

CONNECTED

SUMMER 2021

MAGAZINE

THE LEMO STORY

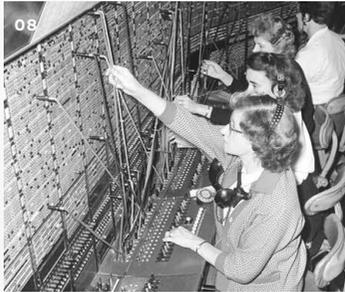
WITH MIKE HORN,
THE EXTREME ADVENTURER

THE BIRTH OF PUSH-PULL



16

IN THIS MAGAZINE



I M P R E S S U M

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- 02 **WHO WE ARE**
THE LEMO GROUP TODAY
- 04 **TIMELINE**
75 YEARS OF SUCCESS
- 06 **HOW IT ALL BEGAN**
MIRACLE IN THE COURT OF MIRACLES
- 08 **SIMPLY INGENUOUS**
THE INVENTION OF PUSH-PULL
- 10 **THE BRAND**
A NATURAL, RESPECTED NAME
- 11 **A FAMILY COMPANY**
THREE CEOs, CONTINUED INDEPENDENCE
- 12 **A STORY FULL OF INNOVATIONS**
FROM THE ORIGINAL PUSH-PULL
TO GLOBAL CONNECTOR LEADERSHIP
- 16 **HARSH ENVIRONMENTS**
MIKE HORN, THE EXTREME ADVENTURER
- 20 **EXPANSION**
FROM SMALL SWITZERLAND TO THE WIDE WORLD
- 22 **PEOPLE**
75 YEARS OF COMMITMENT

OUR HISTORY IS ALSO YOUR GUARANTEE

For some of you, we have been your partners in innovation for several years, even decades. But how much do you really know about LEMO? Do you know how we were born and developed into the company you have been entrusting with your most critical connections?

LEMO has certainly been rather discreet, letting our products speak for themselves. However, 2021 is a special year. October will mark the 75th anniversary of LEMO's creation by my grandfather. On this symbolic occasion, we decided to share our "family album" with you.

So, this special issue of CONNECTED will tell you about the birth of LEMO, our invention of the Push-Pull system and some major innovations that we developed for you, with you. It also shares its pages with our special guest

Mike Horn, the adventurer whose quest for harsh environments is very much like ours.

In three quarters of a century, which is both a very long and a relatively short time, LEMO had the chance to contribute directly to a number of technical revolutions, including HDTV's. We have pushed our limits so that you can push yours.

The story goes on, the LEMO Group continues to grow thanks to you and thanks to our staff, still driven by a fierce commitment to quality and a passion for innovation instilled by my grandfather and my father before me.

Continue the success story together.

Alexandre Pesci
CEO LEMO

THE LEMO GROUP TODAY

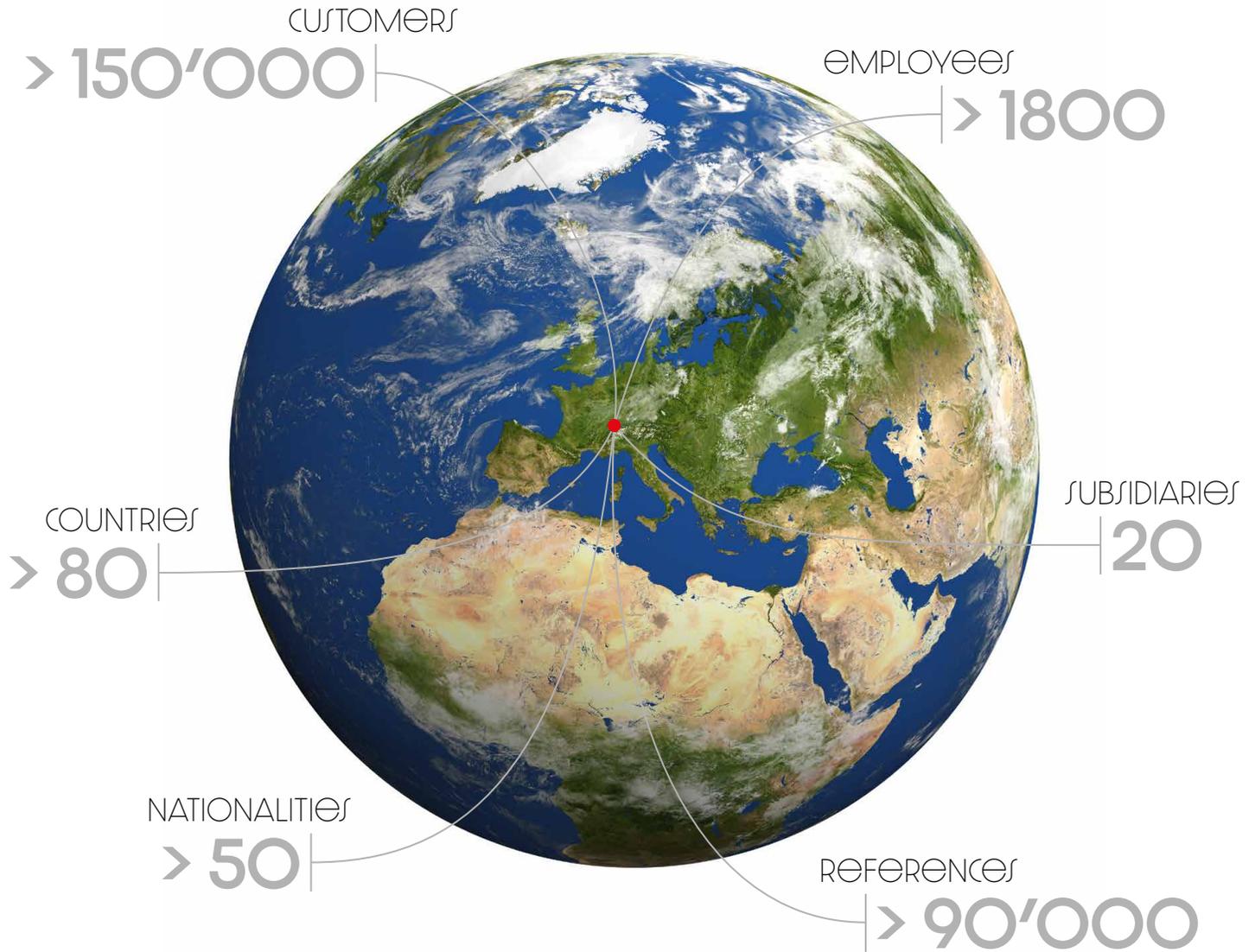
Before delving into 75 years of LEMO history, discover the portrait of this SME, a leader in the field of cutting-edge interconnection solutions.

