



COMATEC[®]

news





Editorial

3



VTT – Notified body

4

Valmet and Comatec rely on experience

6



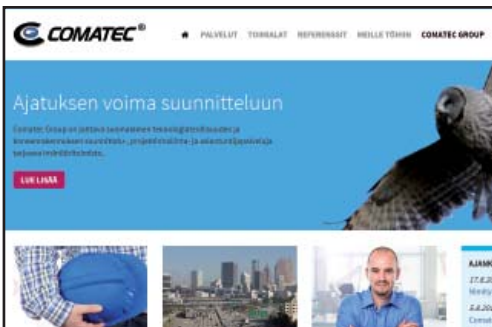
The man behind Comatec's rail traffic expertise
Jorma Nordfors

8

Comatec news

10

- *New website*
- *Trade fairs this year*
- *Appointments*
- *Oucons's 30th anniversary*





Editorial

The forest and the cornfield will in future give us our livelihood

In July, a referendum was held in Greece that was of great interest to the rest of Europe. When the people of Greece voted, did they understand what they were voting about? Using this complex voting procedure the government was just trying to save face. It wanted to buy extra time for its finance negotiations with its creditors and put off decisions on implementing difficult structural reforms in society into the future. Despite the result of the referendum, Greece ended up having to swallow a pill that was possibly even more bitter and submit to the demands of its creditors, to prevent the country sliding into bankruptcy and social chaos.

At the same time Juha Sipilä's government was pushing for a social contract in Finland, challenging labour market organisations to create on a tripartite basis the conditions for a five per cent boost in productivity in order to safeguard the country's competitiveness. Unfortunately they did not succeed in this. Just like Greece we voted to take the harder route. With a social contract we could have strengthened the conditions for creating jobs and boosting business and created a more positive outlook for the future. People did not want this, so the country will take on more debt and continue to shiver in the grips of the recession next year as well. The measures to reduce the national debt should be taken in time to avoid going down the same road as Greece. Let us hope that the government has the courage to make the reforms that are absolutely necessary.

Following the collapse of the social contract, the government has announced that it is taking measures to raise the level of employment and to boost competitiveness. The newspapers have contained examples of the changes to the regulation of employment planned by the government, such as the reduction of paid leave. It is part of healthy parliamentary democracy to listen to the different parties in the labour market when preparing legislation, but these organisations no longer have the right of veto as they used to.

It is also possible to see some good in these developments, as the regulations that clog up working life are being cleared away. Hard

work comes into its own again if there is no money to pay for standing around idle. Those who are working will be able to obtain loans from a bank, but it is unlikely that others will be able to any more. I am also happy that trees grow in Finland's soil and that growing corn, which makes life possible here and is vitally important, is not dependent on share prices set up by people.

The Group is refining its business concepts

We must not allow the problems with the economy and unpleasant business news to discourage us. In the Group we are creating ever stronger capabilities to respond to the needs of our clients in a global market where competition is constantly intensifying.

Firstly, we wish to gain a better understanding of our own operations and development needs. Can we find creative solutions to this within the company? In my opinion, yes, we can. We already have highly qualified, experienced technology experts in our different business segments.

We also have the goal of developing a culture of experimentation in our working community, encouraging innovation, so that we do not simply stick to doing things in the way we have learnt to do them. We cannot expect better results from our work and success in the market if we cling to the culture of the old ways, doing our work as it has always been done. We need continuous learning and development.

Above all, we need to understand the very essence of a customer oriented approach. Clients are the best experts in their own business. Finland's weak competitive standing poses a particular challenge. Because of this we have had to face the reality that we are increasingly developing our business operations together with our clients outside Finland. The Group is currently drawing up a comprehensive plan for international expansion for the period 2016 – 2018.

Wishing everyone all the best for the autumn and the rest of the year.

