johnson medical's story

johnson medical's story

Memories

Contents

PREFACE 6

BRILLIANCE UNCOVERED 9

FASCINATION MEETS CHANCE 15

IDEA IS BORN 18

FROM IDEA TO FIRST MEDICAL PENDANT 19

NEW GENERATION OF DESIGN 21

- Guided AirFlow Ventilation System 23

CUSTOMERS ARE IMPRESSED 28

VISIONARY MEETS STRATEGIST 31

INTERNATIONAL STANDARDS RECOGNITION 33

GOING PLACES 36

UNIQUE SOLUTIONS TO CUSTOMERS' CHALLENGES 38

- Challenges of a SARS ward 39
- In search of the highest standards for OT 41
- Resolving a high bacteria-carrying particles count problem 43
- When space and time are luxuries you don't have 46

JOHNSON MEDICAL TODAY 48

I know there are skeptics who think that the role of technology today is far overplayed, and that acquiring the latest, most modern technology is often done simply to avoid being left behind. But in the healthcare industry, technology and science are instrumental in ensuring safe and successful procedures.

When I met Mr. Agne Nilsson, it was one of those rare occasions when one meets an inventor who is deeply involved in improving the state of healthcare, a very noble cause indeed. I was shown in detail the manufacturing processes and the resulting products in the Malaysian facility of Johnson Medical´s Global Supply Centre. By developing and patenting state-of-the-art medical technology, Mr. Nilsson has managed to deliver "Safety Through Innovation ™." Since then, I have been a very keen fan of Johnson Medical's work.

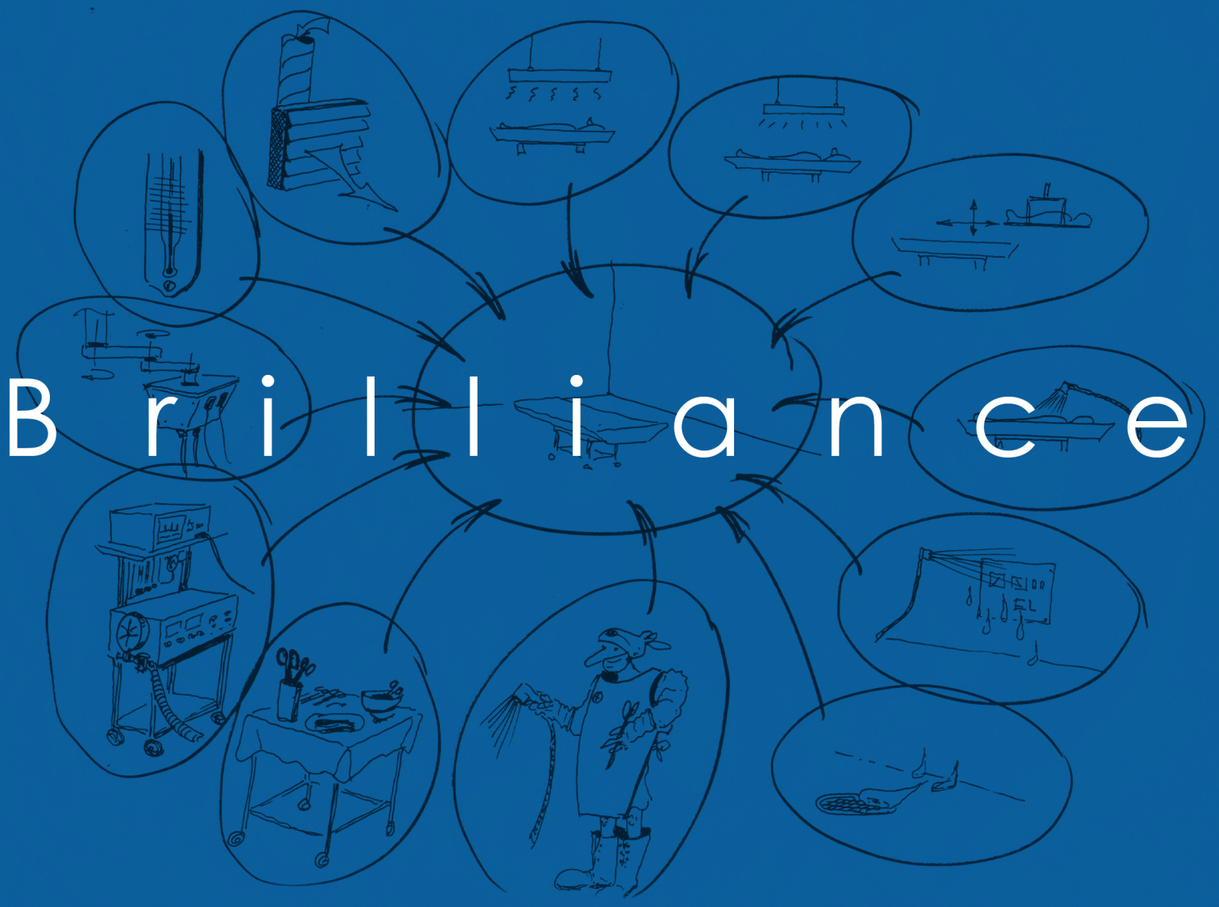
The Managing Director of Johnson Medical, Ms. Yeo Eng Lam, has tremendous knowledge of networking in the healthcare industry in areas relevant to Johnson Medical. Ms. Yeo has demonstrated her international marketing skills by successfully introducing Johnson Medical to China in 2003, and more recently to India too. I know that in time, Johnson Medical will be a household name for medical equipment not only in South East Asia, but worldwide too.