Who is LEMO? There is more than one answer. LEMO is a leader in the custom design and production of high-performance interconnection solutions. A Swiss-based Group including four brands – LEMO, NORTHWIRE, REDEL and COELVER. An innovative company who has invented the Push-Pull system and defined the global standard for HDTV. A responsible player, proud to see its solutions help protect, cure and bring people closer to each other; develop and share knowledge, optimise production and the use of natural resources.

LEMO is also a family SME employing 1800 people in its 20 subsidiaries, present in 80 countries around the world. These figures may sound modest in comparison with some connector giants, which is actually a fundamental aspect of its identity. LEMO has never sought to become bigger or to sell the most possible products, but rather to design the best possible solutions. Striving for excellence, always better quality, reliability and durability made LEMO's reputation as a reference for the most demanding applications and the harshest environments.

Just to give a few examples: LEMO's solutions equip submarines, such as the one that discovered the Titanic. They equip satellites and astronaut's spacesuits. They are performing in the sterile calm of operating theatres and in intensive care units. In the roaring chaos of Formula 1 races, jet flights or crash tests. They function in vehicles designed to conquer Arctic ice packs, just as well as on the firefighting robot that combatted the fire inside Notre-Dame de Paris. They function in the heart of nuclear power stations as well as in wind turbines or tidal energy installations. They equip undercover policemen as well as cameras broadcasting the greatest sports events to billions of viewers.

In a nutshell: LEMO solutions are selected whenever – no matter the harshness of the environment – connections are too important, precious or vital to take any risk of being lost.



The Push-Pull high performance sector is a small niche market in the total connector market estimated at 60 billion dollars. However, it is a niche that perfectly represents the positioning and values of the brand. Internally, it fuels the passion for innovation and is an enormous source of pride.

Excellence is a narrow position, from which it is easy to fall. In order to secure it, the Group keeps total control over the entire production chain. From component manufacturing to complete cable assembly, from R&D to surface treatment, including, since 2014, cable development and production: all necessary know-how is controlled from cradle to grave in-house. Quality is controlled with the rigour which

built LEMO's "Made in Switzerland" reputation. Finally, the Group is keen on maintaining its founders' humanist spirit, offering to its staff a stable and motivating working environment.

This is the LEMO Group today.

An efficient company whose solutions are its best ambassadors. A partner that revolutionises its sector so that technological leaders can revolutionise theirs.

How was the LEMO Group born and how did it get to where it is today? This is the story told on the next pages of this magazine. ■

75 YEARS

How is it possible to sum up three quarters of a century in just a few milestones?

CONTINUOUS INNOVATION

1946
Electric contacts
made of molybdenum

1957
- Push-Pull patent
- S Series
(first LEMO series)

1967
E Series
(watertight)

1977
B Series
(2nd generation
Push-Pull) and
K Series (its
watertight version)



1940



1950



1960



1970



CONTINUOUS GROWTH

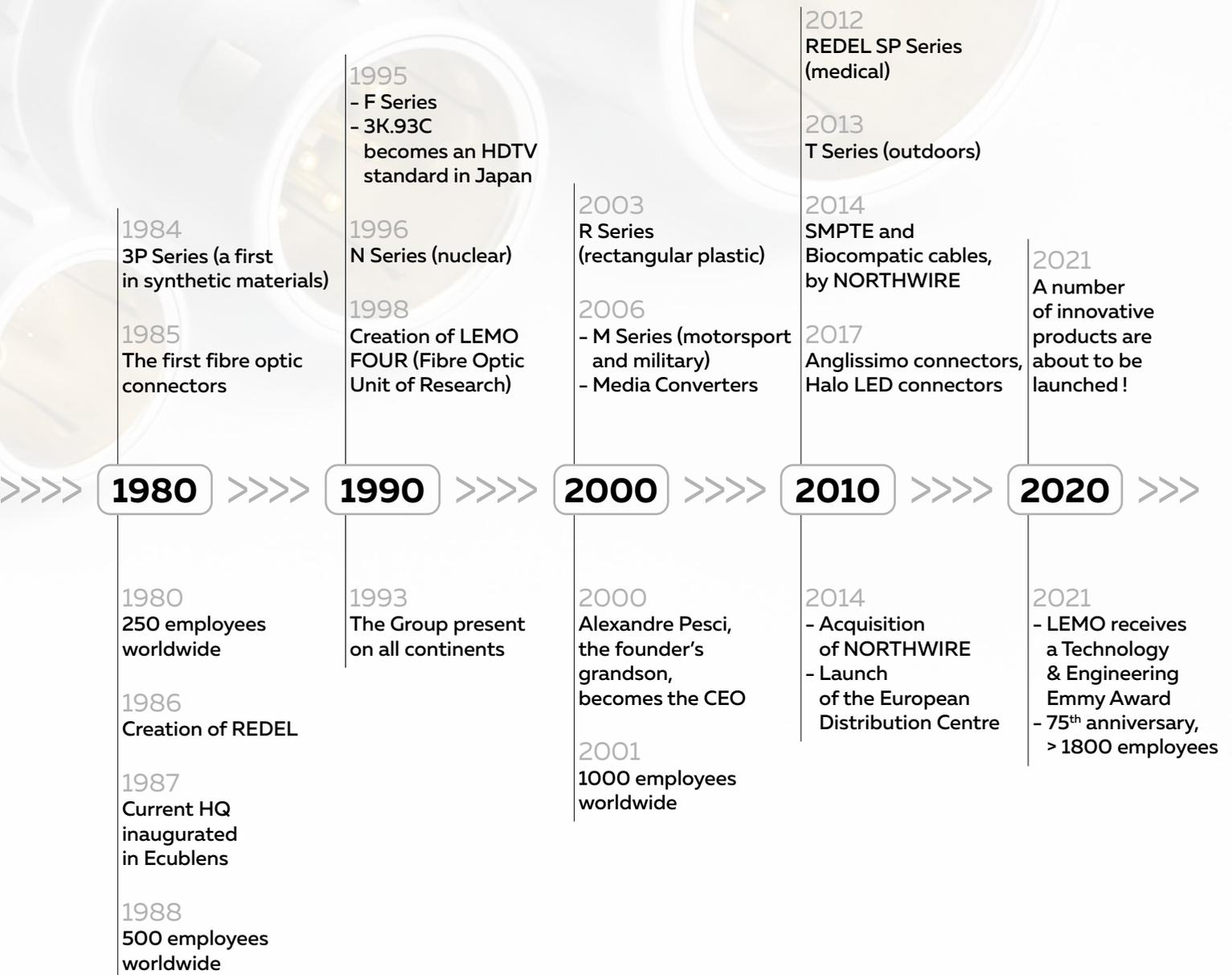
1946
Creation of LEMO
by Léon Mouttet

1960
10 employees

1962
Inauguration
of the first factory
in Morges

OF SUCCESS

Here is our selection among the most important dates of LEMO's history.