Aulis Asikainen
Comatec Group CEO

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Cover: VTT Expert Services Oy

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ComatecNews 3

VTT – Notified body

VTT Expert Services Oy has since 2012 been the only Finnish notified body and independent safety assessment body (ISA) for the railways, as stipulated in the EU railway interoperability and safety directives. The area of competence of VTT, which is accredited by FINAS (the Finnish Accreditation Service), expanded to encompass all subsystems and assessments of safety management systems after FINAS completed its accreditation for rolling stock. Comatec Group acts as the expert on rolling stock for VTT Expert Services, under the leadership of Jorma Nordfors, Business Unit Manager, Special Vehicles and Rolling Stock.

AUTHOR: TAINA SYRJÄNEN

The free movement of goods and the people who belong to the community within its area is a basic concept for the European community. To achieve this freedom of movement, it is also necessary for rail services to be compatible throughout the EU area.

To this end it was necessary to create procedures to ensure the technical interoperability of the rolling stock and structural subsystems of the rail systems in the member states of the European Union.

Notified Body

The European Union is not a federation of states but is a union of independent member states. Joint policies are defined in directives, which regulate national legislation. The purpose of the directives is to give guidelines for interoperability.

“Since these are often features that are critical for safety and there cannot be a joint monitoring authority, a system of notified bodies has been introduced to ensure interoperability. Each member state informs the European Commission in the Nando system of the bodies they have that can carry out assessments of interoperability,” states **Matti Lanu**, Vice President at VTT Expert Services Oy.

“If one of these notified bodies states that a product, device or rolling stock complies with requirements, other bodies cannot contest this. This is based on the Cassis de Dijon principle.

“According to this principle, a product that has been legally produced in one EU member state must be allowed without hindrance on the market in other

member states.

“A notified body acts as a third party in cases where there are no standards for demonstrating conformity with requirements or where a matter is so critical for safety that an external assessment is needed.”

CE marking and a declaration of conformity for subsystems and parts of a subsystem to the technical specifications for interoperability applying to track and rolling stock technology usually require examination by a notified body.

The bodies are anonymous. The body carrying out the assessment is recorded by a number, so the assessment report does not directly reveal who carried out the assessment or which country it took place in.

“In the case of VTT Expert Services, competence and independence were assessed by FINAS (Finnish Accreditation Service), and the Ministry of Employment and the Economy informed the commission, on the proposal from Trafi. The Finnish Transport Safety Agency (Trafi) is the government authority in this,” states **Antti Karhu**, Senior Expert at VTT Expert Services Oy.

Technical specifications for interoperability

The technical specifications for interoperability (TSI) ensure that within the EU area rail rolling stock, for example, conforms to national regulations in the different countries.

The directives define at a very general level the requirements such as for safety and interoperability. The requirements

applying to technical details are given in more detail in the technical specifications for interoperability, or TSIs. So the TSIs are in a way like standards that have to be observed in the entire railway system in the EU area to ensure interoperability.

There are technical specifications for interoperability for all the structural subsystems in the railway system (infrastructure, energy, command, control, and signalling) and for rolling stock. VTT Expert Services now carries out assessments for all these subsystems.

Assessment and approval process for rolling stock unit

Jorma Nordfors has created a flow chart for Trafi to illustrate the assessing and approval process for a rolling stock unit, and this describes a much broader process than what concerns the notifying body.

To be able to manufacture a rolling stock series, it is necessary to obtain type approval for the first unit in the series. For this purpose the purchasing unit, which may also be a supplier, places an order with a notified body for a TSI examination. A second order goes to ISA, which is responsible for an independent safety assessment. A Designated Body is responsible for checking national regulations. In Finland the Designated Body is Trafi. These parties produce the documents for the permit application. The notified body produces the EU examination certificate.

The purchasing unit uses the documents it has obtained to apply for type

From left: Jorma Nordfors, Business Unit Manager, Special Vehicles and Rolling Stock at Comatec, and Senior Expert Antti Karhu and Vice President Matti Lanu from VTT Expert Services Oy.



approval, authorisation for placing in service and registration to the national rail safety authority Trafi.

Type approval is needed for the first unit in a series. For the next units a type conformity declaration is all that is needed, and it is not necessary to apply for type approval again.

The authorisation for placing in service is for each rolling stock unit. They also have to be registered with Trafi. These requirements are based on national regulations and are not connected with the operations of a notified body.