Having spent four very rewarding years in Malaysia, I naturally support all endeavours which can bring our two countries closer together. Johnson Medical is an excellent case study - it is a partnership between a creative Swedish inventor and a gifted Malaysian marketer. In cases such as this, 'one plus one' becomes much more than what mathematics tells us. The partnership of Swedish and Malaysian inspiration, talent and passion for the product, has led to the successful company Johnson Medical is today.

I am delighted to see that the company's vision and strategy have led it to success, and I wish the company and its dynamic partners all the success in the future.

Preface

His Excellency Bruno Beijer
The Ambassador of Sweden in Malaysia.



Brilliance Uncovered

The story of Johnson Medical is like a story of a beautiful painting. A painting needs a dreamer to bring it to life, the first benefactor to commission its creation, and a clever art-dealer to realise its full potential and value, thus enabling the painter to continue delighting collectors with his stunning work. Similarly, Johnson Medical's creative force is Agne Harry Nilsson; Curt Borgensten was the first financier that invested in Nilsson's inventions; and Yeo Eng Lam is the business-brain who took the company from its humble existence and has made it into a formidable player in the medical equipment industry internationally.

But let us enfold the story from the beginning.

It all started with passion – a passion to understand the miracle of the human body, and a noble wish to improve the quality of human life through innovation.

They say that the human mind is capable of astonishingly creative achievements, but only after it becomes aware of its own creative ability. The story of Johnson Medical is closely tied to the story of one individual - Mr. Lars Agne Harry Nilsson, and his journey of discovering his own, multifaceted, creative potential.

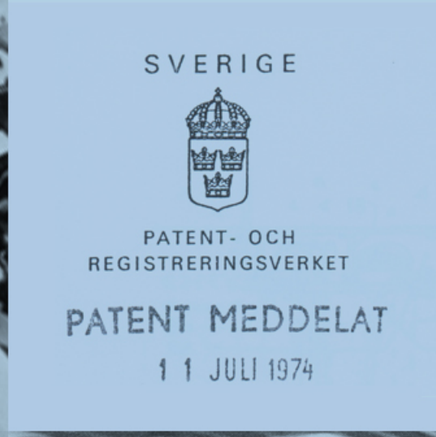
Agne Nilsson, a Swedish biomedical engineer, was known to people as a "problem solver". He loved problems because they challenged him, and he was known never to walk away from a predicament without creating a very feasible solution for it.
Back in the 60s, in the early days of biomedical science, the Swedish Association of Biomedical Engineers and the country at large, numbered only six biomedical engineers. Agne Nilsson was one of the six.

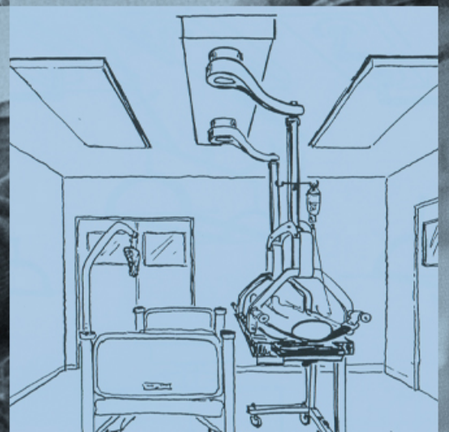
At the very beginning of its existence, the association created a manifesto called “The Designer’s Goal”, which stated that ergonomics and the human factor should be the most important guidelines for product engineering. Nilsson took the manifesto to his heart and instilled it as his own guiding star to product design for decades to come.

In 1961, Nilsson was working for the Royal Swedish Air Force, and the Air Force was facing a problem - its fighter planes were crashing when flying supersonic speeds at very low altitudes, necessary to avoid radar detection. Everyone knew that this was due to the autopilot’s instant failure when flying in such conditions, alas no one knew exactly why the autopilots were crashing.

At the time, young Nilsson was involved in monitoring pilots’ reactions in critical situations by using fighter-plane simulators, then the biggest computers in existence. He had a simple idea that subsequently proved to be priceless. By measuring a pilot’s pulse, ECG, blood pressure and other vital signs in different flying conditions, interestingly enough, Nilsson’s team discovered that the atmospheric pressure over a lake was much higher than over a forest. Therefore, if a plane made a sudden dive, it hit a sort of a pressure-wall, which scrambled the autopilot, causing its immediate crash. Since this sequence of events happened in matter of seconds, the pilot had no chance to take over, and the plane crashed with all certainty. Thanks to Nilsson’s team’s work, the Swedish Air Force stopped its fighter jets from flying supersonic speeds at below-the-radar altitudes, saving lives and preserving investments.

