

# CONNECTED

A MAGAZINE BY



WINTER 2016 N° 7

Advanced Technology to Heal Arterial Disease

Intelligent Steering Wheels

Connecting the World: The LEMO Story

**70** YEARS  
1946



## EDITORIAL

**LEMO is 70 years old!**

For an innovative company like ours, such an anniversary is indeed a milestone to be celebrated. You need a lot of passion, ingenuity and motivation to keep innovating for such a long time. It also needs a lot of work and commitment to provide, at the same time, the quality and reliability that have forged our reputation.

However, we have always been able to handle the challenges and constraints that pave the way to success with a great deal of optimism and enthusiasm. Thanks to our employees, this journey has been a wonderful technological and human adventure.

What does the future hold?

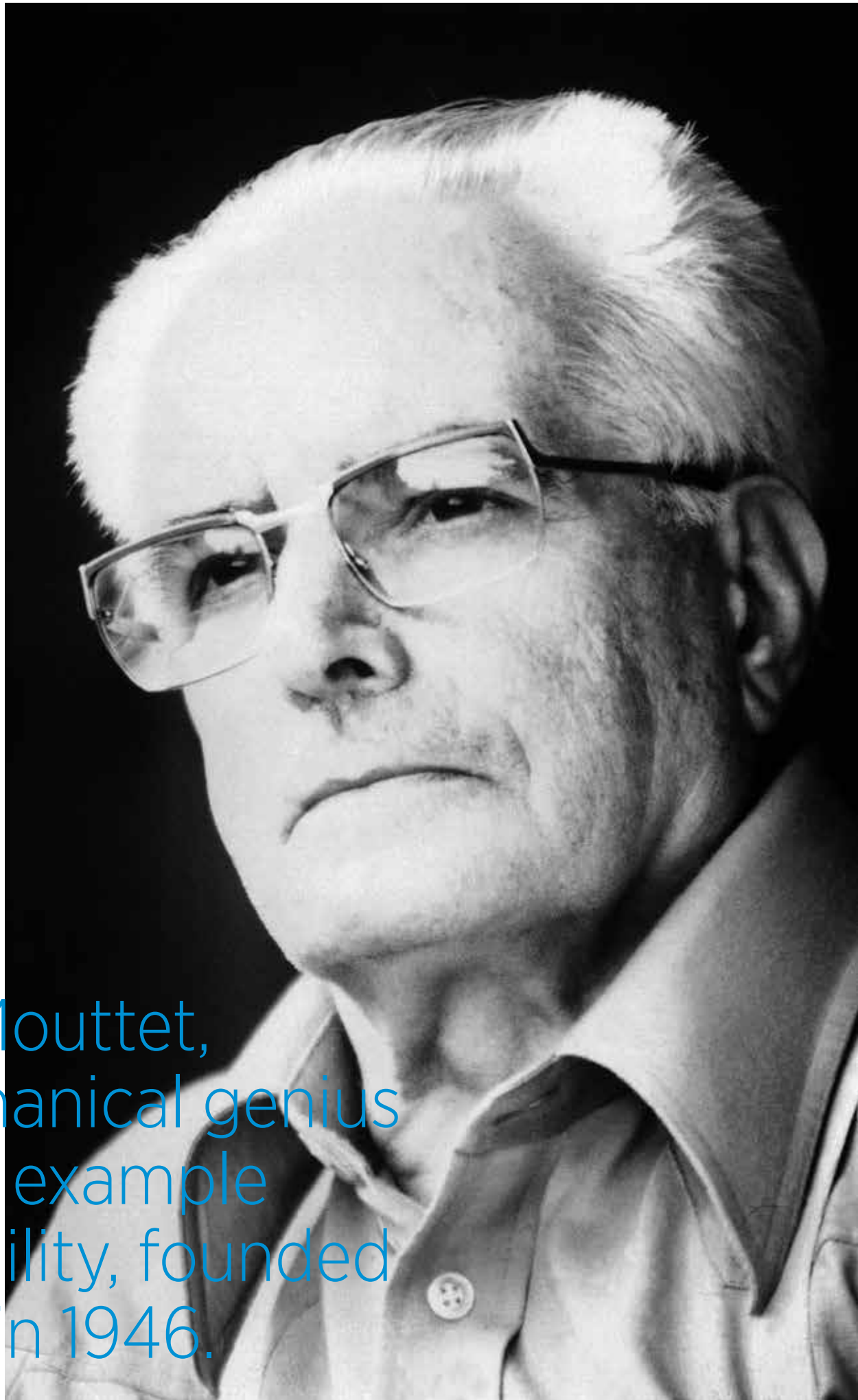
We will certainly carry on for at least the next 70 years! Innovation may well speed up, we will have to face strong competition, but we will not rest on our laurels.

We will continue, more than ever, to rely on the same company values that my grandfather and founder Léon Mouttet had set. We will carry on as an independent family company, keeping the human aspect in the centre of our working culture. We will maintain our level of excellence that has ranked us among the leaders of high technology. Last but not least, we will continue to focus on long-term performance instead of short-term profit.

We will continue to ensure that you, our customers and partners, benefit for many years to come, from the same LEMO quality that you have valued in the past.

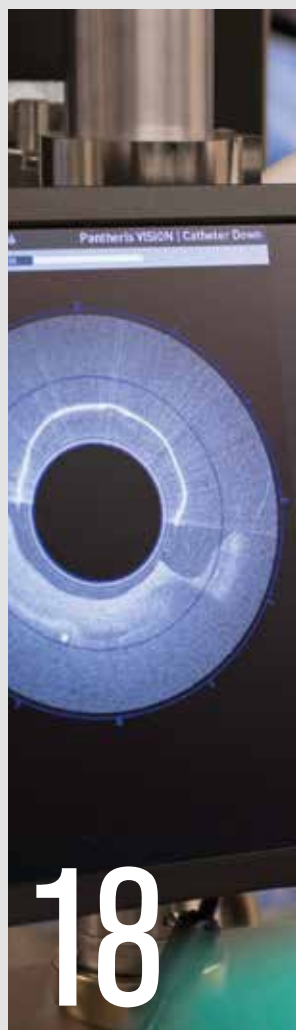
The next decades look promising and I look forward to exploring them with you!

