ensto today

STAKEHOLDER MAGAZINE 1/2015

Bienvenue chez Ensto

FRANCE !

Ambassador
Serge Mostura

Ensto's Third
Generation

EVs on
the Rise

Contents

ensto today

Ensto Today is the voice of Ensto Group.

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Cover: French EV pioneer Robert Morandeira, a.k.a. Bob 66. Photo by Kaupo Kikkas

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From the Editor

Unité

This issue of *Ensto Today* celebrates our work in France. Although cultures in all Ensto countries certainly differ, the stories told by Ensto employees are remarkably similar regardless of their location.

We are flexible is what we hear our employees say most often. Reaction time and responsiveness in manufacturing are valued in every Ensto country. Whether the order is three units or 3,000, we value that customer.

A feeling of family we hear almost as often. Even though some have only recently become part of Ensto Group, a shared set of values exists, and we treat each other as more than just co-workers. Our work environment is informal which creates an atmosphere that allows people to be themselves and focus on results. And like in the best of families, we believe our differences enrich us and make us stronger.

In an age of corporations driven by shareholders demanding exemplary results every quarter, this family feeling must be cherished. Not all growing companies are able to maintain the culture and values that enabled their initial success. I am very glad that so far Ensto is an exception.

Pia Hänninen
Director
Brand and Communications

Appreciate **the diversity**

Patrick Stycz

Most of us know France as a fantastic place to visit - as a place for all seasons and all reasons. With the first impression one already starts to admire its terrific food, geographical diversity, high fashion, elegant cities, design and the cultural richness of history, art and museums. Paris looks like Paris because of its city plan and architecture, but you find that the diversity goes quite far in smaller cities and rural areas. You detect it in how people live, practice sports, the dialect they speak, not forgetting agriculture and different industrial and educational traditions.

One thing which is, however, to be underlined, is the high standard of natural sciences and engineering. Whilst these can be for a tourist less exciting than food, wine, opera and fashion, many of us have a strong respect for scientific and technical breakthroughs starting, for example, with Gustave Eiffel's and Pierre and Marie Curie's achievements.

Some people know by experience that France had a very advanced communication system years prior to the internet. This Minitel system was not, alas, adopted by other countries and hence was phased out as the internet became the global vehicle for communication at a later stage. The French high speed train, the TGV, is still a remarkably comfortable way to travel even medium-long distances and, for many people, is a preferred option to taking a flight. Also, largely thanks to the French input to the Concorde project, one of the most revolutionary airplanes was taking passengers to the world's metropolises at speeds earlier possible only for military planes. These examples are of course far from being coincidences; they are results of the elegant application of natural sciences and engineering.

For the ones familiar with the field of electricity, the law of Ampère, established by the French scientist André-Marie Ampère, or its derivative, the law of Biot and Savart, created by French physicists Jean Baptiste Biot and Félix Savart, are needed to determine the magnetic field and its forces created by an electric current. To a large extent they form the basis for Maxwell's equations – i.e. the laws of electricity.

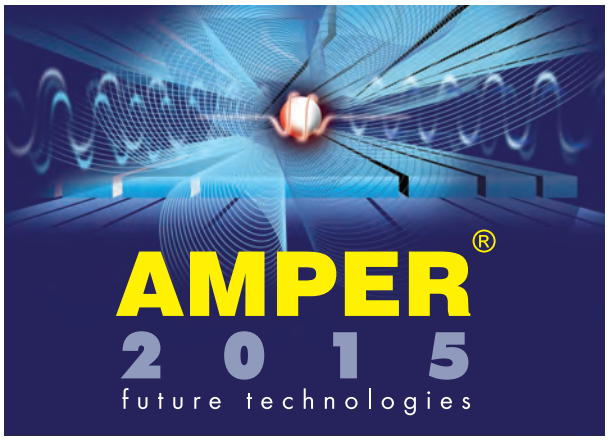
The scientific work has been continued, and one of the concrete results is the large presence of companies specialised in electric products on the French territory. Ensto is one of these corporations with four factories and a substantial R&D organization both for building technology and network automation solutions. Whilst the French soil is apparently very fertile for electrical solutions, then combining know-how and experience of also other countries can serve as a catalyst for getting improved processes and faster implementation of quality assurance and lean manufacturing and lean research and development. Ideally these processes are combined into elegant solutions, as is the custom in France, both in science and in the kitchen. So there's nothing that prevents you from enjoying your foie gras, oysters, lobsters or any other delightful creations of the French cuisine whilst working in the electrical industry.

Timo Luukkainen
CEO and President, Ensto Group

Ensto All-in-One Wins Golden Amper Prize

Ensto was awarded the Golden Amper prize for its All-in-One cold shrink joint at the Amper 2015 exhibition held in Brno, Czech Republic, March 24-27. Amper is the biggest exhibition in the Czech Republic in the electrical segment. This year, 600 companies from 22 countries presented their newest achievements in the exhibition, attracting 44,500 visitors.

The innovative Ensto All-in-One joint combines all necessary components for fool-proof cable joint installations.



Ensto Utility Networks Laboratory Accredited

Ensto Utility Networks' laboratory in Porvoo, Finland is now an accredited T284 testing laboratory. The accreditation certifies the competence, reliability and credibility of the activities and services of our laboratory – both nationally and internationally.

FINAS, the Finnish Accreditation Service, gave its approval for the accreditation on November 25, 2014. Accreditation, based on internationally agreed criteria, is a procedure to recognize a body's competence to carry out specific tasks. It means that Ensto Utility Networks Laboratory has been approved to conduct laboratory testing for accessories of overhead lines and underground cables based on the requirements of the ISO/IEC 17025 standard: the premises and the equipment are appropriate and the personnel is trained and competent.

The accreditation can be found in www.finas.fi/Scopes/T284_A01_2014_k01.pdf

Pentti Enholm, Arne Liljeström, Joonas Kortelainen, Sampo Vuokkiniemi, Kari Malinen, Ola Forsström, Janne Lappalainen, Kenneth Väkeväinen ja Tuula Karvinen.

Ambassador of Belarus to Finland, Alexander P. Ostrosvky, visiting Ensto. The ambassador on the left and Timo Luukkainen on the right.

Belarus Goes Green

Belarus, with nine million citizens and modern industrial economy is not yet an Ensto country. But with its efforts to embrace sustainable technologies, it could be soon.

"It's a market growing in importance in the years to come," says Timo Luukkainen, Ensto Group's CEO. "If you look at Belarus it's surrounded by countries where Ensto is present.

Belarus is well known in the electrification business for its 50-kilowatt EV charging systems and its investment in green technology.

"Due to modernization and stringent environmental regulations, levels of emissions in major Belarusian industrial centers have decreased," Alexander P. Ostrovsky, Ambassador to Finland of the Republic of Belarus, told *Ensto Today*.

The Ambassador says Belarus is also engaged in creating a very sustainability-savvy population with a National Action Plan to educate students for the green economy.

Luukkainen says Ensto plans to enter Belarus soon. "It's close to Finland, close to central Europe. It's a country with a highly competitive cost level and industrial culture."

Read the full interview with Ambassador Ostrovsky at www.EnstoToday.com.

HeiaHeia!

Ensto All-time HeiaHeia Stats

HeiaHeia is a social web service that motivates people to exercise more. HeiaHeia lets users log all kinds of activities, keep a training log for themselves, as well as share activities with others. Ensto joined HeiaHeia in 2013 as part of Ensto Wellness, a program promoting employee health and well-being at Ensto. Since then we have exercised an incredible amount of time in dozens of different activities. This is what the statistics tell us now (May 2, 2015):

- **Exercised hours:** **57,306** hrs
  (this is the equivalent of 30 working years)
- **Cheers:** **134,080**

Selection of Fun Sports stats

- **Gardening:** **1,683** hrs
- **Forestry:** **927** hrs
- **Singing:** **362** hrs

Double Agent

Ensto's newest board member Martti Mäntylä brings expertise from the crossroads of manufacturing and ICT.

Scott Diel *Petri Juntunen*

The industrial internet today might be likened to websites just a decade ago: companies built them even though they weren't always sure what to do with them.

Like having a website, the industrial internet (also called the Internet of Things) eventually won't be something that's optional.

"Products will be not only hardware, most will have software components," says **Dr. Martti Mäntylä**, Professor of Information Technology at Aalto University, and Ensto's newest board member. "It will be cost effective to embed intelligence in things made of plastic or metal, giving them a digital part as well."

This means products - Ensto's products - linked to the net, sending and receiving information. "A product's functionality will happen, in part, in the cloud," adds Mäntylä. "And software updates will mean product behavior could be easily modified."

Some companies will exploit this to great advantage. Others will simply vanish.

Computer science meets engineering

Mäntylä's background runs the gamut from industrial applications for computer science methods, manufacturing processes, engineering data management, user interfaces and interaction, building ICT knowledge and innovation communities, to his current interest in ICT and the digitization of industry. "I'm a double agent," he says. "Computer science and mechanical engineering."

While attending meetings, helping to develop strategies, and guiding major investments are the visible role of board members, Mäntylä characterizes this as the tip of the iceberg. "The responsibility the board bears is the iceberg below the surface." And his background positions him well to pose challenging questions as well as identify opportunities.

The trouble with manufacturing

According to Mäntylä, industry is prone to making the same mistakes over and over again. What ailed manufacturing before the age of the internet continues to haunt it. "In the eighties and nineties I'd speak with a designer and say 'Let's go to the machine shop.' He'd remark that he'd never done that before. The issue we faced was fragmentation and chasms between different company functions."

"Designers sometimes design without understanding the reality of manufacturing. Then designs have to be reinterpreted by manufacturing folks who don't understand design – creating errors which have to be fixed later when they're more costly." Bridging chasms can remedy that, and digitization has a role to play.

But Mäntylä cautions that because the internet exists, it doesn't necessarily mean improvement. "Human and process and management problems are exacerbated by all the data and technology we now have. In that sense, we are in the early stages of really applying ICT."

Remaining in balance

Mäntylä sees ICT's role to serve the process and remain in balance. "Industry has not found the balance, despite the fact computers have been in use for many years."

The challenge is to integrate ICT into human processes and data flows. "Companies are not alone and have to provide an interface to customers, partners, and the outside world. Companies should ask themselves: What is my API I'm offering to the outside world?"

BIO | Martti Mäntylä

is Professor of Information Technology with dual appointment at Aalto University (Department of Computer Science and Engineering in the School of Science, and the Department of Engineering Design and Production in the School of Engineering. Mäntylä earned his Dr.Sc. in computer science from the Helsinki University of Technology in 1983. In 1987, he was appointed full professor at Helsinki University of Technology (now Aalto). From 1999-2008, he was founding Director of the Helsinki Institute for Information Technology, a joint research center of the Helsinki University of Technology and University of Helsinki. From 2009-2013, he served as Chief Strategy Officer of EIT ICT Labs, the Knowledge and Innovation Community in the information society of the European Institute for Innovation and Technology. Mäntylä was a postdoctoral visitor at Stanford University in 1983-84, a visiting scientist at the IBM Research Division in 1989, and a visiting professor at the Fraunhofer Institute for Computer Graphics in 1996-97.