The role of ISA in projects

The body responsible for independent safety assessment (ISA) is needed in railway projects in risk management for major changes and in assessments relating to the safety of railway systems.

ISA checks that the procedures for assessing safety and hazards are sufficient and comply with statutes and other safety standards. ISA can also carry out an independent external audit of the safety management systems of different parties in railway operations.

Independence

An assessment of interoperability cannot be carried out by a body that has itself participated in designing an object or that is in some way connected to the object being assessed, either financially or through its organisation. A notified body is an independent third party.

"If you have taken part in the design work, you cannot participate in the assessment. You cannot assess your own work. You might be tempted to cover up your own mistakes," states Matti Lanu.

"You also have to be financially independent of the object being assessed. You also cannot be in a relationship of subordinate to superior, where the superior could influence the outcome. And you must not be in the position of assessing a company in which your relatives are owners.

"Our independence is constantly being checked by FINAS and Trafi.

"VTT Expert Services is the party with main responsibility in technical

assessments of interoperability, since the work is done on the responsibility of our notified body. One of our tasks is to ensure independence before we even start the work," explains Antti Karhu.

Technical expertise

A technical assessment of interoperability requires specialist expertise.

"Of course we also have our own technical expertise, but often it is a case of very specialised knowhow, for example relating to rolling stock. Our partnership agreement with Comatec ensures we have sufficient expertise concerning rolling stock," says Antti Karhu.

"The operations of a notified body are international. A supplier may order an assessment in any EU country, but it is often practical for the body carrying out the assessment to be close at hand. So it is a good thing that this service is now available in Finnish," states Matti Lanu.

"There is a clear need for a notified body here," confirms Jorma Nordfors.

Valmet and Comatec rely on experience

Not long ago the paper industry and machinery manufacturers in the sector went through a period when business was quiet, but now the sector has picked up noticeably. New paper mills are not being commissioned every other day, but there is plenty of work in replacing and upgrading machines in old mills. This situation has had a knock on effect on equipment manufacturers, who are taking on new workers. In actual fact the new employees being taken on are old employees, for example at Valmet's Järvenpää works, which recently took on specialist design engineer Pertti Parkko, who officially retired three years ago.

AUTHOR: HEIKKI HARRI

“The fact is that it takes several years’ experience to acquire an understanding of the general requirements in the sector and specifically a knowledge of the machinery and equipment. Of course we also offer work opportunities to young people, but they have to build up sufficient years of experience before they are really on top of the job. It is the same with the commissioning of a new paper machine. It usually takes 5-10 years before engineering design and commissioning personnel know the machine and the processes well enough to be able to work on their own. We offer experienced, skilled personnel the opportunity to extend their careers and through this to pass on their

knowhow to the younger generation. The company, the individuals concerned and all of society benefit from this,” says Senior Manager **Kari Leminen** at the Järvenpää Works.

One outstanding example is Comatec specialist design engineer Pertti Parkko. He was a long-term employee at Järvenpää, where he started work in 1980. He later moved to Comatec in 2009, but still carries out work for Valmet in Järvenpää.

Parkko – devoted to his field

Pertti Parkko is certainly one of those professionals who have worked in the sector for many years, accumulating

experience that the employer has full confidence in. Parkko began at Järvenpää by learning all about cutters and he spent his first years working with these machines. The 1980s was a busy time for equipment suppliers. It was almost as if new cutting machines were coming off a conveyor belt as they were despatched to customers from Järvenpää, and on top of this old cutting machines were also being modernised. The work was mainly for Finland and Sweden, but there was more than enough to do just in these countries.

Parkko's career at Järvenpää expanded into new areas. He was involved in designing and in managing projects, and learnt on the job almost all there was





The knowhow brought by experience is held in high value at Valmet in Järvenpää. Right: Pertti Parkko, who has 35 years' experience in the sector, and Kari Leminen, Senior Manager, Roll Finishing Engineering at Järvenpää.

to know about the finishing machines needed in paper mills to upgrade base paper. Machines are needed for example for coating, for managing chemical systems, for calendering, rolling, packaging and conveying the rolls to storage.