MIRACLE IN THE COURT OF MIRACLES

The story of LEMO started in the lounge of a modest apartment above a square aptly named “La Cour des Miracles” (The Court of Miracles). It was here in 1946 that a prolific inventor decided to settle with his family and where the connector world was about to change.

Every night, in Pre-Revolution Paris, beggars returned to their slums. There, hidden from passers-by to make feel pity, they could stop pretending to be sick or handicapped. These daily “healings” earned these slums the ironic nickname of “court of miracles”, where everything seemed possible. Quite a few European cities and towns have therefore named “Cour des Miracles” their somewhat mysterious neighbourhoods and sometimes the name stuck as the centuries passed, like in Morges.

Morges is a quiet little Swiss town where Léon and Hélène Mouttet settled in 1942 with Josée, their 9-year-old daughter. As a matter of fact, they decided to leave their native Jura region, neighbouring France at war, to try their luck in their adoptive town by Lake Geneva, offering a less rural and more promising life.

Léon, a precision engineer, decided to start a new life with his favourite hobby: by opening a small photography business.

Whether successful or not, in 1946, he decided to return to mechanics and to launch the production of electric contacts. The couple rented a modest apartment with an adjacent 50 m² workshop and founded LEMO on 19th October. The place was called “La Cour des Miracles”, perfect to invoke Lady Luck.

50 m² on the first floor: the first LEMO workshop.





Léon and Hélène Mouttet, LEMO's first CEO and first president.



One of Léon Mouttet's many inventions: a control device for watch barrels.

During its first years, LEMO was literally a family enterprise: Léon produced components in the workshop which he assembled with Hélène at the lounge table. Their daughter Josée also gave a hand. She was 13 and had no idea she would become LEMO's president three decades later. Nor that her son would become its third CEO.

Thanks to a special manufacturing process, LEMO proposed its contacts in the form of rivets in a single piece of molybdenum. This would ensure extraordinary resistance with hardly any wear or deformation, even after millions of operations. They equipped primarily the Swiss Post and Telecommunications (relays, contactors, call centres). Electronics (radio, television, radars) and the automotive industry (magneto switches or circuit-breakers) were also going to use them.

However, Léon Mouttet's creativity did not end with simple electric contacts. His inventive mind would produce a multitude of sketches and technical drawings piling up in the family apartment. He patented and manufactured control devices for the watchmaking industry, such as dynamometers to measure the force of springs and other tools for assembling watch movements.

In 1951, the Mouttet's hired a 38-year-old experienced lathe operator. Roland Ravay, the first LEMO employee, never left until his retirement. In the early days, there were only the two of them with Léon Mouttet in the workshop. The 50 m² included the boss' office and some equipment: three lathes, a turning machine, a drilling, a milling and a grinding machine to prepare the tools for manufacturing. Assembly and control operations were still around the lounge table.

As years passed by, the team started to grow (a young draftsman from Basel, assembly ladies and other workers were hired). The workshop, however, did not expand and it became more and more difficult to move around among the machines.

Since Léon and Hélène, rigour and discipline have been deeply rooted at LEMO. Why spend money when in-house solutions can be used? For instance, Hélène Mouttet used a device tinkered by her husband using an old record player for deburring. To limit purchasing, the workers would readily bring their own tools from home.

Solidarity and unselfishness bonded the team. Family spirit has been another quality nurtured since the early days. Hélène Mouttet was particularly keen on keeping it up.

It was important for everyone to get on well, as the days were long and intense, as were the weeks, since Saturday was still a working day. The staff used to sing a lot in the workshop. They did so with such enthusiasm and talent that one day they made Hélène Mouttet think that she forgot to switch off the radio! Company outings were organised, such as the Watch show in Basel, to learn about the latest technologies and to imagine the tools that watchmakers would need. The staff remembered these early days with nostalgia.

As of 1954 LEMO entered the market which would make its reputation: connectors. These products were targeting the electronics market where miniaturisation, enabled by transistors, was creating new requirements.

LEMO's "start-up" years would end in the late fifties. The company continued to develop and lack of space became critical (seven people were working in the workshop by 1960). The plans of a first real factory started to take shape. New infrastructure became even more necessary when in 1957 Léon Mouttet patented a new invention. A simple reliable interconnection system that would become an international standard and propel his enterprise among the global leaders of the connector world (see next page). ■

THE INVENTION OF PUSH-PULL

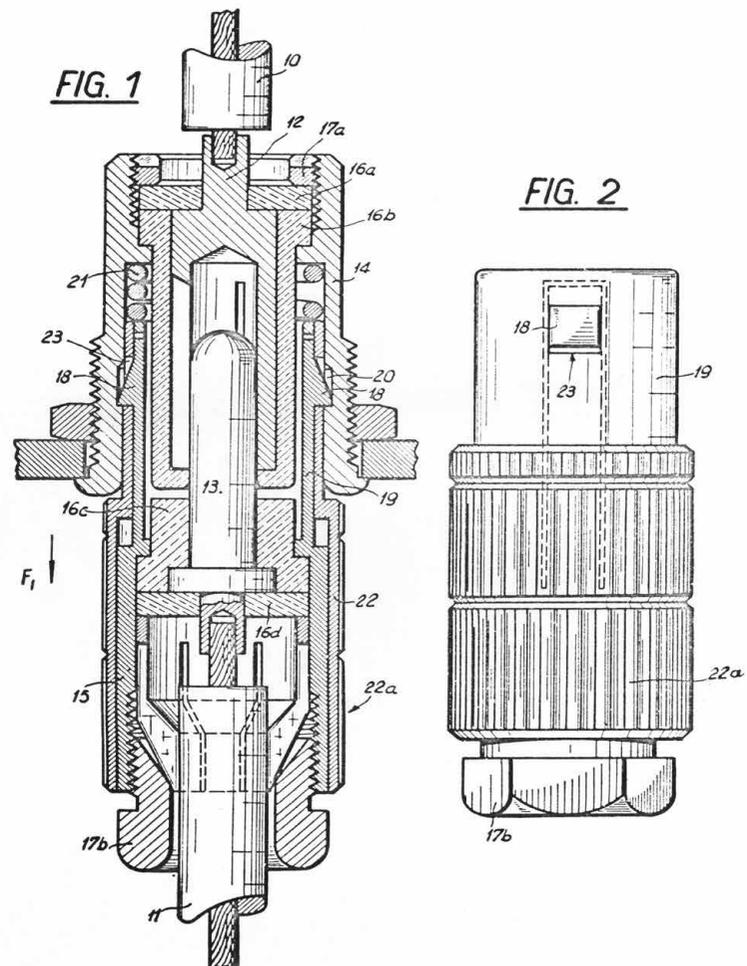
Many companies share the Push-Pull connector market. However, only one of them can boast of having invented them. This is how it happened.