**Alexandre Pesci**  
**CEO LEMO**



Léon Mouttet,  
a mechanical genius  
and an example  
of humility, founded  
LEMO in 1946.

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## 1. YOUR FOOTSTEPS CAN ILLUMINATE A CITY

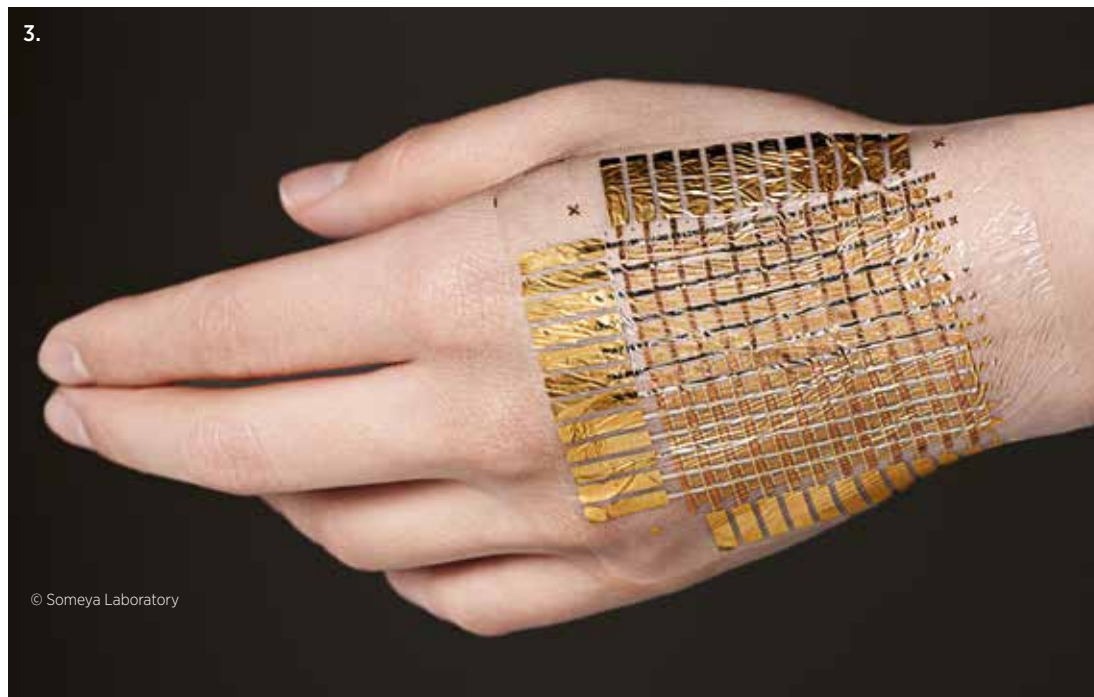
Pavegen, a British clean-technology company, uses the power of footsteps to create renewable energy. It has developed a bespoke flooring solution that captures kinetic energy from those who walk on it and transforms this energy into electricity by electromagnetic induction. The triangular tiles can be used with various coatings, both indoors and outdoors. This energy flooring functions particularly well in areas of frequent passage, such as shopping centres and transport hubs. Founded in 2009, Pavegen has just launched its product in the USA. The startup company claims to work on over a hundred projects, including two football pitches (in Brazil and Nigeria), lit naturally by solar energy and the players' footsteps.

## 2. 2018, THE YEAR OF FLYING CARS

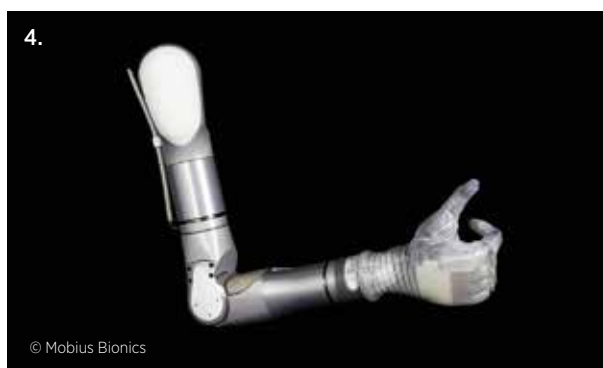
The US startup company Terrafugia is hoping to reveal its first flying car prototype in 2018. The TF-X, which looks like a normal sedan, takes off vertically and carries four passengers at the speed of over 300 km/h above the traffic jams. Practically autonomous, driving it would not require a driver's license. Its launch is scheduled for 2028. The Slovak company Aeromobil's more advanced project, a two-seater, should be launched as early as 2018. They are currently on their fourth prototype – closer to a plane than a car – and they have just taken David Richards, Aston Martin's former GM, on their Board of advisors. Aeromobil have already flown a prototype back in 2013. Unlike Terrafugia's TF-X, Aeromobil target (wealthy) flying amateurs.

## 3. FILM-THIN ARTIFICIAL SKIN TO MEASURE AND DISPLAY HEALTH DATA

Wearable devices are becoming more and more discreet and a team from Tokyo University have taken a new step forward. They have presented their 3  $\mu\text{m}$  "electronic skin" capable of measuring and displaying, for instance, the pulse or the oxygen concentration in the blood. The system combines highly efficient polymer light-emitting diodes (PLEDs) and organic photodetectors (OPDs) to produce optoelectronic skins (oe-skins). All you need to do is stick this lightweight and super flexible film on your skin in order to read the data – there is no longer a need for smartphones or smartwatches. The Japanese research team considers that its film could even be used directly on organs for check-ups during and after surgery.



# TECH-BITS FROM AROUND THE WORLD



## 4. PROSTHESIS TO HELP RECOVER LOST MOVEMENTS

Upper-limb amputees will soon be able to benefit from a new solution: Mobius Bionics have announced the launch of their Luke arm by the end of the year. This bionic prosthesis with near natural control was developed as part of a Darpa programme (Defense Advanced Research Projects Agency) with US army vets in mind. During a test run, 90% of amputees managed to carry out movements that they were unable to do before: grasp an object on their back, lift a shopping bag, drink out of a glass or a bottle... The hand itself is equipped with four individual drives, it can pick up an egg, a sheet of paper or lift a gallon of milk. The prosthetic arm is intended for people with forearm through shoulder-level amputations.