Not everyone even knows what an API is, much less has one, but it's probably a safe bet they'll learn in the next few years. API is Application Program Interface, a set of routines, protocols, and tools for building software applications, and an API specifies how software components should interact.

Mäntylä's point is that human beings and organizations also need such clarity, a road map to the process of digitization, which takes into account the ecosystem of other players.

Results driven

Not always common with academics, Mäntylä is a man who desires real world results. He once dropped his industrial application work because he felt he wasn't getting industry impact. "I felt like I was building Fabergé eggs – fascinating but difficult to scale and apply." Ensto will certainly provide a hands-on opportunity.

How does Ensto currently stack up? Mäntylä notes that it's unfair to compare different industries, but he's certain of one thing: "Ensto's business of moving energy about is to be fully digitalized. We cannot make the switch to sustainable energy without a better way of producing and storing energy and being cleverer in how we make use of it."

He is hesitant to make bold proclamations about a company he does not yet intimately know, but there are some things one feels without knowing.

"Ensto has a family feel, a community feeling. People subscribe to the values and are happy to be a part of Ensto. That's what well-run companies do. One can feel that."

Climate Control

Ventilation's New Direction

Long a name in home ventilation, Ensto Enervent turns its attention to indoor climate control in public spaces.

Scott Diel *Petri Juntunen*

Depending on where you live, indoor climate is not only an efficiency issue: it can have a great deal to do with health, as well. But regardless of the reason for its use, the market for indoor climate control is massive.

A different Utopia

"The Utopian vision used to be a suburban house with a white picket fence," says **Jukka Riekkinen**, Managing Director of Ensto Enervent. "But now there's a generation who wants a new hundred-square-meter flat within walking distance of the city center."

Riekkinen says this movement will not kill single-family homes but will bring balance to the market. "When you get more money now, you don't necessarily leave the metropolitan area."

And the market is not only homes. Riekkinen says urbanization means more families and children in cities, and therefore the need for good air quality in public buildings.

A different Enervent

Enervent products are most often associated with single-family homes. But to address the needs of a changing market, the company's newest product, Pallas with EnergyBUS, is turning its attention to public buildings.

"Traditionally, ventilation has meant opening the window when air inside the house becomes too heavy. A more modern way was to bring outside air in via an air handling unit. With an AHU you could filter the air and capture energy from exhaust air to minimize heating costs," says Riekkinen. "But for today and the future, solutions must consider the feeling of the inside air. Now we are really talking about air conditioning. Think about all the excess energy in a modern home, which is created by the sun, lighting, home appliances and as well as human activity. What if we could store that energy and then move it for use when we need it?"

Case in point

Few things generate as much heat as machinery. Fifty kilometers east of Helsinki, **Anders Nyberg** of Tom Nyberg Metallverkstad built a 1,500-square meter manufacturing and office facility and needed a way to heat it. He turned to Ensto.

Nyberg's facility uses four Pallas units, one Pegasos unit with heat pump, plus a 5,000-liter water tank. The system maintains the indoor climate by bringing in fresh and filtered air, cooling, dehumidifying, and by taking the excess heat the machine shop generates in the day and channeling it to the water tank. At night, that heat is returned to warm the building when machines aren't running.

More activity, more savings

Nyberg moved into his building in late 2013 and says his average cost to heat and cool the 1,500 square meters has been 800 euros per month. He expects this to drop "significantly" once the building is fully rented – currently it's approximately one quarter occupied. More human activity means more heat generated.

According to Nyberg, the cost of the entire system was around 200,000 euros. "This was for absolutely everything – planning, the water tank, the electrical system, the Pallas units, automation system, warm water, and floor heating."

Considering solely the savings by not purchasing district heating, Nyberg expects the system to return his original investment as early as five years out, maximum ten. In his other properties Nyberg has witnessed district heating prices double over ten years. "I wanted a system that was not dependent on outside suppliers."

Significant immediate savings in investment costs also comes from not having to install fire dampers or place fire insulation around air ducts, since only water is transported between the rooms.

Competitors and confidence

Although district heating was not a consideration, before choosing Enervent Nyberg explored ground source heat. Working in a radon zone, however, meant digging extra holes to vent gas. As a consequence ground source heat was not cost competitive.

Nyberg also had used an Enervent system at his home, which gave him the confidence to try Pallas for his business. "My home system has operated nine years without a problem. That was a good indicator."

continued ▶


Healthy +
Comfortable
+
Energy
Efficient
The old Way
The New Enervent Way

Anders Nyberg with his Pallas system.

Almost two years later, Nyberg says the Pallas system has delivered. "When you buy anything you have to take into account that part of what you hear is sales talk. But this product has exceeded my expectations." And he sees application for it elsewhere.

"This is something people should think about in apartment buildings. For example, if one unit goes out in a five-story building, as long as there's electricity you can still heat that floor with the other units."

Ensto Enervent's Riekkinen says Pallas family products are suitable for spaces up to several thousand square meters in size, and its modular capabilities mean it can handle even 40-story buildings, as well. And not only in Nordic climates.

Hot and humid, too

In humid climates the traditional solution is to pump in cool air, which consumes huge amounts of energy. But simply removing the humidity with an Enervent system has advantages. First, it is cheaper, since low humidity means the actual temperature can be higher yet the indoor climate will still feel comfortable. Second, one gains the added benefit of producing water.

"By removing humidity from the air with our system, 300 liters of water per day can be generated from a single home in a place like Hong Kong," says Riekkinen, "You can use that to flush your toilet or water your garden."

Indeed, anywhere indoor climate is an issue could be a market. "We've started in Hong Kong," says Riekkinen, "and recently exhibited Pallas in Shanghai and Macau."

"We plan to be faster and more flexible in listening to markets than any company has been," says Riekkinen, who envisions Enervent conquering far-flung markets with climates dissimilar to Finland's. "*Enervent – Powered by Ensto*."

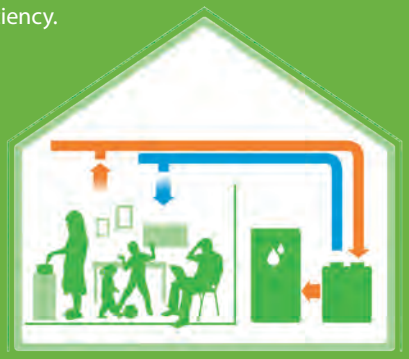
Air vs. Climate

Ensto Enervent is moving from "heat recovery" to "indoor climate control." Enervent air quality offers all these benefits:

- Comfort: Indoor temperature is not the same as indoor climate! The difference between cooling and de-humidifying is significant in Nordic climates. For example, even if it's +11 C outside, rain will produce humidity up to 96 percent. This moisture needs to be removed from the air.
- **Structural integrity:** Moisture in buildings means the structure suffers physically and devalues economically.
- **Health:** Mold can harm occupants' health and require expensive facility renovation within five years. Enervent keeps buil-dings dry.
- **Sleep:** High CO^2 means you wake up tired. Outdoor air is typically 300-400 ppm (CO^2) and good indoor air is less than 750 ppm. Over 1,500 ppm is not healthy.

Ensto Innovation Award 2014 goes to Enervent EnergyBus

Ensto Innovation Award is an annual Ensto internal global innovativeness contest open to all Ensto people. This year's winner of the EIA Trophy, Enervent EnergyBUS, is a solution for total energy efficiency in indoor climate. Excess heat or coolness in the building is stored in an energy bank and used at demand at another time. Thus the need for purchased energy is minimized. The warmed water in the tank can be used for heating or as domestic hot water. EIA jury praised the winning solution particularly on its holistic view and unparalleled energy efficiency.



Enervent EnergyBUS solution

Green as a Moral Obligation

France's Ambassador to Finland, Serge Mostura, spoke to Ensto Today *about the nexus of energy and diplomacy.*

Scott Diel *Patrick Stycz*

What are the basic keys to being a good partner for France and French enterprises?
The two countries have in common a strong national emphasis on the importance of education and training, especially in math and engineering. And in France just like in Finland economic competitiveness is seen to be based on innovation and quality rather than on cheap products. On top of it, Finnish companies have a good reputation in France for being responsible employers, open to dialogue and having a good sense of organization.

Does the French way of working combine well with the Finnish way of working?
There certainly are some differences in the way of doing business but nothing spectacular. It's more the kind of minute adjustment you have to make when you meet a good friend you haven't seen in a long time. If I were to give some advice I would only say to a Finnish businessman "Be ready to talk," and to a French businessman "*Be ready to read*"!

Is France still engaged in actively diminishing fossil and carbon consuming energies, as well as developing solar, biomass, and wind in addition to its nuclear energy?
In October 2014, the French Parliament started the discussion of a draft law entitled "Energy Transition for Green Growth." This law – it should be formally adopted at the beginning of March 2015 – will list targets, figures and dates: reduction of our overall energy consumption (down 50 percent in 2050), reduction of greenhouse gas emissions (down 75 percent in 2050), reduction of the consumption of fossil fuels (down 30 percent in 2030) and increase of renewable energies (32 percent of total energy consumption in 2030).

Nuclear energy will indeed remain significant in this new energy mix, close to the new Finnish mix, actually, as about half of the electricity used in France 10 years from now should come from nuclear reactors.

Do you see a way for Finland and Ensto to play a role in France's energy transition?
Many Finnish companies could be of great assistance in implementing this strategy as Finland is a leading country in terms of use of renewable energies, especially biomass, which will be developed in France, too.

This new law shall also provide opportunities for "green economic growth" which could be of interest for Finnish companies. For instance, the French administration should start replacing its old cars by new "clean cars" (electric or not) in 2016, and all buildings in France will progressively become low-energy-consumption buildings by 2050. New technologies have to be developed, some of them will have to be improved over the years, and thus there definitely is a new market opening for engineers' skills.

Investments from the private sector will be also needed. Ensto, which proposes for example solutions for electrical cars or for smart grids, will have certainly a role to play.

Read the full text of this interview at Ensto Today *online, www.EnstoToday.com.*

Ensto in FRANCE

As the Ensto family expands in France, its challenge is to be international and French at the very same time.

Scott Diel *Shutterstock*

"We are a one-hundred percent French company in France," says **Timo Luukkainen**, President and CEO of Ensto, of the company's philosophy when it comes to doing business abroad.

Three years ago, Ensto was named the best foreign company in Southern France by the Chamber of Commerce for Southwestern France. "What a great credit to our team," says Luukkainen. "Their spirit is so positive that it got acknowledged."

That spirit has paid off: increased sales and bottom line results have followed closely. Since entering France a decade ago, the number of employees has doubled to over 300, and France is now the second biggest overall market for the company after Finland.