As dusk is falling over the forest, Léon Mouttet sets up his camera close to a bush, pulls the cables of his flash and hides them as best as possible. The avid photographer wants to capture images of wild animals in their nocturnal life. Once the automated mounting readily set, he goes home. At dawn, huge disappointment: animals have indeed passed by, but their feet got tangled in the cables, disconnecting the device. The same has happened before, which makes Léon Mouttet upset about fragile connections. There must be a better solution!

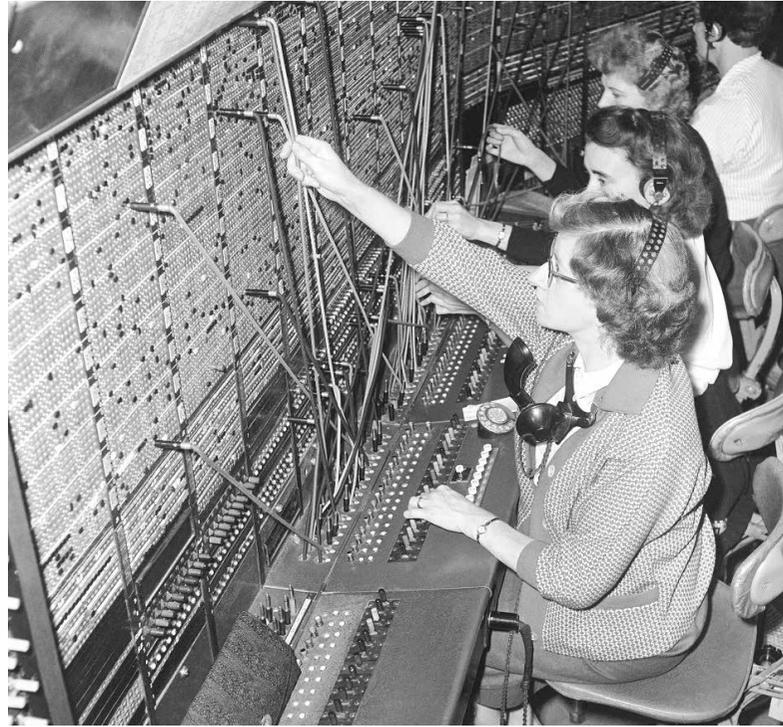
In 1954 LEMO enters the connector market. The use of transistors enables the miniaturisation of electronic devices, requiring new connectors. Léon Mouttet senses the market to gain, but with which type of connectors? During a trade show held in Zurich that year, he is not satisfied by the existing interconnection systems. Screw connectors are too slow and not very practical. Bayonet systems are too rough and not secure enough. There must be a better solution!

The inventor sets to work. He wants to create a new locking system, easy and quick to use, as well as perfectly safe. At first, he is inspired by cigarette lighters of cars, easy to connect and disconnect using a single hand. Too rough and bulky. He then imagines a system with three inner latches that click into place when the connector is mated and open only when you pull on an outer ring. All it takes is a split second and two fingers. It is perfection itself.

Léon Mouttet presents his innovation to one of his customers, the Swiss Post and Telecommunications. The State-owned enterprise had been buying his electric contacts, they also need thousands of connectors for call centres. Operators connect and disconnect at a high rate, so ease-of-use is paramount. The very easy-to-use and safe self-latching connector created by LEMO raises immediate interest.



Among the very first users of the Push-Pull system, switchboard operators.



845,697
SHEETS
1 & 2

COMPLETE SPECIFICATION
This drawing is a reproduction of the Original on a reduced scale.

FIG. 4

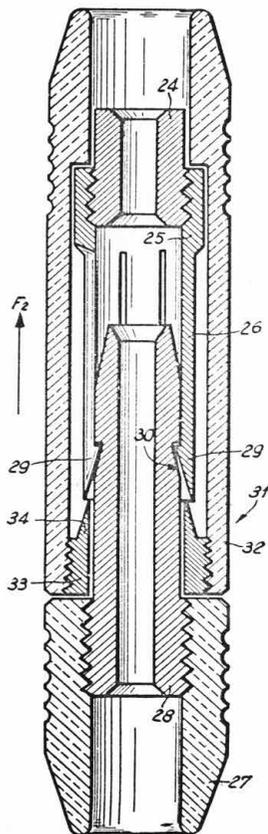
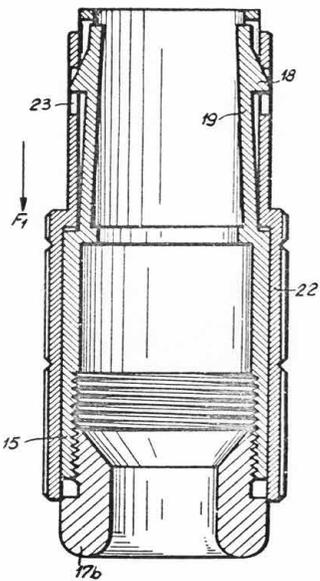


FIG. 3



This coaxial 75 Ohm is the first product of the first LEMO Series, the S Series. A few years later, a 50 Ohm variant is created for the prestigious CERN (The European Centre for Nuclear Research), also among the early users.

These first models are so successful, that today, 65 years later, LEMO continues to sell coaxial 75 Ohm S Series. It also continues to provide the CERN with complete 50 Ohm cable assemblies with S Series – these products are known and recognised all over the world.

So, Léon Mouttet hit the nail on the head: his creation meets immediate requirements and has enormous potential. LEMO had already developed a multi-contact version with a half-moon insulator when, in August 1957, the inventor files a patent for his "electric contact plug".

Immediate and increasing success. The Push-Pull system – the name attributed subsequently underlines its ingenious simplicity – has become a new connector standard. LEMO has never stopped improving it since, positioning itself more and more as a leader in high-performance solutions for demanding applications.

Léon Mouttet's sketches from 1956 have generated a market grossly estimated at 1 billion dollars. A multitude of companies have been sharing it, from small or middle-sized to giants whose Push-Pull connectors represent only one of their divisions. However, only one company can claim to be its inventor: "LEMO, the original Push-Pull connector". ■

A NATURAL, RESPECTED NAME

When it was time to find a name for his company, Léon Mouttet stayed true to himself—simple and efficient. The first two letters of his first name and the first two letters of his surname make up: LEMO!

What if the brand was already taken? The Mouttet's also considered "Le Molybdène" (starting with the same letters), the name of the metal used in their electric contacts. Luckily, LEMO was available. Much more energetic, easier to pronounce and to remember than "Le Molybdène"!

Léon Mouttet, a prolific technical designer, created the LEMO graphic icon himself. The capital "L", dynamically leaning forward, with an arrow symbolising electricity. As a tribute to the founder, the icon has been kept unchanged until now. The logotype LEMO has gone through various changes.