This project in which Agne Nilsson was faced with the intricate engineering of the human body, its electrical synapses and their collaborative functions, enthused young Nilsson to apply his concentrated interests and undeniable expertise to the field of medical science. Over the years, this prolific inventor created a vast number of patented products and registered designs in the field of medical equipment and medical support systems.





Swedish

Fascination Meets Chance

The dedication and brilliance of Agne Nillson did not go unnoticed - a number of awards followed in the wake of his work. In 1979, the European Patent Office selected Nilsson's patent for a 'patient hoist' as one of the ten most significant patents in its field that year. The other recipients in the category were very large organisations that included Bayor and Hoffman La Roche. Another very notable award Nilsson earned for his work was the citation by the Swedish National Development Foundation in 1986, which named Agne Nilsson as 'one of Sweden's most merited biomedical engineers and hospital planners'.

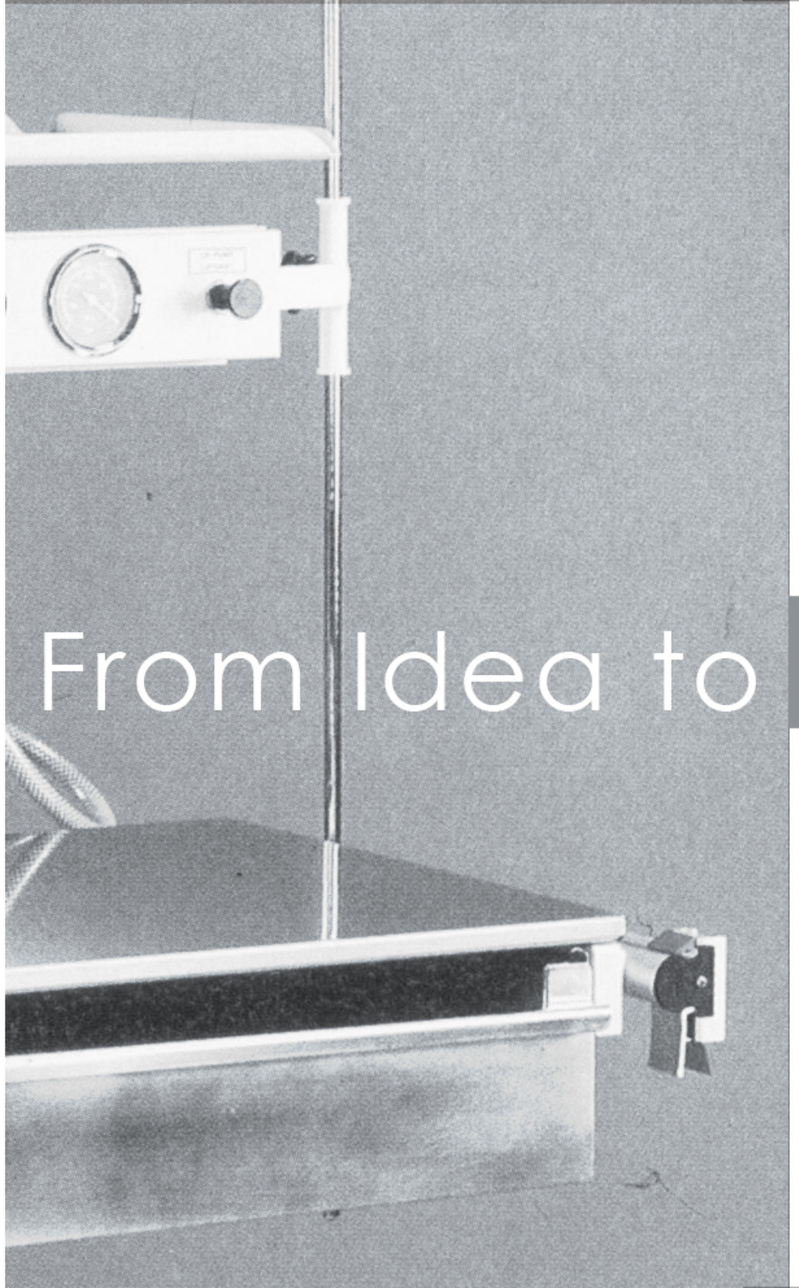
It, therefore, did not come as a surprise to anyone when Nilsson was selected by the Swedish government to coordinate the "SCAAN" team of consultants that included hospital architects, hospital planners, medical equipment specialists, M&E and biomedical engineers, to assist the Malaysian government in developing a new Health Services Plan in 1991. The SCAAN team, with Nilsson as its coordinator and the CEO of the KL-based office, became deeply involved in the process of planning new and upgrading a score of existing hospitals in Malaysia.

But, Malaysia was not all work and no play for Agne Nilsson. The country, with its tropical weather, beautiful flora and hospitable people, was known to charm many an expatriate into staying longer than intended. Nilsson was not an exception. While working in Malaysia and traveling to its district hospitals, Nilsson's passion for painting was reborn. He became mesmerized with the sweeping sights of rice fields and quaint little villages made up of bamboo-covered houses on stilts and surrounded by thick jungle. The stillness and quiet beauty of the then not heavily industrialized country became frequent portrayals on Nilsson's paintings.