First steps

Ten years ago Ensto made its first investment in the region, purchasing a French family company that manufactured products that used EnstoNet components. Originally, this company served as an extension of Ensto's export business.

Five years ago Ensto decided to take a larger position in the market. "We analyzed the general situation and decided what we wanted to improve upon," says Luukkainen.

Ensto wanted new technologies in intelligent networks and smart grids, plus an industrial base in a big home market. Novexia fit those requirements. Not only did it have advanced technology in network automation, but it was a profitable company with Europe's biggest energy company, EDF, as its client. "Acquiring a profitable company," says Luukkainen, "gives you the confidence to keep investing."

Ensto: more French than you realize

In the past four years, Ensto Novexia sales have grown significantly. "We had a bit over 20 million euros in turnover in 2010 and we're looking at over 40 million in 2015," notes Luukkainen.

Ensto Novexia has opened new markets in Sri Lanka, North Africa, Latin America, and network automation product offerings are being expanded to the UK.

Today, combined turnover for all Ensto companies in France is around 60 million euros.

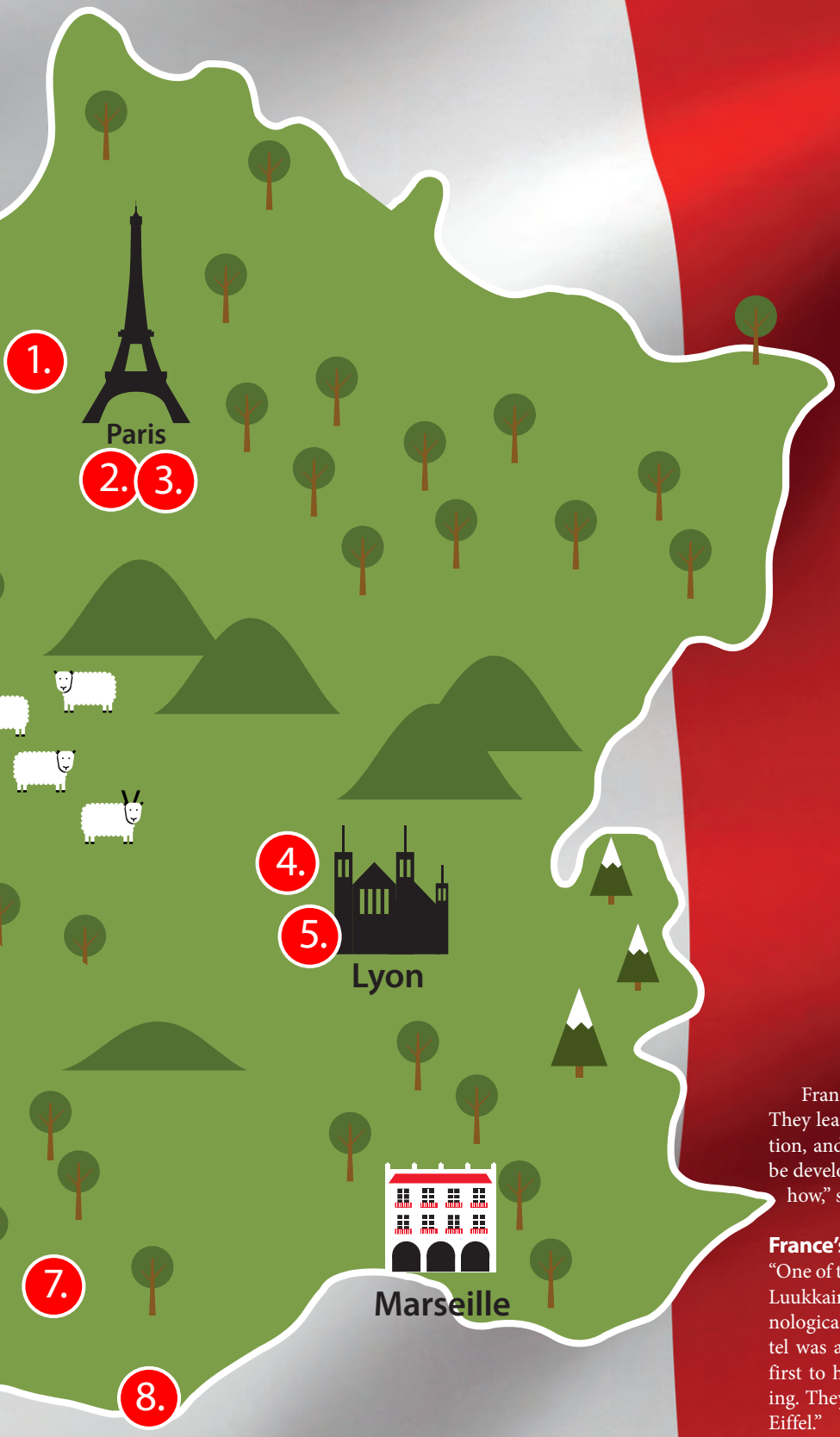
Additionally, of Ensto Group's top 10 customers, half are French owned. Ensto is more closely linked to France than most would realize.

Vive la différence

France, despite its multinational economy and omnipresence in world markets, is not a culture where English is embraced.

"No one in France speaks English," an *Ensto Today* writer heard more than once on his trip, despite the fact that Ensto employees speak very proficient English. This was the Gallic way of saying they prefer bad French to less-than-perfect English.

In addition to language differences, since the time of Louis XIV, the state has played a more prominent role in commerce than in northern European countries. Tax legislation differs, with France offering incentives to attract innovative companies. "The government has made it very attractive to bring R&D to France," says Luukkainen. "This wasn't primary for Ensto, but it's highly appreciated."



Our local presence in France

1. **Vernon**
   - Production and sales of solutions for distribution of electricity, voice, data and image
   - Personnel of 40
2. **Vanves** (Paris)
   - Sales of utility network automation solutions, OHL and UG products
   - Personnel of 3
3. **Bagneux** (Paris)
   - Sales of electrification solutions and accessories: EV charging, workpoint, heating and lighting
   - Personnel of 23
4. **Villefranche-sur-Saône**
   - Sales, marketing, R&D and production of utility network automation solutions, OHL and UG products
   - Personnel of 112
5. **Lyon**
   - Sales and marketing of electrification solutions and accessories: EV charging, workpoint, heating and lighting
   - Personnel of 2
6. **Bagnères-de-Bigorre**
   - R&D and production of utility network automation solutions
   - Personnel of 30
7. **Toulouse**
   - Sales and marketing of electrification solutions and accessories: EV charging, workpoint, heating and lighting
   - Personnel of 2
8. **Nefiach**
   - Production of prefabricated electrification systems and cable management systems
   - Personnel of 60

France is an important product development center for Ensto. They lead the company with their expertise in network automation, and the electric vehicle charging business will continue to be developed in France. "France is a real base for strategic know-how," says Luukkainen.

France's number one fan

"One of the great strengths of France is its engineering base," adds Luukkainen, who easily rattles off a list of some of France's technological achievements. "They have the best fast trains, the Minitel was ahead of the internet. In 1957, the Citröen DS was the first to have power brakes and hydraulic suspension and steering. They had the Concorde, the construction genius of Gustave Eiffel."

Luukkainen is no ordinary Francophile. He's also a francophone. Having studied French at school at a young age and having lived and worked in France for 15 years, he is fluent in the language and maintains a home there. The absence of a cultural barrier, notes Luukkainen, also gave confidence to Ensto's board to decide on expansion in France.

"The reason Ensto went to France is not because I love oysters and France in general," he says. "But it helped."

Today's Order Delivered Yesterday

Combine extrusion and plastic injection molding in one facility. Add amazing human reactivity. This is part of the secret of success at Ensto's Néfiach plant.

Having production facilities for both extrusion and injection molding in the same factory is not common. It gives Ensto a significant advantage.

"For office equipment we can produce everything," says **Jean-Marc Uria**, Production Manager at Ensto's Néfiach plant.

Over one million pieces per month

The factory runs four extrusion machines and 10 injection molding presses. Altogether, the factory produces about 500 different products each month for Ensto Workpoint electrification line, including ducts and poles in plastic and aluminum, plus sockets and socket boxes. This amounts to 180,000 meters of trunking and between 900,000 and 1,200,000 injected pieces per month.

"We consume about 80 to 100 tons of PVC in a month," notes Uria. "In plastics we run three shifts per day, Monday through Saturday."

But all that machinery and labor is not dedicated to a routine of stuffing a warehouse with goods. Néfiach's production is highly reactive and often custom.

Incredibly reactive

"For office equipment we can produce everything," says Uria. "We are incredibly reactive. Even located 800 kilometers from Paris, any product can be delivered in 24 hours."

By "any product" Uria means just about anything you could want. His team has made six-meter long socket poles from aluminum, when competitors make only

> *"We are incredibly reactive. Even located 800 kilometers from Paris,* ***any product can be delivered in 24 hours."***
>
> **JEAN-MARC URIA**, PRODUCTION MANAGER

three-meter poles. They created trunking in 12-meter lengths. They have made circular shaped ductwork.

This kind of flexibility is not as standard as one might think. Ensto's biggest competitors use what might be called the Henry Ford business model: You can have any color you want as long as it's white.

But the Ensto Néfiach plant actually will make any color you want. One impressive example: Ensto made trunking in Coca-Cola red for the beverage company's office.

The electrical contractor's worry

While competitors generally deal with wholesalers, Néfiach does a big part of its turnover directly with contractors. And the electrical contractors are not mom and pop affairs, either, but can be huge businesses, handling jobs like sports stadiums and television towers.

"The electrical contractor's worry is how to manage time," says Uria. "We can produce in any size so that he can work faster and more efficiently and win time."

Custom work is more easily said than done, and the process isn't something easy for competitors to replicate. Extrusion is sometimes likened to an art, and Uria has been with the company since 1993. Over that time, he's built up a team of 30 professionals.