The LEMO name has been used by others, for instance in Germany by a machine manufacturer created in 1949, a line of award-winning chairs or even by a contemporary singer. In the early days, only

one minor "identity" incident was reported: LEMO received a pair of shoes for repair... The parcel was addressed to Lemo Schuhe, a shoemaker at the other end of Switzerland. Customers sometimes also make a confusion between LEMO and Lemco, an electric contact manufacturer located at 50 km.

The growing fame and reputation of LEMO solutions triggered copies and counterfeits. The name mark has been patented since the late seventies, the graphic icon and logotype are also protected and the company's legal service has been monitoring the market. The authenticity of products is also recognisable by the design: engraved name, red dot, the "chocolate" pattern (also patented) and, obviously, the perfect finish. Not only the name but, first and foremost, LEMO's customers must be respected. ■



THREE CEOs, CONTINUED INDEPENDENCE



Three generations of the same family have been at the helm of LEMO. This has been one of the keys to the Group's continuous success.

Léon Mouttet, the brilliant inventor

Léon Mouttet, LEMO's founder, was an engineering genius, an inventor with an inexhaustible treasure trove of ideas, as his colleagues used to say. Modest and generous, he knew how to share his ideas and give his instructions with a few pencil strokes. A creative mind, Léon Mouttet also managed to build his company upon strong foundations: he had the first factories built, launched the first subsidiaries, entered important markets (Germany, USA, Japan...). The founder stepped down from his CEO position in 1978, only two years before he passed away.



Marcello Pesci, the company builder

The successor appointed by Léon Mouttet was his son-in-law, Marcello Pesci. He was working as an engineer for the Italian television (RAI) when he met Josée Mouttet in Rome. Immersed in the world of connectors, this born entrepreneur created COELVER (coaxial and fibre optic miniaturised solutions), before taking over LEMO's management. A devoted and well-organised leader, he transformed the family enterprise into a group active worldwide. He developed sales structures and production capacity, consolidated processes. An engineering mastermind, he also led R&D and initiated many new products. By the time he retired in 2000, worldwide staff had multiplied by four and the brand had become a leading reference in the most demanding sectors such as medical, aerospace, motorsport, and broadcast.



Alexandre Pesci, the visionary leader

Son and grandson of the first two LEMO directors, 33-year-old Alexandre Pesci became the third CEO of the Group. He was very well-prepared for the job: having obtained a master's degree in commercial and industrial sciences from Geneva University (specialization in business management), he gained experience as the marketing director for LEMO HQ and LEMO USA. Alexandre Pesci followed in his father's footsteps: he structured, further developed, and strengthened the Group's footprint which underpinned its continued growth. As a visionary leader, he has oriented his enterprise towards new emerging markets and sectors (renewable energies, high precision medical robotics, autonomous vehicles, drones...). He has anchored the brand into high-end and harsh environments. He has also broadened the business scope to complete interconnection solutions, namely through the acquisition of US cable manufacturer NORTHWIRE. ■

FROM THE ORIGINAL PUSH-PULL...

For three quarters of a century, LEMO has been continually redefining high-performance connectors. A rich story told through its most iconic innovations.

1957 was the year that officially marked the birth of the Push-Pull connector. Once the patent was filed, LEMO immediately launched its first connector range, the S Series. The Swiss Post & Telecommunications and the CERN (the European Centre for Nuclear Research) were among the first LEMO customers. Robustness and reliability, with unequalled coaxial performance, have propelled the success of the Swiss connectors.

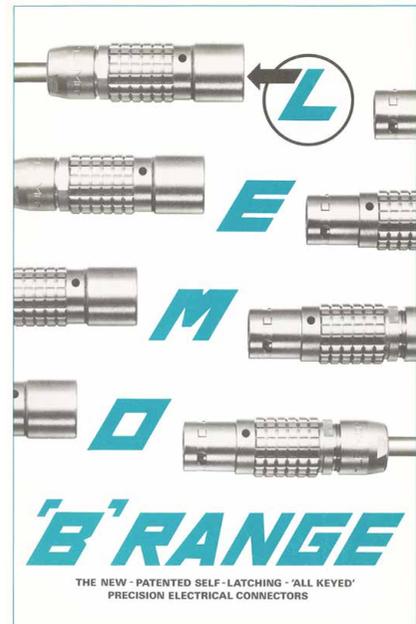
In 1967, LEMO proposed a watertight variant of the S Series, called E Series for even harsher environments. Success came quickly, but LEMO did not rest on its laurels. As of 1974, back to the drawing boards: based on feedback from customers and distributors, a brand-new Push-Pull generation was created, the B Series, launched in 1977. Among its many improvements, it offers a more complex keying system to prevent operating errors. A watertight version, the K Series was also proposed in the meantime.

These first four series have positioned LEMO in the sector where it has stayed ever since: high performance interconnection solutions. Their quality has never been challenged: the regularly enhanced S, E, B and K Series are still successful in 2021.

REDEL and the conquest of hospitals

Today, LEMO's metal solutions are widely used in the medical sector. This has been the case for the B Series (during this pandemic even more than ever), but also for the S, K, D and M Series. However robust, metal is costly for applications with a short lifecycle. Therefore, LEMO introduced the 3P Series, its first plastic range already in 1984.

Convinced by the potential, LEMO decided to invest important resources in this range. In 1986, it acquired the moulding and machining units of a factory gone bankrupt and built a new plant in Sainte-Croix (Switzerland) – the REDEL subsidiary and brand was born. Henceforth, plastic Push-Pull connectors were developed and manufactured here. The 1P Series was launched in 1988, then the 2P in 1998.



▲
Vintage advertisement for the B Series.

...TO GLOBAL CONNECTOR LEADERSHIP



The 3K.93C global HDTV standard.

Safe and easy-to-use, these connectors have become ubiquitous in hospitals. Success has also brought about counterfeits and, when the patent expired in 2008, plastic Push-Pull connectors became widespread.

It was time to step ahead.

Two years of development and another two of adjustments and fine-tuning gave birth to the SP Series. Highly compact, patented internal latching, up to 22 contacts (14 for the other plastic series), high resistance to chemicals and sterilisation, improved safety by blind mating... The SP Series, launched in 2012, has become the new reference for medical connectors. Other sectors, including the automotive and test & measurement, have also been convinced by its merits.

The journey of high-performance plastic connectors is far from over: new products are being developed in the REDEL and LEMO laboratories.

LEMO revolutionises TV (and is honoured by an Emmy Award)

UHD, 4K, 8K...: the quality of television images seems to be an endless race. Yet, in the early nineties, no one seemed to care. Except in Japan.