Idea Is Born

While painting was something Nilsson enjoyed in quiet moments, his mind of a problem-solver was increasingly more occupied with an issue that was present in the healthcare industry all around the world, and acutely so in Asia, at that time. He realised that the market was full of expensive and very complex medical equipment supplied by the multinational giants. However, while such equipment enabled medical professionals in large medical facilities to conduct very advanced examinations, not all hospitals needed it. Smaller medical institutions, such as district hospitals, were not conducting the complex diagnosing and hence didn't need to invest in advanced, expensive, and difficult to use equipment.

Nilsson had an inherent feeling for simplicity and he wanted to make affordable medical equipment that would be easy for the medical staff to learn to use, and for the engineers to install. He was convinced beyond any doubt that such devices would create a safer and better working environment in hospitals, thus benefiting both the medical personnel and the patients.
His conclusion was that the only way to go forward with the medical equipment engineering was to go modular, and he decided to apply this realisation to building modular medical pendants for operating theatres. By using a number of simple aluminum-based modular systems and a basic pillar, or a cabinet, hospital operating theaters could have tailor-made solutions built from selected items the end-users really needed. This way, there was no need to buy big, ready-made devices with a substantial number of functions – many of which, small hospitals would never use.



From Idea to First Medical Pendant

In 1993, as Malaysia soared to the heights of its economic boom, Agne Nilsson prospered as well. Coincidentally, as fate usually has it, he met a Swedish businessman Curt Borgensten, who was not a stranger to doing business in this country. Borgensten had already invested in, and made successful a number of organisations in Malaysia including the Johnson Suisse Group of companies. After a couple of discussions over spicy, delicious Malaysian dinners, Borgesten was completely taken with Nilsson's idea of modular medical pendants for hospital operating theatres, and he decided to invest. Not wasting any time, he became the major shareholder of the company that was promptly named Johnson Suisse Medical (JSM)).

With the initial investment secured, Nilsson's plan for a unique, maintenance-free, modular medical pendant was brewing with full force. He researched his idea thoroughly by talking with doctors, nurses, and hospitals' administration. Knowing that his product had to be functional, practical and durable, he decided that his first medical pendant would be designed to carry all essential medical gases, electrical services, and adjustable trays for an efficient management of medical equipment that medical professionals need in their work.

But he could not do it alone. He invited to Malaysia two of his best friends and long-term colleagues to work with him on the first prototype. Erik Persson, a notable Swedish designer, and Rolf Johansson, a specialist in medical and industrial gas installations worked nearly 20-hour days for a full month to build it. Some 600 hours later, the surgeon's pendant, model SP260 was born. It was designed to provide faster, safer and more efficient access to medical gases, anaesthetic gas scavenging system (AGSS) and electrical services in the operating room. Its double arm proposition accommodated the needs of the operating teams for multiple work configurations, covering a large working area.

A great product rarely goes unnoticed and the first installation of SP260 was commissioned in the University Hospital of University Science Malaysia in Kubang Kerian in early 1995. The hospital had twenty six operating theatres and it had purchased Johnson Suisse Medical's modular pendants for all of them.

New Generation of Design

While manufacturing and development of a variety of medical pendants and serving stations was going uninterrupted in Johnson Suisse Medical, Agne Nilsson was working side by side with a renowned Malaysian traumatologist on developing and implementing the engineering and design services for the Emergency Care Centre in Kuala Lumpur Hospital. Nilsson's approach to designing the centre reflected his strong conviction that the human factor was the most important consideration when designing medical facilities. What he saw happening, and sought to resolve was that, at the time, 40% of all accidents in medical facilities were due to inappropriate product design. The shortcomings of the equipment were forcing its users to change the way in which they were using it, often mishandling it and causing accidents.