5.

## 5. NASA MAKES PUBLIC ITS SCIENTIFIC PUBLICATIONS

The peer-reviewed papers resulting from NASA-funded research are now freely accessible. The White House had requested already back in 2013 that scientific agencies share more of their research results financed by the US taxpayer. Not everything will be available, notably for licensing or security reasons. However, as of its launch this summer, the PubSpace data base already included more than 900 articles, on subjects such as health issues during long space expeditions or a possible life on Titan. Knowledge sharing is popular: MIT is celebrating the 15th anniversary of its web-based programme to share materials used in the teaching of 2300 courses, openly and freely with the world. The website is viewed by 2.3 million visitors monthly, from more than 215 countries.

# CONNECTING THE WORLD

By Renzo Monti

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THE ADVENTURE TOLD BY THOSE WHO HAVE EXPERIENCED IT

**10**

HOW IT ALL STARTED

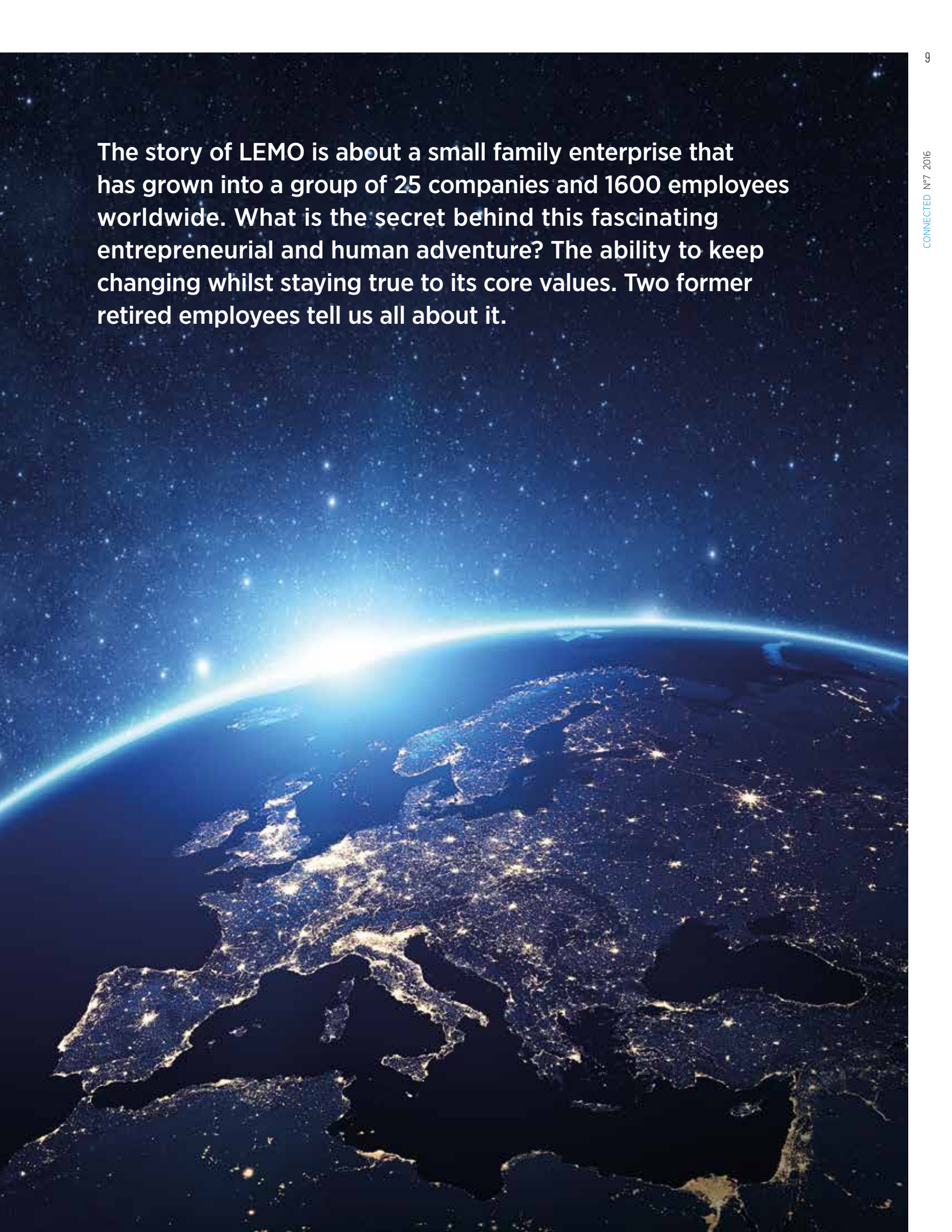
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THE INVENTION OF PUSH-PULL

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LEMO TODAY





The story of LEMO is about a small family enterprise that has grown into a group of 25 companies and 1600 employees worldwide. What is the secret behind this fascinating entrepreneurial and human adventure? The ability to keep changing whilst staying true to its core values. Two former retired employees tell us all about it.

## HOW IT ALL STARTED...

Switzerland, 1946. Sir Winston Churchill makes a speech about the future of Europe at Zurich University. The Geneva-New York commercial airline is proudly inaugurated. The term electronics exists, but is hardly used – people talk about electrotechnics instead.

Léon Mouttet leaves his native Jura, an area known as the birthplace of Swiss watchmaking. He settles down in Morges, by the Lake of Geneva, only a few kilometers from where LEMO's headquarters are now located. At first, he runs a grocery store, then a photography business, before switching back to his original profession of precision engineer and renting an apartment with a 50 m<sup>2</sup> workshop. The site, located in the town centre is called "La Cour des Miracles" (Court of Miracles), which certainly played a role according to an ex-employee. "This is LEMO's secret: miracles happened here, there was indeed magic around."

The small family enterprise was founded around the sitting room table. At the time, there were three people: Léon Mouttet, his wife Héléne and their daughter Josée. Together, they designed and produced mainly small contacts for the Swiss Post.

The company name is a contraction of the founder's name: Léon Mouttet. There was another alternative name, "Le Molybdène", in case LEMO had been already used, but luckily it wasn't necessary.