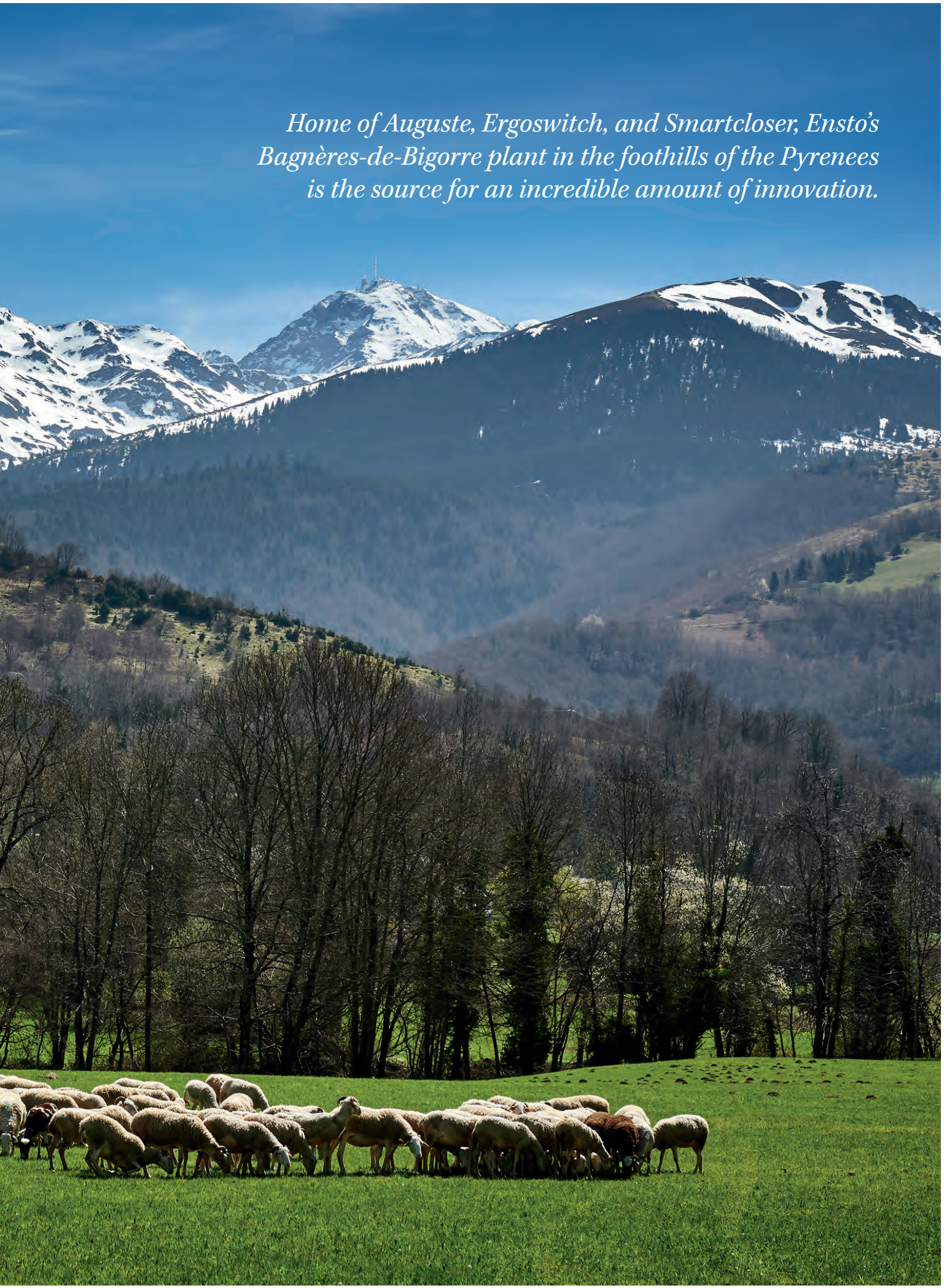
Shipments and logistics are also handled directly out of Néfiach, managed by Uria and Logistics Specialist Laurent Doisneau. The logistics operator making one additional check before goods are delivered to customers means one more advantage.

Uria likes to say that "Customers order today for delivery yesterday." While doing exactly that may prove challenging, Ensto may come the closest in the industry.

Small Town, Big Ideas

Ensto's Village of Innovation

Scott Diel *Kaupo Kikkas*



Home of Auguste, Ergoswitch, and Smartcloser, Ensto's Bagnères-de-Bigorre plant in the foothills of the Pyrenees is the source for an incredible amount of innovation.

Jean Paul Viau and Nicolas Jacomet.

If an engineer can dream it, Jean-Pierre Gaye can make it. Gaye has created all of the Auguste prototypes and is a master of the machine shop.

Jean-Michel Nangniot and Luc Duc.

The Wizards of Bagnères-de-Bigorre. The people on these pages are the innovators who bring Auguste, Ergoswitch, and Smartcloser to life. Michel Delmas, Jeremy Cobos, Alexandre Maury, Nicolas Jacomet, Patrice Guiraud, Patrick Gea, Thierry Demange, Jean-Michel Nangniot, Alexandre Fontbonne, Frédérique Sanchez, Margareth Fernandez, Katia Guerin, Olivier Doumenc, Stéphanie Martins, Jérôme Trouiller, Luc Duc, Joelle Martins, Nathalie Peres, Alain Bousquet, Marc Lafaille, Nicolas Dupont, Carole Burnet, Eric Lavigne, Nathalie Dupont, Patrick Mena and Jean-Jacques Vergez.

Perhaps it's something in the water? In 28 B.C. Romans discovered the warm waters coming from Mount Olivet, and quickly a town sprung up. Bagnères-de-Bigorre, now a commune of 8,000 residents, is home to an inordinate amount of innovation: products like Auguste, Ergoswitch, and Smartcloser.

Whatever the reason, Bagnères-de-Bigorre is without question Ensto's capital of network automation, a group of people with amazing spirit dedicated to improving the efficiency of electricity distribution.

Auguste

The most famous innovation is likely Auguste, an overhead load-break switch which uses SF6 gas. Auguste is the fail-proof solution to reconfigure a network in the event of a problem, isolating the faulty section and allowing the maximum number of customers to remain with electrical service.

"We know SF6," says **Anthony Sberro**, R&D Support Engineer for Calculations and Simulations. Sberro is talking about Sulfur hexafluoride, an isolated gas used to reduce isolation distance and extinguish an electric arc. And the Auguste that contains the gas will last 30 years in the harshest climates, which is why Comptoir Algérien du Matériel Electrique et Gazier, Algeria's national electricity provider, ordered almost 3,000 of them produced in four batches to be completed in summer 2015.

In addition to quality, flexibility was a factor in winning the order. "If you want it in red, no problem," says Industrial Manager **Alexandre Fontbonne**. "And although the CAMEG order was huge, we're willing to sell 10 or 20 units, too. We are not dependent on huge quantities." Fontbonne notes that Ensto even has made a version of Auguste for Tatarstan.

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Fontbonne says Ensto was flexible enough to adapt its connector for CAMEG, create installation documents in Arabic, produce an instructional video, and send an Ensto Pro team to Algeria to train 100 installers.

Auguste itself is so versatile that it can be adapted for almost any country. For lower kilovolt networks where it isn't suitable, there is Ergoswitch, sometimes referred to as Auguste 2.0.

Ergoswitch: Auguste 2.0

Since Auguste comes in one range, 36 kV, Ergoswitch was developed for 12 kV networks.

Also an SF6 insulated overhead load-break switch, Ergoswitch embraces ergonomic optimization and reduces the number of essential components to ease installation in the field.

While Auguste mounts vertically and is operated with a lever and telescopic rod, Ergoswitch can be mounted horizontally or vertically and has a horizontal lever operated with a stick and hook.

"For the less-than-15-kilovolt markets you need a more compact switch," says Sberro,"and the market for these products is huge." He says this market is new terrain for Ensto, who has previously catered to customers who want all the options on their switch. "But we're able to add options to the 12 kV product."

Ergoswitch will go to market in January 2016 after independent qualifications are made in summer.

But the team isn't resting. Project Manager Yves Florian, designers Baptiste Sanchez, Christian Lisbani, Alain Chaumette (from Villefranche), with Sberro as support, are currently at work developing a 24 kV Ergoswitch. And of course, there's also Smartcloser, for instance.

Smartcloser

Think of Smartcloser as the circuit breaker in your home, but one made for medium voltage lines. Made for every market in the world, Smartcloser is a gas-free recloser that can open and close lightning fast. Since Auguste is a disconnector which breaks the load, Smartcloser is made to be paired with it.

"You guys are Ensto's mad scientists!" remarks a visiting journalist of the seemingly endless innovation.

"Well, we try," smiles Sberro.

Secrets of innovation?

Bagnères-de-Bigorre is a bit out of the way, located several hours by car from Toulouse. How is so much innovation generated from a locale where human resources are not limitless?

First, tools have been developed which link Bagnères-de-Bigorre in real time to Ensto's other resources. Alexandre Fontbonne developed an elaborate Excel planning tool for the production of Auguste. While only physically in the plant a few times per month, he and Manufacturing Manager **Eric Lavigne** use the tool to monitor CAMEG production in real time, as well as speak every morning regarding other orders.

This process has worked smoothly. After early batches, CAMEG performed visits to the plant to give authorization to ship, but halfway through the process they no longer feel the oversight is necessary.

More people were of course required to meet the CAMEG order. Ensto hired 28 temporary workers, all from within a ten-kilometer radius. "It's all about human resources," says Fontbonne. "If you have good people involved in a project you can accomplish anything."

***"It's all about human resources.** If you have good people involved in a project you can accomplish anything."*

ALEXANDRE FONTBONNE,
INDUSTRIAL MANAGER

‘My product, easy answer’

Scott Diel Kaupo Kikkas

Specialize in the product environment, be flexible, move fast, be the client’s institutional memory... Pascal Pedrinelli demands a lot. But this is what gives Ensto the competitive edge.

What will make the difference to the customer?” asks **Pascal Pedrinelli**.

Pedrinelli is responsible for R&D, manufacturing, and purchasing at Ensto’s Villefranche and Bagnères-de-Bigorre facilities. And despite a business card that reads “Head of Research & Development,” you won’t find Pedrinelli in a laboratory. This is an R&D director whose interest is the customer.

Two mindsets

“If you want to make a difference to the customer you need to be a specialist in your product and your customer’s environment. The customer cannot always make the link between your very good product and his needs. You must work toward making the link: ‘My product, easy answer.’”

Pedrinelli says two different mindsets are critical to serve customers, one for France, the other for export markets.

“For France, we have a very important engineering job to do. We make our product meet specs. After that we get an agreement and a contract. Then deliveries can be planned.”

“But for export markets it means you re-do the story every time. These markets have different requirements, and they may change their mind in two years, due to following the latest innovation or international standards. To serve this market requires huge flexibility on our part.”

CAMEG in Algeria is an excellent example. “The Auguste order was received in June 2014, but we invested three years to get it. The quantity changed three times. You’ve got to stay close, follow, focus, and know the deciding factors of a tender. Know the decision makers. Then you adapt to whatever the final requirements are.”

The institutional memory

Pedrinelli sees a trend of customer decisions being taken later and later, but says this can be turned to Ensto’s advantage.

He sees two reasons for the trend. “First, experienced staff from utility companies retire and are replaced by new people – or not replaced at all. So who can explain the past? The supplier can. Ensto can tell the story of the customer’s network, and why its products will continue to be the solution.”

“Second, budgets get re-prioritized by governments and network automation decisions made later and later. In general, specs change again just before the order. But once the order is taken they want the product right away. Ensto needs to be prepared for this process.”

