new generation mops, has observed a €50,000 saving by switching from a traditional method to short-life products. From a financial point of view, the microfiber solution also offers the advantage of significantly reducing water consumption. The product carries less water but is wet enough to be able to treat the surface which will dry more quickly. In addition, as chemicals are no longer used, the costs relating to the purchase of these products are cancelled, it prevents allergies among cleaning personnel, and it prevents the fouling of floors and the development of bio-films and sticky floors. In addition to the financial aspect, the 3-D microfiber solution also offers clear advantages in terms of user friendliness and ease-of-use, among other aspects. Finally, potential savings resides in the reduced costs in terms of laundering and the re-investment in the sweeping function. Today, a great many hospitals have removed the sweeping stage, in favour of systematic washing of floors, to save time. The use of microfiber during the sweeping phase helps re-integrate the concept of global hygiene in the hospital through the implementation of two steps properly carried out. Sweeping allows for the collection of dirt particles which, failing that, would be stuck on the floors at the washing stage. The Toulon hospital is the first French site to use short life microfiber and water for its entire cleaning function.

How did the collaboration with this hospital go?

N.R.: First, Decitex collaborated with Dr Michel Brousse, Chairman of the committee against nosocomial infections (CLIN) of the hospital. Dr Brousse had already envisaged an environmentally friendly cleaning approach, including through the integration of scrubber-dryers using electrically charged water Ec-H2O and steam washing equipment. With the explanation of the short life solution, Dr Brousse found an interest and decided to test the Decitex products. It was then important to choose a department that was really demanding for this experiment. Decitex systems were then directly integrated in the intensive care unit. We met the teams and the approaches were presented and challenged. Thanks to this dialogue with the members

of the hospital, Decitex teams were able to win the support of two reference pilots who were particularly efficient during the two-year trial in the unit. Despite the significant changes induced by the integration of this innovative solution, the Head Nurse and all the teams were remarkable in their motivation and in their reaction to the few challenges they had to face. Dr Brousse had the opportunity to appoint Agnès Risse, a new comer to the department, on this specific project. Her involvement and very significant support approaches made it possible to provide a follow-up on the solutions on a daily basis, support to the teams and the maintenance of best practices. She also helped us disseminate our methods to all departments in the hospital, once the trial period in the ICU was over.

How will the Toulon hospital help you today demonstrate the efficiency of your solutions?

N.R.: This hospital is a pilot for our short-life solutions: Dispomop®3D & Ultimate 3D. In France, the Toulon hospital was one of the very few hospitals to get involved to such an extent in the use of a new generation of very thin microfiber mops and water for all of its facilities. Decitex has therefore been investing itself in this operation and towards the hospital because it represented a real commitment on its part and a desire to show the efficiency and the relevance of its solutions. It is also important to underline the involvement, motivation and courage of Dr Brousse and his teams at the hospital who have overcome the obstacles and have stayed on course during the operation. We have found, within the Toulon hospital, values and a state of mind close to the company's philosophy, with stakeholders who were motivated, held together and were resilient in the face of obstacles. However, this operation was not the end of Decitex's research and innovation programme. Its solutions are re-engineered on an ongoing basis and its teams cooperate with all Toulon stakeholders. The hospital has become a pilot site through the innovative nature of its cleaning solutions and the scale on which they are used.



How do your experiments in other industries help you strengthen your expertise in the health sector?

N.R.: Decitex has been a major cleaning player in the prescription drug industry which has restrictions that are sometimes greater than in hospitals. These regulations concern for example packaging and dust accumulation, and are similar to issues concerning operating theatres. The company's offer in the community and fast food sectors make it possible to develop multi-purpose products capable of covering extensive surfaces and feature a significant absorption capacity and a high level of versatility. The presence of Decitex in such a variety of industries allows it to pool resources to find solutions to common problems. This is how the "Mini" range was designed to offer the possibility to properly apply a hygiene protocol with a product used flat and correctly. It has become today the cheapest range on the market and has raised the interests of the players in the cleaning sector. Decitex's knowledge of players, and close relationships with the partners in charge of distribution, are major assets in reaching a variety of industries and in the development of effective solutions to the issues they face.

In your opinion, should the cleaning profession be valorised, especially in the hospital sector?

N.R.: Users of our products should feel how important their role is within the hospital. Hand cleaning has been the focus of many operations of awareness raising among hospital employees. However, the issue of surface cleaning to fight against contamination and infections associated with the patient environment has not been adequately dealt with yet. The responsibility of the users of our solutions is to ensure the treatment and the cleanliness of the hospitals surfaces in order to reduce the contamination of employees and patients to a minimum. It is no use concentrating education at the hospital on cleaning hands if these are constantly contaminated by soiled surfaces. The hospital housekeeping staff has therefore a major role to play, and the cleaning of surfaces must be validated and standardised as one less risk factor for patients.

What is the share of the "Research & Development" department in the company?

N.R.: The extent of this function is difficult to assess for Decitex. This includes the investment itself in patents, the purchase of equipment and raw materials, and the remuneration of the employees in the department. This investment

represents 5-6% of the company's revenues but it can be largely exceeded with losses of material used in the development of new products. Decitex can also release resources to ensure the adapting of its machines and manufacturing processes. This approaches involve many employees and not only the teams in the Research & Development Department. Decitex's employees are totally involved in R&D. As it designs its own solutions, the company and its employees must assume the solution developed from a sales, marketing, R&D and production point of view.