Only one small episode occurred with regards to the trademark. One day a parcel was delivered with hiking shoes sent for repair! It was addressed to Lemo Shuh, a shoemaker from across the country. As it turned out, LEMO was indeed to become a synonym for connectors all over the world and not for shoes.



The first LEMO factory in Lonay ►

# "WE NEEDED TO BOOST OUR EXPORT BUSINESS!"

In 1946 Léon Mouttet created LEMO in Morges, a small town in the French-speaking part of Switzerland. The family enterprise produced small contacts manufactured from molybdenum, as well as a measurement instrument patented for the watchmaking industry. It was in 1957 that Léon Mouttet invented the "Push-Pull" latching system (see page 12). This new type of practical, safe and high quality connector became paramount for LEMO's future. Its immediate success led to the construction of a first factory in 1963 in Lonay, near Morges. Seventeen years after its creation, the company started its powerful growth which was to position LEMO as a global leader in the connector industry.

LEMO inaugurated its first foreign subsidiary in 1964 in Milan, Italy. When Mr Walter Straessle took up his position as sales director in 1965, he made international expansion his top priority. "We were still in a vulnerable position, he explains. 95% of our production was sold in Switzerland to only three or four key customers. Losing even one of them could have been fatal."

The company thus decided to boost its export business and opened other subsidiaries in Europe. LEMO is now active over five continents, supplying more than 100,000 customers in 80 countries. LEMO products are still predominantly manufactured in Switzerland, however, the customer balance has shifted and now 95% of products are sold abroad.

As impressive as it is, this massive evolution has come naturally. Fernard Moret, finance director from 1971 to 2013, believes that steady growth, investments as well as reasonably controlled spending have contributed to the solid financial situation of the company. "The founders were very careful with money, he recalls. In the early days, Mrs Mouttet would keep the strings that came with the parcels to reuse them!" Almost everything was recycled, contacts were stored in empty yoghurt cups. "We really had to insist with Mr Mouttet to approve buying appropriate drawers!" remembers Mr Walter Straessle, still bemused.

Even if these anecdotes make us smile, they show the spirit with which the company was run. "LEMO has always been a family company loved by those who led it and those who worked for it," insists Fernand Moret. We did not throw money down the drain. Léon Mouttet kept the minimum for himself and invested the rest in the company.

This ethical attitude continued to be in force when Mr Mouttet's son-in-law, Mr Marcello Pesci took over in the late seventies. "The Pesci family continued to reinvest the profits into the company, says Fernand Moret. Thanks to this loyal management, LEMO could always invest in research and in acquiring cutting edge machines." Austerity and healthy finances not only preserved LEMO during the economic crisis of the 1970's, but it was also during this period that the company was given a fresh boost. ►►



## 70 YEARS OF SUCCESS

1946 – 2016

**1946**

Creation of LEMO in Morges, Switzerland.

**1952**

Manufacturing contacts of noble and / rare metals.

**1954**

Manufacturing connectors for electronic cables.

**1957**

Invention of LEMO's Push-Pull self-latching system and introduction of LEMO's standard metal connectors.

**1967**

LEMO connectors introduced into the US market.

**1969**

LEMO connectors introduced into the German market.

**1970**

Standardization of the LEMO 00 NIM-CAMAC Series.

**1972**

LEMO connectors introduced into the UK market.

**1973**

LEMO connectors introduced into the Japanese market.

1940

1950

1960

1970

#### THE INVENTION OF THE PUSH-PULL SYSTEM, A GLOBAL CONNECTOR STANDARD

The idea of a new type of connector came to Léon Mouttet during an electronics exhibition in Milan back in 1954. He was not convinced about the standard screw thread or bayonet locking systems exhibited. He could see the industry benefits of a quick locking solution, so he set to work. At first, he got his inspiration from car cigarette lighters, before developing the three-latch system which was to become the Push-Pull LEMO connector.

When Léon Mouttet presented his invention to the Swiss Post (Swiss Post and Telecommunications at the time), they showed an immediate interest. The State-owned enterprise had already been using small LEMO contacts and they required thousands of reliable and practical

connectors for the telephone exchanges. This is how the Push-Pull adventure started in 1957, with the launch of a coaxial 75 Ohm connector. Later on, LEMO went on to diversify its product for the first time by developing a smaller 50 Ohm Push-Pull connector for the CERN (European Organization for Nuclear Research) in Geneva.

Hence, the Push-Pull connector was launched and numerous industries have since adopted it as a standard, including the medical electronics sector where its inherent safety feature offers customers peace of mind. LEMO's retired sales director Mr Walter Straessle recalls the absolute confidence he had in his product. One day in Los Angeles a doctor performing knee operations warned him: "If your connector disconnects and we fail the operation, it will be your fault!" Walter Straessle simply answered: "No problem, it will not disconnect".

**1984**

Introduction of REDEL® plastic connectors.

**1985**

Introduction of LEMO fiber optic connectors.

**1987**

Increased manufacturing with new factory in Ecublens, Switzerland.

**1990**

LEMO receives SQS Certification according to the ISO 9001/EN 29001 standards.

**1992**

Acquisition of COELVER in Lonay.

**2000**

Business expansion with the construction of new factories in Rohnert Park, California and Munich, Germany.

**2008**

Factory extension in Delemont's manufacturing plant (Switzerland).

**2010**

New building for LEMO UK in Worthing and for REDEL Kft in Budapest, Hungary.

**2012**

New building for LEMO Japan in Tokyo and LEMO Benelux in Heemskerk.

**2014**

LEMO acquires Northwire Inc. in Osceola, Wisconsin.

European Distribution Centre (EDC) launch.

**2016**

LEMO's 70th Anniversary.

**1980****1990****2000****...**





In fact, the new CEO decided to acquire new, more modern equipment, but most of all, he no longer wanted to depend on subcontractors. “We had to control costs, lead-times and quality, explains Fernand Moret. The only solution was to produce our own parts.” In 1971 LEMO acquired a screw-machining factory in the Swiss town of Moutier. LEMO could thus take better control of quality and delivery time, but also production volumes. Despite its growth LEMO also continued to supply its small customers, an essential point in the company’s philosophy. “Even today, it is still possible to order one single part from LEMO,” concludes Fernand Moret.