One special feature in the sector, especially in the 1980s, was the cooperation between the three large Finnish companies. These were TVW, ie. Tampella, Valmet and Wärtsilä. Tampella made board machines, Valmet papermaking machines and Wärtsilä finishing machines. The present works in Järvenpää was originally part of Wärtsilä.

Move to Comatec

Pertti Parkko has been in the sector so long that he has experienced both the ups and the downs in the economy. At one point the China phenomenon emerged in the sector, as companies set up mills in China and closed them down in other places.

The turbulence in the paper industry continued, and at times was very strong,

and then in 2009 Parkko decided to ask if there was a job for him at Comatec. This was soon arranged and this employment still continues. Parkko did not get away from the paper industry or his old work place in Järvenpää – and hardly wanted to. Once again his place of work is located in Järvenpää on the premises of his former employer, now however as Comatec's representative.

“The paper industry and equipment manufacturers in the sector are once again experiencing a reasonable upturn. Although consumption of printing paper is not growing as sharply as in the past, there is an increase in the production of board. Similarly, production of all sorts of specialist products has increased, and this has resulted in so much work to modernise machinery and supply new machines, that we, for example, in practice have full employment,” states Kari Leminen.

“The growth in online sales and the globalisation of markets have sharply increased consumption of packaging board. And a large proportion of the

people in the world are still without toilet paper,” says Leminen.

Full steam ahead at Valmet

The engineering company Valmet was established in 1951, but the company's history contains numerous company acquisitions and mergers of different sorts. Through these the company's history goes back as far as 1797.

At the end of 2013 Valmet was demerged from Metso and became a separate listed company. Today Valmet Corporation is a leading global supplier and developer of technology, automation and services for the pulp, paper and energy industries.

Valmet has more than 400 employees in Järvenpää. Business operations focus on product development, design, sales and marketing of finishing machines and on project business. In addition, Järvenpää offers services for modernising paper and board machines and for servicing these, and is responsible for spare parts and consumer parts for its own products.



The man behind Comatec Jorma Nordfors

Comatec has been involved in developing rolling stock for 20 years; within the company there is also plenty of knowledge and knowhow relating to this demanding field of engineering. Comatec's expertise is based on the ability of experienced individuals to develop themselves and their activities. Professional skills, customer service and trust are the most important factors. One important and experienced man behind Comatec's rail technology expertise is Jorma Nordfors, Business Unit Manager, Special Vehicles and Rolling Stock. Nordfors is also one of Comatec's owners.

TEKSTI: HEIKKI HARRI

For over 200 years, rail traffic has played a significant role in society. Although it is an old invention, the development of rail technology is by no means ending. In fact development is not only continuing but taking on a new dimension and a new direction: not so much 'forwards' as 'upwards'. Rail traffic is heading towards levitation technology.

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Solid rail technology expertise

One important and experienced man behind Comatec's rail traffic expertise is Jorma Nordfors. He studied production technology at Tampere University of Technology, and as part of his studies

he did a project on the maintenance of machining equipment for Valmet, as the company was then known. He later asked Valmet if there were any positions available in their maintenance department. There were none at the time, but a position was open in the company's rail equipment department. The position became his in 1980 and Nordfors started work at the factory in Härmälä – the start of a career working with rail rolling stock that now spans over 35 years. In the early days he worked as a design engineer primarily working on heating and ventilation, then on vehicle body structures. Later he took on project management and quality control activities.

A larger change in Nordfors' life and career came in the early 1990s when Rautaruukki and Valmet combined their rail rolling stock business and Valmet's rolling stock factory became part of Rautaruukki's rolling stock company Transtech. However, in the autumn of 1994 Transtech announced that it would finish all its activities in Tampere, and Nordfors found himself facing impending change.

Transtech did offer him work, but the new job would have taken him to Oulu so Nordfors decided to look around for other opportunities. One of them was Comatec, a company with which he even had some personal contact: Jorma Nordfors and Comatec founder **Aulis Asikainen** were neighbours at the time in Vehmainen, Tampere.