Positive, Creative, Reactive

To exploit this situation, Pedrinelli uses what he calls the PCR attitude: Positive, Creative, Reactive. “You need to be positive, because the specs, quantities, even the deadlines will change. You need to be creative and reactive, because when the decision is taken, you better move fast.”

“No matter how good you are, you can be lacking something, PCR brings added value, improves customer satisfaction. Following specs is not enough, you need to specialize in the product environment.”

Electric Vehicles: Not Only About Green Anymore

Petri Juntunen

Hardware matters, however Ensto Chago goes beyond to focus on competitive solutions for its customers and partners.

But since hardware answers to parameters defined by the technical specifications, it becomes merely the ticket to the game.

EV charging is more than just a plug distributing electricity. Beyond hardware are services and IT systems: absolutely everything that keep EVs charging.

Ensto Chago provides an array of services beyond hardware: an entire IT system that enables services like technical support, remote maintenance and software upgrading. It's a whole solution that enables an excellent and smooth end-user experience for the EV driver and charging infrastructure owner.

EVs are no longer coming. They're here. Auto manufacturers are offering an ever-growing menu of cars to choose from. And we are reaching the point where the number of EV customers is large enough that to not serve them is to neglect a key customer group. EVs aren't just about being green anymore: they are a serious business.

Some markets have developed faster than others when it comes to EV infrastructure – and this section of the magazine will give you a sampling of what's going on in this field in France. But regardless of where you live and work, EVs are all going the same direction: Up.

Juha Stenberg
Managing Director
Ensto Chago

EVs on the Rise

Kaupo Kikkas

The driver of this Renault Zoe, Bob 66, is one of France's best known electric vehicle pioneers. Bob also appears on the cover of this magazine. Read more about Bob and other EV pioneers at www.EnstoToday.com

Bob 66 is Robert Morandeira, formerly a sound engineer for French television. In retirement, Bob created zoe-bob66.fr, an EV association which offers information, advice, and serves as a political lobby. He has created the "Other Tour de France," a 3,800-kilometer, 14-day EV tour of France, and the Tour d'Europe, a 7,000-kilometer, 16-day event, where contestants cover approximately 500 kilometers per day.


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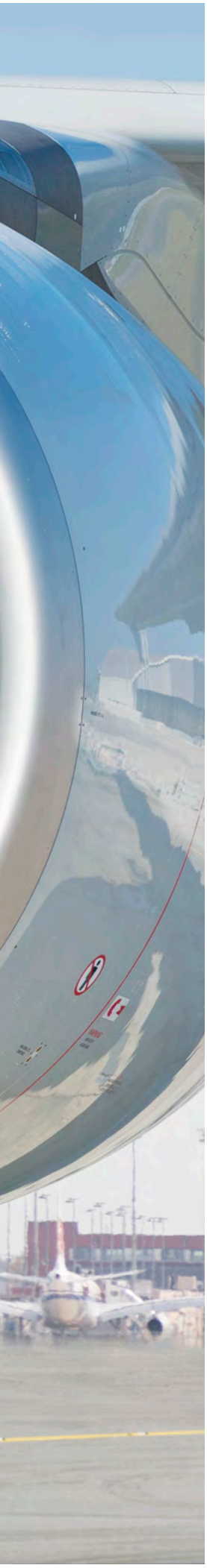

Safran: Green for the right reasons

Scott Diel *Safran, Kaupo Kikkas*

With 69,000 employees and sales over 15 billion euros, Safran is France's largest defense contractor. Safran, its name meaning "rudder blade," is comprised of 11 companies which design and manufacture aircraft- and rocket engines, aerospace components, as well as security products.

Safran is serious about security. A visit to their office in Saclay, the Silicon Valley of France, requires a three-day vetting process and identification checked at multiple points. And this company so dedicated to national security is equally dedicated to sustainable practices.

Green everywhere

"The green approach is natural for Safran," says Project Manager **Jonathan Velmy**, who reels off a list of Safran's green practices.

Safran's lighting is LED and water use is closely monitored to reduce consumption (the reflecting pool uses rainwater only). Ensto socket boxes and lighting systems are used in Safran factories and, taking one more step toward green, and Ensto EV charging posts are being installed at Safran factories around Paris.

Safran needed a sustainable way to transport employees between its five factories surrounding Paris, so it decided to build a green fleet.

After two years of planning and dialogue, Ensto was named supplier for EV charging poles in December 2014 with a delivery time of four months. Visiting in April, all poles were in place, and Velmy, together with Ensto Sales Manager **Jérôme Perdu,** peeled the protective plastic from the stainless steel poles.

Why Ensto?

Safran spends roughly eight billion euros each year through its suppliers, but becoming one means meeting the highest standards. "Ensto was an approved supplier," says Velmy, who is responsible for Safran's EV system from inception to completion. "We'd used them at other sites with very positive results in terms of technology and quality."

"The modularity of the Ensto product made sense for us," notes Velmy. Safran currently has ten EVs plus five charging poles at each of five sites, and modularity enables the growth of a charging structure.

"As Safran expands its fleet, dynamic load management and software management enable them to globally manage the fleet," explains Perdu. This means growth without changing the main power structure and easy addition of features that allow drivers to reserve particular charging poles.

Build it and they will come

Although the poles were originally installed with Safran's internal fleet in mind, Velmy says employees saw them and wanted to charge. The Saclay facility now has poles both indoors and out, so that guests may also charge their cars, proving that leadership in sustainability inspires followers.

As a leader, Safran is exploring technologies to make tomorrow's aircraft engines quieter, cleaner and more fuel efficient, with a target of a 75 percent reduction in CO^2 emissions, a 90 percent reduction in nitrogen oxides, and 65 percent reduction in perceived noise.

But it's at ground level that Safran's commitment is most visible. After having espressos in Safran's cafeteria, Velmy carefully separates wood stir sticks from plastic cups and paper sugar packages. He deposits each in its appropriate bin.

A visiting journalist asks if this careful separation is routine. "We have one waste bin for every eight people in Saclay," Velmy notes. "We just don't like waste."

*All poles were in place, and Project Manager **Jonathan Velmy** (left), together with Ensto Sales Manager **Jérôme Perdu**, peeled the protective plastic from the stainless steel poles.*


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SIEIL
L'ÉNERGIE À VOTRE SERVICE

SIEIL: Electric Leadership

Scott Diel *Kaupo Kikkas*

Imagine if your utility union were also an EV crusader. That's how it is in France.

SIEIL stands for Syndicat Intercommunal d'énergie d'Indre-et-Loire. It also stands for leadership. SIEIL was established in 1937, and it unites 260 cities in France and counts over 500,000 people as its customers.

In France, cities own the cables and lines of electrical distribution systems, but SIEIL is the administrative union. Its mission is to monitor the concessionaires of electricity and gas to ensure quality, reliability, and equal access to energy.

In addition to its supervisory functions, SIEIL plays a key leadership role in the promotion and use of electric vehicles. It has an annual budget of 40 million euros, more than half of which it invests in technology.

Drive Renault, Charge with Ensto

Dominique Ménard, SIEIL's General Director drives a Renault Zoe. **Pascal Balpe**, the organization's Technical Director, drives a hybrid. Both charge with Ensto.

When it comes to EVs, SIEIL knows what it's talking about. The company fleet consists of four EVs and nine hybrids. Currently, 200 EV charging points dot the streets of SIEIL's jurisdiction, France's 37th Department. Before the beginning of 2016, that number is expected to double to 400 and include two new 50-kW fast charging points.

SIEIL's General Director Dominique Ménard drives a Renault Zoe and charges it at Ensto's EV charging station.

Software

SIEIL chose Ensto for a variety of reasons, with software of critical importance. SIEIL has ordered software which can connect and monitor 1,000 poles. Using a tablet computer, or even a smart phone, Pascal Balpe is able to monitor the network in real time. "You see who's charging based on their RFID card, how much electricity they've used. If there's a problem we can react quickly – a maximum time of three hours."

But the chief benefit of the software will be in the future says Balpe. "Now is just the beginning of the story. It's like Google collecting data. We know where the poles are, what kind of cars are connecting, when and how often. This data has huge value."

The software itself is intuitive and simple to use. "A child can use it," says Balpe.

Aesthetics

The two great loves of France, SIEIL General Director Ménard will tell you half jokingly, are wine and paperwork. He means to illustrate how difficult and time consuming the process is of installing a charging pole on a city street in France, cities which are often listed as UNESCO world heritage sites. Ensto poles are aesthetically pleasing enough that they can make it through this rigorous process.

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SIEIL also recently purchased "the wall," Ensto's Chago product which features two charging poles with an information screen between them. The screen won't be used for advertising, but rather for tourism management: to highlight all the UNESCO treasures. There will be information about the Loire valley, location of bicycle roads, where to drink wine, visit castles. The first wall will be installed in Chinon, home of the president of SIEIL, **Jean-Luc Dupont**, who is also Chinon's mayor.

Multi-use

In building an argument to place a 21st century charging pole in a village with history dating back to the fifth century (as in Chinon), it's helpful if you can go beyond pretty.

The idea of the coffre marché came from France's first love: wine. Ménard, Balpe, and Dupont, drinking wine from Dupont's vineyard, experienced a Eureka moment where someone asked, "Hey, why doesn't something like this exist?"

The "something" in this case was a "coffre marché," a market box, which could be connected to an Ensto EV charging pole in order to provide eight 16-amp sockets and two 32-amp circuits for market vendors. This would save municipalities the expense of hiring an electrician anytime the village hosted a market or threw a community party.

"When you put something on the street the object should have a minimum of two uses," says Balpe. "This is not a law, but rather a mindset of SIEIL."

"SIEIL dreamt it and then asked Ensto to develop and patent it," says Ensto's Sales Manager Jérôme Perdu. So far 50 units have been manufactured. At the moment, SIEIL gives them free to villages who request them, but an economic model for it is in development.

'We see the growth'

While in many parts of France EVs are yet to take hold, the 37th Department sees them not as the future but the present.

"We see the growth," says Balpe. "Two years ago, there were 16 EVs in the department. One year later we had 37 more. This year there are 97 more EVs. We've given out 400 RFID cards, and 30 percent of card users don't live in the union's area."

What works well is popular. In France, goods made in Finland have a similar quality reputation to goods made in Germany. Says Balpe: "When you use this product in Finland with a lot of snow, and minus-40 temperatures, then you can be sure it will work well in France."