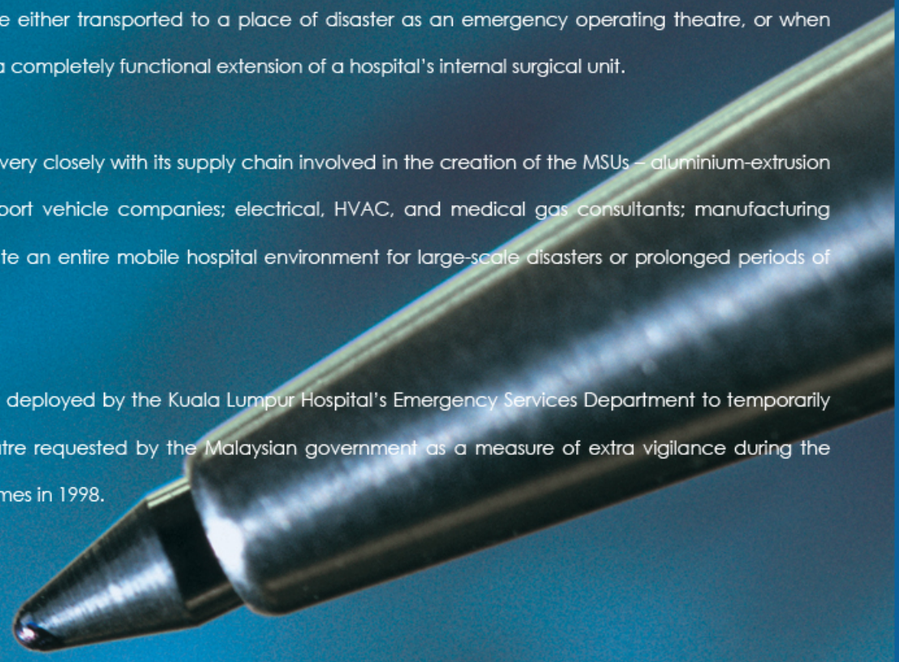
And as that problem was addressed, another humanitarian issue became prevalent on Agne Nilsson's creative mind. He became deeply concerned with timeliness, efficiency and quality of medical services offered in emergency situations, especially at remote places of disasters. When a life-threatening disaster strikes, the primary concern is to get patients to the nearest medical facility. But that was easier said than done due to a myriad of reasons, which often resulted in a loss of life.

Nilsson's practical approach to this problem was the proverbial mountain and Muhammad – if there is no time or opportunity to send patients to a hospital, why not send a hospital to them? Well, he did not exactly create an entire mobile hospital but he did produce Asia's first Mobile Surgical Theatre, which at the time of its creation was the latest word on mobile operating theatres in the world!

The Mobile Surgical Theatre (MSU) is a standard-size operating theatre that, until today, features a unique combination of high mobility, functionality and performance. Following his initial idea of modularity, Nilsson designed the MSU from three separate compartments– the main operating theatre, a separate induction room and scrubbing utility area, and a store for sterile goods. These separate units ensured easy mobility, while the ingenious system of docking them together with specially designed docking channels guaranteed a secure fit. This combination ensured that the MSUs met full international safety, hygiene and quality standards of a regular hospital, being able to host even very serious surgical procedures such as orthopedic and cardiac surgeries. Conveniently, it could be either transported to a place of disaster as an emergency operating theatre, or when needed, it could quickly become a completely functional extension of a hospital's internal surgical unit.

Presently, the company is working very closely with its supply chain involved in the creation of the MSUs – aluminium-extrusion profile suppliers; heavy-duty transport vehicle companies; electrical, HVAC, and medical gas consultants; manufacturing experts, and tent suppliers to create an entire mobile hospital environment for large-scale disasters or prolonged periods of needed patient-care.

The first Johnson Medical MSU was deployed by the Kuala Lumpur Hospital's Emergency Services Department to temporarily host an additional operating theatre requested by the Malaysian government as a measure of extra vigilance during the hosting of the Commonwealth Games in 1998.



If there is one invention where Agne Nilsson absolutely exceeded all expectations and topped his own genius, it was his invention of Guided AirFlow (GAF) ventilation system. From the day of its invention until today, Johnson Medical's GAF has remained the technology-leader in its field.

It might not sound very important to a layman's eye, but a ventilation system is extremely important for a successful surgery. Despite spending years on perfecting surgical procedures, they often fail the patient because infections set in. One of the main culprits of these post-surgery infections is a less than ideal airflow system in the operating theatre, which can direct bacteria-carrying particles right into the wound.

At the time when Agne Nilsson was studying this predicament everyone thought that standard ventilation systems that included laminar down-flow, mixed ventilation and laminar op-box, were doing a fine job. Skeptics thought that the brilliant mind of Agne Nilsson was dwelling on a problem that did not even exist! But he kept on. He kept telling himself that once in the history of the human race, people thought, indeed very seriously, that the Earth was flat and carried on the back of a giant tortoise.

Guided AirFlow Ventilation System

The supply of air to an operating room has four main functions: to control the temperature and humidity of the space; to assist the removal and dilution of waste anaesthetic gases; to dilute airborne bacterial contamination and to control air movement to minimise the transfer of airborne bacteria from less-clean to clean areas. While others thought that the existing ventilation systems were doing a great job to incorporate these functions, Nilsson saw very clearly how dangerous they were.

Laminar Down-Flow ventilation system could not control the airflow which meant that dirty air was constantly re-circulated. It could have been a good solution if only the doors of an operating theatre could remain closed throughout the surgery. Unfortunately, with the standard high-traffic of anaesthetists, nurses, and trolleys in and out, this was but wishful thinking.

Similarly, the Mixed Ventilation and Laminar Op-Box systems carried serious disadvantages – the former could not control the air flow any better than the Laminar Down Flow could, and the latter stipulated that surgeons had to wear tightly sealed surgical garments and hoods with a special extraction system. This caused surgeons discomfort from poor mobility, inadequate visual contact and impaired communication through the hoods.