The second LEMO factory, named LEMO 5, was built in 1975 in Delémont, in the Jura region, the birthplace of Léon Mouttet. It has been extended on three occasions, the last one in 2010.

After the 1970’s crisis, the company resumed its steady growth. The first robots were introduced as of 1978. REDEL, a sister company specialized in plastic connectors for the medical industry, was created in 1986. Since 1993, the Group has been present on all continents, including China. The acquisition of the US cable manufacturer Northwire in 2014 marked a new step forward: From now on, LEMO can offer not only connectors, but complete cable-connector solutions. Another way for the company to control the quality of its technologies.

“LEMO, concludes Fernand Moret, is the story of visionary people, who have managed to maintain a family spirit in spite of the company’s success”. “Léon Mouttet was a genius. He passed on his vision and ethics to Marcello Pesci, who, with an industrial mindset, was the ideal man

to further develop the initial ideas. His grandson Alexandre Pesci took over in 2000 and has continued to lead LEMO towards the future, with the same family and visionary spirit as his grandfather and father.”

How could the two former employees define this company where they spent almost their entire professional career? They quickly agree on the same words: commitment to quality, respect for customers and for employees, discretion. “Even today, they chuckle, many people know the LEMO name, but have no idea about its products!” This is why they always carry a Push-Pull connector in their pocket, ready to tell the story – their story – to those who haven’t heard it yet.



"WE MAINTAINED  
A FAMILY SPIRIT  
IN SPITE OF OUR  
SUCCESS"

# LEMO'S EXPANSION

## ASIA

TOKYO

Japan

1994

SHANGHAI

China

2004

HONG KONG

China

2004

SINGAPORE

Singapore

2010

## AMERICA

ROHNERT PARK

USA

1972

RICHMOND HILL

Canada

2012

OSCEOLA

USA

2014

CAMPINAS / SP

Brazil

2015







## EUROPE

MORGES  
Switzerland  
1946

MILAN  
Italy  
1964

MUNICH  
Germany  
1969

VIENNA  
Austria  
1970

WORTHING  
UK  
1972

PARIS  
France  
1988

BUDAPEST  
Hungary  
1991

BARCELONA  
Spain  
1995

GENTOFTE  
Denmark  
2000

OSLO  
Norway  
2001

BROMMA  
Sweden  
2002

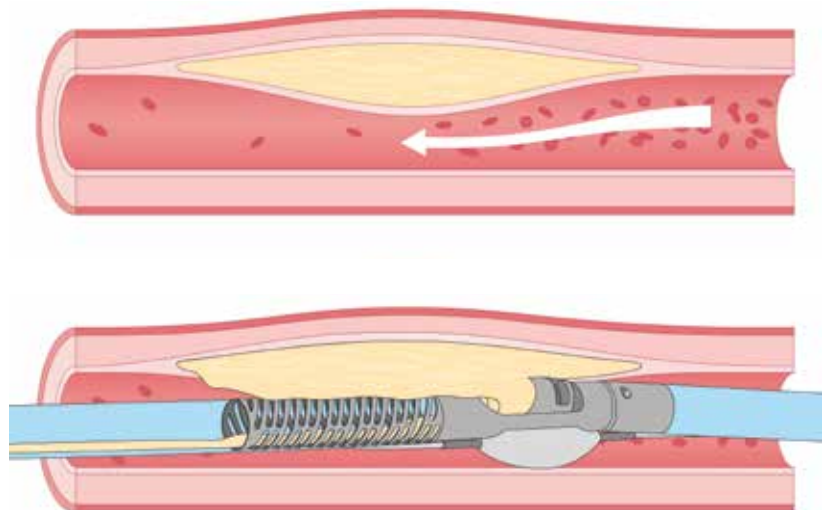
HEEMSKERK  
Netherlands  
2005

**600** tons of brass processed annually — products distributed in over **80** countries — **70** years of experience

# ARTERIES: ADVANCED TECHNOLOGY TACKLES THE HEART OF THE PROBLEM

By Alexis Malalan

Since March of this year, a new device to treat Peripheral Artery Disease (PAD) is available that allows physicians to see inside arteries during a directional atherectomy procedure to remove plaque that blocks blood flow to lower limbs.



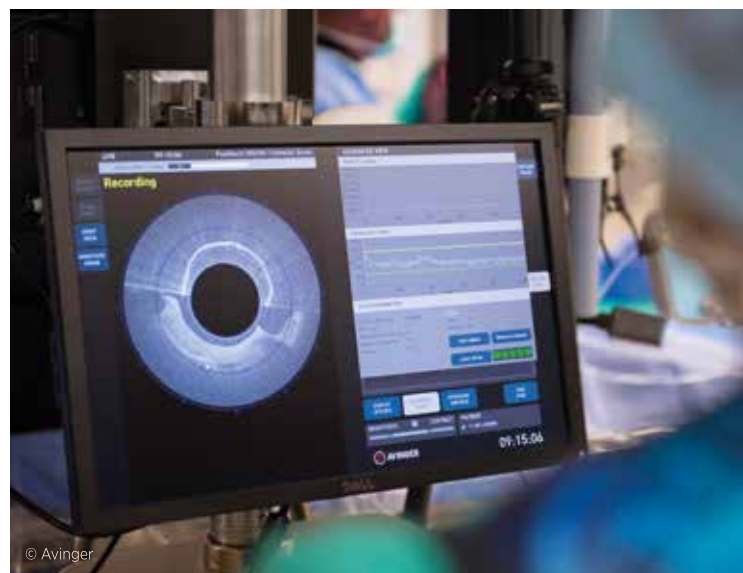
▲ The Pantheris device can "see" the plaque from inside the artery and remove it with a minimally invasive treatment.



Peripheral Artery Disease affects nearly 20 million adults in the U.S. and over 200 million people globally. PAD is caused by a build-up of plaque in the arteries that blocks blood flow to the legs and feet. What are the symptoms? Often dismissed as normal signs of aging, symptoms of PAD include painful cramping, numbness, or discoloration in the legs or feet. PAD can become so severe and difficult to address with traditional treatments, that patients and physicians often resort to invasive bypass surgeries, which can result in even greater health risks and lengthy, painful recoveries. In severe cases, patients often face amputation, the worst-case scenario associated with PAD.