New and old

Jorma Nordfors started at Comatec on 1 February 1995, but he did not completely get away from Transtech. Already in those days outsourcing was becoming common, and Transtech wanted to work together with Comatec. One requirement Transtech had for co-operation was that Comatec would take on six design engineers from the Tampere office it was closing. Three of them are still working at Comatec today. Taking on new employees was no small thing for Comatec at that time; then still a small engineering office, the move almost doubled its staff.

The co-operation between Comatec and Transtech couldn't have started better.

Comatec's rail traffic expertise

The first joint project was designing the aluminium body for the first Finnish double decker railway carriages. Everybody knows that starting to design a new type of carriage will require a lot of time, but the design process was on a firm foundation. The aluminium profiles were acquired from Swiss company Alusuisse, who also participated in preliminary design planning and structural strength calculations. The carriages were built in Otanmäki.

Towards ownership

Jorma Nordfors and his work partner **Petri Leino**, who also moved from Transtech to Comatec, formed an effective team. They also decided to invest in their own and the company's future. Comatec had just turned ten years old and had managed to survive the recession.

In 1997 the two men were offered the chance to purchase shares in the company when a couple of earlier owners sold their shares in the business. After the ensuing deal the company's ownership structure was as follows: Aulis Asikainen 60 %, Petri Leino 20 % and Jorma Nordfors 20 %. The design and development of rolling stock would now continue on an even firmer footing.

The development of rail technology continues

Nowadays rolling stock is one of Comatec's primary areas of focus. Over the years the company has had many clients offering a number of different kinds of projects, all of which have helped Comatec's expertise in the field continue to grow. And 35 years in the field is a long time, offering a solid foundation on which to build.

Clients have included practically all Finnish companies involved in rail stock, as well as many from other countries. For example, Comatec was involved in the project to acquire Pendolino trains, producing the Finnish

instruction manuals for the equipment. Another recent example is the Allegro, which is in service between Helsinki and St. Petersburg. For that project Comatec translated the maintenance instruction manuals and parts manuals, as well as other instruction material for drivers and other staff, into Finnish and Russian. There were around 14 000 pages of text in both languages. The documentation for the Allegro was particularly challenging as the original documentation was in Italian, from which it had been translated into English by someone who was not a professional in the field.

Railway traffic in Finland has its own particular challenge: winter. Winter is challenging for both the rails themselves and the rolling stock that moves on them. Comatec has been involved in developing solutions for winter's challenges for over 20 years and has reached a high level of knowledge and expertise in this specialist area. Working together with clients has taught that, with sufficient attention and a systematic approach, winter-related rolling stock problems can be eliminated before they even appear.

Broad client base

Comatec's international operations have always faced the challenge of the company being based in a small and relatively distant country. There has only been one route to success – to do everything better than competitors. By following this model Comatec has been able to forge relationships with almost all major European businesses in the field.

Comatec's co-operation network and client base includes domestic players such as VR, Trafi and HKL as well as international companies such as the



French company Alstom, Spanish company CAF, Swiss company Stadler, German company Siemens and Canadian company Bombardier. When specialist expertise is joined by strong quality, customer service and trust, the word quickly spreads. Comatec has found itself in situations where a given client not only recommends that Comatec is used, but actually demands it.

Trust is one of the foundations for business. In Comatec's case this is shown in situations where the company is able to act in a trustworthy manner even in situations where there are companies that are in competition with one another. In a small country such as Finland situations like that arise from time to time, but Comatec has come through them with honour every time.