Nilsson's idea was that the ventilation system in an operating theatre must be able to guide the airflow to blow the bacteria-carrying particles away from the patient. He designed it on the concept of low velocity airflow, guided by a high velocity ultra-clean air-stream that was fed in by an air jet and exhausted into a diagonal 45° airflow stream. At the same time, the air was exhausted from the theatre through a special double-wall, low-level exhaust system located on the opposite wall. The controlled exhaust rate produced positive pressure to displace contaminated air away from the surgery site.

The Johnson Suisse Medical Guided AirFlow succeeded to control the air velocity at only 0.25-0.3m/s over an operating table to ensure a patient's wound did not dry up, while also achieving an ultra-clean operating theatre at less than 10cfu/m³ as required by the International Federation of Infection Control. It also provided a comfortable working environment for the surgeons – a combination no other ventilation system could achieve.

But this was not enough for Agne Nilsson. He would never let his pragmatism leave him, and so he decided that Johnson Suisse Medical's GAF must be able to offer the world's best functionality on much lower energy utilization rates. The result was that the system has successfully functioned at 60-80% lower energy consumption rate in comparison with the conventional Laminar AirFlow ventilation system, which needed a much higher air infusion into the theatre to meet the same ultra clean specifications.

The company has recently started working with Bassett Applied Research, a research specialist located in Australia, to conduct a Computational Fluid Dynamics (CFD) study which has validated all of the company's claims pertaining to its Guided AirFlow ventilation system. CFD is a computer-based simulation that is able to model and predict airflow, humidity, temperature and the bacteria-carrying particles' movement within a specified space, enabling users to see the actual results of the desired ventilation system prior to its installation.

Customers are Impressed

Customers loved the simplicity and the state-of-the-art functionality that the Johnson Suisse Medical products provided, and the orders started pouring in.

In 1998, the award-winning, 1000-bed hospital in Singapore ordered 144 medical pendants from the company for its Neurology and Coronary Intensive Care Units. Soon after that, Johnson Suisse Medical installed three Guided AirFlow operating theatres within eight containerized, modular boxes at a hospital in Kota Kinabalu, Malaysia, in under six months. During the same year, a specialist hospital in Ipoh, Malaysia solicited the expertise of Agne Nilsson to create much-needed space in the busy hospital for a fully functional cardiac operating theatre and support areas.

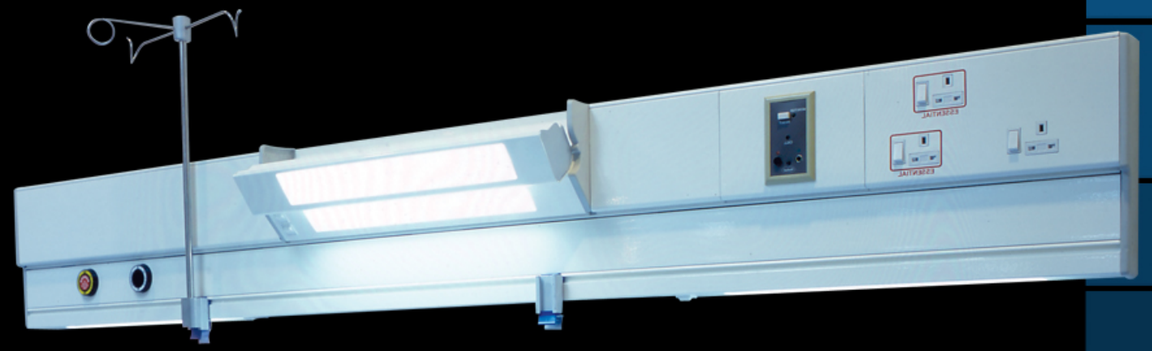
The trust in Johnson Suisse Medical was so great, that customers started requesting it to create additional medical equipment, already available in the market by other vendors, so that they could buy an end-to-end solution from this company.

Never being one to say no to a customer, Nilsson conformed and created Johnson Suisse Medical's own Gas Terminal Units and BedHead Panels. But instead of making these products only the 'add-ons' as requested by the customers, Nilsson gave them their own unique values.

Gas Terminal Units & BedHead Panels

The Gas Terminal Unit (GTU) was designed in accordance with British Standard BS5682 and it was made to fix the problem of having to close the gas-supply when servicing the gas outlets. Nilsson found a way to accomplish this by inventing double-active-valve terminal units. He made his GTUs much smaller than their counterparts to enable the placement of more GTUs in a single pendant - a very useful feature nowadays when the medical staff requires a backup outlet for each of the medical gasses and for the electrical supply. These GTUs were made with a special non-interchangeable 'pin design' system that allowed usage of supplementary gases such as Entonox, in addition to the traditional six gasses.

The BedHead Panel used in a patient's room, was created with modular aluminium extruded sections and with separate electrical and gas compartments to comply with international safety standards and to enable easy access for maintenance. The unique modular design of the panel made the adding of new GTUs, electrical units, and nurse-call and telephone modules easy and with almost no downtime to the existing units.