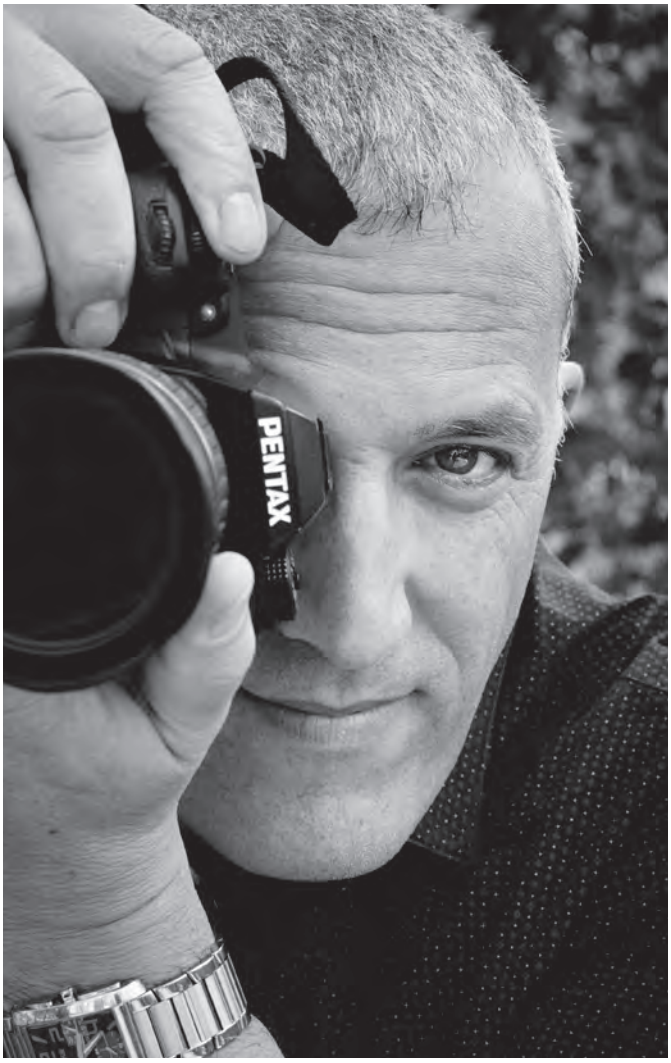
It's worked so well that there is a Tesla driver who's brought local fame to Ensto. The driver finds Ensto poles superior to the Tesla system and likes to stop along his journey and charge in the 37th department. "It's in the small village Perrusson," says Ménard of the 1,500-population commune. "So he really stands out!"

The Market Box

If you throw a grand party in the village square, invite the whole town, it would be nice to have electricity. But before the Coffre Marché, the market box, an electrician had to be hired to install temporary sockets.

The market box enables the instant conversion of an Ensto charging pole to eight 16-amp sockets plus two 32-amp circuits. This can power a small farmers' market, or supply all the electrical needs of a community event.

The need was identified by SIEIL's management team, and Ensto was asked to design, manufacture, and patent the device. The market box is an attractive product for Ensto's portfolio, but in the bigger picture it serves as a good argument for Ensto poles. Not only do you get an aesthetically pleasing device, but the charging pole actually helps bring the community together.



Meet Marc Barrancos

Ensto Product Management Assistant and photographer.

Portrait of Marc Barrancos by Kaupo Kikkas.

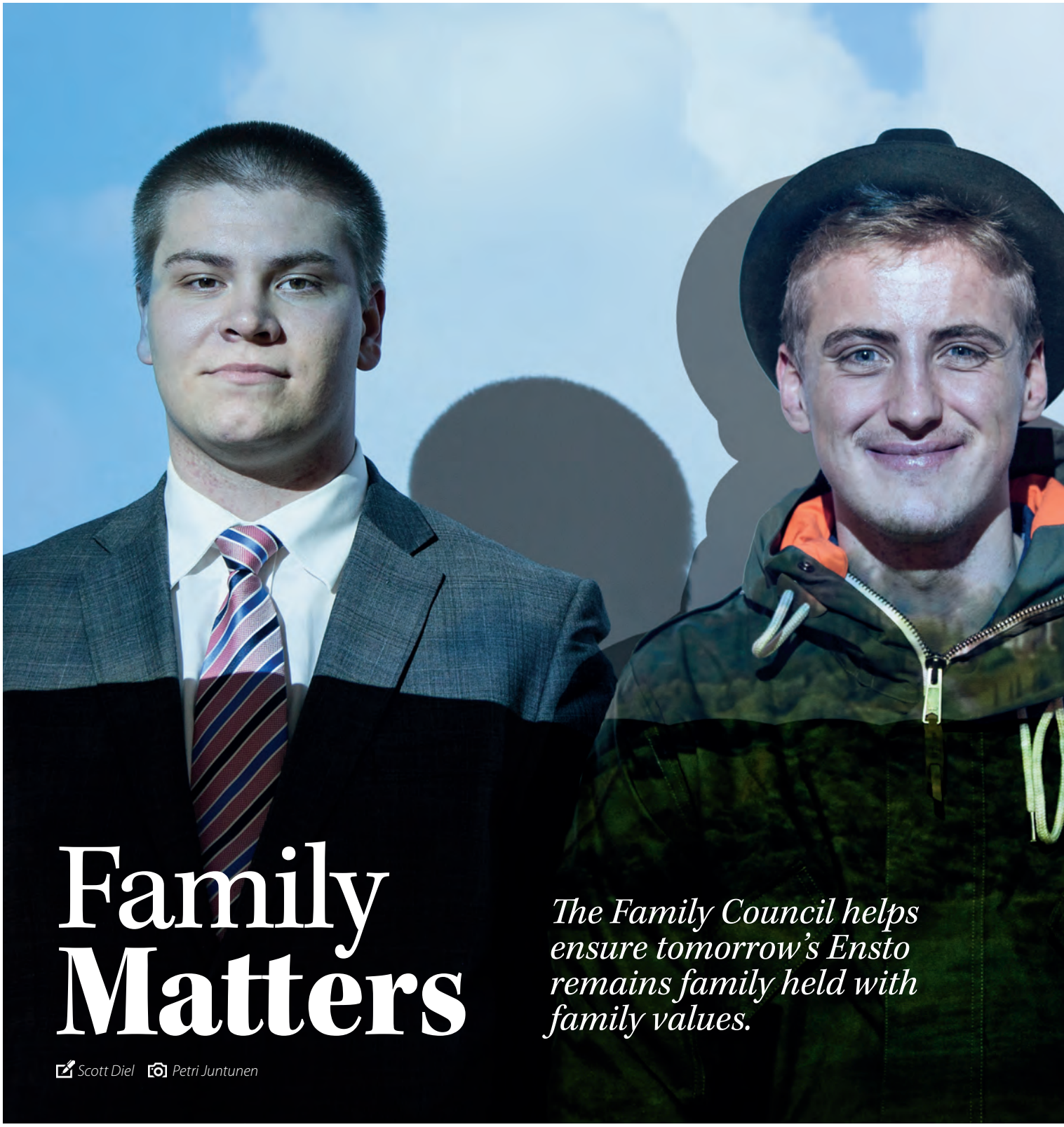
Tell us about yourself.
I'm a Product Management Assistant at Ensto in Néfiach since 1992. I've been taking photographs since I was 17 years old. My first camera was 24 x 36 format, which I carried on trips into the Hautes Pyrénées.

What attracts you to photography?
For me the size or technical potential of the camera is not important. What's important is to feel, think, and see. Henri Cartier-Bresson said that to take photographs means "putting one's head, one's eye and one's heart on the same axis."

Is there a particular style you like?
I like all photographic styles, including monochrome, macro, and long-exposure. For me, a photograph is a way to communicate a feeling to those who look at your image, just as you might get standing in front of a painting.

You've talked about a photography contest for Ensto employees. How would that work?
Ensto could name the topic and employees from all over the world could interpret it with a photograph. We could share the photos, have a jury review them. It's an event that would allow Ensto employees everywhere to share what they feel, think, and see.

Barrancos has created a virtual book (visit: marc-images.bookspace.fr) where some of his images may be viewed.



Family Matters

The Family Council helps ensure tomorrow's Ensto remains family held with family values.

Scott Diel *Petri Juntunen*

Ensio Miettinen's nine grandchildren grew up together, but as young adults they pursued their own lives and projects. Reaching their twenties, something beyond blood ties brought them together again: they began to think about the future of the company their grandfather created.

The seed of the Family Council was planted a decade back, say Ensio's grandchildren. "Ten years ago we were just spending time together and getting to know one another," says **Iida Miettinen**, daughter of **Timo Miettinen**.

Several summers ago the grandchildren were gathered at Marjo Miettinen's summer cottage. Their discussion circled around to the family business, and they all reached the same conclusion. "So we took a photo of all of us," says Marjo's son, **Lari Raitavuo**, "and we sent it to Marjo with the message, 'We want to continue EM Group as a family business.'"

Part business, part social

And so the Family Council was born. Meeting two to three times each year, the agenda of EM Group's third generation is part business and part social. To learn the business, they may visit factories or be briefed on the business by active managers.

The Youth
interviewed for this article

Lari Raitavuo, b. 1993

Lari (left in the picture) is the son of Marjo Miettinen. He has a QBA-degree and is currently studying real estate management. He currently works as a trainee on real estate projects for EM Group and has worked as a trainee in a variety of departments at Ensto. He's also working to create a digital archive of Ensto's historical materials.

Mikki Valsta, b. 1993

Mikki is the son of Anu Miettinen. He currently studies at Metropolia Business School toward his B.S. in Business. He has worked as a trainee in Ensto's logistics department. Currently Mikki works as summer trainee at Enervent.

Iida Miettinen, b. 1988

Iida is the daughter of Timo Miettinen. She recently completed her Masters in Economics with a major in marketing. She has worked at different departments at Ensto, most recently in Marketing Communications in the Ensto Building Technology business unit. Currently she is Project Manager at Santa Claus Licensing and Partner at Sewatek Oy.

The grandchildren, whose ages run from 15 to 34, are involved in the business to varying degrees. Many have held internships with group companies, frequently in Ensto, doing everything from working on assembly lines and in warehouses to serving in the marketing department. Currently, a few are employed full time with Ensto. And to gain the bigger picture perspective, a few have also taken board seats on some of the other companies owned by EM Group.

When the Family Council meets, even getting to know one another might be interpreted as business related. Members of the third generation are fervent believers that in order to effectively run a world-class organization, the owners must be very good at working together, and also agree on basic values.

"We all share the same values, though not necessarily the same vision," explains Iida.

"I think developing our team of nine is very important," adds Lari. "Because when we have a small manifest of core values…"

"We can grow those values together," says Iida, completing his sentence.

continued ▶

Actions and consequences

Those values are sustainability, green thinking, and "being responsible with a big R," as they characterize it. So what's Responsible?

Mikki Valsta, son of **Anu Miettinen**, offers an example from outside Ensto. "Patagonia is a Responsible company. They try to decrease their carbon footprint. They are aware, and they're thinking about actions and consequences."

Family is another value the Council agrees on. Although it's too early for formal plans, the third generation knows for certain they want to be involved, and that they want to keep it in the family.

All in the family

Certainly, a family-held company means not always being beholden to quarterly results. It means more freedom to play the long game. And it also permits the continuation of the employee relationships that Ensio Miettinen began.