Current projects

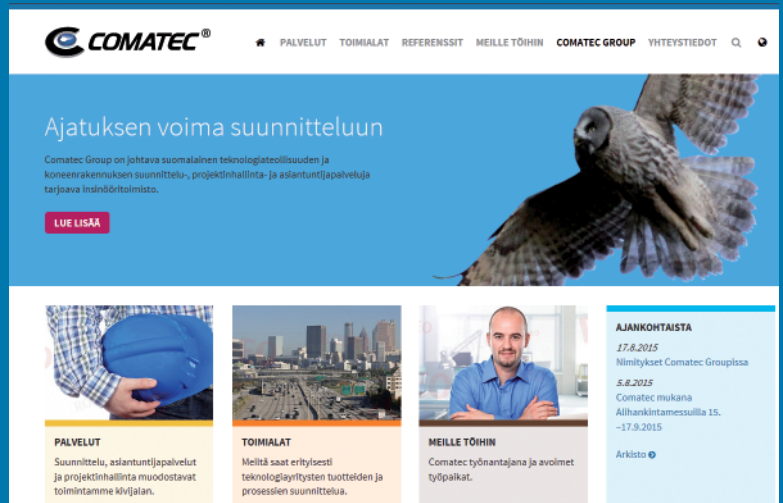
According to Jorma, Comatec is currently involved in just about all ongoing rolling stock projects in Finland. "Comatec's biggest customer at the moment is VR, for whom we are working on rolling stock upgrade and maintenance planning," he says. "For the Finnish Transport Safety Agency Trafi we are carrying out preparatory work and technical assessments to do with the assessment and approval processes for the implementation and modification of rolling stock. Other larger projects include working on Helsinki City Transport HKL's tram carriages, Pääkaupunkiseudun Junakalusto Oy's local trains, and of course Tampere's local tram line project.

Comatec news

Comatec Group has published a revised version of its website

Comatec Group has revamped its website during this year. The main objective has been to make it easier for visitors to the site to find information, and to improve usability in every respect. Websites today also have to function smoothly on mobile phones and tablet computers. The new web pages are now responsive and are also easy to read on a mobile phone. Comatec has grown over a period of 30 years into a group of companies, and all Comatec Group companies can now be found on the same website.

Have a look at the revised web pages at: www.comatec.fi



Comatec Group is taking part in the Subcontracting and Technology trade fairs this year

The Subcontracting Trade Fair is the leading trade fair for industry in Finland, and brings industrial companies, experts and decision makers together in Tampere from 15 to 17 September 2015. The themes for this year's international trade fair are sales, marketing and new materials. Come and see the engineering design knowhow Comatec Group has to offer for machine building at our stand A 833!



The Technology '15 Trade Fair is being held at the Messukeskus Helsinki, Expo and Convention Centre 6 – 8 October 2015. This mega event for industry and technology contains many old and familiar trade fairs: Automation, Hydraulics&Pneumatics, MecaTec and Elkom as well as the industrial events FinnTec, ToolTec and JoinTec. The themes for the event are the industrial internet and robotics. You can find us in the Automation section on stand 6b139. Do come and have a look at the knowhow we can offer!



The following appointments have been made in Comatec Group:



Mikko Paakkunainen, MSc. (Eng.), started on 17 August 2015 as Business Unit Manager, Expert Services in the Mobile Machinery and Special Vehicles business segment.



Sami-Jussi Hollo, B.Eng., started on 10 August 2015 in the Turku office as Engineering Manager, Mobile Machinery, in the Mobile Machinery and Special Vehicles business segment with responsibility for the operations of the Turku unit.

Oucons's 30th anniversary



The official 30th anniversary for Oucons Oy would have been 14 May 2015. That was Ascension Day, a public holiday, so the celebrations were held the day before at the Sokerijussin Tavern in Oulu. Oucons's current employees and managing director Sami Luhtaanmäki were present, as were Olli Porela and Jussi Turkka, who previously owned a stake in the company.

Sami Luhtaanmäki got the celebration under way by welcoming everyone to the event. In his toast he gave deserved recognition to Oucons' personnel.

"We can be grateful to the gentlemen sitting round this table that we are here today celebrating 30 years of Oucons. Let us raise our glasses to you and to 30-year-old Oucons," he said.



At the event, gold medals awarded by the Central Chamber of Commerce were given to long serving employees Matti Keränen, Jorma Väänänen and Juha Pirkola in recognition of 30 years' service at Oucons Oy. This means that they have been working at Oucons from the very beginning, and have seen the changes that have taken place in the work over 30 years. In the 1980s design work took place entirely by drawing on a drawing board, but already by the start of the 1990s it was starting to switch to computers. Oucons was in fact one of the first to take the plunge and introduce CAD design. At first this was 2D and then in the 2000s 3D began to gain ground.