Visionary meets Strategist

As it usually happens with great inventors, they only have the interest and the time for one great passion – their creations. Nilsson was not any different. His mind was purely interested in translating solutions to the customer problems into tangible and affordable products. The actual running of the company eluded his list of 'to-do' things. But, he finally had to face the real world, the one in which a business can run purely on the greatness of its products only for so long. Johnson Suisse Medical needed fresh blood. It needed someone who understood the nuances of marketing a medical business; someone who knew how to organise the company's product line into a portfolio of very sellable medical equipment and support systems on a world-wide scale.

In 2001, Ms. Yeo Eng Lam, a very capable and business-savvy lady with extensive experience in the business of medical products, heard of Johnson Suisse Medical. She heard of the untapped potential they possessed, and her mind of a true analytical and business-minded person saw the opportunity right away. Without wasting any time - the highest-valued currency of the business world - Eng Lam approached Curt Borgesten, the major shareholder in Johnson Suisse Medical at the time. She made him a proposal to invest in the company and to take over its management, restructuring it and whipping it into shape.

With the backing of new investors, Eng Lam became the new managing director in the company that from then onwards has been known simply as Johnson Medical (JM).

International Standards Recognition

Knowing very well that customers were becoming increasingly more quality-conscious, the new managing director decided to give them the outright assurance that the Johnson Medical products would meet their needs then and in the future. She did this by getting the entire portfolio of the company's patented products certified by international verification bodies as safe, functional and of the highest quality.

In 2003, Johnson Medical received its CE 0120 certification, which called for a big celebration in JM's Global Supply Centre in Malaysia. The CE-marking meant that the company's products were in conformance with the EU Product Safety Directives, one of the world's most respected standards for product safety, and a must-have for all common-use products imported into Europe.

Soon after the CE-marking, the ISO 9001:2000 certification was granted to Johnson Medical products. This certification demonstrated the company's commitment to quality, customer satisfaction and to integrating customers' changing requirements in its product design and manufacturing processes.

Going Places

In line with its corporate strategy to be at the forefront of medical technology and to pioneer new concepts on patient and staff safety worldwide, Johnson Medical has formed strategic alliances with leading consultants, manufacturers and distributors in Europe, Australia, China India and Latin America.

The company had barely celebrated its first birthday in 2002, when it boldly embarked on export activities. It appointed Air Liquide Healthcare a sole distributor of its products in Australia. Air Liquide Healthcare is part of the Air Liquide International Group – a medical oxygen and gases supplier present in more than 70 countries worldwide.

Soon after that Johnson Medical teamed up with the SchaererMayfield Group, a leading provider of medical equipment and services for operating rooms and central sterilisation, to market and distribute Johnson Medical products in Latin America.

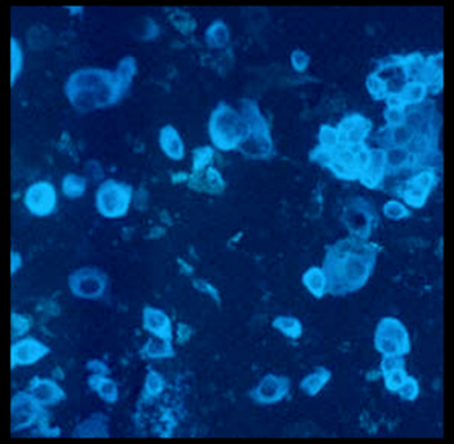
As the sleeping dragon – China, emerged as a major market force, Johnson Medical recognized the huge potential this market of 1.3 billion people had to offer. Yeo Eng Lam, the marketing brain behind the company, quickly reacted. For full six months, she kept gathering market intelligence about how business was done in this rather unique market, uncovering the challenges and the ways to handle them. She started off cautiously, initially doing the business only through a network of carefully selected partners such as Datex Ohmeda, a leader in the anaesthesiology field; local resellers and distributors. Finally, feeling that the China market needed a greater commitment, as it had quickly become one of the world's largest consumers of medical devices, Johnson Medical opened its first office in Shanghai in September 2003.

A year later, Tyco Healthcare Inc., an international manufacturer generating over US$ 4.0 billion a year in revenues, decided to partner with Johnson Medical in China. The depth of Tyco's confidence in this strategic alliance was strongly demonstrated by their commitment to deploy Johnson Medical's pendants in its own, brand-new, USD$5 million Tyco Clinical Institute in Shanghai, which featured 12 operating theatres and two intensive care units.

With India emerging as the second most preferred Foreign Direct Investment (FDI) destination following China, it naturally became the next target on Johnson Medical's list of markets to penetrate. The first Johnson Medical's liaison office in India was established in September 2004 in Chennai, but the company was busy working through local partners and gaining customers' recognition for its innovative and high quality products long before that.

Unique Solutions to Customers' Challenges

From its inception Johnson Medical has listened to its customers and it has been creating products that solved real problems. Today, Johnson Medical has more than sixty highly satisfied customers across the Asia region. Their unique problems and requirements have been a continuous drive for the company to push the envelope even further in terms of efficiency, safety and comfort. More than two thirds of the customers joined the family of Johnson Medical's users in the last four years, presenting a strong affirmation that the company's new management has the vision and the right strategy to take Johnson Medical all the way.