Which tools can you use to raise the awareness of health care facilities to these new practices?

N.R.: With its reduced staff, Decitex needs sites such as the Toulon hospital that are in a position to relay the success of its solutions. Additionally, its salespeople and dealers ensure daily communications around its products and solutions. This is why the sales force must be highly involved to demonstrate Decitex's know-how to dealers. With clear communications, and the presence of the company's teams, dealers will be, in turn, in the best position to present the company's solutions. In order to ensure clear communications to users, the sales teams take on a role of prescribers for key accounts. This role allow them to present the current solutions offered by Decitex and collect information and requirements from customers. Once identified and passed on to the other departments in the company, this information offers prospects for the development of new solutions by the company. Therefore our salespeople are capable of assisting the product development teams by their engagement with customers and the assessment of their needs.

To what extent are Decitex solutions and the development of new products part of a sustainable development approach?

N.R.: Sustainable development is not a passing fad but rather a value which is part of all Decitex products and approaches. The latest generations of 3D or long life products help make significant savings and take users into account through their ease of use on a daily basis and an intelligent use of resources, including water. Decitex gets 85% of its revenues from Europe. This is how the company maintains its involvement in the Terms of Reference and the adequate application of the product. It also promotes the recycling of its products. The packaging used is biodegradable films and the cardboard boxes have been designed to match the products. In the

Terms of Reference, the Decitex teams include the laundering issues very early on by displaying a number of washing cycles that is consistent with the actual use of the product. These environmental and financial aspects are fully integrated as basic elements in the Terms of Reference.

How important is it for DECITEX to keep its production exclusively in Europe?

N.R.: The Asian production model, in spite of its benefits, has been thought out to offer mass retail products. It is more difficult to manufacture in Asia very high quality products that are dedicated to professionals, unless we impose our own Terms of Reference. However, this method can lead to the development of direct local competition. Additionally, it involves some uncertainty in terms of compliance to the Terms of Reference and delivery lead. A European production is therefore a major commitment from Decitex to its customers and especially health care facilities. As far as they are concerned, the service part is as important as the product offered, for aspects of continuity of service and availability of solutions.

Why did you choose to base a production unit in Romania?

N.R.: This choice is the result of an opportunity and relationships. In addition, as the site is on the Hungarian border, it remains rather close to the company's headquarters. Our Romanian managers speak French. Human and work relations are therefore identical between the teams at the French headquarters and our Romanian employees. The quality of the relationship and modern communication technology, allow us to share common values for commitment to the quality of the terms of reference. This workshop and the professionals who run it are not mere subcontractors; they take an active part in the optimising of the products developed. The Terms of Reference drafted at the headquarters is then improved by the teams in charge of production. They then become industrial process Terms of Reference. The Romanian employees are part of Decitex's global decision-making and improvement chain.

Does the company intend to develop further internationally?

N.R.: In the wake of a series of successful trials, and with the first hospitals converted to its innovative methods in England and Wales, Decitex has been approved by NHS Supply Chain. In addition to this most important target in Europe, Scandinavia also represents a major target as the Scandinavian countries are amongst the most advanced in our field of activity. Decitex, being a pioneer in certain areas, already supplies this territory in innovative solutions. The company is also present in the Benelux countries, in Italy and to a lesser extent in Germany. Outside Europe, Decitex has had a number of opportunities thanks to international trade fairs. It is therefore well established in the Middle East, including through modern hospital projects, which correspond perfectly to the solutions that the company wishes to implement. Its solutions are also available in Australia as we have excellent relations with the retailer there. Decitex has remained deeply human in its operating mode. Its teams find it particularly difficult to collaborate with a partner on the basis of a purely financial interest. In each country, we look for the best partnership, a person who shares the

values of the company and who can sell its products as efficiently as possible. Our Australian master retailer has 10 sites spread all over the country and displays great pride in offering products to its customers. Its Decitex range catalogue actually opens on a company profile written by this partner. Today, exports represented 15% of Decitex's revenues. We hope to reach 30% in the next five years, before gradually increasing to 50%. The company wishes, however, to keep close to the French market in order to develop innovative solutions, in cooperation with users.

What are the prospects of evolutions for Decitex, including in the health sector?

N.R.: Decitex is a young company even though it has become, today, the second player in its field on the French market and can still strengthen its position, especially with health care facilities. Decitex remains a small structure on the export market that is opening up. Taking all these elements into account, the future of Decitex can be secured by the implementation with its users of technical and innovative solutions developed over the past 15 years. At this stage, the company does not at all consider the development of a substitution market. It must continue offering the best solutions on the

French market and distribute them as widely as possible. Decitex is about to turn a new page since it is moving. Our two current sites (The registered headquarters in Givenchy and textile production in Douvrin) will be merged into a passive building, currently under construction, closer to Lille. All our employees will work on a single 4,600 sqm (49,500 sq ft) site. Decitex also invests in its site in Romania which is currently located in the city centre, in an area that is particularly restricted, especially in terms of access. To solve this problem, the company has decided to move the site to an industrial area, still close to the Hungarian border. Our Romanian employees will then have a new production tool that will allow them to adapt to demand and triple production yield.



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