Thirty years' experience of machine and plant design makes Oucons a real expert in its field. Oucons offers mechanical design services to industry, specialising in material handling equipment: conveyors, feeders, silos and unloading devices, as well as various steel structures and mechanical design relating to industrial maintenance. Oucons' knowhow also includes technical calculations for static steel and lattice structures.

The company offers its services to a wide range of industrial sectors. Its business principle has at all times been close cooperation and flexible division of the work with the client. Professional pride and customer satisfaction have been the guiding forces behind all our activities.



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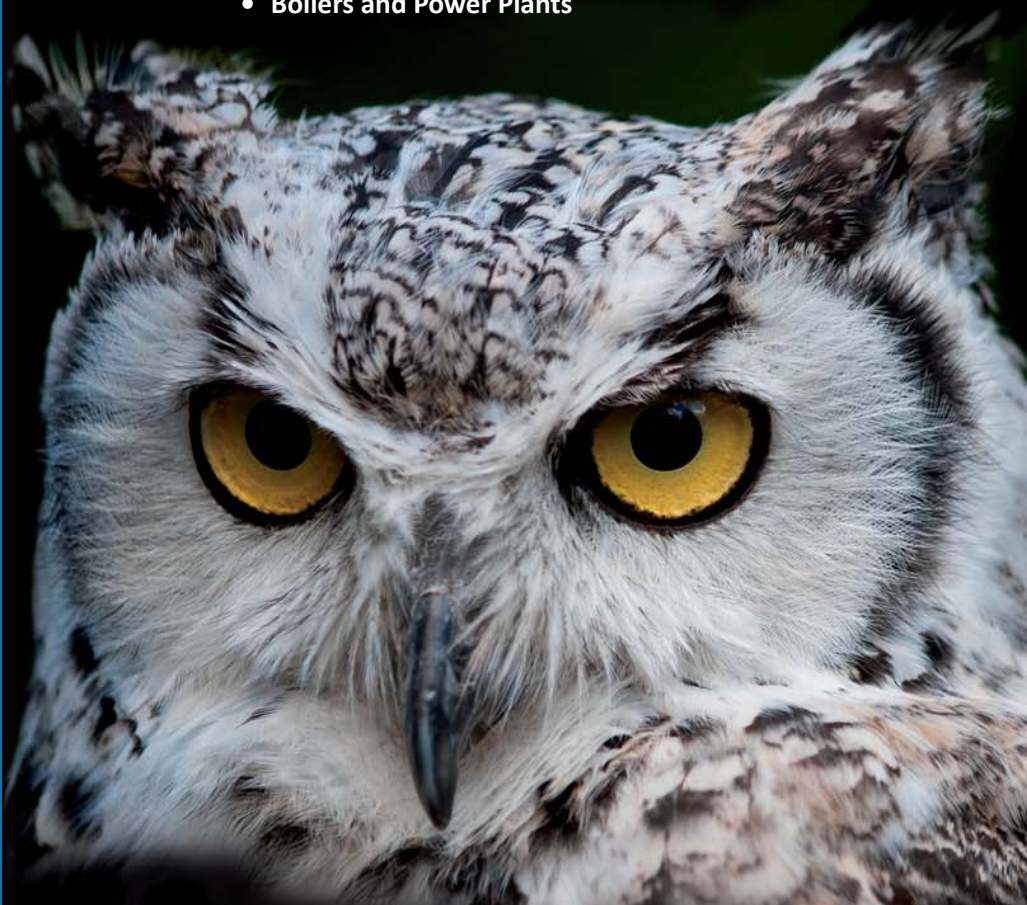
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Brain power for engineering

Mechanical, automation and electrical design
is where Comatec's competence is at its best.

- Mobile Machinery and Special Vehicles
- Material Handling Systems
- Industrial Production Systems
- Boilers and Power Plants



TEKNOLOGIA'15

We are taking part in the Technology '15 trade fair at the
Messukeskus Helsinki Expo and Convention Centre
6-8 October 2015

You can find us in the Automation section on stand 6b139.
Come and visit us!