SARS virus

Challenges of a SARS ward

People say that a second helping is a positive sign of good food. A leading hospital in Singapore has not only had the second but its third helping of the Johnson Medical products.

Five years after the first installation, the hospital came back to Johnson Medical for more equipment and fluid management pendants for their SARS isolation ward. At the time when SARS virus was taking lives with regrettably swift speed, readily-available medical services and reliable medical equipment made the difference between life and death. In such dire circumstances, the hospital showed its utmost confidence in the performance of Johnson Medical's solutions.

During the construction of the new SARS wards, the hospital faced a space constraint issue as well. Johnson Medical provided an ideal solution with its slim pendants able to take on a high loading weight with impressive flexibility resulting from their 320° rotation single or double- arm configurations.

Subscribing to the old adage, 'a friend in need, is a friend indeed', the hospital believed that, if it could count on Johnson Medical to deliver high-quality, reliable and innovative products on a short notice, under calamitous conditions, they could always. The result was that the hospital ordered medical pendants from Johnson Medical for its Accident and Emergency units again in 2005.

In search of the highest standards for OT

In 2004, the Chairman of a family trust owned regional hospital, serving the large industrial and commercial population in the southern part of Tamil Nadu State in India, visited Johnson Medical's office in Malaysia. Incidentally, he was an engineer by profession, and the head of a public listed cotton mill company with the state-of-the-art equipment and world class standards in its production and quality assurance processes. Looking for nothing but the highest standards, the Chairman came to study JM's Guided AirFlow ventilation system, as shortly before his visit, the Tamil Nadu hospital had expanded its Interventional Cardiology & Cardiac Surgery departments, needing a state-of-the-art ventilation system. While in Malaysia, he had an opportunity to visit Johnson Medical's showroom, and the sites of its installations in the country. He went back to India with very strong feelings not only about JM's unsurpassed Guided Airflow ventilation system but about JM's expertise in designing and engineering modular operating theaters. On his return to India, a turnkey project of designing and engineering the hospital's cardiac operating theatre was assigned to the company in February 2004.

Resolving a high bacteria-carrying particles count problem

In 2005, a leading hospital in India that had always provided the highest standards of healthcare by deploying only the superior technology and technique, was facing a challenge. The hospital realised that it had to reduce an unusually high airborne particle count of 1.8 million airborne particles of 0.5 microns per cubic meter of air sampled in the operating theater to achieve better and consistent infection control. Johnson Medical conducted an audit of the particle count, air velocity, airflow pattern and effectiveness of the air-conditioning system. After retrofitting the operating theater with its Guided AirFlow Ventilation system, Johnson Medical provided a checklist and maintenance assistance to ensure that the design, maintenance and performance of the air conditioning systems adhered to required international standards. The result was that the particle counts was reduced to 30,000 airborne particles of 0.5 micron per cubic meter and subsequently, through establishing more disciplined operational and cleaning procedures, it became even lower.

When space and time are luxuries you don't have

When a hospital in Singapore was experiencing a very heavy workload in its operating theater complex located on the fourth floor of its premises the hospital found itself in a dilemma. Although it needed another two operating theaters rather urgently, it had no space for expansion, and it could only put up with minimal disruptions to the operations of the department while the construction of the new operating theaters was going on. Johnson Medical provided a solution to the hospital's challenge with the 'JMBox' - its offsite engineering and modular construction services solution for an operating theater. The entire process of construction and installation of electrical and other utilities in the operating theater was conducted in an offsite factory and the actual installation on the hospital grounds was done very quickly at hospital's complete delight.

Johnson Medical Today

Johnson Medical has expanded remarkably since Agne Nilsson first founded the company to manufacture medical pendants. Since its start in 1993, Johnson Medical has grown into a proud organisation that owns patents for all of its products and manufactures them in-house to maintain stringent quality control.

A strong track record in designing and engineering of efficient, functional and safe medical equipment has formed a solid foundation for the company's further development of innovative solutions. At the same time, a solid business performance in Singapore and Malaysia supported the company's foray into foreign markets. And so, while continually expanding its offerings, Johnson Medical has successfully expanded into the regional markets throughout Asia.

The company owns more than thirty patented products and it spans more than twelve years of innovation during which it has helped make a positive difference in the lives of patients and caregivers. Johnson Medical's slogan, 'Safety Through Innovation ™', describes this journey and the company's vision best.

Contact Us

Johnson Medical International Sdn Bhd

No. 12 Jalan Petaling Utama 8

46000 Petaling Jaya

Selangor, Malaysia.

Tel: +603-7781 3081

Fax: +603-7781 9081

E-mail: info@johnsonmedical.com

Johnson Medical Representative Office

19F Mansion 838 ZhangYang Road Shanghai P.R.C200122

Telephone: (86-21)58209723

Fax: (86-21)58209723

Johnson Medical Development Pte. Ltd.

190, Middle Road #12-07 Fortune Centre, Singapore 188979

Telephone: +65-6338 1183

Fax: +65 - 63372785

Johnson Medical's Location