California based Avinger designs, manufactures, and sells image-guided catheter-based systems for the treatment of patients with PAD. These two available Avinger systems provide options both for crossing totally occluded arteries (the Ocelot™ device), as well as removing plaque from arteries (the Pantheris™ device), which is also known as atherectomy. In the 1970's, its founder Dr. John B. Simpson assisted in the design of the first atherectomy devices used for removing plaque. Launched in March this year, the Pantheris device is the synthesis of 50 years of technological progress.

In what way is Pantheris groundbreaking? In order to understand, it needs to be compared with ordinary atherectomy devices.

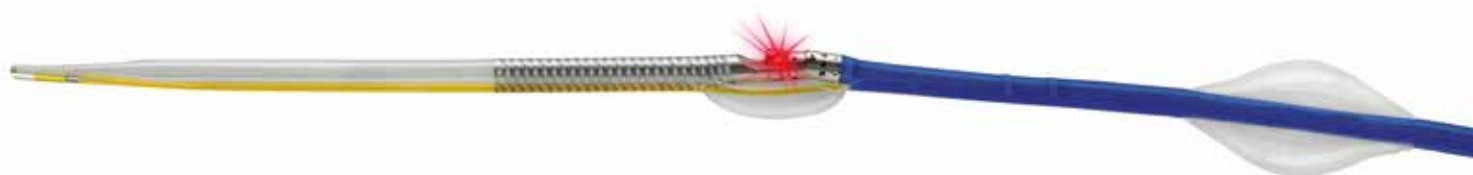


Atherectomy is a minimally invasive treatment for PAD in which a catheter-based device is used to remove plaque from a blood vessel. Lumivascular technology utilized in the Pantheris system allows physicians, for the first time ever, to see from inside the artery during a directional atherectomy procedure by using an imaging modality called optical coherence tomography, or OCT on a therapeutic catheter – like having a small camera on the tip of the device. This allows physicians to remove plaque more precisely than ever before with less risk of damage to the artery walls which can result in aggressive scarring that greatly increase the risk of restenosis or re-narrowing of the artery. In the past, physicians have had to rely solely on X-ray as well as touch and feel to guide their tools while they try to treat complicated arterial disease. With the Lumivascular approach, physicians can more accurately navigate their devices and treat PAD lesions, thanks to the OCT images they see from inside the artery.

Pantheris\* has demonstrated clinical effectiveness and an excellent safety profile. In the recently completed VISION study, 130 patients were treated with Pantheris and followed for a period of six months. The study achieved its primary safety and efficacy endpoints. More and more doctors are trained to use it, all over the world, every week.

For patients affected by arterial diseases, the future seems much brighter.

\* Fitted with LEMO connectors.



▲ Optical coherence tomography allows accurate navigation and precise treatment.

The background is a vibrant, abstract composition. It features several large, textured orange spheres, reminiscent of oranges or planets, set against a dark blue field. Interspersed among these are bright, glowing white and light blue organic, cloud-like shapes. Small, colorful elements like purple and red spheres are scattered throughout, adding to the dynamic and futuristic feel of the image.

# ***FROZEN:*** THE WAY TO GET A PERFECT SILHOUETTE

By Corine Fiechter



## Specialized in medical aesthetics equipment, Deleo has developed an innovative system to permanently remove localized fatty tissues by a non-invasive technique consisting of cold crystallization.

How to shed rebellious love handles effortlessly? Without surgery or anaesthesia – therefore, without the risks that they involve? Without pain nor even hindering your daily activities for a while? With all the security that come with certified and approved medical devices? The equipment provided by the French company Deleo is proving to be genuinely revolutionary.

This innovation relies on recent scientific discovery: adipocytes or fat cells react to cold in a specific way. The device developed by Deleo uses thus cold to crystallize these cells (hence the name Cristal\*) which causes their apoptosis or death and prevents their regeneration. Dead cells are discarded naturally through the lymphatic circulation. More specifically, the patient's greasy build-up is vacuumed into the cavity of the Cristal device. For about an hour, it will be kept at a temperature of  $-6^{\circ}\text{C}$  to  $-8^{\circ}\text{C}$ , depending on the area to be treated. All other cells or tissues are left untouched. The first effects of the treatment become visible after about a month. It takes two to three months to get the full result, which is permanent, unless of course the patient puts on additional weight. Only qualified doctors, dermatologists, or plastic surgeons are authorized to use the device.

### INNOVATION AND SAFETY

The medical aesthetics sector is experiencing a boom. "Other, less reliable cryolipolysis systems are currently thriving on the market, mentions Adélie Versepuech, Deleo's marketing manager. We have opted for a 100% "made in France" production to distinguish ourselves and to guarantee the perfect quality and safety of our products. They are entirely designed and manufactured in our Saint-Rafaël factory in the French Var department."

Total control of the supply chain enables Deleo to guarantee total traceability and security to its customers. It also helps innovation. "We have just launched a new device Agate, designed to treat small areas, such as the chin, the arms, the knees and the chest. adds Adélie Versepuech. It is fitted with area-specific applicators, which is unique in the market and helps to obtain the best possible results". Agate uses a patented technology ensuring a targeted and even distribution of cold, which was a real technical challenge.

Whether it is about new developments or improving existing products, the company works in close partnership with its network of doctors. "From the establishment of time/temperature protocols depending on the area to be treated, to purely functional or ergonomic aspects, even design requests and the colour of the device are discussed. Here again, total control of both our in-house R&D and production enables us to be particularly responsive to customer requirements."

This strategy has been successful for the French company. After only six years in the business, their products are distributed on a growing number of markets: Europe, the Maghreb, Qatar, Indonesia ... Russia and the USA will be next.

\* Deleo has decided to fit their device with a LEMO-NORTHWIRE complete cable-connector solution, made to measure in only two months.



# DRIVING IN THE *FAST LANE*

By Alexis Malalan



IndyCar Series, the 24 Hours of Le Mans, the Japanese Championship Super Formula, GT Series... If you are a fan of motorsport, you have certainly heard about these competitions where some of the world's fastest cars compete against each other. Did you know that most of these race cars are controlled by extremely sophisticated electronic systems designed by Cosworth's electronic division based in Cambridge? The UK company, whose headquarters are in Northampton, has been a leader in the motor sport industry for over 60 years.