"Ensto has awesome people," says Mikki. "They really take you in." He recalls seeing the relationships Ensio had with employees - even in retirement. "My grandfather knew the names of people in the factory. He made it a point to know something about their lives."

Perhaps most importantly, the decision to continue EM Group as a family business is the third generation's own. "We just kind of grew into the decision to keep it a family business," says Iida.

"Nobody's pushing us," says Mikki. "We came to it naturally."

"But," concludes Lari, "our parents are very supportive."

The Parents

Timo Miettinen

is an owner and member of the Board of Directors of EM Group Oy.

Marjo Miettinen

is an owner and member of the Board of Directors of EM Group Oy. She is also Chairman of the Board of Directors of Teleste Oyj and member of the Board of Directors of Efore Oyj.

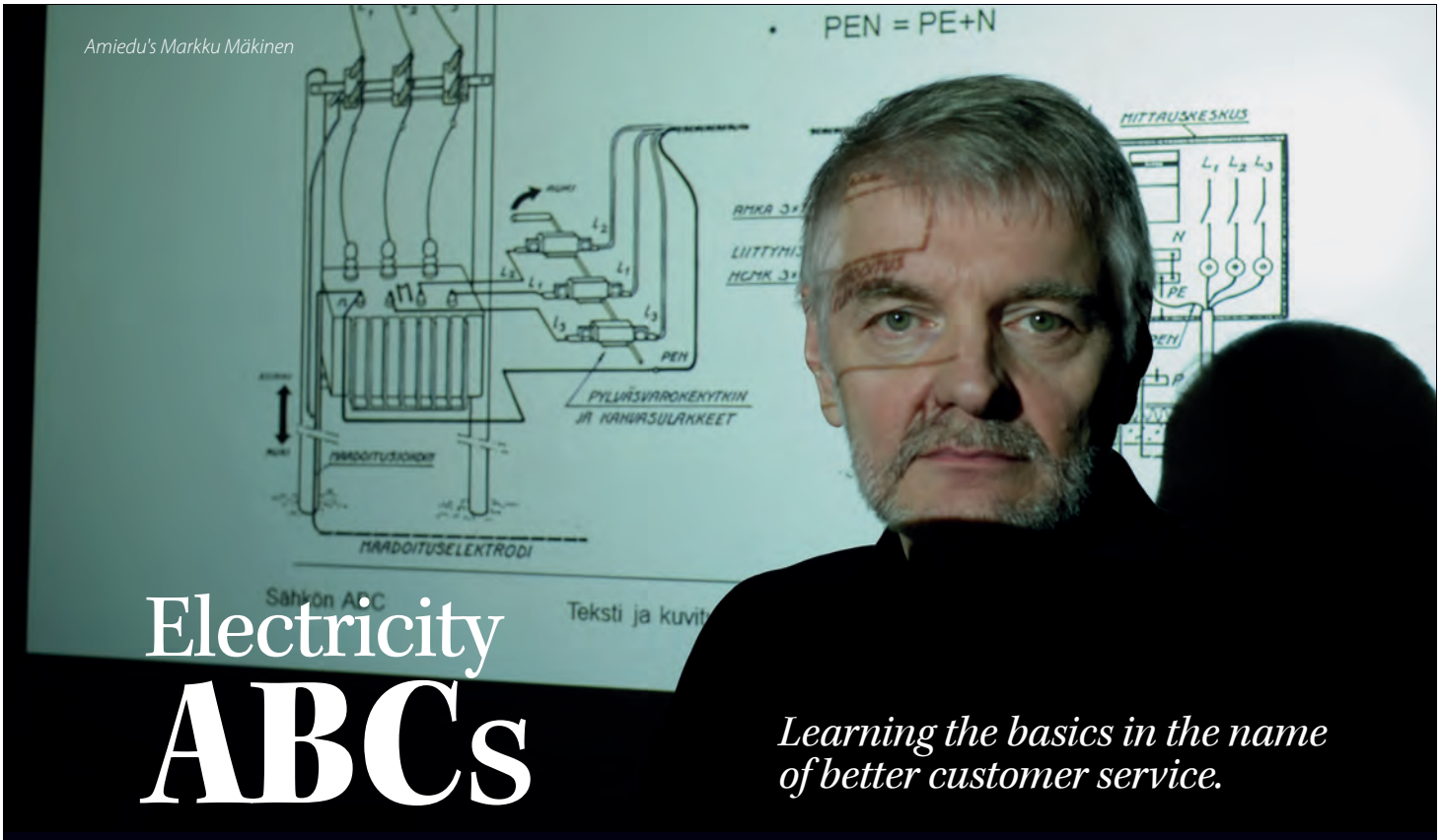
Anu Miettinen

is an owner and member of the Board of Directors of EM Group Oy where she is responsible for HR and communications. She is also a practising psychotherapist at Intotiimi.

Taru Kokkomäki

is an owner and member of the Board of Directors of EM Group Oy. She also works at the EM Group office.

Family Council members at get-together in 2014. Back row from left to right: Iida Miettinen, Emilia Valsta, Mikki Valsta, Matias Oksanen (not a full member until he turns 18 in 2017), Lari Raitavuo, Jenni Raitavuo, Noora Miettinen. Front: Anna Miettinen and Samu Raitavuo.



Amiedu's Markku Mäkinen

Electricity ABCs

Learning the basics in the name of better customer service.

Scott Diel Ensto

Relax: you won't be tested over this. Whose law states that the current through a conductor between two points is directly proportional to the potential difference across the two points?

Graduates of Electricity ABCs, a basic course on electricity, know the answer. And an increasing number of those graduates work at Ensto.

Better customer service

The course is six full days spaced over roughly 12 weeks, and it's designed for those who work in the industry but don't have technical backgrounds.

Like **Jenni Tiili**, Team Leader in Ensto's Domestic Customer Service. "I'm taking the course because I want to be able to answer some questions myself, without having to immediately send customers to technical support."

"I want to get to know the basics of overhead lines and networks. If I get a customer inquiry it's important to know what kilovolt lines we have," adds Sales Manager **Tarja Martinmäki**.

Sirpa Lund, Technical Writer, also finds direct application. "I write product manuals for customer use – EV charging, heating system controls – and I want to make more professional instructions. I'm here to both update old knowledge and acquire new."

And theory too!

The course was created by Team Leader **Kai Hämäläinen** and teacher **Markku Mäkinen** from the Finnish adult education company Amiedu. Mäkinen holds degrees in both electrical engineering and adult education. "I offer both disciplines in one package," he jokes.

A sense of humor helps when the subject is not so simple. "Students' biggest fear is electrical theory," says Mäkinen. "Ohm's law and Kirchoff's law are difficult, but we can handle it."

Bringing the mountain to Muhammad

The course was originally taught in Helsinki, Finland, and someone with Ensto's HCM department took the course and was pleased. "So we decided to bring the course to Ensto," says **Nanna Sundman**, who worked in HCM at the time, and is now Group Customer Service Manager.

Thanks to HCM, no one needs to go to Helsinki: employees need only walk across the parking lot. Since the first group taught at Ensto in autumn 2014, about 14 employees have taken the course.

Answers

If you'd like to dazzle your friends at parties (or test the engineer in the cubicle next to you), the answer to the question posed in the first paragraph of this story is Ohm's Law.

But the information is useful for more than that, says **Lilli Nieminen** in Customer Service. "It's actually useful in daily life. If you build a house, it's helpful to know these things."

Ensto's Sirpa Lund, Nanna Sundman, Katariina Patey, and Minna Vesala.

For Safety's Sake

Everyone is benefitting from a growing consciousness about safety in India.

Scott Diel *Indian Oil, EsselWorld*

As India's economy grows and the nation occupies an increasingly prominent place on the international stage, issues of safety are growing in importance to the citizens of this nation of 1.2 billion people.

Manish Sharma, Ensto's Sales Manager of enclosing solutions for India and Southeast Asia, sees this desire for safety manifesting itself in increased demand for products Ensto manufactures and sells.

"In the past people weren't aware of safety standards in electrical installation," says Sharma. "Outdoor installation was often not distinguished from indoor installation. But now site engineers are quite interested in having the right products."

Extreme – Indian style

Given Ensto's Finnish roots, "extreme" is often associated with cold. But India represents the other end of the extreme spectrum. In India, for example, 45 degrees Celsius is the norm, with some places reaching highs exceeding 50 degrees.

"For India's conditions you really need something that survives for a longer time, can handle the heat of the sun and the rainy season, too," says Sharma. "Metal enclosures don't survive long-term outside. After a while the boxes rust and corrode, and the electrical circuits come out. When that happens they're simply no longer safe, and the entire metal box can hold an electrical charge."

This has led to the popularity of engineered products like Ensto's thermoplastic enclosures.

Safer thrills

One client to insist on international standards and the highest quality products has been India's largest amusement park, EsselWorld, located in in Gorai, Mumbai, with nearly 100 rides and a park covering 64 acres.

The park is replacing old, metallic enclosures. "Since it's also a water park, they were quite particular in their need for safety," says Sharma.

"EsselWorld needed a solution for the protection of sensitive electronics outdoors. But they also value aesthetics and Ensto's refined design fits well with the theme park's modern approach."

EsselWorld has placed a large order with Ensto for Ensto Cubo S and D outdoor lighting junction boxes. Since the park is open year round, only a few rides at a time can be shut down for renovations, so a solution was needed that was easy and quick to install.

The enclosures are also used in applications such as cable junction boxes used for garden lighting covering the huge landscape.

Safer motoring

Another to choose Ensto is Indian Oil, India's largest oil company, and ranked 96th in *Fortune*'s "Global 500" listing.

The company operates over 20,000 petrol stations across India. For its 5,000 stations located in Western India, "extreme" means not only high temperatures, but dust and water quickly reducing the life of electrical equipment. And human safety is also of great concern at petrol stations where electronic instruments need to be protected from surges.

Indian Oil has ordered 2,000 Ensto Cubo O enclosures to house surge arrestor devices. "Ensto Cubo O is the solution since a normal enclosure cannot guarantee protection for these devices," says Jasjit Singh, Ensto's Sales Manager of industrial solutions for West India, who expects the enclosures will eventually be installed in all 5,000 Indian Oil stations in Western India. Ensto's Distributor, Dodia Electricals, and the electrical contractor, Multi Connection Systems, also played a key role in convincing the end customer to choose Ensto.

A safer India

A newly industrialized and safer India is about more than just one amusement park and one oil company. It's a shift in consciousness that will benefit all involved, including Ensto, its customers, and, above all, the citizens of India.

"Awareness about safety is coming to India, and people are more vigilant," says Sharma. "It's all about giving importance to human life."

India's largest amusement park, EsselWorld.

Ensto client Indian Oil is ranked 96th in Fortune magazine's *"Global 500".*

The Water Girl

Women and children spend 140 million hours a day collecting water. Lack of fresh water is one of the key challenges developing societies have.