In 1994, an ARIB working group aimed to propel Japanese television to the new age of high definition. To this end, they needed a standardised connector and invited several potential suppliers to the meetings. LEMO presented them a prototype which had instant success with the working group. Regularly challenged by competition, the product went through a number of modifications, but in the end, it was the final choice and LEMO edited the new standard. The 3K.93C was launched in the end of 1995, and giants Sony and Panasonic became its first customers.

Both Americans and Europeans edited their version of the new Japanese standard, but without using them, preferring to continue with their respective standards. For a decade, HDTV thus only existed in Japan, with LEMO being the only supplier of standardised connectors.

About a decade later, the USA decided at last to move on to HDTV. The working group, after fierce discussions, decided not to reinvent the wheel and to continue based on the ARIB standard. Their revised standard, the SMPTE 304, was adopted and became the international standard. Competition then entered the 3K.93C market, but LEMO – with over 10 years' presence and experience – has never lost its leadership position.

The 3K.93C was gradually introduced into all TV studios around the world. It has equipped broadcast cameras at Olympic Games (as early as 1996) or football world cups, the British Premier League, Madison Square Garden in New York, and BBC studios.

LEMO's role in this revolution has been recognised. In 2021, it was even honoured by an Emmy, US television's prestigious award. LEMO will receive it this autumn in Las Vegas.

From motorsport to harsh environments

Motorsport is another field in which LEMO managed to assert its leadership.

The Group's omnipresence (Formula One, Formula E, Endurance races...) is based both on technological competence and a true passion for motorsport.

The success story accelerated in the mid-nineties when Formula One started looking for new connectors capable of resisting ever more challenging race conditions. LEMO immediately launched a vast survey with race teams. Based on the results, R&D – led by CEO Marcello Pesci himself at the time – developed a new range in less than 6 months. F Series connectors are compact, watertight and lightweight, shock-, vibration- and oil resistant. They generate only very low electromagnetic interference and are available in many different configurations. Enthusiastic Formula One race teams adopted them right after their launch in 1995.

A decade later, the power of cars, the harshness of races and the reliability and safety requirements further increased. F Series connectors have been widely used in cars, but several teams have also



▲ *BioCompatic, the NORTHWIRE cable ideal for medical applications.*

asked LEMO to develop even more robust solutions. Robust enough to be connected directly to the engines, where vibration, shock and temperatures are extreme. LEMO met the challenge. Abandoning, for the first time in its history, the Push-Pull latching system, it uses a ratchet screw-coupling mechanism designed for aeronautics, integrating the requirements of Formula One and defence. The M Series (for “motorsport” and “military”) was born in 2006.

It was a success and joined the F Series onboard all Formula One race cars, but not only.

When designed for motorsport, the product must be ready to endure anything. F Series and M Series connectors have become a reference for all applications in harsh environments. Extreme heat or cold, vibration or shock of several G, dust or water ingress. From aerospace to medicine, from robotics to drones.

The M Series confirmed to be one of LEMO’s major successes. Its catalogue continues to develop (amongst its latest variants: the mixed High-Speed coax and the High Power). Today, it embodies without a doubt the quest and know-how of the Swiss brand.

From connectors to complete solutions

When talking about LEMO’s innovation, discussions should not be limited to only connectors. Other high-end solutions have been created, such as HDTV media converters, as well as cables that have also become part of the Group’s history. In fact, LEMO has been manufacturing cable assemblies for decades, to support its customers’ total system requirements with bespoke interconnecting leads of an equally uncompromising high-quality standard.

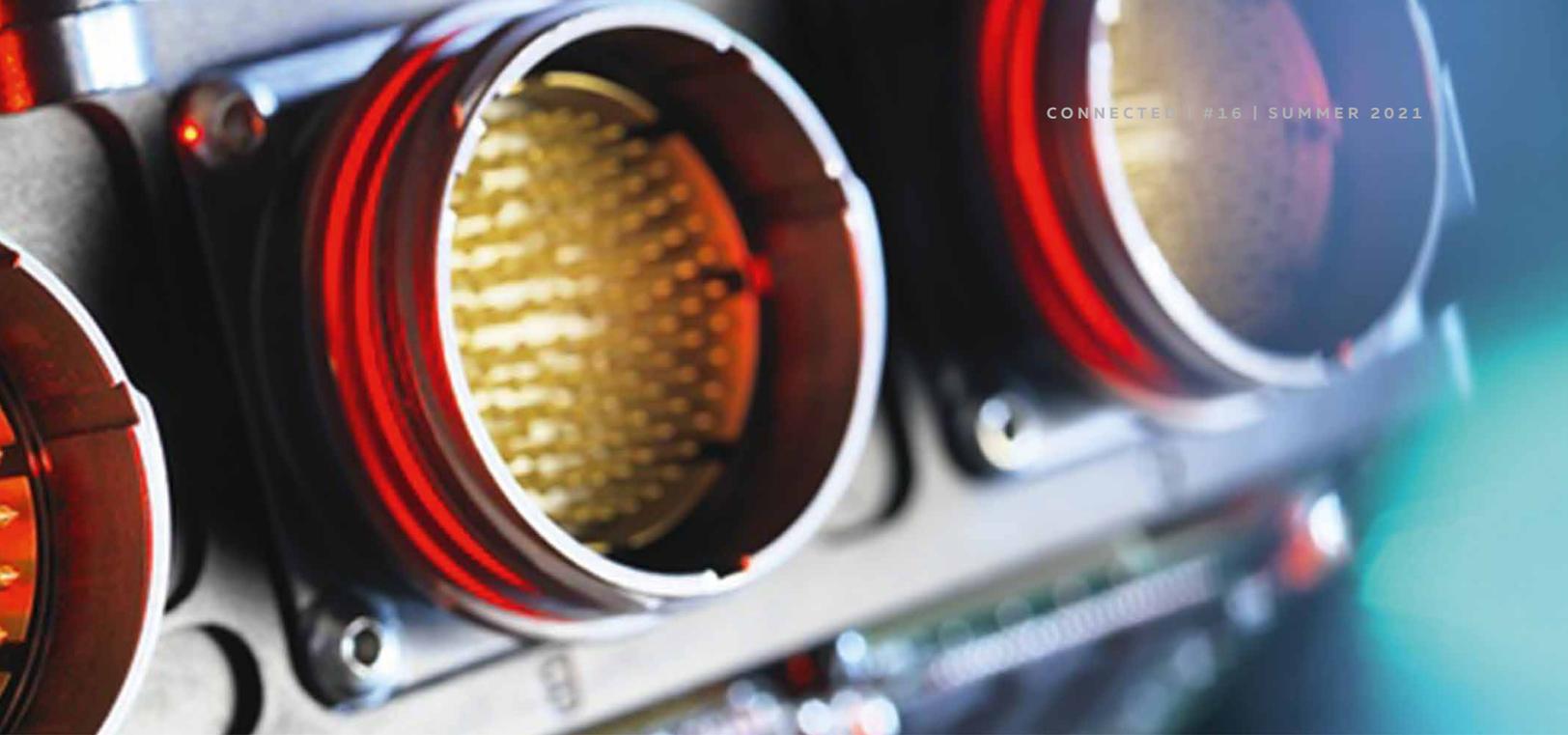
This has been a permanent concern for LEMO. Since its early days, know-how has been verticalized to ensure total quality control of the production chain. For this reason, specialised staff has been hired, equipment, factories and sometimes even companies have been acquired. From component manufacturing to surface treatment, everything has been gradually internalised. Cables could not be an exception either.