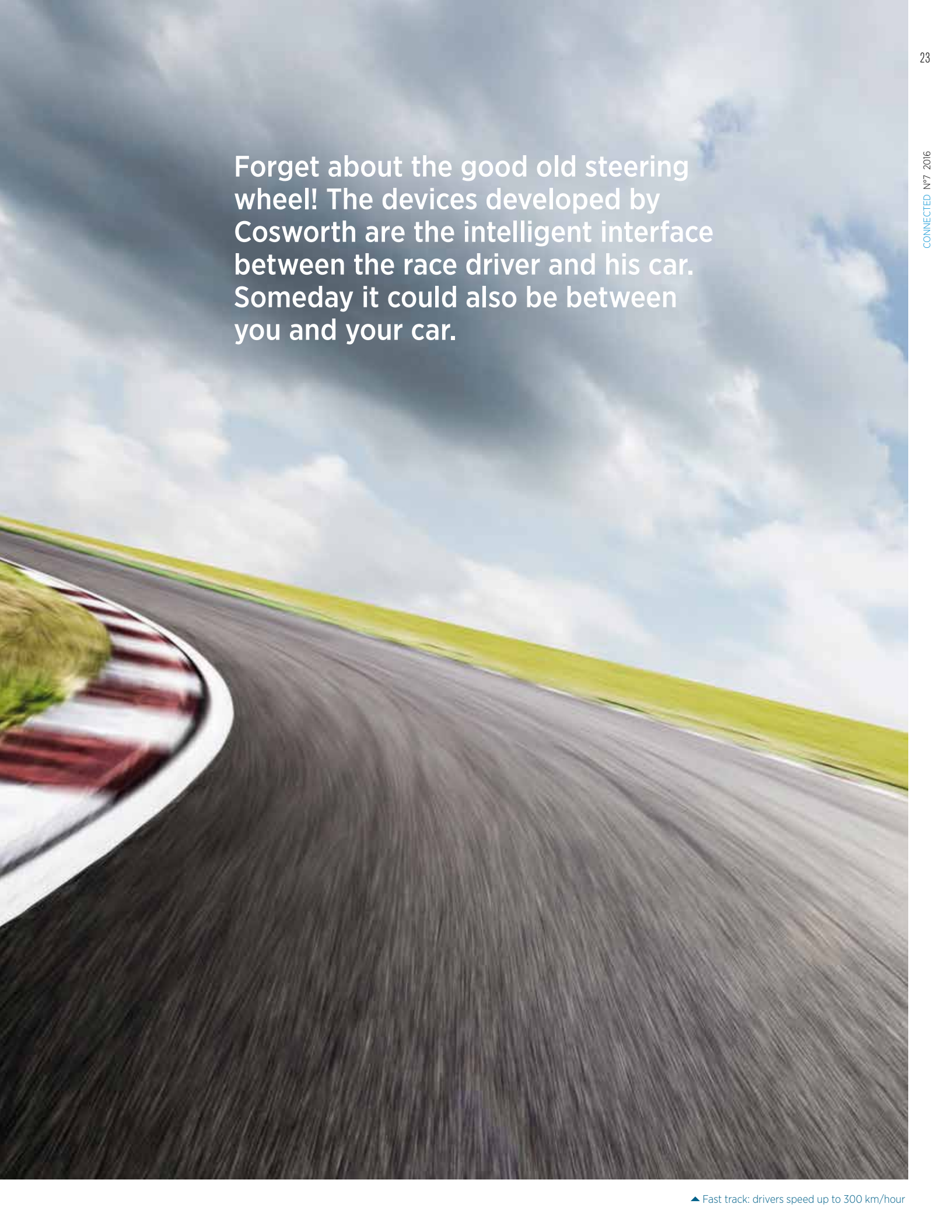
If we consider that the engine is the heart and muscle of a race car, then the combination of the steering wheel and the screen is the brain. Through the steering wheel the driver not only controls the steering of the car at speeds of up to 300 km/h, but also all the other parameters, such as gears, communication with the pit, etc. The LCD screen is thus his natural ally:

this is where all the information and warnings, crucial to the race, are displayed in real time (speed, number of laps, engine mapping, etc.) This is why these two devices are developed with a common electronic system, with the option to integrate the screen into the steering wheel if necessary.

What makes Cosworth systems stand out? First of all, their technology. Extremely compact, in order to fit into the confined space of the cockpit, they are equipped with ultralight and highly reliable LEMO connectors, to ensure optimal reactivity and precision. At such speeds there is no margin for error. Secondly, they are robust and watertight, which is a quality essential when competing with an open cockpit. They are safe and sturdy: the driver needs to be highly protected and the competition rules must be fully complied with. Cosworth's systems must go through particularly rigorous crash-tests.

Moreover, no steering wheels and screens are ever the same. Every single component is individually designed, according to the requirements of the race teams or the organizers. Also, before every new season, they go back to the drawing board for further improvements and new functionalities. Everything must be completed within tight deadlines: they have only 9 months between the design stage and the product launch.

Cosworth's technologies are rapidly progressing. However, they are not just short-term solutions. Working alongside major car manufacturers, the English company gives a second life to its innovations by integrating them into everyday cars. Our urban cars are maybe just one step away from being equipped like race cars.



Forget about the good old steering wheel! The devices developed by Cosworth are the intelligent interface between the race driver and his car. Someday it could also be between you and your car.



# TO SEE THE WORLD IN ALL ITS PANORAMIC SPLENDOR

By Alexis Malalan

The latest generation camera developed by Jaunt propels spectators into the reality experienced by the cameraman. More than just the technological aspect, the California-based company will also redefine the contents.





Zion National Park, Utah. A young man is taking photos to be able to share the breathtaking scenery with family and friends. Back home, however, he realizes that his snapshots do not reproduce the true beauty of the park and the powerful feeling he has experienced. Feeling frustrated, he wonders how it would be possible for him to capture the world in all its splendor: to capture it in 3D and in 360 degrees. To invent a camera capable of reproducing human vision.