Mari Häyry *Plan International*

When there's no access to clean water at home, families in Timor-Leste in Southeast Asia have to go to great lengths to source a safe supply – and the responsibility often falls to young girls, like nine-year-old **Ludivina**. Now, thanks to a simple water pump from the charity Plan International, the young girl has the opportunity to transform her life.

Ludivina and her family live in a small village in the mountainous district of Timor-Leste. Their income comes from selling home-grown vegetables. There's no extra money to spare, and everyone in the family has to pitch in and help.

By losing up to three hours per day collecting water, Ludivina missed out on playing with her friends, studying and attending English classes after school. It had a physical toll too. "After collecting the water I had to go to school, but I felt tired in the classroom," she says.

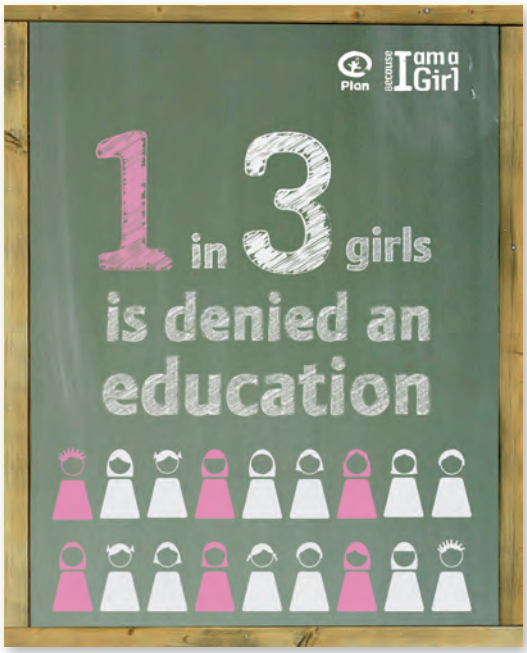
The family's inability to access clean water impacted all aspects of Ludivina's life, from her ability to finish school to finding future employment. According to Plan International's Because I am a Girl campaign, when girls drop out of school, there is a higher chance they will marry and have children before they are ready, trapping them in a cycle of poverty.

Clean water is one of the basic rights

Now, Ludivina's burden has been lessened thanks to a new water pump, which was recently installed with the support of Plan's Right to Clean Water and Sanitation Programme.

The water tap is having a huge impact on Ludivina's and her family's life. Now, they have water for cooking and cleaning and they can tend to their vegetable patch.

"Safe access to clean water is essential, yet many families around the world are still missing out on this basic right," says **Hilda Winartasaputra**, Plan International's Regional Water, Sanitation and Health Specialist in Asia. "Children will also benefit from being able to drink safe water and wash their hands with soap after going to the toilet, which will reduce the risks of getting diarrhea, enabling them to study better".



ABOUT Plan

Founded over 75 years ago, Plan is one of the oldest and largest children's development organizations in the world. Plan's work is independent, with no religious, political or governmental affiliations. Plan has activities in 51 developing countries across Africa, Asia and the Americas to promote child rights and lift millions of children out of poverty. It has 21 national organisations responsible for raising funds and awareness in their respective countries.

www.plan-international.org

ABOUT Because I am a Girl

Because I am a Girl is Plan's campaign to fight gender inequality, promote girls' rights and lift millions of girls out of poverty. The campaign is calling for:

- girls' education to be prioritized by world leaders
- girls' completion of a quality secondary education to be a major focus of international action
- funding for girls education to be increased
- an end to child marriage
- an end to gender-based violence in and around schools
- girls and boys to participate in decision making and inspire those with power to take action

Ensto supports Because I am a Girl

Ensto has supported Plan International's Because I am a Girl Campaign since 2013. "We are proud to be part of this campaign. Taking care is one of the four focus areas in our corporate responsibility work and the Because I am a Girl campaign is one way to make this work concretely. Equality of genders is the necessary foundation for the creation of sustainable and peaceful societies," says **Timo Luukkainen**, Ensto's CEO.

Ensto Ex
Local Control Stations

Our explosion protection enclosing solutions are comprehensive and widely configurable. Reliable in use and convenient to install, their overall quality provides cost efficiency, and most of all, increased safety of your employees and equipment every day. Our explosion protection offering now comprises Ensto Ex Local Control Stations. Ensto Ex Local Control Stations include ready-made cut-outs and are equipped with specified operators, such as push buttons, signal lamps, and switch modules. We offer these solutions in stainless steel, painted mild steel and polyester.

Ensto Smartcloser
Remain Powered

Ensto Smartcloser is an automated pole-mounted vacuum recloser. It reduces outage duration and automatically isolates a faulty section of the medium voltage electricity distribution network.

- Withstands the most severe environmental and climatic conditions
- Convenient for all types of networks
- Safe for the environment
- Compact and light

Tino G2 LED
top-class efficacy up to 140 lm/W

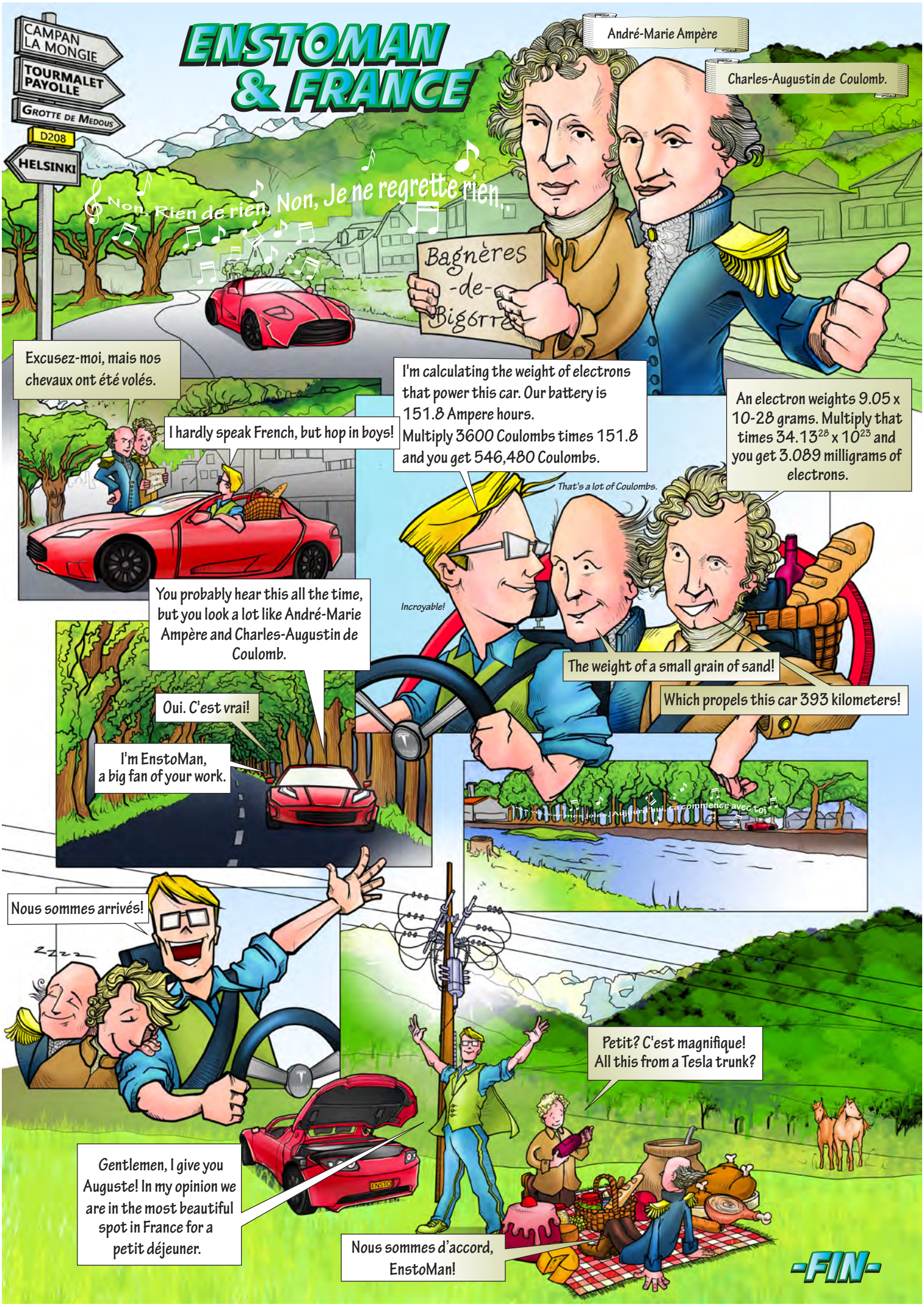
Latest technology, top-class efficacy and easy installation! New Tino G2 LED industrial luminaire for supermarkets, parking halls, industrial sites and logistic centers.

- Efficacy up to 140 lm/W
- Wide range from 5,500 lm to 20,000 lm
- single and ramp versions
- Wide beam and mediumbeam light distribution
- IP44

New fuse base for street lighting
Ensto LFB16-R

Our new LFB16-R is a small, robust and space saving fuse base for street lighting. It will not only save space but also installation effort. LFB16-R was designed in close cooperation with customers - our goal was to create the best fuse base on the market! Thanks to its compact size, the fuse base is really installation-friendly and it can be easily fitted inside a streetlight pole. Even the cable insulation stripping length is indicated on the product.

More information about Ensto's products on **www.ensto.com**


ENSTOMAN & FRANCE
CAMPAN
LA MONGIE
TOURMALET
PAYOLLE
GROTTE DE MEDOUS
D208
HELSINKI
Non, Rien de rien, Non, Je ne regrette rien,
Bagnères -de- Bigorre
André-Marie Ampère
Charles-Augustin de Coulomb.
Excusez-moi, mais nos chevaux ont été volés.
I hardly speak French, but hop in boys!
I'm calculating the weight of electrons that power this car. Our battery is 151.8 Ampere hours. Multiply 3600 Coulombs times 151.8 and you get 546,480 Coulombs.
That's a lot of Coulombs.
An electron weights 9.05 x 10-28 grams. Multiply that times 34.13^{28} x 10^{23} and you get 3.089 milligrams of electrons.
Incroyable!
You probably hear this all the time, but you look a lot like André-Marie Ampère and Charles-Augustin de Coulomb.
The weight of a small grain of sand!
Which propels this car 393 kilometers!
Oui. C'est vrai!
I'm EnstoMan, a big fan of your work.
Nous sommes arrivés!
Petit? C'est magnifique! All this from a Tesla trunk?
Gentlemen, I give you Auguste! In my opinion we are in the most beautiful spot in France for a petit déjeuner.
Nous sommes d'accord, EnstoMan!
-FIN-

Food, Wine, Sustainability!

France is known the world over for food and wine. In our business it's famous for its cleantech products, as well. With our energy efficient solutions, Ensto is proud to be a part of this sustainable culture.

ENSTO

Saves Your Energy

www.ensto.com