In 2014, the Group made a logical step forward by acquiring the NORTHWIRE factory. A natural extension, since the US company has also been proposing high-performance products to sectors that are also LEMO’s (medical, defence, energy, aerospace..).

Important resources are invested to enhance production at NORTHWIRE and to create optimal synergies. The US company developed an SMPTE cable right away, ideally complementing LEMO 3K.93C connectors. Biocompatic PTFE cables came next, offering an unrivalled medical solution combined with REDEL plastic connectors. Light emitting and “smart cables” are also among the projects.

The new cable expertise fuelled connector innovation as well. LEMO-NORTHWIRE synergies have certainly been motivating R&D to develop new promising LEMO and REDEL solutions.

Meanwhile, the Group has broadened the scope of activities: from a “simple” connector manufacturer, it has become a designer of complete connector solutions. The seemingly small nuance means a considerable difference in terms of services and products proposed to customers.



From Formula One engines to aerospace, the M Series has become a reference for harsh environments.

Continuous improvement

These 75 years have brought many innovations, whilst R&D's quest has remained unchanged: to reach the highest quality, unequalled robustness and reliability, combined with exceptional ease-of-use.

This quest has given rise to iconic series, but also to many others: hermaphroditic solutions initially designed for space (H Series); connectors withstanding radiation emissions in nuclear power plants,

remotely controlled by robots (N Series); or marine and underwater environments (V, W and U Series); high-voltage connectors (LEMO Y Series, 05, 5G, REDEL K/S Series); small IP68 Push-Pull multipole connectors for outdoor applications (T Series); and many others.

This quest for quality explains why LEMO innovations continue today, like yesterday and tomorrow, to be selected for the most demanding applications and the harshest environments. Everywhere where connections are too precious to be accidentally interrupted. ■

ASML, LEICA AND THE ART OF BUILDING LONG-TERM PARTNERSHIPS

It is not easy to win a new customer. But winning the same customer year after year, sometimes through decades, is even harder. LEMO has built successful, long-standing relationships with a multitude of customers.

With Leica, for instance, the story started in 1971 with the first Wild-Leitz electronic telemeter based on the phase difference method. The company has gone through transformation and development to become the Leica Geosystems Group. Today, 50 years later, LEMO is still one of its suppliers.

On the other hand, ASML has been using LEMO solutions since 1996 already. One of the global leaders in manufacturing photolithography machines for the semi-conductor industry, today ASML is worth 10 billion euros.

We could also mention the CERN, Formula One and other major partners. Their continued trust is the reward for a lot of hard work and also the source of great pride. ■



© Dmitry Sharomov



MIKE HORN, THE EXTREME ADVENTURER

Mike Horn and LEMO have both earned a global reputation thanks to their relentless conquest of the planet's harshest conditions. Then, one day, their paths crossed in the deserts of Saudi Arabia.

Hydrospeeding 6700 km on the Amazon river. Travelling around the equator or the Arctic Circle –alone with no motorized transport. 60-day skiing to the North Pole in permanent darkness with only one companion. North-South crossing of Antarctica in 57 days on kite-skis... Mike Horn continues a long line of firsts and feats, cementing his reputation of "the greatest adventurer of our times". The 54-year-old South-African (naturalised Swiss) seems to be unstoppable. We managed to make him sit down on a couch (after having had our hand crushed and arm torn by way of a greeting) and make him tell us about his quest.

Why choose wilderness rather than normal life?

Mike Horn: I do not really oppose the two – I do not think that we live in nature, but that nature lives inside of us. Besides, I go on an expedition like others go to work. I have been doing this for nearly thirty years and once I managed to sleep only 32 nights in my bed, over a period of five years. My normal life is on expedition. Home does not even mean holidays, but only a clean change of underwear! (chuckles)



Pole2Pole 2019: Mike Horn and Børge Ousland begin their Arctic crossing via the North Pole.

© Etienne Claret



Pole2Pole 2019: Having dropped off the two adventurers, the Pangaea, Mike Horn's boat, makes its way towards the arrival point, on the other side of the ice cap.

Why do you prefer harsh environments?

Adventures attract me. I love doing things that no one had done before, because I must go without a guide and write the story for myself. The more you challenge the unknown, the more you re-evaluate your needs. You realise that you can do without a car or a house, friends, social life and sex... up until the moment when there is only one thing you really need: staying alive. It is then that I have the feeling of being truly alive. It is then that my life makes most sense and that I feel happy.

Does facing danger and death make it stronger?

Obviously, if I make a mistake on the ice floe, I do not have a second chance, I die. However, I do not do this to die, but to live.

It is a form of personal development then...

Having to adapt, to evolve means growing. You do not grow if you stay in your comfort zone, where you know and control everything. Also, you naturally try to go further when you are happy with what you are doing. This is why I can never refuse a new adventure – ascending 8000 m, sailing or, more recently, rally racing (see inset). I discover, learn and grow.

Is it not to flee from mankind?

No, but it is true that I hate social pressure that makes us do things that we do not like. I do not tell others how to live, so they should not tell me how I should. When I am alone in my tent on the Arctic Circle with an outside temperature of -50 degrees, for sure, no one will tell me what I have to do. (chuckles)

You coach athletes and others to help them succeed with their projects... What advice do you give them?

I think the first step is to dream big. If you believe that you can be the first person to cross the Arctic in the dark, it is already a first step towards success. Having big dreams is motivating, it gives us courage and pushes us to leave our comfort zone that we are trapped in out of fear of failure. Sometimes, you must tell yourself: "Shake up,

COMMITTED TO A CLEANER DAKAR RALLY

Mike Horn had already been familiar with the LEMO brand, which had equipped his TV broadcast equipment used on extreme terrain. But it was in January 2020, that he met it personally in Saudi Arabia, since the CEO Alexandre Pesci, like Mike, ran his first Dakar Rally there. The two Swiss nationals instantly connected and over a fondue the conversation flowed.

The adventurer participated in the rally as coach to the Red Bull Junior team and co-driver of the accompanying car driven by Cyril Desprès, five-time Dakar motorcycle champion. This participation, so different from his usual solitary non-motorised adventures, provoked a flow of on-line vitriol. The adventurer countered by teaming up with Cyril Desprès in the Gen-Z project: to run the 2023 Dakar Rally onboard a zero-emission vehicle. They are not the first to do so (electric motorcycles have participated and there are other hydrogen-fuelled vehicle projects), but the challenge is exciting.