The idea turns into a project and the Jaunt company is founded. Based in Silicon Valley, it has been developing technologies that make us live immersive experiences, as close as possible to reality. Jaunt's lead product is a camera intended for professionals. An extraordinary camera with an out of this world design. With its 24 perfectly synchronized lenses and sensors, it embraces the whole surrounding scenery in three dimensions, frame by frame. With the help of advanced algorithms, it simulates stereo vision, as if we saw the scenery with both eyes simultaneously. Thanks to its high-quality components, the camera can operate in all conditions. Whether you are in the desert or in the jungle, there is nothing to worry about. The camera is designed to be water resistant. Even in humid or dusty environments, its precious interior stays protected.

Unlike other brands, Jaunt cameras leave total control to users. They have the possibility to adjust exposure, white balance and many other parameters.

Yet technology is not the only added value that Jaunt has brought to the market. For the Californian company, the fact of providing such a camera to professionals also gives them the opportunity to create contents that could revolutionize the way we experience events. Jaunt has therefore created various pieces of content in partnership with young directors and established film-makers, with famous musicians such as Paul McCartney, as well as with sport organizations like the National Hockey League or the National Football League in the United States. The idea is to explore all the possibilities offered by virtual reality in various domains. For instance, by developing a brand new narrative language for the cinema or TV series, by immersing in the heart of a football match or a live concert among the musicians.

The first glimpses of the future can already be caught. Jaunt has collected the contents already created in an online library open to the general public\*. They can be visualized on a smartphone or any type of virtual reality headsets. Enough to arouse the curiosity of creative minds and to encourage them to develop new ideas and propose new immersive experiences.

Still young, the virtual reality market has been booming for the past two years and it continues to grow rapidly. Jaunt expects to stay a leader of this great movement.



◀ \*Experience it on [www.jauntvr.com](http://www.jauntvr.com)

# *FAKE LEMO,* REAL TROUBLE

By Corine Fiechter



▲ An original LEMO connector: high quality materials, components and assembly.

*"With globalization, counterfeiting has increased to a point where it affects all sectors with high added value. In the field of electronic components, the percentage of counterfeited parts is estimated at 2%, which is the equivalent of USD 9.2 billion. Instead of waiting until the phenomenon further affects the connector industry, LEMO has adopted a more systematic approach to fight against counterfeiting of our products," says Mathieu Menet, LEMO's innovation manager.*

LEMO has recently acquired new tracking tools and implemented new processes to stem the proliferation of counterfeited products. Also, the company sometimes uses targeted measures, for instance at trade exhibitions. "The fight against counterfeiting is primarily directed against manufacturers of counterfeit products. Unfortunately, they are often not easy to reach directly. Therefore, measures are also undertaken against system integrators or distributors, since they are indirectly responsible for these problems" explains Marcel Kochan, LEMO's legal counsel.

## BEYOND LEGAL ACTIONS

Counterfeiters risk having their material confiscated. They may also be fined, sometimes rather heavily, depending on the country. For the time being, LEMO has only seen very few cases of repeated offense.

Beyond legal actions, the company also undertakes more pedagogical initiatives by sending warning letters to users of counterfeit parts. "These users often do not realize the risks they are taking. Legal risks, but also safety and reliability risks for their finished products, which may result in system failures with serious consequences. Not to mention the impact on the business in terms of corporate responsibility, along with financial and reputation damage". The danger for the customers is far from being virtual. "We have seized counterfeit parts intended for medical applications. They resisted to a maximum temperature of 93°C against the 150°C of our original REDEL connectors! This represents a serious risk for the users," explains Serge Buechli, marketing manager.

Copies may at first glance look convincing, but they are often manufactured from inferior raw materials and may contain imperfections resulting from lower levels of workmanship and process controls. It is also likely that they have not been through a rigorous testing program to validate the products' performance at extremes or life expectancy.

For this reason, counterfeit copies often suffer from "infant mortality", resulting in a premature system failure before any preventive maintenance has been planned.

LEMO connectors are designed and manufactured to existing standards. They have also undergone lengthy test programs to ensure they are "fit for purpose" for use in sophisticated hi-tech equipment, being used in harsh environments where "failure is not an option". Therefore, it goes without saying, the risks of using a counterfeit high quality LEMO connector can be severe. It may be a significant loss of revenues resulting from a temporary loss of service or even worse, a loss of life resulting from a catastrophic failure.

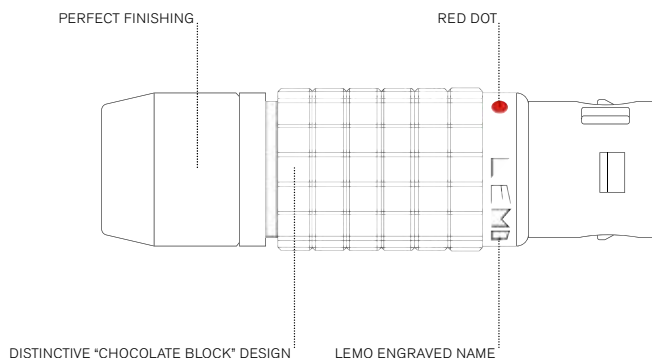
During the last months, LEMO has detected several counterfeit connectors on finished products exhibited at trade fairs. Sensitive areas such as aeronautics, military, automobile or medical applications are usually better protected via specific procedures (for example audits, test laboratories). However, consumer products can be more exposed.

The best way to be protected from illegal counterfeit is still to purchase connectors directly from LEMO or its authorized resellers. "With our vertical production system 90% of which is based in Switzerland, we control all our value chain, through to distribution. Our products are exclusively distributed via our subsidiaries and authorized dealers. Through our system we can provide total traceability and guarantee that the product is original." concludes Serge Buechli.

## HOW TO AVOID COUNTERFEIT

- Purchase only from LEMO and its authorized resellers (all listed on [www.lemo.com](http://www.lemo.com))
- Check whether each connector is marked "LEMO"
- Look out for the distinctive "chocolate block" design displayed on most LEMO products
- Check the finishing (soldering, cuts, homogeneous gold plating, etc.)
- Messy packaging may also be suspicious

If in doubt, contact LEMO at:  
[info@lemo.com](mailto:info@lemo.com)







LEMO: a dedicated team  
at your service!







## HEADQUARTERS

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