The Gen-Z car will be developed by Vaison Sport, a specialist in the design of race car prototypes. For the batteries, the two companions have convinced the French Atomic and Alternative Energy commission (CEA) to support their Gen-Z project. The requirements, quite far from those equipping hydrogen-fuelled production vehicles, made the institution hesitate. "After three months' thinking, they came up with a solution for batteries of over 300 kW providing the equivalent of 400 HP. Brilliant!"

Last January, Horn and Desprès ran Dakar 2021 in a Peugeot DKR buggy packed with sensors. The recorded data will accelerate the development process of the Gen-Z vehicle and its hydrogen engine. Dakar 2022 next January will be the trial run. And, in 2023, they will run to win. To silence the critics, but "first of all, to contribute to making the Dakar Rally more modern and less polluting", promises Mike Horn. ■

raise your head, for goodness' sake! Move on, don't be a coward!"
This is when my expeditions speak to all: we all have moments of doubt that we must overcome.

Technology also helps men to push back their limits... what kind of equipment do you take on an expedition ?

Technology cannot be eaten, so we measure it to the gramme. It is often custom made for me because it must be extremely resistant. For example, sometimes I spend several weeks at -30°C or -40°C , when liquid crystal displays freeze as of -18°C . My technology is limited to light and communication. I take Petzl low energy headlamps with high-power diodes. I also take GPS, communication material designed by partners such as Speedcast: satellite telephones, WiFi modems as well as material to charge them – silicon cables, connectors, batteries designed for military and aerospace applications... This way I can send photos and e-mails to share what I live through – 62 million people followed our crossing the North Pole. We depend entirely on technology as far as communications are concerned. For the rest, I try to avoid it.

How come ?

One must be able to stay alive without technology, just in case... I can navigate without GPS, based on the hour, the position of stars and the direction of winds. This gives a feeling of security. During expeditions, you gradually acquire knowledge and experience, you learn faster than the evolution of gadgets. It helps to succeed, all by myself, in things always a little bigger and harder.

One thing you have been sharing is the observation of climatic change...

I return regularly to the same places – the Amazon, the Poles – so, yes, I saw them evolve indeed. Some birds arrive in the Arctic and stay much longer; polar bears drown swimming between ice floes too distant from one another; or have to fight against grizzlies, which they have never encountered before; avalanches are more frequent; enormous sheets of ice get detached; the permafrost has eroded by 10 meters; glaciers recede. Or, in the Amazon, the rain-forest keeps shrinking. When you observe these changes in less than 30 years – only a second in the planet's history – there is enough to worry about.

By the way, you are sometimes criticized because you take a helicopter or a four-wheel drive car or because your TV broadcast requires transporting a lot of heavy material...

Yeah. [shakes his head] There are always critiques like this, often from people who live in comfort and go to work every day by car... as for myself, as soon as the helicopter, shared with a scientific mission, dropped me off, I did not consume anything more for weeks. No car, no television, no lights, no fridge. Nothing. People should focus on reducing – albeit a little – their own ecological footprint, before looking at others. ■

© Mike Horn & Børge Ousland

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Pole2Pole 2019: Mike Horn, photographed by his expedition companion, progressing cautiously on often treacherous terrain.



FROM SMALL SWITZERLAND TO THE WIDE WORLD

How can a niche market be reconciled with global expansion? LEMO has chosen to foster quality human connections.

During its first 20 years, LEMO remained a national company. In the early sixties, 95% of sales were done in Switzerland, with only four key customers. Such limited presence representing a risk and the quality of connectors being a strong asset, why not open up to the world? As of 1963, LEMO started developing its international distribution and technical service network. A year later, the first foreign subsidiary was opened in Milano. "Made in Switzerland" connectors set out to conquer the world. Rapid unbridled growth was out of the question. On the contrary, LEMO has stayed true to its principles: it is quality that counts first and foremost.

Connector (and its components) production has been kept in Switzerland. The company does not want to lose its family spirit, considered, to this day, as the backbone of its success. So, distributors and subsidiaries are created gradually, around personalities. The teams, first small, maintain fairly tight relations with the mother company. Sometimes, long-established distributors are acquired, who have a profound knowledge of the brand and its products.

LEMO started by introducing its connectors in neighbouring countries (Italy, France, Austria...) and in major markets: USA (sales since 1967, first subsidiary in 1972), Germany (subsidiary since 1969), United Kingdom since 1972.

In Asia, sales kicked off in 1973 in Japan, the undisputed capital of technological innovation at the time. A subsidiary was created in 1994. LEMO had been present in China since 1993 when it launched its subsidiaries in Shanghai and Hong Kong, in addition to offices in a dozen of cities. Singapore, opened in 2010, oversees offices in Malaysia, Thailand and Indonesia.

Everywhere around the world the LEMO network expands and strengthens.

In Europe, for example, the Group's presence was developed in the North, in early 2000 with subsidiaries opening in Denmark, Norway, Sweden and Finland. South America and the Middle East (reinforced in 2016 with a new office in Dubai) have not been left behind either.

Depending on market needs and local competencies, the subsidiaries are entrusted with missions in addition to sales. With cable or connector assembly (see the new REDEL site in Hungary). Some subsidiaries are considered as Group R&D centres – fibre optics in the UK, cables at NORTHWIRE... Some play an important role in regional distribution, another way to get close to customers. This is particularly the case of LEMO Benelux, hosting, since 2014, the European Distribution Centre and its large cable and connector stocks.



▲ Inside the Dutch LEMO building, that also hosts the European Distribution Centre.

In parallel, LEMO seeks to build its sites into ambassadors of its innovation and excellence brand. From the award-winning LEMO USA building in Rohnert Park, California (2000) to the elegant bright-lit new Dutch site (2019). The spectacular LEMO UK building in Worthing (2010) or the superb new REDEL factory in Budapest (2011).

Today, the LEMO Group includes twenty subsidiaries and is present in more than 80 countries. Its staff has been gradually and constantly growing: 100 in 1970, 500 in 1990, 1000 in 2000 and currently over 1800. A size that is small enough to maintain its solidary family spirit and big enough to offer to its customers a personalised service expected from a high-end company.

Strive to go always further without losing your soul: the secret of a successful expansion. ■



◀ The REDEL Kft building in Hungary.

75 YEARS OF COMMITMENT

Excellent connections require excellence in human relationships. The LEMO Group would like to pay tribute to all passionate professionals who have contributed to the making of what LEMO is today, your partner in success.









FROM THE DEPTH OF THE OCEANS TO THE FAR REACHES OF OUTER SPACE

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